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Structure of Trade in Manufactured Products Between Southeast European Countries and the European Union

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The wiiw Balkan Observatory

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Structure of Trade in Manufactured Products Between
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The wiiw Balkan Observatory

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About

Shortly after the end of the Kosovo war, the last of the Yugoslav dissolution wars, the Balkan Reconstruction Observatory was set up jointly by the Hellenic Observatory, the Centre for the Study of Global Governance, both institutes at the London School of Economics (LSE), and the Vienna Institute for International Economic Studies (wiiw). A brainstorming meeting on Reconstruction and Regional Co-operation in the Balkans was held in Vouliagmeni on 8-10 July 1999, covering the issues of security, democratisation, economic reconstruction and the role of civil society. It was attended by academics and policy makers from all the countries in the region, from a number of EU countries, from the European Commission, the USA and Russia. Based on ideas and discussions generated at this meeting, a policy paper on Balkan Reconstruction and European Integration was the product of a collaborative effort by the two LSE institutes and the wiiw. The paper was presented at a follow-up meeting on Reconstruction and Integration in Southeast Europe in Vienna on 12-13 November 1999, which focused on the economic aspects of the process of reconstruction in the Balkans. It is this policy paper that became the very first Working Paper of the wiiw Balkan Observatory Working Papers series. The Working Papers are published online at www.balkan-observatory.net, the internet portal of the wiiw Balkan Observatory. It is a portal for research and communication in relation to economic developments in Southeast Europe maintained by the wiiw since 1999. Since 2000 it also serves as a forum for the Global Development Network Southeast Europe (GDN-SEE) project, which is based on an initiative by The World Bank with financial support from the Austrian Ministry of Finance and the Oesterreichische Nationalbank. The purpose of the GDN-SEE project is the creation of research networks throughout Southeast Europe in order to enhance the economic research capacity in Southeast Europe, to build new research capacities by mobilising young researchers, to promote knowledge transfer into the region, to facilitate networking between researchers within the region, and to assist in securing knowledge transfer from researchers to policy makers. The wiiw Balkan Observatory Working Papers series is one way to achieve these objectives.



The wiiw Balkan Observatory

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This study has been developed in the framework of research networks initiated and monitored by wiiw under the premises of the GDN–SEE partnership.

The Global Development Network, initiated by The World Bank, is a global network of research and policy institutes working together to address the problems of national and regional development. It promotes the generation of local knowledge in developing and transition countries and aims at building research capacities in the different regions.

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Structure of Trade in Manufactured Products Between Southeast European Countries and the European Union¹

Introduction

The seven countries of Southeast Europe (SEE-7) – Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Romania, and Yugoslavia – present certain similarities, as far as their place in the international pattern of trade specialization is concerned. Among the seven above-mentioned countries, only two – Bulgaria and Romania – are at present candidates for EU accession, but the European Union (EU-15) is the most important trading partner for all of them, ranging from 37.1% of total trade turnover in Yugoslavia to as much as 80.2% in Albania in 1999. Manufacturing industry products represent an overwhelming part of these trade flows. To analyse their structure, we use the NACE² classification of trade in manufactured items at 3-digit level taken from the Eurostat COMEXT database. The latter is the most reliable source of data which provides a high degree of data comparability across countries and in time.³

Available data give evidence of manufacturing industry trade expansion between SEE-7 and EU-15 from 1995 till 1999 both on the exports and the imports side (see Tables 1-3). Total manufacturing industry *exports* of SEE-7 to the EU grew by 46.5%, although this figure disguises the highly uneven performance of individual countries of the region. While most countries managed to increase their exports, Croatian exports were stagnating, and those of Macedonia even declining. Overall, the share of Southeast Europe in total manufacturing imports of the EU was stagnant and stayed below 2%. For comparison, the share of the eight more advanced Central and East European countries (CEEC-8) was rising and reached by 1999 10.2%.

Manufacturing *imports* of SEE-7 from the EU rose faster than exports (+52.2%), leading to generally growing *trade deficits*. Indeed, manufacturing trade balances with the EU of all countries of the region in all years were in red, with the only exception of Bulgaria in 1996-1997. Not uncommon is a situation when exports constitute only a half, or even a third (like in the case of Albania) of imports. The trade deficit of Croatia alone accounts for over 40% of the trade deficit of the region as a whole.

¹ The author would like to thank Barbara Swierczek from WIIW for her assistance in collecting statistical data for the paper.

² Nomenclature générale des activités économiques dans les communautés européennes.

³ To secure equal country coverage, we focus on the time period between 1995 (when Austria, Sweden and Finland joined the European Union) and 1999, the latest year for which the trade data on such a detailed level are available.

In the present paper, we aim to measure the sectoral concentration of trade, identify products in which countries of the region have comparative advantages in trade with the EU, reveal the structure of exported factor inputs and labour skills (both in gross and net terms) and its time dynamics, and deal with the regional specialization of Southeast Europe within CEEC-15 in exports to the EU.

Inter- versus intra-industry trade

Trade between Southeast Europe and the EU is dominated by *inter*-industry trade, i.e. exports and imports are represented by different commodity groups. Inter-industry trade is caused by the differing factor endowments of trading partners, whereby each country tends to export goods whose production requires a high input of factors relatively abundant in this country.⁴ Therefore, the relative abundance of labour, especially of low-skilled labour, and the relative scarcity of capital and technological know-how in Southeast Europe (as compared to the European Union) results in exports of low value-added labour-intensive products to the EU and imports of technically sophisticated, capital- and R&D-intensive items from the EU.

As opposed to inter-industry trade, *intra*-industry trade denotes an exchange of commodities belonging to the same commodity group. It is driven by product differentiation and economies of scale (rather than by differing factor endowments) and dominates in the first instance trade between developed countries. To measure the extent of intra-industry trade in manufactured products between Southeast Europe and the EU, we use the so-called Grubel-Lloyd indices of intra-industry trade presented in Table 4⁵. As of 1999, the Grubel-Lloyd index ranged between 0.245 in Bosnia and Herzegovina and 0.470 in Croatia. This can be interpreted as a sign of the relative proximity of Croatia to countries of the European Union in terms of structure of its factor endowment which accounts for a relatively low share of inter-industry trade and, hence, a high share of intra-industry trade. Similarly, it can be argued that Bosnia and Herzegovina deviates from the EU in its structure of factor endowment the most. Generally, intra-industry trade of SEE-7 with the EU is less pronounced than that of Central Europe. The Croatian index value corresponds

⁴ A good overview of relevance of economic theory for explaining the existing patterns of trade is given in Helpman (1999).

⁵ The Grubel-Lloyd indices were calculated on the basis of NACE 3-digit commodity groups in the following way:

$$GL = 1 - \frac{\sum_i ABS(X_i - M_i)}{\sum_i (X_i + M_i)},$$

where GL is the Grubel-Lloyd index of intra-industry trade between a given country and the EU for a given year;

X_i is the value of exports of commodity i to the EU by the given country in the given year;

M_i is the value of imports of commodity i from the EU to the given country in the given year.

roughly to that of Estonia, whereas in some other advanced transition countries it is much higher, e.g. 0.729 in the Czech Republic⁶.

Sectoral concentration and revealed comparative advantage

To reveal the pattern of specialization of individual Southeast European countries in their manufacturing industry trade with the EU, we first refer to the so-called *concentration* indices (CR-3) which we calculated as a share of the three biggest NACE 2-digit commodity groups in total (see Table 5). Our findings show that the values of sectoral concentration for both exports and imports of Southeast European countries are generally close to those of CEEC. In 1999, Macedonia had the highest value of exports concentration of all Central and East European countries (81.6%). This is in line with theory which suggests that small countries tend to specialize on a more narrow range of export products⁷. The least concentrated were Croatian exports (48.4%). The typical export commodities of countries of the region are basic metals, textiles and textile products, wood and wood products, and in some cases also food and beverages. Imports are generally less concentrated than exports, ranging from 39.5% in Croatia to 57.8% in Romania. Textiles and textile products, machinery and equipment, electrical equipment, chemicals and chemical products, and in a number of cases food and beverages are typically the largest imports items.

