

PETER MAYERHOFER, GERHARD PALME

DEVELOPMENT OPPORTUNITIES OFFERED AT SECTORAL LEVEL BY EU ENLARGEMENT

The effects of enlarging the European Union by its associated countries in Central and Eastern Europe will vary greatly between sectors of the Austrian economy. According to a detailed analysis at a very low disaggregation level, the secondary and tertiary sectors are dominated by industries that show characteristics advantageous for integration. The excellent competitive capacity of manufacturers is confirmed by their successful foreign trade position. Along the CEE borders, many service providers will be confronted with an entirely new competitive regime once enlargement becomes effective. For them, preparatory measures are advisable.

Peter Mayerhofer and Gerhard Palme are economists at WIFO. The authors are grateful to Peter Huber and Gunther Tichy for useful and constructive comments. The data were processed and analysed with the assistance of Andrea Grabmayer, Andrea Hartmann and Maria Thalhammer. • E-mail addresses: Gerhard.Palme@wifo.ac.at, Peter.Mayerhofer@wifo.ac.at, thal@wifo.ac.at • The article summarises a WIFO study within the scope of the PREPARITY research programme on structural policy and regional planning for the regions along the EU's external borders to prepare for the EU's eastern enlargement (co-ordination: Peter Mayerhofer, Gerhard Palme, WIFO): Peter Mayerhofer, Gerhard Palme, Teilprojekt 6/1: Sachgüterproduktion und Dienstleistungen: Sektorale Wettbewerbsfähigkeit und regionale Integrationsfolgen (Manufacturing and Services: Sectoral Competitiveness and Regional Consequences of Integration), 2001 (300 pages, EUR 29.07 or ATS 400; free download from <http://preparity.wsr.ac.at>). Orders taken by Christine Kautz, e-mail: Christine.Kautz@wifo.ac.at, tel. +43 1 798 26 01 282, fax +43 1 798 93 86.

Currently available analyses at a macroeconomic level (such as Breuss – Schebeck, 1998, Keuschnigg – Kohler, 1999) generally agree that EU enlargement will have a positive impact on the Austrian economy. Similarly, the simulations based on a macroeconomic world model (Breuss, 2001), as presented within the scope of the recent PREPARITY research programme of WIFO, confirm expectations of (modest) growth gains from enlargement. Nevertheless, positive overall expectations should not lead to the conclusion that the entire range of activities that make up the Austrian economy will develop favourably: the effects of integration will certainly vary between sectors and industries, due to differences in the trade policy framework and in their competitiveness vis-à-vis new competitors from the candidate countries. Below, an attempt is thus made to identify sectoral differences in the effects of the envisaged step towards integration, and to evaluate them with a view to their structural policy implications.

That industries will be affected differently by enlargement (regardless of their competitiveness) can be deduced easily from the variations, across sectors, in the degree of liberalisation governing the exchange of goods and services with the CEE 10 (Table 1). Accordingly, enlargement will cause different changes in the trade policy regime of each economic sector, and industries will in turn be affected differently by enlargement.

For trade in industrial goods, liberalisation, already much progressed, will continue and be completed by enlargement. As a result, Austrian manufacturers will not see any fundamental change in their market situation, but, at most, some (modest) acceleration of trends already observed since the east was first opened. Basically, they will experience a transition from duty-free zone to well-integrated single market, which entails the elimination of border controls and of the rules of origin for intermediate products from third countries. Furthermore, acceptance of the *acquis communautaire* by the newly acceding countries will help tear down technical trade barriers and eliminate remaining distortions of competition from different environmental, health and social standards in the EU 15 and CEE 10.

Yet when it comes to trading services with the CEECs, an open regime comparable to that applicable for the exchange of goods has been implemented only in bits and pieces so far. EU enlargement will thus produce considerable changes, and their effects will vary depending on the concrete way in which services are rendered.

Differences in the trade regimes determine the extent to which industries are affected

For those trading in industrial goods, enlargement will not make for any substantial change in their regulatory regime. For traders in services, on the other hand, enlargement will mean a great step towards liberalising "exports" via branch establishments in the destination country and cross-border provision of services.

Table 1: Regulatory regimes governing trade with the candidate countries

Type of trade	Affected fields (examples)	Intensity of trade barriers	Current trade barriers
Export of goods	Manufacturers	+	Border controls, rules on the origin of intermediate products from third countries, differences in technical standards
Direct export of services	Information and communication services, some financial and insurance services, consulting services	+	Differences in technical standards and liability laws, restriction on other types of service provision
Use of services abroad	Tourism, retail trade, personal services, medical services	0 (+++)	Except for narrowly defined exemptions tariff barriers raised against direct imports, non-recognition in the insurance system
"Export" of services through commercial establishments	Services rendered through branch offices, affiliates, etc.	++++	Permit for establishment, qualification requirements, limitation on free movement of labour
Cross-border rendering of services	Construction, crafts	++++	Qualification requirements, limitation on free movement of labour

Source: WIFO. +++++ . . . very high, 0 . . . none.

