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Impact of the Enlargement of the European Union on Small and Medium-sized Enterprises in the Union

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RWI
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Executive Summary

(1) The enlargement of the European Union is one of the challenges that European countries will face in the years ahead. The economic impact of enlargement is difficult to assess as the process will be "staggered" so that its consequences will come into force piecemeal over a long period. However, there is little doubt that the overall impact for will be positive in the long run. However, this will not necessarily be true for all sectors, regions, and types of enterprises, especially during the initial phase of integrating new members into the EU. This study analyses the impact of EU enlargement on small and medium sized enterprises in the Union and gives recommendations for EU policy towards SMEs. The project was launched in early 1999, before the Helsinki summit that agreed to start negotiations with 12 of 13 candidate countries. Therefore, this study is restricted to the expected impact of EU membership on the countries with which negotiations had been opened at the time – the Czech Republic, Estonia, Hungary, Poland, Slovenia and Cyprus – with respect to SMEs.

To some extent, the study follows a top-down approach. In the first step, it analyses the impact of enlargement at a macroeconomic, sectoral and regional level. On this basis, sectors are identified in which enlargement will be an opportunity on the one hand, and a risk to existing EU companies on the other. In a second step, some specific issues relating to the role of SMEs in the international division of labour are elaborated. In a third step, a review of the role of SMEs in different sectors and EU member countries is given that results in identifying groups of EU-based SMEs that may benefit or come under threat through enlargement.

(2) The macroeconomic consequences of enlargement for the EU will be moderate, but positive. Several model simulations suggest that it will add about 0.2 % to overall GDP growth. The economic environment for SMEs will improve, therefore, but the impact through this medium should be small too. However, competition is the key to realising the growth potential of enlargement. This necessarily means that the adjustment to the new integration area and the new division of labour will bring "winners" as well as "losers".

(3) On the sectoral level, we identified both "opportunity" as well as "risk" sectors. In manufacturing, both types of sectors overlap to a large extent when looking at broad industrial classifications. Going more into detail, risk sectors are characterised above all by high labour intensity, as the availability of cheap labour continues to be the main source of comparative advantage for the accession countries. In any case, the labour force in the potentially new members is well educated as a rule, so that in addition, some more "skills-intensive" sectors might come under pressure in the EU as well. In the service sectors, the figures available suggest that advantages of the EU can be found principally in the field of business and

financial services, whereas among the accession countries' exports, tourism and transportation services are dominant.

(4) On a regional level, the periphery of the Union – while taking advantage of the new markets - might be affected more heavily by the increase of competition from the accession countries. In contrast, the centre - in particular, the countries bordering the potential new members – are likely to benefit more from the demand for investment goods in the accession countries, as well as from the more intensive divison of labour. On the other hand, the increase of competition from the accession countries will be felt more strongly there. All in all, the number of sectors affected will be larger in border regions, also covering parts of the service sector such as retail trade or personal services, that are insulated from a direct impact of enlargement otherwise. In the regions analysed in the report's case studies, a strong influence from the accession countries has already been experienced in recent years, and the overall balance has been positive (though not for all sectors).

(5) Furthermore, SME-specific factors have to be taken into account. The integration of SMEs into the international division of labour differs substantially from large enterprises. In particular, micro and small enterprises tend to serve local needs, so that the influence of enlargement on them is likely to be more moderate. Medium-sized companies, on the other hand, often are hampered in their international activities by transaction costs associated with external trade and foreign investment. Transaction costs will decline because of enlargement, and this will tend to be more beneficial to SMEs than to large enterprises, especially to those located in "arms length reach" of the borders.

(6) SMEs are important to employment in the EU, though there are differences between its members: roughly speaking, their share of total employment rises across a north-south line. In some of the risk as well as of the opportunity sectors SMEs play a minor role: for example, in the manufacture of motor vehicles and electrical machinery, both of which are identified as risk as well as opportunity sectors, the share of SMEs in total employment in the EU is below average. On the other hand, the manufacture of clothing and furniture are both identified as risk sectors and both are dominated by SMEs. The same holds for parts of the service sector, namely hotels, restaurants, and transportation, where EU imports from the six countries analysed are significant. Again, significant differences between border regions and the remaining EU exist. The number of sectors affected by enlargement rises the closer one gets to the border. Some of the risk sectors have already experienced some job losses, although it is difficult to separate this from global restructuring trends. Regions with traditionally low incomes measured in EU standards seem to be more vulnerable than higher income regions, as much labour-intensive production was located in the former as long as the "iron curtain" existed. However, structural change was supported by favourable economic conditions: in the two border regions presented in the case studies, at least, growth was above the national average in the 1990s. In non-border regions, the impact of enlargement has been less strong. To some extent, they are exposed to competition through low wage-cost Eastern European firms and FDI diversion, as they have attracted some labour-intensive production in the past. The two regions analysed, nevertheless, seem to be largely insulated: Catalonia, as it has been steadily shifting to more skills- and technology-intensive production, and Scotland, by reason of its specific industrial nature.

Summary of Policy Options for the European Commission			
	Sector group	*Policy need*	*Governance level*
Risk sectors	**EU-15**: Manufacturing: – labour-intensive sectors (e.g. clothing, furniture) – labour-intensive parts of other sectors (e.g. automotives, electronics)	1. Market access/information, especially subcontracting opportunities 2. Business start-up/development advice 3. Start-up/development finance 4. Specialist skills training 5. RTD/diversification support 6. Support for exporting 7. Support for finding business partners	1. EU 2. Regional/national 3. Regional/national 4. Regional/national 5. Regional/national 6. Regional/national 7. EU
	EU-15: Services: – transport – tourism – labour-intensive parts of other services (e.g. data processing)	1. Access to new markets, particularly deregulation of national controls 2. Support in diversification/new service development 3. Skills training 4. Marketing advice and support	1. EU 2. Regional/national 3. Regional/national 4. Regional/national
	Accession countries: Manufacturing: – capital- and skills-intensive sectors (especially mechanical & electrical engineering and automotives)	1. Market access/information 2. Business start-up/development advice 3. Start-up/development finance 4. Specialist skills training 5. Support for exporting 6. Support for finding business partners	1. EU 2. Regional/national 3. Regional/national 4. Regional/national 5. Regional/national 6. EU
	Accession countries: Services: – specialist knowledge services (e.g financial/business consultancy) – specialist skilled services (e.g computer services and accountancy) – specialist equipment services (e.g engineering consultancy)	1. Market access, especially in terms of internet-based services 2. Specialist skills training 3. Support for finding business partners	1. EU 2. Regional/national 3. EU
Opportunity sectors	**EU-15**: Manufacturing: – capital- and skills-intensive sectors **EU-15**: Services: – specialist knowledge services – specialist skilled services – specialist equipment services	1. Market access/information 2. Support for finding business partners 1. Market access/information 2. Support for finding business partners	1. National/EU 2. National/EU 1. National/EU 2. National/EU
	Accession countries: Manufacturing: – labour-intensive sectors – labour-intensive parts of other sectors **Accession countries**: Services: - transport - services - labour-intensive-parts of other services	1. Market access/information 2. Support for finding business partners 1. Market access/information 2. Support for finding business partners	1. National/EU 2. National/EU 1. National/EU 2. National/EU

(7) Taking together the importance of SMEs in sectors and regions on the one hand, the likely impact of enlargement on the other, the following conclusions for SME policy of the EU can be drawn.

- The general impact of enlargement on SMEs will be small. Therefore, the scale of policy intervention at EU level should be limited, too. The current scope and focus of EU policies for SMEs should be able to accommodate the anticipated changes to SMEs.

- SMEs are unlikely to experience impacts from enlargement which will be distinctive in their nature and scale from the effects of wider global changes in international market opportunities and increased competition from lower-cost producers. As a consequence, support policies should not aim at preventing necessary structural change and protecting established market positions of specific enterprises.

- In many sectors, the impact of enlargement will be restricted to regions close to the potential new EU members. Rather than supplanting the role of regional and national policy in helping SMEs in the existing EU in adjusting to the changes, EU policy would

be most useful in addressing specific areas of international market failure and enhancing the effectiveness of national and regional policy.

- Concerning market failures, policies that increase the knowledge and skill base of SMEs make risk sektors less vulnerable and help opportunity sectors to utilise the chance enlargement offers. EU policy should, therefore, continue giving support in these fields as well as acting as a broker of market information and commercial opportunities for SMEs across the EU, including the candidate countries in advance of their accession. These policies also are most appropriate to address the SMEs' shortcomings in making use of the advantages of the international division of labour.

- Concerning national and regional policies, the Commission is increasingly having an active role in supporting their efforts through encouraging benchmarking and best practice. Such activities will be of particular benefit to the accession countries, as their SME policies increasingly develop over time. Within the Commission, an equivalent policy coordinating role should continue to be pursued by DG Enterprise.

The process of adjusting to enlargement should be viewed as part of the larger policy efforts to integrate the different national markets and commercial environments of the EU into the single market. Nevertheless, the importance of the EU retaining policy flexibility is still acknowledged in being able to respond to sector-specific problems affecting SMEs. Given the continuing uncertainty of how enlargement effects will interact with wider globalisation trends, it is crucial that the European Commission maintains a flexible approach to policy. This means retaining a monitoring role on trends among different groups of SMEs and being prepared to respond to with a series of policy measures if action is warranted.

Introduction

The enlargement of the European Union is one of the challenges that European Countries will face in the years ahead. A precondition to cope with this task in an efficient way is to get a comprehensive picture of the consequences of this enlargement. There is little doubt that its overall impact will be positive in the long run, due to an enlarged market, an improved division of labour, and the dynamic forces of increased competition. However, this will not necessarily be true for all sectors, regions, and types of enterprises; especially during the initial phase of integrating new members into the EU. The discussion about "sensitive" sectors such as textiles or agricultural, and the special treatment they have received under the "Europe agreements", hint at some of the existing adaptation problems. However, there are not only specific risks but also specific opportunities, whereby some sectors, regions, and types of enterprise will benefit more by the enlargement than others.

This study concentrates on one of these specific effects, namely the consequences of EU enlargement on Small and Medium-sized Enterprises (SMEs). To identify the impact of enlargement on SMEs, it is helpful to distinguish between direct and indirect effects. Of course, there is a significant number of SMEs actively involved in international trade. They will be directly affected by EU-enlargement as markets for their products grow, or their home markets will be challenged by imports, depending on their sector and/or location. However, SMEs as a rule are "internationalized" to a much lower extent than large companies, and in many cases they primarily serve local needs. Their exports are, therefore, low compared to the sales in their home countries and they often do not produce abroad at all. Hence, they will predominantly be affected indirectly. These indirect effects may come through various channels such as:

- the overall growth effects of the enlargement creating opportunities for SMEs to increase sales, according to the income elasticity of demand for their products and their competitiveness against larger companies;

- improved conditions for taking a more active role in the division of labour, as enlargement might remove barriers for some SMEs to export or produce abroad; and

- enlargement resulting in necessary changes in the subsidy system in the EU, and also in national tax systems.

All these aspects have to be taken into account in the research project on the „Impact of the Enlargement of the European Union on Small and Medium-sized Enterprises in the Union".

Measuring this impact is difficult, not only due to methodological problems, although they should not be underestimated, given the poor information that is available for SMEs and especially their external relations. In particular, some principal questions pose difficulties to an assessment of the consequences of enlargement. First, the EU will experience a "staggered" enlargement, as not all countries that apply for membership will enter the Union at the same time. Second, enlargement will not take place at a specific time, but it will be a process taking several years, some measures already coming in force in a pre-membership phase, others long after the membership is achieved due to transition periods. Trade barriers, e.g., between the candidate countries and the existing Community, have already been eliminated to a large extent, whereas experience from earlier enlargements suggests that in some sensitive areas the "aquis communitaire" will be fully applied 10 years after accession or even later. Third, there also are delays between impulse and impact. Thus, the consequences of enlargement will be felt over a relatively long period, making it difficult to assess when changes expected in the long run will come into force.

Another problem occurs, as the international environment does not stay constant during the process of enlargement. Therefore, it is difficult to separate the effects of economic integration in Europe from wider global trends in some sectors (eg. restructuring in the clothing and textiles industries). Insofar, this study often can only give the directions enlargement will influence the development of regions or industries, but it cannot quantify these effects.

This project was launched in the spring of 1999. At this time, the decisions of the Luxembourg summit were still in force to negotiatiate in a first round with the Czech Republic, Estonia, Hungary, Poland, Slovenia, and Cyprus. After der Helsinki summit, the Union has also started negotiations with remaining Eastern European and Baltic applicant countries, and Malta. Nevertheless, the following analyses will focus on the six countries mentioned. For the sake of brevity, they are addressed subsequent sometimes as "accession countries", which does not imply any prejudice neither of the chances of those countries to become members of the Union nor of the timing of the accession.

The following final report contains a summary of the main findings of the project, which is supplemented by several appendices, giving detailed results on some aspects and additional material. The main findings concentrate on four aspects of the study: the impact of Enlargement on the European Union, including macroeconomic, regional and sectoral aspects (chapter 1); the way, that SMEs are integrated into the international division of labour (chapter 2); an analysis of the importance of SMEs in the EU and the potential impact enlargement will have on them (chapter 3). Finally, the impact of Enlargement on SMEs will be assessed (chapter 4) and policy recommendations will be drawn (chapter 5).

The interim report had already made evident that the impact of enlargement on SMEs will differ quite substantially between regions, depending on their proximity to the potential new member states, the sectors that are dominating their economies, or their income levels, to give some of the factors that may be relevant. Therefore, the centerpiece of the project is formed by four case studies of regions of different types: two border regions, namely Bavaria and Lower Austria, that are directly influenced by the enlargement of the union, and to peripheral

regions, one in the north of the Union (Scotland) and one in the South (Catalunya), that may be faced above all by the indirect effects of the enlargement. The experiences from these will feed into the main findings, especially into the policy recommendations. They are presented as Appendix A Furthermore, details of the sectoral trade analyses are included (Appendix B) and some details on SMEs in Eastern Europe (Appendix C). Finally, some data are given on the sectoral structure of SMEs in the Union (Appendix D).

The methodology and the results of the research presented in this report have been discussed on several occasions with the project steering committee as well as with external experts. Thanks are owed in particular to the participants of the two expert workshops. Their comments to earlier versions of the report were invaluable in improving its quality and helping to clarify its key themes. Nevertheless, all remaining omissions or mistakes remain the responsibility of the research team.

1. Impact of Enlargement on the Union

1.1. Macroeconomic aspects

The consequences of Eastern enlargement for sectors, regions, and companies in the Union very much depend on the macroeconomic environment at the time it occurs. In particular, the growth path of the economy in the EU – as well as in the accession states – is crucial to the way and the possibilities all enterprises can adjust to the challenges ahead. Companies' reactions to increasing pressure from abroad as well as how they utilise new chances offered by the enlarged market will be highly dependent upon their expectations about growth. In a high growth environment it will be easier for them to absorb shocks, but there might also be less stimulus to seize opportunities in new markets. Where growth rates are low, on the other hand, companies will face pressure to adjust from the internal and the external side at the same time, so that many might be forced to exit the market. However, some companies – above all the most competitive ones – might seek even more intensively for opportunities in foreign markets. Therefore, it is appropriate to start this study with some consideration of the growth scenario for the EU as a whole as well as for the accession countries. These will be followed by an assessment of the impact of Eastern enlargement on growth.

1.1.1 Growth perspectives in the EU

Over the last two decades, the economy of the European Union as a whole grew at an average annual rate 2.1 %, showing a slightly upward trend. Changes in employment as well as productivity contributed to this growth though the lion's share can be explained by productivity. Its annual growth is remarkably stable with an average rate of 1.9 %. It accounts for about four-fifths of GDP growth. Employment on the other hand only grew slightly. The average annual growth rate has been well under 0.5 %. Nevertheless, there are some hints that employment trends are improving, not least due to deregulations in the labour market that many EU countries have undertaken in recent years.

Taking into account these tendencies, it seems plausible to assume that growth in the EU will follow a path of 2.5 % per annum during the years in which EU enlargement will take place. There is some room for higher growth, e.g. if improvements in the labour market continue; there are also some risks, given that demographic factors will lead to a decrease of labour force. However, an average annual GDP growth of 2.5 % underlies the EU Commission's calculations on the impact of EU-Enlargement on the Structural Funds, too (CEC 1997: 87).

Furthermore, projections by other institutions, e.g. by the World Bank, support this growth scenario. The World Bank forecasts a 2.5 % annual growth of GDP in the European G4

countries[1] between 1998 and 2007 (World Bank 1999: 194). All in all, the European economy will grow at a moderate rate that will be well under the rates experienced in the 1960s; but there are no signs that growth trends will be directed downward. Hence, companies in the EU will have to adjust to opportunities and challenges of the EU enlargement in an economic environment that is characterised by stable economic conditions.

1.1.2 Growth perspectives in the accession states

Concerning growth perspectives, the five Central European accession states (CEEC) on the one hand and Cyprus on the other are in different positions. Since 1994, the five Eastern European accession states show a remarkably solid economic development (Table 1-1). They succeeded to overcome the trough of the transformation crisis quite quickly and returned to economic growth. Of course, the five countries are not homogenous: growth rates in Poland and Slovenia were relatively high in the mid-1990s, showing some signs of fatigue only recently. In Hungary, on the other hand, growth was rather sluggish for many years, but the economy seems to have reached a steeper growth path now. Estonia's growth has been the strongest among the five countries in the last two years, with an exceptional rate in 1997. The Czech Republic, finally, slipped into recession in 1998, not least because structural reforms were not pushed forward as necessary in the early years of transformation. All in all, real GDP has grown at an average annual rate of 4.5 % since 1994. 1998 was the first year showing a rate below 4 %, above all due to the Czech development.

Although preliminary figures for 1999 suggest that expansion will be lower than in the years before, some additional indicators make evident that growth is based on rather solid ground. Inflation, although still high compared the EU figures; is coming down considerably. In 1999, it was under 10 % in all five countries for the first time. In general, labour markets show signs of improvement as well. On average, unemployment rates have been coming down since 1993 and do not differ very much from the EU average, even if differences in definitions might make comparisons difficult. Finally, growth is – except in the Czech Republic – increasingly borne by capital formation (Table 1-2). Thus, restructuring of capital stocks is evident, creating a more solid platform for future growth.

Therefore, it can be expected that GDP growth in the accession states will remain above EU rates. In its calculations for the Agenda 2000, the EU assumed an annual growth in these countries of 4 % (CEC 1997: 78). It is difficult to assess whether this scenario is realistic. On one hand, growth has weakened in most countries recently, which in part hints at shortcomings in the transformation. Fixed capital formation, although – as already pointed out – growing, is still low compared to economies that successfully reduced their backlog against the industrialised countries. In any case, the weakening of growth also reflects developments in the international environment such as the Asian crisis and the developments in Russia, which should have no lasting influence. However, there is some risk that growth will be lower in future. On the other hand, there also is the chance that economic expansion will become

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[1] France, Germany, Italy, and the UK.

Table 1-1

Growth, Inflation and Unemployment in the Accession States
1990 – 1998

	1990	1991	1992	1993	1994	1995	1996	1997	1998
	Real Gross Domestic Product, annual change, %								
Czech Republic	-1.2	-14.2	-8.0	-0.9	2.6	4.8	3.9	1.0	-2.7
Estonia	-	-	-14.2	-8.5	-1.8	4.3	4.0	11.4	5.4
Hungary	-3.5	-11.9	-3.1	-0.6	2.9	1.5	1.3	4.6	5.1
Poland	-11.6	-7.0	2.6	3.8	5.2	7.0	6.1	6.8	4.8
Slovenia	-4.7	-8.9	-5.5	2.8	5.3	4.1	3.1	3.8	4.4
CEEC Total[1]	-7.7	-9.4	-1.2	2.0	4.3	5.4	4.6	5.1	3.4
Cyprus	n.a.	0.7	9.4	0.7	5.9	6.1	1.9	2.5	5.0
	Consumer Prices, annual change, %								
Czech Republic	9.5	56.7	11.1	20.8	10.0	9.1	8.8	8.5	10.7
Estonia	-	-	1075.9	35.7	47.7	29.0	23.1	11.2	8.2
Hungary	28.9	35.0	23.0	22.5	18.8	28.2	23.6	18.3	14.3
Poland	585.8	76.7	45.3	35.3	32.2	27.8	19.9	14.9	11.9
Slovenia	550.0	117.7	201.3	32.3	19.8	12.6	9.7	8.4	8.0
CEEC Total[1]	376.7	68.9	55.7	30.1	24.9	23.1	17.6	13.7	11.7
Cyprus	n.a.	5.0	6.5	4.9	4.7	2.6	3.0	3.6	2.2
	Unemployment rate[2], %								
Czech Republic	0.8	4.0	2.6	3.5	3.2	2.9	3.5	5.2	7.5
Estonia	-	-	1.9	2.1	1.8	1.8	2.2	2.3	2.2
Hungary	1.9	7.5	12.3	12.1	10.4	10.4	10.7	10.4	9.1
Poland	6.3	11.8	12.9	16.4	16.0	14.9	13.2	10.5	10.4
Slovenia	5.8	10.1	13.4	15.4	14.2	14.5	14.4	14.8	14.5
CEEC Total[3]	4.6	9.6	10.6	12.9	12.3	11.6	10.7	9.4	9.6
Cyprus	1.8	3.0	1.8	2.6	2.7	2.6	3.1	n.a.	n.a.

Source: National statistical offices. - [1]GDP-weights 1998. - [2]National Definitions, end of the year quotas - [3]Weight: Total employment 1997

stronger. The accession countries to some extent are in a position many Western European economies were in after World War II. Only by adopting technologies that are already available in the rest of the world they might be able to close the technological gap and increase productivity very quickly, leading to relatively high rates of growth (c.f. Dumke 1990).

In Cyprus, growth is less steady, but inflation and unemployment lower. However, as the economy is rather small – Cyprus population is 0.74 mill. only – the impact of the growth scenario on the EU is neglectable.

Table 1-2

Share of Gross Fixed Capital Formation in GDP in the Accession States
1992-1997, %

	1992	1993	1994	1995	1996	1997	1998
Czech Republic	-	28.0	29.6	32.8	33.0	30.7	28.1
Estonia	20.9	24.4	27.0	26.0	26.7	-	-
Hungary	19.9	18.9	20.1	19.1	21.5	22.3	23.4
Poland	16.8	15.9	16.2	16.9	19.0	21.2	22.1
Slovenia	-	18.8	20.1	21.4	22.5	23.5	24.2
Cyprus	25.7	22.6	20.6	19.3	20.4	18.5	18.0

Source: IMF and national statistical offices. 1998 estimate

Concerning the consequences of EU enlargement, the benefits will be the greater the stronger the economies of the acceding countries will be, for the economy as a whole as well as for SMEs. A strong economy in the accession countries means: more opportunities to increase exports to the acceding countries, better conditions for companies in Eastern Europe in their home market, diminishing the pressure to export; and lower subsidies that must be paid to the accession states and financed by taxpayers in the EU.

1.1.3. Growth effects of the enlargement

As already stated above, the overall impact of EU enlargement can be expected to be positive for both sides, the EU as well as the acceding countries. Despite this clear tendency, it is difficult to quantify a general impact, although many studies have been published on the consequences of EU enlargement. Nevertheless, handy estimates of the overall consequences in terms of higher growth rates, more employment, or lower unemployment rates are not available, not least because most analyses concentrate on theoretical or on specific regional and sectoral (e.g. agriculture) aspects.

However, to assess the consequences of enlargement for SMEs it is important to get some idea of overall growth effects, as higher growth in the end also means better economic conditions for all companies. A rough estimate can be derived from the size of the acceding countries relative to the EU. In terms of population, the Czech Republic, Estonia, Hungary, Poland, and Slovenia come close to 17 % of EU population. Consequently, the number of consumers in the EU will be expanded considerably by the enlargement. On the other hand, GDP of the six countries amounts only about 3 % (1997) of EU GDP. For comparison: when Spain and Portugal joined to the EU in 1986, their GDP was 8.1 % of EU GDP at that time. This makes evident that these consumers still have little income at their disposal. Therefore, the macroeconomic impact of the Eastern enlargement will be rather limited for the European Union, at least in the first years after the accession, as the utilisation of growth effects also

will need time. Looking at trade, this view is supported strongly: in 1998, total EU exports to the accession country were ECU 71.3 billion, which is less than one percent of EU GDP. After an enlargement of the union, exports are likely to be much higher, giving an impulse for growth. However, at the same time imports from the new members will rise more rapidly too, and thus reduce the expansionary effects of growing exports. Even if the trade surplus of the EU will persist for some time, and even allowing for some multiplier effects and taking into consideration that restructuring of the division of labour between the old and new EU members might lead to a better growth performance: the macroeconomic impact from trade will be limited after all, although positive.

Indeed, model simulations by *Baldwin et al.* (1997) generate a rather small expansionary impulse from an EU enlargement. The static effect will be around 0.2 % of EU-15 GDP (Baldwin et al 1997: 138 [Table 3] and 147 [Table 4]). This impulse is under their estimate of costs for the EU members that will arise through reforms of the agricultural and structural policy (ibid.: 167). However, they express a static view only neglecting dynamic effects – hence total benefits should be larger – ; and their scenario of an enlargement goes further than the scenario considered here, as they assume that Bulgaria, Romania, the Slovak Republic, and the remaining Baltic states will enter the EU too; accordingly, costs should be lower in the case considered here.

A dynamic simulation of the macroeconomic consequences of an enlargement as agreed in the Agenda 2000 has been made for Austria, covering gains and costs of an enlargement as well (Breuss, Schebeck 1998). The calculations are based on the assumption that the five Eastern European countries will enter the Union in 2002. After four years, in 2006, the study expects Austrian GDP to be 0.8 %-points higher as it would have been without the enlargement, the annual growth about 0.2 %-points higher. As main factor an increase in competition seems to contribute to growth, as prices will be lower to nearly the same extent as real economic activity rises.

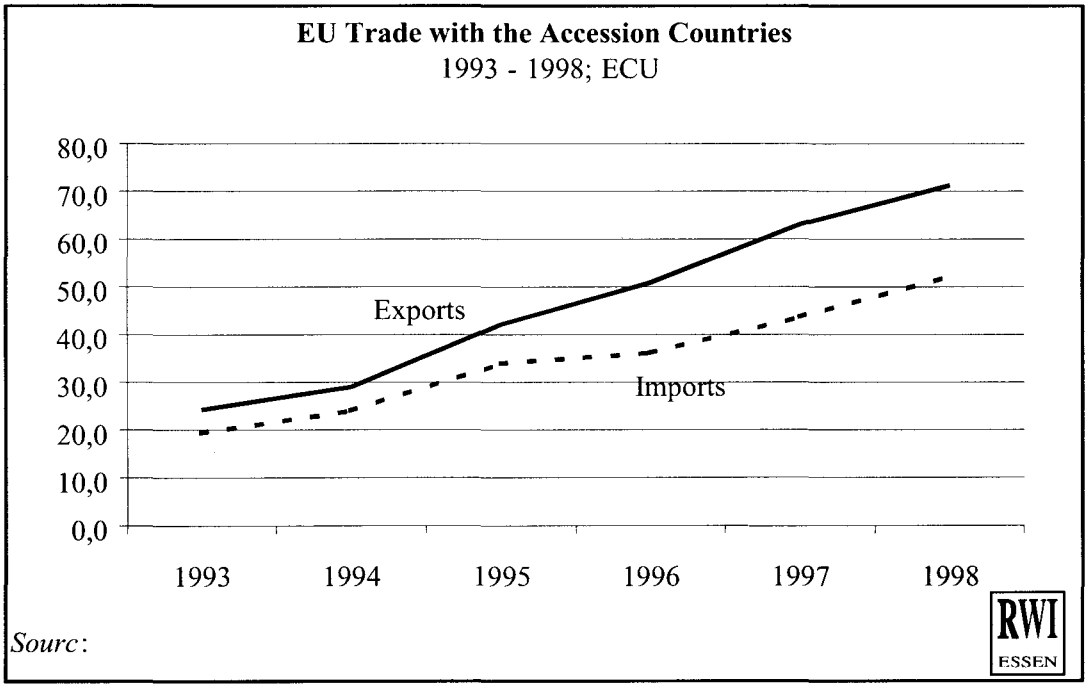
Other simulations were presented by *Keuschnigg et al.* (1999) for Germany and *Keuschnigg/Kohler* (1999) for Austria, using computable general equilibrium models. In the German case, their simulations suggest that GDP will be 0.4 % higher in the long run, what again is a slight impact only, having in mind that the total effect will be realised piecemeal over an adjustment period that covers several years. In the case of Austria, the impact will be stronger (1.1 % of GDP in the long run), which does not differ too much from the results cited above.

The impact on growth in the accession countries will be higher as those in the EU. *Baldwin et al.* estimate – again considering static effects only – that under "conservative assumptions" real income in the Eastern European countries will be 1.5 % higher compared to the situation before entering the EU. In a "less conservative case", taking into account that membership in the EU will lower the risk premium the accession countries have to bear and therefore, will have a positive effect on investment, they even conclude that the impact of enlargement on Eastern European real income will be 18.8 % – again compared to a non-membership scenario.

1.2. Impact on trade in goods

Restructuring of the division of labour will have consequences for movements of goods and services as well as factors. In this section, the impact of enlargement of the Union on trade will be analysed. In doing so, an important channel is reviewed through which the integration of the new members will influence today's 15 EU members, as can be seen from the enormous shifts that have already taken place and can be expected. However, shifts in trade patterns cannot only be used to analyse trade creation and diversion. They also hint at the accession countries' strengths and weaknesses in general, as it seems reasonable that producers or sectors with comparative advantages perform better in international markets than others. In other words, the trade analyses to follow also contain some elements of a forecast of the future sectoral impact of enlargement.

Figure 1-1



1.2.1. General developments

As pointed out in many analyses, the Eastern European countries started the transformation of their economies with a trade structure that was highly distorted. Thus, the dynamics of trade between the European Union and the accession countries during the 1990s were fed by two forces: reducing the initial distortions on the one hand, economic growth in the Eastern European countries on the other. Several estimates have been made in the early 1990s to quantify these effects (e.g. Collins/Rodrik 1991; Havrylyshyn/Pritchett 1991; Döhrn/Milton 1992; Hamilton/Winters 1992; Festoc 1995). To sum up the main finding of these studies: it was expected, that trade between the two regions will at least triplicate (in constant prices) within ten years. Looking at the exports of countries like Poland and Hungary at the end of the 1990s, these projections indeed almost came true. This is surprising insofar, as the

assumptions about growth in Eastern Europe behind these projections were too optimistic from today's point of view.

To be more specific, exports of the EU to the six countries analysed here increased between 1993 and 1998 at an annual rate of 24 %, whereas imports grew by 22 %, meaning that the EU is increasingly in a surplus position (Figure 1-1)[2]. As already noted, the driving force behind this development was the restructuring of trade, i.e. the shift from the formerly predominant trade with partners in Eastern Europe towards the EU. It was partly spurred by the Europe Agreements and the liberalisation of trade between the accession candidates and the EU. In particular, EU import duties have been cut mainly between 1992 and 1997 (Weise et al. 1997: 33-67).

The restructuring obviously is nearly completed now. In Poland, 64 % of exports as well as imports was carried on with the EU, while in Hungary it was 71 % of exports and 64 % of imports. In the Czech Republic, shares are somewhat lower because trade with the Slovak Republic is still important: they reached 60 % in the case of exports and 51 % for imports. Therefore, in future dynamics of trade will be driven more and more by the growth of the economies of the accession countries. In most industrialised countries, the relationship between growth of (real) imports and (real) GDP is a factor between 2 and 3. In macroeconomic scenario discussed above, it is assumed that the economies of the acceding countries will grow at 4 % per annum, so that an annual growth of their (real) imports of 8 to 12 % can be expected. To make these figures comparable to past rates, inflation must be taken into account. However, as trade is expressed in ECU, and inflation in the EU was low and can be expected to remain so, this factor will add little to the growth of (nominal) trade. All in all, trade between the EU and its new member countries, therefore, will grow at a somewhat slower pace in the years to come.

As an additional factor, the impact of EU membership on trade has to be taken into account. Many analyses on international trade, mainly based on gravity models, tested whether membership in a regional trading block has a significant influence on the size of bilateral trade between two economies. The results are mixed, depending on the specification of the model, the countries selected and the year chosen. Wang/Winters (1992) estimate that bilateral trade between two EU members will be 100 % higher than trade between non-members, other factors (income, distance, etc.) being equal. According to calculations by Döhrn/Milton (1992) bilateral trade is increased by 25 % only, if both partners are EU members. Holzmann/Zukowska-Gagelmann (1998), finally, estimate the impact of EU membership only to be between 11 and 18 %. Hence, no definite conclusion can be drawn. The integration of the five Eastern European countries considered in this study into the EU will have some impact on bilateral trade, but the size of this effect is far from certain, especially as these models give no information about the time path to achieve a higher level of trade after joining a trading bloc.

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[2] Because of the dissolution of Czechoslovakia (1.1.1993) data for the earlier years are not comparable.

1.2.2. Regional aspects

Not all EU-members were able to raise their exports to Eastern Europe to the same extent, and the same is true for imports as well. Some members' links to the acceding countries were very close at the beginning of the 1990s. In particular, the shares of Germany, Austria, and Italy were markedly above their importance for total extra EU trade. These countries could realise an under-proportionate increase in their exports to the acceding countries only, with Germany and Austria still remaining clearly above total export share, and Italy slipping behind (Table 1-3). The highest increases of exports – though, or just because, they started from a very low level – experienced Portugal and Ireland, followed by Sweden and Spain. The latter shows the highest increase of imports from the five Eastern European Countries. At the lower end, with regard to exports as well as imports, Greece can be located. Generally speaking, the differences between EU members in the expansion of imports are somewhat smaller than those for the exports. Astonishingly, France as well as the UK realised an under-proportionate increase of their exports to the accession countries, despite starting from a low level of trade.

Table 1-3

EU-Trade with the Accession States by Country
1993 - 1997, shares in %

	EU Exports			EU Imports		
	1993	1997	1997/93[1]	1993	1997	1997/93[1]
Austria	12.4	9.4	18.4	10.6	9.6	19.6
Belgium/Lux.	4.4	4.2	25.0	2.9	3.2	25.6
Denmark	2.6	1.9	16.3	2.7	2.2	16.7
Finland	3.2	3.6	30.6	2.5	2.0	15.9
France	8.2	7.7	25.0	8.0	6.2	14.7
Germany	53.5	42.7	20.1	60.0	50.1	17.1
Greece	0.5	0.3	13.7	0.8	0.6	13.7
Ireland	0.4	0.6	42.0	0.4	0.3	14.9
Italy	15.1	12.5	21.1	12.3	9.9	16.1
Netherlands	6.6	4.9	18.1	5.4	5.1	21.0
Portugal	0.1	0.2	52.4	0.2	0.2	24.2
Spain	1.9	2.4	34.6	1.4	1.7	29.6
Sweden	2.8	3.4	34.1	2.5	3.1	28.9
United Kingdom	6.6	6.1	24.4	6.0	5.8	21.5
EU total	100.0	100.0	27.0	100.0	100.0	22.5

Source: EUROSTAT. - [1]Average annual growth.

These discrepancies can be explained by many factors, among which are the diverging starting levels as well as (geographical and cultural) proximity. An important determinant, however, is the sectoral composition of the industries, both in the exporting and the importing countries and the structure of demand. The better the structure of exports by product in one country fits into the structure of imports of another, the higher will be the trade between the

two (Döhrn/Milton 1992). According to this logic, similarity between export patterns on the one hand and import patterns on the other can be used to measure the trade-creating effects of an EU enlargement, as similar trade patterns mean that the exporter offers just those goods that the importer demands (RWI/EPRC 1997).

The same idea can be used to estimate trade-diverting effects: if two exporters offer the same product spectrum in international markets it is very likely they will become competitors. Therefore, similarity between export patterns can be used as a yardstick for trade diverting effects.

From a methodological point of view, such comparisons of trade patterns are arbitrary to some extent, because their results very much depend on the level of disaggregation considered. Analyses on a relatively high level of aggregation (i.e. considering a rather small number of product categories) will tend to overestimate similarity, whereas analyses at a very low level of aggregation will underestimate it. The calculations presented below use 2-digit CN-code trade figures. To measure similarity, an index is employed that understands trade patterns as an n-dimensional vector and determines the angle between two vectors in a n-dimensional room of vectors[3]. A coefficient of 1 stands for perfect correspondence of two structures, and the lower the coefficient becomes, the less the two structures have in common.

The calculations are based on EUROSTAT figures for EU external trade. Concerning Eastern European countries, only their trade with the EU is included in the calculations, as it is still difficult to get data on total trade of these countries on a detailed level. It can be expected that the power of the calculations will not be hampered too much by this procedure since the EU is, as shown above, by far the main trading partner for Eastern Europe. In addition, there are no hints that Eastern European exports to non-EU regions differ very much in their sectoral composition from those observed in the EU.

Concerning trade creation, calculations show in general that structures of exports as well as of imports have come closer in most EU countries (Table 1-4). However, significant differences remain: the export spectrum of Austria, Germany, Sweden, and Italy seems to fit very well into the import needs of the accession countries. The coefficient for the UK is surprising, bearing in mind the low growth of trade mentioned. Obviously, the UK was not able to increase its exports at a higher rate than other EU members, despite an export structure that should have been quite favourable to do so. However, these calculations should be

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[3] Formally, the angle is measured as follows. Let

$A = |a_2 a_2 ... a_n|$

be the vector of the share of n products in total exports of country A and

$B = |b_2 b_2 ... b_n|$

be the corrsponding vector of imports of country B, then the proximity between the two vectors can be measured by:

$$\cos(A,B) = \frac{\sum_i a_i \cdot b_i}{\sqrt{\sum_i a_i^2} \cdot \sqrt{\sum_i b_i^2}}$$

complemented by a more detailed analysis of trade structures at least in some product categories that are of importance for EU trade with the accession states.

Less favourable for exploiting the trade creating effects are the export structures of Portugal, Spain, and Ireland, Denmark and Finland, as well as Greece, the latter showing the lowest index of correspondence by far. It can be expected that enlargement will benefit these countries less than others in the EU.

Table 1-4

Similarity[1] of Trade Patterns
1993 and 1997

	EU Exports and Eastern Europe Imports ("Trade creation")		EU Exports and Eastern Europe Exports ("Trade diversion")	
	1993	1997	1993	1997
Austria	-	0.98	-	0.92
Belgium/Luxembourg	0.77	0.80	0.68	0.76
Denmark	0.76	0.79	0.64	0.78
Finland	-	0.75	-	0.72
France	0.88	0.89	0.68	0.83
Germany	0.98	0.96	0.69	0.86
Greece	0.31	0.39	0.53	0.48
Ireland	0.78	0.81	0.51	0.71
Italy	0.94	0.92	0.72	0.86
Netherlands	0.80	0.90	0.67	0.83
Portugal	0.55	0.71	0.76	0.79
Spain	0.83	0.80	0.68	0.76
Sweden	-	0.94	-	0.90
United Kingdom	0.93	0.95	0.67	0.87
Total	0.97	0.98	0.74	0.90

Source: Authors' calculations - [1]For methodology c.f. text.

Trade between the EU and the six potential new members shows more and more an intra-industry pattern. Increasingly, both regions export the same types of products, resulting in trade diversion indexes growing in general. At the same time, regional patterns of trade diverting effects differs significantly from the pattern of trade creation. In some countries, a high potential trade creation and trade diversion seem to go hand in hand. This is the case above all in Austria and Sweden, and to a lower extent in Germany, Italy (in 1993) and the UK. The opposite seems to be true in Greece, whose trade structure is so specific that both, trade creating and diverting effects can be expected to be low.

A quite interesting case is formed by a third group of countries, where the potential for trade creation is below average but the trade-diverting potential is relatively high or has grown at

least. Among these countries Italy, Belgium and Denmark can be found, as well as Portugal, Spain and Ireland. In particular, Irish producers seem to compete increasingly with producers from the accession countries, as Ireland's export pattern that was quite different from the accession countries' pattern in 1993 has become much more similar 4 years later.

These results very much resemble those of Baldwin et al (1997: 149): they, too, found that the gains of the EU enlargement will be smallest in Denmark, Ireland, Greece, and Portugal, the latter being the only case with negative "gains". Furthermore, Finland, where our calculation indicate a low potential for trade creation, can be found among the countries with low gains.

1.2.2. Sectoral aspects

These regional effects partly mirror the industries that can be found in these countries. Therefore, a more detailed examination of the sectoral pattern of trade between the EU and the accession countries may give hints at the likely effects of enlargement. Of course, this analysis is "backward-looking". Nevertheless the changes in trade patterns observed in the past can give some guidance to future developments in the competitiveness of industries in the EU and the applicant countries, as many factors standing behind them will prevail: the accession countries still have to modernize their capital stocks and will continue to import predominantly investment goods, therefore; export industries in the accession countries that have been successful in the EU markets till now will hold their position, if not improve it as they continue to modernize their production. However, future trade patterns will depend on growth in the accession countries, too. The higher income levels will grow the more diversified import needs will become. Insofar, investment goods may be of a somewhat lower importance in future, although they will remain the most important categories.

The starting point of sectoral analysis is the same empirical base as in the previous section. For the several product groups, a measure of the competitiveness of Eastern producers is calculated, the traditional Revealed Comparative Advantage (RCA) coefficient[4]. The results can be summarized as in Table 1-5:

- The six countries analysed are competitive with a relatively small number of products, showing either high or at least increasing RCA-values and a relevant share in total exports to the EU.
- In nearly all countries, four product categories can be found: articles if apparel, mechanical machinery, electronic products, and vehicles.
- Three countries, among which Poland can be found that has the highest exports to the EU among the countries analyzed, are competitive with wood, wooden products, and furniture.
- The remaining categories, mainly agricultural or metal products, are classified as competitive only in rare cases.

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[4] For details, see Appendix B.

Thus, import competition will concentrate on a rather limited, but nevertheless important part of the EU manufacturing sector. In this context, one should bear in mind that trade with textiles was still restricted until 1997. Therefore, the future importance of textiles and clothings for EU imports may be underscored by the figures given. However, many branches to be found in that list are – as a rule – classified as technology and human capital intensive, namely mechanical engineering, electronic products, and vehicles. At a first glance, that might contradict to the widespread view that the comparative advantage of the accession states can be found above all in labour intensive productions. Since the sectors mentioned are highly diversified, it is worthwhile going more into detail here.

Table 1-5

Comparative Advantage of the Accession States with respect to the European Union
Share of products with high or increasing competitiveness in total exports to the Union, 1997

CN-Code	Product	CR	EST	H	PL	SLO	CYP
02	meat and edible meat offal			2.7			
07	edible vegetables and certain roots and tubers						3.6
08	edible fruit and nuts; peel of citrus fruits or melons						10.1
44	wood and articles of wood; wood charcoal	4.4	19.4		5.2		
62	articles of apparel and clothing accessories, not knitted or crocheted		7.5	5.0	9.5	7.1	15.6
73	articles of iron or steel	6.1					
74	copper and articles thereof				4.0		2.7
76	aluminium and articles thereof					4.1	
84	nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	11.6	7.2	24.4		10.7	10.9
85	electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	11.8	9.0	21.3	9.6	11.2	
87	vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	13.0		5.8	9.2	15.5	5.0
94	furniture; medical and surgical furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified; illuminated signs, illuminated name-plates and the like; prefabricated build	4.7			8.8	8.6	
	Total	51.6	43.1	59.2	46.3	57.2	47.9

Authors' computations based on EUROSTAT data.- CR: Czech Republic, EST: Estonia; H: Hungary; PL: Poland; SLO: Slovenia; CYP: Cyprus

- EU imports of mechanical machinery from the Czech Republic, Estonia, Slovenia and Cyprus in 1997 were scattered over a relatively broad range of diverse products. On the other hand, imports from Hungary that account for nearly half of EU machinery imports from the accession states are concentrated on engines for vehicles (45 %) and data processing machinery (19 %).

- Examining imports of electronic products, a specialisation on electronic parts becomes visible: about 16 % of EU imports in this product category in 1997 were wires and cables, another 9 % other electric materials like fuses, relay, or plugs, 5 % lamps, and another 5 % transformers. Only in the case of Hungary, consumer electronics such as TV sets and videorecorders take a relevant share (25 %).
- Concerning imports of vehicles, finally, about half of them from Poland and the Czech Republic and even nearly 80 % from Slovenia are passenger cars; these countries have a car industry of their own or host assembly plants of multinational car producers. All in all, 25 % of the imports are car parts.

All in all, within the broad product categories examined a concentration on rather labour intensive segments becomes visible. Although some "upgrading" seems to take place among the exports of the six applicant countries analysed, their comparative advantage still is the availability of cheap labour. Even if incomes will rise, wage differences remain substantial for many years so that the specialisation pattern will change little.

To get a picture of trade-creating effects on a sectoral level, the patterns of EU exports to the accession countries should be taken into account, too (Table 1-6). Astonishingly, it is also highly concentrated on nearly the same product categories, predominantly investment goods, that also accounted for a high share of imports from the accession states. The three most important products (mechanical and electrical machinery, vehicles) account for 45 % of total EU exports to these countries. On a more detailed product level, however, it becomes evident that the EU exports concentrate on high quality and upper price segments within these product categories, whereas EU-imports from the six countries analysed can be found above all in low price segments (Freudenberg/Lemoine 1999). Nevertheless, the simulations by Keuschnigg et al. (1999) for Germany and Keuschnigg/Kohler (1999) for Austria show that in nearly all sectors the net impact of enlargement on output will be positive. There are only two exceptions: agriculture, which is a special case because of the common agricultural policy, and processing of wood in the case of Germany. However, this situation might change, as the RCA indices hint at still significant though shrinking trade surpluses in these categories.

Among the most competitive products, pharmaceuticals have a relevant share. At the same time, no chemical product appears among the most competitive imports from the six accession states analysed. Therefore, it is no wonder that the chemical industry is identified in the simulations cited as one of the sectors with the highest potential output growth due to EU enlargement.

Finally, at that point attention should be paid to the role of outward processing trade (OPT), as results from the sectoral analysis might be spoilt by this special type of foreign trade. In all of the accession countries, a good deal of external trade is related to outward processing. It is the characteristic of OPT that components are exported for processing and re-imported after processing. Therefore, exports and imports are influenced in the same direction, often in the same sectors. Therefore, a incorrect assessment of the comparative advantage of sectors can

Table 1-6

Comparative Advantage of the European Union with respect to the six Accession Countries
1993 and 1997

CN-Code	Product	1993		1997		Export to Acc. Countr. 1997	
		RCA	Rank	RCA	Rank	ECU mill.	%
	ordered by competitiveness index						
30	pharmaceutical products	87	5	89	6	1414	2.3
33	essential oils and resinoids; perfumery, cosmetic or toilet preparations	92	3	89	7	632	1.0
59	impregnated, coated, covered or laminated textile fabrics; articles for technical use, of textile materials	82	9	84	9	408	0.7
60	knitted or crocheted fabrics	74	14	82	10	360	0.6
	ordered by share in export 1997						
84	nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	50	30	22	41	11609	18.7
85	electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	13	47	2	49	8619	13.9
87	vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	26	40	13	44	7477	12.1
39	plastics and plastic products	30	39	39	32	3462	5.6
48	paper and paperboard; articles of paper pulp, paper or paperboard	21	42	39	31	1940	3.1
	Total					61920	100.0

Authors' computations based on EUROSTAT data

be made when OPT is neglected (Döhrn 1998). That might explain the fact that the simulation models cited identify a positive impact on output in manufacturing of clothing and textiles, despite competitiveness of producers from accession countries is high in this field. Value added in this sector is small in the high income countries in the Union, anyway, and the chances to use outward processing have become better after the opening of Eastern Europe.

1.3. Impact on trade in services

The impact on trade in services is difficult to assess, as statistics in this field are still poor[5], and often the value added of the service sector is incorporated in trade with goods and therefore not registered separately. The regular border traffic in goods, e.g., which is quite

[5] For most countries, no or at least no sufficient breakdown of service trade according to sectors and/or trading partners is available.

important in some border regions, in the end means an export or import of retail trade services, but is does not shine up in the external trade statistics for the service sector. Insofar, only some rough information can be given, above all based on balance of payments figures (Table 1-7).

Table 1-7

Trade in Services of the Accession Countries
1993-1998, ECU bn

	1993	1994	1995	1996	1997	1998
			Exports			
Czech Republic	4.0	4.3	5.1	6.4	6.3	6.7
Estonia	0.3	0.4	0.7	0.9	1.2	1.3
Hungary	2.4	2.6	3.3	3.9	4.3	4.4
Poland	3.6	5.6	8.2	7.7	7.9	9.7
Slovenia	1.2	1.5	1.5	1.7	1.8	1.8
CEEC	11.5	14.5	18.8	20.7	21.5	24.0
% of exports of goods	*31.5*	*34.6*	*35.4*	*35.7*	*29.1*	*29.4*
Cyprus	2.0	2.2	2.3	2.3	2.5	2.6
% of exports of goods	*269.1*	*273.6*	*240.2*	*206.3*	*227.0*	*277.7*
			Imports			
Czech Republic	3.2	3.9	3.7	4.9	4.8	5.1
Estonia	0.2	0.3	0.4	0.5	0.6	0.8
Hungary	2.2	2.5	2.8	2.8	3.1	3.6
Poland	3.1	3.2	5.5	5.1	5.1	6.0
Slovenia	0.9	0.9	1.1	1.1	1.3	1.4
CEEC	9.6	11.0	13.4	14.3	14.9	16.8
% of imports of goods	*22.0*	*23.1*	*22.3*	*19.9*	*16.5*	*17.0*
Cyprus	0.7	0.7	0.9	0.9	1.0	1.0
% of imports of goods	*32.2*	*31.9*	*33.9*	*32.3*	*33.7*	*32.6*

Source: IMF

Again, they show a clear difference between the Central Eastern European Countries on the one hand and Cyprus on the other. In the CEEC, exports of services come close to one third of the exports of goods, that is not far from the average of the industrialized countries. Imports of services are less developed, they only come close to 20 % of goods trade. Exports as well as imports were less dynamic than trade in goods during recent years. In Cyprus, exports of services are more important than exports of goods, about two thirds of them resulting from tourism.

In the CEEC, an important share of service exports originates from the tourism sector, too, especially in the Czech Republic, Hungary, and Slovenia (Table 1-8). In Poland and Estonia,

transportation sector is the most important exporter of services, obviously not only resulting from trade in goods with these countries that requires some transport services, but also indicating income from transit trade and transportation services for third countries. Other services are very important in Poland, and it can be assumed, although no concrete figures are available, that the construction section accounts for a good deal of these exports, as construction is part of trade in services according to balance of payments practices.

Nevertheless, service sectors should benefit form enlargement. On the one hand, the accession country's imports of services are still rather small and can be expected to increase. This especially holds for financial services. On the other hand, an improved division of labour and higher income levels should also result in higher demands for services. Accordingly, the simulation results cited above indicate a positive net effect on output in service industries in Germany as well as Austria, what even holds for tourism sector in Austria.

Table 1-8

Sectoral Structure of the Export of Services
1997, %

	Travel	Transportation	Other Services
Czech Republic	50.8	18.5	30.8
Estonia	35.9	49.9	14.2
Hungary	53.1	10.3	36.6
Poland	25.6	34.6	39.8
Slovenia	58.2	22.8	19.1
CEEC	41.7	24.9	33.4
Cyprus[1]	60.9	13.0	26.1

Source: IMF. - [1]1995

1.4. Impact on FDI

Enlargement will also influence the flow of factors, i.e. of labour and capital. The consequences for labour flows will not be extensively treated here, although they also might have some specific impact on SMEs. Capital flows as a rule are equated with Foreign Direct Investment (FDI), although strictly speaking FDI mirrors one possibility to finance fixed capital formation only among others (Döhrn 1996a). However, what has been said for trade already is even more true for foreign investment: before transformation, integration between the EU and the accession countries in Eastern Europe was highly distorted, leading to "normalisation" in the 1990s. FDI flows in Cyprus were small, although coming form a relatively high level, measured in terms of FDI stocks per capita as well as FDI as a percentage of GDP.

Table 1-9

Foreign Direct Investment in the Accession States
1992 - 1998; US$ mill

	1992	1993	1994	1995	1996	1997	1998
Czech Republic [1]	988	568	862	2568	1435	1287	2554
Poland	678	1715	1875	3659	4498	4908	6363
Hungary	1479	2339	1145	4519	1982	2080	1936
Slovenia	111	113	128	176	185	321	165
Estonia	82	162	214	201	150	266	581
Total CEEC	3338	4897	4225	11123	8251	8862	11599
Cyprus	107	83	75	80	48	64	37

Source: IMF, EBRD. National Sources. – [1]Without FDI-relations between the Czech and the Slovak Republic.1992 estimate.

Before 1990, investment of EU countries in Eastern Europe was actually almost non-existent, except the then Yugoslavia which was more open to foreign investors. In the case of Germany, for example, which was and still is the most important investor, FDI stocks in Poland were about 5 mill. ECU in 1989, and in Hungary 36 mill. ECU both being less than 0.05 % of total German FDI. Since then, FDI in Eastern Europe in general has risen considerably, and the five accession states were preferred locations to invest. Taking the inflows reported by the five countries considered as a yardstick, most of the increase in FDI took place before 1995 (Table 1-9). Since then, total foreign investment was stagnant, although significant shifts took place between the countries, with Poland taking the leading role from Hungary.

Table 1-10

Foreign Direct Investment in Accession Countries by Sector
1996/97, per cent

	Czech Republic (1997)	Hungary (1996)	Poland (1996)	Slovenia (1997)
Agriculture & Fishing	0.1	1.2	0.2	n.a.
Mining & Quarrying	1.0	1.3	0.4	n.a.
Manufacturing	41.9	38.8	45.0	30.0
Food products	11.6	9.5	11.0	2.0
Textiles and wood activities	5.2	4.4	5.9	7.0
Petroleum, chemical, rubber and plastic products	7.7	8.5	7.8	6.0
Metal and mechanical products	4.9	4.6	4.1	5.0
Office machinery, computers, radio, TV, and communication equ.	n.a.	5.1	0.9	n.a.
Vehicles and other transport equ.	12.5	2.5	7.2	n.a.
Electricity, Gas, Water	8.9	14.8	0.1	14.0
Construction	7.4	3.9	1.6	n.a.
Trade and Repairs	8.9	11.9	11.6	11.0
Hotels and Restaurants	n.a.	2.4	0.4	n.a.
Transport and Communication	18.2	9.2	2.4	n.a.
Financial activities	9.4	9.3	11.1	17.0
Real estate and business activities	n.a.	7.1	2.9	13.0
Other Services	n.a.	0.5	0.2	n.a.
Not classified	4.1	-0.3	24.2	15.0

Source: OECD, UNCTAD

Most of this investment came from the EU, in Hungary about 63 %, in the Czech Republic and in Poland more than 70 %. With respect to the sectoral structure, significant differences between the Eastern European countries exist, above all reflecting different privatisation strategies. In Hungary, the Czech Republic, and Slovenia a good deal of the investment went to the electricity, gas and water sector (Table 1-10), another large share in the telecommunication sector (Czech Republic 18 %, Hungary 9 %). In Poland, the manufacturing sector is dominant (45 %). Interestingly, about one-fifth of FDI in the manufacturing sector – except in Slovenia – was made in the food industry, indicating that investments primarily aimed at developing new markets. In Slovenia, finally, considerable FDI was allocated in financial services.

From a theoretical point of view, the impact of economic integration and the abolition of borders on FDI is far from being clear: in some sectors, unexploited economies of scale can be found within the plant. In these cases, firms tend to concentrate their production in a limited number of locations, after barriers to trade have been removed. Therefore, in those cases even some disinvestments may occur, especially if barriers of trade were the main

Table 1-11

Inward FDI-Stocks in Accession Countries and in selected EU Countries
1997

	FDI Stocks ECU bn	Population Mill.	FDI p.c. ECU	GDP ECU bn	FDI-Stocks % of GDP
Czech Republic	6.0	10.3	579	47.2	12.6
Estonia	1.0	1.5	675	4.2	23.9
Hungary	14.0	10.1	1387	39.7	35.3
Poland	12.9	38.6	333	122.5	10.5
Slovenia	1.9	2.0	935	17.0	11.0
Cyprus	1.8	0.7	2432	3.8	47.4
Austria	19.0	7.6	2505	199.2	9.6
France	153.6	58.6	2621	1345.7	11.4
Germany	121.5	82.0	1481	2045.4	5.9
Ireland	69.2	3.6	19232	58.6	118.2
Spain	97.5	39.3	2481	502.7	19.4

Source: IMF, UNCTAD, World Bank.

reason for investing abroad. It is a different decision, at what locations the disinvestments will take place – in the EU or in the accession countries. In other sectors, multi-plant economies of scale exist and producers will increase FDI when the legal framework will favour investment. This will be the case, in particular, when production requires proximity to the consumer or when products have to be adapted to national peculiarities (concerning taste, design etc.) or legislation.

Empirical analyses of the determinants of international FDI suggest, that "FDI-creating" factors dominate (Döhrn 1996a). In a gravity model context, Döhrn (2000) estimates that FDI stocks one EU member has in the other EU countries are about 50 % higher than FDI in non-EU-countries, other factors being equal. Despite being clear concerning the sign of the influence of EU integration on FDI, the size of the integration effect highly depends on the specification of the model, i.e. the way other determinants of FDI such as labour costs or cultural factors are included in the estimation.

However, a general increase of FDI after joining an integration space does not necessarily mean, that investment in the Eastern European accession countries will grow too after they are members of the union. As pointed out above, development of FDI in the accession countries after 1990 was driven above all by a catch-up process. Concerning FDI per capita, figures for the accession countries – except Cyprus – are still below those observed in the EU (Table 1-11). Measured in relation to GDP, however, the Eastern European countries show shares that are comparable to those in many EU countries. Relative to the economic situation in the accession countries, FDI stocks seem to have reached a "normal" level already, at least

normal relative to relations observed in countries with a long market economy tradition, notwithstanding that higher relations are possible as shown by the case of Ireland. However, similar to the developments described above concerning trade, it can also be expected that future FDI in the accession countries will be increasingly driven by growth of their economies, as a good deal of their original backlog in FDI has already been reduced.

However, some additional factors have to be taken into account:

- First, similar to trade, the increase of FDI into Eastern Europe may also be associated with diverting effects. Brenton at al. (1998) have coined the phrase "domino" FDI, although finding no evidence for the importance of these diverting effects (also: Guál/Martin 1995).

- Second, for the consequences of FDI it is crucial, what types of plants are set-up abroad. Up to now, "contributor factories" seem to dominate, at least in the sectors that produce for export. In these factories, above all components are made for further processing in the home country of the investor. When FDI in the accession countries becomes upgraded, i.e. products become more technology intensive and represent a higher value-added, the factories will change their links to other producers. Increasing shares of supplies and materials will be sourced in the accession countries, with enormous consequences for SMEs, that often produce these supplies.

1. SMEs in the international division of labour

2.1. SMEs on international markets: challenges and responses

At a first glance, it is to be expected, that smaller firms are integrated to a lesser extent into the international division of labour than larger ones, as there are many reason to assume that enterprise size and the relevant markets are interrelated. Small firms mostly tend to restrict their economic activities to a limited spatial area whilst larger firms, on the other hand, are active on markets that are wider in geographical terms. The growth of a firm in itself can result in an increase in geographic scope through enlarging the stock of suppliers and customers. Enterprise growth, on the other hand, depends on economies of scale and scope, on the stock and access to resources and on the entrepreneurs' capabilities (Penrose 1995). In that context a large market favours economies of scale (and larger enterprise sizes) because it encourages technical innovations. That in turn creates a favourable environment for the internal and external growth of enterprises and results in a stronger economic position of large-scale enterprises. In addition, two key factors have to be taken into account with respect to the spatial scope of enterprise activities:

- Each economy consists of industries that operate on larger markets and face regional and global competition, and of branches, that predominantly operate on local and sub-regional markets, facing mainly local competition. As a rule, SMEs dominate these "localised" branches where economies of scale play a minor role.
- The enterprise population even in branches that compete globally such as the automotive or the chemical industries includes a small number of very large enterprises and a large number of SMEs, which typically are subcontractors for the branch leaders. That implies restricted and narrow geographical markets for SMEs even in these regional or global branches.

Therefore international trade and investments seem to be the domain of big business. However, although large enterprises doubtless predominate international markets there are no clear-cut rules which allow to define an "optimal" or even "normal" contribution of SMEs to exports and international investments. Furthermore, the differentiation between large enterprises and SMEs often is an artificial one. For example, an enterprise might classify as small according to the EU definition because it employs less than 250 persons in one of the EU states, but in fact it might have surpassed this artificial border through employing more persons elsewhere in the world. Notwithstanding the stronger position of larger enterprises in the newly evolving global markets there are remarkable exceptions of global niche markets (such as for highly specialised engineering equipment). These niche markets are typically

narrow where economies of scale do not play an important role. Flexible and innovative medium-sized firms which can be found among the manufacturing and service SMEs of all highly industrialised countries frequently dominate these markets (for Germany cf. Simon 1996).