Another, and a more concise, instrument which we use to analyse manufacturing trade specialization is the so-called *revealed comparative advantage* (RCA).⁸ A positive and high value of RCA for a particular commodity approximates a high degree of competitiveness of the country in production of this commodity. In turn, a strongly negative RCA indicates the lack of competitiveness. Changes in the value of RCA over time can be interpreted accordingly. For example, an increase in RCAs of more sophisticated products can be a sign of successful industrial restructuring. However, the interpretation of RCA indices as a measure of competitiveness is constrained by the existence of trade barriers which distort the pattern of country specialization. The latter is, for example, true for exports of some agricultural products from Southeast Europe to the EU.

⁶ See Havlik, Landesmann and Stehrer (2001).

⁷ Macedonia is the smallest country of the region in terms of both population and GDP.

⁸ Revealed comparative advantage is defined as follows:

$$RCA_i^j = \frac{X_i^j - M_i^j}{X_i^j + M_i^j},$$

where RCA_i^j is revealed comparative advantage (in relation to the EU) of country j in production of commodity i;

X_i^j is the value of exports of commodity i to the EU by country j;

M_i^j is the value of imports of commodity i from the EU to country j.

Given our definition, the RCA can take values between -1 and 1.

Calculation of RCAs in manufacturing industry trade between individual countries of Southeast Europe and EU-15 at a relatively aggregated (NACE 2-digit) level allows to identify the broad areas of comparative advantage of the countries in question (see Table 6). In each of the following NACE 2-digit branches – textiles and textile products (DB), leather and leather products (DC), wood and wood products (DD), and basic metals and fabricated metal products (DJ) – five countries of the region have a comparative advantage against the EU (that is, a positive RCA value). At the same time, all countries have a comparative disadvantage (a negative RCA value) in pulp, paper, paper products, publishing and printing (DE), coke, refined petroleum products and nuclear fuel (DF), chemicals, chemical products and man-made fibres (DG), machinery and equipment n.e.c. (DK), electrical and optical equipment (DL), and transport equipment (DM).

A more detailed picture of comparative advantages of countries of the region in their manufacturing industry trade with the EU can be obtained by RCA calculation at a more disaggregated (NACE 3-digit) level (see Tables 7 and 8)⁹. At first, we present the main findings at NACE 3-digit level separately for the seven countries of the region, and then summarize the most important points.

Albania has only a very limited number (9 out of 95 in 1999) of products recording positive trade balance with the EU, and therefore positive RCAs. The country's exports are largely dominated by just two products - *other wearing apparel and accessories (182)* and *footwear (193)*. Taken together, these products accounted in 1999 for as much as 65% of total Albanian manufacturing exports to the EU. Products in which Albania has the biggest comparative advantages include, beside the two above-mentioned groups, *sawmilling and planing of wood (201)*, *other products of wood (205)*, and *other first processing of iron and steel (273)*.

Similar to Albanian case, 84 of product-specific RCAs of **Bosnia and Herzegovina** in trade with the EU in 1999 were negative, with 48 of them lying below -0.9. The highest comparative advantages are observed in *sawmilling and planing of wood (201)*, *weapons and ammunition (296)*¹⁰, *leather clothes (181)*, *basic precious and non-ferrous metals (274)*, and *other wearing apparel and accessories (182)*.

Bulgaria has the highest comparative advantages vis-à-vis the EU in *sawmilling and planing of wood (201)*, *basic iron and steel and ferro-alloys (271)*, *wooden containers (204)*, *basic precious and non-ferrous metals (274)*, and *panels and boards of wood (202)*. The country is least competitive in some food products, tobacco, knitted and crocheted fabrics, motor vehicles, and selected items of electrical and optical equipment.

⁹ At this level, total manufacturing trade falls into 95 commodity groups.

¹⁰ It should be noted, however, that the RCA value for weapons and ammunition was extremely volatile over 1995-1999, thus pointing to the lack of comparative advantage stability.

In **Croatia**, only 17 products recorded in 1999 positive trade balance with the EU, and hence a positive RCA. The highest RCAs have *sawmilling and planing of wood (201)*, *other transport equipment (355)*, *cement, lime and plaster (265)*, *leather clothes (181)*, and *builders' carpentry and joinery (203)*. At the same time, comparative disadvantages are observed in a number of food products, tobacco, knitted and crocheted fabrics, chemicals, and electrical and optical equipment items.

In **Macedonia**, 38.9% of total manufacturing exports to the EU in 1999 were represented by *other wearing apparel and accessories (182)*, in which Macedonia also has one of the highest RCAs. Other most competitive Macedonian products include *other first processing of iron and steel (273)*, *basic iron and steel and ferro-alloys (271)*, *knitted and crocheted articles (177)*, and *basic precious and non-ferrous metals (274)*.

Romania's comparative advantages in manufacturing trade with the EU are particularly pronounced in the following branches: *ships and boats (351)*, *sawmilling and planing of wood (201)*, *coke oven products (231)*, *builders' carpentry and joinery (203)*, and *other products of wood (205)*. Most clearly Romanian comparative disadvantages lie in some food products and tobacco, some pulp and paper products and chemicals, and motor vehicles.

Finally, **Yugoslavia** has the highest RCAs in manufacturing trade with the EU in *processed fruit and vegetables (153)*, *ships and boats (351)*, *weapons and ammunition (296)*, *rubber products (251)*, and *knitted and crocheted articles (177)*. The biggest comparative disadvantages are recorded in some food products, pulp and paper products, chemicals and equipment.

Table 9 brings together the five most 'competitive' NACE 3-digit level manufactured products for each country of Southeast Europe in its trade with the EU and therefore allows to derive possible overlaps in individual countries' patterns of specialization. It appears that all Southeast European countries tend to specialize on products within a fairly narrow spectrum comprising most notably *wood and wood products*, *textiles and textile products*, and *basic metals and fabricated metal products*. This conclusion applies particularly to Albania, Bulgaria and Macedonia, whereas Yugoslavia seems to have the most 'untypical' pattern of specialization, with only one of its five most 'competitive' products being a subgroup of the three above-mentioned NACE 2-digit commodity groups.

Traded factor inputs and skills

Calculated revealed comparative advantages across NACE 3-digit manufacturing industry product groups coupled with the data on factor and skill intensity of each product¹¹ give us an indication which factors of production and labour skills each country tends to export on the net basis. Thereby we use the factor and skill intensity taxonomies of WIFO¹² (see Tables 10.1 and 10.2) classifying industries according to the factor inputs (mainstream, labour-intensive, capital-intensive, marketing-driven, technology-driven) and the labour skills utilized (low-skill, medium-skill/blue collar, medium-skill/white-collar, high-skill). Similarly, changes in RCA over time across products (Table 8) allow us to compare the evolution of industries recording different factor and skill intensities.

In **Albania**, the majority of the five most competitive products are labour-intensive and require the low level of labour skills. Besides, the time dynamics of RCA does not provide evidence of improvement in the structure of exported factors either: among the ten 'winners'¹³ there is only one fairly sophisticated branch (articles of paper and paperboard).

In **Bosnia and Herzegovina**, the high-skill production of weapons and ammunition is the only outlier from the generally labour-intensive and low-skill pattern of specialization. This is also a product group which recorded the highest positive RCA change since 1995. Apart from that, the dynamics of comparative advantage since 1995 in Bosnia and Herzegovina has been not very encouraging – among the ten 'winners' there are no high-skill or technology-driven industries, and only one medium-skill/white-collar branch (basic chemicals).

Bulgarian areas of comparative advantage against the EU are either capital-intensive and low-skill (basic metals and fabricated metal products), or labour-intensive and medium-skill/blue-collar (wood and wood products). The ten 'winner' products in comparative advantage in 1995-1999 present a mixed picture: while four of them are labour-intensive and five of them require low labour skills, there is one branch which is technology-driven (TV and radio sets), and one high-skill industry (machinery for production, use of mechanical power).