Thus, already today more or less unlimited trading is possible in services which can be transferred across large distances, so that they can be exported without the provider or customer being required to move their geographical position. Trade-generating effects will thus ensue simply from modifications as outlined for manufacturing, and from indirect effects induced from the liberalisation of other forms of provision to which these services are frequently complementary. While this keeps the effects of enlargement at a less than spectacular level for them, providers of services which can be "exported" only by being consumed abroad will find themselves faced with a greatly changed competitive environment. It will be in particular retailers in the immediate vicinity of the border who will be affected by the elimination of restrictions on the direct import of goods. Traders of durable consumer goods need to expect new opportunities as well as risks, compounded by the extension of the EU's minimum tax rates to the candidate countries and the closure of road-side duty-free shops at the borders, which will eliminate any remaining distortions of competition.

For services "exported" by setting up an establishment in a host country, enlargement will eliminate a trade regime which is extremely restrictive especially on the Austrian side, due to the interaction of different national regulations (laws relating to aliens, industrial code, laws governing the employment of foreigners). As a consequence, financial interrelations will be further intensified between the integration countries, leading to benefits for Austrian providers.

Competitive intensity will burgeon in those regional services markets where potentials of cross-border service provision have previously not been fully exploited due to border-related segmenting. The current provisions of the Directive on the posting of workers certainly do not warrant that competitive distortions from the enormous wage gap are avoided, which presently act to the detriment of Austrian service providers in the border regions: although the Directive provides for a bundle of labour and collective agreement regulations in the host country to be applicable to workers posted there from home (especially with regard to the amount in wage, holiday claims and working hours), the Directive is still weak on the enforcement side, so that it fails to meet its intended purpose to protect against wage dumping in cross-border service transactions.

Services industries that serve regional markets may thus well be faced with a substantial acceleration of competitive pressure; yet in view of the significant deficit in implementing and controlling of regulations in force, it can be assumed that liberalising the provision of cross-border services will simply legitimise the current illegal practice. At the same time, Austrian companies that offer specific competitive advantages may well profit from opportunities offered by cross-border service provision.

The differences in the legal framework outlined above may be used to differentiate between the degrees to which sectors are affected by enlargement. The extent to which industries will be faced with opportunities and risks will, ultimately, depend on their competitive strength. Accordingly, the PREPARITY research programme devoted a detailed study to identifying the competitiveness of sectors of the Austrian economy. Drawing on special evaluations from recent censuses, the study was the first to operate at a low level of disaggregation (ÖNACE three-digit classifiers)¹.

Modern integration theory yielded industry characteristics which are relevant with regard to deviations from the general development following integration. Using multivariate cluster analyses, industries were allocated to one of three groups which are homogeneous in terms of these characteristics and which therefore should produce similar development potentials from enlargement. Table 2 provides an overview of the theoretical foundations and their use in the cluster analyses².

Sectoral competitiveness determines growth potential at the industrial level

Recent insights obtained by integration theorists allow us to project the development of industries after enlargement. The relevance of such attempts can be empirically confirmed on the basis of the past development of trade with the CEECs.

Table 2: Typologies of industries relevant for integration

Theoretical foundations and their implementation in cluster analysis

Typology	Theoretical foundation	Determining factors of trade	Discriminating variables	Industry types	Austria's theoretical competitive position
1. Factor intensity	Neo-classical Trade Theory (Heckscher – Ohlin)	Factor endowments	Staff expenditure as a percentage of gross output Gross investment as a percentage of GDP Expenditure on research and development as a percentage of gross output (manufacturing only) Advertising expenditure as a percentage of gross output (manufacturing only) Software expenditure as a percentage of gross output (services only)	Labour-intensive, low qualifications	–
				Labour-intensive, high qualifications	+
				Capital-intensive	0
				Technology-intensive (software-intensive)	+
				Marketing-intensive (manufacturing only)	+
				Mainstream	0
2. Skill intensity	Neo-classical Trade Theory (Ricardo, 1817, Vernon, 1966)	Technology differences	Share of unskilled workers Share of workers of secondary occupational school level Share of workers of tertiary occupational school level Share of workers of university graduate level	Low qualifications	–
				Medium qualifications, blue-collar workers	0
				Medium qualifications, white-collar workers	0
				High qualifications	+
3. Price versus quality competition	New Trade Theory (Falvey, 1981, Falvey – Kierzkowsky, 1985)	Comparative advantages	"Revealed Quality Elasticity"	Low quality competition	–
				Medium quality competition	0
				High quality competition	+
4. Internal economies of scale	New Trade Theory (Krugman, 1980, Helpman – Krugman, 1985)	Home market effects	Technical economies of scale in production (ordinal)	Low internal returns to scale	0
				Medium internal returns to scale	0
				High internal returns to scale	+
5. External economies of scale	New Economics Geography (Marshall, 1890, Krugman, 1991)	Economies of scale, self-reinforcing effects	Ellison-Glaeser index at district level	Localised, higher qualifications	+
				Localised, lower qualifications	0
				Geographically not localised	0
6. Forward-backward linkages	New Economics Geography (Krugman – Venables, 1995, Venables, 1996)	Economies of scale, self-reinforcing effects	Net output Share of intermediary demand Herfindahl index at NUTS-I level	High forward-backward linkages, concentrated	+
				High forward-backward linkages, non-concentrated	0
				Low forward-backward linkages	0
7. Tradability			Localised Gini coefficient at district level	Industries with international markets	
				Industries with regional markets	

Source: WIFO. + . . . favourable, – . . . unfavourable, 0 . . . neutral.

¹ Altogether 170 industries from the manufacturing sector (Section D, 99 industries) and services sector (Sections F to K, 71 industries) were included in the study; 52 industries from the mining, energy and non-market services sections were not considered.