The industrial district paradigm recently challenged the conventional view prescribing certain roles for SMEs and large enterprises in the international division of labour. Empirical studies of industrial districts in Northern and Central Italy showed that SMEs combined their resources through flexible co-operative arrangements without totally excluding competition amongst them. They therefore could make use of economies of scale in production, marketing and procurement. For example, the Italian textile industry thus successfully resisted the strong competition of Asian competitors. The Italian experience demonstrates that a "natural" division of labour between small and large firms which develops along the echelons of the hierarchy of markets does not exist, but that even small firms can be present on regional and global markets (Brusco 1996, Sforzi 1996).

In that context, the evolving knowledge-based economy could basically change the factors, which influence the position of small and large enterprises in a national framework and in the international division of labour. Corporate re-structuring results in partly independent organisational units with a smaller enterprise size. New technologies favour in some branches shifting economies of scale. Fragmented consumer markets result in niches for SMEs, but they also induce larger producers to develop customised production systems (Piller 1998). However, the evolving production system might favour smaller producers per se. The IT revolution, especially e-commerce, will influence marketing channels while at the same time it allows for new organisational forms such as "virtual enterprises" which might support smaller enterprise sizes (Klein 1996). All of these developments could result in fundamentally shifting the position of SMEs although the final outcome is not yet obvious. However, experts who predict a complete dissolution of large enterprises in favour of a general "network economy" appear to exaggerate the structural effects of the IT revolution. On the other hand, the wave of large enterprise mergers, which is accompanied by the formation of alliance networks between large enterprises, seems to create the "adequate" enterprise size for the yet coming era of global markets (Best 1990: 258-262, Dunning 1993: 190-219, Gomes-Casseres 1996). Furthermore, the newly evolving global markets, the traditional national markets and local markets still differ in terms of their economic and social structures (Salais/Stroper 1993).

Thus there are no clear cut findings with respect to the roles that SMEs and large enterprises play in international markets. Moreover, the specific contribution of SMEs to export and direct investments abroad does not only depend on external economic, historical and cultural factors but also on endogenous factors (Bamberger/Evers 1994). Internal conditions of the enterprise include both the firm's internal resources (human and financial capital) and strategies. The personality of the entrepreneur plays an additional role in shaping his/her values and attitudes and thereby in SMEs directly influencing the firm's "behaviour". In that context the international engagement of most SMEs can be characterised through several "ideal" stages, depicting internationalisation as an endogenous process of learning (Bamberger/Evers 1994: 318ff., Zündorf 2000: 40). SMEs as a rule then go from "no

involvement abroad" through "pre-involvement" where export plays a role in their strategic thinking, oftentimes stimulated by external factors such as unsolicited orders from abroad. "Reactive involvement" is characterised by sporadic exports whilst the phase of "active involvement" and "committed involvement" see an expansion of the export volume and the establishment of additional types of foreign activities, ideally ending with establishing subsidiary production abroad. In this way foreign trade is always connected to foreign direct investment.

In the following chapters the part that SMEs play in foreign trade relations and foreign direct investments is discussed in more detail. Data on the internationalisation of SMEs – e.g. their exports or FDI - are not collected systematically. Only 7 OECD members provide data on international activities of SMEs (OECD 1998a: 124). Insofar, information has to be taken from very different sources, in particular surveys that are conducted on an European level, as the ENSR Enterprise Survey, on OECD level (OECD 1998a,b) or on national levels. Therefore, the various results presented in this section neither refer to the same definition of SMEs, nor can they claim to be representative.

2.2. SMEs in international trade

The argument that SMEs are less involved in international trade than large companies seems to be valid for all EU countries, as can be seen from the ENSR Enterprise Survey (ENSR 1997: 359ff.). However, going more into detail, significant differences between the EU members appear as to the importance of exports, as well as to differences between SMEs and large companies, as well as to recent trends:

- The share of exports in turnover (export quota) of SMEs in the EU is about 10 %. Above average (in the order of export quota 1996) Luxembourg, Sweden, Finland, Denmark, Ireland, Belgium, the Netherlands, and Austria can be found, all of them relatively small countries with a high share of SMEs in their economies.

- In most of the countries mentioned above, differences in export quotas between SMEs and large companies are relatively small, except in Finland, the Netherlands, and Belgium. Luxembourg is the only country, where SMEs export a higher share of their production than all companies. In the larger EU countries differences between export quotas of SMEs and larger companies are more pronounced.

- In the EU as a whole, export quota of SMEs has been very stable over the 1990s. In the Nordic Countries (Denmark, Finland, Sweden) as well as in Ireland it has been increasing markedly, whereas it fell considerably in Luxembourg and slightly in Belgium and Portugal. In the large EU countries it was quite stable.

The main finding of the ENSR Survey, that SMEs export (relatively) less than larger companies, is supported by several studies. In the case of Germany, Hüffner (1988) found the same relation for North Rhine-Westphalia, and Wagner (1993) in the case of Lower Saxony. A RWI-survey among German SMEs in the machinery, electronics, and automotive sector produced similar results. In 1996, the export quota was 30 % among companies with 100 to

200 employees but only about 15 % among companies with under 50 employees (Fieten et al. 1997: 291 ff.). By comparison: the export quota in companies with more than 500 employees was above 35 %.

For France, Germany and Spain, data on export quotas by firm size exist (Table 2-1). They also indicate that smaller companies are less involved in international trade than the larger ones, although significant differences exist between France and Germany on one side and Spain on the other. However, data for Catalonia (the region accounts for 27 % of Spanish exports) suggest that the propensity to export is on the rise in small companies, too (see Figure A-4-3 in the appendix). For other EU members more qualitative information is available (Schmidt 1996 17ff.): in the Netherlands, export quota of small companies (less than 10 employees) in the manufacturing sector is under 30%, for larger firms (more than 100 employees) it is nearly 60 %. The same study makes evident that small companies' backlog in export activities in the business service sector is smaller than in manufacturing. Evidence from Finland on one hand also shows a positive correlation of firm size and international activities, on the other hand it confirms the finding already mentioned, that the export quota of Finish SMEs is high in an European context.

Table 2-1

Export Quota by Firm Size in selected EU Countries
1990, exports in per cent of turnover

	Total employment					
	>20	20-49	50-99	100-199	200-499	>500
France	n.a.	10.0	15.1	20.2	22.8	35.4
Germany	*	9.5	14.0	21.3	24.3	37.4
Spain	3.3	7.2	11.0	15.9	17.1	19.8

Source: OECD 1998b, Fieten et al 1997: 23. - n.a.: not available. *included in 20-49

To explain the low export quotas of SMEs, three factors have to be taken into account.

- *A sector factor*: Many SMEs in the EU are to be found in industries such as food processing, manufacture of wood and wooden products, construction, and retail trade (Table D-1). In these sectors, export activities are low in general, even among larger companies (Lageman et al. 1999: 172), albeit they often are internationally active through FDI. Looking at sectoral export quotas of SMEs in Germany, it can be seen that in sectors with high export quotas in general, SMEs export a significant share of their production too (Table 2-2). This especially holds for mechanical engineering and the chemical industry. The automotive industry is a special case insofar as – according to the classifications used in the study cited – SMEs in this industry do a good deal of their turnover in the field of selling or maintaining motor vehicles.

- *Economies of scale and scope*: Ownership advantages are essential to a company's success in foreign markets. As already mentioned above, one way to acquire these ownership advantages is to make use of economies of scale in production, a way that is not viable as a rule for SMEs. Instead, companies can specialise in production and to

create (monopolistic) preferences for the products they offer through product differentiation and innovation. Creation of such monopolistic advantages requires as a rule expenditure in R&D or participation in research networks. In many SMEs, however, R&D plays a minor role (Lageman et al. 1999: 195ff.)

- *A transaction cost factor*: Generally speaking, transactions costs may be an obstacle to SMEs to operate in foreign markets (Schmidt 1996: 12) because a distribution and maintenance network must be provided, exchange rate and political risks may be not calculable and mechanisms to deal with them are poorly developed. In the RWI survey cited above, for example, only 25 % of all companies with under 50 employees stated that they took provisions for exchange rate risks, but more than 75 % of the companies above 500 employees did so (Fieten et al. 1997: 297).

Table 2-2

Export Quota in selected German Industries by Firm Size
1990, exports in per cent of turnover

	total employment					Total
	Under 50	50 - 99	100 - 199	200 - 499	above 500	
Mechanical Engineering	20.9	25.8	33.8	43.9	54.7	44.8
Automotive	2.7	7.0	14.3	21.4	49.2	43.9
Electrical Engineering	13.2	19.0	18.3	28.7	30.5	27.8
Mechanics, Optics	18.2	28.6	24.3	38.6	44.5	37.6
Chemical industry	18.2	23.4	25.7	25.1	45.0	39.2
Wood processing	6.3	8.9	12.6	16.1	20.8	13.6
Rubber- and plastic prod.	10.6	16.1	19.8	28.0	30.3	23.0
Textiles	18.9	23.4	23.5	28.8	34.7	28.2
Manufacturing, incl. Mining	9.5	14.0	21.3	24.3	37.4	29.2

Source: Fieten et al. 1997: 23.

The last factor is also dependent on distance. It can be assumed – although there is little empirical evidence – that exports "within arm's reach" might help to decrease transaction costs. This might explain the relatively high export quota of SMEs in small countries in the ENSR sample, because – simply speaking – the "average distance" from foreign markets is less deterring compared to large countries. This factor would also explain why SMEs in Greece export little, as they are faced with a long distance to the EU markets. However, only a limited number of empirical evidence is available to give support to this supposition.

For Germany, a survey among SMEs from Berlin gives support to the proximity argument (Sander 1996: 13ff.): SMEs that are co-operating with Eastern European companies favour partners in Poland, which is only some 100 kilometres from Berlin, whereas larger companies spread their preferences more equally over the different Eastern European countries. Insofar, EU enlargement might spur SMEs' exports. In the case of Italy, a survey in the 1980s shows that a higher proportion of smaller companies exports goes into the EU countries than in the case of larger (OECD 1998b: 186).

All in all, EU enlargement might increase the export opportunities for SMEs, as the new markets that arise are closer to them than other dynamic regions in the world, that attracted much of the exports in the past. However, if proximity plays such a crucial role for trade creation in SMEs as assumed, the gains from enlargement will concentrate on regions that are close to the acceding countries such as Eastern Germany, or parts of Austria and Italy.

2.3. SMEs and Foreign Direct Investment

Concerning globalisation through FDI, the evidence available suggests that the observation made for trade is even more valid. Although firm size specific data on FDI are not available from official sources, many analyses based on survey or panels confirm that there is a strong positive correlation between company size and FDI, such as an econometric analysis for France (Balestra/Negassi 1992) and various studies for Germany. A panel study amongst enterprises in the manufacturing sector in the German land of Lower Saxony, for example, shows that only 11.7 % of all companies with 50 to 250 employees have invested abroad, whereas the share among companies with more than 250 employees is 40.6 % (Wagner 1999). A survey of Bavarian companies (VBME 1995) confirms this relationship between firm size and FDI.

The reasons for the low rate of international activity of SMEs can be examined systematically from *Dunning*'s OLI-approach (*Ownership-Localisation-Internalisation*) to explain FDI. In terms of this approach, the disadvantages of SMEs can above all be understood as low ownership advantages. Ownership advantages result from the use of economies of scale, a high research and development intensity, and other firm specific factors such as patents, or specific knowledge of the organisation of production. SMEs often have disadvantages in these areas, although this certainly is not true for all of them and might change due to the evolving new production system and new information technologies. All in all, however, their involvement in FDI could be lower. In part, the low FDI also reflects the existence of transaction costs that might be prohibitive to SME investment abroad, at least in certain branches and on certain markets. Concerning ownership advantage, the conditions for most SMEs will remain unchanged after EU enlargement; whereas larger companies might even use their advantages in a more efficient way.

Table 2-3

International Activities[1] of German Companies from the Industry Sector[2] by Region
1990 – 1999, in per cent.

Region	Company employment in 1000[3]							Total
	under 1	1 – 2	2 – 5	5 – 10	10 – 20	20 – 50	Above 50	
Western Europe	41.4	49.5	39.8	36.4	26.8	27.3	29.2	31.2
Eastern Europe	27.6	20.4	23.3	31.0	31.2	15.6	15.8	20.3
Asia (except Middle East)	24.1	10.7	12.0	13.8	18.0	21.1	22.1	19.3
Northern America	3.4	10.7	14.3	9.6	15.2	25.2	19.6	18.0
Latin America	0.0	2.9	5.3	4.6	4.8	5.0	5.9	5.2
Middle East, Northern Africa	0.0	1.0	3.0	1.5	2.4	3.0	1.7	2.0
not allocated	0.0	1.0	0.8	0.4	0.4	0.9	2.7	1.5
Sub Sahara Africa	3.4	0.0	0.8	2.7	0.0	1.4	1.5	1.4
Oceania	0.0	3.9	0.8	0.0	1.2	0.5	1.6	1.2
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: RWI data base on the globalisation of German companies. - [1]Acquisitions, mergers, joint ventures, founding of new companies abroad. - [2]Manufacturing, Mining, Electricity, Construction. - [3]According to employment 1997..

Regarding transaction costs, enlargement will reduce SMEs' disadvantages because the accession countries are close to EU markets, measured by physical as well as cultural distance. Thus, enlargement could improve the standing of SMEs although it still leaves the question whether and which SMEs will invest. That SMEs have a special interest in investing in the accession countries can be seen from several studies for Germany. The RWI, e.g., analyses the annual reports of more than 120 German companies from the industry sector for indicators of their globalisation. One figure taken are reports about acquisitions, mergers, joint ventures or similar activities abroad. The grouping the information gathered according to company size, as measured by employment, makes evident, that in large companies a quarter of the reported foreign activities refers to Eastern Europe, in smaller companies on the other hand about one-third (Table 2-3). It must be emphasised that the smallest companies covered by this sample are not SMEs according to the definition used in this study. However, the tendency is clear, and other studies suggest, that it will continue in smaller companies, although sector- and most certainly region-specific. For example, a survey among companies in the engineering and electronics sector in Bavaria shows that among enterprises with under 200 employees more than 50 % of FDI was undertaken in Eastern Europe, whereas larger companies directed less than 20 % of their FDI to that region (VBME 1995).

3. Small and medium-sized enterprises in the EU and enlargement

3.1. Overview of enterprise structures in the EU

Small and medium-sized enterprises have been central to the development of the EU economy. According to 1995 Eurostat data, there were 18 million enterprises in non-agricultural sectors within the EU-15, of which more than 99 % were SMEs (Eurostat 1998). A total of 110 million people were employed in all enterprises, of which two-thirds were in firms with less 250 employees. SMEs also accounted for over half of the total turnover of enterprises.

Within the broad band of the SME category, further distinctions can be made which highlight the importance of specific classes of enterprises. Over 90 % of enterprises in the EU had less than ten employees; indeed, just over half were sole proprietorships. However, while dominating the numbers of units, such micro firms were less significant in employment and turnover terms, only accounting for a third of the former and less than a fifth of the latter. In terms of employment, the size distribution of SMEs within the EU is non-linear: the largest category is firms with between 1 and 9 employees (just under a quarter of total employment), but there is no clear relationship between the size of firm and the category's share of total employment. However, with respect to turnover, a clearer relationship emerges, as it appears that larger-size categories of enterprises are responsible for larger shares of total turnover – hence, among SMEs, medium-sized firms account for the highest share of turnover (just over a fifth) while sole proprietorships are responsible for the smallest share.

Within the EU, the five largest countries in population and GDP terms – France, Germany, Italy, Spain and the UK – also account for approximately 80 % of all SMEs, whether measured in terms of number of units, employment or turnover. In absolute terms, the largest country is Germany, whose SMEs employ nearly a quarter of total SME employment in the Community, followed by the UK and Italy. However, the importance of SMEs to national economies vary considerably (Table 3-1). While SMEs are responsible for over half of employment in all Member States, the shares range from just under 60 % in Germany (in spite of its absolute dominance), Finland and the UK to over 85 % in Greece.

Overall, the southern European countries have employment structures more clearly skewed towards SMEs than in the northern Member States, though a more complex picture emerges when considering other indicators. When examining the size composition of enterprises at national level with detailed 1994 data, substantial differences emerge among the Member States, largely, though not exclusively, along north-south lines (Table 3-1). The southern European countries have a larger dependence on smaller-sized enterprises, particularly sole

proprietor firms, as Greece, Portugal and Spain (as well as Belgium, though this may be slightly overestimated because of the way in which data is gathered here) have the largest shares of their workforces in this category; Austria and Germany have the smallest. In contrast, northern European countries tend to have more employment accounted for by large enterprises, notably in the UK, Germany and Finland. However, when widening the categories to SMEs with up to ten employees (sole proprietors and micro enterprises) and SMEs with over ten employees, the north-south pattern begins to break down. The smaller category of firms is more prevalent in the southern countries and Belgium, while firms with between 10 and 249 (medium-sized) employees were strongly represented in countries as diverse as Luxembourg, Austria, Denmark, Ireland and Portugal.

Table 3-1

Employment Structure by Enterprise Size in Member States
1994, %

	Sole proprietors (O employees)	*Micro (1-9 employees)*	*Small (10-49 employees)*	*Medium-sized (50-249 employees)*	*All SMEs*	*Large (over 250 employees)*
Austria	3.3	20.7	19.2	21.3	64.5	35.5
Belgium	19.7	26.1	15.4	11.4	72.6	27.4
Denmark	6.5	22.5	22.6	17.9	69.5	30.5
Finland	5.3	19.2	16.4	16.4	57.3	42.7
France	10.9	21.3	18.7	14.9	65.8	34.2
Germany	2.7	20.6	20.0	13.8	57.1	42.9
Greece	27.5	29.1	17.2	12.7	86.5	13.5
Ireland	4.1	19.3	22.8	22.4	68.6	31.4
Italy	10.9	36.9	21.4	10.7	79.9	20.1
Luxembourg	5.1	17.7	24.6	24.0	71.4	28.6
Netherlands	6.1	19.9	17.0	17.7	60.7	39.3
Portugal	11.0	27.0	22.8	18.4	79.2	20.8
Spain	20.0	27.5	19.0	12.9	79.4	20.6
Sweden	5.2	21.4	18.2	16.1	60.9	39.1
UK	12.3	16.6	15.3	12.6	56.8	43.2

Source: Eurostat.

The differences in the importance of SMEs may reflect differences in the sectoral structure of the southern countries and of their industrialisation paths, which tend to be dominated by services to a higher extent than in the rest of the EU. In many service sectors, small, often family-based enterprises still predominate in many regions, whereas in northern Member States, large chains and units have emerged over the last few decades, particularly in retail and wholesale trade, hotels, and financial and business services. Similarly, though less obviously, smaller units are more common in manufacturing in southern Member States, partly reflecting the more deeply-engrained crafts and small business traditions in these countries, especially in traditional sectors such as wooden products, furniture and certain engineering sectors.

Overall, the enterprise population has not changed substantially over the past decade, as new start-ups have tended to replace business closures. The decade has been marked by alternating

periods of growth and contraction: growth between 1988 and 1990, followed by contraction during the recession years of 1990-93, with growth returning more recently. Over a longer period of time though, there appears to have been an overall growth in SMEs relative to large firms: SMEs account for larger shares of employment and turnover across the EU when examining over the past two decades. Several factors have been cited to explain the increasing significant of SMEs in economic activity. In part, it has resulted from the expansion of sectors in which SMEs have traditionally had strong representation, notably service sectors (e.g. personal, financial support and computer services). SMEs have also improved their ability to compete with large firms in many sectors formerly dominated by the latter (notably in manufacturing). For example, changes in production technology - particularly the introduction of computer technology to different parts of the design, production and distribution process - have enabled smaller enterprises to compensate for their lack of economies of scale and reduce their cost basis. At the same time, many larger enterprises have been outsourcing more parts of their production process out of a need to raise their overall flexibility and reduce costs (particularly in service sectors).

As a result, it has been argued that smaller firms have become the main engines of employment growth in economies. Statistical analysis suggests that while SMEs have a clear contribution to employment creation, the situation is by no means clear-cut. Care needs to be taken in measuring change over time in employment and turnover between different size categories of enterprises. Relative changes in different sizes of firms may in part be a statistical illusion arising from firms crossing between definitional lines. As large firms contract, some may shift between categories into SMEs, thereby artificially inflating SME growth figures. Estimates suggest that the effect may be small, but it demonstrates the need to be wary in interpreting changes in figures (ENSR 1998). When using Labour Force Survey data, analysis suggests that taking start-ups, closures and firms crossing size category lines, employment change in SMEs have generally been more positive than in larger firms over the last decade (CEC 1998).

3.2. Sectoral analysis

For the EU as a whole, SMEs have dominated service sectors. Indeed, in terms of employment, SMEs in the construction, trade and hotel/restaurants sectors accounted for a third of total SME employment in the Community; retail trade alone was responsible for 12 % of all SME employment (Eurostat 1998). Not surprisingly, SMEs have high concentrations in service sectors: over 80 % of sectoral employment for SMEs was in recycling, construction, the sale/maintenance of motor vehicles, wholesale trade, hotels/restaurants, financial support services and real estate activities.

Moreover, service sectors also have high shares of sole proprietor and micro enterprises. Over half of sectoral employment was found in firms with less than ten employees in the sale/maintenance of motor vehicles, retail trade, hotels/restaurants, financial support services and real estate activities, as well as miscellaneous personal services. In all these sectors, sole proprietors had shares higher than 10 %; a quarter of total employment consisted of sole proprietors in financial support services and real estate activities alone.

The strength of SMEs in service sectors derives from the nature of the activities. Large enterprises tend to dominate in economic activities noted for high levels of capital intensity and economies of scale. In general, this tends to arise from the demands of production – either because of the scale/complexity of products (e.g. motor vehicles or airplanes) or the production process itself (e.g. pharmaceuticals). However, it can also be caused by the requirements of product/service distribution, particularly where markets are widespread and international and where substantial interaction must take place between the business and the customer. Similarly, in service sectors where the service requires substantial capital investments, high transport costs or an extensive distribution network in order to market or carry out the required service, SMEs are less prevalent: e.g. electricity/gas supply, air transport, post/telecommunications, financial services such as insurance and pension funding and research/development. In contrast, service sectors with smaller start-up and operational costs have high shares of SME activity, such as recycling, construction trade sectors, hotels/restaurants, financial and business services, real estate, computer services, health/social work, and recreational and a variety of personal services (Table 3-2).

Table 3-2

Sectors with above average Shares of Employment in SMEs in the EU 1994, %	
Average	66
Other mining and quarrying	80
Textiles	70
Clothing	80
Wood products	87
Publishing/printing	69
Metal products	81
Recycling	95
Construction	88
Sale/maintenance of motor vehicles	90
Wholesale trade	84
Retail trade	73
Hotels/restaurants	86
Financial support services	86
Real estate	89
Rental of machinery/equipment	80
Computer services	76
Health/social work	70
Recreational services	76
Other services	94
Source: based on Table A.2 in the statistical appendix.	

Nevertheless, the "threshold" costs of operating in certain sectors are generally larger in manufacturing than service sectors. For the Community in general, the SME share of employment in manufacturing/mining sectors as a whole is smaller than the average for all sectors of economic activity (53 % as opposed to 66 %) (see Table D.2 in the statistical appendix). Moreover, many manufacturing sectors are dominated by large enterprises: for

example, large enterprises accounted for over 80 % of employment in coal and ore mining, tobacco products and motor vehicles. Manufacturing sectors with high concentrations of SMEs tend to exhibit similar features to the service sectors where SMEs dominate (Table 3-2). These include other mining (e.g. stone quarrying), textiles, clothing, wood products, publishing/printing and metal products: sectors where relatively small, labour-intensive units can operate. Unlike services though, few manufacturing sectors have a significant presence of very small firms: in only wood products do firms with less ten employees account for more than a quarter of total employment. In no manufacturing sector did sole proprietors account for over ten % of total employment.

When examining the differences between Member States, the diversity noted above in total SME population is reflected at sectoral level. In all Member States, SMEs tend to be concentrated in sectors such as construction, trade/hotels/restaurants (considered as a whole) and business services rather than manufacturing, transport and financial services. However, there is some variation in the strength of SMEs in different categories. For example, while in Germany - where SMEs have an overall lesser presence - SMEs account for less employment than the EU average in manufacturing and trade/hotels/restaurants, they display higher than average shares of employment in transport and communications. Similarly, Austrian SMEs have a higher than average share of manufacturing employment but a lower-than-average share of employment in construction. The patterns do not reflect overall shares of employment in each sector relative to EU averages - as a share of total employment, manufacturing in Germany is higher than the EU average and transport costs are lower, in contrast with the significance of SMEs in Germany relative to the EU - but peculiarities of the enterprise structure in sectors in different countries.

Table 3-3

Sectors with above-average Concentrations of SMEs	
BELGIUM	Food products; clothing; wood products; publishing-printing; metal products; furniture; construction; trade; hotels-restaurants; **real estate**; computer services; recreational services
DENMARK	Wood products; mechanical engineering; construction; trade; **hotels-restaurants; real estate;** computer services; legal-business services; architectural services; **advertising**
FINLAND	Textiles; clothing; publishing-printing; rubber-plastic products; metal products; furniture; construction; trade; hotels-restaurants; real estate; computer services; legal-business services; architectural services; health-social work
FRANCE	Food products; textiles; clothing; wood products; publishing-printing; metal products; construction; trade; hotels-restaurants; real estate; computer services; legal-business services; architectural services; advertising; health-social work; recreational services
GERMANY	Food products; clothing; wood products; metal products; construction; trade; hotels-restaurants; real estate; computer services; health-social work; recreational services
GREECE	**Rubber-plastic; furniture**; construction; trade; hotels-restaurants; transport-storage-communication; **legal-business services**
IRELAND	Food products; textiles; clothing; **wood products; paper**; metal products; mineral products; **metal products**; construction; trade-hotels-restaurants
ITALY	Food products; textiles; clothing; wood products; publishing-printing; mineral products; metal products; precision instruments; furniture; construction; trade; hotels-restaurants; **real estate**; computer services; health-social work; recreational services
LUXEMBOURG	Construction; trade; hotels and restaurants; **real estate; computer services; recreational services**
NETHERLANDS	Metal products; mechanical engineering; construction; trade; hotels-restaurants; real estate; computer services; legal-business services; architectural services; recreational services
PORTUGAL	Clothing; wood products; publishing-printing; rubber-plastic products; metal products; mechanical engineering; furniture; construction; trade; hotels-restaurants; **real estate**; legal-business services; architectural services; health-social work; **recreational services**
SPAIN	Textiles; clothing; wood products; publishing-printing; metal products; furniture; construction; trade; hotel restaurants; real estate; legal-business services; architectural services; advertising; health-social work
SWEDEN	Textiles; wood products; publishing-printing products; rubber-plastic products; metal products; furniture; construction; trade; hotels-restaurants; computer services; health-social work; recreational services
UK	Wood products; publishing-printing; metal products; furniture; construction; hotels-restaurants; equipment rental services; real estate; computer services; recreational services
Source: based on Tables D-5 – D18 in the statistical appendix. — Sectors in **bold** have all their employment accounted for by SMEs. Also, Austria has not been included because its data is not disaggregated sufficiently	

In general, the same product and service sectors show high concentrations of SMEs across the different EU Member States (Table 3-3). In terms of service sector employment, SMEs had generally substantial presence in construction, trade/hotels/restaurants and real estate, followed by legal/business services and health/social work. Similarly, in manufacturing, SMEs were significant in wood products, metal products and furniture in most Member States. In some countries, SMEs completely dominated certain sectors, often services (as in the case of real estate in Belgium and Portugal), but occasionally manufacturing (as, for example, with rubber/plastic products and furniture in Greece). A similar picture emerges when analysing the smallest enterprises in different sectors at Member State level (Table A.2). High levels of concentration can be found in construction, trade, hotels/restaurants, real estate, computer services and recreational services in most Member States, where firms with less than ten employees account for over half of total sectoral employment. In very few cases are there manufacturing sectors with such high ratios, though some manufacturing sectors do emerge, particularly wood products.

3.3. Types of effects on small and medium-sized enterprises

From the perspective of SMEs in the existing EU countries, enlargement represents a significant expansion of the European marketplace, both in terms of new markets and potential competition. As seen in the previous chapter, SMEs differ on the extent to which they are "exposed" to, or able to take advantage of, these changes, in large part reflecting their current levels and experience of internationalisation. Overall though, the accession of the candidate countries will present a combination of market opportunities and competitive risks which will vary between sectors and countries. On the one hand, the new markets of developing and expanding economies in the accession countries – particularly in Central and Eastern Europe – may provide the same opportunities to SMEs in the EU as larger firms. At the same time, enlargement carries "risks" to EU SMEs by allowing greater access for accession country firms to enter EU markets previously restricted to non-EU businesses.

In this context, it is important to be more clear about how enlargement will change market conditions. "Enlargement" itself is a vague term covering a sequence of stages at which different effects can be expected. In particular, it is crucial to distinguish between the event of accession itself, with adaptation of accession country regulatory frameworks to the *acquis communitaire*, and the longer-term integration of economies within the EU. Indeed, trade links with the candidate countries have been steadily liberalised through the Europe Agreements: although only coming into force in Slovenia in 1999 (and at the time of writing, not yet in Estonia), they have applied in Hungary and Poland since 1994 and the Czech Republic since 1995. The Agreements have allowed for full trade integration for most sectors and a progressive reduction in trade tariffs/quotas in certain sensitive sectors – such as textiles/clothing and steel production. The impact of accession itself will be principally felt through the gradual adaptation of Community legislation and standards in the candidate countries – effectively enforcing deregulation in some sectors – but stretched over a period of several years. At the same time, accession must also be viewed as part of a wider process of integration between the different economies as the candidate countries have pursued economic restructuring and liberalisation over the past decade: while this process has been accelerated by accession, it is not bound by it, as the estimates of growth effects in the previous chapter have shown.

Where accession is likely to have significant effects will be in agricultural sectors. Trade in agricultural goods between the candidate countries – which have noted comparative advantages in many aspects of agricultural production – has been limited by existing agreements, but with membership of the Community, it should increase significantly. Although not covered in this report, many small farms in the existing EU-15 will face strong competitive pressures as a result.

Moreover, it should also be remembered that enlargement will have a substantial impact on Community policies from which EU SMEs currently benefit: most notably, with respect to EU regional and agricultural policies. It has been widely anticipated that large areas within – if not, indeed, the whole of – most accession countries are likely to be eligible for Structural Funds and assistance through the Common Agricultural Policy. In preparing for the anticipated strain on Community financial resources, changes have already been introduced in

eligibility criteria, affecting existing recipient regions in the EU-15. This has already resulted in a loss of Structural Funds eligibility for some regions in the EU-15 – though transitional funding arrangements have been made – with the prospect of further reductions for the next programming period, beginning in 2006. The implications of reduced assistance will be discussed more fully in the concluding chapter of the report, but it is worth noting here that the loss of support may be another competitive disadvantage to SMEs in Structural-Fund designated areas resulting from enlargement.

In predicting the effects of enlargement on SMEs within the EU-15, it is useful to examine how SMEs behaved in other European integration processes. In this respect, a close analogy can be made between impact of the current enlargement on SMEs and the effects of the programme to complete the internal market. Both represent extensive programmes of trade deregulation and standardisation, in which regulatory barriers to trade were systematically identified at Community level and removed at national level by a process combining mutual acceptance of product/service standards and qualifications and gradual harmonisation across the EU. In the case of the Single Market, the barriers covered a diversity of areas – including customs procedures, public procurement, and diverging national product standards and professional qualifications – of importance to SME business activities. Many of these are also relevant to accession country adjustment to EU membership criteria. Also, integration in both cases involved a number of countries where parts of the national economies were largely protected from external competition as a result of these barriers. Lastly, integration has led to slow adjustment of regulatory frameworks and trading behavior in the participating countries, rather than a once-and-for-all macroeconomic shock.

At the same time, it is important to stress key differences in the two processes. First, it might be expected that the overall impact of enlargement would be a smaller-scale version of the effects associated with the Single Market programme, especially given the small share of EU-15 trade for which the six countries studied here currently (and will in future continue) to account. Second, enlargement involves more intensive legal and economic adaptation for the accession countries: not only do the changes cover a wider range of sectors, but the six countries studied here are adjusting to an existing market environment (potentially resulting in a greater competitive advantage for EU businesses already operating in that environment); with the completion of the internal market, all countries had to adapt to the changes. Lastly, the accession of the candidate countries will lead to the integration of economies with significant disparities, whether measured in terms of the new members' disadvantages – e.g. per capita income, infrastructure development – or their competitive advantages – e.g. lower cost bases.

With these caveats in mind, internal market studies can provide an illuminating insight into the overall impact of further European integration on SMEs. The first point to make is that any general effects have been difficult to isolate, let alone quantify. Single Market research has consistently emphasised the problems in measuring integration effects. Partly, this is a consequence of the slow response of Community businesses (both consumers and producers) to the new trading environment, a trend likely to continue in the case of enlargement. It is also due to the role of "swamping" variables such as global economic factors, whether macroeconomic or sector-specific.

Single Market surveys of SMEs have tended to reach the same broad set of conclusions. First, most SMEs were aware of the implications of integration and viewed the internal market as containing a balance of opportunities and threats (ENSR 1998). However, the scale and nature of the impact on enterprises varied by size, country and sector. Smaller companies tended to be aware of greater threats (particularly from competition) and fewer opportunities associated with the Single Market. SMEs in the same sector in different countries reported different perceptions of the risks and benefits of integration. In a study of SMEs in the clothing and food sectors in the UK and Portugal, Smallbone et al. (1999) noted that SMEs in both sectors in the more open UK economy appeared better able to adjust to the Single Market than SMEs in Portugal. Moreover, variations were not only apparent generally between sectors but there were significant differences within sectors, particularly between firms engaged in low value-added activities with a focus on the domestic market and those exporting niche products internationally. Second, Single Market studies have emphasised that the main gains of market integration were more likely to accrue to large firms rather than SMEs. Access to larger markets – particularly through the effective amalgamation of smaller ones – provides opportunities for firms to achieve economies of scale in production (through fewer product lines) and distribution (through simplified distribution systems). Lastly, SMEs will generally face a slower process of adjustment to the new market environment because of their more limited capacity in terms of resources.

3.4. "Sensitive" groups of small and medium-sized enterprises

As we have seen, exposure of SMEs to changes in international market conditions and their ability to adjust can be expected to vary considerably because of sectoral and spatial factors. Consequently, as with the reactions to the completion of the internal market, different groups of EU SMEs will face differing balances of opportunities and risks in enlargement; indeed, many will experience little impact at all. In order to identify the "sensitive" groups, it is important to understand the main variables.

With respect to *sector* factors, the main determinants are the extent to which enlargement will alter the market conditions of the sector and within that sector, the ability of SMEs to adapt subsequently. Enlargement will change market opportunities in the existing Member States and the six countries studied here if the sectoral markets have been hitherto protected or rendered inaccessible and there is significant growth potential in the new markets. The ability of SMEs in these sectors to adjust will depend on the presence or absence of competitive advantages which can be exploited in the wake of accession. Moreover, "threshold" levels differ between sectors – hence, while large firms universally may be in a position to make some adaptation to changing market opportunities and risks with enlargement, smaller firms may have greater difficulties, depending on their market focus and capacity for internationalisation.

Similarly, *geographical* factors will have an important influence on how SMEs will respond to enlargement. These factors can operate at national level, notably through the competitiveness of an industrial sector and the overall macroeconomic performance of the country. They also operate at regional level, as SMEs are often deeply embedded in their local economic environments. Hence, it is important to consider a range of regional factors when

determining overall SME sensitivity, including proximity to the six countries studied here, levels of physical and business infrastructure, industrial structure, new firm formation and general levels of economic development and prosperity.

To assess how these two sets of factors interact, a series of case studies will consider the sensitivity of SMEs in different contexts later in this report. The current section focuses more broadly on how trade and investment effects arising from enlargement can affect specific sectoral groups of SMEs. It will concentrate particularly on candidate countries from Central and Eastern Europe (CEE), due to the size of their economies and likely impact on EU trade patterns. On the basis of the analyses undertaken in the previous chapters, it is possible to identify sectoral and country groups in which SMEs in the Community are likely to be substantially influenced by enlargement. The analysis of trade data and the growth effects of enlargement produced a list of sectors where both EU import and export flows are likely to be affected. Analysis of the enterprise structure of the EU as a whole and the Member States individually identified the sectors in which SMEs accounted for large shares of economic activity. Combining together the two analyses will allow an assessment of which groups of SMEs are likely to benefit from enlargement and which may experience significant challenges.

The following sections examine these issues by focusing on the "opportunity" and "risk" groups of SMEs in the Community. The opportunity groups will be identified through EU export data and the role of services trade (with the CEE candidate countries). The risk groups will be identified through Community import data and services issues as well as the threat of FDI shifts to accession countries.

3.4.1. Opportunity groups

(i) Commodity trade

To identify the main "opportunity" groups of SMEs in the current EU then, first the key export sectors for the Community must be examined. Using figures for EU exports to the CEE accession countries in 1997, the five most important sectors are listed below – as identified in the earlier chapter - with the values and shares (in italics) of total EU trade given in the brackets:

1. **mechanical machinery/equipment, boilers and nuclear reactors** (MECU 11,608 – *18.7 %*);

2. **electrical machinery/equipment and radio, television and communications apparatus** (MECU 8,620 – *13.9 %*);

3. **vehicles other than railway or tramway rolling stock** (MECU 7,477 – *12.1 %*);

4. **plastic products** (MECU 3,463 – *5.6 %*); and

5. **paper products** (MECU 1,940 – *3.1 %*).

Table 3-4

SME Shares of Employment in five principal EU Export Sectors to the six Accession Countries in Member States [1] 1994, %		
	Top five sectors as a share of total SMEs	*Share of total EU SME employment in sectors*
EU-14	5.5	100.0
Belgium	2.7	2.0
Denmark	8.2	2.3
Finland	7.5	1.2
France	4.5	12.2
Germany	5.0	23.2
Greece	1.8	0.7
Ireland	6.3	0.8
Italy	7.3	22.2
Luxembourg	2.5	0.2
Netherlands	4.1	3.5
Portugal	4.6	2.8
Spain	3.8	9.0
Sweden	7.3	2.5
UK	5.6	17.5

Source: Eurostat. – [1]Austria is not included in this table because of the lack of sufficient data at NACE-2 level.

Table 3-4 analyses enterprise structure in just the five main EU export sectors using 1997 data. Here, there are high concentrations in Denmark, Finland, Italy and Sweden, which - apart from Italy - are not countries normally associated with high shares of SMEs. To a large extent, this can be explained by the unusually large shares of SME employment in mechanical engineering in these countries (all much higher than the EU average). At the same time, there are low percentages of SMEs in the opportunity sectors in Greece and Belgium: surprising, given the significance of SMEs overall in their economies, though this may be attributable to the wider diffusion of SMEs across more sectors. In terms of each country's share of total EU SME employment in these sectors, the two main countries where SMEs in opportunity sectors are clustered are the border countries of Italy and Germany, though large numbers of SMEs in opportunity sectors can be found in the other large economies, such as France, the UK and Spain, again reflecting the distribution of SME employment as a whole between Member States in the Community.

(ii) Services trade

It is difficult to assess fully services trade because of problems of disaggregating and interpreting national figures. However, in general, it has been universally suggested that EU services firms are more likely to benefit from integration than accession countries, at least in near-future: i.e. opportunities should exceed the risks of greater competition. In the main, this is because service enterprises in the EU tend to have more technological advantages,

particularly in new service sectors relying on the development of new technologies (such as financial and computer services). They have also benefited from the increasing competition caused by the Single Market programme (CEC 1998). In contrast, service sectors remain largely underdeveloped in the accession countries – at least until recently – and most appear to be micro enterprises with limited export capabilities.

While EU firms are likely to be successful in general, there is bound to be greater competition in some sectors than in others. With respect to the opportunity sectors for EU firms, where services rely on specific expertise, significant human capital investments and are not place-specific (i.e. services in which proximity is not an essential requirement), EU firms are generally regarded as having a comparative advantage (Mayerhofer 1999). For many of these services, significant growth can be expected in the accession countries over the next decade as their economies continue to expand and modernise. Such services are likely to consist of:

- *recycling and environmental services*: as the use of environmental technology and new EU requirements for recycling are likely to support the demand for services in this area, particularly in the accession countries where industrial pollution remains a significant economic development issue in many regions;

- *financial services*: as EU firms have clear existing advantages with respect to financial services, not simply in areas like banking and insurance, as a result of technological superiority, market strength and economies of scale, but also in the auxiliary advisory and support services in this sector;

- *equipment rental*: as demand for industrial machinery continues to rise in the accession countries, firms that can provide the capital equipment on a short-term rental basis should be able to increase their activities in CEE markets;

- *computer services*: skills and equipment advantages among EU enterprises in this area – one of the strongest growth sectors of recent years – should lead to increasing export trade with the accession countries; and

- *business services*: increasing business opportunities in the CEE for a wide range of industrial and consumer business services – including legal, architectural and commercial professions – will allow EU firms to make use of their expertise knowledge and skills in these growing export markets.

These are not the only sectors where EU firms can be expected to benefit. Any service sector or sub-sector with high levels of specialisation and skill/knowledge expertise should witness growing EU dominance in trade. However, as a whole, the sectors listed above display clearly-defined competitive advantages for EU businesses; in effect, they are the sectors which can be identified most readily from the trade and enterprise structure data (and as a result, should be used with circumspection).

The extent to which small enterprises in the EU will benefit from service trade liberalisation varies by sector. While SMEs have strong representation in service sectors as a whole, some of these services are dominated by large firms because of the importance of economies of

scale (such as banking and insurance, as described in previous chapters). Moreover, according to Eurostat data, they account for a relatively small share of total SME employment in the Community (approximately 15 %). Only a limited number of sectors have high shares of SME concentration in employment terms: recycling (which is very high for SMEs); auxiliary financial services; equipment rental; and computer services. Overall, the largest groups of opportunity sector SMEs are (not surprisingly) in the largest economies, such as Germany and Italy; the smallest in countries with less-developed service sectors, notably Greece and Portugal (CEC 1998).

3.4.2. Risk groups

(i) Commodity trade

Increased trade integration with the six countries studied here will also result in more competition for many groups of SMEs in the Community. A larger range of products will provide consumers with more supply choices, particularly in sectors where this could lead to greater diversity of similar products and fragmentation of markets into smaller niches. At the same time, competition from lower-cost producers in accession countries (because of their significantly lower wage levels) will increase the vulnerability of some SMEs in the Community. In consequence, any identification of risk groups of SMEs in the Community should be conducted warily. By highlighting the sectors where competition is likely to increase because of integration, no firm conclusions can be drawn about the scale of risk facing existing SMEs in the Community without a full evaluation of the competitiveness of these sectors. Nevertheless, as with the opportunity groups discussed above, the trade analysis of accession group exports to the Community will help to delineate the general categories of SMEs likely to be in potential need of special and additional policy support.

The risk sectors can be identified for the EU as a whole. Using the values of accession countries (as a whole) to the Community in 1997, the main exports sectors to the EU were the following (again, as in the previous section, export values and italicised shares of total EU trade are given in brackets):

1. **electrical machinery/equipment and radio, television and communications apparatus** (MECU 5,854 – *13.5 percent*);
2. **mechanical machinery/equipment, boilers and nuclear reactors** (MECU 4,781 – *11 percent*);
3. **vehicles other than railway or tramway rolling stock** (MECU 4,205 – *9.7 percent*);
4. **clothing** (MECU 2,370 – *5.4 percent*); and
5. **furniture** (MECU 2,351 – *5.4 percent*).

The strength of these sectors in the six countries studied here derives from different factors, though they are all likely to continue to be a source of competitive advantage over the next decade. In some cases, export success is due to the re-emergence of long-established

comparative advantages (which may have persisted during the Communist period), especially in more skilled sectors such as electrical and mechanical engineering. Export strength also reflects the ability of enterprises to take advantage of lower-cost production. In the case of labour-intensive industries such as clothing and furniture, it is mainly locally-based/owned firms which have been exploiting their lower labour costs to capture EU markets. However, in the case of vehicles (particularly the automotive industry), it tends to be foreign investors setting up the more labour-intensive, assembly aspects of production in the accession countries, again taking advantage of lower wages and the availability of highly-skilled labour. As argued in the sectoral analysis of trade in section 1.2, EU production – in general – has tended to focus on high-quality, finished products in sectors such as vehicle and electronics manufacture, while the accession countries have concentrated on labour-intensive, semi-manufactured or assembly-based products.

The extent to which higher value added production will increasingly take place in the accession countries in these sectors will depend on the speed with which their strong skills bases can be exploited and productivity raised. In the short term, it is viewed here that such changes are unlikely to affect the competitiveness of existing Member State SME production greatly. However, over the medium term, an accession countries' competitive advantage in these areas may increasingly become more evident, particularly in light of the increasing globalisation of supply behaviour by multinationals in these manufacturing sectors.

Moreover, along with the greater export competition from the six countries studied here, it is important also to consider the capacity of these sectors to adjust within the EU. For some sectors, intra-industrial trade growth could lead to increased specialisation in higher value-added, more capital-intensive sub-sectors by EU SMEs, especially in electrical and mechanical engineering sectors. Hence, restructuring in these industries would tend to be concentrated in particular sub-sectors, particularly if accession country firms develop competitive advantages in complementary industries, as for example in the production of machinery for their own clothing and furniture industries. The effects of enlargement on other sectors could be more extensive, especially where enlargement reinforces wider globalisation forces. In the case of the EU clothing industry, low-cost global competition has already resulted in widespread industrial restructuring - indeed, accession country enterprises are themselves likely to be competing with lower-cost producers in non-European developing countries. In the case of the motor vehicle industry, relocations of existing, or the establishment of new, car assembly plants to accession countries could increase the existing pressures of over-capacity within the EU industry.

Table 3-5

SME Shares of Employment in five principal EU Import Sectors from the six Accession Countries in Member States [1] 1994, %		
	Top five sectors as a share of total SMEs	*SME share of total EU employment in sectors*
EU-14	8.1	100.0
Belgium	3.8	2.0
Denmark	8.1	1.7
Finland	8.5	1.0
France	5.3	10.2
Germany	7.9	26.0
Greece	3.0	0.9
Ireland	5.8	0.5
Italy	11.9	25.6
Luxembourg	1.6	0.0
Netherlands	4.0	2.4
Portugal	11.3	4.9
Spain	5.7	9.5
Sweden	7.3	1.8
UK	6.1	13.5
Source: Eurostat. – [1]Austria is not included in this table because of the lack of sufficient data at NACE-2 level.		

When examining the five main CEE export sectors, the threat of trade diversion appears to be limited to particular countries (Table 3-5). SMEs in the risk sectors account for relatively high shares of all SME employment in Italy and Portugal; the least threat is presented to Luxembourg, Greece, Belgium and Spain, where SME exposure to accession country competition seems very low. The division among the southern European countries is unusual given their similarity in having high shares of employment in SMEs as a whole. The main differences appear to be in the clothing and furniture sectors, which account for much higher levels of total SME employment in Italy and Portugal than in Greece and Spain.

The largest groups of risk SMEs are in Italy and Germany: they accounted for more than half of Community SME employment in the five sectors, again a higher concentration than for opportunity sectors. They are followed by the same large economies as before: the UK, France and Spain. In these cases, the vulnerability of SME groups arises less from the concentration of SMEs in particular sectors (which in the case of the UK and France tend to be less than EU averages), but through the sheer *size* of the risk groups in the national economies.

(ii) Services trade

As already noted, growth in services trade should generally favour enterprises in existing Member States. However, while in the long-term, accession countries can be expected to

develop strong indigenous sectors in all of these services, there are existing service sectors in which accession countries currently have comparative advantages. They are not necessarily service sectors where international trade features strongly, underlining the impact that enlargement might have on enterprises relying heavily (if not wholly) on domestic markets. This is particularly true in labour-intensive services which are place-specific and where Member States have close border proximity with the six countries studied here. This applies to particularly to construction, as the low cost of labour and the ease of mobility will support accession country firms, allowing them to bid for contracts in the existing Member States (though the mobility of construction *workers* rather than *enterprises* may be more relevant for the border Member States).

The two exceptions appear to be tourism and transportation where – as noted above in section 1.3 – strong competitive (and potentially, from the perspective of existing Member States bordering the accession countries, displacement) effects can be anticipated from the CEEC candidates. Indeed, in general, the effect of trade liberalisation in many services – particularly those depending particularly on geographical proximity - is likely to be concentrated in the border countries: i.e. Austria, Germany and Italy. Border regions will be particularly affected by competition in construction and trade sectors, such as Burgenland in Austria, the eastern parts of Germany, and northern parts of Italy, where SME concentrations are relatively high (Eurostat 1998). At the same time, the risk factor will be limited by the low share of trade in employment. As these are often sectors with high shares of SMEs, SME impact in these areas could be notable.

(iii) FDI issues

Although offering also some chances, the impact of accession on existing EU foreign investment patterns can generally be characterised as a source of risk rather than opportunity for existing EU SMEs. The argument runs that the removal of trade barriers between the six countries studied here and the Community will provide a fillip to foreign investment into the former in much the same way as it did for former accession countries like Spain. Given the high share of the EU in existing investment within accession countries, there may be growth in relocation investment as companies aim to take advantage of the lower production costs of the new countries and greater trade mobility with the EU. At the same time, investment that may have once been directed to the lower labour-cost parts of the Community may be diverted to the less costly accession countries. Hence, while SMEs may not be directly part of such investment shifts, SMEs in existing Member States may be threatened by the relocation of their existing large customers – notably in industries where mobile investments may be common and geographically-proximate supplier linkages can be important and in countries where production costs may be relatively high by Community standards.

Assessing the scale of this threat is difficult, but the evidence suggests that its impact on existing SMEs in the Community will only be significant in localised industries and regions. With regards to *relocation* investment, empirical work concurs that the majority of investments in the six countries studied here are not cost-determined by market-based – i.e. they aim to develop local markets rather than take advantage of lower production costs. Much of the EU investment in accession countries is in the services sectors, where a local

investment presence may be essential for the development of markets. Enterprise surveys in the accession countries have consistently shown the predominance of market- rather than export-oriented investments, suggesting a reduced risk of lost local demand to EU SMEs (e.g. Lankes/Venables 1996). Indeed, the only sector where labour costs have played a role in the relocation of labour-intensive aspects of production is the textiles and clothing sectors, which have accounted for three-quarters of outward processing imports from CEE countries (European Parliament 1996). The impact of this relocation may be particularly strong in the existing border countries of the six countries studied here, Austria and Germany.

With respect to the *redirection* of investment, the evidence for widespread shifts has not been found. For example, in the case of Spain, Gual and Martín (1995) concluded that integration with the accession countries would not affect investment inflows, in spite of the potential competition on labour cost grounds because of the differences in the industrial structure of investment.

3.5. Conclusions

On the basis of this analysis, several tentative conclusions can be drawn that should assist in assessing how enlargement will affect SMEs in the EU. Previous integration processes on a similar scale provide indications of how SMEs will react to substantive changes in European markets. Studies of the completion of the internal market suggest that SMEs are more likely to adjust more slowly to integration than larger firms and overall, benefit less from market opportunities. At the same time, it is important to emphasise that enlargement involves more dimensions than market changes, which may be just as significant for SMEs. In particular, medium-term shifts in European regional and agricultural policy funding away from existing Member States to the six countries studied here could reduce public policy resources available for assisting SME development in the present EU.

Given the more muted impact of integration on EU SMEs as a whole, it is still possible to identify national sector groups of SMEs which are likely to be more strongly affected. First, it is important to stress how variable the impact of trade liberalisation will be. A larger share of SMEs in border countries are likely to be affected because of the higher trade intensity in these countries. This is especially evident in service sectors, where proximity may be a determining factor. Hence, the scale and diversity of trade effects should be greater for SMEs in Austria, Germany and Italy.

Second, it is worth emphasising the importance of services trade liberalisation with respect to the six countries studied here. The disparity in development across a range or service sectors suggest that once full deregulation occurs between the existing Member States and the candidate states, substantial trade opportunities should develop for EU enterprises. This should be strongly felt among SMEs, given their high representation among SME sectors. Moreover, the opportunities may be more widely distributed across the different Member States than for commodity trade because of the low transport costs in the provision of many of the relevant services.

Third, foreign investment shifts resulting from accession – whether relocated or redirected FDI – are anticipated to be neither significant nor have major impacts on EU SMEs. The only SME groups where risk impacts may be felt are the textile/clothing sectors in Austria and Germany because of the transfer of some labour-intensive production (and potentially supply opportunities for Austrian and German SMEs) to the six countries studied here.

Lastly, it seems that the balance between trade competition and trade creation for EU SMEs should mean that a larger share of SMEs may experience "risks" than "opportunities". However, this kind of analysis can only indicate the sectors where risks and opportunities are likely to occur: it does not comment on the *scale* of these effects. The distinction is important: while the foregoing sections suggest that there may be more SMEs in risk sectors than in opportunity sectors, it remains the case that EU exports to the six countries studied here (i.e. opportunities) continue to exceed imports from these countries (i.e. risks). Consequently, while more SMEs may be at nominal risk, in real terms, it is likely that more SMEs may actually benefit from the opportunities arising from enlargement.

4. The impact of enlargement on SMEs – an assessment

Before drawing conclusion for EU policies, in this section a overview of the results gained hitherto is provided. A brief summary of the effects discussed is given in Table 4-1. The chapter also includes the main findings from the case studies to be found in Appendix A.

4.1. Macroeconomic and sectoral effects

The enlargement of the European Union will have a positive impact on the economy in its existing as well as its new members; even if these effects are difficult to identify. Some have already come into force under the Europe Agreements, others will be realised long after the accession having taken place due to transition periods. Nevertheless, following the analyses presented, there is little doubt that the overall consequences on SMEs will in the end be positive, too. Their economic environment will improve for various reasons. The market will become larger, division of labour will be improved, and the increased competition will bring about dynamic forces. All these factors will result in generally higher incomes and thus create opportunities for SMEs to increase their sales. Nevertheless, all model simulations published hitherto suggest that the gains for the existing Union will be modest. Therefore, the impact on SMEs through this medium should be small, too.

However, competition is the clue to realising the growth potential of enlargement. This necessarily means that the adjustment to the new integration area and the new division of labour will bring about winners as well as losers. On a sectoral level, we identified both "opportunity sectors" as well as "risk sectors" (see chapter 3.4). In manufacturing, both types of sectors overlap to a large extent when looking at broad categories. Going more into detail, risk sectors are characterised above all by high labour intensity, as the availability of cheap labour has been the main source of comparative advantage of the accession countries. Therefore, competition from the accession countries rose particularly in branches that require little human capital. But the labour force in the potentially new members is well educated as a rule, so that in addition, some more "skills-intensive" sectors might come under pressure, too. In the service sector, information about trade between the EU and the accession countries is less detailed. The figures available suggest that advantages of the EU can be found in the field of business and financial services, whereas among the accession countries' exports tourism and transportation services are dominant.

Table 4-1

Summary of Impacts of Enlargement on SMEs
Macroeconomic level
- Impact of Enlargement on EU GDP will be small, but positive - EU members that benefit most in terms of trade creation will as a rule be the same that are affected negatively by the increase of imports from the Accession Countries
Sectoral level

- Opportunity sectors (sales to the accession countries rise above average)
  - Producers of capital goods that serve needs of the new EU members to restructure
  - Producers of skills intensive goods
  - Business services (e.g. computer services, engineering, consultancy)
- Risk sectors (imports from accession countries rise above average)
  - Labour-intensive production
  - Low human capital intensity
  - Have been under pressure for a long time due to global trends
  - High SME intensity in many risk sectors

SME-specific effects
- SMEs are less active in international trade, especially due to transaction costs - Enlargement diminishes transaction costs in trade and FDI and should benefit medium sized companies - Micro enterprises will be affected little, as they serve local needs as a rule
Regional level
- Border regions are more directly affected than non border regions - The scope of industries affected is broader in boarder regions - The overall impact is positive in border regions is positive, though going hand in hand with a significant restructuring

In some of the risk as well as of the opportunity sectors, SMEs play no important role in the EU: in the manufacture of motor vehicles and electrical machinery, both found among risk and opportunity sectors as well, the share of SMEs in total employment in the EU is under average. On the other hand, the manufacture of clothing and furniture are both identified as risk sectors and both are dominated by SMEs. The same holds for parts of the service sector, namely hotels and restaurants, and transportation, where EU imports from the six countries analysed are significant.

4.2. SME specific effects

Enlargement will also have a specific impact on SMEs. Analyses show that small companies often make little use of the advantages of the international division of labour because distances of whatever kind cause transaction costs that are hard to overcome. The potentially new members of the Union are – in geographical as well as cultural senses – close to the traditional markets of SMEs. Therefore, there is some reason to assume that the reduction of

transaction costs due to enlargement will be more pronounced for small firms than for big ones. Through this channel, the positive impact of enlargement on SMEs might be even greater than on large firms.

However, the situation differs substantially between different types of SMEs. In manufacturing, micro companies as well as small companies mainly serve local needs. Therefore, they will be in a neutral position: they will not benefit much from enlargement and will not be influenced negatively either. Medium-sized enterprises are more likely to export, but they also are more likely to compete with companies in the accession countries. In the service sector, the situation may vary to some extent. Particularly in the field of business services such as business and engineering consultancy and software development, small, or even micro companies in some cases, have relevant exports to the accession countries. As in these sectors comparative advantage lies with the existing EU, they might benefit from enlargement. Indeed, for many companies from these sectors, Central and Eastern Europe has become the most important foreign market in the 1990s (O'Farrell et al. 1999: 69). However, for broad segments of the service sector, e.g. retail trade and repairs or medical services, the direct impact of enlargement will be small.

4.3. Regional effects

Analysis up to now has focused on the "average" EU company. However, actual impacts are likely to vary substantially according to regional factors. Even in sectors that in general terms are expected to be little affected by enlargement, e.g. retail trade, considerable consequences may arise if a SME is located close to the border of the accession countries. To identify these regional specific consequences, four case studies have been undertaken, two of them referring to border regions, the remaining to non-border regions. To cover a wide range of potential effects, quite different regions have been chosen for the case studies.

- *Bavaria* is a border region with a strong manufacturing sector and income levels that are above the national and EU average.
- The *north-eastern border regions of Austria* are still characterised by a large agricultural sector, and GDP per capita which is below national as well as EU average.
- *Scotland* represents a non-border region in the northern part of Europe, whose income is below national average, but which is in the process of catching up.
- *Catalonia*, finally, is situated on the Mediterranean periphery and can be characterised as a front runner in its country, measured in income as well as internationalisation terms.

These regions show significant differences due to their history and tradition, their sectoral structure and the role which SMEs play in their economy. In any case, they also show important similarities, allowing some common conclusions to be drawn about the challenges which SMEs will face because of the enlargement of the Union.

4.3.1 Border region effects

For the two border regions in our case studies, the enlargement will influence the integration into the international division of labour substantially. However, many production relocations have already taken place since the fall of the iron curtain. The overall effect is regarded as positive, with benefits outweighing the costs, though the scale of the benefits may depend on the timing of enlargement. In the Austrian case study, it was noted that the benefits are likely to diminish the longer delayed is accession, largely because these gains are dependent on how quickly the CEE economies are stabilised and their markets grow in response to full integration with the Community. The Austrian case study also pointed out that the effects of accession have already been felt over the past decade.

SMEs in sectors which are human capital and/or technology-intensive are the most likely to benefit from accession, mainly through greater access to new markets for their products as well as for their inputs, e.g. by making use of subcontracting. These sectors include transport equipment, metal products, electronics and electrical equipment. In the long run, however, there is also the risk of increasing competition from the accession states.

The risk sectors are those where wage competition is pronounced: i.e. textiles, clothing and food processing, but also some segments in other industries, e.g. in the production of parts of electronic products or motor vehicles where labour intensity is high and little human capital is required. For both regions, these appear to contribute less to GDP than the opportunity sectors, though the Austrian case study region seems to be more vulnerable – due to its the relatively low income measured in EU standards – as much labour-intensive production has been located there in the past. Insofar, the negative impact of enlargement may be felt more in low income border regions than in the higher income ones, as the latter have already lost the most vulnerable production in the past. In both regions, the risk sectors have already experienced some job losses which in part do not directly reflect the impact of the opening of Eastern Europe but are more the result of global restructuring trends. Furthermore, they have largely taken place in larger firms. In the Austrian region, this has been exacerbated by the closure/reduction of branch plants whose headquarters lies outside the region. The extent to which SMEs will suffer as a result of increased competition largely depends on their ability to adjust to the new competition, diversify or upgrade their products and services, and, finally, whether they can internalise the advantages and gain the benefits of neighbouring low cost locations by combining the advantages of their old and new locations in the accession states.