In **Croatia**, out of the five most 'competitive' products, only 'other transport equipment' is neither labour-intensive, nor low-skill. The dynamics of comparative advantage since 1995 speaks in favour of rising competitiveness by relatively sophisticated branches. The ten 'winners' comprise i.a. three medium-skill/white-collar and two high-skill industries (the

¹¹ This information we derive from the WIFO taxonomy of industries – see Peneder (2001).

¹² The Austrian Institute for Economic Research.

¹³ Here and thereafter, the 'winners' denote products with the highest increase in RCA between 1995/96 and 1998/99.

latter being weapons and ammunition and machine-tools), even though for most of them the improvement has been only minor.

The dynamics of **Macedonian** comparative advantage since 1995 is somewhat better than that of Albania or Bosnia and Herzegovina and can be compared to that of Bulgaria: among the ten 'winning branches' one is technology-driven (electronic valves and tubes), and one is high-skill (machinery for production, use of mechanical power).

All **Romanian** most 'competitive' products are labour-intensive and medium-skill/blue-collar¹⁴. At the same time, the general changes in RCAs since 1995 have been fairly favourable: among the ten 'winners' there is one technology-driven high-skill branch (office machinery and computers), one technology-driven medium-skill/white-collar branch (optical instruments and photographic equipment), and one mainstream high-skill branch (agricultural and forestry machinery).

Just like in Bosnia and Herzegovina, weapons and ammunition is an exception to the generally labour- and/or low-skill-intensive pattern of **Yugoslav** specialization in manufacturing industry trade with the EU. A rise in competitiveness is observed first of all in the labour- and low-skill-intensive branches. The group of the ten 'winners' includes only one relatively sophisticated industry – the capital-intensive medium-skill/white-collar manufacturing of basic chemicals.

Table 9 summarizes the factor and skill intensity of products where Southeast European countries have the highest comparative advantages in manufacturing industry trade with the EU. Most of them are either *labour-intensive* or *capital-intensive*, and require a *low* or *medium/blue-collar level of skills*.

As far as the dynamics of comparative advantage between 1995 and 1999 is concerned (Table 8), it is hardly possible to reveal a more or less uniform (across countries) set of products benefiting the most. The pattern of changes in the net exports of factors of production and utilized labour skills varies greatly as well. Judging by the share of sophisticated branches in the top ten 'winners' of change in comparative advantage, Croatia appears to have performed the best, followed by Romania. Albania, Bosnia and Herzegovina and Yugoslavia seem to have performed the worst on that account.

An alternative approach to measure the changes in traded factors of production and labour skills is to trace the changes in the structure of country's exports. Though this approach has a disadvantage of focusing on the exports side of trade only, it allows to draw conclusions based on developments across the whole range of manufacturing industry products. For the purpose of our study, we calculated the shares of branches using

¹⁴ The data on factors used in production of coke oven products is unfortunately not available.

different factor inputs (Taxonomy I) and different levels of labour skills (Taxonomy II) in total manufacturing industry exports to the EU (see Figures 1.1 to 1.5 and 2.1 to 2.4, respectively). The analysis of a factor inputs and skills composition of a country's exports and its dynamics in time says a lot about the country's place in international pattern of specialization. In particular, rising shares of technology-driven and high-skill industries in exports to the EU (as it happens in the more advanced transition countries of Central Europe) are indicative of industrial restructuring taking place in the countries involved.

In terms of factor inputs, almost all countries of the region specialize primarily on *labour-intensive* products, their share exceeding 35% of total manufacturing exports to the EU all over the place, except Yugoslavia. Such levels are roughly in line with values recorded in the Baltic states, but are much higher than in CEEC-5 (with the exception of Poland). Within SEE-7, the labour-intensive specialization is particularly pronounced in Romania, where these products account for 52.1% of exports. Only in Yugoslavia and Albania the highest share in exports belongs to marketing-driven industries (29.1% and 42.2%, respectively). Opposite to developments in CEEC-5, but similar to Latvia and Lithuania, in all Southeast European countries the share of labour-intensive industries between 1995 and 1999 was on the rise.

The share of *technology-driven* industries was in most cases rising, too, but it is still extremely low in comparison to CEEC-5 and Estonia. Whereas it stands at some 30% in Slovakia and some 47% in Hungary, it amounts to a mere 6.7% in Croatia and even less in other countries of the region – with the anecdotal exception of Macedonia where the unusually high share in 1999 (10.2%) is attributed to the exports of aircraft.

Like in other transition countries, the share of *capital-intensive* industries was falling in most countries of Southeast Europe, but, with the exception of Albania and Romania, it is higher than in CEEC-5 and Estonia and comparable to the levels observed in Latvia and Lithuania.

In terms of labour skill contents, manufacturing exports to the EU of all Southeast European countries are dominated by *low-skill industries*, the share of which amounts to 49% in Croatia and exceeds as much as 80% in Albania and Macedonia. Unlike in Southeast Europe, where the high shares of low-skilled industries tended to persist, in CEEC-5 and Estonia they were declining in 1995-1999 and are below 40%.

The gap between Southeast Europe and the more advanced transition countries is not so striking, if we turn to the share of *high-skill industries*. At least in Bulgaria, Croatia and Romania, it was rising (as it was in CEEC-5). The highest value recorded in SEE – 9.3% in

Croatia¹⁵ – is far below the Hungarian and the Czech levels, but corresponds roughly to those of Slovakia and Slovenia. In most other countries, it is higher than in Latvia and Lithuania, and in Bulgaria and Romania even higher than in Poland.

Index of export specialization

The almost invariably high trade deficits of all Southeast European countries in manufacturing industry trade with the EU, and a big number of commodity groups recording a negative trade balance and therefore a negative revealed comparative advantage (given our definition of RCA) may prompt a conclusion that there are very few, if any, products in which these countries have comparative advantages vis-à-vis the EU. Such a conclusion would run against the theory. Indeed, theory implies that trade deficit of a country pushes either domestic prices or the exchange rate downwards – until some branches become competitive enough to close the initial trade deficit gap. However, capital inflows and grants (the latter are particularly relevant for many countries of the region) distort the whole mechanism, as they prevent the currencies of Southeast European countries from adequate depreciation, thus cementing the negative balance of trade. Such capital inflows and grants themselves are used to finance a considerable, and in some cases (such as Albania and Bosnia and Herzegovina) an overwhelming part of imports.

With the aim of avoiding this distortion, we focus now exclusively on the exports side of foreign trade of Southeast European countries. To identify the niches of specialization of individual countries in their manufacturing industry exports to the EU, we calculated the indices of export specialization at NACE 3-digit level for all countries of the region¹⁶. From now onwards, we will refer to two indices of this type – revealing the export specialization of each country within SEE-7 (Table 11) and CEEC-15 (Table 12), respectively. CEEC-15 (Central and East European countries-15) is a broad aggregate including all European non-CIS transition economies, i.e. SEE-7 plus Slovenia, Hungary, Poland, Czech Republic, Slovakia, Lithuania, Latvia and Estonia. The CIS stays out primarily for the reason of its smaller trade integration with the EU – not least due to a generally more prohibitive trade regime of the EU applied to these countries.

¹⁵ We disregard the highly volatile exports of aircraft by Macedonia, accounting in 1999 for a 11.9% share of high-skill industries in manufacturing industry exports of this country to the EU.

¹⁶ The index of export specialization has been calculated as follows:

$$I_i^{j,EU} = \frac{XS_i^{j,EU}}{XS_i^{region,EU}},$$

where $I_i^{j,EU}$ is the index of specialization of country j in exports of commodity group i to the EU within a larger region;
 $XS_i^{j,EU}$ is the share of exports of commodity i by country j to the EU in its total manufacturing exports to the EU;
 $XS_i^{region,EU}$ is the share of exports of commodity i to the EU by the region as a whole in its total manufacturing exports to the EU.