² For a detailed theoretical overview and description of the methodology used in the analyses see Mayerhofer – Palme (2001A). For manufacturing, typologies 1, 2 and 3 were already available from studies by Peneder (1999) and Aiginger (2000).

The *Neo-classical Trade Theory* starts out from perfect competition, homogeneous products and constant returns to scale. The location of industrial production is determined exogenously by the regional distribution of factor endowments and technology; international trade is seen as the exchange of goods from different industries (inter-industry trade). When the cost of trading declines (increasing integration), factor endowments and technological level will become determinants of the location pattern; once full integration is achieved (trade and transport costs being eliminated), industries will locate only at places that offer comparative advantages for their respective production.

Accordingly, factor endowment (*typology 1*) will provide one characteristic of expectations that industries have with regard to enlargement: countries will specialise in goods (industries) the production of which allows increased use of readily available production factors. In view of their current distribution, it thus appears likely that capital-intensive producers will find comparative advantages in Austria, with capital being defined widely to include both human capital and knowledge factors³. The cluster analysis produced a differentiation by altogether six industry groups; of these, technology-/software-intensive, marketing-intensive and labour-intensive industries that pose high qualification requirements may, at least in theory, enjoy advantages in Austria, whereas low-qualified labour-intensive industries will be disadvantaged.

From the theory within the scope of the Neo-classical paradigm, according to which comparative advantages result from differences between production technologies, opportunities can be deduced for Austrian industries which embrace innovation or which focus their portfolio chiefly on products in the early stages of their life-cycle. If we approximate this by the skill content of production (*typology 2*), we find advantages to be gained from integration by industries that use high-quality human resources. Activities that require a low level of qualifications, on the other hand, will be exposed to greater pressure to adjust.

The *New Trade Theory* adds incomplete markets and increasing returns to scale to the model and thereby opens up to analysis of product differentiation and trade mechanisms within industries. The criteria of deciding for or against a location once again are exogenously determined, with a single but decisive exception: market size. Depending on the specified model, we typically get two propositions of relevance for us:

- Industries with increasing (internal) returns to scale and horizontally differentiated products will find advantages, due to the positive pecuniary externalities of large markets ("home market effects"), when they are located in a large market. This generates development potentials for industries in the EU 15 that manufacture at increasing returns to scale and can thus utilise (internal) scale economies (*typology 4*).
- In the case of vertical product differentiation, producers in capital-abundant countries will specialise in products of higher value, whereas providers in the accession countries will concentrate on products of lower quality standards (*typology 3*). In Austria, industries will thus be advantaged when they operate on markets subject to quality rather than price competition.

In the models of the *New Economic Geography*, the location pattern is determined endogenously, factor and firm migration trigger self-reinforcing effects. Typical for such models is the interaction of centrifugal and centripetal forces in the choice of a production location, which, in some applications, generates a non-linear link between the concentration of industries and economic integration ("U-curve"). Industry-relevant effects can be argued as external (beyond company-level) economies of scale being enhanced by the geographical clustering of economic players as a consequence of factor migration which is made possible by integration. Consequently, industries which are highly concentrated in Austria and which therefore produce within a close geographical context should be favoured by integration (*typology 5*). On the other hand, self-reinforcing effects are also possible from input-output links⁴. As a result, advantages can be expected for those industries in Austria which are characterised by close forward and backward linkages at supra-regional level (*typology 6*).

³ Considering the high mobility of capital (in the more narrow sense of the term) in the internal market, the latter factors appear to be the chief cause of differences between integration effects. Therefore, capital in the narrow sense of the term is not seen as causing advantages in the analysis discussed below.

⁴ Integration-induced growth of the regional market for final products in turn produces economies of scale for regional suppliers, which in their turn impact on the efficiency of final production (see also Venables, 1996).

**Theoretical foundations:
Neo-classical Trade
Theory, New Trade
Theory, New Economic
Geography**

An indication of whether or not an industry is affected at all can be obtained from the typology based on the (supra-regional) *tradability* aspect. Manufacturing products, being material in character, can without exception be traded even across greater distances, but services frequently require geographical proximity between the supplier and the buyer in order to be rendered. These services consequently can be traded only within a geographically restricted (regional) market. Eastern enlargement is thus likely to impact only within a distance of the border that can be usefully and economically surmounted by the consumer travelling to the producer or the producer travelling to the consumer ("border region"). To identify these industries, an empirical (indicator) approach was again chosen, in contrast to previous approaches (such as *Bhagwati, 1984, Sapir, 1993, Klodt, 1995, Mayerhofer, 1998*) which essentially make an ad-hoc differentiation between tradable and non-tradable services: considering that services which cannot be traded across distances will be forced to mimic the population distribution in their location pattern and will thus be distributed across the region, any (relative) measure of concentration can thus be used as a discriminating variable (typology 7).

Typologies (which after all draw on theoretical expectations with regard to advantages and disadvantages from EU enlargement) will be suitable for further investigation only when such expectations can be confirmed empirically. This was directly possible for manufacturing, since an extensive database is available in the form of international trade statistics and since trade barriers have been mostly eliminated (Table 1). The development to date thus is an excellently suited "market test" for the typologies⁵.