One aspect of accession which will have unique effects on the border regions is labour migration. Cross-border commuting has already been extensive in both regions, and is expected to increase with accession. This could have a beneficial impact on SMEs in certain service sectors (notably construction, retailing and tourism) and some manufacturing sectors (e.g. wood products and furniture) whose competitiveness may grow because of their ability to cut wage costs by hiring CEE workers. Small firms with highly localised markets on the border could face greater competition as result of integration though – e.g. providers of personal services such as hairdressers. Insofar, the impact on SMEs will greatly depend on when free movement of labour between the Union and its new members is fully achieved.

4.3.2 Non-border region effects

In the non-border regions, in general, the impact of enlargement will be less strong, as was expected from a priori considerations. Both regions have low levels of trade with the candidate countries – though they are expected to increase in the near-term. The consequences will be more prominent for Catalonia than for Scotland, as the first attracted some labour-intensive productions in the past and has some exposure to competition to low wage-cost CEE firms now. Insofar, the observation made for high and low income border regions seems to be valid here, too. However, Catalonia's economy has been steadily shifting to more skills- and technology-intensive comparative advantages. Some groups of Catalan SMEs do remain at risk though, notably those in low-wage and resource-dependent sectors, such as wood products, textiles and clothing. The Scottish economy appears to be largely insulated by an industrial structure against which the candidate countries have little obvious comparative advantage, and Scottish SMEs show little concern for any long-term competitive effects.

Both regions are exposed to FDI diversion because of the lower cost base of the candidate countries. However, the scale of this effect was felt to be potentially limited, if as yet difficult to estimate with assurance. Both case studies noted that other, place-specific location factors are increasingly supporting FDI remaining in the region: i.e. plants are less likely to move because of labour cost differentials.

5. Policy recommendations

5.1. EU policy context

Before discussing the policy options available to the European Commission to facilitate SME adjustment to the opportunities and challenges of enlargement, it is important to understand the context in which EU policy operates. The following section provides a brief overview of the main EU programmes supporting SMEs and their rationale.

The European Commission's policy with regards to SMEs is covered by several areas of responsibility under the Treaty of Rome, but has developed incrementally since the mid-1980s, gaining more political support as the job creation potential of SMEs has increasingly been recognised. EU-level SME policy particularly gained impetus in 1989 after the Single European Act, with the launch of the first action programme. The budget allocated to SME policy measures has increased (slightly) over the course of several action programmes. The entry into force of the Maastricht Treaty in 1993 provided a more specific legal base for action in the field of enterprise policy, and since then, SME policy has become more coherent and been given a higher profile.

In one form or the other, DG Enterprise (the Commission DG responsible for enterprise policy) has been in operation for a decade and has overall responsibility for coordinating policy in favour of SMEs. In the recent reorganisation of DG responsibilities, DG Enterprise was formed from the merger of the previous DGs and sub-units responsible for Industry, SMEs and Innovation. The DG aims to ensure that the SME dimension is integrated into all stages of Community policy-making and increase overall SME involvement in Community programmes. The DG's role centres on promoting and developing favourable conditions for SMEs throughout the EU by improving the business environment, promoting entrepreneurship, instigating actions to improve the competitiveness of firms and addressing specific issues in the commerce and craft sectors. As SMEs are now acknowledged to be the major source of job creation in the EU, efforts are made to ensure that account is also taken of their needs in other Community policies. DG Enterprise oversees the coordination and coherence of Community policies for SMEs and SME participation in EC programmes, as well as providing direct assistance to SMEs through a number of its own programmes.

Recognising that SME policy remains essentially a matter for the Member States, the role of DG Enterprise is twofold. First, it coordinates the activities of the Member States, stimulating and organising consultation and cooperation, ensuring that actions have maximum

effectiveness and helping to give them a higher profile. Second, it has managed and advised on several "direct action" programmes in fields where a supra-national approach is beneficial (eg. promoting cooperation) or where the market has failed (eg. the provision of seed capital). Activities are undertaken where the Member States cannot do so adequately but where the Community can because of the scale and nature of the actions.

The action programmes now form the cornerstone of Community policy for SMEs. The most recent has been the development of a new multi-annual programme for enterprise and entrepreneurship to run until 2005. The programme has five policies:

- promoting entrepreneurship as a valuable and productive life skill;
- encouraging a business environment in which enterprise, entrepreneurship and innovation can flourish;
- improving access to finance for SMEs;
- enhancing the competitiveness of SMEs in a knowledge-based economy; and
- ensuring that business support networks and services to enterprises are sufficiently provided.

Action programmes work both externally to encourage concerted actions between Member States, and internally by emphasising coordination between enterprise policy and other Community policies and programmes. A list of existing actions which are part of Community enterprise policy is provided in Table 5-1, indicating the range of areas on which it has focused.

In the new work programme supporting the 2000-05 enterprise agenda, a series of priorities and indicative actions have been laid out. First, enterprise policy will concentrate on *encouraging entrepreneurial activity*. To increase the number of potential entrepreneurs, increased efforts will be made to promote the image of entrepreneurs in Europe, greater risk-taking (such as a revision of bankruptcy legislation) and the emphasis on "business knowledge" at different levels of education. Access to finance will be improved, following a current review of how existing Community financial instruments support business start-ups, high-tech firms and very small enterprises. Bureaucratic and regulatory barriers to start-ups and enterprise development will also be targeted through simplification of business legislation (eg. the BEST and SLIM programmes), more business impact assessment in Community legislation and a medium-term review of all *acquis communitaire* for their impacts on the business environment.

The Commission will also continue providing access to information and advice services. Much of this will be done through the network of Euro Info Centres, which were originally appointed "first-stop shops" by the Commission under the 1997-2000 SME Action Programme. They operate as a network providing advice, information and assistance on EC issues to enterprises. Specific support for the internationalisation of SMEs and business cooperation will still be conducted through measures such as the Europartenariat programme.

Second, a priority will be placed on *providing an environment in which business innovation and change is supported.* In achieving this priority, several areas will be addressed. To help remove the barriers to innovation and enterprise change, Commission enterprise policy will reform patenting systems with the adoption of Community patent and simplify regulatory procedures for introducing new products. For enterprise support policies as a whole – and innovation assistance in particular – the Commission will work with the Member States to promote the exchange of good policy practice through a series of scoreboards, peer review systems and benchmarking studies. Support will also be provided for developing inter-regional networks in innovation policy and highlighting the implications of the knowledge economy (especially business services) to EU industry.

Lastly, enterprise policy will *ensure access for goods and services to markets.* Central to this will be improving the operation of the Internal Market. Annual reviews will identify remaining barriers and outline actions to remove them, while appropriate measures will be taken to ensure Member State compliance and greater harmonisation of product/service conformity assessment procedures. More globally, the Commission will continue to work towards greater tariff liberalisation and regulatory and technical convergence in trade areas. The increasing importance of e-commerce to business will also be given more emphasis, as reflected in the Commission's recent *eEurope* initiative, which identified a range of measures to accelerate the adoption of e-commerce in Europe.

The programme outlined above will be equally applied to the candidate countries as to the existing Member States. In the context of accession, to date, the key focus of DG Enterprise has been to open up EU programmes to participation by enterprises in the accession states, as part of the Commission's pre-accession strategy – integrating candidate countries into EU enterprise policy and actions. With the current work programme, more efforts will be made to integrate the countries of the Europe Agreements into the Internal Market through monitoring their conformity acceptance procedures as well as their adoption of the *acquis communitaire.*

However, the EU programmes which (financially) benefit SMEs most do not fall under the heading of enterprise policy, and therefore have their own wider objectives - eg. balanced regional development, job creation. Many of these programmes are open to all enterprises – with allowance made for the special situation of SMEs. Different DGs have to some extent their own priorities (and, until 1996, were using different definitions of an SME). They also have much more substantial resources, of which the Structural Funds, managed by DG Regio, is the best example. DG Enterprise's budget for the 1997-2000 SME Action Programme amounted to 127 million ecu: in comparison, an estimated 21.3 *billion* ecu was directly invested in SMEs under the Structural Funds during the 1997-99 programming period, with an estimated further 16.3 billion ECU used to help improve the their business environment. The 1998-99 thematic evaluation of the impact of the Structural Funds on SMEs found that just under a fifth of Structural Fund expenditure was targeted at SMEs in the 1997-99 programmes (Ernst & Young, 1999). As the case studies have underlined, Structural Funds programmes have been the main EU policy area affecting SME development in the Member States, though in most cases, they often represent an extension of existing national and regional policy measures and approaches.

The new Structural Funds programmes and maps for the 2000-06 period have been approved by the Commission and have commenced implementation. As Bachtler et al. (2000) have noted in the case of Objective 2, the new strategies reflect strong continuity with the previous programming period, both in terms of the priorities and in many cases, the projects. Changes in programme content have shown moderate shifts in line with the Commission guidelines on programme preparation – following the *Agenda 2000* reforms of the Berlin European Council in March 1999 and the formal adoption of the new regulations in the following summer – and past trends in programming. In particular, with regards to the Commission's "horizontal" priorities, there have been incremental improvements in how programmes will integrate sustainable development and gender mainstreaming as well as the importance of job creation as a goal of the Structural Funds.

In addition to the "mainstream" Structural Fund programmes, SMEs have been a particular priority under Objective 4 of the European Social Fund and several of the Community Initiatives (some of which have a specific sectoral focus), including *Leader*, *ADAPT* and those aimed at restructuring in particular industries, such as the defence industry (*Konver*), coal (*Rechar*) and textiles (*Retex*). There has also been a Community Initiative specifically for SMEs (*SME*): running from 1994-99 with a budget of 1 billion ECU, the Initiative provided support for programmes stimulating small and medium-sized industrial or service enterprises (particularly in less developed regions) to adapt to the Single Market and ensure that they become internationally competitive. However, nearly all these Initiatives have been subsumed within the mainstream Structural Funds programmes in the current round as part of an overall reduction in the number of Community Initiatives, and consequently, are no longer operational (only Leader continues to be separate).

Lastly, the *JOP* (Joint Venture) Programme was operated, promoting joint ventures between EU SMEs and SMEs based in the CEE countries, the NIS and Mongolia with financing through the Phare and Tacis programmes. JOP had two primary aims: to facilitate productive EU investment in CEE, NIS and Mongolia; and to encourage the development of a competitive private sector in those countries. Four facilities were offered covering the whole process of joint venture investment: grants for organising cooperation events; assistance with pre-feasibility and feasibility studies; grants, equity participation and guarantees for successful joint ventures; and technical assistance (training and technology transfer).

It should be remembered that the Commission's expenditure on SME-related measures is small compared to national expenditure of the Member States - although not directly comparable, as, following the principle of subsidiarity, they should cover different types of measure. Indeed, as can be seen from the table below, the main areas receiving support are those where the Commission has been ideally placed to play a role – at a supranational level, (promoting joint ventures) and filling an identified gap (provision of venture and risk capital).

Table 5-1

Summary of EU Support Measures targeting SMEs

Measure	Business partnerships/ joint ventures	Advice provision	Subcontracting	Capital provision	Loan finance	Guarantees	Regional development	Environment	Technology	RTD	Training	Infrastructure
Euro Info Centres (EICs)	✓	✓									✓	
Europartenariat	✓						✓					
Joint European Venture Initiative (JEV)	✓											
Seed Capital Pilot Scheme				✓								
Eurotech Capital				✓					✓			
European Investment Bank (EIB)				✓	✓		✓					✓
European Investment Fund (EIF)				✓	✓	✓		✓	✓			✓
Structural Funds		✓		✓	✓		✓	✓	✓	✓	✓	✓
SME Community Initiative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RTD programmes		✓								✓		
I-Tec				✓					✓			

Note: This table shows the Commission's main policy instruments/programmes specifically tailored for SMEs or with a specific SME component. There are many other EC programmes – open to firms of all sizes - which are not covered by this table. Nor is the table comprehensive as to every activity which can be funded under each programme – rather it highlights the main types of activity supported.

5.2. EU policy recommendations

The last section of this chapter places the policy needs of SMEs - as a result of enlargement - within the context of EU policy responsibilities in order to make appropriate policy recommendations. Several points should be made initially.

First, *the scale of policy intervention at EU level should be limited.* From section 4.1, it is clear that SMEs are unlikely to experience distinctive effects from enlargement, but rather the direct and indirect impacts typically associated with any substantial change in international market opportunities and increased competition from lower-cost producers. From the perspective of existing EU SMEs, enlargement as a whole should bring clear – though modest – gains. Where policy action may be required it should be directed more towards assisting SMEs to adjust to the restructuring arising from increased competition: as noted below, this is only likely to be an area of concern among relatively few groups of SMEs in the existing Community. Support policies should not aim at preventing the necessary structural change and protecting established market positions of the existing enterprises – an objective which is not to be aimed at under welfare aspects and which is not feasible.

Second, enlargement does not appear to create new policy needs for SMEs, but perhaps *it requires an intensification of existing policies* (whether those policies are regional, national or EU in origin). Given that the report has suggested that the impacts of enlargement will be gradual – and not a once-only macroeconomic shock – as well as concentrated on particular

groups of firms, the effects on SMEs are likely to involve at most an acceleration of existing restructuring processes, particularly in the "sensitive" sectors such as clothing and textiles. As shown in earlier chapters, the overall balance of opportunities and challenges resulting from enlargement is positive – as in similar changes in the EU, such as the completion of the internal market.

Third, while policy actions should be designed to minimise the difficulties of businesses restructuring in the face of increased competition, *policy should not prevent such restructuring from taking place.* Where difficulties may arise because of restructuring, firms require assistance in adjusting to, not in preventing these changes from taking place, as is common in other sectors needing to adapt to a changing market environment. Insofar, no sector specific policy is required but a more general approach, helping existent SMEs to adjust and new ones to develop, so that the latter may create those jobs that get lost in the "risk" sectors. Indeed, the effects of enlargement are only unusual in the changes to the policy environment itself, notably in the potential withdrawal of policy support in some regions following changes in Structural Funds allocation after 2006.

Fourth, rather than simply be designed not just with the needs of existing EU SMEs in mind, *policy should also accommodate SMEs in the six accession countries studied here and the other candidate states.* In these countries, SMEs are facing similar enlargement challenges to the SMEs in the existing Community – greater competition for their domestic markets, new market opportunities in the wider EU – but more intensively. As noted in the appendix to this report on SMEs in the accession countries, overall, they have experienced greater problems with finance, management skills, internationalisation and increasing productivity than their counterparts in the existing EU. Community policies to assist SMEs should be pitched and costed from the perspective of candidate country enterprises as much as from EU SMEs.

Fifth, in suggesting how EU policy can assist these groups, different SME policy contexts should be borne in mind. In particular, *national and regional policies often already provide adequate frameworks to support SMEs in adapting to restructuring processes.* For example, in the Scotland case study, the region has developed an active policy to support SME development through the "Business Birth Rate Strategy", supplemented by extensive resources provided through the Structural Funds. In Bavaria, the support system for SMEs includes a broad variety of different measures such as subsidised financing, access to information, incubation centres, specialised training, and consultancy. As has always been the case with its SME policy, EU assistance should complement rather than duplicate measures which are already being implemented by national and regional authorities; indeed, it is perhaps more effective that policies directly influencing the resources available for SME growth and development be devised and operated at regional and local levels, given the importance of the local economic background in shaping such measures.

In consequence, it has been argued here that the general – rather than any enlargement-specific - policy needs of SMEs should be addressed. The most important of these needs have long been recognised as the following: access to start-up and development finance (especially venture capital); the provision of market information; business consultancy advice; skills training; support for exporting (such as subsidised trade missions); and assistance in finding

business partners, especially in other countries. Due to the variable impact of enlargement, these needs are likely to be more pressing for groups of SMEs located in certain sectors and regions. Hence, policy goals should not be to devise new policies and measures, but to consider the coverage and emphasis of existing measures and whether they can address these SME groups.

Lastly, *the division of policy responsibilities within the European Commission must be taken into account.* As noted in the previous section, while DG Enterprise is the part of the Commission with the primary responsibility for SME issues, it is the Structural Funds – overseen by DG Regional Policy – which probably have the most extensive impact on SMEs within the Community.

With these points in mind, the report concludes with a series of recommendations for policy at EU level. Above all, the report would emphasise the importance of DG Enterprise as the *co-ordinator* of SME policies in the Commission, ensuring that the SME dimension is considered in all policy formulation. This role is likely to be made more important as the phased withdrawal of the Structural Funds from some existing EU regions after 2006 could reduce policy support for groups of SMEs just beginning to experience the effects of enlargement. The report recommends that DG Enterprise assesses the potential impact of the withdrawal of such support in cooperation with DG Regional Policy. This is likely to entail ongoing monitoring of how sectors and regions within the Community are adapting to enlargement – a task which could be included as part of DG Enterprise's reviews of the competitiveness of EU industry - and a continuing emphasis on the importance of SME support within Structural Funds guidelines.

A new policy programme has been recently laid out by DG Enterprise for the period 2000-05: within that programme, there are areas where DG Enterprise policy action can assist SMEs to adjust to the implications of enlargement. The first is the provision of information about new opportunities in the markets of all existing and potential EU Member States. In terms of extending the existing coverage of material, this could include information relating to the specific commercial environments of the candidate countries as well as a brokerage service to facilitate commercial cooperation between businesses. Such information can not only assist firms in taking advantage of the new markets but also in diversifying into new products and service areas. At the same time, the provision of these services in the new Member States would assist SMEs in the accession countries to adapt more quickly to commercial conditions in the Community. As a result, the report recommends the continuing use of the Euro-Info Centre network as the main system for dissemination and encourages an increasing focus on providing information on the candidate countries in advance of their actual accession.

In this context, more information about the subcontracting implications and commercial possibilities arising from enlargement would assist SMEs in the existing EU-15 to adapt more rapidly, particularly in potentially groups such as suppliers in the automotive and electronics industries. The report consequently welcomes DG Enterprise's intention of studying the issue of subcontracting in greater detail.

Following on from this, the report would reinforce the role of DG Enterprise in its SME networking initiatives. The importance of networking has been increasingly recognised in recent years, both in terms of general SME development (e.g. Gibb 1993) as well as more specifically in SME internationalisation (e.g. Chryssochoidis/Millar/Clegg 1997). It is particularly significant in the context of enlargement where subcontracting and supply linkages between existing EU-15 SMEs and large firms are likely to be affected. The role of partnership programmes such as Europartenariat should be strengthened by these developments, both in enabling SMEs from the existing and future Member States to diversify into new markets in the face of new competition and to build new markets.

There is also a continuing role for support through the cross-border assistance programmes. The experience of the case-study regions has underlined the value of these programmes in assisting regions to adapt to enlargement. In the cases of both the Austrian and German regions examined here, INTERREG IIA programmes involved partners from the candidate countries in joint support activities for SMEs. Although operated by DG Regional Policy, the report recommends that DG Enterprise support the continued existence of the programme in the context of an enlargement process likely to extend beyond the current INTERREG programming period.

The report also recommends that DG Enterprise continues to support the transfer of good practice in SME policy between Member States. Support for SMEs principally comes from the policies of the Member States themselves, a situation likely to be reinforced in some cases by the loss of Structural Funds financial support in subsequent programming periods. As a result, there is a need for policy-makers to be able to learn from each other in terms of new, innovative and effective means of designing as well as delivering policies for SMEs. This is particularly important for the candidate countries, many of whom have had less experience in developing SME policies but nevertheless will have pressing needs to develop such policies. DG Enterprise is in a strong position to foster such good practice, not just among the existing Member States but the candidate countries as well. Consequently, the report supports the recent exercise in benchmarking enterprise policy at national level.

Finally, the report acknowledges the importance of the EU retaining policy flexibility in being able to respond to sector-specific challenges and opportunities arising for SMEs as a result of enlargement. Given the continuing uncertainty of how enlargement effects will interact with wider globalisation trends to shape the development of certain European sectors, it is crucial that the European Commission maintains a flexible approach to policy. This means retaining a monitoring role on trends among different groups of SMEs and being prepared to respond to with a series of policy measures if action is warranted. On the basis of the review of SME effects in section 4, Table 5-2 presents a summary of potential policy responses to critical developments for SMEs in both the "risk" and "opportunity" sectors identified for the existing EU-15 as well as for the accession countries (each are the obverse of the others: e.g. EU-15 risk sectors are considered accession countries' opportunity sectors). For each group of sectors, two areas are discussed: first, their "policy need" in the context of the creation of a large, more competitive market because of enlargement; and second, the appropriate "governance level" – i.e. regional/national or EU – at which policy action should be taken to address this policy need. The table is designed to be indicative rather than predictive: it does

not suggest that policy needs will occur for all these different groups, but outlines the areas where policy could be effective should such needs develop because of the course of enlargement.

From the table, it is clear that the policy needs of the risk-sensitive groups of SMEs tend to be in common areas, such as market information, finance and skills training. Similarly, there are strong commonalties between the different groups in terms of the role of the European Commission. In general, the EU would be the appropriate policy level for two sets of activities: facilitating access to information about exporting within the EU, whether specific opportunities such as business partners or more generally, different commercial environments; and ensuring equal access to EU markets by all EU SMEs. In both cases, the policy activities are already undertaken on a non-sectoral basis by European Commission policies, though it is worth stressing how the second area has sectoral implications. First, as part of its efforts to promote the implementation of the Single Market – and thereby integrate the accession countries with the existing EU Member States – there is a strong argument for the Commission monitoring developments in enlargement-sensitive sectors and ensuring that slow progress in parts of the Single Market programme are not exacerbating the difficulties faced by groups of SMEs. Second, given the impact of enlargement in the area of services, the European Commission could usefully promote the development of e-commerce and the access to new markets this provides to both manufacturing and service sectors. Both these policy areas have been highlighted in DG Enterprise's current programme, as described in section 5.1. It emphasises the need for the European Commission to maintain continuity in its SME policy in responding to the challenges of enlargement.

At the same time, it is also important that the EU maximises the benefits of an enlarged market by ensuring that companies in 'opportunity' sectors can take full advantage of the changes. This does not mean that EU SME policy support should be redirected to assisting the 'winners' of enlargement. The emphasis of EU policy should be in guaranteeing market competition and providing specific assistance to sectors which have difficulties in adjusting to the market changes. However, it does place significance on ensuring market access in these areas, particularly in removing any remaining barriers in these markets as part of the internal market programme. Hence, it is recommended that the Commission maintains a particular sensitivity to the barriers in these sectors to ensure that their growth potential is quickly achieved. Moreover, as with the risk-sensitive sectors, there is an EU role for providing international market information, both in terms of the general characteristics of national markets, specific sectoral features and individual commercial opportunities (such as joint ventures and sub-contracting). While it is arguable this is a role which it shares with national authorities with respect to opportunity sectors, the market information function is consistent with existing EU activities in this area.

Table 5-2

Summary of Policy Options for the European Commission			
Sector group		*Policy need*	*Governance level*
Risk sectors	**EU-15**: Manufacturing: – labour-intensive sectors (e.g. clothing, furniture) – labour-intensive parts of other sectors (e.g. automotives, electronics)	1. Market access/information, especially subcontracting opportunities 2. Business start-up/development advice 3. Start-up/development finance 4. Specialist skills training 5. RTD/diversification support 6. Support for exporting 7. Support for finding business partners	1. EU 2. Regional/national 3. Regional/national 4. Regional/national 5. Regional/national 6. Regional/national 7. EU
	EU-15: Services: – transport – tourism – labour-intensive parts of other services (e.g. data processing)	1. Access to new markets, particularly deregulation of national controls 2. Support in diversification/new service development 3. Skills training 4. Marketing advice and support	1. EU 2. Regional/national 3. Regional/national 4. Regional/national
	Accession countries: Manufacturing: – capital- and skills-intensive sectors (especially mechanical & electrical engineering and automotives)	1. Market access/information 2. Business start-up/development advice 3. Start-up/development finance 4. Specialist skills training 5. Support for exporting 6. Support for finding business partners	1. EU 2. Regional/national 3. Regional/national 4. Regional/national 5. Regional/national 6. EU
	Accession countries: Services: – specialist knowledge services (e.g financial/business consultancy) – specialist skilled services (e.g computer services and accountancy) – specialist equipment services (e.g engineering consultancy)	1. Market access, especially in terms of internet-based services 2. Specialist skills training 3. Support for finding business partners	1. EU 2. Regional/national 3. EU
Opportunity sectors	**EU-15**: Manufacturing: – capital- and skills-intensive sectors **EU-15**: Services: – specialist knowledge services – specialist skilled services – specialist equipment services	1. Market access/information 2. Support for finding business partners 1. Market access/information 2. Support for finding business partners	1. National/EU 2. National/EU 1. National/EU 2. National/EU
	Accession countries: Manufacturing: – labour-intensive sectors – labour-intensive parts of other sectors **Accession countries**: Services: - transport - services - labour-intensive-parts of other services	1. Market access/information 2. Support for finding business partners 1. Market access/information 2. Support for finding business partners	1. National/EU 2. National/EU 1. National/EU 2. National/EU

References

Bachtler, J., R. Downes, R. Michie, M.L. Rooney and S. Taylor (2000): New Structural Fund Programming: Laying the Foundations. Paper delivered to the IQ-NET conference, European Policies Research Centre, Glasgow, March.

Balestra, P. and S. Negassi (1992): A Random Coefficient Simultaneous Equation System with an Application to Direct Foreign Investment by French Firms. *Empirical Economics* 17: 205ff.

Baldwin, R.E., J.F. Francois and R. Portes (1997): The Costs and Benefits of Eastern Enlargement: The Impact on the EU and Central Europe. *Economic Policy* 24: 127-176

Bamberger, I. and M. Evers (1994), Internationalization Behaviour of Small and Medium Sized Enterprises – Empirical Results. In: I. Bamberger (ed.), Product/Market Strategies of Small and Medium-Sized Enterprises. Avebury, Aldershot: 310-363.

Best, M. (1990): The New Competition. Institutions of Industrial Restructuring. Harvard University Press, Cambridge, MA.

Brenton, P., F. Di Mauro and M. Lücke (1998): Economic Integration and FDI: An Empirical Analysis of Foreign Direct Investment in the EU and in Central and Eastern Europe. Kiel Working Paper No. 890. Kiel.

Breuss, F. and F. Schebeck (1998): Kosten und Nutzen der EU-Osterweiterung für Österreich. *Wifo-Monatsberichte* 1998 (11): 741-750.

Brusco, S. (1996), Italy: Trust, Social Capital and Local development: Some Lessons from the Experience of the Italian Districts. In: OECD (ed.), Networks of Enterprise and Local Development. OECD, Paris: 115-119.

CEC (1988): The Economics of 1992. *European Economy* 35. Commission of the European Communities, Brussels.

CEC (1997): Agenda 2000. Bulletin der Europäischen Kommission. Beilage 5/97. Luxembourg.

CEC (1998): Employment in Europe 1998. Commission of the European Communities, Brussels.

CEC (1998): Aggregate Results of the Single Market Programme. *The Single Market Review*, subseries 6, vol. 5. Commission of the European Communities, Brussels.

CEC (2000) Towards Enterprise Europe: Work Programme for Enterprise Policy 2000-2005. Commission Staff Working Paper. Commission of the European Communities, Brussels.

Chryssochoidis, G., C. Millar and J. Clegg (ed.) (1997): Internationalisation Strategies. Macmillan, Basingstoke.

Collins, S. and D. Rodrik (1991): Eastern Europe and the Soviet Union in the World Economy. *Policy Analyses in International Economics* 32. Washington D.C.

Döhrn, R. (1996a): Direktinvestitionen und Sachkapitalbildung - Statistische Unterschiede und ihre ökonomischen Implikationen. *RWI-Mitteilungen* 47: 19-34.

Döhrn, R. (1996b): EU-Enlargement and Transformation in Eastern Europe – Consequences for Foreign Direct Investment in Europe. *Konjunkturpolitik*, 42: 113–132.

Döhrn, R. (1998), The New Trade Structures Between East and West: Is Integration Already a Matter of Fact? In: W. Potratz and B. Widmaier (eds.), East European Integration and New Division of Labour in Europe. Graue Reihe des Instituts für Arbeit und Technik 1998-09. IAT, Gelsenkirchen 1998: 47-58.

Döhrn, R. and A.-R. Milton (1992): Zur künftigen Einbindung der osteuropäischen Reformländer in die Weltwirtschaft. *RWI-Mitteilungen* 43: 19-40.

Dumke, H. (1990): Reassessing the Wirtschaftswunde. Reconstruction and Postwar Growth in West Germany in an International Context. *Oxford Bulletin of Economics and Statistics* 52: 451-491.

Dunning, J.H. (1993). The Globalization of Business. Routledge, London.

ENSR (1996): The European Observatory for SMEs – Fourth Annual Report, European Network for SME Research. EIM Small Business Research and Consultancy, Zoetermeer, The Netherlands.

ENSR (1998): The European Observatory for SMEs – Fifth Annual Report 1997, European Network for SME Research. EIM Small Business Research and Consultancy, Zoetermeer, The Netherlands.

Ernst & Young (1999): Thematic Evaluation of Structural Fund Impacts on SMEs. Report to the Commission of the European Communities, Brussels.

European Parliament (1996): Relocation outside the European Union. Working Paper, Social Affairs Series W-11. Directorate-General for Research, European Parliament, Luxembourg.

Eurostat (1998): Enterprises in Europe – Fifth Report – Data 1994-95. Eurostat, Luxembourg.

Festoc, F. (1995): Quel Potentiel d'Échanges entre les Pays d'Europe Centrale et l'Union Européenne? *Journées AFSE Intégration Économique Européenne.* Recceuil des contribution. I. Nantes.

Fieten, R., W. Friedrich, and B. Lageman (1997): Globalisierung der Märkte - Herausforderungen und Optionen für kleine und mittlere Unternehmen, insbesondere Zulieferer. Schriften zur Mittelstandsforschung N.F. 73. Poeschel, Stuttgart.

Freudenberg, M and F. Lemoine (1999): Central and Eastern European Countries in the International Division of Labour in Europe. Document de travail 1999,05. Centre d'Etudes et d'Informations Internationales, Paris.

Gibb, A. (1993): Key Factors in the Design of Policy Support for the Small and Medium Enterprise (SME) Development Process: An Overview. *Entrepreneurship & Regional Development* 5: 1-24.

Gomes-Casseres, B. (1996): The Alliance Revolution. The New Shape of Business Rivalry. Harvard University Press, Cambridge, MA.

Gual, J. and C. Martín (1995), Trade and Foreign Direct Investment with Central and Eastern Europe: Its Impact on Spain. In: Faini, R. and Portes, R. (ed.), European Union Trade with Eastern Europe: Adjustment and Opportunities. Centre for Economic Policy Research, London.

Hamilton, C. and A. Winters (1992): Opening up Trade with Eastern Europe, *Economic Policy* 14: .....

Havrylyshyn, O. and L. Pritchett (1991): European Trade Patterns after the Transition. *World Bank Working Papers*, WPS 748. World Bank, Washington DC.

Holzmann, R. and K. Zukowska-Gagelmann (1998): Market Opening in Eastern Europe: The Asymetriy of Trade Adjustment of OECD Countries. *Außenwirtschaft* 53: 257-287

Hüfner, H. (1988): Export und Wettbewerbsfähigkeit. Schriften zur Mittelstandsforschung, N.F. 24. Poeschel, Stuttgart.

Keuschnigg, C and W. Kohler (1999): Eastern Enlargement to the EU: Economic Costs and Benefits for EU Present Member States? The Case of Austria. Final Report on Study XIX/B1/9801 for the Commission of the European Communities, Brussels.

Keuschnigg, C., M. Keuschnigg, and W. Kohler (1999): Eastern Enlargement to the EU: Economic Costs and Benefits for EU Present Member States? Germany. Final Report on Study XIX/B1/9801 for the Commission of the European Communities, Brussels.

Klein, S. (1996): Interorganisationssysteme und Unternehmensnetzwerke. Wechselwirkungen zwischen organisatorischer und informationstechnischer Entwicklung. Deutscher Universitäts-Verlag, Wiesbaden.

Lageman et. al. (1999): Kleine und mittlere Unternehmen im sektoralen Strukturwandel. *Untersuchungen des RWI* 27. RWI, Essen.

Lankes, H. and A. Venables (1996): Foreign Direct Investment in Eastern Europe and the Former Soviet Union: Results from a Survey of Investors. European Bank of Reconstruction and Development, London.

Mayerhofer, P. (1999): Change in the Service Trade Regime with CEE Countries. *Austrian Economic Quarterly* 1: 75-81.

Meissner, T. (1999): Ausländische Direktinvestitionen in den mittel- und osteuropäischen Reformstaaten - eine Projektion. *Wirtschaft im Wandel* 1999 (5): 16-21.

RWI in co-operation with EPRC (1997): The Impact on Cohesion of EU-Enlargement. Report to the Commission of European Communies (DG XVI). RWI, Essen.

OECD (1998a): Globalisation and Small and Medium Enterprises. Volume I: Synthesis Report. OECD, Paris.

OECD (1998b): Globalisation and Small and Medium Enterprises. Volume II: Country Studies. OECD, Paris.

O'Farrell, P. et al. (1999): Internationalisierung von Unternehmensdienstleistungen. *Untersuchungen des RWI* 30. RWI Essen.

Penrose, E. (1995): The Theory of the Growth of the Firm. Reprint. Basil Blackwell, Oxford.

Piller, F.T. (1998), Kundenindividuelle Massenproduktion. Die Wettbewerbsstrategie der Zukunft. Carl Hanser, München, Wien.

Salais, R. and M. Storper (1993): Les Mondes de Production. Editions de l'Ecole des Hautes Etudes en Sciences Sociales, Paris.

Sander, B. (1996): East-West Co-operation of Small and Medium Sized Enterpriises: Evidence from the Berlin Region. *Kiel Working Paper* 724. Kiel.

Schmidt, K.D. (1996): Small and Medium Sized Enterprises (SMEs) in International Business: A Survey of Recent Literature. *Kiel Working Paper* 721. Kiel.

Sforzi, F. (1996), Italy: A – Local Systems of Small and Medium-Sized Firms and Industrial Change. In: OECD (eds.), Networks of Enterprise and Local Development. OECD, Paris: 99-113.

Simon, H. (1996): Die heimlichen Gewinner (Hidden Champions). Die Erfolgsstrategien unbekannter Weltmarktführer. Campus, Frankfurt/New York.

Smallbone, D ., A. Cumbers, S. Syrett. and R. Leigh (1999): The Single European Market and SMEs: A Comparison of its Effects in the Food and Clothing Sectors in the UK and Portugal. *Regional Studies* 33: 51-62.

VBME [Verband der Bayerischen Metall- und Elektroindustrie] (ed.) (1995): Investitionen im Ausland: Umfang, Richtung, Motive, Arbeitsplatzeffekte. München.

Wagner, J. (1993): Firm Size, Firm Growth, and Export Performance. *Jahrbücher für Nationalökonomie und Statistik* 211: 417ff.

Wagner, J. (1999), Internationalisierung der niedersächsischen Industrie - Ergebnisse aus dem "Hannoveraner Firmenpanel". In: R. Döhrn and G. Heiduk (ed.), Theorie und Empirie der Direktinvestitionen. Schriftenreihe des RWI N.F. 65. Duncker & Humblot, Berlin: 189-202.

Wang, Z.K. and L.A. Winters (1992): The trading Potential of eastern Europe. *Journal of Economic Integration* 7 (2): 113-136.

Weise, C. et al. (1997): Ostmitteleuropa auf dem weg in die EU – Transformation, Verflechtung, Reformbedarf. Beiträge zur trukturforschung 167. Duncker & Humblot, Berlin.

World Bank (1999): Global Economic Prospects. Beyond Asian Crises. World Bank, Washington DC.

Zündorf, L. (1999): Dimensionen weltwirtschaftlicher Vergesellschaftung. Weltmärkte, transnationale Unternehmen und internationale Organisationen. In: Eckardt, A., H.-P. Köhler and L. Pries (ed.), Global Players in lokalen Bindungen. Unternehmensglobalisierung in soziologischer Perspektive. Ed. Sigma, Berlin: 31-52.

Appendix A: Case studies

As pointed out above, proximity plays an important role for the internationalisation of SMEs, and income-levels are central to the role competition from low-wage acccession states will play. To analyse these factors more in detail, four case studies have been conducted, analyzing regions that are characterized by different combinations of these factors (table A-0).

- Bavaria is a border region with a strong manufacturing sector and income levels that are above the national and EU average. This case study was conducted by RWI.

- The north-eastern border regions of Austria are still characterized by a large agricultural sector, and GDP per capita which is below national as well as EU average. Austrian Institute For Regional Studies and Spatial Planning (OIR) was in charge of this study.

Table A-0

Characteristics of the Case Study Regions

	Border Regions		Non-Border Regions	
	Bavaria	Austria North-East[1]	Scotland	Catalonia
Population (mill.)	12.1	0.8	5.1	6.1
Territory (1000 km²)	70.5	12.3	79.0	32.0
GDP/capita, Nat. =100	116	69	96	123
GDP/capita, EU15 =100	137	78	98	79
	Employment by sector			
Agriculture	1.0	14.0	2.4	3.5
Industry	33.6	27.0	32.7	39.0
Services	65.4	59.0	64.9	59.9
	Importance of SMEs, % of total			
Number of Small Enterprises (< 20 empl.)	-	90	98a	97
Employment in Small Enterprises (< 20 empl.)	31	44	46[a]	54
Employment in SME (< 250)	65[b]	74[c]	59	75

Source: see case studies. - [1]Weinviertel, Waldviertel, Wiener Umland-Nord and Muehlviertel. - [a]<50 - [b]<200 - [c]<100

- Scotland represents a non-border region in the northern part of Europe, whose income is below national average, but which is in the process of catching up. This case was analyzed by EPRC

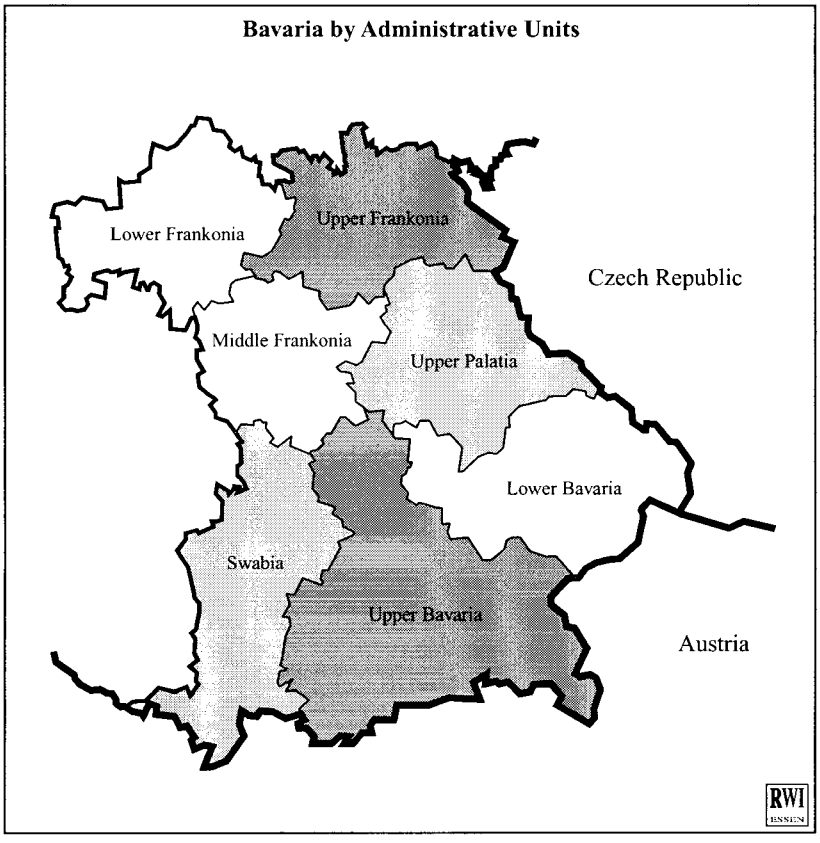
- Catalonia, finally, is situated on the Mediterranean periphery and can be characterized as a front runner in its country, measured in income as well as internationalisation terms. The Catalonia study was written by Dr. Josip Llados and Prof. Nestor Duch, Universitat Autonoma de Barcelona.

1 Bavaria

1.1. Reasons for the choice and the economic profile of the case study region

Bavaria is the largest German state in terms of territory, the second largest in terms of is inhabitants. It shares borders with Switzerland, Austria and the Czech Republic (Map A-1). Bavaria was selected as case study region for the following reasons:

Map A-1



- It is the only state among the "old states" of the Federal Republic of Germany which has a long direct frontier with one of the accession candidates, i.e. the Czech Republic. Therefore in Bavaria even smaller enterprises which operate on local markets are directly confronted with East European competitors, e.g. Czech firms.

- During the last decades the Bavarian economy experienced a remarkable economic development. The Bavarian economy is not only characterised by big enterprises with a strong international orientation, but at the same time by a very strong SME sector. Thus the Bavarian economy may be studied as a stronghold of the German "Mittelstand". The interesting question here is, in which way the strong Bavarian economy and its well developed "Mittelstand" are affected by and react to the EU enlargement.

- The possible effects of the EU enlargement are much discussed by representatives of the local economy and on the local and state political levels. In Bavarian economic and political economic circles the sensibility for EU enlargement is highly developed for two reasons: The local enterprises and communities co-operate with Czech enterprises and increased trade relations with East European firms. At the same time the public discussion is influenced by the recent experience of the impact of German unification on Northern Bavarian districts. This has led to the opinion that economic integration does not only produce economic gains but also – selective and temporary - economic losses. Of course, the experience of the German east-west economic integration after reunification is not comparable to EU enlargement. There was no transitional phase for the economy of the "new states" with respect to the internal German integration process. Nevertheless with respect to the effects of factor movements and the realignment of markets we may observe a number of structural similarities between the internal German economic integration process and the process of EU enlargement .

- Bavaria has a strong tradition in supporting SMEs which can be compared to the European SME policies. Thus the Bavarian experiences in dealing with the impact of the opening of the Eastern border and the impact of German unification on the Bavarian economy may be of interest to the European Union.

- In 1998 the gross domestic product (GDP) in Bavaria amounted to 17% of the total GDP in Germany (Table A-1-1). GDP per capita in Bavaria is above West German average. Although decreasing over time, the economic growth has been stronger than in the West Germany as a whole since the 1970s, Bavarian GDP in real terms increased by 14.4% from 1991 to 1998 compared to a West German rate of 9.2%. Export as well as import takes a share of about 15% of all German foreign trade. In 1998, imports grew by 2.6%, exports by 6.7%.

Table A-1-1

Profile data for Bavaria
1998

	Bavaria	West-Germany	Germany	% Bavaria/ Germany
Territory	70,548	248,939	357,021	19.8
Inhabitants	12.1	66.7	82.0	14.7
GDP (billion DM)	642.7	3,332.0	3,761.5	17.1
per capita (DM)	53,260	49,963	45,858	
per economically active person (DM)	119,183	119,332	110,714	
Net value, in %				
Agriculture, forestry	1.0	1.0	1.1	15.0
Manufacturing	33.6	32.6	32.8	17.5
Tertiary Sector	65.4	66.4	66.1	16.8
Export (billion DM)	147.6	-	946.3	15.5
Import (billion DM)	121.6	-	812.3	14.8
Export share of industry (in %)	37.3	34.3	33.1	
Economically active population (in million)	5.7	29.3	35.9	16.0
Employment share[a] (in %)	47.6	44.0	43.6	
self-employed share[b] (in %)	11.9	10.4	9.9	
employees (30.6.1998, in million)	4.2	22.1	27.3	15.4
Unemployment share[c] (in %)	7.0	9.4	11.4	

Source: Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999d). – [a]% of residential population. – [b]% of economically active persons. – [c]% of total of civil employment.

Employment share and the share of self employed in the economically active population (self-employment share) are above the German average, amounting to 47.6% (44%) and 11.9% (10%) respectively, whilst the unemployment rate is below average. The majority of employees work in the service sector. Industry accounts for more than one third of all employees whilst employment in agriculture amounts to a mere 1%. Within the manufacturing sector the electrical and electronic branch is the largest group in terms of employment employing around 18%, followed by machinery and equipment with a share of 16% (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1999a).

1.2. The contribution of SMEs to economic development in Bavaria

1.2.1. The statistical database

Consistent annual data on the development and structure of SMEs are neither available for Germany as a whole nor for single states. Therefore, the data presented in the following chapters come from different databases, collecting information from various sources and utilising special studies undertaken by statistical offices, and cover various years. The main sources are:

- Every fourth year the Bavarian government publishes a report on the status of SMEs in Bavaria which includes detailed statistical data according to enterprise size. The latest version with data for 1995 and partly 1996 was published in 1997 (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1997).
- The Federal Ministry of Economic Affairs publishes a statistical report on SMEs in Germany which also includes selected regional data on SMEs, every third year. Again, the latest version, covering the years up to 1995/96 was published in 1997 (BMWi 1997).
- Statistical data on craft enterprises[6] which comprise an important part of the SME sector in Germany (in Bavaria for example they account for 20% of the Bavarian employment) will be used in addition, especially to gain more information on exporting manufacturing branches or the general structure of SMEs in border regions, because the industrial statistics excludes enterprises with less than 20 employees.

According to the EU definition medium enterprises are independent enterprises with either an annual turnover of up to 40 million ECU (80 million DM) or a total balance of up to 27 million ECU (54 million DM) and up to 250 employees, whilst small enterprises are enterprises with either an annual turnover of up to 7 million ECU or a balance sheet total of up to 5 million ECU and up to 50 employees. However, the reports and data available for Bavarian SMEs and German SMEs do not apply this European definition. Schematically applying this definition to the German context would result in transferring a large part of the German "Mittelstand" to the world of big business. Thus the cited SME report for Bavaria and the statistical report of the Federal Ministry of Economic Affairs both define SMEs in the following way: Small enterprises have less than 10 employees and an annual turnover of less than 1 million DM, medium enterprises have 10-499 employees and an annual turnover of 1-100 million DM. However, even these government publications deviate from their own definition for practical reasons (e.g. availability of data or information on special aspects of enterprise structures). That implies that these SME reports mainly use different size classes with respect to employment and turnover which renders the application of the EU definition next to impossible and even the stringent application of the German definition throughout the following chapters difficult. Enterprise categories formed on the basis of rather artificial size categories should always be dealt with pragmatically, because as a rule there are no fundamental economic differences between the enterprises of neighbouring size classes with respect, for instance, to management, enterprise organisation, financial structures, employment practices. The use of size classes in the present report follows this pragmatic practice and displays additional information by dividing broad size categories into smaller ones.

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[6] Craft enterprises: All enterprises which are registered in the craft registers of the Chambers of Crafts according to the German Craft Code (Handwerksordnung) independently of the size of the firm and the NACE sector these enterprises are operating in. Most craft enterprises are smaller firms, but there are also medium-sized and even rather large „craft enterprises". There is no comparable statistical category in most EU member countries apart from Austria and Luxembourg. Craft enterprises are included in this analysis because they form a substantial part of all manufacturing and construction enterprises in Germany which is rather well documented statistically.

1.2.2. Structure and development of SMEs in Bavaria

Size structure of the Bavarian economy

As is to be expected, the great majority of Bavarian enterprises classify as small and medium firms. In terms of enterprises, in 1995 nearly 96% of the Bavarian *industry* - (excluding producing craft enterprises) are small firms with less than 299 employees, they account for 39% of all employment and less than one third of the turnover (Table A-1-2). Not surprisingly, very small enterprises with less than 19 employees account for the highest share of enterprises and the lowest share of employees and turnover whilst these shares raise with enterprise size. Typically very small industries (1-19 employees) are for example wood manufacture, the printing industry and recycling (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie, 1997).

Table A-1-2

Size structure of the Bavarian industry[1]
1995, %

Employment size class	Enterprises	Employees	Turnover (in Mio DM)
1-19	65.7	5.4	3.9
20- 99	21.7	14.3	11.0
100-299	8.2	19.4	16.8
Total 1-299	***95.6***	***39.1***	***31.7***
300-499	1.9	10.4	8.8
500-999	1.6	15.1	13.8
1,000 and above	1.0	35.3	45.8
Total	**16,632**	**1,185,236**	**32,285**

Source: Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1997). – [1]Total survey for industry, excluding producing craft enterprises.

Craft enterprises, which are typically small, play an important role in manufacturing branches and service sectors. Craft enterprises are defined according to the German craft code which regulates entry into more than 100 manufacturing and service branches. In 1998 around 158,000 craft enterprises existed in Bavaria, including those registered according to the craft code annex A ("Handwerksgewerbe") and annex B ("handwerksähnliche Gewerbe"). One third of them are to be found in metal and electrical engineering branches where the average enterprise size is 9 employees, another 17% in construction with an average enterprise size of 12 employees. The remaining enterprises are distributed across consumer-oriented manufacturing and service branches, the average enterprise size ranges from 4 employees in textile crafts to 11 in the food craft sector (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1997, 1999b).

To get some data that also include craft enterprises, the *VAT statistics* can be used. For1994, it makes evident that 99% of all Bavarian enterprises which are obliged to pay VAT classify as SMEs within the German definition (100 million DM/50 million ECU), the share will be slightly lower according to the EU definition (80 million DM/40 million ECU) (Table A-1-3) and they account for only slightly more than half of the turnover. Nearly one third of all

enterprises fall into the smallest turnover classes, earning between 25.000 and 100.000 DM annually which however amounts to a mere 0.8% of the total turnover.

Trade and especially service sectors dominate the smallest enterprise size also in terms of VAT paid. One fourth of those enterprises classifying as small in terms of turnover (25,000-1 Million DM) are trade enterprises, another 30% are service enterprises offering household and production oriented services whilst manufacturing enterprises account for 9%, construction firms for 8% (BMWi 1997). Between two thirds of all firms in the trade sector and more than 90% of service companies have a turnover of less than 1 million DM (BMWi 1997). For example, just under one fourth of all retail enterprises have a turnover of less than 100,000 DM and two fifth between 100,000 and 500,000 DM per year. Medium and large firms are more likely to be found in industry where in terms of turnover the share of medium firms (turnover 1–100 million) is around 30% in both the manufacturing and the construction sectors (BMWi 1997).

Table A-1-3

Turnover in Bavarian enterprises
1994

Enterprises With ... DM Turnover	Enterprises		Turnover	
	Total	in %	in million DM	in %
25.000- 50.000	64,352	13.4	2,376.7	0.2
50.000 – 100.000	82,501	17.2	6,002.6	0.6
100.000 - 500.000	190,070	39.5	45,586.1	4.4
500.000 - 1 million	57,975	12.1	40,993.4	4.0
1 million – 5 million	66,318	13.8	138,349.3	13.5
5 million – 25 million	15,556	3.2	159,911.3	15.6
25 million - 100 million	3,148	0.7	145,116.5	14.1
100 million and above	1,002	0.2	487,656.8	47.5
Total	**480,922**	**100.0**	**1,025,992.7**	**100.0**

Source: BMWi (1997).

Number and development of SMEs and small entrepreneurs

Overall, the number of Bavarian SMEs according to the VAT statistics amounts to around 480,000 enterprises in 1994. However, the total number of SMEs in Bavaria is even larger than those covered by the VAT statistics. There are a number of professions which are exempted from turnover tax, such as agricultural firms or healing professions[7]. Moreover, the

[7] Data for Germany as a whole might illustrate the problem. An estimated total of 0.6 mill enterprises did not pay VAT in 1996 due to the reasons listed in the text. Increasing the minimum turnover for the obligation to pay VAT 25,000 DM in 1994 to 32,500 DM in 1996 resulted in the exclusion of 150,000 enterprises from

minimum level of annual turnover has increased several times over the past years so that the statistical data exclude an increasing number of enterprises, thereby underestimating the number and structure of SMEs. All in all, this renders an analysis of the SME development over years difficult. Therefore, data on self-employment (self-employed in the German definition are understood as small entrepreneurs and does not necessarily refer to those entrepreneurs working on their own without employees) paint a more realistic picture of the number and development of Bavarian SMEs without being totally correct[8].

Data from the micro census show that the number of "small entrepreneurs" – which can be approximated quite well by the number of self-employed – in Bavaria in 1998 totalled about 680,000. Since the middle of the 1980s, this number increased by around 100,000 enterprises including agriculture. Overall, the share of small entrepreneurs (measured as the share of all self-employed to the working population) has been decreasing from the 1960s to the 1990s and increasing since the beginning of the 1990s during which period it rose from 9.9% in 1990 to 11.9% in 1998. The latter is partly due to a decline in overall employment in the 1990s. However, this development also indicates a structural change from employed towards small entrepreneurs. For example, whilst employment decreased by 0.8% from 1995 to 1998, the number of small entrepreneurs increased by 7.4%.

In comparison to West Germany the development of small entrepreneurs in Bavaria has always been more favourable. Figure A-1-1 illustrates the density of small entrepreneurs in Bavaria compared to West Germany, measured as the number of small entrepreneurs per 1,000 inhabitant. As far back as the 1960s the density of small entrepreneurs has always been higher in Bavaria compared to West Germany, reaching its peak in 1970. After a sharp decline during the 1970s in both Bavaria and West Germany the density started increasing again during the late 1980s. Since then, it had been rising continuously. The Bavarian density surmounts the 1960s level slightly since 1996 whilst the West German density is still slightly lower in 1997. The overall favourable development of small enterprises in Bavaria mainly is due to the early industrialisation. This historical industrialisation path and support institutions which were set up already during the beginning of the 19th century both favoured a quick development of small enterprises and their important role in the Bavarian economy.

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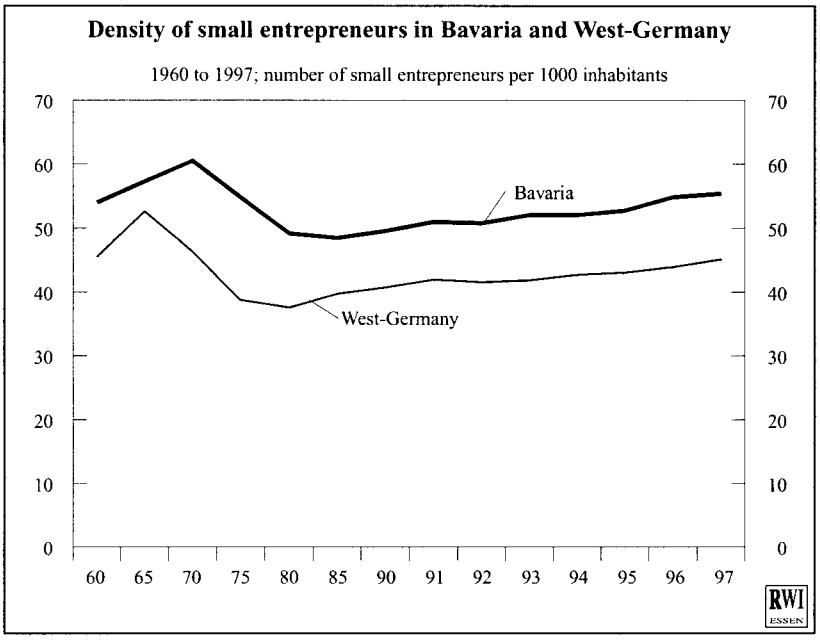
the statistic, as their turnover was under the threshold . A total of 270,000 agricultural firms and an estimated total of 180,000 healing professions were exempt. Cf. Lageman et al 1999: 81ff.

[8] The figures for self-employment are based on the micro census. Whilst the VAT statistics is a complete survey, the micro census is a 1%-sample of German population.

Figure A-1-1



The aggregate view of the development of small entrepreneurs conceals however different developments across sectors, for which detailed data are available until 1995 (Table A-1-4). Although the number of industrial SMEs increased again over the past decade, they lost importance since the 1960s, even when taking into account that the sharp drop in 1995 may be partly due to a new classification of industrial branches which was introduced in that year. Trade and services on the other hand gained. Their number increased by 68% since the 1960s. This reflects the general structural shift away from manufacturing towards services combined with other factors, such as more fragmented consumer markets which contribute to an increase in niche market opportunities for small trading and service firms, changing tax regimes, increased contracting out of services and the development of more flexible manufacturing systems (EIM 1994; Lageman et al 1999). Especially business services gained over the past years, although the statistical databasis for this sector is limited, data concerning size-related developments are non existent. The number of firms in business services grew steadily since the 1980s, for example by 69.2% from 1988 until 1992 (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1997).

Table A-1-4

Development of small entrepreneurs in Bavaria
1960-1995

Year	Agriculture, Forestry		Industry		Trade		Transport		Other Services		Total	
	In 1,000	Per 1,000 inhabitants	In 1,000	Per 1,000 inhabitant	In 1,000	Per 1,000 inhabitant	In 1,000	Per 1,000 inhabitant	In 1,000	Per 1,000 inhabitant	In 1,000	Per 1,000 inhabitant
1960	341.0	36	173.0	18	-	-	-	-	-	-	514.0	54
1970	254.6	24	140.0	13	108.5	10	14.7	1	122.4	12	640.2	61
1980	184.9	17	113.1	10	93.9	9	16.6	2	130.0	12	538.5	49
1990	125.3	11	117.2	10	93.3	8	18.1	2	215.5	19	569.4	50
1991	122.7	11	126.1	11	96.2	8	21.9	2	225.6	19	592.5	51
1992	120.1	10	129.2	11	98.0	8	21.3	2	230.3	20	598.9	51
1993	123.6	10	132.8	11	95.8	8	33.1	2	233.7	20	619.0	52
1994	112.7	9	136.5	11	98.4	8	24.0	2	250.9	21	622.5	52
1995	110.3	9	128.5	11	120.6	10	21.9	2	253.6	21	634.9	53

Source: Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1997), own calculations.

1.2.3. Employment in Bavarian SMEs

In 1995, a total of 2.24 million persons were employed in firms with less than 200 employees (65 % of total employment) whilst 1.2 million (35 %) worked in larger enterprises with more than 200 employees (Table A-1-5). The vast majority of Bavarian employees therefore works in small enterprises. Total employment figures in small enterprises will be even higher because the available statistical data cover only employees that are subject to social insurance, i.e. an estimated 80% of all employment (Lageman et al 1999) and does not include working owners and unpaid family members.

In terms of sectors, employment in small enterprises (<200 employees) is above average in agriculture, trade and most service sectors and generally below average in industry which however conceals differences within sectors and across various enterprise size classes, mainly due to a branch-specific optimal enterprise size. The smallest enterprises dominate in service sectors whilst enterprises with 50-199 employees play a more important role in industry. Whilst in the industry sector energy and the manufacturing industry mainly are characterised by larger enterprise sizes, the majority of construction companies classifies as small enterprises, 39% even fall into the smallest size category (1-19 employees).

A closer look at the employment distribution across enterprise sizes shows a strong position of very small enterprises with only up to 9 employees in which one fifth of all Bavarian employees and 30% of all employees in small enterprises (<200 employees) work (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1997). Again, the overall trend towards the smallest enterprises will be even more pronounced taking into account so-called "solo-entrepreneurs" (entrepreneurs working on their own) that are not covered in employment statistics. Recent research confirms this development for Germany as a whole, and there is no reason why Bavaria should differ (Lageman et al, 1999; Leicht/Phillip 1999). This reflects various underlying developments. Cost consideration of large enterprises stimulate outsourcing and thus result in rising number of "semi-independent" entrepreneurs, i.e. they are self-employed from a legal point of view, but highly dependent from an economic standpoint. Furthermore, new communication technologies lower barriers of entry and consequently allow for smaller enterprise sizes, e.g. in computer dominated branches, and rising unemployment in combination with a lack of employment possibilities apparently also initiates the formation of enterprises by unemployed, most of which stay very small (Welter 1999).

Overall, total employment declined from 1991 to 1995 by 3.3%, mainly as a result of the recession. An aggregate look however conceals sectoral and size differences, although a caveat concerns the analysis of size differences across size classes. Growing employment shares in one class are not necessarily a result of new employment but they might also be a result of decreasing employment in the next higher class (Table A-1-6).