In both Albania and Bosnia and Herzegovina export specialization seems to be concentrated on a very narrow range of commodities. In **Albania**, *fish and fish products* (152), *other first processing of iron and steel* (273), *other food products* (158), and *tanning and dressing of leather* (191) are areas of export specialization within both SEE-7 and CEEC-15, whereas *footwear* (193) appears to be the product of Albanian specialization mainly within CEEC-15, and the most important one.

Bosnia and Herzegovina is most clearly specializing on *weapons and ammunition* (296). This specialization is very pronounced within SEE-7 and is even higher within CEEC-15. Other areas of specialization within both SEE-7 and CEEC-15 include *tobacco products* (160), *sawmilling and planing of wood* (201), and *other first processing of iron and steel* (273). Besides, *leather clothes* (181) and *basic precious and non-ferrous metals* (274) are fields of specialization within the CEEC-15, and *medical equipment* (331) and *motor vehicles* (341) - within SEE-7.

Bulgaria's pattern of specialization is not as outspoken as that of the two former countries, the values of export specialization indices being more evenly distributed across commodity groups. The products of specialization within both SEE-7 and CEEC-15 are *beverages* (159), *prepared animal feeds* (157), and *ceramic tiles and flags* (263). *Soap and detergents* (245) and *TV and radio sets and recorders* (323) are products of specialization within SEE-7, and *basic iron and steel* (271) – within CEEC-15.

In **Croatia**, only *pharmaceuticals* (244) are an area of specialization within both SEE-7 and CEEC-15. Within SEE-7, the country presents a rather sophisticated pattern of specialization including publishing (221), *motorcycles and bicycles* (354), *cement, lime and plaster* (265), and *refined petroleum products* (232). However, within CEEC-15, Croatia specializes on products which are rather typical of Southeast Europe as a whole: *knitted and crocheted articles* (177), *leather clothes* (181), *footwear, dressing and dyeing of fur* (183).

The specialization pattern of **Macedonian** exports has a very high degree of concentration. Products of Macedonian specialization within both SEE-7 and CEEC-15 include, beside *aircraft and spacecraft* (353), also *knitted and crocheted fabrics* (176), *beverages* (159), *dressing and dyeing of fur* (183), and *other first processing of iron and steel* (273). *Insulated wire and cable* (313) is an area of specialization within SEE-7, as are *basic iron and steel* (271) within CEEC-15.

Romanian indices of export specialization within SEE-7 are fairly close to 1 (as compared to other countries) which reflects the high weight of the country in total exports of SEE-7 to the EU. Similar to Croatian case, Romania specializes on fairly sophisticated products within SEE-7 including i.a. *office machinery and computers* (300), *accumulators* (314),

electrical equipment (316), but this is not the case with Romanian specialization within CEEC-15: *footwear* (193), *knitted and crocheted articles* (177), and *other wearing apparel and accessories* (182). *Ships and boats* (351) and *jewellery* (362) are specialization products within both SEE-7 and CEEC-15.

In **Yugoslavia**, areas of specialization within SEE-7 and within CEEC-15 mostly coincide: *processed fruit and vegetables* (153), *vegetable and animal oils and fats* (154), and *rubber products* (251). Within SEE-7, specialization on *grain mill products and starches* (156) and *paints, coatings and printing ink* (243), and within CEEC-15 on *tanning and dressing of leather* (191) and *weapons and ammunition* (296) can be identified.

The last column of Table 12 presents values of index of export specialization calculated for **SEE-7** as a whole within a broader aggregate of CEEC-15. It appears that Southeast Europe as a whole specializes within CEEC-15 in the first place on *footwear* (193), *knitted and crocheted articles* (177), *beverages* (159), *other wearing apparel and accessories* (182), and *leather clothes* (181)¹⁷. Besides, among products having the value of export specialization index above 1 are certain categories of food products, tobacco, leather and leather products, basic metals, some chemicals (especially pharmaceuticals), ceramic products, weapons and ammunition, ships and boats.

A comparison of these findings with the revealed comparative advantages of SEE in manufacturing industry trade (see chapter on revealed comparative advantages) with the EU allows to draw several important conclusions. Out of the three major areas of Southeast European comparative advantage vis-à-vis the EU – textiles and textile products; basic metals and fabricated metal products; and wood and wood products – only the former two are generally also the areas of export specialization within CEEC-15. In turn, while food and beverages generally do not have a comparative advantage (with an important exception of processed fruit and vegetables in the case of Yugoslavia), they tend to be the region's area of export specialization within the CEEC-15.

The country-specific indices of export specialization discussed above allow to reveal important intra-regional disparities. It turns out that Romania and Croatia are the most advanced countries of SEE, as measured by their export specialization, but when compared to CEEC-15 as a whole, they seem almost as backward as other countries of the region. Worth mentioning are export commodities which *particularly* distinguish individual countries of the region against the background of the CEEC-15 pattern of exports to the EU. These are footwear in Albania, pharmaceuticals in Croatia, processed fruit and vegetables in Yugoslavia, beverages in Bulgaria and Macedonia, weapons and ammunition in Bosnia and Herzegovina.

¹⁷ As before, we disregard the exports of aircraft – commodity group in which the specialization of SEE-7 within CEEC-15 in 1999 was in fact the highest.

Conclusions

In many respects, the pattern of specialization of Southeast European countries in their manufacturing industry trade with the EU gives evidence of their backwardness, and that not only in comparison to the EU countries, but also to the more advanced transition economies. This conclusion applies to all countries of the region, including even the relatively developed Croatia.

Unlike in CEEC-5, manufacturing industry trade between SEE-7 and the EU is still dominated by inter-industry trade (trade in products belonging to different commodity groups), reflecting a substantial gap between SEE and the EU in the structure of factor endowments and pointing in particular to the lack of capital in SEE – a factor constraining the production and exports of more sophisticated products, such as machinery and equipment. The prevalence of inter-industry trade makes the RCA methodology applied in the present paper a highly appropriate tool to analyse the trade structure.

Typical manufacturing commodity groups where Southeast European countries record comparative advantages against the EU include wood and wood products, textiles and textile products, and basic metals and fabricated metal products. Most of them are labour- or capital-intensive and require a low or medium/blue-collar level of labour skills. The evidence of improving comparative advantage in production of more sophisticated products is scarce. Judging by the share of sophisticated branches in the top ten 'winners' of change in revealed comparative advantage in 1995-1999, Croatia appears to have performed the best, followed by Romania.

Opposite to developments in CEEC-5, but similar to Latvia and Lithuania, in all Southeast European countries the share of labour-intensive products in manufacturing industry exports to the EU between 1995 and 1999 was on the rise. The share of technology-driven industries was in most cases rising, too, but it is still extremely low, even in Croatia. Low-skilled industries continue to dominate manufacturing industry exports to the EU, although the share of high-skilled industries appears not especially low by standards of most other transition countries.

The pattern of export specialization of countries in question within CEEC-15 is indicative of their backwardness, too. Out of the three broad commodity groups mentioned above which have a comparative advantage vis-à-vis the EU – textiles and textile products; basic metals and fabricated metal products; and wood and wood products – only the former two are generally also products of export specialization within CEEC-15. Another area of regional specialization seems to be food and beverages. Romania and Croatia appear the most advanced countries of SEE, judging by their export specialization, but when compared to CEEC-15 as a whole, they seem almost as backward as other countries of the region. Important products of specialization of individual countries against the background of

CEEC-15 are footwear in Albania, pharmaceuticals in Croatia, processed fruit and vegetables in Yugoslavia, beverages in Bulgaria and Macedonia, and weapons and ammunition in Bosnia and Herzegovina.