Based on trade flows between Austria, Germany and Italy on the one hand, and Slovenia, Hungary, Slovakia, the Czech Republic and Poland on the other hand, clear evidence of the empirical relevance of the typologies has been obtained. An *F* test for a number of years (1988, 1993, 1995, 1999) shows that the RCA values⁶ for industry types differ significantly from each other: the typologies are thus able to differentiate between groups of different rates of competitiveness in international trade. Similarly successful was a second and more stringent test to check whether the typologies could also be used to correctly identify the mathematical sign of advantages and disadvantages (Table 3).

Empirical review of the relevance of typologies

Table 3: Relevance of typologies in explaining trade advantages and disadvantages

		1988 ¹	1993 ²	1995 ³	1999 ³
		RCA values			
<i>Industry types theoretically enjoying trade advantages</i>					
Typology 1	Labour-intensive, high qualifications	+ 1.540	+ 0.530	+ 0.100	- 0.100
Typology 1	Technology-intensive	+ 1.813	+ 1.250	+ 0.949	+ 0.732
Typology 1	Marketing-intensive	+ 0.163	+ 0.480	+ 0.483	+ 0.552
Typology 2	High qualifications	+ 1.322	+ 0.733	+ 0.672	+ 0.680
Typology 3	High quality competition	+ 1.201	+ 0.919	+ 0.794	+ 0.911
Typology 4	High internal returns to scale	+ 0.648	+ 0.204	+ 0.047	+ 0.143
Typology 5	Localised, higher qualifications	+ 1.057	+ 0.561	+ 0.409	+ 0.325
Typology 6	High forward-backward linkages, concentrated	+ 0.257	+ 0.107	+ 0.108	+ 0.112
<i>Industry types theoretically suffering from trade disadvantages</i>					
Typology 1	Labour-intensive, low qualifications	- 1.208	- 1.106	- 0.907	- 0.631
Typology 2	Low qualifications	- 0.274	- 0.102	- 0.004	+ 0.242
Typology 3	Low quality competition	- 0.666	- 0.675	- 0.663	- 0.385

Source: Eurostat, WIFO calculations. RCA values for manufacturing from Germany, Austria and Italy trading with the CEECs, unweighted average of *i* industries. -¹ Germany, Italy with Czechoslovakia, Hungary, Poland. -² Germany, Italy with the Czech and Slovak Republics, Slovenia, Hungary, Poland. -³ Germany, Italy, Austria with the Czech and Slovak Republics, Slovenia, Hungary, Poland.

Accordingly, industry types in the higher developed EU countries which are theoretically expected to enjoy trade advantages have (at times considerable) positive RCA values for all the years analysed, with a single exception. Their trade position vis-à-vis the candi-

⁵ No similarly stringent tests could be performed for the tertiary sector since information on the services sector is not available at the required industry level. Nevertheless, it could be shown that relative employment growth after eastern opening similarly reflected theoretical expectations.

⁶ The RCA value was introduced as an indicator for competition by *Balassa (1965)* as

$$RCA_i = \ln \left(\frac{X_{ij}/M_{ij}}{X_j/M_j} \right),$$

reflecting an industry's comparative advantage relative to total trade.

date countries thus was even better than the (already positive) net position enjoyed by Germany, Austria and Italy vis-à-vis the CEE 5 (Poland, Czech and Slovak Republics, Hungary, Slovenia). Similarly, industry groups identified as "disadvantaged" have so far developed empirically as expected; the RCA values have the correct (negative) mathematical sign in 11 of the 12 cases reviewed.

Over time, the structure of goods traded between the groups of countries converges – pointing at a decline in the specialisation gap between east and west, a stylised fact that supports the findings of all the major integration theories⁷ as much as the observation of an increase in intra-industry trade with these countries (e.g., *Aturupane – Djankov – Hoekman, 1999*).

Generally, the west's trade advantages were, during the 1990s, shrinking in its technology-intensive and human capital-intensive production, which points at a substantial diffusion of technology to the CEECs. Analogously, the trade disadvantages suffered by the west in its labour-intensive production characterised by low qualification were whittled away in the course of the rapid structural change that these industries were undergoing. No change in their competitive position has so far been experienced by industries characterised by high marketing orientation and brisk competition for quality. To those, advantages accrue from the constant improvement of products and long-term investment in brand advertising. The advantages enjoyed by those established companies appear to be safe from attacks even in the longer term.

Position of Austrian manufacturing safe from threats

Table 4: Competitive position of manufacturing industries in terms of EU enlargement

Potential advantages and disadvantages, result of cluster analysis

ÖNACE two-digit classifiers		Dependently employed, 2000	Number of sectors			Trade balance with CEEC 5 Million €
			Potentially advantaged	Neutral	Potentially disadvantaged	
15 to 16	Food products, beverages, tobacco	75,456	4	5	1	107
17	Textiles	19,203	1	2	4	129
18 to 19	Apparel, leather and leather products	20,521	3	–	3	– 163
20	Wood and wood products	35,803	–	–	5	– 97
21	Pulp, paper and paper products	17,348	1	–	1	240
22	Publishing, printing and reproduction of recorded media	28,221	2	1	–	24
23 to 24	Coke, refined petroleum products, chemicals and chemical products	32,396	7	1	–	432
25	Rubber and plastic products	26,449	–	–	2	256
26	Other non-metallic mineral products	29,638	–	–	8	4
27	Basic metals	32,552	1	1	3	111
28	Fabricated metal products	73,335	2	–	5	23
29	Machinery and equipment	65,113	5	2	–	465
30, 32 to 33	Office machinery and computers, radio, television and communication equipment, medical, precision and optical instruments	49,755	9	–	–	568
31	Electrical machinery and apparatus	20,488	2	2	2	16
34 to 35	Motor vehicles, trailers and semi-trailers, other transport equipment	40,764	7	1	–	– 12
36	Furniture	44,216	3	2	1	– 46
Total		648,459	47	17	35	2,055

Source: Statistics Austria, Federation of Austrian Social Security Institutions, WIFO calculations.