Table A-1-5

Sectoral distribution of employment[1] in the Bavarian economy
1995 %

Sector	1-19 employees	20-99 employees	100-199 employees	**Total < 200 employees**	200-499 employees	500 and above	**Total > 200 employees**	Total number
Agriculture, Forestry	68.4	24.6	4.6	**97.6**	1.0	1.4	**2.4**	39,709
Industry	20.1	22.6	10.7	**53.3**	14.1	32.6	**46.7**	1,893,838
Energy, Water, mining	*11.3*	*22.2*	*9.6*	***43.0***	*24.2*	*32.8*	***57.0***	*42,452*
Manufacturing sector	*16.1*	*19.7*	*10.8*	***46.6***	*15.1*	*38.3*	***53.4***	*1,520,900*
Construction	*39.5*	*35.9*	*10.3*	***85.8***	*8.1*	*6.1*	***14.2***	*330,486*
Trade	41.1	31.5	10.2	**82.8**	9.2	8.0	**17.2**	583,976
Wholesale trade	*26.5*	*40.1*	*15.6*	***82.2***	*13.1*	*4.7*	***17.8***	*184,382*
Commission Trade (Dealing)	*57.2*	*30.2*	*7.4*	***94.8***	*3.1*	*2.1*	***5.2***	*40,494*
Retail trade	*46.8*	*27.2*	*7.7*	***81.7***	*7.9*	*10.4*	***18.3***	*359,100*
Communication and transport	37.4	30.6	11.3	**79.4**	9.3	11.3	**20.6**	132,520
Banks and insurances	16.7	23.0	10.9	**50.6**	17.8	31.6	**49.4**	187,630
Other services	56.0	22.3	7.0	**85.3**	6.5	8.2	**14.7**	595,924
Total % horizontal	31.0	24.4	9.9	**65.3**	11.8	22.9	**34.7**	
Total number	1,063,052	837,427	340,395	**2,240,874**	405,617	787,106	**1,192,723**	3,433,597

Source: Own calculations based on Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1997) – [1] subject to social insurance.

Taking that into account, employment in small enterprises (>200 employees) increased slightly over a four-year period whilst employment in larger enterprises decreased considerably. Positive employment changes have been more pronounced the smaller the enterprise size, indicating a positive and important contribution of Bavarian small enterprises to employment.

Table A-1-6

Change in Employment[1] by Company Size
1991-1995, %

Sector	Employment					
	1-19	20-99	100-199	Total <200	>200	Total
Agriculture, Forestry	-4.4	-12.5	-8.2	**-6.8**	-58.3	-9.5
Industry	2.1	-2.1	-6.0	**-1.4**	-17.4	-9.6
Energy, Water, mining	*-1.6*	*2.8*	*-5.5*	***-0.3***	*-1.4*	*-1.5*
Manufacturing sector	*-0.7*	*-5.2*	*-6.4*	***-4.0***	*-18.2*	*-12.2*
Construction	*8.1*	*6.3*	*-3.9*	***5.8***	*-10.1*	*3.2*
Trade	5.1	2.4	0.3	**3.5**	-9.9	0.9
Wholesale trade	*-1.3*	*1.7*	*-3.4*	***-0.3***	*2.8*	*0.2*
Commission trade (Dealing)	*6.0*	*18.2*	*31.8*	***11.4***	*-67.7*	*-1.2*
Retail trade	*7.0*	*1.3*	*1.9*	***4.5***	*-10.2*	*1.5*
Communication and transport	3.0	5.8	13.4	**5.5**	-2.1	3.8
Banks and insurances	-1.6	2.2	6.6	**1.8**	13.0	7.1
Other services	13.3	15.8	14.5	**14.1**	3.4	12.4
Total	5.8	1.8	-1.3	**3.2**	-13.5	-3.3

Source: Own calculations based on data of the Federal Labour Office, cited in Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1997). – 1 subject to social insurance.

In terms of sectors, employment increased in service enterprises, especially in the smallest employment classes. Employment developed generally favourably in the service sector. From 1980 to 1993 employment in business oriented services increased by 69% in Bavaria, compared to an average of 55% in West Germany (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1997). Trade enterprises showed a mixed balance. The development of employment was more favourable in small retail trade firms and commission trading enterprises. Manufacturing enterprises lost employment over the whole period and in all size classes whilst smaller construction companies expanded their employment share. Reasons for the differing employment developments are mainly the overall structural change towards a service-oriented economy.

1.3. Markets, exports and linkages

1.3.1. Export behaviour in industry and the manufacturing sector

Markets differ for Bavarian SMEs according to branches and sectors. External markets play an important role for industrial SMEs, especially in manufacturing. Aggregate export data

which are differentiated according to enterprise sizes show a considerable share of exporting manufacturing SMEs (Table A-1-7). Not surprisingly, the export share increases with enterprise size. Whilst larger enterprises export nearly half of their turnover, SMEs with less than 500 employees have an average export share of 17%, concealing however huge differences amongst size classes. The export share in the smaller enterprise size classes (1-19, 20-49) stays below 10%. The majority of exports fall unto enterprises with 50-499 employees. Whilst the export share for SMEs (here: up to 500 employees) as a whole has increased since 1980 by 4.2 %-points, the picture differs according to enterprise size. Medium enterprises (200-499 employees) exported a higher share of their turnover during the late 1980s, their export share decreased considerably in 1991 increasing again only in 1994. The smallest enterprises (less than 20 employees) showed the highest increase of the export share since the 1980s, it more than doubled whereas enterprises with 20-199 employees showed a modest increase. These developments in the smallest size classes might already indicate an influence of the transformation in Central Europe, which opened nearby export markets. Small enterprises might have benefited from that as proximity of export markets plays a major role in their export decision.

Export behaviour differs not only according to enterprise size, but also depends on the branch which in terms influences the market of the enterprise. On the whole, in 1998 the export share reaches more than 50% for manufacturers of investment goods whilst manufacturers of primary products and industrial supplies for intermediate consumption export around one third of their turnover. Not surprisingly, manufacturers of consumer goods whose turnover however is mostly produced by SMEs have the lowest export share with less than 20%, they mainly produce for local and regional markets (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1999a; BMWi 1997). 1994 data for size classes show that Bavarian export-oriented enterprises with up to 19 employees mainly belong to the food industry whilst in size classes from 20-99 employees investment goods producers account for the largest share (BMWi 1997).

Table A-1-8 highlights industries with a major employment share of SMEs (basis year 1995) and those with an above average export share (basis year 1998) of >17% (exports/total turnover). "SME-dominated industries" are defined as industries where SMEs with up to 499 employees account for an above 50% share of the industry's employment, 49,5% being the weighted arithmetic mean of SME employment in all manufacturing sectors. The statistical data available do not allow other employment classes. "Export-oriented SME industries" are those industries where a high share of SMEs in total branch employment is combined with an export share which is above the overall SME average of an estimated 17% for 1998 (see Table A-1-8).

Neglecting any changes in the SME size distribution from 1995 to 1998, these indicators roughly allow to identify more export-oriented and more inward-oriented manufacturing SMEs sectors. Of those manufacturing industries where the export share is above 50% only one (medical, precision and optical instruments) out of 4 would then classify as an export-oriented SME industry. When sectors are considered, whose export share exceed the SME average, only 7 out of 13 have an above average share of SME employment, in 3 other

Table A-1-7

Exports in the manufacturing sector in Bavaria according to enterprise size
1980-1994, DM mill and % of turnover-

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Less than 20 employees															
Export turnover	83	79	78	133	95	139	134	120	132	156	178	213	277	221	248
Export share	3.3	3.1	3.1	4.7	3.3	5.2	4.7	4.2	4.6	4.8	5.4	6.2	7.8	7.4	7.9
20 – 49															
Export turnover	1,043	1,177	1,280	1,280	1,526	1,740	1,708	1,644	1,828	2,.031	1,922	1,862	1,813	1,603	1,925
Export share	7.7	8.6	9.1	8.5	9.7	10.8	10.6	10.3	11.0	10.3	9.3	8.7	8.5	7.9	9.0
50 – 199															
Export turnover	4,725	5,148	5,944	6,252	7,391	8,314	7,800	7,567	8,479	9,403	9,.429	9,155	9,173	9,098	10,327
Export share	13.1	14.2	15.8	15.8	17.3	18.7	17.9	17.2	17.9	18.0	16.5	14.9	14.9	15.1	16.3
200 – 499															
Export turnover	5,984	6,742	7,122	7,413	8,697	10,003	11,289	11,024	11,565	12,090	13,436	12,401	11,242	11,412	13,211
Export share	15.4	16.6	17.8	18.8	20.8	22.4	24.3	23.5	24.2	24.2	24.1	20.8	19.2	19.9	21.5
500 and above															
Export turnover	35,316	40,586	45,519	48,058	52,187	58,208	58,495	62,349	67,020	74,233	74,671	76,148	79,911	76,966	82,519
Export share	38.3	41.0	43.3	43.2	438.0	43.3	44.2	44.8	46.5	46.3	43.4	40.7	40.5	41.9	43.5
Less than 500 employees															
Export turnover	11,834	13,145	14,423	15,078	17,710	20,196	20,931	20,356	22,003	23,681	24,965	23,632	22,505	22,335	25,711
Export share	13.0	14.2	15.3	15.6	17.2	18.7	19.2	18.6	19.2	18.9	18.2	16.2	15.5	15.9	17.2
Manufacturing sector															
Export turnover	47,150	53,731	59,942	63,136	69,897	78,404	79,426	82,705	89,023	97,914	99,636	99,780	102,412	99,301	108,231
Export share	25.7	28.0	30.1	30.4	31.5	32.3	32.9	33.2	34.4	34.3	32.2	30.0	29.9	30.6	31.9

Source: Statistical office of Bavaria, cited in Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1997).

industries the SME employment share reaches at least one third. Furthermore, a closer look at the different export-oriented SME branches reveals them either belonging to a shrinking branch (textile) with unfavourable longer term development perspectives or to branches producing simple products where competition from accession countries might prove a serious barrier to exports in the future.

Table A-1-8

Foreign sales in selected Bavarian manufacturing[1] sectors
%

	Employment share of enterprises with 1-19 employees 1995[2]	Employment share of enterprises with 20-499 employees 1995[2]	Export share[3] 1998
Radio, Television and Communication Equipment and Apparatus	2.4	27.0	58.1
Motor Vehicles, Trailers and Semi-Trailers	0.3	10.5	54.0
Medical, Precision and Optical Instruments, Watches and Clocks	5.4	46.0	52.0
Machinery and Equipment	2.3	37.7	50.7
Chemicals and Chemical Products	3.2	34.0	46.6
Electrical Machinery and Apparatus	1.7	22.0	43.8
Paper and Paper Products	3.8	74.8	31.9
Basic Metals	1.9	41.7	31.6
Textiles	8.2	78.9	30.9
Wearing Apparel; Dressing and Dyeing of fur	8.7	75.8	29.1
Rubber and Plastic Products	6.2	61.4	23.5
Leather and Leather Products	10.6	63.2	23.5
Office Machinery and Computers	1.8	20.9	23.2
Fabricated Metal Products, Except Machinery and Equipment	8.7	66.6	19.7
Food Products and Beverages	5.7	69.6	15.9
Furniture	7.5	67.5	13.2
Wood and of Products of Wood	30.8	54.0	9.5
Publishing, Printing and Reproduction of Recorded Media	18.8	57.1	9.0
Mining & Quarrying	34.4	56.6	7.1
Recycling	44.2	55.8	.
Total	**5.4**	**44.1**	**37.3**

Source: Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1997). – [1]Total survey for industry, excluding craft enterprises. [2]Shaded: Employment in SMEs above 50 %. – [3]Enterprises > 20 employees. Shaded: Share above 20%.

However, these export shares which are calculated on the basis of the turnover gained by exports, underestimate the export-orientation of SME industries. Manufactured goods exported by large enterprises are registered statistically as exports of large firms regardless of the input of SMEs to their production. Including indirect exports implies an even higher net export value earned by SMEs than is reflected by their export share.

1.3.2 Exports and craft enterprises

Crafts enterprises mainly produce for the local and/or smaller regional market; only around 2% of craft turnover is exported. However, an aggregated analysis conceals variations amongst craft sectors. The sectoral distribution (Table A-1-9) shows a higher export share for craft enterprises in the manufacturing sector which accounts for one third of all craft enterprises and employees.

Table A-1-9

Sectoral distribution of foreign sales in Bavarian craft enterprises[1]
1995

	Enterprises	Employees	Export share %
Manufacturing	33,037	317,550	4.4
Food Products, Beverages and Tobacco	10,287	114,062	0.4
Textiles and Textile Products	1,850	7,082	5.0
Wood and Wood Products	2,846	21,682	1.6
Pulp, Paper and Paper Products; Publishing and Printing	1,060	9,618	1.0
Rubber and Plastic Products	243	5,048	1.2
Basic Metals and Fabricated Metal Products	5,857	55,563	3.6
Electrical and Optical Equipment	2,887	31,105	8.4
Transport Equipment	306	4,987	19.0
Furniture, other manufacturing, recycling	3,245	22,207	6.9
Construction	38,728	403,245	0.5
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	17,323	123,087	1.4
Real Estate, Renting and Business Activities	2,938	127,584	0.4
Other Community, Social and Similar Activities	9,573	44,493	0.1
Total	**101,750**	**1,017,933**	**1.9**

Source: Own calculations. - 1 only independent craft enterprises according to craft code, annex A.

The picture gets more diverse when examining single craft branches, again indicating an export potential mainly for producers of industrial goods and supplies. Within manufacture, transport equipment is the leading export-oriented craft with an export share of nearly 20%, however, this sector accounts for less than 1% of craft enterprises and employees. Producers of electrical and optical equipment, furniture and other manufacturing and textiles follow, however with a considerably lower export share. Basic metals and fabricated metal products still reaches an export share above the Bavarian average. In total, these sectors represent 14% of enterprises and 12% of employees in the Bavarian craft.

1.4. The regional view

1.4.1. The regional distribution of the manufacturing industry, trade and services

One fourth of the manufacturing industry is located in Upper Bavaria and accounts for more than one third of the manufacturing turnover (Table A-1-10). Contrary to the regional distribution of crafts however, which will be presented below, border regions play a less important role when looking at the regional distribution of enterprises and turnover. Both in Lower Bavaria and Upper Palatia manufacturing branches only account for around 10% and 9% of all Bavarian manufacturing enterprises and turnover whilst the share of manufacturing enterprises and turnover is higher in Middle Frankonia and Swabia.

Table A-1-10

Regional profile of the Bavarian manufacturing industry[1]
1998

	Enterprises		Employees				Turnover		Export share
	no	%	no	%	per enterprise	Per 1,000 inhabitant	billion DM	%	%
Upper Bavaria	2,053	24.8	335,802	28.2	164	84	146,8	35.5	40.5
Lower Bavaria	858	10.3	116,242	9.8	135	100	39.6	9.6	39.1
Upper Palatia	783	9.4	107,396	9.0	137	101	38.6	9.3	41.6
Upper Frankonia	1,152	13.9	136,842	11.5	119	123	35,3	8.5	28.2
Middle Frankonia	1,200	14.5	187,262	15.7	156	112	60,3	14.6	38.6
Lower Frankonia	917	11.0	131,738	11.1	144	99	35,0	8.5	31.2
Swabia	1,332	16.0	173,757	14.6	130	100	57,4	13.9	32.8
Bavaria	8,294	100.0	1,189,038	100.0	143	99	413,0	100.0	37.3

Source: Own calculation based on Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999a). – [1]plants with more than 20 employees.

Employment in small firms plays a much more important role in the two border regions to the Czech Republic and in Swabia. Across all sectors, around 55% of all employees in the regions Upper Palatia and Lower Bavaria are employed in enterprises with up to 99 employees (Europäische Union 1999). Table A-1-10 shows the regional employment structures in the manufacturing industry (plants with more than 20 employees) in more detail. Again, employment in Upper Bavaria accounts for the major single part of all manufacturing employees whilst employment in border regions is a mere 9% of all manufacturing employment in Bavaria. However, a look at employment density (measured as employment per 1,000 inhabitants) shows a slightly different pattern which confirms the relative importance of manufacturing employment for the border regions. Out of seven Bavarian

regions the border regions rank third and fourth respectively. Consequently the EU-enlargement could influence the employment patterns of the manufacturing industry although data concerning labour movements across enterprise sizes in the border regions are not available.

In terms of turnover the regional distribution reflects again the enterprise and employment distribution with Upper Bavaria ranking first. Not surprisingly, the picture changes with respect to exports. On the whole, four out of the seven regions show export share for 1998 which range above average, in this case Upper Bavaria ranks second after Upper Palatia, followed by Lower Bavaria and Middle Frankonia. Two of these regions border the Czech Republic. One of these border regions (Upper Palatia) has the highest export share.

Whilst border region employment in the "traditional" sectors such as textile and porcelain declined after the opening of the border, which is explained by a combination of sectoral and regional effects, trade and services gained, indicating favourable effects of cross-border relations. Border region employment in these sectors increased by a total of 81,000 from 1989 to 1998 (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1999c). The growth rate in trade and services amounted to 24.5% compared to a Bavarian average of 19.8%, the employment share increased from 41.6% in 1989 to 48% in 1998.

1.4.2. Craft enterprises

Nearly 34% of Bavarian craft enterprises, which account for nearly one third of the craft employment, are to be found in Upper Bavaria – with Munich as the economic centre – and in the border regions to the Czech Republic Lower Bavaria and Upper Palatia, where 19% of all craft enterprises represent 20% of the employment in the craft sector (Table A-1-11). The regional distribution of craft enterprises differs slightly from that of manufacturing enterprises which to some extent could be a result of differing definitions between administrative regions and chamber regions plus the fact that the statistical data for industry exclude plants with less than 20 employees which are included in the craft statistics. The concentration in border regions also could result in craft enterprises being strongly affected by the EU enlargement, either by loosing market shares and consequently employment to enterprises from accession states or by gaining from easily accessible regional export markets.

Branch-specific data for export shares from the craft statistics confirms that craft enterprises in border regions gained in terms of exports. Regionally craft exporters mainly are concentrated in Munich and Upper Bavaria as well as in Lower Frankonia where the export share lies slightly above the Bavarian average (Table A-1-11). In terms of enterprises and employees, around one third of each are located in Munich/Upper Bavaria, whilst Lower Frankonia ranks fifth amongst the Bavarian regions. The border regions to the Czech Republic show an export share slightly below the Bavarian average, although with respect to enterprises and employees they rank second after Munich/Upper Bavaria, representing around 20% of the craft enterprises and employees. However, a detailed look at this region across sectors shows an export share of the manufacturing sector above the region's average totalling

Table A-1-11

Regional distribution of foreign sales in Bavarian craft enterprises[1]
1995

Chamber region	Enterprises	Employees	Export share %
Munich and Upper Bavaria	34,998	332,364	2.2
Lower Bavaria and Upper Palatia	19,793	205,467	1.8
Swabia	14,394	140,280	1.3
Upper Frankonia and Coburg	9,342	95,994	1.7
Middle Frankonia	12,266	135,357	1.6
Lower Frankonia	10,957	108,471	2.1
Bavaria	101,750	1,017,933	1.9

Source: Own calculations. – 1 only independent craft enterprises according to craft code, annex A.

3.5% and four highly export-oriented sectors: again transport equipment (13%) and – in contrast to the overall sectoral export pattern in craft sectors - basic metals and fabricated metal products (10%), electrical and optical equipment (8.3%) and textiles (6.4%).

1.5. The impact of EU policies

Bavaria has a differentiated support system for SMEs offering subsidised financing, access to specific information, training and consultancy. In that context EU policies through co-financed programmes also play an important role. With respect to regional support a major part of Bavaria qualifies as Objective-5b or Objective-2 region. Most of the border region (Upper Frankonia, Upper Palatia, Lower Bavaria), major parts of the regions Middle and Lower Frankonia and some areas in Swabia and Upper Bavaria belong to these categories. Enterprises within these regions can access the EFRE structural fund and a number of joint initiatives (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1999c). RETEX for example assists the structural change in those border regions to former GDR and the Czech Republic, which are dominated by the textile industry.

Table A-1-12 informs about regional and sectoral structural policies which influence the enterprise development in Bavaria. As in the case of the Scotland case study it is in most cases not possible to identify SME-specific measures because most programmes do not discriminate between size classes. The mentioned programmes consist of broad packages of business development measures which promote among others SMEs and can thus be taken as proxy for EU-based SME support in Bavaria. As can be seen in Table A-1-12 all cited EU programmes in Bavaria where the EU contributions reaches from 19 % to nearly 45 % include measures which are normally classified as "SME support policies", e.g. assistance for start-ups, the development of industrial estates, incubation centres, establishment of technology parks. INTERREG II Germany/Czech Republic directly fosters the co-operation of Bavarian and Czech firms.

Table A-1-12

European Programmes						
Programme	**Period**	**Regions eligible**	**Aims and strategy**	**Measures**	**Total cost (in millions of €)**	**EU contribution (in millions of €)**
Germany Bavaria Objective 2	1994-1996	Regions in industrial decline (Objective 2 areas)	Supporting the economic and social conversion of regions in difficulty reducing the dependence on the traditionally dominant sectors	- Development of economic support infrastructure - Development of endogenous potential - Infrastructure development in the field of environmental protection - Continuing vocational training - Advice and guidance for unemployed persons and people endangered by unemployment - Promotion of employment and business start-ups	33.524	14.661 (43.72 % of total)
Germany Bavaria Objective 2	1997-1999	Regions in industrial decline (Objective 2 areas)	Supporting the economic and social conversion of regions in difficulty reducing the dependence on the traditionally dominant sectors	- Development of business and industrial estates - Development of local potential by strengthening and improving the SME sector - Employment growth and stability, including vocational training measures, promotion of electronic data processing in enterprises and information and environmental technologies	42.688	19.769 (46,31 % of total
Germany Bavaria Objective 5b	1994-1999	Rural regions (Objective 5b areas)	Diversification and adjustment of agricultural and rural structures Improvement of employ-ment opportunities outside the agricultural sector	- Diversification, reorganisation and adjustment of agricultural and rural structures, environmental protection and conservation of natural heritage - Development and diversification of non-agricultural sectors with a view to improving employment opportunities and generating new sources of income - Skills development, particularly through continuing training and advisory and guidance measures on first careers and career changes	2,933.388	560.219 (19,09 % of total)
Germany SME Bavaria	1994-1999	Objective 2 and 5b areas	Programme forms part of the implementation of the SME Community initiative which aims at increasing the economic competitiveness of SMEs	- Quality and innovation promoting measures - Environmental protection and energy - Development of new markets Technical assistance	19.682	6.970 (35,41 % of total)
Germany Bavaria KONVER II	1995-1997	Objective 5b areas most dependent on the arms industry	Improving the labour market situation in Bavaria by diversifying the industrial structure in areas heavily dependent on the defence and armaments sector	- Site conversion: support for the modernisation and adaptation of existing infrastructures, and for the conversion of former military sites to civilian use - Business creation with special support for innovative product development - adaptation of businesses in the defence technology sector - Human resources: retraining and certification of civilian personnel who serviced former military sites, as well as for staff of businesses converting from the defence to the civilian sector – Technical assistance	28.953	12.670 (43.80 % of total)

INTERREG II Germany/Czech republic	1994-1999	Border regions around the border of Bavaria and the Czech Republic	Supporting co-operation in the area around the border between the Czech republic and Germany - assisting disadvantaged border regions - supporting cross-border co-operation	- Transport, infrastructure promotion and environmental protection - Socio-economic development, particularly tourism and economic co-operation - Development of Human Resources - Development planning, studies and technical assistance	42.202	16.800 (39.80 % of total)
NTERREG II Germany/ Austria	1994-1999	Border regions around the border between Bavaria and Austria	Promoting cross-border co-operation and helping regions overcome problems arising from their comparatively isolated positions. Filling gaps in energy networks and providing interconnections with wider European networks	- Transport and infrastructure promotion, environmental protection - Socio-economic development, particularly tourism and industrial co-operation - Development of Human Resources, primarily in the area of training and certification – Development planning, technical assistance and studies (including the promotion of Euregios)	56.258	24.600 (43.73 % of total)
INTERREG II C – A/D/GR/I Central, Adriatic, Danubian and South east European Space "CADSES"	1997-1999	Bavaria as far as involved in co-operation networks	Creation of co-operation networks and establishing common interest and working methods			

Data concerning the impact of EU policies on SMEs are not available. However, considering the fact, that until 1999 30% of the Bavarian population lived and worked within Objective-5b or Objective-2 regions – in other words, within regions benefiting from EU programmes, EU policies might have a considerable impact on SMEs in these regions. That applies especially to SMEs in sectors which are exposed to structural change (textiles) and in border regions.

1.6. Possible channels of an impact of EU enlargement on Bavarian SMEs

1.6.1. Trade relations

On the whole, Bavarian exports amounted to 15.3% of all German exports in 1995. More than one half are exported to European Union member states whilst exports to Central and Eastern European countries accounted for a mere 7% in 1995 and 10.7% in 1998. However, growth rates for exports into these regions have been above average during the past years, amounting to 17.1% in 1995 and to 23.5% in 1994 (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1997: 130).

Table A-1-13 shows the trade relations (imports and exports) of Bavaria in relation to particular accession candidates. 1993-1997 growth rates for potential member countries of the first group have been especially favourable for exports to and imports from Estonia, Hungary and Poland whilst in the second group the pattern differs. Lithuania and Slovakia rank first with respect to growth rates of exports, Latvia has the highest growth rate for imports.

Table A-1-13

Trade relations of Bavaria with accession candidates

	Import 1997 in million DM	Change 1993-1997 %	Export 1997 in million DM	Change 1993-1997 %
Poland	1,430	101	2,132	114
Hungary	2,920	142	2,683	213
Czech Republic	4,526	84	3,560	100
Slovenia	1,111	37	664	56
Estonia	20	141	67	320
Cyprus	36	83	58	28
Sum	**10,043**	**93**	**9,164**	**123**

Source: Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999d).

However, partly the favourable export and import developments are due to the fact that data for regional exports and imports are collected in two different ways. Exports are measured according to the special trade concept, whereas import data represent the general trade conception. Consequently, all exports which are accounted for in the Bavarian export

statistics are also produced in Bavaria whilst imports which appear in the Bavarian import statistics may not necessarily be used in Bavaria, but they might be directed to other German regions. Therefore we cannot calculate regional trade balances. All that implies that the majority of imports from the Czech Republic, Hungary and Slovenia will be registered as Bavarian imports because they generally cross the German border in Bavaria, although these imports may be used elsewhere in Germany. Therefore imports from the Czech and the Slovak Republic, Hungary, and Slovenia are relatively high

On the whole the growth of exports outranked the import growth for both groups of accession countries. Taking into account the positive growth rates since 1990, the longer term export perspective to Central European countries appears to be favouring the Bavarian economy. That also indicates a potential market for SMEs whose contribution however will vary according to sectors and possibly also according to the location in Bavarian regions. In that context, the export share of the smaller enterprises which has been rising above average since the 1990s (cf. Table A-1-7) might be a result of new export possibilities in the "neighbourhood".

1.6.2. FDI relations

In 1997, the stock of direct investment abroad held by Bavarian enterprises amounted to 121.9 billion DM, whilst direct investments of foreign enterprises in Bavaria totalled 31.8 billion DM (Landeszentralbank im Freistaat Bayern 1999). In comparison to the other German states, Bavaria ranks first with respect to investment abroad and fourth with respect to foreign investment in Germany. However, comparisons for direct investment in German states are rendered difficult due to the fact, that the foreign investment is registered according to the legal domicile which oftentimes differs from the centre of the economic activity. In regional terms, direct investments of Bavarian enterprises are mainly located in EU member states and the USA (Table A-1-14). In 1997, more than half of the direct investment stock was invested in EU countries, mainly in Great Britain (although high stocks here result partly from fluctuations of the exchange rate) and the Netherlands. Moreover, the United States accounted for nearly one quarter, but again an increasing exchange rate influenced the high stock.

Direct investment in accession states played a less important role. For example, only 1.5% and 1.9% of Bavarian investors invested in the Czech Republic and Hungary respectively. Not surprisingly, foreign investors from these countries accounted for an even less significant share. Nevertheless, in 1998 neighbouring accession countries such as Poland, Hungary and the Czech Republic accounted for three quarters of new investments in all Central and Eastern European countries (Landeszentralbank im Freistaat Bayern 1999: 24*f).

In sectoral terms, manufacturing accounted for the largest share of the direct investment stock abroad, while holding companies and financial intermediaries invest one third and 16% respectively (Table A-1-15). Electrical machinery has the largest share of direct investments

Table A-1-14

Regional distribution of direct investment
1997, Stocks at the end of the year in DM mill.

Country/Region	Bavarian Investments abroad	Foreign Investments in Bavaria
EU countries	64,281	16,875
Austria	7,591	2,783
France	7,687	1,701
Netherlands	9,376	5,385
Great Britain	17,533	2,306
Industrialised countries outside EU	38,311	14,146
Japan	1,507	1,522
USA	27,384	9,046
Central and Eastern Europe		
Czech Republic	1,786	56
Hungary	2,334	X
Total	**121,913**	**31,762**

Source: Landeszentralbank für den Freistaat Bayern 1999. X – data not published.

abroad, although 40% of the investment was not made in manufacturing facilities but was directed to trade or financial affiliates. Typical manufacturing sectors dominated by SMEs (e.g. basic and fabricated metals, paper products, rubber and plastic products, cf. Table A-1-8) represent only a minor share of investments abroad. A look at the sectoral distribution of foreign investments in Bavaria confirms a similar picture. Manufacturing, especially the chemical industry and machinery hold the major share of foreign investments whilst investments in SME dominated sectors again play a minor role.

In general one would expect only a minor share of SMEs investing abroad although the open borders to the Central and East European countries, especially the Czech Republic, Hungary and Poland might change this picture for Bavarian enterprises. An empirical survey seems to confirm this conclusion for SMEs in Bavaria, but one has to take into account its limited basis of only 193 enterprises. In 1995 the Bavarian Association of Metallic and Electric Industry asked its members about investments abroad (VBM 1995). Not surprisingly, the results show a lower share of SMEs with less than 200 employees (15%) investing abroad compared to large enterprises with more than 1,000 employees (82%). The survey also indicated a relation between the enterprise size and the investment location with small enterprises preferring locations in the neighbourhood of Bavaria. More than half of the SMEs invested in Central European states compared to a mere 14% of large enterprises. Motives for direct investments also differ according to enterprise size. Smaller enterprises investing abroad aim at production (82%) or re-exporting the goods (55%) both of which play a minor role for large enterprises with 40% and 30% (VBM 1995: 10f.).

Table A-1-15

Sectoral distribution of direct investment
1997, Stocks at the end of the year in DM mill

Sector	Sector of Bavarian investor abroad	Sector of enterprise abroad	Sector of foreign investor
Manufacturing	54,120	44,049	12,132
Food Products, Beverages and Tobacco	711	806	248
Pulp, Paper and Paper Products; Publishing and Printing	777	739	218
Chemical Industry	2,806	2,666	2,346
Rubber and Plastic Products	401	841	368
Non-metallic Mineral Products	609	2,084	791
Basic Metals	61	107	147
Fabricated Metal Products	487	1,017	141
Machinery and Equipment	3,800	3,627	1,972
Electrical Machinery and Apparatus	25,876	15,902	951
Medical, Precision and Optical Instruments	801	1,614	252
Transport Equipment	13,243	8,005	540
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	1,209	19,294	7,007
Financial Intermediation	19,627	40,679	3,184
Real Estate, Renting and Business Activities	43,542	16,184	8,044
Total	**121,913**	**121,913**	**31,762**

Source: Landeszentralbank für den Freistaat Bayern 1999.

1.6.3. Competitive situation of Bavarian SMEs compared to producers in the potential new member states

At a first glance the competitive situation of producers in the accession countries might look more favourable because wages are still lower. However, this view conceals a complex and diverse competitiveness situation in accession countries, differing not only within and across countries, but also within and across sectors. In that context, comparing competitiveness between Bavarian SMEs and producers in accession countries would require a detailed regional and sectoral analysis which is not possible due to inadequate data. The following chapter therefore discusses competitiveness in a very general way.

Taking that limitation into account, industrial sectors in accession countries could be more competitive compared to Bavarian SMEs. That applies especially in comparison to wage-intensive (textiles) or low-technology production in Bavaria, for example where simple supplier products are concerned. Lower wages in combination with undervalued currencies benefit such industries. On the other hand, lower wages in accession countries could also

favour SMEs in Bavaria which might increase their competitiveness in comparison to larger enterprises as far as the SMEs, too, are able to relocate part of their production to nearby accession countries or to procure inputs or labour from there. Proximity, in this context, is a decisive advantage of some of the accession countries, as it reduces transaction costs which are a relevant cost factor especially for SMEs.

However, the situation changes with respect to higher-technology production. Here the competitive situation of producers in accession countries will be less favourable compared to Bavarian SMEs because lower wage levels only partly compensate the lower productivity level in accession countries (Fieten et al 1997). The productivity gap is partly due to a lack of modern technology and machinery. A lack of skilled personnel might also contribute to a lower productivity although this skills gap in accession countries should be decreasing over time. An inferior quality of products might enforce lower productivity levels and contribute to a lower competitiveness of producers in accession countries. Especially with respect to larger and/or privatised producers, the unfinished processes of corporate restructuring (reorganising and downsizing) plays an additional role in reducing their competitiveness.

In regional terms, the competitive situation of SMEs in the Bavarian border regions might go down due to an increasing wage-based competition across the border (mainly from the Czech Republic). That will also apply to industries and trades in these border regions which as a rule serve local markets. Examples are the construction industry and crafts, local services (hairdressers, restaurants and pubs) and tourist facilities (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1999d). On the other hand, a higher level of quality production and services in Bavarian SMEs might result in an increasing demand by Czech consumers.

On the whole, the competitive situation of Bavarian SMEs should be still favourable compared to producers in the accession countries although the limited evidence available renders any final assessment difficult. Here a lot will depend on the speed and depth of economic restructuring in the accession countries.

1.6.4. The impact of EU enlargement on EU policies for Bavaria

As mentioned above, EU-policies play a major role in the Bavarian support system. In terms of inhabitants 3.6 million or 30% of the Bavarian population live within Objective-5b or Objective-2 regions. From 2000 onwards however, these regions will be redefined and reduced, following the agreement of the European Council in Berlin. That implies a drastic reduction of EU-support regions in Bavaria, the new Objective-2 regions will cover only 826,000 inhabitants or 7%. Former Objective 2-regions will receive interim support for another five years (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1999c: 8). Nearly 90% of the newly defined EU support regions are located in the border region to the Czech Republic.

The package of European SME policies has already been adjusted to a certain degree to the enlargement perspective. The programmes are based on Bavarian and European experiences with previous SME support policies and concentrate on those measures which have proved as

rather successful. For the next years one could expect a strengthening of those programme components which promote interregional and cross-border co-operation, Euregios and the development of common support policies for start-ups and existing enterprises.

1.7. Conclusions

1.7.1. Opportunities or risks of the EU enlargement for the SME sectors

Enlargement will clearly have "sector-specific" effects on the Bavarian economy and at the same time "size-specific" effects on different groups of SMEs. However, it is very difficult to isolate the "enlargement effects" on the enterprises and branches from other more global processes such as the impact of corporate restructuring, new information technologies and globalisation of different industries. Stronger effects of the enlargement process on the Bavarian economy are to be expected in the long run. Their analytical identification will remain very difficult. Up to now the directly measurable effects of the opening of the East European markets on the Bavarian economy and probably also those effects which cannot be directly measured are restricted and very selective, that is, they are limited to certain branches, regions and groups of enterprises, for instances smaller construction enterprises or service enterprises in the border region. The movement of labour could be a highly sensitive subject for the Bavarian border areas, as soon as there is free movement of labour across the border. However, experiences from the South enlargement as well as a study into the impact of enlargement of the labour market of the EU generally indicate that free labour movements did not prove problematic (Brücker et al., 2000). Today uncontrolled labour movement across the border has a perceptible influence on the shadow economy, especially in the construction sector, but nevertheless it is not a critical problem.

SME sectors in Bavaria which might benefit or suffer from the enlargement in the longer run can be identified looking at trade relations and competitiveness. There are two groups of enterprises which are especially affected by the future enlargement of the Community:

- industrial and service enterprises which operate on the national and regional markets and which could be challenged by the new competitors, but which could also gain from new markets in accession countries
- small enterprises operating on local markets in the border area between Bavaria and the Czech Republic which could be challenged by small enterprises across the border or could extend their activities to the neighbouring markets.

The development of the export relations with accession countries over the past years clearly indicates a potential for SMEs to extent their markets, whilst the competitive situation of Bavarian SMEs appears yet more favourable for most industries. That allows for the following conclusions.

- Opportunity sectors might be export-oriented SME industries or crafts (e.g., transport equipment, metal products, electrical and optical equipment) which would benefit from increasing trade relations although a final assessment is made difficult due to a lack of detailed data on export countries of SMEs. SME exporters producing simple industrial goods might however also experience increased competition from accession countries. Opportunity sectors might also be business service SMEs which could expand their activities to markets in the Czech Republic or Hungary.
- The location could play an additional role where SMEs which are normally mainly oriented at a local market (especially craft and service enterprises) might benefit from an enlarged local market across the border. Nevertheless, with respect to local craft enterprises in border regions they mainly qualify as risk sectors either because of a simple technology and/or because of high wage costs which already did increase across the border competition.
- Generally wage-intensive SME sectors which are influenced by overall structural changes such as the textile industries classify as risk sectors. Here imports and competition from accession countries might increase following the enlargement.

1.7.2. Policy needs of SMEs in the region

When discussing policy needs one should have in mind that the inclusion of Eastern European countries into the Common Market will foster competition and lead to welfare gains for consumers. In this context the advantages for most SMEs by far outweigh the risks of the enlargement, which hold for all enterprises serving local consumer needs, as they are highly dependent on the development of real income. Risks are clearly concentrated on certain industries and regional groups of small and medium enterprises. SME policies can assist the necessary adjustment processes of all SMEs and support the unavoidable re-structuring of deeply affected enterprises. However, support policies should not aim at preventing the necessary structural change and protecting established market positions of the existing enterprises – an objective which is not to be aimed at under welfare aspects and which is not feasible. Bavarian and Federal German SME policies therefore concentrate on enabling policies encouraging and alleviating structural adjustment. "Policy needs" should always be defined within this framework.

Where trade relations are concerned, policy needs of SMEs could occur in areas such as information about markets and partners, training and consultancy. Policy needs of SMEs could also occur where risks sectors would need advice or consultancy to diversify and/or upgrade their products and services. A survey among German SMEs confirms specific support needs of SMEs with respect to exports where support policies would assist SMEs to engage in export activities or to extend existing export links, thus increasing their export shares (Fieten et al 1997). This survey demonstrated, that export engagement on foreign markets is not only hampered by psychological barriers for smaller enterprises, but – rather astonishingly - the use of foreign languages still is a serious problem for a considerable number of these enterprises. That means that either the entrepreneurs themselves or their management personal lack the required language skills. At the same time information on foreign markets (market structures, barriers of entry, consumer tastes, etc.) and trade channels is a problem. More than one third of enterprises with less than 19 employees, 41% in the size

group 20-49 and 38% with 50-99 employees, but only 18% of enterprises with more than 500 employees claim a lack of information on export possibilities. Nevertheless, a surprising high share of small entrepreneurs (around 40% regardless of enterprise size) used specific export support programmes such as subsidised trade fair participation or qualification programmes.

In that context, internationalisation of SMEs and their export-orientation is supported by a number of specific programmes. These include support for co-operations, information about partners, subsidised consultancy, support for participation in trade fairs, guarantees for exports (Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie 1997). EU-programmes such as RETEX add to that specifically where risk SME sectors such as the textile industry are concerned. There is a well developed net of supporting infrastructure which include the Chambers of Commerce, the Crafts Chamber, business incubations centres and other support institutions established by local communities. At the same time Bavarian enterprises can make use of the existing policy instruments of Federal institutions aimed at promoting start-ups and SMEs including e.g. SME loan programs for start-ups and financial and advice-oriented programs for rapidly growing firms.

A rather new dimension of support policies which could be a useful addition to the existing programmes are policy measures encouraging business networks among industrial and service enterprises. These networks could include support institutions and local authorities on the basis of private-public-partnerships. At the same time economic relations between enterprises on both sides of the present EU border should be encouraged. It should also be recommended that local authorities and support institutions on both sides of the border intensify the already existing co-operation (such as in the case of the Egrensis-border region) or – where these do not exist – build up co-operation links.

References

Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999a), Industriebericht Bayern 1998/99. München.

Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999b), Handwerk in Bayern. Juli, München.

Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999c), Im Umbruch – Das ehemalige bayerische Grenzland. August, München.

Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999d), Bayerns Wirtschaft in der Europäischen Union. München.

Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1999e), Wirtschaftsstandort Bayern. Juni, München.

Bayerisches Staatsministerium für Wirtschaft, Verkehr und Technologie (1997), Mittelstandsbericht: Bericht der Bayerischen Staatsregierung über die Lage der mittelständischen Wirtschaft und der Freien Berufe in Bayern. München.

Brücker, H. et al. (2000), EU-Osterweiterung: Keine massive Zuwanderung zu erwarten. *DIW-Wochenbericht* 67(21): 315-326

Bundesministerium für Wirtschaft (BMWi) (1997), Unternehmensgrössenstatistik 1997/98 – Daten und Fakten. BMWi Studienreihe, Nr. 96. Bonn.

EIM (1994), The European Observatory for SMEs: Second Annual Report. Zoetermeer: EIM Small Business Research and Consultancy.

Europäische Union (1999), Unternehmen in Europa. Fünfter Bericht. Luxemburg: EUROSTAT.

Fieten, R., W. Friedrich und B. Lageman (1996), Globalisierung der Märkte - Herausforderungen und Optionen für kleine und mittlere Unternehmen, insbesondere für Zulieferer. Schriften zur Mittelstandsforschung des IfM, Nr. 73. Stuttgart.

Lageman, B. et al. (1999), Kleine und mittlere Unternehmen im sektoralen Strukturwandel. Untersuchungen des Rheinisch-Westfälischen Instituts für Wirtschaftsforschung 28. RWI, Essen.

Landeszentralbank im Freistaat Bayern (eds.) (1999), Direktinvestitionen 1998: Transaktionen und Bestände. München.

Leicht, R. and Philipp R. (1999), Der Trend zum Ein-Personen-Unternehmer. In: Strukturbericht kurzinfo, 5.

Verband der Bayerischen Metallindustrie VBM (Hrsg.) (1995), Investitionen im Ausland: Umfang, Richtung, Motive, Arbeitsplatzeffekte. München.

Welter, F. (1999), Self-Employment: The quality of work in micro enterprises in Germany. A contribution to the ILO Action Programme: Enterprise Creation by the Unemployed – Microfinance in Industrialized Countries. Essen, December 1999.

2. Austria's north eastern Border Regions

2.1. Description of the region

2.1.1. Economic development, growth and employment

The region selected for the Austrian case study consists of the NUTS III regions Muehlviertel, Waldviertel, Weinviertel, Wiener Umland Nordteil. Muehlviertel ist part of the province (NUTS II level region) Upper Austria. Waldviertel, Weinviertel and Wiener Umland Nordteil belong to Lower Austria. The regions are situated in the north-eastern part of Austria (Map A-2). Muehlviertel, Waldviertel and Weinviertel are bordering the Czech republic, Weinviertel and Wiener Umland-Nord are bordering the Slovak Republic. In the south Muehlviertel is bordering to the agglomeration of Upper Austria's capital Linz, and Wiener Umland-Nord borders the agglomeration of Austria's capital Vienna. In the west, Muelviertel borders Bavaria, the German case study region (see chapter 2 in appendix A)

Table A-2-1

Area, Population, Density			
	Area (km^2)	Inhabitants	Density
Weinviertel	2,391	124,496	52
Waldviertel	4,614	225,865	49
Wiener Umland-Nord	2,722	271,922	100
Muehlviertel	2,659	200,705	75
Total	12,368	822,988	67
Source: Austrian Statistical Office			

With 12,368 km^2 and 822,988 inhabitants the region covers 15 % of Austria's territory and 11 % of its total population (Table A-2-1). With 67 inhabitants per km^2 density is below the Austrian average of 93. Especially the northern border regions of Lower Austria show very low density figures. Due to suburbanisation processes density in Wiener Umland-Nord, which also borders Austria's capital Vienna, is higher. The degree of urbanisation is very low, among the region's largest towns are Freistadt (6,900 inhabitants) and Perg (6,000 inh.) in the Muehlviertel region, Gmuend (6,000 inh.), Zwettl (11,500 inh.), Horn (6,200 inh.) and Krems (22.700 inh.) in the Waldviertel region, Mistelbach (10,200 inh.) and Hollabrunn (10,400

inh.) in the Weinviertel region, and Tulln (12,000 inh.) and Gaenserndorf (6,500 inh.) in Wiener Umland-Nord.

Map A-2

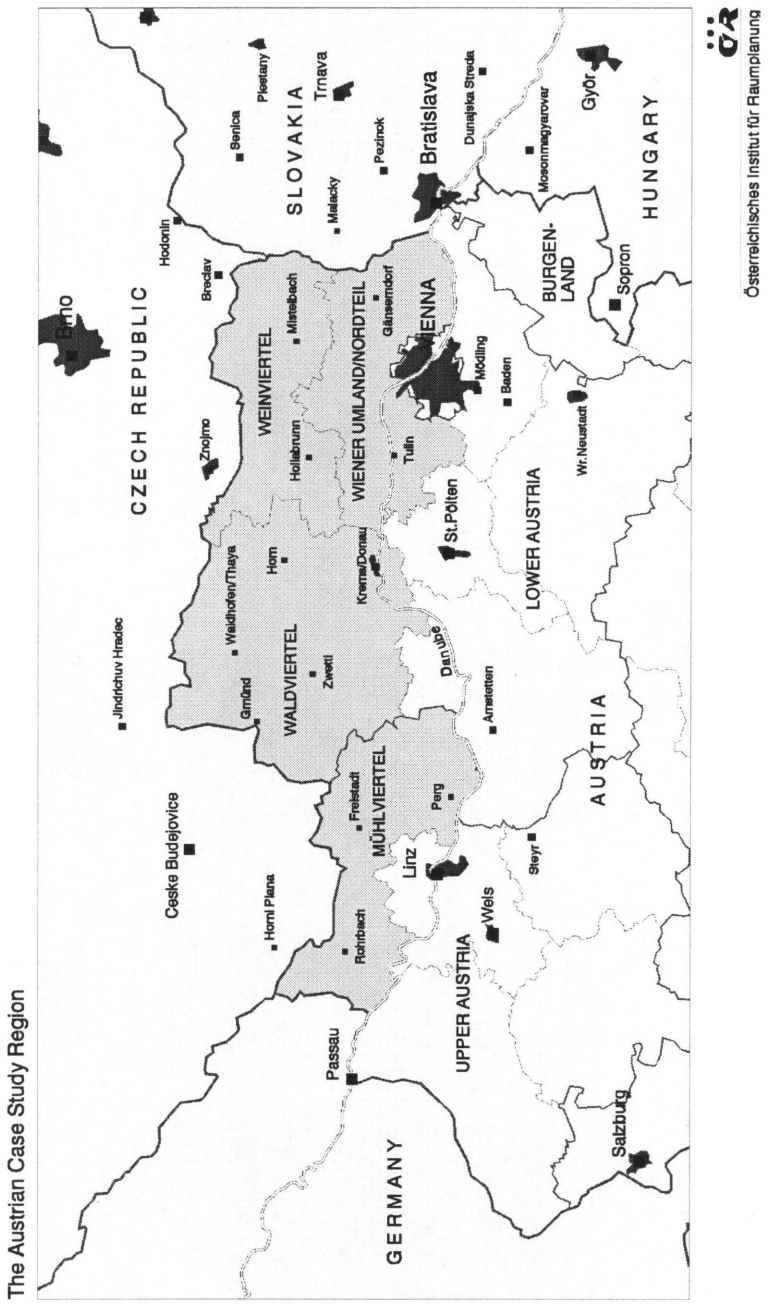


Table A-2-2:

Demographic Development and Age Structure			
	Change 1991-1998 in %	Age group 0-14 in % 1991	Age group over 60 in % 1991
Weinviertel	1.9	16.7	24.0
Waldviertel	0.8	17.7	22.6
Wiener Umland-Nord	8.5	16.7	20.5
Muehlviertel	4.8	22.4	16.4
Austria	3.8	17.4	20.1
Source: Austrian Statistical Office			

Because of out-migration and low fertility Austria's Northern border regions suffered from demographic shrinking for decades. In the 1990s the situation has stabilised. (Table A-2-2) Weinviertel and Waldviertel have been growing moderately, although below Austrian average. Population growth in Muehlviertel and Wiener-Umland-Nord (in the latter case due to the sub-urbanisation trends of the neighbouring city of Vienna) is above Austrian average in the 1990s. Most parts of the region have an unfavourable age structure with above average shares of the age group over 60 years and below average shares of young people.

Due to a strong agricultural orientation and a structurally weak industry all parts of the case study region are among the economically weakest regions of Austria. Their regional GDP figures are significantly lower than the Austrian average (Table A-2-3). Muehlviertel reaches only a little more than 50 % of Austria's GPD and is even weaker than the neighbouring Czech region South Bohemia. The figure for Weinviertel is about 60 %, and Waldviertel and Wiener Umland-Nord reach a bit more than three quarters of the Austrian average. Also in the EU context the GDP of the Austrian case study regions is (between 13 % and 39 %) below average.

Table A-2-3

GDP per inhabitant 1996		
	Austria =100	EU = 100
Weinviertel	61.4	68.9
Waldviertel	76.4	85.8
Wiener Umland-Nord	77.8	87.3
Muehlviertel	54.4	61.1
Source: Eurostat		

With the exception of the parts of the regions near Vienna the region suffers from a lack of qualified jobs. But while employment in Austria has grown by 3.6 % in the 1990s, growth

was higher in the north-eastern border regions. (Table A-2-4) The highest growth rates can be found in Wiener Umland-Nord, Weinviertel and Muehlviertel. Job growth was weaker in Waldviertel, but also above Austrian average. This trend can be seen if one looks at the period from 1990 to 1998, but also for the period 1995 to 1998.

Table A-2-4:

Employment			
	Employees 1998	%-change 1990-1998	%-change 1995-1998
Weinviertel	22,618	14.2	9.4
Waldviertel	56,733	4.3	1.9
Wiener Umland-Nord	65,362	14.5	7.2
Muehlviertel	35,949	13.7	6.5
Austria	2,916,855	3.6	1.7
Source: Social Insurance			

With the exception of the Waldviertel region the unemployment rates of the Austrian case study regions are lower than the Austrian average. (The Waldviertel region's unemployment rate is among the highest in Austria.) But – except in the Muehlviertel region – the growth of the number of unemployed has been higher than in Austria between 1990 and 1998. In the period 1995 to 1998 the number of unemployed has been reduced in Muehlviertel and grown below average in Waldviertel. In Weinviertel and Wiener Umland-Nord unemployment still has grown above average. Large parts of the region belong to the commuter catchment area of the agglomerations of Linz and Vienna. Commuting plays a very important role relieving the strain on the regional labour market.

Table A-2-5:

Unemployment				
	Unemployment rate 1998	Unemployed 1998	%-change 1990-1998	%-change 1995-1998
Weinviertel	6.3	2,864	71.9	20.2
Waldviertel	7.7	6,339	44.6	5.2
Wiener Umland-Nord	4.6	5,425	43.8	17.5
Muehlviertel	5.0	3,451	24.0	-3.7
Austria	7.0	237,795	28.5	10.2
Source: Labour Market Service				

2.1.2 Structure of the region's economy by sector

The economic structure of the case study region is characterised by relative high, above average shares of agriculture, a weak industrial basis and an underdeveloped services sector. (Table A-2-6)

Table A-2-6

Employment by sectors
1991 and 1995, %

	Primary sector		Secondary sector		Tertiary sector	
	1991	1995	1991	1995	1991	1995
Weinviertel	25.8	18.2	20.7	21.9	53.5	59.9
Waldviertel	20.9	15.4	24.3	24.1	54.7	60.5
Wiener Umland-Nord	10.3	8.7	33.4	31.0	56.3	60.3
Muehlviertel	21.4	16.9	28.0	29.1	50.6	54.6
Austria	6.3	4.9	32.2	30.3	61.6	64.8

Source: Austrian Statistical Office

Agriculture

Muehlviertel and Waldviertel suffer from unfavourable climatic and topographic conditions for agriculture. These unfavourable natural conditions do not prevent agricultural production – agriculture still is very important, but they weaken efficiency and competitiveness on the national and international scale. Small-scale farming dominates, a large part of the self-employed in agriculture are part-time farmers. On the other hand, parts of Weinviertel and Wiener Umland-Nord are among Austria's most important agricultural areas. Main products are cereals, fodder, wine and vegetables.

The number of (self-)employed in agriculture is shrinking in all parts of the case study region. The decrease in the Weinviertel region is one of the highest in Austria. The decrease mainly affects the full-time-farming, the number of part-time farmers is growing.

Industry

Despite a relative high share of manufacturing (especially in Waldviertel and Muehlviertel; Table A-2-7), the industrial basis of the border region is weak. Industrial activities are concentrated on few locations around the towns. The branch structure in manufacturing shows structural weaknesses, it is dominated by food processing (Weinviertel, Wiener Umland-Nord), textiles, metal processing and wood processing (Waldviertel, Muehlviertel), oil processing and chemicals (Wiener Umland-Nord). Industrialisation of the regions results to a significant extent from the out-migration of labour-intensive industries of the agglomerations in the 1960s and 1970s (Waldviertel, Weinviertel, Muehlviertel) and also the 1980s and 1990s (Wiener Umland-Nord). The number of large enterprises in the border region is very low. The enterprises are mainly regionally or locally oriented, linkages among enterprises in the

region, between regional enterprises and the agglomerations are very weak, international linkages almost non-existent. Productivity is below average, and due to the structure of enterprises, a lack of financial resources and innovation support infrastructure the innovative behaviour of regional enterprises is underdeveloped. While there have been job losses in textiles and clothing industries as well as in food production in the 1990s, employment has grown in wood and metal processing.

Construction plays an important role in all parts of the border region. (Table A-2-7) Shares of employment are above national average. Employment in construction is growing in SMEs, while it is shrinking in larger enterprises.

Table A-2-7

Employment[1] by selected sectors
1995, % of total employment

	Manu-facturg.	Of which:		Con-struction	Trade	Tourism
		Food processing	Textiles			
Weinviertel	22.6	8.4	1.0	15.0	28.5	6.7
Waldviertel	31.7	5.2	4.9	11.9	24.1	7.4
Wiener Umland-Nord	29.0	8.3	0.9	12.4	27.3	5.1
Muehlviertel	35.1	6.2	3.1	16.2	18.9	6.9
Austria	28.9	3.8	2.2	10.1	22.5	8.0

Source: Austrian Statistical Office, Bereichszaehlung 1995 - [1]Agriculture and public services are not included

Services

Although growing, the services sector is weakly developed in all parts of the case study region. The shares of employment in services are significantly below the Austrian average. Services are concentrated in the regional towns, in the rural areas provision of services is inadequate. Even more important is, that the services sector is dominated by retail trade, personal services and (to a lesser extent) tourism (these are also the branches that are responsible for the recent job growth), with lowly qualified jobs. (see Table A-2-7) Financial and business services still play a minor role.

Tourism is not very well developed too. There is some health tourism and excursion tourism in Waldviertel and Muehlviertel, but the (already low) number of overnight stays is decreasing. In Weinviertel and Wiener Umland-Nord there is almost no tourism. Although there is some potential, the regions lack specific tourist attractions, and the infrastructure, capacities and especially co-ordination are weakly developed yet.

2.1.3 Austria's border regions in the 1990s

Austria's north-eastern border regions are regions with low economic dynamics, dominated by agriculture, partially industrialised (with labour intensive branches) and underdeveloped in the services sector. Structural weakness, low wages, the lack of (especially qualified) jobs, lowly qualified labour force, out-migration and demographic shrinking were the characteristic features of this part of the country's territory. The eastern external borders – a political product of the 20th century - have contributed to make the former hinterland regions to peripheral regions. Functional linkages have been dissolved, cities were separated from their hinterland, economic, social and cultural relations have been disconnected.

Therefore, the opening of the Iron Curtain brought new hopes and expectations for those regions. In fact, empirical evidence shows a positive development of employment and a demographic stabilisation in the north-eastern (and eastern) regions bordering the accession countries in the 1990s. The regions could benefit from their competitive location advantages making use of wage and price differences for innovation, upgrading and modernisation. Austrian SMEs in the border regions started (for the first time in history) to employ cheap labour force abroad and to buy low cost input material from the neighbouring accession countries. These improvements took place mainly in some sectors in manufacturing and services. In agriculture and large scale industries job losses were still going on in the 1990s. Among the shrinking branches in the border regions were (beside agriculture) textiles and clothing production and food processing. Mainly affected were low income jobs and female labour force. Among the winners were wood processing, chemical industry, manufacturing of metal products, electric end electronic industry, which led to a growth of male employment in the border regions.

The so-called process of "departure from periphery" of the 1990s did not only benefit from the opening of the borders, but is also due to sub-urbanisation processes and to specific developments of single branches in manufacturing.

2.2. The contribution of SMEs to regional development

2.2.1 Share of SMEs and Employment in SMEs in the region

In terms of regions Austrian statistics do not provide very much information on SMEs according to EU-criteria. At the beginning of each decade there is the so called "Arbeitstaettenzaehlung" by Austria's National Statistical Office. The Arbeitsstaettenzaehlung counts locations/units where people are employed (also differentiated by the number of employed persons), which also includes branch plants. Therefore the units counted do not fulfil the independence criteria of the EU-definition. Regional data on sole proprietorship are not available. Additionally, the most recent data are from 1991. Regional data on annual turnover or annual balance sheets are not available in an appropriate form due to reasons of legal secrecy.

The most recent data that can give hints on the regional structure of enterprises by the number of employees come from the Chamber of Commerce. These data have been used for tables A-2-8, and A-2-10. Data were available for the Upper Austrian region for 1996 and for the Lower Austrian regions for 1999.

There are certain weaknesses concerning this data, that have to be mentioned. The first and most important is, that large enterprises with plants in more than one location are counted with all of their employees in the province (that is in this case the Laender Upper Austria and Lower Austria) at each of their single locations. That leads to an overestimation of the number of employed in large enterprises in the NUTS III regions[9] (but not at the level of the province/NUTS III regions, where this type of enterprise is counted only one time). Secondly, the data are published in a way that does not allow to categorise enterprises by EU-criteria (e.g. less than 250 employees, less than 50 employees; see tables below). Thirdly, the data do not provide information on branch structure. In the fourth place the data do not allow to produce time series. And finally, the data do not include agriculture and public services (which is of lesser importance in the given context).

Therefore, keeping in mind these weaknesses, Table A-2-8 shall serve the purpose of giving an impression of the regional enterprise structure, especially the extremely small share of

Table A-2-8

Enterprises in the case study region by number of employees[1]
1996 resp. 1999

	1-4	5-19	20-99	100-499	500 and more	Total
Weinviertel	1,869	970	218	26	1	3,111
Waldviertel	2,502	1,234	327	53	7	4,123
Wiener Umland-Nord	3,176	1,418	379	57	6	5,036
Lower Austria	19,033	9,064	2,540	450	50	31,137
Muehlviertel	2,168	1,219	290	31	3	3,711
Upper Austria	14,193	8,133	2,700	490	36	25,552
			% of total			
Weinviertel	61.0	31.2	7.0	0.8	0.1	100
Waldviertel	60.7	29.9	7.9	1.3	0.2	100
Wiener Umland-Nord	63.1	28.2	7.5	1.1	0.1	100
Lower Austria	61.1	29.1	8.2	1.5	0.2	100
Muehlviertel	58.4	32.9	7.8	0.9	0.1	100
Upper Austria	55.6	31.8	10.6	1.9	0.1	100

Source: Chamber of Commerce – [1]Lower Austria (Weinviertel, Waldviertel, Wiener Umland-Nord) 1999; Upper Austria (Muehlviertel) 1996

[9] The Chamber of Commerce in Lower Austria does not publish these data for that reason.