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ANNEX

Table 1

Manufacturing industry imports to the EU-15 from SEE-7, ECU million
(without intra-EU trade)

	1995	1996	1997	1998	1999	1999/1995 growth in %
Albania	136.1	184.3	175.3	205.9	218.1	60.2
Bosnia & Herzegovina	22.5	66.6	156.3	238.0	347.8	1447.8
Bulgaria	1678.3	1594.8	1940.2	2095.0	2098.7	25.0
Croatia	1813.4	1660.3	1704.7	1733.9	1812.9	0.0
Macedonia	642.5	406.2	457.2	563.3	566.6	-11.8
Romania	3263.8	3488.6	4297.0	4990.7	5534.3	69.6
Yugoslavia	30.7	460.4	993.2	1019.2	536.7	1647.5
SEE-7	7587.3	7861.2	9723.8	10846.0	11115.1	46.5
Total EU imports	429876.9	452127.6	521519.6	574191.6	631469.5	46.9
<i>SEE-7, as % of total</i>	<i>1.76</i>	<i>1.74</i>	<i>1.86</i>	<i>1.89</i>	<i>1.76</i>	
for comparison:						
<i>CEEC-8*, as % of total</i>	<i>8.38</i>	<i>8.58</i>	<i>8.99</i>	<i>9.90</i>	<i>10.19</i>	

*CEEC-8 includes CEEC-5 plus the three Baltic states.

Source: Eurostat COMEXT database, own calculations.

Table 2

Manufacturing industry exports of the EU-15 to SEE-7, ECU million
(without intra-EU trade)

	1995	1996	1997	1998	1999	1999/1995 growth in %
Albania	485.0	699.8	562.2	516.7	634.2	30.8
Bosnia & Herzegovina	133.8	479.8	699.6	771.0	873.1	552.6
Bulgaria	1891.4	1567.7	1674.1	2225.3	2479.8	31.1
Croatia	3288.7	3585.4	4398.0	4075.1	3741.5	13.8
Macedonia	835.8	700.2	735.2	746.7	976.6	16.8
Romania	3559.0	4156.7	4708.8	5955.7	5950.0	67.2
Yugoslavia	158.2	1153.4	1604.4	1645.8	1097.2	593.5
SEE-7	10351.9	12343.0	14382.3	15936.2	15752.4	52.2
Total EU exports	522077.2	572636.4	649658.6	661128.6	688245.4	31.8
<i>SEE-7, as % of total</i>	<i>1.98</i>	<i>2.16</i>	<i>2.21</i>	<i>2.41</i>	<i>2.29</i>	
for comparison:						
<i>CEEC-8*, as % of total</i>	<i>8.42</i>	<i>9.24</i>	<i>10.03</i>	<i>11.16</i>	<i>11.24</i>	

*CEEC-8 includes CEEC-5 plus the three Baltic states.

Source: Eurostat COMEXT database, own calculations.

Table 3

**Trade balances of SEE-7 in manufacturing industry
trade with the EU-15, ECU million**
(without intra-EU trade)

	1995	1996	1997	1998	1999
Albania	-348.9	-515.5	-386.9	-310.8	-416.0
Bosnia & Herzegovina	-111.3	-413.3	-543.4	-532.9	-525.4
Bulgaria	-213.1	27.0	266.1	-130.3	-381.2
Croatia	-1475.3	-1925.1	-2693.4	-2341.1	-1928.6
Macedonia	-193.3	-294.0	-278.0	-183.4	-410.0
Romania	-295.2	-668.0	-411.8	-965.0	-415.7
Yugoslavia	-127.5	-693.0	-611.2	-626.6	-560.5
SEE-7	-2764.6	-4481.8	-4658.5	-5090.2	-4637.3

Source: Eurostat COMEXT database, own calculations.

Table 4

Intra-industry manufacturing trade of SEE-7 with the EU-15
(Grubel-Lloyd Index of intra-industry trade calculated on the basis of NACE 3-digit groups)

	1995	1996	1997	1998	1999
Albania	0.291	0.313	0.227	0.354	0.331
Bosnia and Herzegovina	0.214	0.179	0.197	0.234	0.245
Bulgaria	0.401	0.419	0.413	0.415	0.401
Croatia	0.448	0.419	0.401	0.420	0.470
Macedonia	0.369	0.257	0.225	0.216	0.258
Romania	0.327	0.336	0.341	0.333	0.371
Yugoslavia	0.064	0.235	0.301	0.316	0.318

Source: own calculations on the basis of Eurostat COMEXT data.

Table 5

Sectoral concentration of manufacturing industry trade between SEE-7 and EU-15

Exports of SEE-7 to the EU-15

(the three biggest NACE 2-digit commodity groups as % of total exports)

	1995	1996	1997	1998	1999
Albania	76.6	76.2	79.1	79.9	79.4
Bosnia and Herzegovina	72.3	72.7	72.9	68.5	68.4
Bulgaria	67.4	62.2	63.9	65.1	63.1
Croatia	51.7	51.4	53.2	51.6	48.4
Macedonia	68.4	82.2	82.5	84.7	81.6
Romania	62.5	62.4	65.8	67.3	64.6
Yugoslavia	90.2	67.2	65.2	63.6	58.9

Imports of SEE-7 from the EU-15

(the three biggest NACE 2-digit commodity groups as % of total imports)

	1995	1996	1997	1998	1999
Albania	45.3	46.2	54.1	47.7	43.1
Bosnia and Herzegovina	57.5	52.0	51.0	44.0	42.5
Bulgaria	42.1	44.3	46.6	46.3	47.6
Croatia	39.5	40.0	43.5	42.7	39.5
Macedonia	55.1	43.5	48.2	49.8	47.2
Romania	51.9	52.3	56.0	55.4	57.8
Yugoslavia	72.8	44.1	43.0	44.5	41.6

Source: own calculations on the basis of Eurostat COMEXT data.

Table 6

Broad areas of comparative advantage of Southeast European countries in manufacturing industry trade with EU-15 (NACE 2-digit commodity groups having positive RCAs, as of 1999)*

NACE 2-digit commodity group	Alb	Bos	Bul	Cro	Mac	Rom	Yug
DA Food products, beverages and tobacco			+				
DB Textiles and textile products		+	+	+	+	+	
DC Leather and leather products	+	+	+	+		+	
DD Wood and wood products		+	+	+		+	+
DH Rubber and plastic products							+
DI Other non-metallic mineral products			+			+	
DJ Basic metals and fabricated metal products		+	+		+	+	+
DN Manufacturing n.e.c.						+	

* Note: '+' indicates that a given country has a comparative advantage vis-à-vis the EU in a given commodity group.

Source: own calculations on the basis of Eurostat COMEXT statistics

Table 7

**Revealed comparative advantages of SEE-7 in manufacturing
industry trade with the EU-15, by commodity group in 1999**

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
15.1 Production, processing and preserving of meat and meat products	-0.623	-0.534	0.104	-0.353	-0.866	-0.065	-0.296
15.2 Processing and preserving of fish and fish products	0.211	-1.000	-0.340	-0.654	-1.000	-0.368	-0.987
15.3 Processing and preserving of fruit and vegetables	-0.399	-0.025	0.665	-0.719	0.271	0.032	0.926
15.4 Manufacture of vegetable and animal oils and fats	-0.959	-0.992	-0.972	-0.929	-0.999	-0.289	-0.683
15.5 Manufacture of dairy products	-1.000	-1.000	-1.000	-0.959	-1.000	-0.716	-1.000
15.6 Manufacture of grain mill products, starches and starch products	-1.000	-0.996	-0.979	-0.989	-1.000	-0.913	-0.948
15.7 Manufacture of prepared animal feeds	-1.000	-1.000	0.219	-0.990	-1.000	-0.976	-0.994
15.8 Manufacture of other food products	-0.736	-0.973	-0.550	-0.735	-0.827	-0.924	-0.755
15.9 Manufacture of beverages	-0.992	-0.904	0.590	-0.688	0.373	0.227	-0.816
16.0 Manufacture of tobacco products	-1.000	-0.926	-0.990	-0.948	-0.999	-0.954	-1.000
17.1 Preparation and spinning of textile fibres	-0.959	-0.069	-0.492	-0.259	-0.199	-0.733	-0.780
17.2 Textile weaving	-0.938	-0.942	-0.734	-0.848	-0.967	-0.957	-0.929
17.4 Manufacture of made-up textile articles, except apparel	-0.800	-0.688	0.502	0.300	0.106	0.606	-0.464
17.5 Manufacture of other textiles	-0.889	-0.993	-0.892	-0.654	-0.980	-0.848	-0.899
17.6 Manufacture of knitted and crocheted fabrics	-0.978	-0.994	-0.974	-0.976	-0.614	-0.958	-0.668
17.7 Manufacture of knitted and crocheted articles	0.040	0.008	0.662	0.038	0.830	0.624	0.660
18.1 Manufacture of leather clothes	-1.000	0.760	0.719	0.744	0.624	0.839	0.245
18.2 Manufacture of other wearing apparel and accessories	0.218	0.600	0.584	0.513	0.764	0.645	0.339
18.3 Dressing and dyeing of fur; manufacture of articles of fur	-0.545	-1.000	0.100	0.073	0.419	-0.004	0.265
19.1 Tanning and dressing of leather	-0.639	-0.944	-0.681	-0.836	-0.941	-0.881	-0.484
19.2 Manufacture of luggage, handbags and the like, saddlery and harness	0.142	-0.710	0.471	-0.555	-0.935	0.583	0.381
19.3 Manufacture of footwear	0.354	0.268	0.378	0.256	0.076	0.510	0.080