⁷ According to the theories outlined above, sectoral structures are without exception expected to converge throughout the area of integration in the long term (after specialisation in the early phase of integration). The actual turning point from concentration to deconcentration or from sector specialisation to structural convergence cannot be determined theoretically. The findings documented here are thus also interesting in terms of this issue.

Based on these empirical findings, a generally positive picture emerges with regard to the competitiveness of Austrian manufacturers (Table 4). Fully 47 industries, i.e., almost half of all 99 industries, have predominantly advantageous characteristics; another 17 industries are in a "neutral" position against their new competitors from the CEECs. Favoured industries prevail in the chemical sector, machinery and equipment, electronics and motor vehicles – exactly the core areas of Austrian manufacturing. Here, high qualifications required of labour combine with focal areas of quality competition and, in some fields, high technology orientation (electronics), as well as internal (chemicals, motor vehicles) and external (electronics, chemicals, motor vehicles) returns to scale. Together with the food industry, which is the largest employer in Austria (96 percent of its employment in favourable or neutral three-digit industries), and parts of the paper industry (53 percent) and electrical industry (70 percent), these sectors, which do not include any disadvantaged industries at all, ensure that the balance is heavily in favour of advantaged or neutral industries in terms of employment structure.

Obviously, the textile and apparel industry, plastic production and, in particular, glass and ceramic, wood and metal products industries include employment-intensive lines which will suffer from disadvantages from EU enlargement, because their production is labour-intensive, i.e., it requires considerable human capital, and because they operate on markets driven by price competition. Table 5 indicates the relative position of the 20 industries with the best and worst expectations, respectively, in terms of characteristics relevant to integration. Nevertheless, the negative expectations may well be mitigated based on the experience gained since the eastern opening (Table 4). In general, we find remarkable agreement between theoretical expectation and trade balance position⁸, and it is only the apparel industry and wood products among the problem areas listed that show considerable deficits in their trade with the CEECs. Most of the other potentially disadvantaged industries, however, record (at times significant) trade balance surpluses vis-à-vis the neighbouring CEEC 5, incidentally quite in contrast to their overall foreign trade position.

Altogether, Austrian manufacturers generated a positive trade balance of € 2,04 billion with the CEEC 5 (1999); unit values of domestic exports were more than three times those of imports. Exports of goods to the CEEC 5 thus secure, directly or indirectly, some 70,000 jobs, according to WIFO calculations; and even under the (unrealistic) assumption that Austrian products would be totally displaced by goods imports from those countries, that figure would still be 20,000. The development since the association agreements entered into force similarly provides evidence of the domestic manufacturers' good standing against their new competitors: eastern exports tripled and exports into the CEEC 5 rose 4.5-fold over the past nine years.

The harmonisation of trade structures observed in the 1990s can, when subjected to a close analysis, be similarly explained by positive mechanisms: in favoured industries, imports from the CEEC 5 recently grew at a brisker rate, pointing at a greater utilisation of sources in these countries. The resulting deterioration of the trade balance with the CEECs occurred, with almost no exception, concomitant with an improvement in the overall balance. Cross-border producer networks thus are good at improving (price-driven) competitiveness on the world markets. Disadvantaged industries, on the other hand, typically improved their trade position in recent years by increasing exports – an indication of the success achieved by the restructurisation efforts in the 1990s.

Overall, manufacturing appears to be well prepared for eastern enlargement, thanks to the already completed liberalisation and the experience in trade with the candidate countries hitherto. The structure is dominated by industries that are either potentially favoured by, or more or less neutral to integration. The emerging harmonisation of trade structures and growing exports by theoretically disadvantaged industries make it unlikely that painful structural breaks might occur in the wake of EU enlargement.

Manufacturing is dominated by industries which are potential winners or at least not direct losers from integration. The harmonisation of trade structures and successful exports achieved even by industries that are theoretically at a disadvantage make it unlikely that painful structural breaks will occur even in subsectors.

⁸ Where the trade balance is clearly positive, this is better demonstrated when using RCA values than when based on the industry balances shown here (which are mostly positive). The sectoral pattern for Austria is similar to that of the average of the countries included in the PREPARITY study (Germany, Austria, Italy; Table 3).