Table A-2-9

Enterprises in the case study region by number of employees and sector
1995, %

	1-20	21-50	51 and more	Total
		Manufacturing		
Weinviertel	89	7	4	100
Waldviertel	87	8	5	100
Wiener Umland-Nord	81	10	9	100
Muehlviertel	85	10	5	100
Austria	82	9	9	100
		Of which: food processing		
Weinviertel	92	5	3	100
Waldviertel	88	11	1	100
Wiener Umland-Nord	83	9	8	100
Muehlviertel	87	10	3	100
Austria	85	9	6	100
		..... textiles and clothing		
Weinviertel	47	37	16	100
Waldviertel	41	28	31	100
Wiener Umland-Nord	56	23	21	100
Muehlviertel	74	22	4	100
Austria	54	24	22	100
		Construction		
Weinviertel	84	12	4	100
Waldviertel	84	11	5	100
Wiener Umland-Nord	87	10	3	100
Muehlviertel	86	7	7	100
Austria	85	10	5	100
		Trade		
Weinviertel	96	3	1	100
Waldviertel	95	4	1	100
Wiener Umland-Nord	95	3	2	100
Muehlviertel	96	3	1	100
Austria	94	4	2	100
		Tourism		
Weinviertel	99	1	0	100
Waldviertel	98	2	0	100
Wiener Umland-Nord	98	2	0	100
Muehlviertel	99	1	0	100
Austria	97	2	1	100
		Banking and insurance		
Weinviertel	47	37	16	100
Waldviertel	41	28	31	100
Wiener Umland-Nord	56	23	21	100
Muehlviertel	74	22	4	100
Austria	53	20	27	100
		Transport and telecommunication		
Weinviertel	95	5	0	100
Waldviertel	93	6	1	100
Wiener Umland-Nord	92	7	1	100
Muehlviertel	94	5	1	100
Austria	93	5	2	100

Source: Austrian Statistical Office, Bereichszaehlung 1995

large enterprises in the case study region. It shows that (although as mentioned above, the data overestimate the share of large enterprises) the share of enterprises with 100 and more employees only accounts for 0.9 % to 1.5 %. %. In fact, it must be supposed that the actual share of large enterprises is significantly smaller in the case study region.

In 1995 the Austrian Statistical office held the so-called Bereichszaehlung counting self-employed and employees (excluding agriculture and the public sector). These data can give insight in sectoral structures by the number of employed persons (OIR 1998). These data have been used for A-2-9, choosing selected sectors/branches of relevance for the case study region.

It shows the dominance of small enterprises in manufacturing in the case study region. There are only between 4 % and 9 % of the enterprises with more than 50 employed persons. The share of enterprises with less than 21 employed persons amounts for 81% - 89 %.

In food processing the role of small enterprises is even more dominant. Shares of small enterprises are higher than in overall manufacturing, especially in the Weinviertel region, where this is an important branch.

The textiles and clothing branch shows a different structure. The shares of large enterprises are higher than in overall manufacturing, but still the most important group are enterprises with less than 21 employed persons.

The structure in construction is similar to manufacturing. Shares of enterprises with more than 50 employed persons are below 10 %, shares of enterprises with 20 and less employed persons are above 84 %.

Tourism as well as trade show the most significant small-scale structure of all branches. In tourism there are no enterprises with more than 50 employed persons in the region, and in trade their number is extremely small.

Banking and insurance shows a distinctive different structure than the other branches, large enterprises play a stronger role in this field. But with the exception of the Waldviertel region, the share of larger enterprises is below the Austrian average.

A distinctive small scale structure – comparable to tourism and trade – can be found in transport and telecommunication. There are almost no enterprises with more than 50 employed persons.

A list of large enterprises of the Austrian Labour Market Service from 1997 provides additional information (OIR 1998). According to this list (which includes the public sector) the number of enterprises with more than 250 employees amounts for 17 in the Waldviertel region (11 manufacturing and construction, 6 services), 2 in the Weinviertel region (both of them are public hospitals), 17 in Wiener Umland-Nord (13 manufacturing and construction, 4 services) and 12 in the Muehlviertel region (8 manufacturing and construction, 4 services). Most of the large services enterprises belong to administration and the public health sector.

In spite of the mentioned weaknesses of the data the evidence is clear that economic performance and development of Austria's north-eastern border regions is explicitly linked to the activity of its SMEs.

2.2.2 Employment in SMEs

For this section the same data sources have been used than in the previous one. Table A-2-10 has been produced from data of the Chambers of Commerce of the provinces Upper and Lower Austria (see above). A-2-11 use the Bereichszaehlung of Austria's Statistical office as source

In spite of the overestimation of employment in large enterprises their share is smaller in the case study regions than in the relevant NUTS II regions, where it is nearly 40%. The share of employees in enterprises with 100 and more employees accounts for 21.2 % in the Weinviertel region, for 24.4 % in the Muehlviertel region, for 34.5 % in the Waldviertel region and for 36.4 % in Wiener Umland-Nord. Due to the limitations of the quality of the Chambers' data (see section 3.2.1) the actual share of employees in large enterprises is supposed to be significantly smaller in the case study region than Table A-2-10 shows.

Table A-2-10

Employed persons in the case study region by number of employees[1]
1996 resp. 1999

	1-4	5-19	20-99	100-499	500 and more	Total
Weinviertel	3,799	8,730	8,628	4572	1,138	26,867
Waldviertel	5,012	11,192	12,608	9,924	5,220	43,956
Wiener Umland-Nord	6,144	12,685	15,131	10,974	8,402	53,336
Lower Austria	37,662	81,760	101,505	89,904	56,089	366,920
Muehlviertel	4,416	11,167	10,436	5,764	2,646	34,411
Upper Austria	29,276	75,293	105,189	96,538	40,665	346,961
			% of total			
Weinviertel	14.1	32.5	32.1	17.0	4.2	100
Waldviertel	11.4	25.5	28.7	22.6	11.9	100
Wiener Umland-Nord	11.5	23.8	28.4	20.6	15.8	100
Lower Austria	10.3	22.3	27.7	24.5	15.3	100
Muehlviertel	12.8	32.5	30.3	16.7	7.7	100
Upper Austria	8.4	21.7	30.3	27.8	11.7	100

Source: Chamber of Commerce – [1]Lower Austria (Weinviertel, Waldviertel, Wiener Umland-Nord) 1999; Upper Austria (Muehlviertel) 1996

Data source for Table A-2-11 again is the "Bereichszaehlung " of Austria's Statistical Office. The tables provide information about the sectoral employment in SMEs, although the size categories used are not compatible to EU definitions (OIR 1999). There is a broad category

counting employed persons in enterprises with 51 – 300 employees, and another category for enterprises with 301 and more employees. In spite of these limitations also these tables show the minor role of large enterprises in the case study region in the relevant sectors.

In manufacturing there is an above average share of employed persons in small enterprises (below 51employees) in all parts of the case study region. Especially in Weinviertel (63%) and Muehlviertel (50 %) their share is very high. Compared to Austria large enterprises (more than 300 employees) play a minor role. In Weinviertel region there are no such enterprises, in the Wiener Umland-Nord and Muehlviertel regions their share is below average. The only exception is the Waldviertel region, where the share of large enterprises is 35 %, - the same as in Austria as a whole. On the other hand the share of small enterprises is 10 points higher (41%) in the Waldviertel region than on the national level.

With the exception of the Wiener Umland-Nord region employment in enterprises with more than 300 employed persons plays a minor role or is non existent in the food processing branch. In all other parts of the case study region 50 % and more of the employed work in enterprises with 20 and less employed persons.

While 69 % of Austria's employees in textiles and clothing work in enterprises with more than 300 employed persons, in the case study region there are no such enterprises. But in this branch medium sized enterprises play a larger role than in overall manufacturing in the north-eastern border regions.

In construction in the Weinviertel and Wiener Umland-Nord regions 70% resp. 78% of the employed have their jobs in enterprises with less than 51 employees. There are no enterprises with more than 300 employees in these regions. Also in the Waldviertel region the share of small enterprises is above the Austrian average (but to a lesser extent), while the share of large enterprises is below average. In Muehlviertel region there is a different structure of the construction branch: the share of small enterprises is smaller than on the national level (it is still the most important group concerning employment), the share of large enterprises exceeds the national average.

Also in trade structures the picture is not homogenous. While the Wiener Umland-Nord region shows a similar structure to Austria as a whole with nearly 20 % employees in large enterprises (supposedly due to sub-urbanisation processes, for the region borders the city of Vienna) , the other parts of the case study region show a clearer small-scale structure.

Similar as on the national level but more significant the tourism sector shows a small scale structure without large enterprises in the north-eastern border regions.

There is a significant difference between the structure of the banking and insurance branch on the national level and on the level of the case study region. The regional structure is dominated by medium sized enterprises, on the national level 70 % of the employed persons work in enterprises with more than 300 employees.

Table A-2-11

Employed persons in the case study region by number of employees and sector
1995, %

	1-20	21-50	51-300	301 and more	Total
			manufacturing		
Weinviertel	44	19	37	0	100
Waldviertel	26	15	24	35	100
Wiener Umland-Nord	21	13	43	22	100
Muehlviertel	32	18	31	19	100
Austria	19	12	34	35	100
			Of which: food processing		
Weinviertel	57	13	30	0	100
Waldviertel	50	33	17	0	100
Wiener Umland-Nord	21	9	31	39	100
Muehlviertel	51	27	7	15	100
Austria	33	17	36	14	100
			..... textiles and clothing		
Weinviertel	18	46	36	0	100
Waldviertel	11	21	68	0	100
Wiener Umland-Nord	15	31	54	0	100
Muehlviertel	38	38	24	0	100
Austria	5	9	17	69	100
			Construction		
Weinviertel	43	27	30	0	100
Waldviertel	36	23	32	9	100
Wiener Umland-Nord	48	30	22	0	100
Muehlviertel	34	13	35	18	100
Austria	36	21	29	14	100
			Trade		
Weinviertel	60	14	26	0	100
Waldviertel	52	18	22	8	100
Wiener Umland-Nord	48	16	17	19	100
Muehlviertel	71	17	13	0	100
Austria	44	14	23	19	100
			Tourism		
Weinviertel	90	4	6	0	100
Waldviertel	78	13	8	0	100
Wiener Umland-Nord	83	11	6	0	100
Muehlviertel	91	9	0	0	100
Austria	72	14	12	2	100
			Banking and insurance		
Weinviertel	18	46	36	0	100
Waldviertel	11	21	68	0	100
Wiener Umland-Nord	15	31	54	0	100
Muehlviertel	38	38	24	0	100
Austria	5	9	17	70	100
			Transport and telecommunication		
Weinviertel	72	28	0	0	100
Waldviertel	59	30	11	0	100
Wiener Umland-Nord	58	29	13	0	100
Muehlviertel	52	16	9	23	100
Austria	18	7	12	63	100

Source: Austrian Statistical Office, Bereichszaehlung 1995

The transport and telecommunication sector shows a clear dominance of small enterprises, not only by their number, but also if one looks at the number of employed persons.

According to the list of large enterprises of the Austrian Labour Market Service from 1997 in the Waldviertel region there are 10,415 persons employed in enterprises with more than 250 employees (6,645 manufacturing and construction, 3,770 services). The numbers for the other parts of the case study regions are: Weinviertel region 1,590 employees in 2 public hospitals, Wiener Umland-Nord 7,647 (5,855 manufacturing and construction, 1,792 services), and Muehlviertel region 6,415 (4,735 manufacturing and construction, 1,680 services). For this data include the public sector, the employed in the services sector almost entirely belong to administration and public health services (OIR 1998).

Also in terms of employment the data clearly show the region's dependency on the activity of its SMEs.

2.2.3 Markets, exports and linkages – a new situation in the 1990s

Concerning markets, exports and linkages the situation for SMEs in the study region has changed significantly in the previous decade. Looking at Austria in total it have been two processes that transformed the framework conditions for Austrian enterprises in the 1990s, creating a situation quite different from that of the previous decades: Austria's EU-accession and the fall of the iron curtain. Focussing at the SMEs in Austria's north eastern border regions the impact of the opening of the borders of the neighbouring CEEC without any doubt has been the most important influence.

In the case study region the impact of Austria' EU-accession mainly concerned agriculture and to some extent the food processing industry, where the already ongoing process of shrinking has been slightly accelerated. The new opportunities related to the EU-membership were of minor importance to the mostly locally oriented SMEs of the border region. On the other hand due to its structural weakness the study region achieved the opportunity to take part in Structural Funds programmes. Waldviertel, Weinviertel and Muehlviertel (but not Wiener Umland-Nord) have almost totally been eligible to the Objective 5b of the EDRF. Parts of the study regions could benefit of the participation in Community Initiatives such as RETEX (parts of Waldviertel), LEADER II (parts of Waldviertel, Weinviertel and Muehlviertel) and INTERREG IIIA (Waldviertel, Weinviertel, Wiener Umland-Nord and Muehlviertel).

The opening of the borders of the neighbouring CEEC has brought on one hand certain threat potentials on the other hand new growth potentials for the SMEs in the case study region. The most important threat potential refers to the loss of the traditional comparative location advantage of the region in the international and in the inner-Austrian division of labour: the supply of young, lowly qualified (to a large extent female) relative cheap labour force. The industrialisation of the case study region results to a significant extent from the movement of enterprises from the agglomerations in the 1960s and 1970s because this location factor. This advantage has been abolished, the neighbouring countries and regions are able to provide a

much larger amount of similarly qualified labour force accepting distinctive lower wages than Austrian employees. The most important growth potential refers to the new chance for traditionally locally/regionally oriented and weakly export oriented SMEs to make use of the possibilities of the new international division of labour (in the immediate neighbourhood) and new product and labour markets for the first time in history.

Especially, the expansion of labour markets for regional SMEs was an important effect of the transition period. Employment of non-nationals in the north-eastern border regions and cross border migration of commuters played a minor role due to the restrictions of the movement of people before 1990. Target regions of the migrant workers were the agglomerations and tourist regions of western Austria. In the transition period commuting between Austria and its CEEC neighbours has become an important factor, especially in the border regions. (OIR, 2000a) In some of the Czech border regions more than 10% of the regional labour force are registered as commuters to Austria. Also for commuters of Slovakia Austria has become the most important target beside the Czech Republic. The share of non-nationals in employment has risen in the 1990s and in some parts of the region even exceed the national average. Most of the commuters are occupied in traditional migrant branches of the economy: such as construction, retailing and tourism. Effects on employment and wages in Austrian border regions are limited so far, although there is some pressure on weaker groups on the regional labour markets (especially migrants already living and working in Austria).

Regional SMEs reacted with 4 types of adjustment strategies to the new situation in the 1990s (Baum, Rammer 1999):

- Innovative adjustment strategy: keeping competitiveness by raising productivity and improving product quality;
- Organisational adjustment strategy: closing down or giving up non-competitive activities
- Spatial adjustment strategy: partial or complete movement of activities from the border regions to CEEC
- Market expansion strategy: making use of new markets in immediate proximity and relative low transaction costs (supply markets for cheap raw materials as well as new sales areas in the neighbouring CEEC).

Supposedly, most SMEs chose a combination of these strategies. For there is no empirical evidence on the behaviour of SMEs in the case study region in the transition period, conclusions have to rely on the interpretation of analyses of sectoral employment data for the region and interviews with selected enterprises and regional Chambers of Commerce that have been carried out in several studies (OIR 1997; Baum, Rammer 1999; Regional Consulting 1999). Because of the evident dominance of SMEs in the case study region (see sections 3.2.1 and 3.2.2) sectoral results are of exceptional relevance for the development of the regional SME sector. The studies come to the following results concerning sectoral development in the case study region between 1990 and 1997/8:

- A reduction of employment by almost two thirds has taken place in low wage, labour intensive branches such as textiles and clothing production with a high share of female employees. The drastic reduction of employment in this former regionally leading segment is due to closing down of enterprises and restructuring by reduction of jobs. This sector has been dominated by branch plants of international enterprises or enterprises with their headquarters in the Austrian agglomerations. Spatial and organisational adjustment have been the most important strategy in that area.
- Employment has also been decreasing in resource intensive branches such as food processing and oil processing. These branches have not so much been affected by the opening of the borders, the shrinking processes are mainly due to organisational adjustment strategies because of decreasing raw material prices (oil processing) and restructuring of the agro-food sector as a consequence of EU-accession.
- Employment has grown in human capital intensive branches such as electric and electronic manufacturing and chemical industries. Although this sector still is weakly represented in the case study region, single important enterprises have chosen the innovative adjustment strategy making use of relative cheap qualified labour force and integrating in western European oriented supplier networks.
- The most significant job growth has taken place in the regionally important labour intensive, service oriented production branches such as wood processing, production of furniture, car repair and construction. The mostly very small enterprises of this segment have made use of comparative advantages to increase their shares on the internal market by using of cheap migrant labour force and the relative closeness to the agglomerations. There is also evidence that the enterprises have started to engage in export activities to the neighbouring countries.
- The number of jobs has also grown in certain branches of the services sector, especially tourism and retail trade.
- The decrease of employment in the case study region can be exclusively attributes to the decline in externally controlled branch plants, while there has been job growth in regional enterprises.
- Employment has grown in enterprises with less than 50 employees as well as in enterprises with more than 500 employees.
- Employment has decreased in branches with a high share of female labour force (textiles and clothing), while a job growth has taken place in branches dominated by male labour force (printing, processing of metals, processing of wood, construction). Many of the enterprises of the latter segment are specialised and export-oriented. A part of the female labour force found new jobs in the growing branches of the services sector.

There is not yet very much empirical evidence on the changing behaviour of the regional SMEs, especially the above mentioned small enterprises that started to make use of the specific location advantages in the 1990s. In the context of an INTERREG II A project dealing with a needs analysis for an the planned establishment of an East-West-Economic-Centre (offering support for cross border activities of SMEs) 545 Austrian enterprises in the north-eastern border region with less than 300 employees have been questioned about their

cross-border activities and expectations. (Regional Consulting 1998) The results show that 21% already have started such activities and another 15 % were interested. The most important motives are entrance to new markets (including labour markets), gaining additional market potentials and reduction of costs. The types of co-operation include sub-contracting, licensing and production partnerships, and - to a lesser extent - different types of direct investment (joint ventures, acquisition of enterprises in the neighbouring countries). Starting of new enterprises plays a minor role. In most cases the co-operation partners are SMEs in a distance less than 100 km.

43% of the questioned enterprises showed no interest in cross-border activities. The main reasons for the lack of interest are economic instability in the accession countries, the lack of qualified labour force, insufficient infrastructure, bureaucracy, and lack of information. The lack of information concerning chances of and conditions for cross-border activities has been considered as the most important result of this study, for this problem has been named as well by the already active enterprises as well as by the other group.

While the public discussion mainly concentrates on the dangers and threats resulting from the opening of the eastern borders (loss of traditional location advantages, job losses, pressure on wages etc.), obviously there is also evidence that the border regions could benefit from newly achieved advantages. The structural development in the 1990s shows signs of stabilisation and improvement of the economic situation. Not all of theses developments can be reduced to effects of the fall of the iron curtain. Also important were branch specific trends (for example growth of construction and related branches such as wood processing) and a trend sub-urbanisation and decentralisation. Certain SMEs of the border regions could also successfully compete with enterprises of the agglomerations because of lower prices and relative proximity.

2.3. Possible channels of an impact of EU enlargement on the region

The global impact of EU enlargement on Austria will depend very much on the way the process will be scheduled. (OIR/WIFO, 1998) The growth impulse of an early accession of the neighbouring CEEC (2004) will have a positive impact on Austrian enterprises even in the pre-accession years. The process is supposed to enhance the structural change of upgrading and investments, because of the CEECs' need to import investment goods and infrastructure. A job growth is expected in this scenario, while the effects on wages are supposed to be limited. Growth limitations may result from budgetary and balance of payment restrictions on the CEECs' side. For the years after accession (2004) an ongoing growth process for the Austrian economy is expected. The balance of payment restrictions will be minimised and the new member states will be able to import investment goods partially financed by EU-transfer. On the other hand due to the liberalisation of labour force migration there is supposed to be an inflow of (cheap and qualified) labour force to Austrian regions. While employment in total will grow, there are expected to be certain replacement processes in specific segments of the labour market. The process might lead to growing unemployment and decreasing wages.

In an accession scenario 2006 (including interim regulations) the growth impact on the Austrian economy in the pre-accession years is supposed to be weaker. This is mainly due to a slower and possibly delayed process of investment in the CEEC. Additionally, because CEEC will not have to fulfil EU-standards for some more years, competition of Austrian enterprises with sub-standard productions of the neighbouring countries will persist longer. Also after accession the growth effects for Austrian enterprises will be slightly weaker (compared to the previous scenario) due to a slower process of restructuring in the new member states. Because of interim regulations enterprises in the neighbouring CEEC will be able to benefit from competitive advantages. On the other hand the impact on labour markets and wages will be significantly weaker also due to interim regulations.

A later EU-accession (2010 + without interim regulation) will weaken the impulse of investment in the neighbouring CEEC and also the growth effects on the Austrian economy in the pre-accession period. The (from the Austrian view) unfavourable competition with sub-standard production from the accession countries will last at least 4 to 6 years longer 8 (than in the other scenarios). Also after accession the growth effects for Austrian enterprises will be significantly weaker than in the other scenarios due to a delayed process of investment in the CEEC. The inflow of migrant workers is supposed to be smaller than in the first scenario because of rising income in the neighbouring countries, although the inflow possibly could be higher than in the second scenario due to slower economic growth in the neighbouring countries.

The findings show that positive economic effects on Austrian enterprises can be expected as a consequence of EU enlargement. But the intensity of these effects will decrease with a longer duration of the accession process, and there is a significant need for adjustment and restructuring (on both sides of the border). More important in the given context is the fact that the way Austrian regions will be affected by the EU-accession of the neighbouring countries will differ distinctively.

Because of a human capital intensive branch structure and low shares of labour and resource intensive productions the Austrian cities are supposed to benefit most from an EU-accession of the neighbouring CEEC. Due to their location advantages concerning exports the cities will be among the winners, especially in the early integration phase. During the process of catching up of the new member states the advantages of the cities might decrease slightly, but because of their evenly distributed branch structure no major problems of adjustment are expected. Negative effects might occur because of the concentration of immigrant workers in the cities, which will expect the greatest variation of job opportunities here. Additional pressure on the cities' labour markets will possibly result from enhanced commuting from the rural regions, where cross-border commuters from the neighbouring countries replace local employees.

Potential dangers are higher for the central regions around and near the cities (a smaller part of the case study region belongs to that category), where beside technology oriented branches there are also energy intensive branches and branches with a need for larger areas. The threat potential mainly concerns the energy intensive productions. But because of their mixed branch structure, their good infrastructure and their proximity to the new member states there

is potential for growth and economic upgrading by making use of the possibilities of a vertical division of labour and expanding to new markets. Because of the important role of (high quality) retail trade in those regions they will also benefit from an inflow of purchasing power from the accession countries in the first years after enlargement (although this advantage will decrease during the process of catching up). An inflow of migrant workers from CEEC is expected in the central regions, but this will cause no major problems on the regional labour markets.

The peripheral and structurally weak border regions (the case study regions mostly belong to that category) already experienced the loss of their traditional location advantages for labour intensive productions to the new competitors in neighbouring CEEC in the 1990s. (see section 2.3) Mainly affected were textiles, clothing and leather production with a high share of female labour force. On the other hand there is also evidence that small locally based enterprises in certain service oriented production branches (such as wood processing, car repair, construction) and services could make use of newly achieved location advantages expanding their (traditionally very narrow) action radius across the borders. To some extent this led to an restructuring and upgrading of the local economy (some experts even speak of a process of catching up of the border regions).

Supposedly, the enlargement of the EU will have very much the same effects on the border regions. The already ongoing shrinking of labour intensive, low wage productions will continue. Most of the enterprises that had came to the peripheral regions in the 1960s and 1970s will move to regions with cheaper labour force (in the CEEC and elsewhere). One possibility to contain this process is to change those branch plants into flexibly specialised suppliers. The impact of enlargement on the small enterprises that successfully adapted to the new situation in the 1990s is not yet clear. Their growth potential will very much depend on the development of competition with similar suppliers from the CEEC and the way these enterprises will enter the Austrian (regional) market. Some expect that the competitive advantages of the CEEC enterprises in that segment of the economy (lower wages, good qualifications, proximity) will bring the growth process of Austrian enterprises to an end. (Baum, Rammer 1999; OIR 1998) Some expect that at least a part of these enterprises will be able to expand by making use of a mix of innovative adjustment , spatial adjustment and market expansion strategies. (OIR 1997) Motivated by the entry of new competitors some of them will try to keep competitiveness by raising productivity and improving product as well as service quality. Some enterprises will make use of the possibility of a vertical division of labour, by keeping up or upgrading human capital intensive activities at the Austrian location and moving low wage activities to the neighbouring CEEC regions. Some will make use of new markets in immediate proximity and relative low transaction costs (supply markets for cheap raw materials and labour force as well as new sales areas in the neighbouring CEEC).

Evidently, the future development of the case study region's economy after EU enlargement will depend strongly of the innovative behaviour of its SMEs, especially its small enterprises. Although there is not very much empirical evidence on that subject, there are signs that regional SMEs successfully started to adapt to the new situation in the 1990s. To keep competitive and to be able to make use of the new possibilities also after enlargement it will be necessary to build up a specific support infrastructure (and to adapt existing

infrastructures) targeting at the needs of SMEs in the border region. The lack of information has been named as the main hindrance for regional SMEs to start cross-border activities such as establishing enterprise co-operations, building up of production sales and networks etc.

2.4. Conclusions

The case study region is dominated by SMEs, large enterprises play a minor role also in terms of employment. After the fall of the iron curtain in the 1990s the region experienced a loss of its traditional location advantages for low wage production to new competitors in the neighbouring CEEC. In regionally important branches such as textiles, clothing and food processing there have been significant job losses due to closing down and an outward movement of branch plants. On the other hand there has been job growth in regional small enterprises that made use of new location advantages, branch trends and sub-urbanisation effects.

As well as the opening of the borders EU already had, EU enlargement will have sector specific effects in the case study region. It will affect the labour intensive, low wage sectors very much the same way as the fall of the iron curtain already did. Shrinking and outward movement of enterprises will continue, supposedly this process will be intensified. Further growth in small enterprises in the sectors that have grown in the 1990s (service oriented small scale production and services) will depend on the innovative behaviour of the enterprises. The accession of the bordering CEEC will enable enterprises of the neighbouring regions (which have a similar structure as the case study region) to enter the Austrian markets, because bureaucratic hindrances will be abolished. The CEEC enterprises will be able to benefit from lower wages and lower prices for their products and services. The future success of regional small enterprises will depend on their ability to adjust to the changing conditions by upgrading and expanding their activities.

The distinctive effects that have to be expected in the case study region will differ from effects in other regions, mainly because of the regional branch structure. Growth effects for Austrian enterprises as a consequence of enlargement are expected for human capital intensive and technology intensive sectors and high quality production oriented services. This type of enterprise is situated in agglomerations, which therefore will benefit most, and very weakly represented in the case study region.

Also size specific effects are closely related to sector specific effects. Medium and larger enterprises have been affected more negatively from the opening of the borders, because these are (were) mainly the already mentioned branch plants in low wage branches. It were especially the small enterprises that started to make use of the new advantages.

The case study region's specific structure that has traditionally been composed of small regionally oriented enterprises and branch plants of external enterprises plays an important role in terms of the enterprises' adjustment to the new conditions. External actors are responsible for decisions concerning the strategy for the branch plants. Usually, having to make use of differences in location advantages, they decide against the region, if it is more advantageous to relocate the activities. As a consequence this (former important) sector of the

regional economy has been already shrinking in the 1990s and will play only a small role after EU enlargement. The small enterprises were oriented at local markets in a peripheral region without outward linkages (neither to the agglomerations and - of course – nor to the regions on the other side of the iron curtain). Therefore they have been completely unexperienced in cross-border co-operation, licensing, building up enterprise networks etc. So it came more or less as a surprise to most of the experts that a remarkable share of this type of enterprise successfully started this kind of activity in the 1990s after the opening of the borders. After enlargement these small enterprises will have to face new competition. Because of the mentioned lack of experience and information the SMEs of the case study region will need a specific support infrastructure (mainly but not exclusively referring to cross border activities) to be able to adjust and to compete in the future.

In general, there are no specific adjustment needs for Austrian enterprises related to EU enlargement, for structural innovation policies are considered as a necessity with or without enlargement. The Austrian policy framework (on the national level as well as on the level of the provinces) offers a broad range of support for SMEs in terms of innovation and upgrading. Structural funds play an important role for the case study region. Almost the entire case study region (with the exception of the sub-urbanised parts of Wiener Umland-Nord) are eligible to the new Objective 2 of the EDRF. In terms of enlargement the INTERREG III community initiative (especially INTERREG IIIA) will be of specific importance. While the cross border activities in the framework of INTERREG IIA mainly focussed on tourism and culture, the new program has been upgraded significantly in terms of regional innovation policy. Austria decided to use the program to prepare the regions for the challenges of enlargement, putting more weight on supporting regional SMEs in building up co-operation structures with enterprises in neighbouring regions. Building up of supporting infrastructures for SMEs in border regions and improving existing institutions will be one of the central objectives of INTERREG IIIA. The complete case study region will be able to benefit from INTERREG IIIA.

References

Baum, Josef and Christian Rammer (1999): Regionaloekonomische Entwicklung der Ostgrenzgebiete. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (1995): Handbuch der Regionen - Niederoesterreich. Commissioned by Bank Austria. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (1995): Handbuch der Regionen - Oberoesterreich. Commissioned by Bank Austria. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (1997): Grenzregionen an der europaeischen Wohlstandskante – Die oesterreichische EU-Aussengrenze. Commissioned by the Austrian Federal Chancellery. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (1998): Regionalbericht 1997. Commissioned by the Austrian Federal Chancellery. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR)/ Oesterreichisches Institut fuer Wirtschaftsforschung (WIFO) (1998): Regionale Auswirkungen der EU-Integration der MOEL. Commissioned by Austrian Conference on Regional Planning. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (1999): Ost-West-Wirtschaftszentrum. Soziooekonomische Rahmenbedingungen und absehbare Entwicklungstendenzen. Commissioned by Technology Impulse Ltd. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (2000a): Danube Space Study. Regional and territorial aspects of development in the Danube countries on the European Union. Commissioned by the European Commission DG XVI. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (2000b): Austria - Slovakia. Interreg IIIA – Phare CBC Joint programming Document. Draft. Commissioned by the Austrian Federal Chancellery. Vienna

Austrian Institute For Regional Studies and Spatial Planning (OIR) (2000c): Austria – Czech Republic. Interreg IIIA – Phare CBC Joint programming Document. Draft. Commissioned by the Austrian Federal Chancellery. Vienna

Regional Consulting (1998): Ost-West-Wirtschaftszentrum. Marktanalyse. Commissioned by Technology Impulse Ltd. Vienna

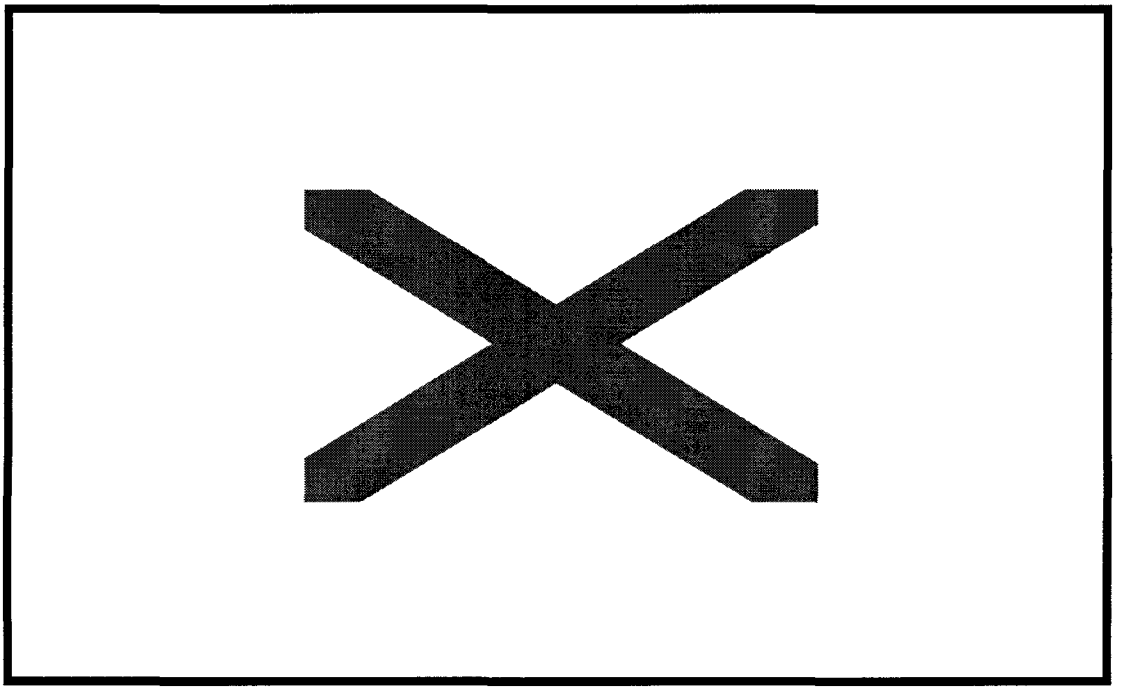
3. Scotland

3.1. Description of the region

3.1.1. Economy and employment

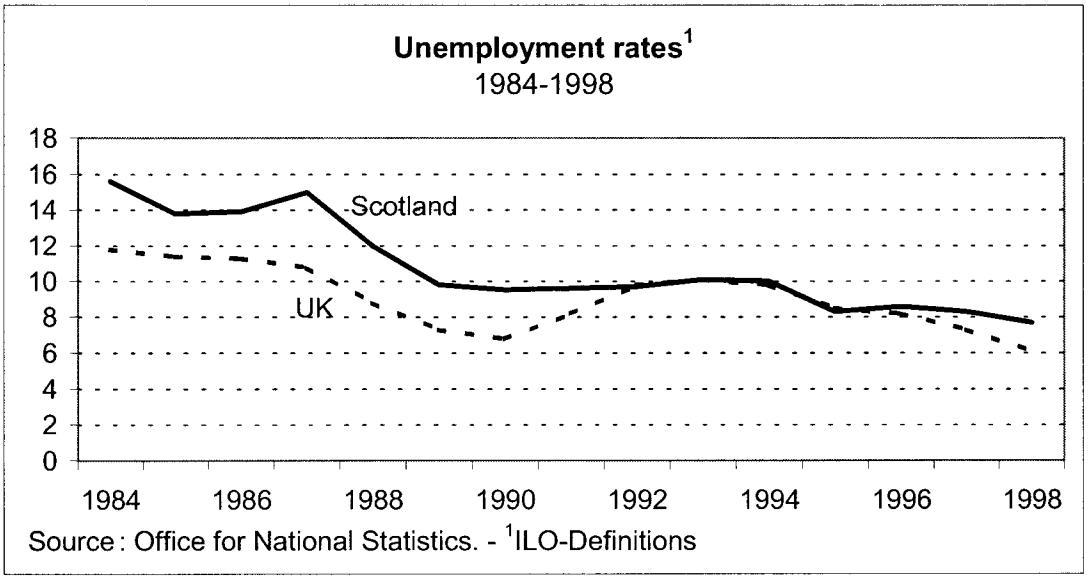
Despite the relatively small size of its population (only 5.1 million) and an economic record which has trailed behind the national average over the past few decades, the performance of the Scottish economy has shown strong improvement through the 1990s. In 1997, Scottish GDP was estimated to be £56.2 billion (at current prices), accounting for 8.3 % of UK GDP as a whole (Storie and Horne, 1999). Relative changes in prosperity can be approximated using per capita income figures: as a share of the UK average, Scottish GDP per head increased from 92.3 % in 1989 to 98.9 % in 1995, dipping again to 95.5 % in 1997 (Figure A.1.1). This has reinforced the widespread perception that the Scottish economy has been growing faster than the country as a whole.

Figure A-3-1.



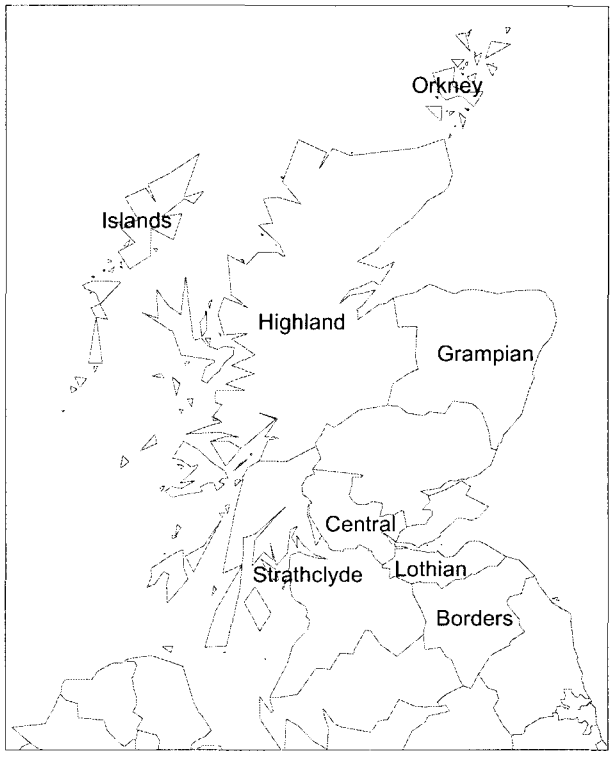
Such growth is reflected in Scotland's unemployment performance (Figure 2). Unemployment fell in Scotland from 15 % in 1987 to just under 8 % in 1998 (Storie and Horne, 1999). Although the rate has traditionally been higher in Scotland than the UK as a whole, the differential declined over the same period, so that between 1992 and 1995, the Scottish unemployment rate was the same or less than the UK rate. While the Scottish figure has risen above the UK again in recent years, Scottish unemployment has continued on a downward trend.

Figure A-3-2



The relative strength of the Scottish economy in recent years contrasts with a longer prolonged period of decline. The region divides into a series of sub-regional economies, each of which have been weakened by deep structural problems (see attached map). As a result of greater global competition in its core industries, the Central Belt area – surrounding the Glasgow-Edinburgh axis (Strathclyde, Central and Lothian regions) and containing the bulk of Scotland's population and economic activity – has suffered from several decades of contraction in traditional manufacturing, notably shipbuilding, iron and steel production, and coal mining. The nature of the area's industries has meant that Scotland's enterprise structure has historically been skewed towards large firms, with the attendant risk of dependence on the fortunes of individual companies. Decline within traditional economic activity has also affected the southern, more rural areas of the Borders and the South West (in this case, textiles and clothing). By contrast, the northern part of Scotland – the Highlands & Islands – has been characterised by underdevelopment, dependence on rural activities and peripherality (in terms of low population densities and large distances to key markets). As a result, much of Scotland was designated under the Structural Funds, including an Objective 1 status for the Highlands & Islands, Objective 2 for western and eastern parts of the Central Belt, and Objective 5b in the Borders (as described in more detail below).

Map A-3
Scotland by Regions



In spite of the overall economic difficulties in the region, there has always been continuity in some strong industrial activities. The food and drink sector in Scotland has remained relatively robust – in export as well as employment terms – throughout the period of decline, especially whisky. The location of substantial local banks in Edinburgh has helped to sustain a significant financial services sector with competitive strengths in pensions, insurance and specialist financial services. Lastly, tourism has been a persistent source of employment, particularly in the rural parts of Scotland.

Nevertheless, there is considerable evidence that much of Scottish industry has experienced a recent revival over the last few decades. Local pockets of industrial growth have emerged, most notably the concentration of oil and gas activity in the Grampian area taking advantage of North Sea resources. A gradual shift in the region's economic development strategy, following the increasing transfer of policy autonomy to regional-level agencies (particularly the Scottish Development Agency, and its successor, Scottish Enterprise), has also been partly responsible for new areas of growth. This is perhaps most visible in the region's successful inward investment promotion strategy, which has resulted in creating a concentration of foreign-owned producers and local suppliers in the electronics industry. Based largely in the Central Belt (the so-called 'Silicon Glen'), electronics investment has made Scotland the leading production area for PCs and one of the main sources of semiconductors manufacturing in Europe. Both oil and gas and electronics industries have consequently emerged as two of the main providers of employment and output in Scottish industry in recent

decades. Moreover, the benefits of an active regional development agency, Scottish Enterprise, may well be reinforced by the current shift of more policy responsibilities to Scotland as a result of devolution.[10]

This economic growth has largely been localised, resulting in significant disparities within Scotland. For example, Grampian (where oil and gas activity is centred) has had per capita incomes substantially above the UK average (Table A-3-1). Incomes were also relatively high in the city of Glasgow and Edinburgh, but by contrast remained low in the more rural areas such as much of the South West and (particularly) the Highlands & Islands.

Table A-3-1

Sub-regional per capita incomes 1996, UK = 100	
Scotland	97
Grampian	132
Lothian/Borders	102
- City of Edinburgh	145
Strathclyde/South Western Scotland	88
- City of Glasgow	117
Highlands & Islands	77
Source: Office for National Statistics.	

3.1.2. Industrial structure

Scotland's competitive strengths are concentrated in a handful of industries, but they have had a key role in improving the Scottish economy overall. One measure of relative competitiveness is manufacturing productivity, as shown by Gross Value Added per head figures provided by the Office for National Statistics (Table A-3-2). While the UK has traditionally displayed stronger productivity improvement, since 1995, growth in Scottish productivity has been higher than for the UK as a whole (though differences may in part be attributable to differences in the capital intensity of the Scottish sector relative to the UK). Within the Scottish economy, above-Scottish average productivity has been notable in the following industries (in descending order): energy production; drink-tobacco; chemical products; and office machinery (reflecting the industrial strengths noted above). Scotland performs better in these industries than the equivalent sectors in the UK (relative to the Scottish average), though overall Scottish manufacturing is less productive than the UK by

[10] Scottish Enterprise is a private sector-led but public sector-financed regional development agency covering lowlands Scotland (the equivalent for the Highlands & Islands area is Highlands & Islands Enterprise). In its own words, it aims to "strengthen the business base, encourage entrepreneurs, sharpen the export effort, win inward investment, build a better business environment, get people back to work and maximise people's potential" (Scottish Enterprise, 1999a). Programmes are delivered through its network of 13 Local Enterprise Companies distributed throughout the Scottish Enterprise region.

this measure. Scotland has distinctively under-average performance in clothing-footwear, paper-printing, metal goods and other electrical-instrument engineering. With regards to services, Scotland has notably better productivity than the national average in distribution and business services, but less in financial services.

Table A-3-2.

Gross value added per capita in selected industries 1996, Scottish average = 100		
	Scotland	*UK*
Drink/tobacco	206	95
Clothing/footwear	54	110
Paper/printing	86	97
Chemical products	181	125
Rubber/plastic products	71	99
Metal products	74	119
Mechanical engineering	79	101
Office machinery	171	135
Other electrical/instrument engineering	99	130
Energy production	218	77
Total production industries	100	112
Source: Office for National Statistics.		

Overall employment is another measure of the sector's importance in Scotland (Campbell and MacDonald, 1999). In Table A-3-3 (measuring all economic activity apart from public sector and educational services), Scotland follows the national trend of significant employment concentration in service activities (especially trade-hotels-catering, which to a large extent highlights the importance of tourism in the regional economy). Within manufacturing, the most important employers are food-drink and electrical engineering – reflecting the strength of the whisky and electronics industries in Scotland – followed by textiles-clothing and basic metals-metal products; the former three have above-average shares of the total UK employment within these industries, suggesting a distinct Scottish competitive advantage (weakened in the case of textiles-clothing by the Gross Value Added figures cited above). Given the tradition of financial service activity in Scotland, it is not surprising to find the agglomerated sectors account for just under a fifth of Scottish industrial employment.

Table A-3-3

Employment by sector 1996	
	% of total Scotland
Agriculture/forestry/fishing	2.4
Energy/water supply	2.8
Manufacturing *(% of UK sector in bracket)*	21.9
- food/drink	3.9 (11.8)
- textiles/clothing	2.6 (11.1)
- pulp/paper/printing/publishing	1.2 (6.8)
- chemicals	1.1 (5.9)
- rubber/plastics	0.8 (5.2)
- basic metals/metal products	2.6 (7.0)
- mechanical engineering	1.7 (6.4)
- electrical/optical engineering	3.9 (11.2)
- transport equipment	1.5 (4.8)
- other manufacturing	2.8
Construction	8.0
Trade/hotels/catering	31.0
Transport/communications	7.5
Finance/real estate/business services	19.9
Other services	6.5
Source: Office for National Statistics.	

3.2. The contribution of SMEs to regional development

3.2.1. SMEs and the regional economy

Until recently, statistical sources on Scottish enterprise structure were poor. While detailed statistics were available at national level, official estimates on the number of SMEs in Scotland were lacking. New official sources have partly addressed the problem, though figures only cover Scotland as a whole. Given the substantial economic differences within Scotland – ranging from rural underdevelopment in the north to the manufacturing concentrations of the Central Belt – significant sub-regional variations in enterprise size might be expected, but their analysis remains beyond the scope of this chapter.

In 1997, an estimated 296,640 enterprises were based in Scotland (8 % of the UK total), of which 99.3 % had less than 250 employees (again, representing just under 8 % of all UK SMEs) (Table A-3-4). For enterprise with less than 50 employees, the UK had a slightly higher concentration (99.1 % of the firm population, as opposed to 98.2 % in Scotland) (Campbell and MacDonald, 1999).

Table A-3-4

Enterprise composition by size[1] 1997				
	By number (% of total)		*By employment (% of total)*	
	Scotland	UK	Scotland	UK
Small (0-49)	98.2	99.1	46.0	44.7
Medium (50-249)	1.1	0.7	13.3	12.1
Large (over 250)	0.7	0.2	40.8	43.2

Source: Campbell and MacDonald (1999). – [1]For this and the following tables and text, 'small' firms are those with up to 49 employees, 'medium' are those with between 50 and 249, and 'large' are those with employment of 250 and over.

The Scottish stock of businesses is low. For example, enterprise density is higher for the country as a whole than for Scotland: 794 enterprises per 10,000 residents exist in the UK, compared to only 602 for Scotland (this is reflected for all categories of firms: the density figures for small enterprises is 247 for the UK and 227 for Scotland) (DTI SME Statistics Unit, 1999). Indeed, Scotland and the North of England have the lowest business densities in the UK, as much as 40 % lower than South East England during the 1980s (Gallagher, Kidd and Miller, 1996).

Although there is a slightly higher concentration of employment in SMEs in Scotland than in the UK, average employment in Scottish enterprises tends to be smaller than for UK firms. While the average for small firms in both Scotland and the UK is three, Scottish medium-sized enterprises have average employment of 71 while the UK enterprises have 101 (DTI SME Statistics Unit, 1999). Similarly, for large firms, the averages for Scotland and the UK respectively are 353 and 1,375.

Developments in the enterprise structure in Scotland have been linked to a relatively low enterprise birth rate (relative to the population). Scottish Enterprise research has established that the main reason why Scotland has a smaller stock of enterprises in relation to its population than the rest of the UK mainly derives from the low number of start-ups rather than other factors such as the closure rate (Scottish Enterprise, 1993a). New start-ups per capita were lower in Scotland than the rest of the UK throughout the 1980s and 1990s: for example, in 1996, the rate was 1.2 for the rest of the country against Scotland's figure of 0.9 (the differential is consistent across different sectors). Moreover, this has been reflected in the presence of fewer 'growth' companies (as measured by new start-ups which have more than 50 employees over ten years later) in Scotland as compared to regions in England.

According to Scottish Enterprise (1993a), much of the problem lies with Scottish perceptions of entrepreneurship. When surveyed, higher shares of the population regarded entrepreneurs as contributing "a great deal" to society in Germany, the US and England than in Scotland, and fewer people regarded themselves as entrepreneurial in Scotland than these other regions. What appeared to be decisive in Scotland's poorer enterprise creation performance was an awareness of greater risks in starting a business in Scotland. A number of factors may have influenced the perception of risk in Scotland, including the traditional strength of a large-firm

culture, the steady takeover of many Scottish firms and local loss of headquarters functions, and the relatively greater activity of the public sector in economic development. However, risk appears to have been augmented in the case of Scottish entrepreneurs by greater difficulties in securing finance for start-ups. Access to finance is affected by a range of issues – such as banking provision and the availability of venture capital - but it has been differences in the Scottish housing market relative to other parts of the country which have been consistently highlighted as a key barrier (Scotland has a rate of home ownership considerably below other parts of the UK).

In recognition of what appears to be a Scotland-specific problem, Scottish Enterprise devised a special series of measures to address the issue in 1993 (Scottish Enterprise, 1993b). The Business Birth Rate Strategy was designed to increase new businesses, new start-ups that survived and new start-ups that subsequently achieved significant growth. Targeting what the research identified as the underlying cause of Scotland's low business birth rate, the Strategy has focused on improving the 'conversion' rate of potential to actual entrepreneurs. It has aimed to do this through a series of inter-related measures including greater promotion of entrepreneurship, improving access to existing financial assistance, targeting potential spin-outs from academic institutions and creating special programmes for fast-growing small companies. The Strategy has only been in operation for a few years, so it is too early to assess fully its impact. Scottish Enterprise notes that there is evidence of changing attitudes, reflected in the number of individuals wanting to start a business, though not yet in a pronounced shift in the business birth rate. In terms of resources, the strategy is reinforced by Scottish Enterprise's 'ordinary' programmes of support for the establishment of new businesses and exporting, expenditure on both of which have totalled an average of between £35 million and £40 million annually.

3.2.2. SMEs and industrial sectors

As with analysis of enterprise structure in the Scottish economy as a whole, the absence of detailed statistics renders a comprehensive examination of SME distribution by sector difficult. While the enterprise composition of broad categories of economic activity can be determined, the lack of finer industrial classifications – particularly within manufacturing – means that only generalised conclusions can proceed from the figures.

Table A-3-5

Enterprise composition by sector 1997, % of total sectoral employment						
	Small (0-49)		*Medium (50-249)*		*Large (Over 250)*	
	Scotland	UK	Scotland	UK	Scotland	UK
Manufacturing	22.0	28.3	20.3	21.4	57.7	50.3
Construction	68.2	79.8	11.5	7.4	20.3	12.8
Trade	49.3	43.9	9.5	9.7	41.2	46.4
Hotels/catering	63.1	48.5	11.9	9.2	25.0	42.3
Transport/communication	50.6	31.5	12.1	8.4	37.3	60.1
Financial intermediation	12.2	14.9	6.1	7.6	81.6	77.5
Real estate/business services	49.3	57.4	16.0	13.6	34.7	29.0
All industry	46.0	44.7	13.3	12.1	40.8	43.2
Source: Campbell and MacDonald (1999).						

Nevertheless, important observations can be made through examining the sectoral distribution of Scottish enterprises by employment, particularly in relation to the UK (Table A-3-5). In Scotland, as in the UK as a whole (and indeed, most other European countries), SMEs are more predominant in certain service activities – such as construction, hotels-catering and real estate-business services – than in manufacturing and services dominated by large enterprises (notably financial intermediation). The only areas where Scotland is unusual are hotels-catering and transport-communications, where SMEs (especially small enterprises) have a larger role in the economy than in the UK as a whole.

As noted above, Scotland traditionally has a large-firm culture in manufacturing, a characteristic that has persisted when the shares of employment in Scottish and UK large manufacturing enterprises are compared (Table A-3-5). In particular, Scotland appears to have relatively fewer enterprises under 50 employees in manufacturing (and construction) than the UK, as highlighted in the Scottish Enterprise Birth Rate Strategy discussed previously. In contrast, SMEs are more strongly represented in the Scottish hotel, catering, transport and communication sectors than the equivalent sectors at national level, though this may be partly a reflection of the fact that multi-enterprise groups in these sectors are more likely to appear at national rather than Scottish level.

Using statistics for SMEs at UK level (as presented elsewhere in this report) and surmising for Scotland, the following manufacturing sectors have above-average shares of SMEs in their total sectoral employment:

- clothing (56 % of employment is accounted for by SMEs);
- wooden products (85 %);
- publishing-printing (68 %);
- rubber-plastics products (57 %);
- mechanical engineering (55 %); and

- furniture (75 %).

Of these, only clothing (especially) and mechanical engineering are significant employers in Scotland (Table A-3-3), suggesting that the main SME sensitivity in Scottish manufacturing would be found in these sectors.

3.2.3. Internationalisation

The scale of SME international activity in Scotland is difficult to measure. Statistics on the international profile of Scottish SMEs are not readily available, but can only be deduced from general trends within exporting and foreign investment (the two main forms of internationalisation for Scottish firms). However, where research has been conducted, it suggests that the regional economic environment has been less conducive to internationalisation by Scottish enterprises than other regions in the UK or elsewhere in Western Europe. For example, comparing exporting levels between firms in Scotland and North-Rhine Westphalia in Germany, Raines (1996) found that exporters formed a smaller share in all size categories of enterprise in Scotland than in the German region. While several regional differences could explain the lower level of internationalisation in Scotland, research by Scottish Enterprise (1996b) has identified peripherality and distance to key international markets as significant barriers to Scottish export development. In examining why Scotland produces few 'global companies', the Scottish Enterprise study highlighted a number of barriers to internationalisation, of which the most important are:

- lack of awareness of other cultures and markets;
- lack of experience working/operating overseas, combined with a reluctance on the part of many Scottish staff to acquire it;
- negative attitudes towards entrepreneurship (as discussed above);
- difficulties in establishing local business networks which could support internationalisation;
- lack of awareness in different internationalisation options; and
- lower skills levels in modern languages when compared to other regions and countries.

Supporting evidence has come from the INTERSTRATOS research programme which examined the business strategies of SMEs located in different Member States: one of the project's findings was that Great Britain ranked low in terms of direct exporting compared to other European countries, a fact partly attributable to distance from core markets in Europe (Haahti, 1995). In the case of Scotland, this problem is exacerbated, not only by geographical peripherality, but by the commanding presence of a neighbouring, large domestic market – ie. the rest of the UK.

Company size is a key factor in this area. Internationalisation is strongly related to the resources available to firms to overcome the transaction costs imposed by Scottish peripherality, and this has been reflected in the traditionally low shares of exporting among small (ie. under 50 employees) Scottish firms (Raines and Bachtler, 1993). As will be seen below, Scottish exporting is dominated by large firms, although internationalisation in

Scotland does vary greatly by sector. This can be seen in analysis of Scottish exporting and foreign investment activity (and to some extent, through importing trends). Although figures for (in particular) exporting and FDI tend not to be broken down by enterprise size, wider conclusions about the behaviour of smaller firms in Scotland can be made from the discernible trends.

(i) Exporting

According to the annual survey of Scottish enterprises by the Scottish Council Development and Industry, Scotland's exports in 1998 were estimated at £19.3 billion, 12.3 % of total UK exports (a figure that has not significantly altered in recent years). While suffering more recently from the strength of sterling (as have all UK-based exporters), Scottish exports have grown steadily throughout the 1990s. In spite of the growth, there has been little change in the main exporting sectors in the economy (SCDI, 1999a). The most important export sector by a substantial margin has been office machinery (especially computer equipment and peripherals), nearly all through the output of the large, foreign-owned enterprises located in 'Silicon Glen' (Table A-3-6). This has been followed by radio/television/communications equipment (again, in large part because of the large foreign investors operating in Scotland, though the sector has experienced extensive contraction since this export survey was conducted), whisky and chemical products.

Table A-3-6

Scottish manufacturing exports by industry
1998

	Value (£m)	*% of total*
Whisky	2,031	10.5
Other food/drink	359	1.9
Textiles	304	1.6
Pulp/paper products	347	1.8
Coke/petroleum products/nuclear fuel	252	1,3
Chemical products	1,771	9.2
Rubber/plastic products	318	1.6
Metal products	372	1.9
Machinery/equipment n.e.s.	902	4.7
Office machinery	6,987	36.3
Radio/TV/communications equipment	3,719	19.3
Other transport equipment	594	3.1
Other industries	1,317	6.9
All manufacturing industries	19,273	100.0

Source: Scottish Council Development and Industry (1999a).

Services trade is considerably smaller than manufacturing exports in Scotland – amounting to £2.4 billion in 1998, less than an eighth of the equivalent manufacturing figure, though the level has been increasing significantly in recent years (SCDI, 1999b). The main export sector in services has been overwhelmingly tourism (40 % of total services exports in 1998),

followed by computer/software services (15 %, a figure which has grown rapidly over the last three years), oil/gas-related services (11.5 %), insurance/assurance (10 %), higher education (8.3 %) and banking services (6.5 %).

Table A-3-7 displays the main destinations of Scottish manufacturing exports. As a whole, the EU has received the bulk of Scottish exports – 63 % in 1998 – and of the ten principal countries to which Scotland exports, seven are in the Community. The EU's share of Scottish exports has increased through the 1990s, in large part because it is the main trading area for Scotland's two major export sectors, office machinery and television and communications equipment (SCDI, 1999a). The US is the other main export destination for Scottish enterprises, accounting for 9.8 % of Scottish exports in 1998.

Tabelle A-3-7

Scottish manufacturing exports by destination
1998

	Value (£m)	*% of total*
France	2,878	14.9
Germany	2,030	10.5
US	1,895	9.8
Italy	1,764	9.2
Netherlands	1,459	7.6
Sweden	1,142	5.9
Spain	745	3.9
Norway	642	3.3
Switzerland	609	3.2
Belgium	605	3.1
Eastern Europe	**437**	**2.3**
Other countries	5,067	26.3
All countries	19,273	100.0

Source: Scottish Council Development and Industry (1999a).

Eastern Europe accounts for a relatively small share of manufacturing exports, but the figure has grown over the past decade (from 0.7 % in 1991 to 2.3 % in 1998), though in the last few years, the growth appears to have stagnated (Raines and Bachtler, 1996; SCDI, 1999a). The main Scottish export market has been Poland - as has been the case with UK exporters in general – followed by Hungary and the Czech Republic (SCDI, 1998). Trade with the other three accession countries is more limited (though Cyprus appears to be a more significant destination than Slovenia and Estonia). SCDI data for the three main CEE countries has shown that the chief Scottish exports have been whisky and office machinery, two of the three principal Scottish manufacturing exports overall (Raines and Bachtler, 1996). Mechanical engineering and basic metal production have also been significant export commodities, accounting for larger shares of exports to Central Europe than for Scottish exports as a whole. However, there are substantial variations between countries. Although whisky and office equipment have been important overall, both products have clearly been more significant in

the Czech and Hungarian markets than in Poland. Poland appears to import a more diversified range of Scottish products, including a strong representation of basic metals and mechanical engineering products.

The geographical pattern of services trade is far more diverse than manufacturing in Scotland (SCDI, 1999b). The EU only accounted for 42.4% of total services exports in 1998, and the two leading country destinations have been the US (25 %) and Canada (15 %). Eastern Europe has a smaller profile in services exports than manufacturing: only 1 % of total services exports go to these countries. In some sectors, CEE destinations figure more prominently, especially computer/software services (Hungary and Poland) and legal services (Eastern Europe as a whole), but overall, the region has not been identified by Scottish service firms as one of the key prospective markets for developing.

Exporting in Scotland is dominated by large firms: not only did they account for 86.8 % of total manufacturing exports in 1998, but they were responsible for the bulk of production in the key exporting sectors, particularly office machinery (96.3 % of all that sector's exports in 1998) and radio/television/communications equipment (96.4 %) (SCDI, 1999a). Exports by small companies (defined by the SCDI survey as under 200 employees) were still strong in those sectors, as well as chemicals, mechanical engineering food/drink products (though not whisky). It suggests that SMEs have a limited profile in total Scottish exporting, particularly to Eastern European countries, given their limited coverage of the main export sectors to these countries (with the possible exception of mechanical engineering).

Unlike manufacturing, there is a greater propensity of SMEs to export in service sectors, particularly small firms with under 50 employees, which accounted for 18.4 % of 1998 exports (SMEs altogether were responsible for 31.9 %) (SCDI, 1999b). Their export presence is particularly strong in some of the key exports, notably computer/software services and tourism. Relative to SMEs in manufacturing, it suggests that their potential for export development to Eastern European countries may be relatively strong, given the demand for computer/software services in the latter.

(ii) Importing

Unlike exports, figures are not available which provide a breakdown of imports into Scotland. In large part, this reflects the difficulties in attributing final destinations *within* the UK to goods and services trade: while one part of the UK may be point-of-entry or initial purchase point of a product, it does not necessarily represent the point at which the sale was made. The problem is made more complex in the case of Scotland by having to take into consideration the unestimated, but likely significant, degree of inter-regional trade between the territory and the rest of the country.

Proxy figures can be taken for the UK as a whole: while based on the untested assumption that the Scottish import profile would not different significantly from the rest of the country, it can give an indication of the import penetration of these six candidate countries and the likely competition for Scottish SMEs. Table A-3-8 shows the importance of the different countries and their two main import sectors to the UK. For nearly all the countries under study here,

imports into the UK grew across the period 1993-99 (in Cyprus, they declined slightly), with growth being particularly strong in Estonia and Hungary. The composition of trade has shifted over the period for most countries. While there has been continuity for Slovenia - and to a lesser extent, Cyprus, the Czech Republic, Hungary and Poland – some sectors have developed rapidly over the period (notably vehicles in Cyprus, office machinery in Hungary and electrical machinery in Poland). Overall, the changing composition reflects the wider changes in the five CEE accession countries from economies whose trade is based on resource- and low labour cost-based products to more higher skilled and intermediate capital goods.