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
20.1 Sawmilling and planing of wood, impregnation of wood	0.543	0.928	0.957	0.783	-0.229	0.944	0.309
20.2 Manufacture of veneer sheets, plywood, laminboard, particle board, etc.	-0.993	0.389	0.746	0.191	-0.947	-0.038	0.182
20.3 Manufacture of builders' carpentry and joinery	-0.929	-0.711	-0.589	0.568	-0.798	0.888	0.032
20.4 Manufacture of wooden containers	0.055	-0.162	0.863	-0.232	0.025	0.688	0.589
20.5 Manufacture of other products of wood; articles of cork, straw, plaiting materials	0.744	0.384	-0.145	0.155	-0.604	0.840	0.530
21.1 Manufacture of pulp, paper and paperboard	-0.996	-0.992	-0.528	-0.560	-1.000	-0.497	-0.943
21.2 Manufacture of articles of paper and paperboard	-0.442	-0.976	-0.521	-0.697	-0.988	-0.915	-0.937
22.1 Publishing	-0.798	-0.262	-0.790	0.020	-0.935	-0.941	-0.415
22.2 Printing and service activities related to printing	-0.587	-0.955	-0.644	-0.583	-0.888	-0.896	-0.729
23.1 Manufacture of coke oven products	-1.000	-1.000	-1.000	-1.000	-1.000	0.913	.
23.2 Manufacture of refined petroleum products	-0.794	-0.958	-0.588	-0.045	-1.000	-0.588	-0.924
23.3 Processing of nuclear fuel	-0.333	-1.000	-1.000	-1.000	-0.976	-1.000	-1.000
24.1 Manufacture of basic chemicals	-0.757	-0.187	0.298	0.064	-0.796	-0.068	-0.408
24.2 Manufacture of pesticides and other agro-chemical products	-0.984	-1.000	-0.856	-0.803	-1.000	-0.793	-0.935
24.3 Manufacture of paints, varnishes and similar coatings, printing ink and mastics	-1.000	-0.994	-0.996	-0.995	-1.000	-0.996	-0.989
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	-0.994	-0.714	-0.682	-0.304	-0.984	-0.856	-0.963
24.5 Manufacture of soap and detergents, cleaning and polishing preparations, etc.	-1.000	-0.999	-0.858	-0.977	-0.990	-0.969	-0.975
24.6 Manufacture of other chemical products	-0.826	-0.879	-0.812	-0.963	-0.964	-0.941	-0.869
24.7 Manufacture of man-made fibres	-1.000	-1.000	0.368	-0.113	-0.357	0.499	-0.294
25.1 Manufacture of rubber products	-0.932	-0.695	-0.239	-0.752	-0.634	0.314	0.704
25.2 Manufacture of plastic products	-0.858	-0.902	-0.723	-0.563	-0.951	-0.719	-0.858
26.1 Manufacture of glass and glass products	-0.834	-0.974	-0.014	-0.082	-0.804	0.551	-0.360
26.2 Manufacture of non-refractory ceramic goods and refractory ceramic products	-0.860	-0.974	0.462	-0.406	-0.001	0.387	-0.055
26.3 Manufacture of ceramic tiles and flags	-1.000	-1.000	-0.076	-0.784	-1.000	-0.908	-0.916
26.4 Manufacture of bricks, tiles and construction products, in baked clay	-1.000	-1.000	-0.167	-0.901	-0.999	0.676	-1.000

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
26.5 Manufacture of cement, lime and plaster	-1.000	-1.000	0.619	0.770	-1.000	0.752	-1.000
26.6 Manufacture of articles of concrete, plaster and cement	-0.845	-0.994	-0.840	-0.832	-0.955	-0.719	-0.998
26.7 Cutting, shaping and finishing of stone	-0.789	-0.973	0.214	-0.662	0.115	-0.213	-0.736
26.8 Manufacture of other non-metallic mineral products	-0.965	-0.955	-0.840	-0.327	-0.878	-0.720	-0.709
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-0.880	-0.954	0.908	-0.817	0.907	0.596	0.512
27.2 Manufacture of tubes	-0.984	-0.957	-0.521	-0.207	0.623	0.303	-0.300
27.3 Other first processing of iron and steel	0.671	0.391	-0.195	-0.976	0.914	0.078	-0.672
27.4 Manufacture of basic precious and non-ferrous metals	-0.219	0.699	0.762	-0.053	0.791	0.654	0.652
28.1 Manufacture of structural metal products	-0.949	-0.785	-0.753	-0.629	-0.742	-0.635	-0.860
28.2 Manufacture of tanks, reservoirs and containers of metal; radiators and boilers	-0.648	-0.836	-0.713	-0.820	-0.842	-0.379	0.101
28.3 Manufacture of steam generators, except central heating hot water boilers	-0.985	-0.990	-0.971	-0.077	0.523	-0.530	-0.965
28.6 Manufacture of cutlery, tools and general hardware	-0.314	-0.347	-0.196	-0.788	-0.979	-0.369	-0.589
28.7 Manufacture of other fabricated metal products	-0.586	-0.643	-0.158	-0.481	-0.496	-0.108	-0.447
29.1 Manufacture of machinery for the production and use of mechanical power	-0.964	-0.722	0.011	-0.496	0.059	0.056	-0.377
29.2 Manufacture of other general purpose machinery	-0.914	-0.853	-0.511	-0.800	-0.942	-0.734	-0.922
29.3 Manufacture of agricultural and forestry machinery	-0.894	-0.944	-0.683	-0.872	-0.942	-0.501	-0.514
29.4 Manufacture of machine- tools	-0.972	-0.879	0.165	-0.366	-0.339	-0.386	-0.421
29.5 Manufacture of other special purpose machinery	-0.869	-0.921	-0.786	-0.549	-0.966	-0.780	-0.867
29.6 Manufacture of weapons and ammunition	-0.994	0.829	-0.754	-0.866	-0.916	-0.850	0.744
29.7 Manufacture of domestic appliances n.e.c.	-0.983	-0.986	-0.677	-0.453	-0.938	-0.094	-0.703
30.0 Manufacture of office machinery and computers	-0.966	-0.983	-0.948	-0.950	-0.948	-0.437	-0.960
31.1 Manufacture of electric motors, generators and transformers	-0.724	-0.469	0.143	0.248	-0.756	0.196	-0.358
31.2 Manufacture of electricity distribution and control apparatus	-0.598	-0.972	-0.525	-0.331	-0.876	-0.703	-0.901
31.3 Manufacture of insulated wire and cable	-0.980	-0.997	-0.449	-0.157	0.672	-0.592	0.420