Table 5: Advantages and disadvantages, by characteristics of relevance for integration: manufacturing

ÖNACE three-digit classifiers

	Factor intensity	Skill intensity	Price versus quality competition	Internal economies of scale	External economies of scale	Forward-backward linkages
<i>Industries with the most favourable characteristics</i>						
244	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	+	+	+	0	+
353	Manufacture of aircraft and spacecraft	+	+	+	+	0
322	Manufacture of TV and radio transmitters and apparatus for line telephony	+	0	+	0	0
341	Manufacture of motor vehicles	+	0	+	0	0
293	Manufacture of agricultural and forestry machinery	0	+	+	0	0
294	Manufacture of machine tools	+	+	+	0	0
245	Manufacture of soap, detergents and perfumes; toilet, cleaning and polishing preparations	+	0	0	+	0
334	Manufacture of optical instruments and photographic equipment	+	0	+	0	0
246	Manufacture of other chemical products	+	0	+	0	0
365	Manufacture of games and toys	+	0	+	0	0
295	Manufacture of other special purpose machinery	0	+	+	0	0
292	Manufacture of other general purpose machinery	0	+	+	0	0
343	Manufacture of parts and accessories for motor vehicles and their engines	0	0	+	0	0
312	Manufacture of electricity distribution and control apparatus	+	0	+	0	0
321	Manufacture of electronic valves and tubes and other electronic components	+	0	0	0	0
316	Manufacture of electrical equipment n.e.c.	+	0	0	0	0
331	Manufacture of medical and surgical equipment and orthopaedic appliances	+	0	+	0	0
323	Manufacture of TV and radio receivers, sound or video recording or apparatus	+	0	-	0	+
332	Manufacture of instruments and appliances for measuring, checking, testing	+	0	+	0	0
352	Manufacture of railway and tramway locomotives and rolling stock	-	0	+	0	+
<i>Industries with the most unfavourable characteristics</i>						
267	Cutting, shaping and finishing of stone	-	-	-	0	0
174	Manufacture of made-up textile articles, except apparel	-	-	-	0	0
264	Manufacture of bricks, tiles and construction products, in baked clay	-	-	-	0	0
266	Manufacture of concrete products for construction purposes	0	-	-	0	0
201	Sawmilling and planing of wood, impregnation of wood	-	0	-	0	0
261	Manufacture of glass and glass products	0	-	-	0	0
262	Manufacture of non-refractory ceramic goods other than for construction	-	-	0	0	0
251	Manufacture of rubber products	0	-	-	0	0
284	Forging, pressing, stamping and roll forming of metal; powder metallurgy	-	0	-	0	0
202	Manufacture of veneer sheets and of plywood and other panels and boards	-	0	-	0	0
268	Manufacture of other non-metallic mineral products	0	-	-	0	0
204	Manufacture of wooden containers	-	0	-	0	0
361	Manufacture of furniture	-	0	0	0	0
281	Manufacture of structural metal products	-	0	0	0	0
203	Manufacture of builders' carpentry and joinery	-	0	0	0	0
252	Manufacture of plastic products	0	-	0	0	0
182	Manufacture of other wearing apparel and accessories	-	-	+	0	0
287	Manufacture of other fabricated metal products	0	0	-	0	0
177	Manufacture of knitted and crocheted articles	0	-	0	0	0
205	Manufacture of other products of wood, of cork, straw and plaiting materials	-	0	-	0	0

Source: WIFO calculations. Ranked by number of employees (descending) in 1995. + . . . favourable, - . . . unfavourable, 0 . . . neutral.

Considering that the tertiary sector will be much more substantially affected than the manufacturing sector by the changes in the wake of eastern enlargement, an assessment of its competitiveness is of special importance. Relations with the CEECs have already been well established, even though it is not very meaningful to use current CEEC trade figures which are the result of a controlled trade regime. Exports of services into the CEEC 5 produced (in 1999) a payment inflow of about € 2,29 billion; at imports of € 1,82 billion, the services trade balance is clearly positive and stable over time. Trade with the CEEC 5 contributes some 40 percent of the total surplus in the Austrian balance on services.

Comparative disadvantages can be found only in the transport sector, where the net outflow (€ 0,57 billion) is due less to tourism than to cross-border shopping and (legal as well as illegal) services rendered by CEEC providers in Austria. In contrast to overall foreign trade, high net gains from associated countries are achieved primarily by the producer oriented services (barter trade, consulting, computer and information services, insurance). The transport and construction industries similarly produce positive balances: all of them areas in which the CEECs have comparative advantages, at least in theory, and in which Germany, to take but one example, actually records substantial deficits.

The typologies described above are also suitable to analyse industry-specific advantages and disadvantages in the services sector. This analysis again produces a favourable picture (Tables 6 and 7). Most of the industries are either in a favourable or at least neutral competitive position vis-à-vis CEEC providers. Advantageous characteristics dominate in 36 of the 70 service industries, and the assessment is balanced for another 17 industries (Table 6).

Table 7 summarises the 20 industries with the best and worst perspectives, respectively. The categorisation by the tradability of their products clearly indicates a link between a given industry's market radius and its competitive standing in terms of EU enlargement: industries that operate in international markets typically find themselves in a favourable or at least neutral competitive position, whereas industries that can expect disadvantages are active only in a geographically restricted (regional) market. It will be only in the near-border regions that these industries will be confronted directly with the effects of enlargement, which points at a structural disadvantage suffered by the border regions⁹.

Mainly positive expectations also for the tertiary sector

The services sector will be substantially more affected by EU enlargement than the manufacturing sector. Although positive expectations prevail, risks are observable in some industries, although they have been mitigated by the inclusion of protective measures for cross-border services in the EU's negotiating position.