As for exports, the implications for Scottish businesses represent minor reinforcements of existing trade trends. The scale of imports from the six accession countries here, while growing, does not amount to a significant share of UK trade (and on the basis of the trade analysis conducted elsewhere in this report, it is unlikely to grow substantially further); indeed, in 1998, it only accounted for just over 1 % of total UK imports. While some of the sectors in which these countries are strong show the potential for competition with Scottish businesses – such as office machinery in Hungary and clothing in Cyprus – the trade flows either reinforce existing trade restructuring for Scottish businesses (as in the case of the Scottish clothing sector) or have lesser effects because of the strength of intra-industrial trade between the UK and the accession countries (as in the case of office machinery).

Table A-3-8

Imports from the accession countries in the UK
1993 and 1999, % UK total

	1993		*1999*	
	%	Main imports (% total)	%	Main imports (% total)
Cyprus	0.10	Clothing (35.6); power generation equipment (8.1)	0.09	Vehicles (26.8); clothing (20.2)
Czech Republic	0.18	Vehicles (17.3); non-ferrous metals (10.5)	0.30	Vehicles (28.3); electrical machinery (16.7)
Estonia	0.01	Fertilizers (33.9); wood/cork (11.0)	0.08	Textiles (7.1); non-furniture wood/cork products (5.8)
Hungary	0.11	Electrical machinery (16.6); clothing (13.7)	0.29	Office machinery (17.5); electrical machinery (13.8); telecoms equipment (13.8)
Poland	0.33	Non-ferrous metals (21.0); vehicles (4.8)	0.36	Electrical machinery (10.4); non-ferrous metals (9.0)
Slovenia	0.04	Furniture (15.0); electrical machinery (14.6)	0.05	Electrical machinery (15.8); furniture (13.1)

Source: Office of National Statistics.

(iii) Foreign investment

Foreign direct investment has been another indication of the level of internationalisation in Scotland. Comprehensive FDI figures are not provided at a regional level in the UK, though

they are available nationally. Regional statistics on FDI are limited to new and expanding projects reported to the main investment promotion agencies – in the case of Scotland, Locate in Scotland – which tend to be investments made in assisted areas where companies can be eligible for financial assistance from the government. Scotland has traditionally had a high share of such assisted areas, which is partly reflected in its success in capturing a substantial portion of total foreign investment in the UK: just over a third of the value of reported FDI projects between 1986 and 1996 in Britain was located in Scotland (Raines, 1998). More generally, Scotland has developed a reputation for successfully attracting foreign investment projects through a combination of an effective regional investment promotion policy, availability of skilled labour and property for development, financial incentives and the existence of strong sectoral clusters attracting incoming investors (Brown and Raines, 2000).

The importance of FDI to Scottish SMEs derives from its sectoral concentration. While high levels of investment have generated employment throughout the regional economy, the impact on SMEs has been most significant through the emergence of new supply opportunities with large, locally-based foreign subsidiaries. This has been particularly evident in the electronics sector, whose production, export levels and overall importance to the Scottish economy has expanded greatly over two decades through increasing levels of foreign investment. In 1998, the electronics industry employed over 40,000 in Scotland, with another 30,000 jobs in supplier businesses (Brown and Turok, 1999). As a share of total Scottish manufacturing employment, electronics has increased from under 10 % in 1992 to nearly 13 % in 1995. In 1995, investment, in terms of net capital expenditure by the electronics industry, accounted for 40 % of all investment by Scottish manufacturing industries.

Indeed, an increasingly large share of FDI coming to Scotland has been in the electronics sector (Table A-3-9), with the result that foreign-owned enterprises dominate the industry in Scotland. Scottish SMEs have benefited from the presence of a new local supply industry, consisting mainly of sub-contracting in packaging, printed materials, sheet metal, plastic parts and mouldings, printed circuit boards and their assembly. While debate has persisted over the value and development potential of foreign investors to Scottish suppliers (Turok, 1993), there is little doubt that the departure of these investors and any long-term diversion of electronics FDI away from Scotland would have a potentially devastating impact on indigenous industry.

Table A-3-9

Inward investment in Scotland 1989 to 1997, £ million, 1990 prices		
	1989-93	*1993-97*
Total inward	1,923	4,545
Electronics	1,101	3,471
Electronics as % of total inward	65.3 %	67.1 %
Source: Locate in Scotland.		

1.2.4. The impact of EU policies

In terms of the scale of expenditure, the most important EU policy measure affecting SMEs in Scotland has been the *Structural Funds*. Scotland has received Structural Funds support under different Objectives for over a decade now (Table A-3-10). These include the designation of the Highlands & Islands area as Objective 1 from 1994, the operation of two parallel series of Objective 2 programmes (in Western and Eastern Scotland) and a number of Objective 5b programmes in Scottish rural areas, including Dumfries & Galloway and the Borders in the south and the Grampian area in the north. Western Scotland has received the bulk of funding over the period, accounting for a third of the total allocated to Scotland. In addition, Objective 3 and 4 programmes have operated over Scotland as a whole.

Following agreement on Agenda 2000, the new Structural Funds allocations for Scotland represent a decline on previous programming periods. The most notable change was a limit placed on the period of the Highlands & Islands area's designation as Objective 1: it has received transition funding under the new arrangements, as its per capita income has risen above the EU ceiling of 75 % of average Community GDP. Examining the Single Programming Documents (SPDs) accompanying these different programmes, it is clear that SME support has been an explicit part of all the strategies. While SMEs are likely to have benefited from other measures listed in the programming documents – such as generalised training support and transport infrastructure development – they have been identified under business development priorities as a central focus for Structural Funds support. This is not surprising given the strong emphasis on assistance to business development provided in Commission guidelines and advice to regions from 1994 onwards: support for businesses in programmes has tended to mean support for SMEs given Community *de minimis* regulations on assistance to large enterprises. As a result, the share of allocations earmarked for business development has increased and SMEs have featured more prominently as a priority in strategy documents. It is not clear though, the extent to which this focus has brought an in-depth understanding of the needs of SMEs and how the Structural Funds can address them. As Bachtler, Taylor and Kearney (1996) noted in their synthesis of all Objective 2 SPDs for the 1994-96 period: "Analysis of the SPDs/OPs indicates that few appear to have business development strategies derived from a detailed assessment of the existing company population - especially SMEs."

Table A-3-10

Structural Funds allocations in Scotland
1989-2006, £ mn

Programmes	*1989-93*	*1994-99*	*2000-06*	*Total*	*(%)*
Obj.5b/1: Highlands & Islands	311	287	190	788	26
Obj.2: Western Scotland	427	309	270	1,007	33
Obj.2: Eastern Scotland	153	129	137	418	14
Obj.5b/2: Other rural areas	29	131	44	204	7
Obj. 3/4: All Scotland	250[1]	300	320	620[1]	20
Total	1,170[1]	1,156	961	3,037[1]	100

Source: Bachtler (2000). - [1]Estimated.

In Scotland, the type of SME projects receiving assistance reflected the conclusions of the Scottish Birth Rate Inquiry discussed above in that support has been concentrated on both start-ups and growing SMEs. In many cases, the additional expenditure has been used to fund existing measures, including national investment support policies (such as the Regional Enterprise Grant) and incentives for SME innovation and technology transfer (such as the SMART programme). The funding also provided the opportunity for a range of local projects providing support for business start-ups and SME development. To give an example of the scale of funding, measures which had an identifiable SME focus accounted for 68 % of the Eastern Scotland 1994-96 programme.

Variations in the prominence that SMEs are given in different programmes should not be used as an indicator of the actual benefits of SMEs from the Structural Funds in Scotland. Whatever the explicit strategic intent of the different SPDs, in practice, SMEs have been the main beneficiaries of business development programmes because of the nature of the projects (a focus on 'soft' business support rather than capital investment grants, which would tend to be favoured by larger firms) and Community restrictions on assistance to large enterprises. Indeed, in general, evaluations suggest that business development measures have made important contributions to the start-up, survival and development of SMEs in Scotland (Turok *et al*, 1994). While this has not been reflected in a definite shift in macroeconomic terms – notably the density of SMEs relative to the UK and the business birth rate in Scotland as a whole – within individual project terms, the Funds appear to have become a significant and successful means of supporting Scottish public policy towards SME development.

Although Scottish SMEs can benefit from the majority of other EU policies discussed elsewhere in this report, the most important after the Structural Funds has been the Community Initiative, *SME*. In Scotland, the SME Initiative was part of the Structural Funds but not linked directly to any of the programme allocations already detailed. Operating for the 1994-99 period, it had a budget of £7.2 million, drawn from both the ERDF and the ESF. Under the programme, grants of up to 50 % were offered to fund projects designed to assist SMEs in the Objectives 2 and 5b designated areas of Scotland. Grants were available to projects providing technical assistance to help SMEs enhance competitiveness, adopt advanced telecommunications systems, promote regional, inter-regional and transnational cooperation, and support R&D collaborations and technology transfer. However, given the overlap with the area programmes, a decision has been taken not to continue the SME Initiative, allowing the area programmes to be the sole providers of SME-specific assistance within the Structural Funds in future.

3.3. Impact of enlargement on SMEs in Scotland

3.3.1. Competitiveness of Scottish SMEs

Enlargement effects on Scottish SMEs will derive from a combination of emerging trade and investment opportunities and challenges. The first point to make about the likely balance of

effects is that currently trade and investment linkages between Scotland and the six countries studied here are low. Given the relative open-ness of access between the EU and the accession countries in most markets, further liberalisation of the latter's markets is unlikely to have a significant impact in the short term. The second point is that despite the limited commercial contacts at present, Scottish firms are highly aware of the enlargement process and its possible implications. In a survey of Scottish exporters for the Scottish Council Development and Industry (SCDI, 1998), 87 % of respondents were aware of the current negotiations with potential candidate countries for EU membership. When changes do take place in market opportunities and competition, Scottish firms appear to be ready to adapt.

Overall, Scottish firms have been cautious about the likely effects of enlargement. In the SCDI (1998) survey, half of respondents regarded enlargement as offering only 'modest' opportunities for business, though another 30 % described themselves as 'optimistic'; only one in seven considered enlargement to provide no opportunities at all. Moreover, Scottish exporters noted that the existing major markets among the accession countries – Poland, Hungary and the Czech Republic – were likely to remain pre-eminent among Scottish export destinations in the region.. Opinion was divided over whether enlargement would increase competition to Scottish SMEs: a third each of respondents considered its effects would be non-existent, 'marginal' or 'reasonable'. However, with respect to domestic UK markets, nearly half felt there would be no impact, and just over another third thought the effects would be 'marginal'. It should also be set against the low share of Scottish small firms exporting: it seems unlikely that the increase in trade opportunities would greatly influence their propensity to export.

From the perspective of Scottish SMEs, enlargement is anticipated to have similar, though more muted, effects as the completion of the Single Market within the EU. The main problem faced by SMEs with the Single Market programme was their inability to take 'first-mover' advantages in the new market opportunities, as a result of their limited management resources to analyse the changes and a general lack of commercial information about the new markets (Smallbone *et al*, 1999). Indeed, the response of SMEs to the prospect of enlargement has been similar to their earlier attitudes to the Single Market. Numerous surveys of Scottish SMEs noted that awareness and interest in the Single Market was limited because of their relatively greater dependence on local markets and perceptions of their main competition being British businesses; regularly, less than half of Scottish firms surveyed regarded the Single Market as an opportunity (Raines and Bachtler, 1993). More recently, efforts to measure the impacts of the Single Market on businesses have been made difficult by the 'swamping' effects of more global economic trends (CEC, 1998). Given the lack of distinctive impact of the Single Market (to date), Scottish SMEs do not greatly perceive the need to make immediate arrangements to prepare for enlargement

In large part, whether Scottish firms are likely to benefit or suffer from enlargement will depend on sectoral factors. In examining the overlap between Scottish export strengths and strong export/import sectors in the six countries studied here, some overlap does appear, suggesting scope for trade effects. *Electrical engineering* is one of the main export *and* import sectors in these countries while constituting the principal source of Scottish exports. However, the extent to which Scottish SMEs may benefit from the apparent 'fit' can be questioned,

given that the bulk of Scottish exports in this sector is provided by large, foreign-owned enterprises based in Scotland. Greater market demand for the latter's goods in accession countries could have a knock-on impact on Scottish SMEs through Scottish-based supply chains, but it is too early to estimate the significance of these growth effects.

Similarly, there is strong demand for *paper* products in the six countries examined here, though the main Scottish exporters in this field are larger enterprises. The majority of Scottish exporters appear to be based in sectors with as yet limited growth potential in the six countries studied here (such as whisky and food products) or in sectors where sub-sectoral niche expertises are dominant (such as mechanical engineering). However, *optical-measuring equipment* has been identified as a key import sector for the accession countries as well as one of the target sectors for development by Scottish Enterprise, so there may be growth opportunities for Scottish opto-electronics SMEs.

The potential for strong competition from accession countries is perhaps most notable in *clothing* and *textiles*. The sector has already experienced significant decline in Scotland – compounded recently by a number of high-profile closures by major local producers - and would appear to be vulnerable to competition from low-cost companies based in accession countries. However, these competition effects are likely to be overshadowed by the increasing globalisation of the industry and rivalry from non-European countries with lower labour cost bases than the accession countries, such as China and other Asian countries. While competition from the accession countries could exacerbate the downward trend in the industry, it is by no means responsible for it.

The potential for Scottish SMEs to benefit from changes in *services* trade with accession countries appears to be greater, given the strong competitive advantages of Scotland as a financial services centre (Raines and Bachtler, 1996). Many of the business and financial services in the accession countries are still undergoing development. Following its extensive privatisation, the banking sector in the CEE accession countries have experienced difficulties as a result of over-banking, bad loans and inefficient management. As the service sectors in the region develop, Western expertise will be required to advise on the establishment and operation of new banking and financial companies. During the process of transition, the use of Western consultants for privatisation will continue, particularly as the process of privatisation has given a large role to investment trusts in some countries.

Although many Western European firms have already taken advantage of the banking markets in the accession countries, there are still a number of sectoral niches which complement Scottish expertises (SFE 1997a, 1997b). These include computer/software services, pension and life insurance, mortgage lending and consultancy, and card processing and systems development for financial and business companies. In contrast to manufacturing, where Scottish strengths are in areas where 'catch-up' by accession countries in skills and production technology levels is conceivable over the next decade, these are areas where the Scottish competitive advantage is reinforced by their dependence on high value-added, specific knowledge. However, the extent to which Scottish firms will be able to take advantage of these opportunities is not directly linked to the process of enlargement. The opportunities to enter accession markets in these areas have already emerged over the past

few years through a gradual liberalisation of the accession country financial markets. EU membership will not of itself present any significant regulatory change to foreign competition. Moreover, many of the services involve a once-only establishment of business/financial infrastructures in the accession countries: the markets for these services are likely to peak and then diminish over the medium term.

FDI is another area where Scottish SMEs could be affected by enlargement. Many Scottish SMEs have strong supply arrangements with foreign-owned enterprises based in Scotland. As part of the location attractiveness of Scotland rests on cost issues, enlargement could create competitive difficulties for Scotland if it makes low-cost locations in accession countries more appealing to investors. The threat of investment diversion has already been a significant issue in the UK: for example, in 1999, prior to its eventual full withdrawal from the UK, BMW threatened to divert investment in its Rover factory in the West Midlands to Hungary if it did not receive a sufficiently large financial subsidy from the UK Government (Gow and Milner, 1999).

Nevertheless, from the perspective of Scotland, there is not likely to be extensive competition with the accession countries as a location for FDI, at least in the short term (Bachtler and Raines, 1996). As noted earlier in this report, the six countries studied here are mainly expected to become low production bases for exports into CEE markets – and to some extent, Western Europe – but only in sectors in which their economies have significant comparative advantages (such as certain chemical products and motor vehicles), significant consumer demand throughout the CEE (as with white goods) or large market shares in the EU (such as metals and non-metallic minerals). The bulk of FDI in Scotland has been in mechanical and electrical engineering sectors (especially office and data-processing equipment), which have not yet been major investment sectors in the accession countries (though the number of such investments have started to increase recently, particularly in Hungary).

The extent to which the accession countries may mount more significant FDI challenges to Scotland in the longer term is more difficult to predict. In the industries in which Scotland has FDI strengths, it will depend on a number of developments. First, it will be affected by relative changes in the costs/productivity of skills levels between the accession countries and Scotland. The traditional strengths of some of these countries in education continues to be reflected in their relatively large shares of 'knowledge management' workers, a feature that could lead to raising their profile to investors in higher-technology sectors such as electronics (particularly for accession countries like Hungary). This will largely be dependent on whether these skills levels can be exploited in future by potential investors, and whether it can lead to increasing workforce productivity without concurrent increases in cost. Moreover, even if electronics investment is not significantly diverted to the accession countries, increasing expertise in electronics supplier industries and the shift by multinationals to more global sourcing will create new opportunities for accession country subcontractors, thereby further restricting the already-limited scope for supplying local branch plants by Scottish businesses.

Second, it will be shaped by the relative attractions of accession country and traditional Western European markets. If the intermediate demand for electronics inputs into other industries (such as semiconductors) and the final demand for electronics end-products (such

as PCs) rise significantly in these countries with the increasing sophistication of their home markets, the advantages of locating production closer to customers may also rise. Some evidence of this can already be seen in countries like Hungary, where, for example, Samsung has set up both a television production plant and a plant producing key television components recently.

Lastly, the long term balance of location determinants will also be influenced by changes in production technology and the 'lifespan' of current production investments in Scotland. As these plants become older, if changes in production systems and technologies increase the appeal of constructing new greenfield sites rather than upgrading sites in which investments have already been made, the temptation to locate in non-Scottish locations will increase as well, even for investor groups which have hitherto been generally reluctant to invest in the accession countries (notably many of the Japanese electronics firms).

3.3.2. Implications of changes in EU policies

The principal impact of enlargement on the operations of EU policies in Scotland will be through the Structural Funds. At present, it is too early to predict what the outcome is likely to be of the negotiations for the next round of Structural Funds programming (the period following 2006). However, should some of the accession countries be members of the EU by the start of those negotiations, they may well be eligible for the Structural Funds. Given their anticipated economic development, it is widely expected that the eligibility of large parts of the accession countries could result in the need to either increase the Structural Funds budget or shift the allocation away from eligible Western European regions.

It is difficult to estimate the outcome for Scotland's different allocations under the Funds, though the UK Government is preparing for a significant reduction. What can be concluded is that on the basis of the present programming period, Scottish allocations are likely to decline. Highlands & Islands are receiving an Objective 1 allocation as part of special transitional arrangement as they no longer strictly qualify as Objective 1: its Objective 1 funding is scheduled to terminate in 2006. In combination with the termination of the SME Initiative in Scotland, the decline in the available funding for supporting SME development will be marked. Indeed, between the 1994-99 and 2000-06 period alone, the drop in Structural Funds allocations has already been 17 % (Table A-3-10).

The key question is the extent to which this may restrict the Business Birth Rate Strategy. To date, the Strategy has had measurable though still limited effects. The extent to which changes in the Structural Funds will influence the future implementation of the strategy is difficult to assess. While the programmes were designed in accordance with the Strategy's principles, the funded projects did not appear to be specifically integrated within it. Moreover, there is scope for the shortfall in funding be partially made up by the new financial powers transferred to the Scottish Executive as a result of devolution, including the ability both to vire resources between different policy headings and to levy different income tax rates from the rest of the UK and raise additional revenue.

3.4. Conclusions

The performance of the Scottish economy in recent years has been encouraging for SME development. While historically it has lagged behind the national economy because of longer-term decline in key industries, revitalisation through growth in new sectors can be seen in improving unemployment and per capita income records. This has not yet been reflected in SME density and the business birth rate in Scotland, which continues to trail national averages. Region-specific problems in obtaining finance and the prevalence of a large-firm culture continue to limit entrepreneurship in Scotland, though a special Scottish development strategy is in operation to address the barriers to SME growth.

Against this background, the impact of EU enlargement is likely to be muted. Scottish exports are dominated by large, foreign-owned manufacturers, particularly in office machinery. Where SMEs (or more accurately, medium-sized firms) feature more strongly in exporting – such as whisky production – the sectors are not those in which accession country markets offer substantial opportunities or competition. Trade to these countries has been steadily increasing, but remains at a relatively low level (especially in services). When surveyed, Scottish exporters do not foresee significant changes to their export behaviour as a result of enlargement, even in sectors where CEE markets have offered increasing opportunities (especially service sectors such as business and financial services). Where enlargement may create greater competition for Scottish producers – as in the clothing and textiles sectors – it is merely reinforcing more global trends. Moreover, with regards to importing, the evidence suggests that despite growing trade between the UK as a whole and the six countries studied here, it remains limited in terms of its scale and the 'sensitive' sectors from a Scottish perspective.

Foreign investment is another area where enlargement could potentially have important effects. FDI in certain key sectors in Scotland – especially electronics – has been critical to the development of indigenous clusters of SME suppliers, dependent on their linkages with locally-based, foreign-owned subsidiaries. While a lower cost base in the CEE accession countries could threaten investment diversion, the risk has been estimated to be low in the short term, given the existing composition and trends in investment to these countries. However, the features that have supported Scotland's locational attractiveness are vulnerable to longer-term changes in the accession countries, particularly in relation to productivity and local market demand.

Overall, the impact of enlargement on Scottish SMEs would seem to be limited, or at the very least, difficult to distinguish from more global changes in markets. In many respects, enlargement is anticipated to have similar effects to the completion of the Single Market. As with the latter development, Scottish SMEs seem to be less prepared to take advantage of the new opportunities or guard against increased competition because of their lower levels of internationalisation and the role of peripherality, but in spite of this, few commentators have yet identified a major impact on the enterprise structure of Scotland resulting from the Single Market. A similarly low level of expectation has been attached to the enlargement process.

This suggests that Scottish SMEs are unlikely to benefit greatly from special changes in EU

policies to support their 'adaptation' to enlargement. The existence of an active local policy to support SMEs – the Business Birth Rate Strategy – has already targeted the more fundamental problems associated with SME development in Scotland.

References

Bachtler, J. (2000): Structural Funds, paper presented to the Regional Studies Association conference, 'Divided Scotland: Challenges and Opportunities', February, Inverness, Scotland.

Bachtler, J. and S. Taylor with C. Kearney (1996): Extended Synthesis of Agreed Single Programming Documents in Objective 2 Areas, 1994-96, report to the European Commission (DG XVI), EPRC, University of Strathclyde, Glasgow.

Brown, R. and P. Raines (forthcoming 2000): The changing nature of foreign investment policy in Europe: from promotion to management. In: Dunning, J. (ed.) Regions, Globalization and the Knowledge-Based Economy, Oxford University Press, Oxford.

Brown, R. and I. Turok (1999): Foreign Investment and the Internationalisation of the Scottish Electronics Industry: A Research Note, paper for Scottish Enterprise, Glasgow.

Campbell, A. and D. MacDonald (1999): Small and medium-sized enterprises in Scotland. Scottish Economic Bulletin 58: 33-42.

CEC (1998): Aggregate results of the Single Market Programme. The Single Market Review, subseries 6, vol. 5, Commission of the European Communities, Brussels.

CEC (1994): The Highlands and Islands: Single Programming Document, 1994-1999, Objective 1, Directorate General for Regional Policies, Commission of the European Communities, Brussels.

DTI (1995): Small Firms in Britain Report 1995, Department of Trade and Industry, London.

DTI SME Statistics Unit (1999): Small and Medium Enterprise (SME) Statistics for the United Kingdom, 1998, Statistical Bulletin, URN 99/92, Department of Trade and Industry, London.

ESEP (1997): Eastern Scotland: Single Programming Document, 1997-99, Objective 2, Eastern Scotland European Partnership, Dunfermline, Scotland.

Gallagher, C., J. Kidd and P. Miller (1996): Empirical research on the role of new firms in Scotland. In: Danson, M. (ed.) Small Firm Development and Regional Economic Development, Routledge, London.

Gow, D. and M. Milner (1999): How Rover wad driven to the brink. The Guardian, 22 March.

Haahti, A., G. Hall and R. Donckels (ed.) (1998): Internationalization of SMEs: The INTERSTRATOS Project, Routledge, London.

Raines, P. (1998): Regions in Competition: Institutional Autonomy, Inward Investment and Regional Variation in the Use of Incentives, paper presented to the Regional Science Association (British & Irish Section) conference, September, York.

Raines, P. (1996): Determinants of International Business Cooperation among Scottish Companies, paper presented to the European Urban and Regional Studies Conference 'A Changing Europe in a Changing World', April, Exeter.

Raines, P. and J. Bachtler (1996): Market Liberalisation in Central and Eastern Europe: Implications for Scotland, Economic Research Paper, 1, The Scottish Office, Edinburgh.

Raines, P. and J. Bachtler (1993): The Impact of Business Services in Assisting Small and Medium-Sized Firms to Adapt to the Single Market, paper presented to the Small Business and Small Business Development Conference, April, Leicester.

SCDI (1999a): Survey of Scottish Manufacturing and Exports 1998/99, Scottish Council Development and Industry, Glasgow.

SCDI (1999b): Survey of Scottish Service Sector Exports in 1998/99, Scottish Council Development and Industry, Glasgow.

SCDI (1998): European Union Enlargement Process: A Survey of Scottish Exporters Awareness and Opinions, Scottish Council Development and Industry, Glasgow.

Scottish Enterprise (1999a): Annual Report 1998-99, Scottish Enterprise, Glasgow.

Scottish Enterprise (1999b): Global Companies Enquiry: Draft Research Findings, Scottish Enterprise, Glasgow.

Scottish Enterprise (1996): The Business Birth Rate Strategy: Update, Scottish Enterprise, Glasgow.

Scottish Enterprise (1993a): Scotland's Business Birth Rate, Scottish Enterprise, Glasgow.

Scottish Enterprise (1993b): Improving the Business Birth Rate: A Strategy for Scotland, Scottish Enterprise, Glasgow.

SEP (1995): Western Scotland: Single Programming Document, Strathclyde European Partnership, Glasgow.

Smallbone, D., A. Cumbers, S. Syrett and R. Leigh (1999): The Single European Market and SMEs: a comparison of its effects in the food and clothing sectors in the UK and Portugal. Regional Studies 33: 51-62.

Stories, G. and J. Horne (1999): Economic Review. Scottish Economic Bulletin 58: 5-22.

Turok, I. (1993): Inward investment and local linkages: how deeply embedded is 'Silicon Glen'? Regional Studies 27: 401-417.

Turok, I. with J. Grey, K. Hayton, P. Raines, K. Clement and G. McBride (1994): ERDF Business Development Evaluation (Scottish Objective 2 Areas), The Scottish Office, Edinburgh.

4. Catalonia

4.1. Description of the region

Catalonia has been historically one of the engines of economic growth in Spain. It represents 6.3 % of the Spanish territory but concentrates 15.4 % of total population and 16.6 % of the economically active inhabitants. Besides, it contributes with 20 % of GDP, 25 % of industrial GDP, 27 % of total exports and almost 30 % of imports (see Table A-4-1). GDP per capita in Catalonia is above the Spanish average and increases at a higher rate. Between 1990 and 1998 Catalonia grew at a rate of 2.2 % per year while Spain as a whole reached an annual growth rate of 2 %.

Map A-4-1

Catalonia

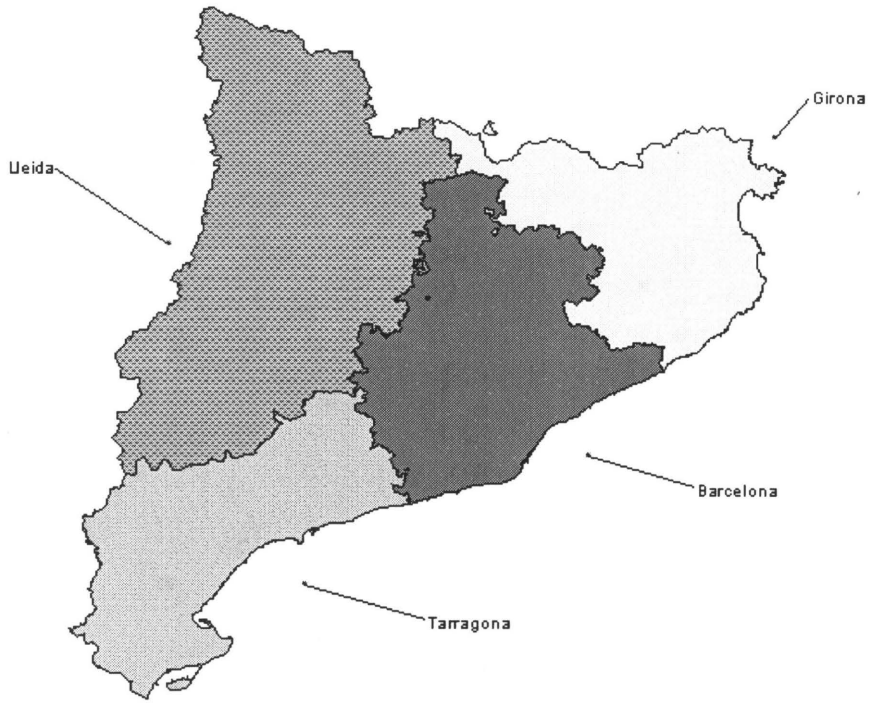


Table A-4-1

Basic Statistics of Catalonia 1998			
	Catalonia	Spain	Catalonia in % of Spain
Territory (1,000 km^2)	32.0	505.0	6.3
Population (1,000 inhab)	6,120.0	39,853.0	15.4
GDP[1]	15,840.4	82,650.3	19.2
Per capita[1]	2,584.0	2,099.0	123.1
GVA[1]	14,893.6	77,451.0	19.2
Agriculture (in %)	1.1	3.2	
Industry (in %)	31.7	25.3	
Construction (in %)	7.3	8.3	
Services (in %)	59.9	63.2	
Employment (1,000 persons)	2,312.7	13,204.9	17.5
Agriculture (in %)	3.5	8.0	
Industry (in %)	29.0	20.5	
Construction (in %)	9.3	9.9	
Services (in %)	58.2	61.6	
Exports[1]	4,406.0	16,290.0	27.0
Agriculture (in %)	1.7	6.5	
Energy (in %)	0.8	2.2	
Manufacturing (in %)	97.5	91.3	
Imports[1]	5,824.0	19,838.0	29.4
Agriculture (in %)	5.9	4.8	
Energy (in %)	3.4	6.5	
Manufacturing (in %)	90.7	88.7	
Economic Active Population (1,000 persons)	2,701.0	16,265.0	16.6
Employment rate (in %)	45.7	40.9	
Unemployment rate (in %)	13.6	18.2	
Activity rate (in %)	52.8	50.0	

Source: INE and IDESCAT - [1] Bilion pesetas

In terms of employment Catalonia has outperformed Spain as well. Both activity rate and employment quota during this decade have been above national figures. In 1997, these variables were 52.8 and 45.7 for Catalonia while for the whole country they reached 50 and 40.9 % respectively. Recent economic trends in Spain are reflected in the diminishing rate of unemployment which, in 1998 was 13.6 % in Catalonia compared to a 18.2 % in Spain. Unemployment is still one of the pending tasks in the positive evolution of the Spanish economy. Both for Catalonia and Spain, the majority of employees work in the service sector, but the figures are slightly different ranging from 58 % in Catalonia to 63 % for the national economy, due mainly to the tourism industry in the southern half of the country. Catalonia has been historically an industrial region and that is reflected in the contribution of the Catalan

industrial sector in the Spanish economy. Industry in Catalonia has a greater contribution to overall economic performance both in terms of employment (29 % in Catalonia compared to 20.5 % in Spain) as well as in Gross Value Added (29.8 % in Catalonia and 23.7 % in Spain).

Concerning international trade, Catalonia is one of the most dynamic regions in the context of the Spanish economy, representing some 30 % of total trade flows. Catalonia has taken advantage of the progressive openness of the Spanish economy in the early 1980s, and more particularly the accession to the European Union represented an extraordinary challenge and a major restructuring of the Catalan economic structure. In this period, the degree of openness of the Catalan economy has increased from a 38.8 % in 1986 to a 64.4 % in 1998.

4.2. Contribution of SMEs to regional economic development

4.2.1 Brief historical overview

Catalonia has been, historically, a region with a strong tradition in manufacturing activities dominated mainly by SMEs. From an historical perspective, there are several elements that help to explain this fact, of which we should mention natural resources availability, technological adoptions and development, institutional and financial structures and market size among others.

The oil crisis of the 1970s strongly affected the productive structure of the region, mainly because its own industrial base, characterised by a low degree of openness, scarce technology-intensive activities and an institutional framework that did not provide support to firms, basically through financial resources. Among the factors that explain the impact of the crisis for Catalan firms we should note: (a) an increase in production costs; (b) increased competition from Less Developed Countries (LDC) specialised in final consumption goods like Catalonia; and (c) a rapid technological change that Catalan firms were not able to absorb. All that meant stagnant production, increasing unemployment, low investment rates and a high rate of firm failure. The economic crisis overlapped with a profound political crisis that reinforced the pressures over firms.

These circumstances fostered a deep transformation of the Catalan (and Spanish) productive structure in the mid-1970s that still continues. The crisis affected particularly medium and large sized firms because the protected market generated oversized firms due to low productive efficiency, meanwhile small firms were more flexible to face fluctuations in demand. The gap was progressively filled by Multinational Corporations (MNC) that perceived Catalonia as an attractive location due to its industrial tradition. Obviously, that inflow drove to a higher production concentration but also attracted investment to some sectors that otherwise would have disappeared. Besides, MNC also helped to intensify local competition in a traditionally protected market.

When in 1986 Spain adhered to the European Union, a great deal of the adjustment process was completed, with less competitive firms no longer existing, but also with a big gap to fill towards other EU members with a long industrial tradition, with more mature markets, better

institutional frameworks and a long experience of international competitiveness. Since its adhesion to the EU, Spain in general and Catalonia in particular have been converging to the EU average structure but still lagging behind in some topics. At present, Catalan firms are still in the adjustment process towards internationalisation and competitiveness, but they are strongly backed up with previous experience. In Catalonia, the industrial tradition is accompanied of a strong entrepreneurial tradition that have helped to consolidate these activities.

4.2.2 Available information and data sources

There is not consistent data on the structure of the Spanish economy by firm size, nor for the Catalan. Nevertheless, there are some sources of statistical information that allow for an approximation to the real size structure of the economy.

- First of all, there is a Central Directory of firms (DIRCE) carried out by the National Statistical Institute (INE) which provides detailed information on the number of registered firms by size (number of employees) and regional desegregation but, unfortunately, they don't publish variables such as employment, turnover or gross value added.
- The Ministry of Finance, through the Institute of fiscal studies (IEF) publishes statistical data on the size structure of the Spanish economy but two major problems appear. First, the information provided for the regions is extremely poor. Second, the last published year corresponds to 1995.
- The Bank of Spain publishes yearly Balance Sheet statistics (CBBE) coming from a sample of firms that voluntarily agree to fulfil a questionnaire. This publication offers a wide range of financial and economic variables by size of firms and activity sector which are very useful for understanding the size structure of the Spanish economy. However, two main problems arise. First, there is not detailed regional desegregation what makes this source little useful for our purposes. Secondly, the coverage of the sample is low, representing a mere 20 % of total GVA and employment. Second, this percentages also vary geographically and by firm size, with a clear bias towards large firms. Thus, we have both a spatial and size bias.
- Taking a regional sub-sample of the previous database, the Catalan authorities publish yearly a report on the Catalan enterprises (GC) offering comprehensive information about the performance of firms by size and sector making this publication almost the only source for approximating the contribution of SMEs to the economic development of the region. Nevertheless, being a sub-sample of the above-mentioned database, the bias are magnified.
- Finally, the Catalan Statistical Institute (IDESCAT) publishes yearly comprehensive statistical information on enterprise size but only for the industrial activities, again imposing a bias on the analysis. IDESCAT is also the source of statistical information on trade flows, foreign direct investment (FDI) and the rest of variables used in this survey.

4.2.3. SMEs in Catalonia: employment, production and markets

The last available Directory of firms estimates that in 1997 there were in Catalonia some 478.734 firms, that is, 19 % of total firms in Spain (Table A-4-2). If we exclude the self-employed or firms with no employees, the number reduces in 1999 to some 238.694 firms employing 2.116.686 workers. Firms with less than 50 workers represent in Catalonia 99.1 % of total firms, while in Spain that figure is 99.3 %. On the contrary, if we exclude self-employment, the figure decreases to 97.7 % for Catalonia meanwhile for Spain the figure remains constant (a mere reduction of 0.2 %) giving an approximation of the strong entrepreneurial tradition of the region. As can be seen in Table A-4-3, the size structure of the Catalan and Spanish economies are relatively similar, SMEs representing 99.8 % and 99.9 % respectively of total firms. Nevertheless, the average firm size is lower in Catalonia – with 4.8 workers per firm – than in Spain – 5.3 workers. In terms of firm density, there are again significant differences among Spanish regions, being Catalonia one of the most dynamic in terms of firm creation. In 1998, there were created 21,867 new firms in Catalonia, 15 % more than the previous year, representing 20 % of total new firms created in Spain. There are in Catalonia 78.2 firms per 1,000 inhabitants while the average for the Spanish economy is 62.1. Again, if we consider only small firms, there are 77.5 small firms per 1,000 inhabitants in Catalonia compared to an average of 61.6 in Spain.

The structure of the Catalan productive system is similar to those of the most industrialised regions in the EU, presenting some differences in structure with the Spanish economy as a whole. In Catalonia, 70.3 % of firms (again excluding self-employed, as explained before) are located in the service sector, 28.8 % being industrial enterprises and only 0.9 % of total firms

Table A-4-2

Companies by size
1998

Total Employment	Catalonia		Spain		Catalonia in % of Spain
	number	%	number	%	
0-9	448,777	93.7	2,341,143	94.6	19.2
10-19	16,133	3.4	73,938	3.0	21.8
20-49	9,583	2.0	41,689	1.7	23.0
50-99	2,336	0.5	9,932	0.4	23.5
100-199	1,056	0.2	4,430	0.2	23.8
200-499	607	0.1	2,491	0.1	24.4
500 or more	242	0.1	1,067	0.0	22.7
Total	478,734	100.0	2,474,690	100.0	19.3

Source: DIRCE, INE.

Table A-4-3

Number of firms by sector and size
1999

	Micro		Small		Medium		Large		Total	
	Firms	Employ-ment	Firms	Employ-ment	Firms	Employ-ment	Firms	Employ-ment	Firms	Employ-ment
Agriculture, hunting and related activities	1,565	3,531	98	1,996	10	875	1	868	1,674	7,270
Forestry, logging and related service activities	70	201	9	174	1	56			80	431
Fishing, operation of fish hatcheries and fish farms	17	55	1	31					18	86
Mining of coal and lignite, extraction of peat	18	44	2	35	1	105			21	184
Extraction of crude petroleum and natural gas	4	16	1	14					5	30
Mining of metal ores	5	31	3	55					8	86
Other mining and quarrying	140	517	67	1,313	5	298	2	919	214	3,047
Food products and beverages	2,881	9,734	788	17,312	177	18,198	32	15,312	3,878	60,556
Tobacco products	4	5			1	88	1	352	6	445
Textiles	2,455	8,224	833	18,873	195	20,044	21	8,997	3,504	56,138
Wearing apparel, dressing and dyeing of fur	2,557	8,179	465	9,608	58	5,395	5	2,394	3,085	25,576
Leather, manufacture of luggage, handbags, saddlery	180	577	50	1,075	13	1,345	2	923	245	3,920
Wood and of products of wood and cork	2,297	6,035	284	5,484	31	2,688	1	390	2,613	14,597
Pulp, paper and paper products	418	1,418	214	4,976	58	6,154	8	2,789	698	15,337
Publishing, printing and reproduction of recorded media	2,914	8,867	610	12,713	99	9,511	10	4,225	3,633	35,316
Coke, refined petroleum products and nuclear fuel	5	38	6	148	2	209	1	719	14	1,114
Chemicals and chemical products	1,143	3,557	450	11,142	182	19,820	45	20,513	1,820	55,032
Rubber and plastic products	994	3,624	412	9,912	101	10,108	14	5,706	1,521	29,350
Other non-metallic mineral products	1,153	3,813	349	7,790	67	7,100	4	3,837	1,573	22,540
Basic metals	339	1,240	136	3,188	42	3,923	7	3,568	524	11,919
Fabricated metal products, except machinery and equipment	5,978	18,866	1,294	26,751	162	15,506	14	5,063	7,448	66,186
Machinery and equipment nec	2,025	7,055	652	14,047	108	9,656	10	6,975	2,795	37,733
Office machinery and computers	61	190	11	205	3	305			75	700
Electrical machinery and apparatus nec	1,028	3,317	307	7,087	76	8,096	21	12,694	1,432	31,194
Radio, television and communication equipment	223	791	96	2,252	22	2,452	3	1,435	344	6,930
Medical, precision and optical instruments	418	1,316	126	2,902	23	2,278	4	1,360	571	7,856
Motor vehicles, trailers and semi-trailers	321	1,031	174	3,961	85	10,478	34	33,085	614	48,555
Other transport equipment	182	546	47	989	4	478	3	1,870	236	3,883
Furniture	2,543	7,397	430	8,913	53	4,807	6	2,961	3,032	24,078
Recycling	69	301	23	509	1	115			93	925
Electricity, gas, steam and hot water supply	122	368	37	845	15	1,747	4	4,531	178	7,491
Collection, purification and distribution of water	151	497	45	931	11	1,134	2	1,737	209	4,299
Construction	24,574	74,147	3,669	73,647	356	30,371	13	5,704	28,612	183,869
Sale, amintenance and repair of motor vehicles	7,176	18,691	814	17,096	92	7,339	2	1,143	8,084	44,269
Wholesale trade	16,177	51,260	2,851	57,811	281	25,081	23	13,313	19,332	147,465
Retail trade	37,081	86,504	2,045	40,252	193	17,979	60	45,795	39,379	190,530
Hotels and restaurants	17,429	45,067	1,454	29,928	175	15,591	18	9,837	19,076	100,423

Table A-4-3 (continued)

	Micro		Small		Medium		Large		Total	
	Firms	Employ-ment	Firms	Employ-ment	Firms	Employ-ment	Firms	Employ-ment	Firms	Employ-ment
Land transport	6,100	16,131	765	15,842	93	8,134	11	10,148	6,969	50,255
Water transport	26	68	8	182	1	66			35	316
Air transport	26	114	16	373	2	132	1	263	45	882
Supporting and auxiliary transport activities, travel agencies	2,388	7,905	439	9,082	78	7,498	14	8,332	2,919	32,817
Post and telecommunications	343	1,322	118	2,500	20	1,925	13	13,660	494	19,407
Financial intermediation, except insurance and pension funds	249	864	89	2,041	63	7,433	27	34,303	428	44,641
Insurance and pension funding	674	1,912	133	2,854	55	5,343	19	8,923	881	19,032
Activities auxiliary to financial intermediation	1,450	3,006	61	1,270	4	366			1,515	4,642
Real state activities	8,155	15,615	265	5,146	20	1,605	1	335	8,441	22,701
Renting of machinery and equipment	836	2,201	92	1,708	9	873	1	356	938	5,138
Computer and related activities	1,211	3,766	240	5,271	61	5,925	8	3,866	1,520	18,828
Research and development	139	468	38	753	10	967	3	1,131	190	3,319
Other business activities	15,535	42,529	2,141	46,128	532	53,240	102	63,489	18,310	205,386
Public administration and defence, social security	2,054	6,572	679	16,388	314	35,410	74	58,575	3,121	116,945
Education	3,904	14,462	1,542	35,922	266	22,463	24	14,423	5,736	87,270
Health and social work	5,804	14,827	801	17,581	171	19,921	98	75,936	6,874	128,265
Sewage and refuse disposal, sanitation and similar activities	290	927	65	1,519	21	2,610	6	4,316	382	9,372
Activities of membership organization nec	4,569	8,825	298	6,460	61	5,532	10	4,120	4,938	24,937
Recreational, cultural and sporting activities	4,119	11,185	666	14,699	86	8,325	8	4,512	4,879	38,721
Other service activities	8,334	16,159	267	5,186	43	3,908	5	2,954	8,649	28,207
Private households with employed persons	4,560	5,481	5	127	1	72			4,566	5,680
Extra territorial organizations and bodies	41	138	5	68	1	52			47	258
Other	170	271	3	36					173	307
Totak	205,694	551,798	27,589	585,101	4,615	451,130	796	528,657	238,694	2116686
In %	*86.2*	*26.1*	*11.5*	*27.6*	*1.9*	*21.31*	*0.3*	*25.0*	*100.0*	*100.0*

Source: Ministerio de Trabajo y Asuntos Sociales

are in the primary sector. Overall, only 0.3 % of firms are considered as large firms while the remaining share is distributed as follows: 86.2 % are microfirms (with less than 10 workers), 11.6 % are small firms (between 10 and 49 employees) and 1.9 % are medium sized enterprises (with more than 50 but less than 250 workers). By sector, these figures are somewhat different. In the industrial sector the share of micro firms falls to 80 % while that for small and medium sized is 19.6 %. In the service sector the distribution follows more approximately the overall distribution.

Table A-4-4

Industrial turnover in Catalonia by sector 1998		
	PTA, mill.	%
Energy and mineral products	908,542	5.9
Food processing and beverage	2,418,582	15.7
Textiles, clothing and leather	1,218,734	7.9
Wood products	186,326	1.2
Paper, printing and publishing	1,244,229	8.1
Chemical industry	2,440,532	15.8
Rubber and plastic materials	769,362	5.0
Other non metallic mineral products	564,093	3.7
Basic metal and metallic products	1,156,819	7.5
Mechanical machinery and equipment	839,007	5.4
Office machinery and technical instruments	375,995	2.4
Electrical machinery and electronics	962,804	6.2
Transport equipment	1,956,636	12.7
Other manufacturing	404,357	2.6
TOTAL INDUSTRY	15,446,018	100.0
Source: IDESCAT		

As with advanced economies, in terms of employment the largest share corresponds to the service sector, with 58.2 % and the share of industrial activities being 29 % of total employment in the region –above the European average. Even if the biggest share of firms and employment corresponds to the service sector, Catalonia is basically an industrial region, specialised in processing activities, mainly in the different metallurgy activities and in the chemical industry. Table A-4-4 shows the sub-sectoral distribution of turnover in the Catalan industry.

In terms of employment, SMEs in Catalonia represent 75 % of total employment while the remaining 25 % corresponds to large-scale enterprises. More detailed data show that microfirms concentrate 26.1 %, small firms represent 27.6 %, while medium sized firms generate 21.3 % of total employment in the region. The sectoral distribution of employment by firm size also offers interesting insights. For example, industrial SMEs almost represent almost 80 % of total industrial employment while in the service sector the employment share of SMEs is nearly 72 %, again more similar to the overall distribution of employment by firm size.

Finally, as Table A-4-5 shows, there is a strong correlation between firm size and the relevance of local markets. In Catalonia, 52 % of the sales of small firms are directed to the Catalan market, some 30 % to the Spanish market and 11.9 % to the EU. Only a small share of 5 % corresponds to non-EU exports. Medium sized enterprises rely less on local markets but strongly on the national market. Large firms depend mostly on sales towards national and European markets. For both medium and large sized enterprises, sales to non-EU countries are higher than those of small firms but seem to be relatively low as well.

Table A-4-5

Sales of Catalan firms by destination and firm size[1] 1997; %					
Firm Size[2]	Catalonia	Rest of Spain	European Union	Rest of the World	Total
20-49	52.00	31.14	11.88	4.99	100.00
50-99	38.95	35.21	16.42	9.42	100.00
100-249	28.80	43.18	19.69	8.33	100.00
250-500	25.79	44.95	21.26	7.99	100.00
500 or more	25.41	37.55	30.36	6.68	100.00
Total	32.81	38.45	21.43	7.30	100.00
Source: IDESCAT – [1]Data is only available for firms with more than 20 employess. [2]Number of Employees.					

4.2.4 Impact of European Union policies

As the income per capita in Catalonia is closer to the European average, the region is one of the few zones in the Spanish economy not included in the Objective 1. Nonetheless, the major part of the region is eligible as Objectives 2 or 5b (Table A-4-6). Nearly 65 % of total population – nearby 4 million people – is living in eligible zones for Structural Funds (Patronat Català Pro Europa 2000). Besides, the region also receive structural funds through Objectives 3 and 4, several Community initiatives and, mainly, the cohesion funds. In all of them, the most important is Objective 2.

Table A-4-6

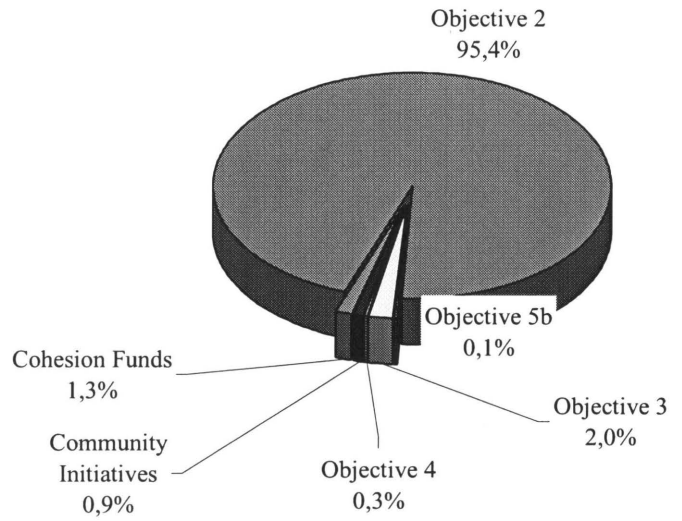
Expenditures from Structural funds in Catalonia and Spain 1994-1999, million of ECU at 1994 prices			
	Catalonia	Spain	Catalonia as % of Spain
Objective 2	1,199	2,416	49.6
Objective 5b	148	664	22.3
Total Objectives 2 and 5b	1,347	3,080	43.7
Source: European Union (1999)			

Focusing on the regional Objectives 2 and 5b, Catalonia receives 50 % and 22 % of these structural funds directed to Spain, respectively. Meanwhile, the eligible zones for the Objective 2 are mainly concentrated in the province of Barcelona, the eligible zones for the Objective 5b are mostly in the provinces of Lleida and Girona.

There is not available information about the specific impact of Community regional policy on regional SMEs. But it is possible to expect an important impact of European Union regional policy for Catalan SMEs for three reasons: (a) the relative importance of Objective 2 and 5b funds with respect to Spain as a whole; (b) the importance of SMEs in the Catalan economy – specially in the most vulnerable industries; and (c) the relative size of population in eligible zones.

Figure A-4-1

Current interventions co-financed by the Catalan Regional Government at 31/12/98[1]



Source: Pardo and Arlegui (2000). - [1]Not included co-financed interventions by national and local administration

A detailed analysis of the goals of Objective 2 programs allows confirmation of the significance of the European policies for the SMEs in the region (Table A-4-7). It reveals how the first priority in this objective –that is, employment and competitiveness of enterprises – was basically oriented to SMEs, specially during the first period (1994-1996). There where two kind of measures[11]. The first category was directly oriented to SMEs, including financial aid to SMEs – mainly, lower interest rates and guarantee facilities – and the support to national and regional schemes in technology and environmental improvements[12]. The second category was aimed to the creation and improvement of business infrastructure and services – as business services and industrial parks, the support to consortiums for commercial promotion and internationalisation, logistical services and training programmes. In this field, only the support to the creation of IDIADA – a research laboratory for the automobile sector – was mainly oriented to big enterprises.

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[11] For the period 1994-1999, the total amount for the first kind of measures was the 36,5% and the remaining 63,5% for the second one.

[12] As the programs Pati-II, Pitma-II, Arte/PYME, CDTY or ATYCA, for instance.

Table A-4-7

Regional Policies by Programme
1994-1997, % of total

Priority	Programme	Distribution
	OBJECTIVE 2	
1	Employment and the competitiveness of enterprises	39.5
2	Industrial environment	7.4
3	Research, technology and innovation	7.4
4	Transport relating to economic activity	23.7
5	Local and urban development	21.6
6	Technical assistance	0.4
	OBJECTIVE 5b	
1	Basic economic infrastructure	25.6
2	Economic diversification and job creation	28.1
3	Protection of natural resources	25.7
4	Improving the rural habitat	4.7
5	Human resources	15.8

Source: European Union 1999.

The second, third and fourth priorities only benefit SMEs indirectly. All the measures were basically construction of public infrastructure in order to improve the environmental, research and transport frameworks for enterprises. Finally, the local and urban development program was mainly oriented to give support to unemployed – basically training – and to promote the restoration and reuse of space for socio-economic purposes.

In relation to the Objective 5b programs, only the second priority –the economic diversification and job creation – was oriented specifically to SMEs, meanwhile the impact of the remaining programs was indirect.

4.3. Impact of enlargement on Catalan SMEs

4.3.1 Trade relations and competitiveness

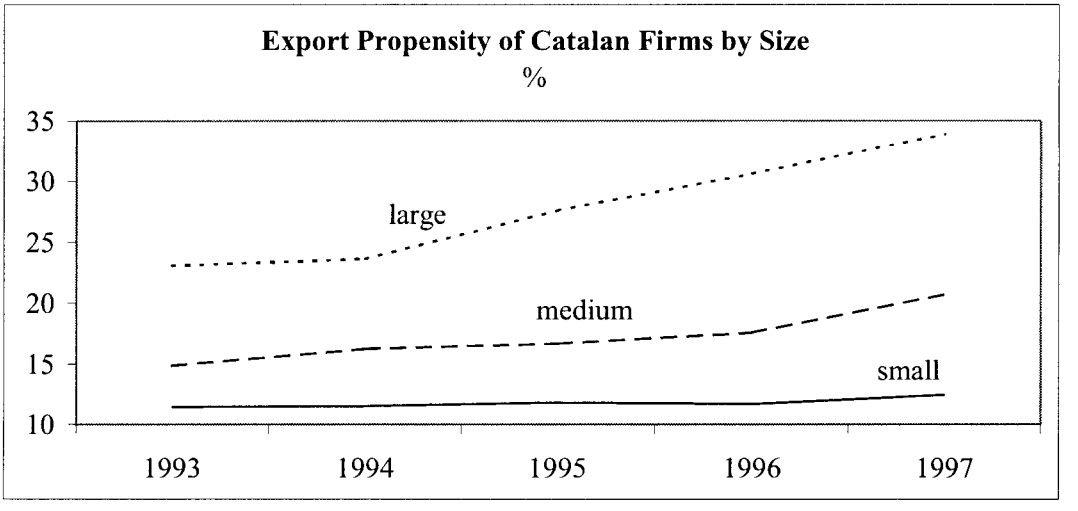
In recents years, trade flows between Catalonia and the Central and Eastern countries have grown steadily but at present they remain at a very low level. That is, in 1998 exports from

Catalonia to the five accession countries[13] represented just 2.2 % of total exports and a 1.0 % of total imports, while in 1994 they where 1.3 % and 0.6 %, respectively.

This fact could lead to a rash conclusion: that the incidence of the European Union enlargement would be insignificant for the small and medium sized enterprises in Catalonia. However, several studies predict that these bilateral trade relations will grow vigorously in the next years as the economic reestructuring process goes on and trade barriers are progressively removed[14]. Any commercial liberalisation has a double impact on an economy. On the one hand it offers the opportunity for a better access to export markets. But, on the other hand, it also represents a risk of greater competition from imports and, in consequence, a challenge for productive adjustment.

As a general pattern, the perspectives of a strong growth in these economies as they join the European integration process seem to offer an opportunity for the Catalan small and medium sized enterprises to increase their potential demand for exports. Although the relative levels of income in the accession countries are low – and, as a consequence, the dimension effect would be of a moderate intensity – it is predicted to accelerate their economic growth and demand for consumer and capital goods as economic liberalisation advances. Anyway, as we saw in section 2.3 and the Figure A-4-2 shows, sales of Catalan SMEs are oriented preferably towards the local and national market – especially the smallest enterprises – although their export propensity has increased in the last years encouraged by a more competitive change in the peseta exchange rate. In spite of this local tendency, the Catalan SMEs also could be favoured if the enlargement encourages the export behaviour of large enterprises located in the region, in case of local SMEs are a significant part of their suppliers. The increase in the demand of a product encourages the activity along all the production line.

Figure A-4-2



[13] That is, the Czech Republic, Poland, Hungary, Estonia and Slovenia.

[14] For instance, Gual and Martín (1995) and Martín (1997).

At the same time, it could be expected that labour-intensive activities would be more sensitive to the competition from the accession countries, which offer lower wages, both in the domestic market and in the whole European Union. As long as the weight of SMEs is greater in these activities, the impact will be less favourable. Moreover, the speed of adaptation to new market opportunities, the nature of their main competitive sources and their degree of internationalisation or dependence on local market are also determining factors of the economic effects of EU-enlargement for these companies.

Therefore, the impact will depend mainly on sectoral factors. As a consequence, it is necessary to investigate the composition of current bilateral trade flows to identify the strong and weak competitive points in both areas. In the Table A-4-8 we present the sectoral structure of the transactions and a measure of the respective competitive positions. Thereby we compute the Revealed Comparative Advantage Index (RCAI) for a set of 18 representative industrial activities:

$$RCAI_{ij} = (X_{ij} - M_{ij}) / (X_{ij} + M_{ij}),$$

with: X_{ij} exports of product j in country i,

M_{ij} imports of product j in country i.

The results show a high degree of sectoral concentration in the exchanges. Also, they reveal that Catalonia presents a significant favourable trade balance, with the exception of trade flows with the Czech Republic. Catalonia looks more competitive in most of the manufactured activities. Food processing and beverages, publishing and printing, tanning and dressing of leather, medical, precision and optical instruments and machinery and mechanical appliances are identified as the most competitive ones in Catalonia. On the contrary wood, mineral and paper products seem to be the most competitive goods in the case of the accession countries.

Nevertheless, these results should be contrasted by different reasons:

- First, because the scope of these competitive advantages in the case of SMEs depends on their share in each sector activity.
- Second, because the RCAI is highly dependent on the overall trade balance and it tells nothing about the importance of each product in the trade flows.

Table A-4-8

Catalonia Trade with the Accession Countries 1998	Czech Republic	Poland	Hungary	Estonia	Slovenia	Total
			Exports			
Food processing and beverage	681	1.279	437	248	448	2.645
Energy and mineral products	31	7	5	0	4	43
Chemical industry	2.724	3.157	1.996	166	763	8.043
Rubber and plastic products	702	2.821	1.082	37	371	4.642
Tanning and dressing of leather	222	236	821	3	19	1.282
Wood products	24	126	22	3	3	175
Paper	159	375	116	13	22	663
Printing and publishing	61	538	18	5	22	622
Textiles	756	3.539	495	107	345	4.897
Clothing	71	117	169	2	20	359
Other non-metallic mineral products	482	661	187	23	61	1.353
Basic metals and metal products	1.021	960	531	58	205	2.570
Machinery and equipment	2.220	5.500	2.054	93	396	9.867
Electrical machinery and electronics	1.920	10.754	2.079	30	324	14.783
Transport equipment	7.369	10.879	11.652	288	4.090	30.188
Medical and precision instruments	473	239	905	63	97	1.680
Other manufacturing	529	1.931	650	140	387	3.250
Total industry	19.445	43.119	23.219	1.279	7.577	87.062
			Imports			
Food processing and beverage	51	41	101	0	214	193
Energy and mineral products	47	1	9	83	0	140
Chemical industry	2.260	2.010	2.566	78	368	6.914
Rubber and plastic products	779	1.185	1.330	0	303	3.294
Tanning and dressing of leather	76	48	53	17	313	194
Wood products	134	625	102	18	36	879
Paper	584	761	36	6	214	1.387
Printing and publishing	14	114	5	0	14	133
Textiles	897	86	834	182	125	1.999
Clothing	64	56	66	0	2	186
Other non-metallic mineral products	775	191	59	0	218	1.025
Basic metals and metal products	943	749	766	0	426	2.458
Machinery and equipment	3.009	380	205	5	554	3.599
Electrical machinery and electronics	1.190	3.475	7.885	0	435	12.550
Transport equipment	11.482	2.871	1.226	0	45	15.579
Medical and precision instruments	152	252	80	0	903	484
Other manufacturing	425	268	46	8	276	747
Total industry	22.882	13.113	15.369	397	4.446	51.761
			Revealed Comparative Advantage Index[1]			
Food processing and beverage	0,86066	0,93788	0,62454	1,00000	0,35347	0,86399
Energy and mineral products	-0,20513	0,75000	-0,28571	-1,00000	1,00000	-0,53005
Chemical industry	0,09310	0,22199	-0,12495	0,36066	0,34925	0,07548
Rubber and plastic products	-0,05199	0,40839	-0,10282	1,00000	0,10089	0,16986
Tanning and dressing of leather	0,48993	0,66197	0,87872	-0,70000	-0,88554	0,73713
Wood products	-0,69620	-0,66445	-0,64516	-0,71429	-0,84615	-0,66793
Paper	-0,57201	-0,33979	0,52632	0,36842	-0,81356	-0,35317
Printing and publishing	0,62667	0,65031	0,56522	1,00000	0,22222	0,64768
Textiles	-0,08530	0,95255	-0,25508	-0,25952	0,46809	0,42024
Clothing	0,05185	0,35260	0,43830	1,00000	0,81818	0,31743
Other non-metallic mineral products	-0,23309	0,55164	0,52033	1,00000	-0,56272	0,13793
Basic metals and metal products	0,03971	0,12346	-0,18119	1,00000	-0,35024	0,02228
Machinery and equipment	-0,15089	0,87075	0,81850	0,89796	-0,16632	0,46547
Electrical machinery and electronics	0,23473	0,51156	-0,58270	1,00000	-0,14625	0,08170
Transport equipment	-0,21818	0,58240	0,80960	1,00000	0,97823	0,31920
Medical and precision instruments	0,51360	-0,02648	0,83756	1,00000	-0,80600	0,55268
Other manufacturing	0,10901	0,75625	0,86782	0,89189	0,16742	0,62622
Total industry	-0,08120	0,53361	0,20343	0,52625	0,26042	0,25429

Source: IDESCAT. –[1]For calculation see text.