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
31.4 Manufacture of accumulators, primary cells and primary batteries	-0.998	-1.000	-0.862	-0.990	-0.826	-0.574	-0.946
31.5 Manufacture of lighting equipment and electric lamps	-0.747	-0.977	0.079	-0.602	-0.846	0.234	-0.877
31.6 Manufacture of electrical equipment n.e.c.	-0.940	-0.823	-0.613	0.040	-0.947	0.170	-0.978
32.1 Manufacture of electronic valves and tubes and other electronic components	-0.952	-0.987	-0.126	-0.778	-0.380	-0.874	-0.935
32.2 Manufacture of television and radio transmitters, line telephony, line telegraphy	-0.676	-0.961	-0.931	-0.923	-0.928	-0.723	-0.911
32.3 Manufacture of television and radio receivers, sound or video recording	-0.806	-0.930	-0.434	-0.947	-0.959	-0.885	-0.918
33.1 Manufacture of medical and surgical equipment and orthopaedic appliances	-0.987	-0.833	-0.929	-0.901	-0.907	-0.879	-0.943
33.2 Manufacture of instruments and appliances for measuring, checking, testing, etc.	-0.931	-0.948	-0.499	-0.394	-0.740	-0.757	-0.616
33.4 Manufacture of optical instruments and photographic equipment	-0.984	-0.919	0.015	-0.849	-0.988	-0.374	-0.843
33.5 Manufacture of watches and clocks	-1.000	-1.000	0.241	-0.729	-0.975	-0.738	-0.756
34.1 Manufacture of motor vehicles	-0.939	-0.910	-0.987	-0.943	-0.981	-0.962	-0.980
34.2 Manufacture of bodies (coachwork) for motor vehicles; trailers and semi-trailers	-0.997	-0.994	-0.679	-0.600	-0.996	-0.562	-0.876
34.3 Manufacture of parts and accessories for motor vehicles and their engines	-0.979	-0.742	-0.634	-0.744	-0.507	0.169	-0.478
35.1 Building and repairing of ships and boats	-0.766	-1.000	0.437	-0.803	-1.000	0.988	0.861
35.2 Manufacture of railway and tramway locomotives and rolling stock	-1.000	-0.952	-0.541	-0.486	0.313	0.297	-0.719
35.3 Manufacture of aircraft and spacecraft	-0.555	0.300	-0.503	-0.742	-0.042	-0.650	-0.774
35.4 Manufacture of motorcycles and bicycles	-0.927	-0.438	-0.613	-0.564	-1.000	-0.557	-0.728
35.5 Manufacture of other transport equipment n.e.c.	-1.000	-0.979	0.721	0.778	-1.000	0.686	-0.789
36.1 Manufacture of furniture	-0.730	-0.259	0.205	0.041	-0.781	0.826	-0.271
36.2 Manufacture of jewellery and related articles	-1.000	-0.963	-0.630	-0.819	-0.818	0.219	-1.000
36.3 Manufacture of musical instruments	-0.382	-0.994	-0.042	-0.976	-0.928	0.552	-0.975
36.4 Manufacture of sports goods	-0.722	-0.926	-0.470	-0.549	-1.000	0.579	-0.755
36.5 Manufacture of games and toys	-0.316	-0.952	-0.053	-0.770	-0.993	-0.114	-0.974
36.6 Miscellaneous manufacturing	-0.331	-0.969	-0.702	-0.411	-0.878	-0.684	-0.523
Total	-0.488	-0.430	-0.083	-0.347	-0.266	-0.036	-0.343

Source: own calculations on the basis of Eurostat COMEXT data.

Table 8

**Changes in revealed comparative advantages of SEE-7 in manufacturing industry
trade with the EU-15, by commodity group, 98/99 over 95/96**

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
15.1 Production, processing and preserving of meat and meat products	-0.101	0.334	-0.365	0.047	-0.746	-0.354	0.475
15.2 Processing and preserving of fish and fish products	0.723	0.000	-0.008	-0.219	-0.048	0.375	0.007
15.3 Processing and preserving of fruit and vegetables	0.391	0.723	0.107	-0.225	-0.449	-0.182	0.576
15.4 Manufacture of vegetable and animal oils and fats	-0.310	0.004	-0.143	0.001	0.012	-0.280	0.082
15.5 Manufacture of dairy products	0.000	0.003	-0.528	0.028	0.000	-0.016	-0.003
15.6 Manufacture of grain mill products, starches and starch products	0.000	0.005	-0.023	-0.001	-0.205	0.031	0.038
15.7 Manufacture of prepared animal feeds	-0.075	0.000	-0.173	-0.011	-0.002	0.018	-0.036
15.8 Manufacture of other food products	-0.004	0.015	0.135	0.046	-0.177	0.022	0.085
15.9 Manufacture of beverages	0.008	-0.172	0.145	-0.024	-0.234	0.289	0.096
16.0 Manufacture of tobacco products	0.003	0.043	-0.009	-0.022	0.002	0.022	-0.025
17.1 Preparation and spinning of textile fibres	0.028	-0.015	-0.092	-0.005	-0.214	-0.133	0.211
17.2 Textile weaving	0.034	0.009	-0.150	0.014	-0.097	-0.010	0.067
17.4 Manufacture of made-up textile articles, except apparel	0.039	0.395	-0.215	0.190	-0.521	0.058	0.365
17.5 Manufacture of other textiles	0.000	0.006	0.016	0.009	-0.062	0.063	0.023
17.6 Manufacture of knitted and crocheted fabrics	-0.004	0.012	-0.003	-0.079	-0.280	0.011	0.082
17.7 Manufacture of knitted and crocheted articles	0.101	0.861	-0.073	0.027	0.330	0.056	0.927
18.1 Manufacture of leather clothes	.	0.920	-0.003	0.032	0.974	-0.109	0.660
18.2 Manufacture of other wearing apparel and accessories	-0.072	0.274	-0.026	-0.050	-0.049	-0.088	0.523
18.3 Dressing and dyeing of fur; manufacture of articles of fur	-0.062	-0.566	0.634	0.251	0.004	-0.220	.
19.1 Tanning and dressing of leather	-0.015	-0.081	-0.354	0.056	-0.667	-0.027	-0.768

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
19.2 Manufacture of luggage, handbags and the like, saddlery and harness	0.178	0.304	-0.132	-0.107	-0.165	0.123	0.840
19.3 Manufacture of footwear	0.257	0.317	0.121	-0.013	-0.001	-0.001	0.643
20.1 Sawmilling and planing of wood, impregnation of wood	-0.142	0.092	0.012	0.096	-0.581	-0.008	-0.368
20.2 Manufacture of veneer sheets, plywood, laminboard, particle board, etc.	-0.234	-0.158	0.010	-0.192	-0.905	0.177	0.057
20.3 Manufacture of builders' carpentry and joinery	-0.045	0.071	0.166	-0.058	-0.165	0.097	0.473
20.4 Manufacture of wooden containers	-0.039	0.952	0.063	-0.124	0.198	-0.159	.
20.5 Manufacture of other products of wood; articles of cork, straw, plaiting materials	0.276	0.226	0.246	-0.364	-0.185	0.034	0.429
21.1 Manufacture of pulp, paper and paperboard	-0.398	-0.146	-0.075	-0.152	0.003	-0.259	0.079
21.2 Manufacture of articles of paper and paperboard	0.433	0.014	0.208	0.042	-0.018	0.025	0.042
22.1 Publishing	0.090	-0.453	0.080	0.063	-0.233	0.000	-0.173
22.2 Printing and service activities related to printing	0.008	0.040	0.327	-0.533	0.015	0.047	0.048
23.1 Manufacture of coke oven products	-0.005	.	-0.756	-0.381	.	-0.047	.
23.2 Manufacture of refined petroleum products	0.119	-0.087	-0.488	-0.685	-0.012	-0.072	0.057
23.3 Processing of nuclear fuel	0.333	.	-0.018	-0.001	0.013	0.000	.
24.1 Manufacture of basic chemicals	-0.124	0.777	-0.179	-0.137	0.011	-0.267	0.624
24.2 Manufacture of pesticides and other agro-chemical products	0.059	0.033	-0.098	-0.086	0.008	0.023	-0.580
24.3 Manufacture of paints, varnishes and similar coatings, printing ink and mastics	-0.002	0.004	-0.005	-0.004	0.005	0.002	0.002
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	-0.001	0.220	-0.162	-0.178	0.004	-0.221	0.022
24.5 Manufacture of soap and detergents, cleaning and polishing preparations, etc.	-0.004	-0.006	-0.001	-0.001	0.006	0.000	0.013
24.6 Manufacture of other chemical products	-0.012	0.104	-0.091	-0.013	-0.003	0.002	0.183
24.7 Manufacture of man-made fibres	-0.355	-0.092	0.644	0.155	-0.224	0.077	0.589
25.1 Manufacture of rubber products	0.008	0.191	-0.054	-0.078	0.019	0.087	0.904
25.2 Manufacture of plastic products	-0.053	0.049	0.000	-0.049	-0.083	0.069	0.109
26.1 Manufacture of glass and glass products	-0.329	-0.010	-0.453	-0.227	-0.498	-0.056	0.402
26.2 Manufacture of non-refractory ceramic goods and refractory ceramic products	0.103	0.051	0.448	-0.129	0.262	0.088	0.662
26.3 Manufacture of ceramic tiles and flags	0.000	-0.032	-0.027	-0.214	-0.018	0.016	0.106