Table 6: Competitive position of services industries in terms of EU enlargement

Potential advantages and disadvantages, results of cluster analysis

ÖNACE two-digit classifiers		Dependently employed, 2000	Number of sectors		
			Potentially advantaged	Neutral	Potentially disadvantaged
45	Construction	257,576	–	2	3
50	Sale, maintenance and repair of motor vehicles	74,121	1	2	2
51	Wholesale on a fee or contract basis	184,513	4	1	2
52	Retail trade, repair of personal and household goods	233,550	1	2	4
55	Hotels and restaurants	148,949	–	4	1
60 to 63	Transport	162,925	9	2	1
64	Post and telecommunications	65,916	1	1	–
65 to 67	Financial intermediation, insurance	110,194	5	–	–
70 to 71	Real estate activities	47,127	4	2	1
72 to 73	Computer and related activities, research and development	33,198	6	–	1
74	Other business activities	170,649	4	1	3
Total			35	17	18

Source: Statistics Austria, Federation of Austrian Social Security Institutions, WIFO calculations.

Characteristics mainly favourable are found in the computer industry, financial intermediation and insurance, research and development, real estate activities, as well as in large parts of wholesaling and other business activities. Among industries of mostly positive expectations, the dominant ones are those of human capital- and knowledge-intensive production and those with high technological requirements.

⁹ See Mayerhofer, P., Palme, G., "Effects of the EU Eastern Enlargement on Austrian Regions", Austrian Economic Quarterly, 2002, 8(1), pp. 40-50.

Table 7: Advantages and disadvantages, by characteristics relevant for integration: services sector,

ÖNACE three-digit classifiers

	Market radius	Factor intensity	Skill intensity	External economies of scale	Forward-backward linkages
<i>Industries with favourable characteristics</i>					
723 Data processing	International	+	+	+	+
722 Software consultancy and supply	International	+	+	+	+
671 Activities auxiliary to financial intermediation, excluding insurance and pension	International	+	+	+	+
622 Non-scheduled air transport	International	+	+	+	+
724 Data base activities	International	+	+	+	+
514 Wholesale of household goods	International	+	+	+	0
516 Wholesale of machinery, equipment and supplies	International	+	+	+	0
731 Research and experimental development on natural sciences and engineering	International	+	+	+	0
726 Other computer related activities	International	+	+	+	0
621 Scheduled air transport	International	0	+	+	+
651 Monetary intermediation	International	+	+	0	0
741 Legal, accounting and auditing activities; consultancy; market res.; holdings	Regional	+	+	0	0
660 Insurance and pension funding, except compulsory social security	Regional	+	+	0	0
742 Architectural and engineering activities and related technical consultancy	International	+	+	0	0
501 Sale of motor vehicles	Regional	+	+	0	0
634 Activities of other transport agencies	International	+	+	0	0
633 Activities of travel agencies and tour operators; tourist assistance activities	Regional	+	+	0	0
743 Technical testing and analysis	Regional	+	+	0	0
672 Activities auxiliary to insurance and pension funding	Regional	+	+	0	0
744 Advertising	Regional	0	+	+	0
<i>Industries with unfavourable characteristics</i>					
553 Restaurants	Regional	-	-	0	0
747 Industrial cleaning	Regional	-	-	0	0
513 Wholesale of food, beverages and tobacco	International	-	-	0	0
523 Retail sale of pharmaceutical and medical goods, cosmetics and toilet articles	Regional	-	-	0	0
602 Other land transport	Regional	0	-	0	0
703 Real estate activities on a fee or contract basis	Regional	0	-	0	0
524 Other retail sale of new goods in specialised stores	Regional	-	0	0	0
452 Building of complete constructions or parts thereof; civil engineering	Regional	-	0	0	0
521 Retail sale in non-specialised stores	Regional	-	0	0	0
453 Building installation	Regional	-	0	0	0
454 Building completion	Regional	-	0	0	0
502 Maintenance and repair of motor vehicles	Regional	-	0	0	0
512 Wholesale of agricultural raw materials and live animals	International	-	0	0	0
745 Labour recruitment and provision of personnel	International	-	0	0	0
505 Retail sale of automotive fuel	Regional	-	0	0	0
746 Investigation and security activities	Regional	-	0	0	0
527 Repair of personal and household goods	Regional	-	0	0	0
725 Maintenance and repair of office, accounting and computing machinery	Regional	-	0	0	0

Source: WIFO calculations. Ranking by number of employees (descending) in 1995. + . . . favourable, - . . . unfavourable, 0 . . . neutral.

Unfavourable characteristics were identified for just 18 of the 70 services industries studied, but they include industries of great significance for overall employment: construction as well as large parts of retailing. They also include road transport (by far the largest of the 12 transport industries), which means that a substantial part of the transport industry finds itself among the group of the disadvantaged. Furthermore, a lesser number of disadvantaged three-digit categories belongs to the hotels and restaurant business (which makes up 42.1 percent of workers in this sector) and other business activities (provision of personnel, industrial cleaning; together 32.3 percent). In those sectors Mayerhofer (2000) documents a sharp polarisation between highly qualified, high-wage activities on the one hand and low-wage activities of low skill intensity on the other.

Yet even for the major problem industries (construction, retailing and road transport), fears of a large-scale threat to the domestic businesses are without foundation: In the CEECs, the supply structure is full of gaps, whereas efficiency and demand perspectives of Austrian providers are fundamentally sound. Nevertheless, smaller providers near the border who operate only within a regional range might be exposed to substantial pressure to adapt, especially in construction and retailing.