Therefore, it is useful to weigh the RCAI by the share of SMEs in sectoral employment (Table A-4-9). The results reveal that the evaluation is not so positive in the case of the SMEs as a whole because of the greater weight in some sectors with comparative disadvantage – as in wood and leather – and the lower share in the activities with high comparative advantage – as in transport equipment or food processing. In particular, it is less favourable in the case of small companies – those with less than 50 employees – for the same reasons.

In the same way, it seems interesting to isolate the influence of the overall trade evolution by means of a standardisation procedure. So, a new Standardised Revealed Comparative Advantage Coefficient (SRCAC) is computed for a product disagregation of first two-digit level in the CN-code. That is:

$$SRCAC_{ij} = (A_{ij} - B_i) \cdot S_i,$$

With: $Aij : (Xij - Mij) / (Xij + Mij)$,

$Bi: (Xi - Mi) / (Xi + Mi)$,

$Si: [100 / (1 - Bi)]$ if $Aij > Bi$ or $[100 / (1 + Bi)]$ if $Aij < Bi$

Table A-4-9

Weighted Revealed Comparative Advantage Index for Catalonia
1998

	Total exports in % (1)	Total imports in % (2)	Total trade in % (3)	Total RCAI (4)	Contri-bution (5)= (3)*(4)	Share SMEs (6)	Share SEs (7)	Impact on SMEs (8)= (5)*(6)	Impact on SEs (9)= (5)*(7)
Food processing and beverage	3.04	0.37	2.04	0.8640	0.0177	74.32	44.35	0.0131	0.0078
Energy and mineral products	0.05	0.27	0.13	-0.5301	-0.0007	63.28	49.56	-0.0004	-0.0003
Chemical industry	9.24	13.36	10.77	0.0755	0.0081	62.73	26.71	0.0051	0.0022
Rubber and plastic products	5.33	6.36	5.72	0.1699	0.0097	80.56	46.12	0.0078	0.0045
Tanning and dressing of leather	1.47	0.37	1.06	0.7371	0.0078	76.45	42.14	0.0060	0.0033
Wood products	0.20	1.70	0.76	-0.6679	-0.0051	97.33	78.91	-0.0049	-0.0040
Paper	0.76	2.68	1.48	-0.3532	-0.0052	81.82	41.69	-0.0043	-0.0022
Printing and publishing	0.71	0.26	0.54	0.6477	0.0035	88.04	61.11	0.0031	0.0022
Textiles	5.62	3.86	4.97	0.4202	0.0209	83.97	48.27	0.0175	0.0101
Clothing	0.41	0.36	0.39	0.3174	0.0012	90.64	69.55	0.0011	0.0009
Other non-metallic mineral prod.	1.55	1.98	1.71	0.1379	0.0024	82.98	51.48	0.0020	0.0012
Basic metals and metal products	2.95	4.75	3.62	0.0223	0.0008	88.95	64.07	0.0007	0.0005
Machinery and equipment	11.33	6.95	9.70	0.4655	0.0452	81.85	55.93	0.0370	0.0253
Electrical mach. and electronics	16.98	24.25	19.69	0.0817	0.0161	62.94	35.27	0.0101	0.0057
Transport equipment	34.67	30.10	32.97	0.3192	0.1052	33.34	12.45	0.0351	0.0131
Medical and precision instruments	1.93	0.94	1.56	0.5527	0.0086	82.69	53.69	0.0071	0.0046
Other manufacturing	3.73	1.44	2.88	0.6262	0.0180	87.70	67.74	0.0158	0.0122
Total	100.00	100.00	100.00	0.2543	0.2543	75.80	47.51	0.1519	0.0870

Author's computations

Table A-4-10

Standarised Revealed Comparative Advantage Coefficient (SRCAC) for Catalonia 1998		
Product category	Share in trade, in %	SRCAC Value
Catalan exports		
Transport equipment	34.83	5.16
Machinery and mechanical appliances	11.39	16.90
Plastic products	4.14	8.67
Perfumery and cosmetic products	2.06	97.45
Soap and cleaning products	1.82	99.49
Knitted or crocheted articles	1.80	7.42
Furniture and technical furnishings	1.74	52.43
Pharmaceutical products	1.65	19.51
Medical, precision and optical instruments	1.61	54.64
Textile articles for technical use	1.51	96.14
Catalan imports		
Electrical machinery and equipment	24.43	-13.61
Organic chemicals	6.43	-72.27
Vanish, dyes, pigments and paints	3.79	-66.88
Rubber and rubber products	3.15	-37.07
Paper and paperboard	2.68	-48.73
Articles of iron and steel	2.63	-21.84
Wood and articles of wood	1.68	-91.39
Aluminium and articles of aluminium	1.53	-44.50
Special textiles	1.37	-80.46
Glass and articles of glass	1.30	-27.72
Author's computations. For details see text.		

This index has been computed only for those goods with a share in total exports or imports greater than 1 %. With this methodology both the influence of changes in the overall trade balance and the presence of the same categories of goods identified as very strong or very weak in competitiveness but with a extremely low weight in the trade flows are removed.

In table A-4-10 are presented both the value of the SRCAC and the share of each category of product in the trade flows. It shows that Catalonia presents a significant competitive position in several goods which have a significant importance in its exports – such as pharmaceutical and some chemical products, medical, precision and optical instruments, some textiles for technical applications, machinery and mechanical appliances or transport equipment, all of them highly intensive in technology and capital. On the other hand, the accession countries show a strong competitive position in some of the main imports of Catalonia. This is the case, in particular, for electrical machinery and equipment and also some basic chemical products, rubber, wood, iron, steel, glass and paper. Most of them are intermediate goods or raw materials, that is, products intensive in natural resources and labour which benefit from a favourable resources endowment and a lower labour cost.

Table A-4-11

Intra-industrial Trade of Catalonia with Accession Countries 1994-1998			
	Grubel/Lloyd Indices		Marginal Index of Intra-industrial Trade
	1994	1998	1994-98
Czech Republic	0.5045	0.6887	0.4168
Poland	0.3761	0.3710	0.1029
Hungary	0.3718	0.2925	0.2212
Total	0.6054	0.6358	0.4828
Author's computations. For details see text			

Although these results could lead to the conclusion that the main pattern in this bilateral trade has an inter-industrial nature, we can notice also a strong sectoral concentration in some capital goods, that could point out the supremacy of an intra-industrial pattern in the trade flows – that is, machinery and mechanical appliances, electrical machinery and electronics and the transport equipment which explain, as a whole, 60 % of the trade flows between Catalonia and the accession countries. So, deeper research is necessary: therefore, it is computed the Grubel-Lloyd's Intra-industrial Index (GLII) for the bilateral trade flows in each product (j) between Catalonia and each accession country (i):

$$GLII_{ij} = 1 - [\,|X_{ij} - M_{ij}| / (X_{ij} + M_{ij})].$$

This index is calculated for the trade flows with Czech Republic, Poland and Hungary at the two-digit level of the CN-codes and is aggregated to our 18 industrial sectors by means of the use of the relative size of exports and imports of each product as weights.

The results show a small increase in the index between 1994 and 1998 for the whole countries (Table A-4-11). As the intra-industrial pattern is predominant, the differences in competitive levels among both areas could be outweighted by strategies of product differentiation and, as a consequence, the cost of adjustment induced by the trade liberalisation may be lower. If consumer demand is sensitive to a wide range of products of different quality, style, technology, design and price, it may be easier for a SME to find a product niche in the market.

However, a country by country analysis reveals that only in the case of the Czech Republic the intra-industrial patterns seems to be prevailing. The values of the GLII are much lower in the case of the trade flows with the other two economies and show decreasing trends between 1994 and 1998. Moreover, it is necessary to remember that changes in industrial competitiveness and the adjustment costs promoted by trade liberalisation have to be analysed from a dynamic view. So, a Marginal Index of Intra-industrial Trade (MIIT) was built[15] to

[15] As it was elaborated by Brülhart (1994).

measure the intensity of the transition to an intra-industrial pattern in the trade flows of each country between 1994 and 1998. This coefficient is calculated :

$$MIIT_{ij} = \Sigma\, p_j \cdot [1 - ((|\Delta X_{ij} - \Delta M_{ij}|)/(|\Delta X_{ij}| + |\Delta M_{ij}|))],$$

with p_j as the share, in year 1994, of each product j in the bilateral trade flows. The results reveal that the shift to an intra-industrial pattern is only significant in the Czech Republic and it is still very low in the other two countries. Anyway, the overall impact is weak. By sector, just in transport equipment –in the case of the Czech Republic and Hungary—, in machinery and mechanical appliances –in the case of the Czech Republic and Poland – and in electrical machinery and equipment –in the case of the three countries— is a significant advance to an intra-industrial pattern revealed, although probably by means of very specific products or products coming from production processes with low added value.

Table A-4-12

Technological Content of Catalonian Exports
1994-1998

	Export in PTA mill		Annual Increase in %	Export Share in %		Share of SMEs in Sectoral Employment	Share in SMEs
	1994	1998	98/94	1994	1998	1998	1998
High technological content	376,650	773,935	19.7	16.1	18.1	65.67	7.79
Medium technological content	1,183,602	2,096,681	15.4	50.5	49.1	69.89	40.79
Low technological content	781,155	1,401,947	15.7	33.4	32.8	83.34	51.42
Total industrial export	2,341,407	4,272,563	16.2	100.0	100.0	75.80	100.00

Author's computations

A closer look to the technological content of the Catalan industrial exports confirms that the region is increasingly specialised in advanced technology-intensive products (Table A-4-12). Therefore, it looks less sensitive to a competition pattern based on low wages (costs). However, the presence of SMEs in high technological-intensive activities is smaller than in the other industrial sectors, probably by the requiered productive conditions and the significance of internal scale economies in this activities. In fact, half of the SME employment is concentrated in production with a relative low technological content. As a consequence, the negative effects of stronger external competition based on lower costs only could be offset if SMEs strengthen the ability to differentiate their product, both in technological and in quality aspects.

Table A-4-13

Employment by firm size in main business service activities 1999							
Activity	Micro	Small	Medium	Large	Total	Share of SMEs	Share of SEs
Financial intermediation	864	2,041	7,433	34,303	44,641	23.2	6.5
Insurance and pension funding	1,912	2,854	5,343	8,923	19,032	53.1	25.0
Renting of machinery and equip.	2,201	1,708	873	356	5,138	93.1	76.1
Computer and related activities	3,766	5,271	5,925	3,866	18,828	79.4	48.0
Research and development	468	753	967	1,131	3,319	65.9	36.8
Other business activities	42,529	46,128	53,240	63,489	205,386	69.1	43.2
Sewage and refuse disposal	927	1,519	2,610	4,316	9,372	53.9	26.1
TOTAL SERVICES	455,370	414,356	292,088	392,570	1,554,384	74.7	55.9
Source: Ministerio de Trabajo y Asuntos Sociales							

In spite of these conclusions, it is necessary to stress the dynamic pattern of competitive advantages in a globalised environment. Thereby, the current relative gap in trained and skilled workforce, in high technology or in product quality that benefit Catalan SMEs in comparison with the accession countries will disappear in time if SMEs do not carry out a permanent effort on innovation, both in products and processes. Therefore, the most effective support policies to these enterprises would be those that are directed to encourage a strategy based on a continuos upgrading of competitiveness.

As for the effect of EU-enlargement on the services sector (some details are given in Table A-4-13) , it could be expected a limited impact for different reasons:

- First, most service activities in Catalonia are greatly oriented to local market and Catalan SMEs do not have the benefit of locational advantages from geographical proximity to these new markets.
- Second, potential chances of extensive competition from the accession countries are limited because many activities for the moment are not adequately developed to provide the European market.
- Third, in those service activities in which the potential demand from the accession countries could be significant because of the longer experience and strong competitive advantages of EU firms – as in financial intermediation services, advisement and business services, environmental sevices and advertising –, the strength of Catalan SMEs is quite low and their internationalisation propensity is limited, except probably for some sectoral niches such as renting of machinery and equipment or computer services, both linked to the speed of economic transformation in those countries.
- Fourth, because these opportunities have already emerged during the 1990s, as the liberalisation process advanced and the regulatory rules were opened to foreign direct investment. Therefore, the EU-enlargement is unlikely to increase in the future the chances of investment for some services activities in which the potential competitive advantage of Catalan firms is strong –as in tourism.

4.3.2 Foreign Direct Investment relations

As far as foreign direct investment (FDI) is concerned, it is necessary to investigate the chances that EU-enlargement could lead to investment diversion in favour of the accession countries. This potential effect can be explained by a two-pronged analysis: on the one hand, presenting the structure of Catalan FDI in recent years; on the other, investigating the main locational factors in foreign investment in Catalonia.

The region benefited from a strong flow of FDI in the years that followed the adhesion of the Spanish economy to the European integration process. Thereby, the amount of investment that Catalonia received between 1986 and 1995 represented nearly 5 % of the regional GDP and a share of 30 % of total FDI directed to Spain in those years. Most of this investment flow had the industrial sector as its destination (Table A-4-14). The main consequences of this substantial capital inflow were:

- A large-scale implantation of transnational enterprises in the region, which enhanced the technological and productivity levels of the regional productive system, as noted before.
- The appearance of an important intra-firm trade, that increasingly promoted a pattern of trade flow with intra-industrial nature.
- The consolidation of a network of SMEs with high level of specialisation and a strong innovative dynamism.
- A deep effort of productive modernisation and the adoption of international strategies in most local economic activities.

In the first half of the 1990s, the scale of FDI flows was slightly slower, although since 1996 it has grown steadily again, but with a greater role of the services activities. Retailing, insurance, real-state and tourism have been the favourite destinations for FDI within the services sector. In spite of this, the industrial sectors which have benefited more are chemical products, transport equipment, food processing, plastic and rubber products and electrical machinery and equipment. In most cases, both in manufacturing and services activities, EU partners have been the main geographical source of investment.

Although these capital flows are mainly linked with the market entry of large enterprises, the correlation between the sectoral structure of FDI and the share of SMEs is quite significant. It could be evidence of the close economic linkages existing between both kinds of enterprises. Thereby, if EU-enlargement encourages an FDI diversion effect in favour of the accession countries, Catalan SMEs would be negatively affected. So, it is necessary to investigate the more relevant factors for attracting foreign investment to Catalonia.

Table A-4-14

Foreign Direct Investment, Catalonia
1993-1998, PTA mill.

	1993	1994	1995	1996	1997	1998	Cummu-lated 1993-98	Share in % 93-98
Agriculture, hunting and related activities	71	1,916	1,635	2,107	2,212	2,704	10,645	0.3
Forestry, logging and related service activities				1	3	10	13	0.0
Fishing, operation of fish hatcheries and fish farms				49	48	477	574	0.0
Mining of coal and lignite, extraction of peat				0	0	1	1	0.0
Extraction of crude petroleum and natural gas				65	78	63	206	0.0
Mining of metal ores				0	0	1	1	0.0
Other mining and quarrying	1,183	2,675	348	4,172	26	233	8,637	0.2
Food products and beverages	20,079	34,862	22,467	34,571	85,629	26,570	224,179	6.0
Tobacco products		11,500		0	0	13	11,513	0.3
Textiles	2,231	3,491	2,038	3,823	1,691	2,958	16,231	0.4
Wearing apparel, dressing and dyeing of fur	6,990	5,634	1,185	3,925	4,518	1,190	23,441	0.6
Leather, manufacture of luggage, handbags, saddlery		600		0	0	52	653	0.0
Wood and of products of wood and cork	18	1,500	1	1	1,627	1,316	4,461	0.1
Pulp, paper and paper products	26,340	1,945	7,494	5,666	870	12,514	54,828	1.5
Publishing, printing and reproduction of recorded media	13,782	17,872	3,205	5,484	14,203	5,215	59,761	1.6
Coke, refined petroleum products and nuclear fuel				0	0	0	0	0.0
Chemicals and chemical products	68,765	79,045	125,991	121,994	102,128	171,057	668,982	17.8
Rubber and plastic products	13,152	32,288	16,700	15,688	15,308	31,879	125,015	3.3
Other non-metallic mineral products	81,068	14,294	25,922	7,276	1,670	1,684	131,915	3.5
Basic metals	31		12	1,060	670	77	1,849	0.0
Fabricated metal products, except machinery and equipment	9,718	1,708	6,939	3,177	1,411	5,933	28,886	0.8
Machinery and equipment nec	9,126	3,141	9,104	11,312	6,631	4,885	44,199	1.2
Office machinery and computers	899	2,685	1,415	2,013	3,278	702	10,992	0.3
Electrical machinery and apparatus nec	21,668	23,058	11,377	8,930	31,181	23,633	119,847	3.2
Radio, television and communication equipment	563	3,207	3,090	1,615	1,340	2,006	11,819	0.3
Medical, precision and optical instruments	662	477	1,490	1,644	935	514	5,721	0.2
Motor vehicles, trailers and semi-trailers	35,039	136,881	13,152	19,057	156,958	98,427	459,515	12.3
Other transport equipment	4,100	543	1,569	201	236	1	6,650	0.2
Furniture	845	943	888	514	1,099	426	4,714	0.1
Recycling		862		1,355	960	5,342	8,519	0.2
Electricity, gas, steam and hot water supply				2,696	958	25	3,679	0.1
Collection, purification and distribution of water	1,635	644		287	576	36,600	39,742	1.1
Construction	14,263	3,905	12,333	1,930	8,730	2,576	43,736	1.2
Sale, amintenance and repair of motor vehicles	10,358	3,140		4,982	9,031	4,265	31,776	0.8
Wholesale trade	20,048	32,309	24,582	53,532	44,969	106,219	281,659	7.5
Retail trade	9,923	11,829	5,927	44,212	24,210	71,628	167,729	4.5
Hotels and restaurants	23,066	19,491	3,425	21,169	6,101	11,282	84,534	2.3
Land transport	589	992	300	847	85	373	3,186	0.1
Water transport				100	1,162	5,087	6,349	0.2
Air transport				0	0	1	1	0.0
Supporting and auxiliary transport activities, travel agencies		2,232	98	4,182	896	2,357	9,766	0.3
Post and telecommunications				2,217	1,326	7,056	10,600	0.3
Financial intermediation, exc. insurance and pension funds	21,284	5,094	16,168	11,614	4,938	11,330	70,428	1.9
Insurance and pension funding	22,420	26,507	41,697	73,931	23,710	50,974	239,237	6.4
Activities auxiliary to financial intermediation				564	71	62	697	0.0
Real state activities	51,012	22,360	9,419	35,836	50,065	81,332	250,024	6.7
Renting of machinery and equipment	281	283	57	333	356	2,683	3,993	0.1
Computer and related activities	1,215	950	1,018	4,103	2,449	2,670	12,405	0.3
Research and development				208	92	14	314	0.0
Other business activities	53,677	42,997	61,713	63,965	18,932	58,095	299,378	8.0
Public administration and defence, social security				8,217	54,879	16,906	80,002	2.1
Education				25	0	0	25	0.0
Health and social work		2		404	58	576	1,040	0.0
Sewage and refuse disposal, sanitation and similar activities		5,000		96	2,811	3,927	11,834	0.3
Activities of membership organization nec	2,040	1,245		160	590	581	4,616	0.1
Recreational, cultural and sporting activities		995		0	17	6	1,018	0.0
Other service activities	1,240	8,925	6,162	9,895	300	10,534	37,057	1.0
Private households with employed persons			1	112	442	10,833	11,388	0.3
Extra territorial organizations and bodies				0	0	69	69	0.0
Other				0	0	0	0	0.0
TOTAL	549,379	570,027	438,921	601,318	692,462	897,938	3,750,047	100.0
Agriculture	71	1,916	1,635	2,156	2,263	3,191	11,233	0.30
Energy and mineral products	82,250	16,970	26,271	11,513	1,774	1,982	140,759	3.75
Manufacturing	234,008	361,378	228,116	240,675	429,713	389,364	1,883,255	50.22
Services	233,050	189,763	182,900	346,973	258,713	503,401	1,714,800	45.73

SOURCE: IDESCAT

The high geographical concentration of the received FDI in Spain is very revealing. Catalonia and Madrid have been the main destinations of these financial flows during the last fifteen years. While the Madrid region have been very sensitive to the FDI destined to the services activities, Catalonia has received more than 40 % of industrial FDI in Spain. Besides, the fact that the wage-level of the Catalan region is substantially higher than the Spanish average is very significant. Therefore, it is necessary to identify attraction factors different from a favourable resources endowment.

The recent economic literature on new-economic geography[16] restores the influence of scale economies on the location of industrial activities. In particular, these developments pay give priority to the effects of Marshallian externalities and cumulative causation processes. Thereby, several local factors distinct from the resources cost –and much more complex – could be determining locational decisions of firms. In the case of Catalonia, the advantage of a relative low wage – in the EU context – could be enriched by other complementary elements which increase the productivity of investments and create external scale economies or agglomeration economies. Among them, the availability of a large pool of highly-qualified and well-trained workforce, a long industrial expertise, a good access to the main markets, an extensive network of specialised suppliers, a strong endowment of transport and communication infrastructure and a favourable environment in which the spillovers of technological knowledge are prominent – mainly between SMEs located in the proximity, which benefit more intensively from the external support to innovative activities. Recent research by Costa et al. (2000) demonstrates the significance of the geographical environment for the innovative activity of the Catalan SMEs, specially in sectors of mature technology and labour-intensive productions, as textiles and clothing[17].

All of these are locational advantages that promote the geographical concentration of economic activity, benefit the productivity of investments and compensate for a higher labour or property cost in front of other potential location. Besides, these locational factors are not easily reproduced in other areas in the short run because they take a long time to be consolidated. Therefore, the availability of a wide and diversified supply of attraction factors, different from resources-cost, could protect Catalan SMEs against the risk of investment diversion in favour of other areas with lower wages and rents. However, the advantages of these locational factors could be temporary as accession countries strengthen their endowment of skilled labour, increase their industrial learning and use advanced technologies more intensively. Therefore, the support to SMEs from European policies should reinforce those locational factors determining that their competitiveness is closely linked to their placing in the geographical space. Catalan SMEs are also favoured by the serious economic dimension of Spanish market, which constitutes other worthy attraction element for FDI. Anyway, in the

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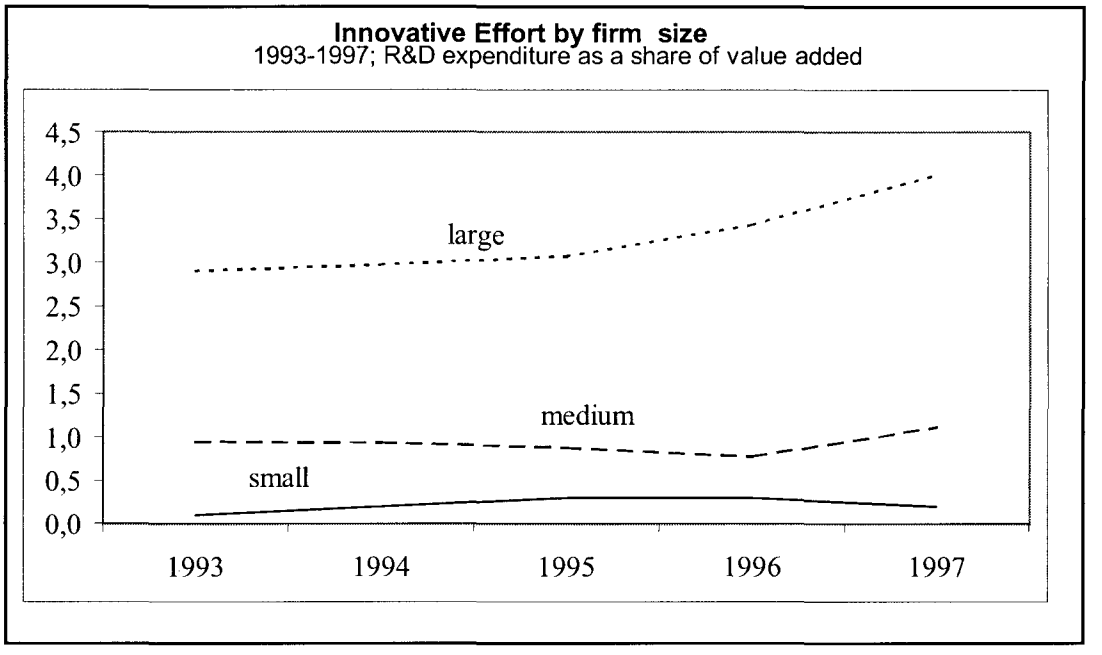
[16] Krugman (1991), is a revealing example.

[17] Several papers show the positive effect of innovative external support to SMEs, as Acs and Feldman (1994), Feldman (1994) and Link and Rees (1990).

Figure A-4-3



short run the risk of investment diversion in labour-intensive activities is real, looking for lower wages and the proximity and accessibility to some large consumer markets in the Union. It could affect negatively SMEs from these sectors which are located in areas where agglomeration economies are not very significant.

4.3.3 Implications of new EU regional policy

As a consequence of the so-called "Agenda 2000", the structural funds for new Objective 2 – which include the former Objective 5b – in Spain will be reduced to 2,553 million Euro from 3.08 millions in the period 1994-1996 (Table A-4-15). This resolution probably will lead to a reduction in the amount of resources per inhabitant and also to a lower availability of financing for the SMEs in the Catalan region. Therefore, the shortfall of resources from the European regional policy will be one of the main characteristics in the business environment of Catalonia in the next years. Moreover, this tendency will be accelerated after 2006, when the accession countries from Central Europe enter the EU.

This negative financial effect on the Catalan region is reinforced by the discriminatory relationship coming from the presence of different intensities and standards in the national redistribution policies inside the European Union. In this way, Davenzies et al. (1996) show how some of the richest regions in the poorest countries of the Union have fiscal balances much lower than regions in other countries with very similar level of income per capita. As a consequence, the competence of local authorities to promote the economic activity in their region is seriously limited. Prud'homme, R. (1999) and Parellada (1999) demonstrate how Catalonia is one of the most vulnerable regions. Therefore, the lack of leadership of the regional initiatives in the European budget on behalf of the nationals budgets challenges the role of equity as an objective of the European regional policy.

Table A-4-15

Structural Funds for Spain 1994-2006, ECU mill.		
	1994-1999	2000-2006
Objective 1	26,300	38,096
Objective 2[1]	3,080	2,553
Objective 3[2]	1,843	2,140
Total funds for regional objectives	31,223	42,789

Source: Patronat Català Pro Europa (2000). - [1]Objective 2 + Objective 5b. - [2] Objective 3 + Objective 4

In addition to the shortage of resources, other characteristics of the public policies to support SMEs should be analysed. In recent years, several studies have revealed that SMEs have a greater advantage in terms of flexibility, market adaptation and employment creation. The last Annual Report from the European Observatory for SMEs (1999) shows that new enterprises play an important role in the creation of jobs and in economic growth. In the European Union, about one million of new enterprises are created each year and in most industrialised countries the share of SME-related employment has risen during the past twenty years as the production tend to be more labour-intensive. This evidence suggest that removing barriers to entrepreneurship could increase the number of jobs. However, the growing role of SMEs in economic activity and employment is not corresponding with the support of public policies, both in amount and in content. This mismatch is specially marked in the current fiscal and budget adjustment context.

In recent research, Hermosilla (2000) indicates a set of deficiencies that interfere with the right application of measures and resources in the case of the Catalan SMEs. On the one hand, some of them come from the nature of the own public programs: mainly, an inadequate design, an excessive fragmentation, the lack of information and the missing of the potential role of intermediate institutions. The high variability of content and the terms of access, an inappropriate design and functioning for the smallest enterprises, the delay in payments or the presence of objectives too diffuse and complex prevent SMEs from taking advantage of most of these programs. On the other hand, the performance of SMEs themselves also affects negatively their reaction to the public programs. For instance, most SMEs obtain information about European programs by means of contact from a potential partner, asking for their participation. In some industrial sectors in Catalonia, about 80 enterprises investing in R&D do not take part in any specific public program. In other words, within SMEs there is limited interest in potential public support resources. Therefore, any regional policy which tries to deal with the consequences of EU-enlargement should pay attention to the specific reality of SMEs, to increase the integration of their objectives and transparency in their instruments, to stimulate a greater co-ordination between the different public institutions and to be managed with simplicity.

4.3.4 Locational aspects

Showing the distribution of economic activity in Catalonia is a useful indication of how agglomeration economies influence localisation. As is apparent from the next table, the degree of concentration of population and economic activity in the metropolitan region of Barcelona – a set of 163 municipalities — is very high. The city of Barcelona concentrates 25-30 % of the regional economic activity, while the relative size of the whole metropolitan region represents nearly 70 %.

Table A-4-16

Regional Data on Catalonia
1996

	Catalonia (CAT)	Province Barcelona	Metro-politan Region (RMB)	Barcelona-City (BCN)	RMB / CAT in %	BCN / CAT in %
Population (1,000)	6,090	4,628	4,228	1,509	69.4	24.8
Phone lines (1,000)	2,814	2,196	2,041	884	72.6	31.4
Surface (sq.km.)	31,864	7,708	3,229	98	10.2	0.3
Popul. Density (1000 inh./sq.km.)	0.2	0.6	1.3	15.4		
Employment (1,000)	2,194	1,661	1,519	657	69.2	30.0
Enterprises (1,000)	533	402	368	167	69.1	31.3
Economic activity surface (sq.m.)	89,269	66,384	59,894	18,072	67.1	20.3
Average size (emp./ent.)	4.1	4.1	4.1	3.9		
Average surface (sq.m/ent.)	167.47	165.33	162.59	108.34	97.1	64.7
Exports[b] (PTA bn)	4,406	3,689			83.7[a]	

SOURCE: IDESCAT -[a]BCN prov /Catalonia [b]1998

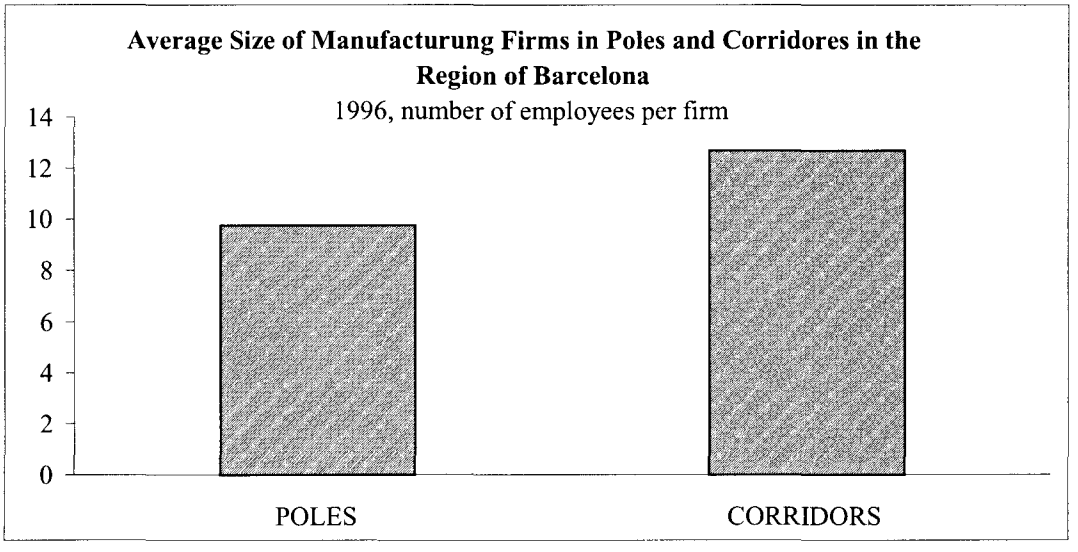
A noticeable fact is the major export propensity of the activities located inside the metropolitan agglomeration. Nearly 83 % of Catalan exports come from this area and the share is bigger in the case of products with medium-high technological content – more than 85 % – and mainly in products with high technological content – almost 97 %. Exports of manufactured products from the metropolitan region represent nearly 25 % of total manufacturing exports in the whole Spanish economy. These weights are much larger in the case of trade flows with the accession countries. In this case, the share of the metropolitan region of Barcelona is 93 % of Catalan exports and 32 % of Spanish exports.

Recent research by Trullén (2000) explains how the operation of a particular combination of both kinds of agglomeration economies – localisation and urbanisation economies – facilitates the metropolitan region to be formed by a set of cities of medium size with a higher level of productive specialisation. This pattern of polycentric metropolis explains how the internationalisation process is fully compatible with the massive presence of SMEs. Thereby, with the classic localisation economies which benefit the enterprises located in the poles – specialised cities with medium size– probably also are working urbanisation economies linked to the dimension of the own metropolis that benefit all the enterprises located wherever

inside the agglomeration, but mainly in those located in the corridors determined by the modern transport infrastructures.

Thus, while large enterprises are located along the corridors and take advantage of a fast connection with the metropolitan central city and their easy accessibility to the main markets, SMEs are placed together, preferably in the poles, trying to obtain benefits from the proximity of related activities and to get advantages from agglomeration economies. This network of complex relations probably stimulates the innovative process and the export dynamism (Lladós 2000). As a consequence, there is a strong sectoral correlation –inside the metropolitan agglomeration– between small firm size and high location coefficient[18]. Thereby, the strong geographical concentration in employment is also explained by the SMEs behaviour, mainly in the industrial activities (Figures A-4-4, Table A-4-17 and Maps A-4-2 to A-4-3).

Figure A-4-4



Therefore, the increasing complexity of the territorial component requires that in the future policies to support SMEs competitiveness should be implemented ideally by means of a set of measures enhancing specific competitiveness elements in each sector. As a consequence, strengthening innovative ability, technological dynamism, product differentiation, quality in the endowment of human and public capital and the density and diffusion of knowledge inside the metropolitan region would probably be the essential and most determining source of progress for the Catalan SMEs.

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[18] For each industrial activity *i* and each geographical zone *j*, the location coefficient (LC_{ij}) is computed as:

$LC_{ij} = (E_{ij}/E_j)/(E_i/E)$.

Table A-4-17

Location Coefficients in Industrial Activities[1]
Barcelona Metropolitan Region; 1996

Industrial Sector	Location Coefficient	Average Firm Size	Pole
Knitted or crocheted articles	13.79	14.15	Mataró
Beverages	9.23	8.41	Vilafranca
Textiles articles	2.79	11.62	Sabadell
Textiles articles	2.52	9.90	Terrassa
Rubber and plastic products	1.98	11.79	Granollers
Office machinery and computers	1.94	12.17	Barcelona

SOURCE: IDESCAT - [1]For calculation see text.

Map A-4-2

Catalan Employment[1] by Administrative Units
1996

Source: IDESCAT. Dark Colours represent high employment. [1]All activities.

Map A-4-3

Catalan Employment in Industry by Administrative Units
1996

Source: IDESCAT. Dark Colours represent high employment

4.4. Conclusions

The impact of EU-enlargement on SMEs is twofold. As any opening process, on the one hand it represents an opportunity to increase sales in foreign markets and, on the other, a challenge because international competition is greater. As a consequence, the evaluation of the enlargement process requires to take into account the competitive factors of each area and to identify the associated risks and opportunities.

Current differences in factor endowments predict a prevailing inter-industrial pattern of trade flows. As the accession countries have comparative advantages based on lower wages and the abundance of natural resources or specific factors, it would be possible to deduce a potential negative impact on more labour-intensive activities. Thereby, the impact of EU-enlargement on Catalan SMEs will be probably of a sectoral nature. In each activity, it is possible to identify three main determinants: the relative share of SMEs, the intensity of labour use and the ability to develop sub-sectoral market niches.

In the EU context, Catalonia shows high levels of industrial employment and SME density. Although regional comparative advantages turn progressively to high-technology products, over half of total SMEs still belong to medium-low technology activities. Therefore, as long as the process goes on, they would face a stronger competition from the accession countries.

At present the weight of these countries in the Catalan trade flows is low. However, this share will predictably grow vigorously as their economies develop. A deep analysis of bilateral trade show a favourable commercial balance for Catalonia, a high level of concentration in metallurgical products and well-defined competitive positions. Thereby, the accession countries show significant competitiveness in some raw materials or intermediate goods, such as basic chemicals, rubber, wood, iron, steel, glass or paper. In addition, Catalan firms present a high competitive position in pharmaceutical and other chemical products, medical, precision and optical instruments, some textiles for technical applications or machinery and mechanical appliances. As a consequence, it seems to be a different pattern of specialisation between both areas. However, in other activities, mainly in electrical machinery and equipment or in transport equipment, intra-industrial flows are dominant. In these cases, the accession countries could develop competitive strengths in some product areas. Probably, those trade flows are explained by a vertical differentiation pattern by means of their technological content.

The presence of SMEs in activities with better competitive performance is more significant. Therefore, it could be deduced that the impact of enlargement would be limited in the short run. However, if the share of trade based on cost differences or on a vertical differentiation pattern grows in the future, some activities could be potentially damaged.

The influence of EU-enlargement on Catalan services SMEs seems to be small, because of the moderate presence of these firms in those sectors with higher opportunities. Even if some activities will face a more positive framework, this seems to be more linked to the economic transformation process – begun some time ago – than to the enlargement process. Predictably, enlargement will not induce a behavioural change in SMEs. In addition, competition from the accession countries will probably be low in the short run.

The possibility of FDI diversion deserves a detailed analysis. This risk is closely related to the local specificities of Catalan industry. Thereby, labour-skills and experience, market accessibility and an ample network of specialised suppliers have been more determining attraction factors of FDI than labour costs. As a consequence, the diversion risk would be limited. Nevertheless, in spite of their growing internationalisation, Catalan SMEs are still mostly oriented to the local market, mainly due to the outsourcing process in recent years. Therefore, frequently local large firms are the main customers for Catalan SMEs. As a consequence, a potential displacement of large firms to the accession countries would be very damaging for SMEs. For the same reason, whether EU-enlargement increases demand to Catalan large firms, their network of suppliers – mainly SMEs — would benefit.

The strong FDI inflow since Spain accession to EU strengthened the concentration of economic activity in Barcelona's metropolitan region. Thereby, its productive structure is composed by a wide range of activities, very diversified but located in medium-size cities

with significant specialisation levels, while the centre of the metropolis provides high added value services to the whole agglomeration. The territorial map of economic activity has specific features – based on a significant presence of agglomeration economies – which favour the competitiveness and innovative behaviour of Catalan SMEs.

In the above mentioned context, the EU support policies for SMEs should continue to be based on those horizontal measures that favour information flows, co-operation initiatives or encouraging internationalisation. Besides, these actions should probably be accompanied by the support to strategies or competitive factors different from production costs. Although, probably in the short run the effects of EU-enlargement on Catalan SMEs will not be very great – because of the competitive advantages acquired — it is important to take into account that most competitive sources are dynamic and that a favourable gap in labour skills, learning or product quality might be eliminated as long as the accession countries improve their technological level and advance in their economic development process.

Therefore, support policies should encourage actions oriented to upgrading SMEs competitiveness. In particular, there is a need to promote those measures that facilitate the differentiation ability, labour qualifications and the innovative dynamism in product and production processes, both from firms and from external specialised centres which support innovation. SMEs are the main beneficiaries of market-oriented research made by technological centres or research labs and the consequent diffusion of knowledge. Thereby, to maintain the convenient SMEs flexibility it is necessary to reinforce their ability to adapt to market changes and the external network which give support to their competitiveness. These elements are sources of competitive strength and allow SMEs to develop market niches.

Finally, also the availability of modern and competitive transport and communication infrastructures reinforce the regional potential development and the competitiveness of SMEs located there. Therefore, EU regional policy should be more sensitive to differences in regional public capital endowments which hinder SMEs competitive performance.

To sum up, policies in favour of upgrading SMEs competitiveness by means of encouraging a higher innovative climate seem to be the most appropriated strategy to slow down the catch-up process from a set of economies with industrial tradition, lower labour cost and a very dynamic environment. Without this determined support to innovation, very soon the displacement of new investments could be a relevant issue when the accession countries achieve a critical mass in workforce skills and technological knowledge. Even some key industrial activities could be affected. That is, the strategic reestructuring is a continuous challenge for SMEs and the EU-enlargement process will just accelerate it. But probably this process would be better understood if it is analysed as a new chance to improve SMEs competitiveness.

References

Acs, Z. Y Feldman, M. (1994). "R&D Spillovers and Recipient Firm Size". Review of Economic and Statistics, 100 (2).

Brülhart, M. (1994). "Marginal Intra-industry Trade: Measurement and Relevance for the Pattern of Industrial Adjustment". Weltwirtschaftliches Archiv-Review of World Economics. Vol 130 (3).

Camagni, R. and Capello, R. (1999). "Milieux Innovateurs and Collective Learning: From Concepts to Emprirical Findings". Paper presented to the International Conference "Local development in Europe: new paradigms and models for economic policy". Varese. Italy.

Costa, M.T., Duch, N. and Llados, J. (2000). "Determinantes de la innovación y efectos sobre la competitividad: el caso de las empresas textiles". Paper presented to the III Applied Economy Meeting. Valencia. Spain.

Davenzies, L., Nicot, B.H. y Prud'homme, R. (1996). "Interregional transfers from central government budgets". Incluido en "Economic and social cohesion in the Europea Union: The impact of member states' own policies". European Policies Research Centre. University of Strathclyde.

European Network for SME Research: The European Observatory for SMEs (1998). "Fifth Annual Report". EIM Small Business Research and Consultancy. Zoetermeer. The Netherlands.

European Union (1999). "Sixth Periodic Rapport on the Social and Economic Situation and Development of the Regions of the EU". DG XXVI. Bruxelles. Belgium.

Feldman, M. (1994). "Knowledge Complementary and Innovation". Small Business Economics, 6 (5).

Fontrodona, J. and Hernández, J.M. (1998). "Les mutinacionals industrials catalanes". Papers d'economia industrial, 8. Barcelona. Spain.

Generalitat de Catalunya (GC) (1998). "Informe anual sobre la industria a Catalunya". Barcelona. Spain.

Generalitat de Catalunya (GC) (1997). "Informe anual de la empresa catalana". Barcelona. Spain.

Generalitat de Catalunya (GC) (1992) "L'estructura empresarial a Catalunya". Quaderns de competitivitat, 9. Barcelona. Spain.

Gual, J. and Martin, C. (1995). "Trade and foreign direct investment with Central and Eastern Europe: its impact on Spain". In: Faini, R. and Portes, R. (ed.) "European Union Trade with Eastern Europe: Adjustment and Opportunities". Centre for Economic Policy Research. London. United Kingdom.

Hermosilla, A. (2000). "Les polítiques d'incentius públics a les PIME: Estat de la qüestió". Omnium Cultural. Forthcoming. Barcelona. Spain.

IDESCAT (1997). "Estadística, producció y comptes de la indústria". Barcelona. Spain.

IDESCAT (1998). "Estadística bàsica de Catalunya". Barcelona. Spain.

IDESCAT (1999). "Anuari Estadístic de Catalunya". Barcelona. Spain.

Instituto Nacional de Estadística (1997) "Directorio Central de Empresas (DIRCE). Resultados Estadísticos". Madrid. Spain.

Instituto de Estudios Fiscales (IEF) (1995). "Las empresas españolas en las fuentes tributarias". Madrid. Spain.

Krugman, P. (1991). "Geography and Trade". Cambridge (Mass.). The MIT Press.

Link y Rees (1990). "Firm Size, University Based Research and the Returns to R&D". Small Business Economics, 2 (1).

Lladós, J. (2000). "Dinámica de la competitividad y de la localización industrial en la región metropolitana de Barcelona". Pacte Industrial Metropolità. Forthcoming. Barcelona. Spain.

Martín, C. (1997). "España en la nueva Europa". Fundación de las Cajas de Ahorro confederadas. Alianza Editorial. Madrid. Spain.

Ministerio de Trabajo y Asuntos Sociales (1999). "Boletín de Estadísticas Laborales". Madrid. Spain.

OECD (1998). "Globalisation and Small and Medium Enterprises". Vol. I and II. Paris. France.

Pardo, F. and Arlegui, L. (2000). "L'actuació dels Fons Estructurals i de Cohesió a Catalunya". Nota d'Economia, 65. Barcelona. Spain.

Parellada, M. (1999). "La balanza de pagos de Cataluña, 1993-1994". In: Castells, A. and Bosch, N. (ed.) "Desequilibrios territoriales en España y Europa". Ariel Economía. Barcelona. Spain.

Patronat Català Pro Europa (2000). "La Comissió aprova el mapa espanyol de les zones que podran rebre ajuts públics amb finalitat regional durant el periode 2000-2006". Comunicat 12-4-2000. Barcelona. Spain.

Prud'homme, R. (1999). "Flujos fiscales interregionales en siete países europeos". In: Castells, A. and Bosch, N. (ed.) "Desequilibrios territoriales en España y Europa". Ariel Economía. Barcelona. Spain.

Trullén, J. (2000). "Barcelona como ciudad flexible. Economías de localización y economías de urbanización en una metrópolis polinuclear". In: Becattini, G., Costa, M.T. y Trullén, J. "Desarrollo local: teorías y estrategias". Ed. Civitas. Madrid. Spain. Forthcoming.

Appendix B: Detailed results of the trade analysis

The past change in trade patterns between the Union and the countries applying for membership examined in this study may give valuable infirmation at the potential impact of enlargement for the different sectors. Therefore, for the several product groups a measure of the competitiveness of Eastern producers is calculated, the traditional Revealed Comparative Advantage (RCA) coefficient[19]. However, before commenting on these results in detail, the limits of this coefficient should be brought to mind. First, coefficient is dependent on the overall trade balance. Therefore, in an intertemporal comparison not so much emphasis should be put on shifts in the coefficients as such but on changes in the ranking of a product in the trade spectrum[20]. Secondly, the RCA index tells nothing about the importance of a product. In practice, it will happen quite often that some categories of goods will be identified as very competitive measured by their RCA coefficient, and at the same time exports are extremely low. In the case imports are zero in a category, the RCA coefficient will be 100 regardless the volume of exports.

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[19] Formally, the RCA-coefficient links sectoral trade balances to total trade balances, The version used here, standardises the coefficent between –100 and +100, using a standaedisation factor. The RCA coefficient of product group i in country k is defined as

$$RCA_{ik} = \left(\frac{x_{ik} - m_{ik}}{x_{ik} + m_{ik}} - \frac{x_{\bullet k} - m_{\bullet k}}{x_{\bullet k} + m_{\bullet k}} \right) \cdot SF_k$$

with:
x_{ik}: exports of product i in country k
m_{ik}: imports of product i in country k
$x_{\bullet k}$: total exports of country k
$m_{\bullet k}$: total imports of country k
SF_k: standardisation factor defined as

$$SF_k = \frac{100}{1 - \frac{x_{\bullet k} - m_{\bullet k}}{x_{\bullet k} + m_{\bullet k}}} \quad \text{if} \quad \frac{x_{\bullet k} - m_{\bullet k}}{x_{\bullet k} + m_{\bullet k}} < \frac{x_{ik} - m_{ik}}{x_{ik} + m_{ik}}$$

$$SF_k = \frac{100}{1 + \frac{x_{\bullet k} - m_{\bullet k}}{x_{\bullet k} + m_{\bullet k}}} \quad \text{if} \quad \frac{x_{\bullet k} - m_{\bullet k}}{x_{\bullet k} + m_{\bullet k}} > \frac{x_{ik} - m_{ik}}{x_{ik} + m_{ik}}$$

[20] In other words, the increase of an RCA coefficient of a product from (for example) 33 to 40 does not necessarily mean this product has become more competitive relative to others, because it might reflect a change in the overall trade balance. If the same product moved (again for example) from rank 25 to 18 in the list of the most competitive products, this can be interpreted in a way that this product has become more competitive compared to others.

Therefore, in the tables that follow, the most competitive products according to their RCA coefficients are only shown in cases when their share in total exports exceeds 0.5 . This products, their RCA coefficients and their share in total exports are presented in the upper half of the tables given for each country. In the lower half, a ranking of the most important export goods including their RCA coefficents is given.

Table B-1

Comparative advantage of the Czech Republic with respect to the European Union
1993 and 1997

CN-Code	Product	1993		1997		Export to EU 1997	
		RCA	Rank	RCA	Rank	ECU mill.	
	ordered by competitiveness index						
44	wood and articles of wood; wood charcoal	72	6	67	2	513	4.4
25	salt; sulphur; earths and stone; plastering material. Lime and cement	79	3	55	7	101	0.9
99	other products	35	26	54	8	123	1.1
	ordered by share in export 1997						
87	vehicles other than railway or tramway rolling-stock. and parts and accessories thereof	-6	55	8	43	1516	13.0
85	electrical machinery and equipment and parts thereof; sound recorders and reproducers. television image and sound recorders and reproducers. and parts and accessories of such articles	-25	64	-17	58	1378	11.8
84	nuclear reactors. boilers. machinery and mechanical appliances; parts thereof	-54	72	-27	62	1351	11.6
73	articles of iron or steel	32	30	29	25	713	6.1
94	furniture; medical and surgical furniture; bedding. mattresses. mattress supports. cushions and similar stuffed furnishings; lamps and lighting fittings. not elsewhere specified; illuminated signs. illuminated name-plates and the like; prefabricated build	43	24	38	18	553	4.7
	Total					11674	100.0

Authors' computations based on EUROSTAT data

In the case of the *Czech Republic*, wood and articles of wood, products from the quarrying sector, and 'other products' are identified to be the most competitive ones (Table B-1). However, except the first none of them has any significant importance for total exports to the EU. Among the most important export products, the first three categories covering about one third of total Czech exports show a trade deficit that is larger than deficit in total trade as it is indicated by a negative RCA coefficient. Only products of iron and steel and some textiles for housing furniture show positive RCA figures, and they improved their position between 1993

and 1997, pointing at advantages in these fields that may increasingly influence producers in the EU.

Estonia's pattern of trade with the EU is still highly specialised on mineral fuels and related products (Table B-2). The raw materials are imported from Russia, as the country has no relevant natural resources in that field. Consequently, Estonia will have no comparative advantage in producing mineral oil products in the long run; imports are already on the rise as

Table B-2

Comparative advantage of Estonia with respect to the European Union
1993 and 1997

CN-Code	Product	1993		1997		Export to EU 1997	
		RCA	Rank	RCA	Rank	ECU mill.	
	ordered by competitiveness index						
44	wood and articles of wood; wood charcoal	95	12	87	4	290.5	19.4
28	inorganic chemicals: organic or inorganic compounds of precious metals. of rare-earth metals. of radioactive elements or of isotopes	99	7	69	8	14.7	1.0
63	other made up textile articles; sets; worn clothing and worn textile articles; rags	59	25	68	9	30.3	2.0
31	Fertilizers	100	5	67	10	9.2	0.6
	ordered by share in export 1997						
27	mineral fuels. mineral oils and products of their distillation; bituminous substances; mineral waxes	84	17	46	16	290.7	19.4
44	wood and articles of wood; wood charcoal	95	12	87	4	290.5	19.4
85	electrical machinery and equipment and parts thereof; sound recorders and reproducers. television image and sound recorders and reproducers. and parts and accessories of such articles	-87	59	-36	43	134.4	9.0
62	articles of apparel and clothing accessories. not knitted or crocheted	74	23	59	12	112.1	7.5
84	nuclear reactors. boilers. machinery and mechanical appliances; parts thereof	-87	60	-25	42	108.0	7.2
	Total					1498	100.0

Authors' computations based on EUROSTAT data

can be seen from the RCA indicator. On the other hand, the country became increasingly competitive in producing wood products (19.4 of total exports), and apparel and clothing (7.5). In the two remaining product categories that are among the top five exports, Estonia has a trade deficit, indicating that there seems to be no specific comparative advantage, although further disaggregation might unveil specialisation patterns also in this field. Some hints at the future trade specialisation might be give by examining the products with the highest RCA

indexes. Especially the categories "other made-up textiles articles" and "inorganic chemicals" are gaining importance, although their share in total exports is still small.

In the case of *Hungary*, trade patterns unveil that a substantial change in the sectoral structure of exports has taken place (Table B-3). On one hand, among the most competitive products still mainly food products can be found, reflecting an important agricultural sector. However, their share in total exports is rather small. On the other hand, machinery and mechanical

Table B-3

Comparative advantage of Hungary with respect to the European Union
1993 and 1997

CN-Code	Product	1993		1997		Export to EU 1997	
		RCA	Rank	RCA	Rank	ECU mill.	
	ordered by competitiveness index						
16	preparations of meat, fish or crustaceans, molluscs or other aquatic invertebrates	90	4	89	2	74	0.6
01	live animals	91	3	87	3	77	0.7
02	meat and edible meat offal	76	8	77	4	318	2.7
07	edible vegetables and certain roots and tubers	61	16	73	6	72	0.6
62	articles of apparel and clothing accessories, not knitted or crocheted	70	12	64	10	581	5.0
	ordered by share in export 1997						
84	nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-32	55	9	33	2825	24.4
85	electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	1	44	3	38	2464	21.3
87	vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	-68	77	-36	54	670	5.8
62	articles of apparel and clothing accessories, not knitted or crocheted	70	12	64	10	581	5.0
39	plastics and plastic products	6	41	-18	46	359	3.1
	Total					11587	100.0

Authors' computations based on EUROSTAT data

appliances as well as electrical machinery have become the most important export products in the meantime, thanks to large foreign direct investment in these sectors. The two product categories account for nearly half of total Hungarian exports to the EU, and they show improvements in their competitive indexes and ranking. The same is true for vehicles and vehicle parts, although the country is still net importer in this field. As already seen in the two countries discussed before. Some products from the textiles sector can be found among the

most competitive as well as important ones, namely articles of apparel and clothing accessories.

Poland's exports to the EU are much more diversified than in the three cases already discussed (Table B-4). None of the most important product categories accounts for more than 10 of total exports. Among the most competitive products as well metals as well as agricultural products can be found. At the same time highly competitive and of significant importance are again articles of apparel, furniture, and, furthermore, wood and articles of

Table B-4

Comparative advantage of Poland with respect to the European Union
1993 and 1997

CN-Code	Product	1993		1997		Export to EU 1997	
		RCA	Rank	RCA	Rank	ECU mill.	
	ordered by competitiveness index						
74	copper and articles thereof	90	4	85	3	564	4.0
62	art. of apparel and clothing accessories, not knitted or crocheted	87	6	80	5	1347	9.5
31	fertilizers	83	8	74	7	169	1.2
44	wood and articles of wood; wood charcoal	88	5	72	8	738	5.2
01	live animals	92	3	72	9	142	1.0
94	furniture; medical and surgical furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, and similiar goods	70	14	66	10	1238	8.8
	ordered by share in export 1997						
85	electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	-32	57	-4	47	1356	9.6
62	art. of apparel and clothing accessories, not knitted or crocheted	87	6	80	5	1347	9.5
87	vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	-24	51	-19	51	1297	9.2
94	furniture; medical and surgical furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified; illuminated signs, illuminated name-plates and the like; prefabricated build	70	14	66	10	1238	8.8
27	mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	22	34	30	28	924	6.6
	Total					14109	100.0

Authors' computations based on EUROSTAT data

wood. Similar to the developments in Hungary, electrical machinery and vehicles are of growing importance for Polish exports to the EU, though being a net importer in these fields too. However, RCA indexes hint at an increasing competitiveness of these products.

Slovenia, fits quite well into the pattern observed up to now (Table B-5): Again, articles of apparel, furniture, and wood and wood products are classified as the most competitive categories. And again, vehicles and electrical machinery are the most important export categories, the first showing some signs of increasing competitiveness.

Table B-5

Comparative advantage of Slovenia with respect to the European Union
1993 and 1997

CN-Code	Product	1993		1997		Export to EU 1997	
		RCA	Rank	RCA	Rank	ECU mill.	
	ordered by competitiveness index						
62	art. of apparel and clothing accessories, not knitted or crocheted	80	1	70	1	330	7.1
76	aluminium and articles thereof	49	13	49	4	193	4.1
63	other made up textile articles; sets; worn clothing and worn textile articles; rags	73	2	47	5	30	0.6
44	wood and articles of wood; wood charcoal	70	3	46	6	204	4.4
99	other products	49	12	41	7	22	0.5
94	furniture; medical and surgical furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, and similar products	64	5	41	8	400	8.6
	ordered by share in export 1997						
87	vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	-19	37	4	30	720	15.5
85	electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	21	22	11	26	522	11.2
84	nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-26	44	-19	43	497	10.7
94	furniture; medical and surgical furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, and similar products	64	5	41	8	400	8.6
62	art. of apparel and clothing accessories, not knitted or crocheted	80	1	70	1	330	7.1
	Total					4653	100.0

Authors' computations based on EUROSTAT data

The last case, Cyprus, is special for two reasons: Firstly, exports to the Union are much smaller than in the other countries analysed here (Table B-6), reflecting that Cyprus is the

smallest economy among the six considered. Secondly, trade consists to a much higher extent of raw materials and agricultural products. However, articles of apparel and clothing accessories again appear to be a product categories showing a high competitiveness and a relevant share of total exports to the union at the same time.

Table B-6

Comparative advantage of Cyprus with respect to the European Union
1993 and 1997

CN-Code	Product	1993		1997		Export to EU 1997	
		RCA	Rank	RCA	Rank	ECU mill.	
	ordered by competitiveness index						
26	ores, slag and ash	-10	23	90	1	3.6	1.0
08	edible fruit and nuts; peel of citrus fruits or melons	92	1	82	2	37.9	10.1
07	edible vegetables and certain roots and tubers	84	3	62	5	13.3	3.6
74	copper and articles thereof	-59	33	56	7	10.0	2.7
25	salt; sulphur; earths and stone; plastering material, lime and cement	33	12	52	8	6.0	1.6
62	articles of apparel and clothing accessories, not knitted or crocheted	81	4	47	9	58.2	15.6
12	oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medical plants; straw and fodder	50	9	46	10	3.2	0.9
	ordered by share in export 1997						
62	articles of apparel and clothing accessories, not knitted or crocheted	81	4	47	9	58.2	15.6
84	nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-27	28	-3	25	40.6	10.9
08	edible fruit and nuts; peel of citrus fruits or melons	92	1	82	2	37.8	10.1
88	aircraft, spacecraft, and parts thereof	26	13	38	12	37.6	10.1
87	vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	-64	40	-27	30	18.6	5.0
	Total					373	100.0

Authors' computations based on EUROSTAT data

Appendix C: Importance of small and medium-sized enterprises in the accession countries

1. Overview of enterprise structures in the accession countries

Although the central objective of the current study is to assess the impact of enlargement on SMEs in the existing EU-15 countries, it is useful to consider SMEs in the accession countries. The following chapter provides a brief overview of the enterprise structure and recent changes in the six accession countries: Cyprus, the Czech Republic, Estonia, Hungary, Poland and Slovenia. While not aiming to be comprehensive in its treatment of SMEs in these economies, it will enable some comparison between different situations of SMEs in the candidate and Member States of the Community.

For five of the six countries, the collapse of the Communist system at the end of 1980s and the beginning of 1990s led to the transformation of the centrally-planned economies into market-oriented ones. Although remarkable progress has been achieved throughout the region, the pattern of transformation and pace of change varies between the countries (Bartholdy 1996). According to the European Bank for Reconstruction and Development (EBRD 1998), all Central and East European (CEE) countries have begun to recover from the steep declines they experienced in economic output during the early 1990s, but economic growth has become strongly embedded in most of the accession countries – the Czech Republic, Hungary, Poland and Slovenia, which have achieved positive growth rates for several years (Estonia is the exception).

The past decade has been characterised by dramatic and rapid change. This is most obvious in the share of the private sector in GDP, now exceeding 40 throughout the region with figures of over 75 in the Czech Republic and Hungary. The privatisation of small-scale enterprises has been completed in some countries, while large-scale privatisation has already encompassed at least half of the state-owned enterprises. This process, in conjunction with new legal regulations, has brought about one of the most import changes in the economic structure of CEE countries: the rapid growth in the number of SMEs (Chojnicki/Czyz/Parysek 1999).

Macroeconomic and political circumstances in Cyprus have resulted in very different trends. Cyprus was granted full independence in 1960, but the country's development has been overshadowed by tension between the Greek and Turkish Cypriot communities, whose severity during the 1960s and early 1970s has had long-term consequences for the island's political situation. As a small island economy, Cyprus differs considerably from the other accession countries considered here, particularly in terms of its dependence on foreign trade

and the importance of tourism. It has also not undergone the same rapid changes that have marked economic development in the CEE countries.

In addition to Cyprus, the other five countries included in the study have had very different political origins. In this respect, two categories of countries can be identified: first, Estonia, the Czech Republic and Slovenia which were created as a result of the break-up of larger countries or federal states; and second, Hungary and Poland which existed as independent countries prior to the events of 1989. It is important to recognise that these different political origins have an impact on current economic and trade structures. Therefore, it is not surprising that the Czech Republic, Estonia and Slovenia retain close economic links with countries that constituted part of the former economic and political entities.

Table C-1

Categories of SMEs in accession countries by employment
1996

	Cyprus	*Czech Republic*	*Estonia*	*Hungary*	*Poland*	*Slovenia*
Micro	Less than 10		0-4	Less than 10		-
Small	10-49	Less than 50	4-49	11-49	Less than 6	Less than 50
Medium	50-249	Less than 250	50-249	50-249	5-50	Less than 250

Source: Cyprus Trade Centre, The Czech Statistical Office, Central Statistical Office (Hungary), Enterprise Register (Estonia), Ministry of Small Business and Tourism (Slovenia), Central Statistical Office (Poland).

In both Central and Eastern Europe and Cyprus, private enterprises tend to be smaller than in the West; they are more often family businesses and they employ on average only two to three people. In terms of their origin, three types of SMEs are present in CEE countries: start-up enterprises, established enterprises, and spin-offs from large, state-owned enterprises. The majority of SMEs, especially those lacking any formal legal status, have established their businesses by using their personal and family resources. This process was a consequence of a bottom-up approach and led to an unprecedented development in the number of micro and small enterprises. In contrast, the medium-sized enterprise sector has been growing as a result of the restructuring of large, state-owned enterprises (in the CEE accession countries), arising frequently from their breaking up into smaller units.

The development of SMEs is the key to sustainable economic transformation in the accession countries, especially in the five CEE candidate countries. However, the private sector in those countries operates within a very difficult environment, often with an inappropriate regulatory framework, sluggish privatisation and restructuring, a still underdeveloped financial sector, a weak business environment and an information deficit. This environment is improving partly

in response to EU accession requirements but assessing the role played by SMEs and their impact is problematic. SMEs are a diverse and heterogeneous group of economic actors, and defining them as well as quantifying their activities is very difficult. Therefore, it is important to clarify the definitional and data problems relating to the SME sector.

Table C-2

Distribution of SMEs by number of units and sector

	Cyprus (1995)	*Czech Republic (1995)*	*Estonia (1997)*	*Hungary (1997)*	*Poland (1996)*	*Slovenia (1997)*
Trade	33.6	31.2	40.0	29.8	42.2	40.0
Manufacturing	13.9	14.0	14.0	12.2	14.4	16.6
Commercial services[1]	20.6	16.2	13.0	22.4	23.1	23.2
Construction	10.6	10.8	8.0	8.7	10.1	5.9
Transport/communications	7.4	3.5	7.0	6.5	10.0	5.0
Other sectors	13.9	24.3	18.0	20.4	0.2	9.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Cyprus Trade Centre, Czech Statistical Office, The State of Small Business in Estonia, State of Small and Medium Sized Business in Hungary, Raport o stanie sektora malych i srednich przedsiebiorstw w Polsce, Ministry of Small Business and Tourism in Slovenia. – [1]Including real estate.

There is a lack of consistency in the definition of SMEs in the accession countries but most are based upon the number of employees (Table C-1). The *Czech* authorities use different SME classification systems for different purposes, which makes it impossible to compare data for different years or with other economies. In some cases, a SME is defined as a unit employing up to 500 people, rather than 250 (Zemplinerova 1996). According to the definition commonly adopted in *Estonia*, SMEs have up to 249 employees, including the self-employed (whether or not they have employees) as well as agricultural businesses. In *Hungary*, within the non-primary enterprise sector, SMEs are defined as those employing less than 250 employees, and distinguish three categories of SMEs: very small/micro, small and medium-sized. In the case of *Poland*, there is no official definition of an SME. Different institutions such as banks and state agencies that support the sector use varying definitions. For example, Bank Gospodarstwa Krajowego provides credit guarantees to companies with up to 250 workers with an annual income of not more than ECU 20 million, while the Central Statistical Office defines a small company as one with less than six workers and a medium one with between 6 and 50 employees (Hübner 1997). *Slovenia* on the other hand, has a long tradition of independent small craft firms financed by both private and social capital. However, due to their mixed source of funding they are not always included in the SME

sector (Prasnikar 1997). Thus, categorisation issues, definitional problems and data collection practices make any simple comparisons or generalisations extremely difficult. In *Cyprus*, SME categories and definitions are already the same as those employed by the Community.

However, a number of countries are making changes and adjustments in order to develop comparable SME data in a wider European arena. To achieve European-wide comparability, the Czech Republic is introducing a new category of very small enterprises with less than ten employees. In the case of Hungary, as much of the data concerning SMEs as possible is collected and analysed using the European Commission's classification. In Poland, the new definition of SME based on the EU criteria will be introduced on 31 December 2002 and will include a concept of micro enterprise (Rzeczpospolita 1999). In the meantime, the Polish government will be using different definitions and classifications in order to implement specific schemes and programmes, so this lack of coherence will continue in the medium term.

Table C-3

SME employment in the accession countries 1996/97, in of total employment	
Country	*SME employment*
Cyprus*	89
Czech Republic	37
Estonia	55
Hungary	47
Poland	60
Slovenia	39
Source: see Table C-2 - 1996, Estonia, Hungary and Slovenia - 1997. * - 1995.	

As indicated earlier, the absence of a uniform definition for an SME in the six accession countries leads to difficulties with data collection and reliability. More importantly, data relating to SMEs in CEE countries is not readily available in most cases and therefore any data have to be treated with some caution. There are a number of reasons for this. First, most of the statistics are based on national registers of firms but often do not distinguish between the nature of their legal status. This means that statistics often include companies undergoing process of privatisation (partly state-owned) as well as those that are either no longer functioning or just about to start up. Therefore, in many cases, the real number of firms is smaller than the data suggests (Welter 1997). Second, data relating to private sector development often equates this with SME development, although as indicated earlier, national registers refer to all enterprises in this sector. Third, Hungary and Poland started the transition process with well-developed private sectors although data for the early 1990s period for Hungary is based on estimates (Webster 1992). Fourth, at the early stages of transformation the so-called 'informal' or 'grey' economy flourished in Poland, and to a lesser degree in Hungary and what was then Czechoslovakia. Therefore, data relating to the private sector as

well as SMEs development for all three countries in the early 1990s has to be viewed with some caution (Grabowski 1995).[21]

Table C-4

Employment by size class in the accession countries 1996,			
	0-49 employees	*50-249 employees*	*Over 250 employees*
Cyprus	70.2	18.8	11.0
Czech Republic	40.6	23.7	35.7
Estonia	45.2	28.2	26.6
Hungary	47.8	18.5	33.7
Poland	44.0	16.6	39.4
Slovenia	39.0		61.0
Source: see Table C2.			

In order to facilitate international comparison a number of issues have to be resolved: the variable upon which measurement is based, the appropriate sector of the economy on which to focus, and the pertinent time period (Acs and Audretsch 1993). With due consideration to these issues, the study adopts a measurement based largely upon employment levels. This avoids problems of how to weigh the amount of economic activity undertaken (when concentrating on the numbers of firms) as well as the exchange rate problems. As for the selected sectors, the study examines a variety of sectors since their importance (within the SME context) varies between the accession countries as well as between them and the EU.

2. Trends in SME development in the accession countries

Table C-2 illustrates the sectoral distribution of SMEs by number of units. It demonstrates the high share of small and medium-sized businesses in trade, commercial services (including real estate) and construction. The same pattern is repeated when looking at data based on the number of employees.

In all accession countries, the number of SMEs is rising less quickly than at the beginning of the transition process. The initial dynamic growth in a number of small businesses was a direct result of latent entrepreneurship and small-scale privatisation. However, SMEs now play a prominent and growing role in providing employment. Their development in the transition economies is to a certain degree of even greater importance than in advanced market economies. This is primarily because SMEs can absorb a substantial proportion of the labour force that was or will be shed by the state sector (Table C-3).

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[21] Based on a survey of Polish SMEs in 1993 and 1994, Grabowski concluded that on average companies only declared 61 percent of their annual turnover and 85 percent of those actually employed.

The SME situation in Cyprus is markedly different than the other candidate countries. Most notably, SMEs dominate the employment structure. As a share of total employment, firms with less than 250 employees were responsible for 89 of island employment (Table C2). Within the SME size band, small firms also have a relatively large share of employment, larger than for the other accession countries (Table C-2). The importance of SMEs to the local economy can largely be attributable to the small, island nature of the economy, which has provided few conditions for the emergence of large enterprises. In addition, the main economic activities of the island – especially tourism-related services – tend to favour smaller enterprises.

Overall, most SMEs in the accession countries are very small in employment terms. As Table C-4 illustrates, companies with up to 50 employees account for around 40 of all SME employment, with the exception of Slovenia where SMEs account for a relatively small share of employment. It should be noted that within the first category (small enterprises with up to 50 employees), the most prominent type of business is the so-called micro enterprise, often having no employees at all. In approximately 60 of Hungarian firms and 70 of Czech enterprises, there are no employees other than the owner.

As in the EU, the 'one-person' business is the most frequently encountered size of business in the accession countries. As in other parts of the world, goods and services are increasingly provided by a profusion of very small enterprises and sole proprietorships. In the CEE countries, they incorporate street vendors who inhabit almost every main street of Central European towns, private taxis, tailors and dress-makers, shoe repairers, hairdressers, metal and plastic-working shops, and a whole plethora of others. These enterprises have considerable value because they generate income, create low-cost jobs, use domestically-produced raw materials and provide goods and services at prices that can be afforded by lower income households (Halverso-Quevedo 1992). This category also includes craft activities that are pre-dominant in some of the accession countries, namely Slovenia where there are very few companies employing more than ten salaried employees. According to the Slovenian Statistical Office, as many as 89 of registered businesses (companies, natural persons and institutions) employ less than five salaried persons. In Cyprus, nearly half of all employment is accounted for by firms with less than ten employees.

Generally speaking, the sectoral distribution of SMEs in the accession countries is skewed towards trade and services. Comparable data for all six countries by size of company and by sector of economic activity is only available for the Czech Republic and Hungary. In the cases of Estonia and Poland, the national statistics for sectoral distribution only cover SME employment as a whole. Comparable data for Slovenia is unavailable.

- *Poland.* As elsewhere, around 50 of all SME employees in Poland work in trade/repair services, hotels/restaurants, transport and financial/real estate services.
- In *Estonia*, the two largest employment sectors are trade and manufacturing, followed by construction and commercial services. The distribution of employees among different size categories of enterprise in 1997 show that employment is highly concentrated in businesses with 10-249 employees (*The State of Small Business in Estonia* 1998).
- As indicated earlier, detailed data on the sectoral break down of employment is unavailable for *Slovenia*. However, the Ministry of Small Business and Tourism considers

the SME-dominated service sector to have been a major source of job creation in recent years.

- In the *Czech Republic*, the highest concentration of employment in small companies is found in real estate (61), other personal services (56) and wood products (57). Medium-sized companies dominate education and public administration. Large companies (with 250 or more employees) are predominant in manufacturing, particularly rubber/plastics and electrical/optical equipment.
- A similar trend can be observed in *Hungary* with small companies having a significant presence in health, real estate and trade. As for medium-sized enterprises, they seem to be fairly evenly distributed among most sectors, whilst large companies have a commanding lead in manufacturing and utilities.

The number of enterprises per 1,000 inhabitants is regarded as an important business dynamics indicator: the higher the number of enterprises, the greater the competition between them. This indicator can also be used for comparisons between regions within a country as well as for comparisons between countries (Table C-5). As in the EU Member States, the density of enterprises per 1,000 inhabitants varies considerably, from as much as 99 in Cyprus to 20 in Estonia. In terms of enterprise density, Cyprus, the Czech Republic and Hungary all exceed the EU average.

Table C-5

Density of enterprises in accession countries and the EU 1995, number of enterprises per 1,000 inhabitants	
Cyprus	99
Czech Republic	68
Estonia	20
Hungary	50
Poland	28
Slovenia	35
All six accession countries	33
EU average	43
Source: Eurostat.	

References

Acs, Z. and Audretsch, D. (ed.) (1993) Small Firms and Entrepreneurship: An East-West Perspective, Cambridge University Press, Cambridge.

Bartholdy, K. (1996): Assessing progress in economies in transition. *Economics of Transition* .4 (1).

Chojnicki, Z., Czyz, T. and Parysek, J. (1999): Transformations and dilemmas of the Polish economy', in Carter, F and Maik, W (ed.) Shock-Shift in an Enlarged Europe, Ashgate, Aldershot.

Grabowski, M. (1995): Szara Strefa a Transformacji Gospodarki, Instytut Badan nad Gospodarka Rynkowa. *Transformacja Gospodarki* 58. Gdansk.

Halverso-Quevedo, R. (1992): The growing potential of micro-enterprises. *OECD Observer*.173.

Hübner, D. (1997): A strategy for SMEs in Poland. In CCET (ed.) Entrepreneurship and SMEs in Transition Economies, Centre for Co-operation with the Economies in Transition, OECD, Paris.

Prasnikar, J. (1997): Behaviour of a Slovenian Firm in Transition, Working Paper No.26, The William Davidson Institute.

Rzeczpospolita (1999): Nowa definicja dla firm. Raporty, 2 July.

The State of Small Business in Estonia (1998).

Webster, L. (1992): Private Sector Manufacturing in Hungary: A Survey of Firms, The World Bank, Washington DC.

Welter, F. (1997): Small and Medium Enterprises in Central and Eastern Europe: Trends, Barriers and Solutions, RWI-Papiere, No.51.

Zemplinerova, A. (1996): Czech SMEs from a Macro-Economic Perspective.

Appendix D: Statistical appendix

The following statistical tables present data on enterprise structures for the EU as a whole and the individual Member States (taken from the Eurostat SME database).

Tables D-1-D-3. In the case of the EU, tables are provided on the sectoral breakdown of SMEs in different size categories by NACE-2 manufacturing sector for 1994 (in terms of the number of units, employment and turnover).

Tables D-4-D-18. For the individual Member States, analysis is made of enterprise structures by employment and sector alone. NACE-2 categories have been used for both industry and services where possible (in some cases – for example, Austria – data is not disaggregated sufficiently to conduct this type of analysis). Data has been taken for the most recent year for which this level of detail is available (mainly 1994). Not all NACE-2 categories have been used, but only those sectors where SMEs in particular sectors have accounted for more than one of all employment in SMEs, in order to identify the *main* sectors of SME activity. Where concentrations of SMEs are significantly above the average for all sectors, the individual sector threshold has been lowered to 0.5 of all employment in SMEs. In some cases, this has meant that some NACE-3 categories have shown notably high percentages, and so have been included alongside the NACE-2 categories.

Table D-19. A further table on export data is included as well, though this only covers four Member States which provide information at this detailed level: France, Portugal, Spain and Sweden.

TABLE D.1: EUROPEAN UNION - Number of enterprises by enterprise size- 1994 (estimated)
Per cent of all enterprises in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
Industry and services (excluding public administration; education; activities of membership organizations; private households; extra-territorial organizations)	51.5	41.4	6.1	0.9	99.8	0.2	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	35.4	45.2	15.3	3.3	99.2	0.8	11.5
Mining of coal and lignite; extraction of peat	63.6	21.4	9.0	2.7	96.8	3.2	0.0
Mining of metal ores	40.6	36.8	9.1	4.3	90.9	9.1	0.0
Other mining and quarrying	22.7	52.4	21.5	3.0	99.7	0.3	0.1
Manufacture of food products and beverages	25.3	57.3	14.1	2.6	99.4	0.6	1.6
Manufacture of textiles	39.7	39.5	16.1	4.0	99.2	0.8	0.6
Manufacture of wearing apparel; dressing; dyeing of fur	43.5	40.6	13.5	2.1	99.7	0.3	0.9
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	37.9	50.4	10.3	1.4	99.8	0.2	0.9
Manufacture of pulp, paper and paper products	26.9	37.4	24.5	8.4	97.2	2.8	0.1
Publishing, printing, reproduction of recorded media	43.7	41.7	12.0	2.2	99.6	0.4	1.0
Manufacture of coke, refined petroleum products and nuclear fuel	46.5	29.1	13.3	6.4	95.2	4.8	0.0
Manufacture of chemicals and chemical products	31.5	37.0	19.6	8.0	96.1	3.9	0.2
Manufacture of rubber and plastic products	31.0	38.0	23.5	6.4	98.8	1.2	0.3
Manufacture of other non-metallic mineral products	33.4	44.7	17.4	3.7	99.3	0.7	0.5
Manufacture of basic metals	21.4	36.6	27.7	10.1	95.9	4.1	0.1
Manufacture of fabricated metal products, except machinery and equipment	33.8	47.2	16.3	2.5	99.7	0.3	1.7
Manufacture of machinery and equipment n.e.c.	28.3	41.6	22.6	6.1	98.6	1.4	0.7
Manufacture of office machinery and computers	34.0	43.8	15.9	4.7	98.4	1.6	0.0
Manufacture of electrical machinery and apparatus n.e.c.	38.2	39.4	16.5	4.2	98.2	1.8	0.3
Manufacture of radio, television and communication equipment and apparatus	31.2	48.5	14.2	4.2	98.1	1.9	0.1
Manufacture of medical, precision and optical instruments, watches and clocks	31.0	50.6	13.5	3.6	98.8	1.2	0.4
Manufacture of motor vehicles, trailers and semi-trailers	34.4	33.9	20.2	8.4	97.0	3.0	0.1
Manufacture of other transport equipment	39.1	40.2	15.0	4.2	98.5	1.5	0.1
Recycling	35.7	49.8	13.1	1.4	99.9	0.1	0.0
Electricity, gas, steam and hot water supply	36.0	47.1	9.6	4.8	97.5	2.5	0.1
Collection, purification and distribution of water	37.6	43.5	12.1	5.2	98.4	1.6	0.1
Construction	58.0	34.1	7.1	0.7	99.9	0.1	13.5
Sale, maintenance and repair of motor vehicles	41.6	52.3	5.5	0.5	99.9	0.1	3.9
Wholesale trade and commission trade, except of motor and motorcycles	43.1	47.2	8.5	1.0	99.8	0.2	6.8
Retail trade, except of motor vehicles, motorcycles; repair of personal and household goods	53.0	44.0	2.8	0.2	99.9	0.1	19.8
Land transport; transport via pipelines	64.4	29.8	5.0	0.6	99.9	0.1	4.0
Water transport	60.0	29.3	7.7	2.3	99.3	0.7	0.1
Air transport	30.7	44.7	15.6	6.1	97.1	2.9	0.0

TABLE D-1 (continued)

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
Supporting and auxiliary transport activities; activities of travel agencies	40.5	46.5	10.6	2.0	99.6	0.4	0.8
Post and telecommunications	68.8	25.7	4.4	0.8	99.6	0.4	0.2
Financial intermediation, except insurance and pension funding	46.9	32.5	12.6	5.2	97.3	2.7	0.3
Insurance and pension funding, except compulsory social security	40.2	43.2	8.1	5.1	96.6	3.4	0.1
Activities auxiliary to financial intermediation	61.5	36.2	2.0	0.3	99.9	0.1	1.4
Real estate activities	74.2	23.8	1.7	0.3	100.0	0.0	4.0
Renting of machinery and equipment without operator and of personal and household goods	59.3	35.8	4.2	0.6	99.9	0.1	0.6
Computer and related activities	44.3	48.2	6.2	1.1	99.8	0.2	1.1
Research and development	64.7	23.2	6.1	1.8	95.8	4.2	0.1
Other business activities	56.5	37.8	4.9	0.7	99.8	0.2	11.2
Health and social work	50.2	43.7	4.9	1.0	99.8	0.2	6.5
Sewage and refuse disposal, sanitation and similar activities	33.8	46.7	14.5	4.0	99.1	0.9	0.1
Recreational, cultural and sporting activities	68.5	27.4	3.6	0.5	99.9	0.1	2.6
Other service activities	48.4	48.9	2.6	0.2	100.0	0.0	3.8

TABLE D-2: EUROPEAN UNION - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
Industry and services (excluding public administration; education; activities of membership organizations; private households; extra-territorial organizations)	9.7	23.3	19.0	13.8	65.9	34.1	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	2.4	11.6	19.4	19.4	52.8	47.2	30.2
Mining of coal and lignite; extraction of peat	0.8	0.7	3.7	3.5	8.6	91.4	0.2
Mining of metal ores	0.3	2.0	3.7	8.3	14.3	85.7	0.0
Other mining and quarrying	2.2	18.2	36.2	23.5	80.1	19.9	0.2
Manufacture of food products and beverages	2.4	19.2	21.5	19.7	62.7	37.3	3.4
Manufacture of tobacco products	0.2	0.6	2.4	8.3	11.5	88.5	0.1
Manufacture of textiles	3.3	12.4	25.3	29.2	70.2	29.8	1.2
Manufacture of wearing apparel; dressing; dyeing of fur	5.4	17.1	33.0	24.3	79.9	20.1	1.2
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	6.4	29.7	30.3	20.3	86.6	13.4	1.0
Manufacture of pulp, paper and paper products	0.8	5.2	15.0	23.6	44.6	55.4	0.7
Publishing, printing, reproduction of recorded media	5.1	17.7	25.5	21.1	69.4	30.6	1.6
Manufacture of coke, refined petroleum products and nuclear fuel	0.5	0.7	3.0	17.3	21.6	78.4	0.2
Manufacture of chemicals and chemical products	0.7	3.1	8.4	16.4	28.6	71.4	1.7
Manufacture of rubber and plastic products	1.4	7.6	22.2	26.5	57.8	42.2	1.2
Manufacture of other non-metallic mineral products	2.4	13.2	23.8	23.1	62.5	37.5	1.2
Manufacture of basic metals	0.4	2.9	10.2	15.8	29.4	70.6	0.9
Manufacture of fabricated metal products, except machinery and equipment	3.7	20.7	33.0	24.0	81.4	18.6	2.8
Manufacture of machinery and equipment n.e.c.	1.4	8.0	20.8	22.9	53.0	47.0	2.6
Manufacture of office machinery and computers	1.1	9.1	9.1	14.9	34.3	65.7	0.2
Manufacture of electrical machinery and apparatus n.e.c.	1.4	5.4	11.2	13.3	31.3	68.7	1.5
Manufacture of radio, television and communication equipment and apparatus	1.0	4.7	8.6	12.0	26.2	73.8	0.8
Manufacture of medical, precision and optical instruments, watches and clocks	1.9	8.9	14.8	17.0	42.5	57.5	1.2
Manufacture of motor vehicles, trailers and semi-trailers	0.4	1.8	4.9	10.6	17.8	82.2	1.6
Manufacture of other transport equipment	1.1	4.4	8.8	12.9	27.2	72.8	0.7
Manufacture of furniture; manufacturing n.e.c.	4.2	12.5	18.6	17.4	52.7	47.3	2.3
Recycling	7.1	32.6	39.0	16.0	94.8	5.2	0.1
Electricity, gas, steam and hot water supply	0.4	2.0	3.6	7.6	13.7	86.3	0.7
Collection, purification and distribution of water	0.9	4.0	5.9	18.3	29.1	70.9	0.3
Construction	15.8	30.4	27.8	13.6	87.6	12.4	9.1
Sale, maintenance and repair of motor vehicles	10.3	42.2	26.5	10.8	89.8	10.2	2.6
Wholesale trade and commission trade, except of motor and motorcycles	8.6	27.9	30.1	17.1	83.7	16.3	6.3
Retail trade, except of motor vehicles, motorcycles; repair of personal and household goods	17.7	36.3	13.4	5.1	72.5	27.5	12.2
Hotels and restaurants	11.8	43.5	21.8	8.5	85.6	14.4	5.6

TABLE D-2 (continued)

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
Land transport; transport via pipelines	16.2	19.8	18.5	10.8	65.3	34.7	3.5
Water transport	8.4	9.3	13.7	21.1	52.5	47.5	0.2
Air transport	0.2	1.6	3.3	6.6	11.7	88.3	0.3
Supporting and auxiliary transport activities; activities of travel agencies	4.4	17.3	23.7	20.1	65.5	34.5	1.3
Post and telecommunications	1.5	2.1	1.8	1.7	7.1	92.9	2.0
Financial intermediation, except insurance and pension funding	0.8	2.1	5.4	8.5	16.9	83.1	2.7
Insurance and pension funding, except compulsory social security	0.6	2.1	3.1	12.5	18.3	81.7	0.9
Activities auxiliary to financial intermediation	24.3	40.8	12.1	8.6	85.8	14.2	0.7
Real estate activities	27.0	34.1	15.4	12.1	88.7	11.3	1.3
Renting of machinery and equipment without operator and of personal and household goods	17.3	27.4	21.4	13.4	79.5	20.5	0.4
Computer and related activities	9.0	24.2	23.0	19.9	76.1	23.9	1.0
Research and development	3.7	3.1	5.2	6.5	18.5	81.5	0.6
Health and social work	11.3	25.2	16.3	16.8	69.6	30.4	6.4
Sewage and refuse disposal, sanitation and similar activities	2.0	12.0	19.8	24.1	57.9	42.1	0.3
Recreational, cultural and sporting activities	20.4	24.5	18.9	12.6	76.4	23.6	1.7
Other service activities	21.0	52.6	15.6	5.1	94.4	5.6	1.7

TABLE D-3: EUROPEAN UNION - Turnover by enterprise size - 1994 (estimated)
Per cent of total turnover in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
Industry and services (excluding public administration; education; activities of membership organizations; private households; extra-territorial organizations)	3.7	14.1	18.5	20.5	56.7	43.3	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	1.3	5.4	13.8	20.4	40.9	59.1	27.5
Mining of coal and lignite; extraction of peat	0.5	2.0	5.9	3.2	11.6	88.4	0.1
Mining of metal ores	1.9	1.8	2.3	7.1	13.0	86.9	0.0
Other mining and quarrying	1.4	12.1	35.6	28.6	77.8	22.2	0.2
Manufacture of food products and beverages	1.5	7.1	16.4	25.9	50.9	49.1	3.9
Manufacture of tobacco products	0.0	0.1	0.8	2.3	3.2	96.8	0.3
Manufacture of textiles	1.6	7.5	27.2	33.2	69.5	30.5	0.7
Manufacture of wearing apparel; dressing; dyeing of fur	2.2	13.1	28.3	27.5	71.1	28.9	0.5
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	2.5	18.6	32.6	27.0	80.8	19.2	0.5
Manufacture of pulp, paper and paper products	0.4	3.1	10.5	23.9	38.0	62.0	0.7
Publishing, printing, reproduction of recorded media	2.1	12.0	23.6	25.6	63.4	36.6	1.1
Manufacture of coke, refined petroleum products and nuclear fuel	0.2	0.3	1.1	3.5	5.1	94.9	1.5
Manufacture of chemicals and chemical products	1.4	1.3	6.7	16.7	26.0	74.0	2.5
Manufacture of rubber and plastic products	0.7	5.4	20.1	29.3	55.4	44.6	0.9
Manufacture of other non-metallic mineral products	1.2	7.5	23.2	27.0	58.9	41.1	0.9
Manufacture of basic metals	0.2	1.6	6.8	15.6	24.2	75.8	1.1
Manufacture of fabricated metal products, except machinery and equipment	2.3	12.1	28.1	27.5	70.0	30.0	1.7
Manufacture of machinery and equipment n.e.c.	1.0	4.5	15.2	22.6	43.3	56.7	2.1
Manufacture of office machinery and computers	1.0	3.3	4.7	11.5	20.5	79.5	0.3
Manufacture of electrical machinery and apparatus n.e.c.	1.0	3.7	11.2	16.9	32.8	67.2	0.9
Manufacture of radio, television and communication equipment and apparatus	0.4	2.7	6.8	12.6	22.5	77.5	0.7
Manufacture of medical, precision and optical instruments, watches and clocks	1.1	9.0	16.9	22.1	49.1	50.9	0.5
Manufacture of motor vehicles, trailers and semi-trailers	0.1	0.7	3.0	5.9	9.7	90.3	2.2
Manufacture of other transport equipment	1.0	2.4	6.4	10.3	20.2	79.8	0.6
Manufacture of furniture; manufacturing n.e.c.	3.1	13.2	25.9	25.0	67.1	32.9	0.7
Recycling	2.1	24.4	45.5	21.7	93.7	6.3	0.1
Electricity, gas, steam and hot water supply	2.7	1.9	3.9	25.3	33.8	66.2	2.1
Collection, purification and distribution of water	3.4	4.6	6.4	15.9	30.3	69.8	0.2
Construction	6.7	22.0	30.8	21.0	80.4	19.6	5.5
Sale, maintenance and repair of motor vehicles	4.5	31.2	30.8	17.4	83.9	16.1	3.8
Wholesale trade and commission trade, except of motor and motorcycles	3.7	19.8	29.6	22.8	75.9	24.1	14.7
Retail trade, except of motor vehicles, motorcycles; repair of personal and household goods	7.2	30.9	15.8	8.2	62.1	37.9	9.1
Hotels and restaurants	9.4	39.4	20.8	12.2	81.8	18.2	1.6

TABLE D-3 (continued)

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
Land transport; transport via pipelines	8.6	19.7	23.8	14.9	67.0	33.0	1.4
Water transport	7.6	7.7	15.4	24.1	54.9	45.1	0.2
Air transport	0.3	1.7	5.5	14.5	22.1	77.9	0.4
Supporting and auxiliary transport activities; activities of travel agencies	3.1	17.2	24.0	22.3	66.6	33.4	1.4
Post and telecommunications	1.0	2.2	3.7	6.8	13.7	86.3	0.9
Financial intermediation, except insurance and pension funding	0.8	2.1	9.9	29.8	42.6	57.4	16.0
Insurance and pension funding, except compulsory social security	1.5	2.8	10.6	14.9	29.8	70.2	3.9
Activities auxiliary to financial intermediation	1.8	7.3	28.8	29.0	66.8	33.2	2.5
Real estate activities	12.5	33.8	23.7	17.6	87.6	12.4	2.1
Renting of machinery and equipment without operator and of personal and household goods	11.5	20.1	25.9	19.8	77.3	22.7	0.5
Computer and related activities	5.7	17.9	21.9	22.9	68.4	31.6	0.6
Research and development	48.0	6.3	5.3	7.0	66.6	33.4	0.2
Other business activities	6.5	23.4	21.9	18.6	70.4	29.6	4.8
Health and social work	9.0	19.8	13.5	22.6	65.0	35.0	1.4
Sewage and refuse disposal, sanitation and similar activities	3.9	10.8	24.3	32.8	71.8	28.2	0.2
Recreational, cultural and sporting activities	5.5	16.1	15.1	13.1	49.9	50.1	1.1
Other service activities	12.0	42.6	20.1	10.3	84.9	15.1	0.4

TABLE D-4: AUSTRIA - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	3.3	20.7	19.2	21.3	35.5	64.5	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	1.2	12.5	18.9	29.3	38.1	61.9	26.9
Construction	0.6	17.8	30.5	26.2	24.9	75.1	11.4
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants	4.6	32.0	27.9	17.9	17.6	82.4	31.0
Transport, storage and communication	1.5	8.1	10.7	13.7	66.0	34.0	8.6
Financial intermediation	1.2	2.3	12.3	20.2	64.0	36.0	2.3

TABLE D-5: BELGIUM- Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	19.7	26.1	15.4	11.4	27.4	72.6	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	5.0	12.7	18.1	20.1	44.1	55.9	16.4
Manufacture of food products and beverages	5.7	29.0	19.5	18.7	27.0	73.0	3.2
Manufacture of textiles	2.4	8.9	23.4	34.1	31.2	68.8	1.4
Manufacture of wearing apparel; dressing; dyeing of fur	11.1	14.6	35.5	26.4	12.4	87.6	0.7
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	9.3	27.0	36.8	19.0	8.0	92.0	0.6
Publishing, printing, reproduction of recorded media	14.0	18.7	21.6	22.1	23.6	76.4	1.4
Manufacture of fabricated metal products, except machinery and equipment	7.6	19.1	34.4	23.2	15.8	84.2	2.2
Manufacture of furniture; manufacturing n.e.c.	14.3	23.0	28.4	25.4	8.9	91.1	1.4
Construction	22.4	35.8	23.0	12.5	6.3	93.7	11.0
Wholesale trade and commission trade, except of motor and motorcycles	26.3	32.0	22.6	12.2	6.8	93.2	11.2
Hotels and restaurants	27.6	45.5	15.6	4.8	6.6	93.4	8.0
Transport, storage and communication	7.6	15.0	15.3	8.0	54.1	45.9	5.2
Financial intermediation	2.0	13.4	7.7	8.8	68.1	31.9	1.7
Real estate activities	42.2	46.6	7.8	3.4	0.0	100.0	2.2
Computer and related activities	27.4	21.7	21.6	16.6	12.6	87.4	1.0
Health and social work	3.1	15.4	16.2	20.7	44.7	55.3	5.9
Recreational, cultural and sporting activities	38.1	21.8	14.3	10.2	15.7	84.3	2.1

TABLE D-6: DENMARK- Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	6.5	22.5	22.6	17.9	30.5	69.5	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	2.3	10.3	20.3	25.8	41.4	58.6	28.2
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	2.4	10.8	32.5	28.9	25.4	74.6	1.1
Publishing, printing, reproduction of recorded media	2.8	13.1	21.1	19.2	43.8	56.2	2.7
Manufacture of machinery and equipment n.e.c.	0.8	5.7	18.9	27.1	47.5	52.5	3.7
Manufacture of electrical machinery and apparatus n.e.c.	3.2	11.7	23.6	38.4	23.1	76.9	1.2
Construction	6.6	33.7	32.9	13.0	13.8	86.2	13.0
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	7.7	29.6	25.4	12.7	22.2	77.8	30.2
Hotels and restaurants	11.2	48.6	22.6	0.0	0.0	100.0	7.3
Transport, storage and communication	6.2	21.0	23.1	15.8	34.0	66.0	5.1
Financial intermediation	0.7	2.1	4.7	11.9	80.6	19.4	1.4
Real estate activities	13.4	60.2	15.2	11.2	0.0	100.0	0.6
Computer and related activities	10.7	16.0	20.7	24.1	28.6	71.4	1.4
Legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	*	*	*	*	87.7	12.3	0.4
Architectural and engineering activities and related technical consultancy	12.1	21.5	21.0	18.8	26.6	73.4	2.0
Advertising	18.3	32.1	37.5	12.1	0.0	100.0	0.9
Industrial cleaning	*	*	*	*	88.2	11.8	0.4
Recreational, cultural and sporting activities	*	*	*	*	85.3	14.7	0.1
* - Detailed breakdown of SMEs not available.							

TABLE D-7: FINLAND- Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	5.3	19.2	16.4	16.4	42.6	57.4	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	1.5	8.1	13.8	20.8	55.9	44.1	29.5
Manufacture of food products and beverages	0.9	5.8	13.0	17.1	63.2	36.8	2.7
Manufacture of textiles	4.4	12.5	19.7	30.4	32.9	67.1	0.8
Manufacture of wearing apparel; dressing; dyeing of fur	4.3	11.6	26.6	30.3	27.2	72.8	1.0
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	2.8	12.6	18.6	22.7	43.3	56.7	2.4
Publishing, printing, reproduction of recorded media	1.8	13.5	18.7	28.1	37.8	62.2	3.0
Manufacture of rubber and plastic products	0.7	8.3	19.8	30.1	41.1	58.9	1.2
Manufacture of fabricated metal products, except machinery and equipment	3.2	22.9	31.7	30.0	12.2	87.8	3.8
Manufacture of machinery and equipment n.e.c.	1.6	7.4	14.4	26.7	50.0	50.0	4.3
Manufacture of electrical machinery and apparatus n.e.c.	0.4	5.4	14.3	25.8	54.0	46.0	1.1
Manufacture of furniture; manufacturing n.e.c.	4.6	18.5	27.4	23.8	25.8	74.2	1.7
Construction	8.6	35.6	24.3	11.9	19.6	80.4	10.1
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	7.1	30.3	22.0	14.6	25.9	74.1	23.7
Hotels and restaurants	7.9	34.1	19.2	12.0	26.8	73.2	4.9
Transport, storage and communication	6.2	15.2	10.2	11.2	57.1	42.9	9.4
Financial intermediation	0.1	3.8	11.3	11.6	73.2	26.8	2.3
Real estate activities	10.9	40.1	25.6	13.2	10.2	89.8	2.6
Computer and related activities	4.9	20.2	20.5	22.2	32.2	67.8	1.7
Legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	10.6	43.9	19.8	14.8	10.9	89.1	3.3
Architectural and engineering activities and related technical consultancy	7.0	35.5	22.4	24.3	10.8	89.2	2.8
Industrial cleaning	4.2	13.8	8.1	14.1	59.7	40.3	1.1
Health and social work	29.6	42.6	12.8	9.4	5.5	94.5	
Recreational, cultural and sporting activities	7.0	18.8	13.4	11.0	49.7	50.3	1.2

TABLE D-8: FRANCE - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	10.9	21.3	18.7	14.9	34.2	65.8	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	2.3	10.8	18.1	20.0	48.7	51.3	22.4
Manufacture of food products and beverages	4.0	25.8	18.5	18.8	32.9	67.1	4.1
Manufacture of textiles	1.7	6.9	25.9	37.2	28.3	71.7	1.1
Manufacture of wearing apparel; dressing; dyeing of fur	4.7	13.1	27.9	34.7	19.5	80.5	1.1
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	5.6	21.4	39.3	24.5	9.3	90.7	0.9
Publishing, printing, reproduction of recorded media	3.9	19.7	29.7	22.9	23.8	76.2	1.7
Manufacture of chemicals and chemical products	0.3	2.1	7.7	18.1	71.8	28.2	0.8
Manufacture of rubber and plastic products	0.4	4.5	17.7	25.7	51.7	48.3	1.0
Manufacture of other non-metallic mineral products	2.2	9.1	19.4	19.9	49.4	50.6	0.8
Manufacture of fabricated metal products, except machinery and equipment	2.4	13.8	36.1	26.2	21.5	78.5	3.2
Manufacture of machinery and equipment n.e.c.	1.6	8.4	20.0	23.5	46.5	53.5	1.7
Construction	12.9	33.2	26.3	12.5	15.0	85.0	13.4
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	12.3	30.6	23.9	13.4	19.7	80.3	24.6
Hotels and restaurants	19.2	42.5	18.4	6.2	13.7	86.3	6.1
Transport, storage and communication	5.0	7.2	12.3	10.3	65.2	34.8	4.8
Financial intermediation	3.2	4.8	5.0	8.0	79.1	20.9	1.3
Real estate activities	44.2	22.1	11.4	12.4	9.8	90.2	3.8
Computer and related activities	3.4	16.5	23.7	25.3	31.1	68.9	1.2
Legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	10.8	34.4	30.8	15.1	8.9	91.1	3.9
Architectural and engineering activities and related technical consultancy	14.1	31.2	24.3	16.5	13.8	86.2	1.7
Advertising	6.8	27.8	24.7	19.6	21.1	78.9	0.7
Industrial cleaning	3.0	9.8	17.9	25.2	44.1	55.9	1.2
Health and social work	39.7	31.0	11.5	14.2	3.5	96.5	7.6
Recreational, cultural and sporting activities	26.8	21.8	17.9	13.7	19.7	80.3	1.7

TABLE D-9: GERMANY - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	2.7	20.6	20.0	13.8	43.0	57.0	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	0.6	6.7	14.1	15.9	62.8	37.2	23.5
Manufacture of food products and beverages	0.4	18.1	30.0	18.5	33.1	66.9	3.8
Manufacture of wearing apparel; dressing; dyeing of fur	6.5	15.9	20.3	26.2	31.0	69.0	0.8
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	1.7	23.2	27.2	25.5	22.4	77.6	1.4
Publishing, printing, reproduction of recorded media	1.4	12.2	22.6	21.5	42.3	57.7	1.5
Manufacture of rubber and plastic products	0.2	4.7	17.8	21.0	56.2	43.8	1.1
Manufacture of other non-metallic mineral products	1.0	10.6	18.7	21.1	48.7	51.3	1.1
Manufacture of fabricated metal products, except machinery and equipment	1.5	15.7	26.2	27.7	28.7	71.3	3.7
Manufacture of machinery and equipment n.e.c.	0.2	3.7	15.4	16.9	63.9	36.1	2.2
Manufacture of medical, precision and optical instruments, watches and clocks	0.3	2.9	11.7	13.4	71.7	28.3	1.3
Manufacture of furniture; manufacturing n.e.c.	0.3	3.0	9.1	14.6	72.9	27.1	2.2
Construction	1.5	25.2	41.6	18.0	13.7	86.3	11.9
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	3.6	30.8	24.2	9.1	32.3	67.7	19.3
Hotels and restaurants	3.0	49.3	29.7	8.7	9.3	90.7	6.6
Transport, storage and communication	3.2	18.0	21.1	11.9	45.8	54.2	4.8
Financial intermediation	4.6	9.9	5.7	11.3	68.4	31.6	2.4
Real estate activities	10.8	45.5	19.6	16.3	7.9	92.1	1.6
Computer and related activities	5.2	16.2	28.9	25.2	24.5	75.5	1.2
Health and social work	3.9	37.1	18.2	19.9	20.9	79.1	13.0
Recreational, cultural and sporting activities	8.4	32.8	22.7	11.7	24.3	75.7	2.0

TABLE D-10: GREECE - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	27.5	29.1	17.2	12.7	13.5	86.5	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	4.1	12.1	28.4	28.3	27.1	72.9	16.3
Manufacture of food products and beverages	*	*	30.2	37.0	32.9	67.1	2.3
Manufacture of textiles	*	*	29.3	43.8	26.9	73.1	1.2
Manufacture of wearing apparel; dressing; dyeing of fur	*	*	42.4	39.2	18.4	81.6	1.7
Manufacture of other wearing apparel and accessories	*	*	68.5	0.0	31.5	68.5	0.8
Manufacture of rubber and plastic products	*	*	48.9	51.1	0.0	100.0	0.6
Manufacture of other non-metallic mineral products	*	*	46.8	24.4	28.7	71.3	0.9
Manufacture of fabricated metal products, except machinery and equipment	*	*	49.4	37.2	13.4	86.6	0.6
Manufacture of furniture; manufacturing n.e.c.	*	*	73.4	26.6	0.0	100.0	0.5
Construction	19.8	25.0	25.7	15.8	13.7	86.3	18.9
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants	38.2	38.5	8.7	5.4	9.2	90.8	51.1
Transport, storage and communication	32.8	23.4	22.9	14.3	6.6	93.4	5.1
Legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	*	70.7	14.5	14.8	0.0	100.0	0.6
Recreational, cultural and sporting activities	*	32.6	32.4	21.0	14.1	85.9	0.8
* - Detailed breakdown of SMEs not available.							

TABLE D-11: IRELAND - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	4.1	19.3	22.8	22.4	31.4	68.6	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	*	4.3	18.8	39.3	37.6	62.4	29.1
Manufacture of food products and beverages	*	2.5	14.9	58.3	24.3	75.7	7.4
Manufacture of textiles	*	3.6	24.6	42.5	29.2	70.8	1.3
Manufacture of wearing apparel; dressing; dyeing of fur	*	3.1	19.4	58.0	19.5	80.5	1.9
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	*	17.1	45.8	37.1	0.0	100.0	0.8
Manufacture of pulp, paper and paper products	*	3.8	27.0	69.2	0.0	100.0	0.9
Publishing, printing, reproduction of recorded media	*	7.4	28.3	29.0	35.3	64.7	1.9
Manufacture of chemicals and chemical products	*	2.0	12.3	46.8	38.9	61.1	2.1
Manufacture of rubber and plastic products	*	4.8	30.5	48.5	16.2	83.8	1.5
Manufacture of other non-metallic mineral products	*	4.4	29.0	36.4	30.3	69.7	1.3
Manufacture of fabricated metal products, except machinery and equipment	*	14.7	45.0	40.3	0.0	100.0	2.0
Manufacture of machinery and equipment n.e.c.	*	6.0	26.7	29.3	38.0	62.0	1.7
Manufacture of office machinery and computers	*	1.0	4.8	36.5	57.8	42.2	0.8
Manufacture of electrical machinery and apparatus n.e.c.	*	2.4	13.5	39.1	45.0	55.0	1.2
Construction	11.6	35.4	28.0	18.9	6.1	93.9	9.1
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants	5.2	31.7	28.6	15.9	18.6	81.4	39.4
Financial intermediation	0.2	3.2	4.6	13.5	78.5	21.5	1.7
* - Detailed breakdown of SMEs not available.							

TABLE D-12: ITALY - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	10.9	36.9	21.4	10.7	20.1	79.9	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	3.5	21.5	31.0	18.1	25.8	74.2	33.9
Manufacture of food products and beverages	3.4	37.0	23.7	15.9	20.0	80.0	3.2
Manufacture of textiles	3.4	21.6	36.7	24.0	14.2	85.8	2.9
Manufacture of wearing apparel; dressing; dyeing of fur	5.2	24.5	47.4	14.8	8.2	91.8	3.0
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	13.2	45.8	30.1	9.1	1.9	98.1	1.6
Publishing, printing, reproduction of recorded media	4.0	29.9	33.2	15.1	17.8	82.2	1.3
Manufacture of rubber and plastic products	1.2	15.8	37.1	25.6	20.4	79.6	1.3
Manufacture of other non-metallic mineral products	3.2	21.6	33.9	21.9	19.4	80.6	1.8
Manufacture of fabricated metal products, except machinery and equipment	5.0	31.5	42.4	15.6	5.5	94.5	5.0
Manufacture of machinery and equipment n.e.c.	1.7	13.2	29.7	26.9	28.5	71.5	3.3
Manufacture of electrical machinery and apparatus n.e.c.	1.8	17.0	29.6	21.1	30.5	69.5	1.3
Manufacture of medical, precision and optical instruments, watches and clocks	6.1	34.2	24.2	16.8	18.7	81.3	0.9
Manufacture of furniture; manufacturing n.e.c.	8.1	30.7	39.1	15.9	6.2	93.8	2.6
Construction	11.7	46.7	28.9	7.7	5.0	95.0	10.4
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	18.6	57.4	15.0	4.1	6.4	95.2	28.0
Hotels and restaurants	12.8	59.8	16.0	4.3	8.1	92.9	6.7
Transport, storage and communication	6.9	13.3	11.0	7.8	61.1	38.9	3.7
Financial intermediation	5.2	14.6	6.4	7.8	66.0	34.0	1.7
Real estate activities	40.4	46.9	8.8	0.0	0.0	100.0	0.8
Computer and related activities	5.8	39.8	26.3	13.5	14.6	85.4	1.3
Health and social work	25.3	42.6	11.2	14.0	6.9	93.1	2.6
Recreational, cultural and sporting activities	21.2	41.6	19.2	4.6	13.4	86.6	1.0

TABLE D-13: LUXEMBOURG - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	5.1	17.7	24.6	24.0	28.6	71.4	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	0.5	5.7	12.3	20.6	60.9	39.1	11.6
Manufacture of food products and beverages	0.4	0.0	25.5	37.8	36.2	63.8	1.7
Manufacture of fabricated metal products, except machinery and equipment	0.6	6.9	28.4	29.5	34.6	65.4	2.1
Construction	0.8	13.4	38.7	37.1	10.1	89.9	18.3
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	6.9	31.6	32.6	6.3	0.0	100.0	30.3
Hotels and restaurants	16.5	39.5	27.8	0.0	16.2	83.8	7.0
Transport, storage and communication	2.1	10.2	17.2	14.8	55.7	44.3	5.7
Financial intermediation	*	*	*	*	75.8	24.2	4.1
Real estate activities	28.0	48.7	23.3	0.0	0.0	100.0	1.2
Computer and related activities	21.1	25.4	31.5	22.0	0.0	100.0	2.3
Recreational, cultural and sporting activities	27.8	26.8	26.0	19.4	0.0	100.0	1.7

TABLE D-14: NETHERLANDS - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	6.1	19.9	17.0	17.7	39.4	60.6	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	1.0	12.5	16.1	20.3	50.1	49.9	16.8
Manufacture of food products and beverages	0.7	12.3	12.5	15.0	59.5	40.5	2.8
Publishing, printing, reproduction of recorded media	1.5	17.5	23.5	17.6	40.0	60.0	1.9
Manufacture of fabricated metal products, except machinery and equipment	1.1	17.7	31.8	30.1	19.3	80.7	2.5
Manufacture of machinery and equipment n.e.c.	1.2	9.6	26.4	36.7	26.0	74.0	2.0
Construction	2.5	42.1	14.5	26.1	14.8	85.2	10.2
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	10.5	27.9	24.3	12.4	24.9	75.1	29.7
Hotels and restaurants	10.6	52.2	17.8	9.7	9.7	90.3	8.3
Transport, storage and communication	3.8	11.0	18.2	12.5	54.6	45.4	6.2
Financial intermediation	2.5	5.7	6.7	8.8	76.3	23.7	1.7
Real estate activities	7.4	20.3	42.1	27.7	2.5	97.5	1.3
Computer and related activities	16.7	14.3	16.0	22.3	30.8	69.2	1.2
Legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	21.6	28.6	15.5	13.6	20.8	79.2	2.5
Architectural and engineering activities and related technical consultancy	15.3	19.5	20.7	24.4	20.1	79.9	1.9
Industrial cleaning	4.2	7.3	14.7	25.8	48.1	51.9	2.6
Health and social work	2.2	4.7	8.4	23.3	61.3	38.7	9.6
Recreational, cultural and sporting activities	0.0	23.3	29.5	22.5	24.6	75.4	1.9

TABLE D-15: PORTUGAL - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	11.0	27.0	22.8	18.4	20.8	79.2	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	2.7	14.8	27.2	29.8	25.6	74.4	35.6
Manufacture of food products and beverages	3.7	18.4	25.5	29.9	22.6	77.4	4.7
Manufacture of textiles	1.4	6.2	19.0	36.0	37.5	62.5	3.6
Manufacture of wearing apparel; dressing; dyeing of fur	2.9	10.1	31.4	37.9	17.7	82.3	5.7
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	4.5	30.4	33.9	21.5	9.7	90.3	2.4
Publishing, printing, reproduction of recorded media	3.1	22.5	35.6	25.2	13.7	86.3	1.5
Manufacture of rubber and plastic products	0.8	11.4	34.9	42.2	10.7	89.3	0.8
Manufacture of other non-metallic mineral products	1.6	13.8	29.3	31.8	23.5	76.5	2.5
Manufacture of fabricated metal products, except machinery and equipment	6.8	29.1	30.7	23.9	9.6	90.4	3.1
Manufacture of machinery and equipment n.e.c.	2.4	14.3	36.6	32.7	14.1	85.9	1.8
Manufacture of furniture; manufacturing n.e.c.	4.9	31.6	38.8	21.8	2.9	97.1	2.7
Construction	20.2	26.6	24.8	15.5	13.0	87.0	12.7
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	18.9	43.0	22.3	10.3	5.5	94.5	30.6
Hotels and restaurants	12.8	47.7	20.4	10.1	9.0	91.0	7.6
Transport, storage and communication	4.7	15.4	13.4	12.2	54.2	45.8	3.3
Real estate activities	20.8	48.3	21.6	9.3	0.0	100.0	1.0
Legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	13.7	50.2	19.3	10.6	6.2	93.8	1.4
Architectural and engineering activities and related technical consultancy	6.0	41.4	23.7	15.3	13.6	86.4	0.6
Health and social work	5.4	50.5	26.0	13.0	5.0	95.0	1.0
Recreational, cultural and sporting activities	0.0	26.8	15.6	8.6	0.0	100.0	0.9

TABLE D-16: SPAIN - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	20.0	27.5	19.0	12.9	20.6	79.4	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	4.1	18.4	26.9	20.8	29.8	70.2	21.3
Manufacture of food products and beverages	4.0	19.6	25.4	23.1	27.9	72.1	3.5
Manufacture of textiles	4.7	18.5	31.3	30.1	15.4	84.6	1.1
Manufacture of wearing apparel; dressing; dyeing of fur	6.3	20.4	39.2	21.6	12.4	87.6	1.3
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	11.0	38.1	33.5	12.5	4.8	95.2	1.1
Publishing, printing, reproduction of recorded media	6.6	27.7	31.7	21.3	12.7	87.3	1.3
Manufacture of other non-metallic mineral products	2.3	17.7	32.0	27.5	20.5	79.5	1.6
Manufacture of fabricated metal products, except machinery and equipment	6.2	31.7	36.7	17.4	8.0	92.0	2.7
Manufacture of machinery and equipment n.e.c.	3.9	17.2	32.4	24.0	22.5	77.5	1.4
Manufacture of furniture; manufacturing n.e.c.	11.0	31.7	36.1	14.1	7.0	93.0	1.8
Construction	19.6	31.6	26.3	13.3	9.1	90.9	13.5
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	29.6	34.1	16.7	7.8	11.7	88.3	28.5
Hotels and restaurants	24.3	41.6	16.2	10.1	7.8	92.2	9.4
Transport, storage and communication	30.7	21.9	12.0	7.8	27.5	72.5	7.3
Financial intermediation	10.0	8.6	4.0	9.0	68.4	31.6	1.6
Real estate activities	28.1	43.2	17.4	7.5	3.8	96.2	1.2
Legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings	29.6	38.2	13.7	6.7	11.8	88.2	2.8
Architectural and engineering activities and related technical consultancy	32.3	48.5	7.0	5.1	7.0	93.0	2.1
Advertising	19.1	31.8	14.4	18.3	16.4	83.6	0.7
Industrial cleaning	3.8	11.2	17.6	25.5	41.9	58.1	1.6
Health and social work	31.3	25.1	14.0	12.8	16.8	83.2	2.6
Recreational, cultural and sporting activities	17.7	24.9	21.2	11.4	24.8	75.2	2.1

TABLE D-17: SWEDEN - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	5.2	21.4	18.2	16.1	39.0	61.0	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	1.7	9.1	15.0	21.0	53.2	46.8	26.2
Manufacture of food products and beverages	1.1	7.5	12.8	12.4	66.1	33.9	1.7
Manufacture of textiles	4.1	15.3	28.4	36.5	15.8	84.2	0.6
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	3.8	13.7	26.3	32.4	23.9	76.1	2.1
Publishing, printing, reproduction of recorded media	3.6	19.4	22.6	30.6	23.8	76.2	3.1
Manufacture of rubber and plastic products	1.2	9.3	24.4	31.4	33.8	66.2	1.2
Manufacture of fabricated metal products, except machinery and equipment	3.4	20.7	32.2	24.0	19.7	80.3	4.4
Manufacture of machinery and equipment n.e.c.	1.4	7.2	14.0	20.4	57.1	42.9	3.4
Manufacture of electrical machinery and apparatus n.e.c.	1.2	12.4	16.7	26.5	43.2	56.8	1.0
Manufacture of furniture; manufacturing n.e.c.	3.9	15.0	22.9	38.5	19.7	80.3	1.4
Construction	8.1	31.6	22.0	9.2	29.1	70.9	10.5
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	6.4	33.7	24.3	14.5	21.1	78.9	26.0
Hotels and restaurants	6.9	32.3	29.3	14.9	16.6	83.4	4.5
Transport, storage and communication	2.0	16.3	13.2	10.6	57.9	42.1	7.3
Computer and related activities	6.3	19.9	20.5	19.7	33.6	66.4	1.9
Health and social work	1.8	33.2	23.1	17.3	24.6	75.4	2.8
Recreational, cultural and sporting activities	6.5	22.0	17.5	18.5	35.5	64.5	1.4

TABLE D-18: UNITED KINGDOM - Number of employees by enterprise size - 1994 (estimated)
Per cent of total employment in sector

	0 employees	*1 - 9 employees*	*10 - 49 employees*	*50 - 249 employees*	*All SMEs*	*250 or more employees*	*Sector as of total SMEs*
All sectors	12.3	16.6	15.3	12.6	43.1	56.9	100.0
Mining and quarrying; manufacturing; electricity, gas and water supply	4.7	8.1	14.9	20.2	52.1	47.9	20.2
Manufacture of food products and beverages	2.0	3.7	8.9	14.9	72.3	29.1	1.3
Manufacture of wearing apparel; dressing; dyeing of fur	6.3	10.9	20.8	18.8	47.5	55.5	0.9
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	8.6	24.5	30.7	22.6	16.9	84.5	0.7
Manufacture of pulp, paper and paper products	2.6	4.5	13.1	29.5	52.5	48.9	0.5
Publishing, printing, reproduction of recorded media	11.5	15.6	21.8	21.4	36.3	67.8	2.3
Manufacture of rubber and plastic products	4.6	6.7	18.1	28.7	45.3	56.8	1.3
Manufacture of fabricated metal products, except machinery and equipment	6.2	16.3	30.5	27.5	22.6	78.8	2.9
Manufacture of machinery and equipment n.e.c.	2.7	8.1	18.6	26.0	46.6	54.7	2.0
Manufacture of furniture; manufacturing n.e.c.	10.9	17.3	19.8	29.9	25.3	74.7	1.4
Construction	48.6	19.3	12.7	7.6	11.8	88.2	12.2
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods	7.9	22.4	16.3	10.6	43.3	56.7	21.2
Hotels and restaurants	3.9	27.6	21.3	9.9	37.7	62.3	8.0
Transport, storage and communication	13.0	10.1	10.7	10.6	57.0	43.0	5.3
Financial intermediation	4.3	6.5	5.9	8.3	75.3	24.7	2.1
Real estate activities	23.7	34.7	14.7	15.0	15.4	84.6	2.3
Renting of machinery and equipment without operator and of personal and household goods	9.5	19.0	19.9	15.6	37.5	62.5	0.8
Computer and related activities	10.6	37.2	15.0	16.3	22.7	77.3	1.9
Health and social work	9.9	8.4	18.7	9.6	54.4	45.6	7.5
Recreational, cultural and sporting activities	32.2	15.2	14.3	21.4	23.8	76.2	3.5

TABLE D-19: SME exports as a share of total industrial exports (1994)

	France	*Portugal*	*Spain*	*Sweden*
Mining and quarrying; manufacturing; electricity, gas and water supply	22.9	34.1	36.5	19.3
Mining of coal and lignite; extraction of peat	100.0			100.0
Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction excluding surveying	99.6			
Mining of uranium and thorium ores				
Mining of metal ores	94.9			
Other mining and quarrying	57.4	100.0	100.0	
Manufacture of food products and beverages	39.1	60.2	63.6	11.5
Manufacture of tobacco products				
Manufacture of textiles	66.8	38.5	57.2	
Manufacture of wearing apparel; dressing; dyeing of fur	75.2	59.8	83.3	
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	80.1	61.7	100.0	57.9
Manufacture of pulp, paper and paper products	24.8	2.3	30.9	5.1
Publishing, printing, reproduction of recorded media	55.1	71.0	57.9	39.8
Manufacture of coke, refined petroleum products and nuclear fuel	3.1			
Manufacture of chemicals and chemical products	22.5	39.0	40.6	16.5
Manufacture of rubber and plastic products	29.4	66.5	31.1	26.1
Manufacture of other non-metallic mineral products	19.6	42.8	51.0	89.9
Manufacture of basic metals	12.8		19.5	19.9
Manufacture of fabricated metal products, except machinery and equipment	45.7		68.4	29.2
Manufacture of machinery and equipment n.e.c.	30.1	44.4	60.8	16.9
Manufacture of office machinery and computers	6.1		100.0	48.5
Manufacture of electrical machinery and apparatus n.e.c.	15.4	1.7	27.5	36.1
Manufacture of electrical equipment n.e.c.				100.0
Manufacture of radio, television and communication equipment and apparatus	11.2		16.1	
Manufacture of medical, precision and optical instruments, watches and clocks			100.0	17.6
Manufacture of motor vehicles, trailers and semi-trailers	2.6	10.9	0.5	
Manufacture of other transport equipment			19.5	22.8
Recycling	98.8		100.0	
Electricity, gas, steam and hot water supply	10.4		76.6	