According to the detailed analysis of the competitive standing of Austrian economic sectors prior to the EU enlargement, both manufacturing and services are dominated by industries that have positive or at least neutral expectations from integration. In manufacturing, integration effects are expected to be minor only, considering the degree of liberalisation already achieved and in view of the ongoing development of trade with the CEECs. Together with an internationalisation of the manufacturing sector, which is certainly not restricted to the transformation countries, this does not appear to justify measures that would be targeted specifically on the competitive standing of domestic suppli-

Conclusions

ers vis-à-vis their competitors in the CEECs. Rather it is necessary to steadily continue an industrial policy that strengthens competitiveness in *all* international markets. Such a policy should be based on entrepreneurship and the ability to network and cooperate, as well as focus on innovation and emphasise the development of excellent location conditions.

In the services sector, eastern enlargement will trigger a wide range of effects, most of which will carry advantages with them, although there is some potential threat to some industries. It therefore appears useful to develop a consistent strategy to prepare for integration, starting out from its specific challenges. Special attention should be devoted to the services industries in the regions along the current EU border, where market segments demarcated by the current border will break up, due to the high wage gap and new opportunities for cross-border provision of services (construction, crafts, etc.).

This and the manifold opportunities to circumvent transitional provisions governing the free movement of labour by services trade has caused the European Union to include temporary rights to interfere with the service markets in its joint position for the accession negotiations. According to these, Germany and Austria will be allowed, after notifying the Commission, to "apply flanking national measures to address serious disturbances or threat thereof, in specific sensitive sectors of their labour markets, which could arise in certain regions from cross-border provision of services"¹⁰.

This has certainly taken the sting out of the problem of cross-border provision of services at skewed competitive conditions. Nevertheless, it is recommended to use these efficient control instruments sparingly and with moderation, in order not to endanger the opportunities that Austrian firms, which are frequently more competitive and stronger in their capital base, are offered in the new markets, considering that the principle of reciprocity applies¹¹. Basically, the transitional provisions should be interpreted as a chance to gain time which allows necessary measures to be implemented. They should be strictly proactive and comprise the support of expansive strategies in the CEECs as much as an upgrading of potentially threatened areas which need to be made fit to face the new challenges. Chiefly to be considered should be measures to actively support smaller firms in making direct investments in the CEECs, measures to encourage co-operation and networking, as well as individual consulting and information of businesses that have little know-how in internationalisation. Optimising the legal framework for strategies to expand and enforcing aid for technology and innovation (including in the services sector) would be further key fields for active preparation. Among defensive strategies, the need to improve the Directive on the posting of workers at European level should be noted, and solutions with regard to cabotage should be found for road transport¹².

Transition provisions in the services sector should be utilised to implement proactive measures to strengthen the competitiveness of Austrian services providers.

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¹⁰ The enclosed list includes construction and related businesses, industrial cleaning and certain social and other services, thus comprising a wide range of potentially affected services industries. A statement by Germany and Austria included in the Council Protocol is furthermore designed to ensure that this provision will be applicable for the entire national territory.

¹¹ According to the proposed regulation, the new member states may "apply to nationals from the current member state national measures equivalent to the measures applied by that member state in connection with the free movement of services".

¹² For a detailed overview of elements that could be included in a useful preparatory strategy see Subproject 15 of the PREPARITY research programme (Mayerhofer – Palme, 2001B).

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Development Opportunities Offered at Sectoral Level by EU Enlargement – Summary

The effect of eastern enlargement will vary greatly between sectors of the Austrian economy, not least due to the current framework of trade policies. In goods trade enlargement simply completes the progress made by the process of liberalisation hitherto. Trends visible since the opening of the east will be continued or (moderately) enhanced. Trade in services, on the other hand, will experience considerable change through the impending integrative step. The freedom of establishment and new ways to render services across borders will create an entirely new competitive regime in some industries.

Nevertheless, differences in the legal framework will only explain differentiations in terms of how sectors are affected by the EU's enlargement. The extent to which positive or negative development potentials will follow for each of the sectors will ultimately depend on their competitive capacity. This contribution thus analyses the competitive position of the secondary and tertiary sectors broken down by sectoral details. To this end, sector characteristics were obtained from modern integration theory which should be the cause of variations in the development in the case of integration. Based on this and using multivariate cluster analyses, industries were combined into groups which can be expected to have similar development potentials in the case of enlargement.

The findings draw a basically positive picture both for the secondary and tertiary sectors. In manufacturing, 47 industries, i.e., almost half of the 99 industries, show positive characteristics; another 17 are in a neutral competitive position vis-à-vis the new competitors from the CEECs. Foreign trade will develop favourably across a wide range of industries; and even industries that are disadvantaged in theory are increasingly succeeding in their exports to Central and Eastern Europe.

Similarly, positive expectations can be found for the services industries. Many of them, such as data processing, financial services, real estate, much of wholesale trading and producer services, will be among the winners of enlargement. Only 18 of the 70 services industries studied show negative characteristics. Unfortunately they include high-employment industries such as construction, parts of retail trade and transport. Yet even for these industries it has been shown that there are no grounds to fear any large-scale threat to domestic operations: the supply structure in the CEECs is full of gaps, and efficiency as well as the demand perspectives of Austrian suppliers are generally sound. In addition, the inclusion of (temporary) protective mechanisms for sensitive services in the EU's negotiating position has taken the sting out of the problem that competition between border-crossing services will be biased by unequal competitive conditions. The transition periods thus created should be used for proactive preparatory measures.

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