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
26.4 Manufacture of bricks, tiles and construction products, in baked clay	-0.005	0.000	0.562	-0.451	-0.156	0.145	.
26.5 Manufacture of cement, lime and plaster	0.000	-0.223	0.396	0.048	-0.423	-0.116	-0.249
26.6 Manufacture of articles of concrete, plaster and cement	0.096	-0.005	-0.324	-0.265	0.005	0.248	-0.019
26.7 Cutting, shaping and finishing of stone	0.095	-0.043	0.692	-0.091	0.432	0.161	0.256
26.8 Manufacture of other non-metallic mineral products	0.033	0.005	0.023	-0.177	-0.337	-0.089	0.190
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	-0.043	-0.067	0.015	-0.051	0.602	-0.005	.
27.2 Manufacture of tubes	0.010	-0.012	-0.304	0.160	0.456	-0.157	0.623
27.3 Other first processing of iron and steel	0.147	0.781	-0.295	-0.326	0.298	-0.297	0.261
27.4 Manufacture of basic precious and non-ferrous metals	-0.393	0.245	-0.008	-0.097	0.084	-0.089	-0.149
28.1 Manufacture of structural metal products	0.128	0.133	-0.326	-0.304	0.448	0.037	0.110
28.2 Manufacture of tanks, reservoirs and containers of metal; radiators and boilers	0.095	0.050	-0.333	-0.087	-0.623	0.215	0.631
28.3 Manufacture of steam generators, except central heating hot water boilers	0.004	-0.035	0.192	0.070	0.854	0.316	0.017
28.6 Manufacture of cutlery, tools and general hardware	0.595	0.489	0.058	-0.047	-0.960	0.100	0.339
28.7 Manufacture of other fabricated metal products	0.030	0.258	0.061	-0.149	-0.195	-0.007	0.146
29.1 Manufacture of machinery for the production and use of mechanical power	0.007	0.022	0.312	0.082	0.305	0.055	0.218
29.2 Manufacture of other general purpose machinery	0.028	-0.349	-0.080	0.064	0.000	0.098	-0.091
29.3 Manufacture of agricultural and forestry machinery	-0.025	0.024	-0.530	-0.042	-0.098	0.271	0.327
29.4 Manufacture of machine- tools	0.062	0.055	-0.103	0.183	0.126	0.229	0.071
29.5 Manufacture of other special purpose machinery	0.054	0.047	-0.001	0.133	-0.014	0.058	0.038
29.6 Manufacture of weapons and ammunition	-0.448	1.423	0.034	0.656	0.241	-0.159	-0.147
29.7 Manufacture of domestic appliances n.e.c.	0.014	0.009	0.112	0.120	-0.676	0.081	0.032
30.0 Manufacture of office machinery and computers	0.020	0.000	-0.075	0.024	0.033	0.278	-0.020
31.1 Manufacture of electric motors, generators and transformers	0.089	0.169	-0.026	0.190	-0.472	-0.200	0.302
31.2 Manufacture of electricity distribution and control apparatus	0.145	0.034	0.198	-0.014	0.035	-0.117	-0.154
31.3 Manufacture of insulated wire and cable	-0.176	0.046	-0.325	0.177	-0.011	-0.320	0.540

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
31.4 Manufacture of accumulators, primary cells and primary batteries	-0.055	0.058	-0.214	-0.173	-0.155	0.063	-0.166
31.5 Manufacture of lighting equipment and electric lamps	0.142	0.033	0.522	-0.069	-0.167	0.170	0.152
31.6 Manufacture of electrical equipment n.e.c.	0.006	-0.047	-0.001	0.177	-0.045	0.198	0.012
32.1 Manufacture of electronic valves and tubes and other electronic components	-0.144	0.036	0.027	0.024	0.326	0.066	0.069
32.2 Manufacture of television and radio transmitters, line telephony, line telegraphy	0.162	0.037	0.034	0.031	0.038	0.173	-0.011
32.3 Manufacture of television and radio receivers, sound or video recording	0.162	0.021	0.395	-0.051	0.020	-0.123	0.104
33.1 Manufacture of medical and surgical equipment and orthopaedic appliances	-0.054	0.049	-0.012	-0.008	0.044	0.031	0.031
33.2 Manufacture of instruments and appliances for measuring, checking, testing, etc.	-0.054	0.039	0.065	0.062	0.021	0.042	0.143
33.4 Manufacture of optical instruments and photographic equipment	-0.038	0.049	-0.006	-0.241	-0.017	0.336	-0.001
33.5 Manufacture of watches and clocks	-0.017	-0.204	-0.060	-0.263	-0.101	-0.109	0.159
34.1 Manufacture of motor vehicles	-0.001	0.032	0.009	0.020	0.008	-0.124	-0.018
34.2 Manufacture of bodies (coachwork) for motor vehicles; trailers and semi-trailers	0.000	0.006	0.077	0.176	-0.095	-0.536	0.214
34.3 Manufacture of parts and accessories for motor vehicles and their engines	-0.043	0.076	-0.057	-0.033	0.010	0.099	0.372
35.1 Building and repairing of ships and boats	0.115	-0.027	0.064	0.035	0.015	0.080	0.734
35.2 Manufacture of railway and tramway locomotives and rolling stock	-0.115	.	0.028	-0.005	0.393	0.462	0.162
35.3 Manufacture of aircraft and spacecraft	0.154	.	-0.367	-0.010	0.188	0.102	-0.569
35.4 Manufacture of motorcycles and bicycles	0.156	0.347	0.171	0.101	-0.034	0.048	0.353
35.5 Manufacture of other transport equipment n.e.c.	-0.017	0.011	0.129	0.877	0.057	0.831	0.091
36.1 Manufacture of furniture	0.200	0.606	0.233	-0.016	-0.372	0.025	0.308
36.2 Manufacture of jewellery and related articles	0.579	0.063	0.148	0.105	0.010	0.226	-0.013
36.3 Manufacture of musical instruments	0.208	0.038	-0.457	-0.008	0.041	0.122	0.015
36.4 Manufacture of sports goods	0.139	0.065	-0.144	0.340	-0.134	0.579	0.075
36.5 Manufacture of games and toys	0.466	0.041	-0.035	-0.474	-0.017	0.101	0.031
36.6 Miscellaneous manufacturing	0.184	0.019	-0.063	0.015	-0.307	0.024	0.161
Total	0.113	0.255	-0.031	-0.047	-0.005	0.003	0.263

Source: own calculations on the basis of Eurostat COMEXT data.

Table 9

Products in which Southeast European countries have the *highest* comparative advantages in manufacturing trade with EU-15, as of 1999

NACE 3-digit commodity group*	Number of countries specializing**	Factor inputs (WIFO Taxonomy I)	Labour skills (WIFO Taxonomy II)
201 Sawmilling and planing of wood	5	Labour intensive	Blue collar workers
182 Other wearing apparel and accessories	3	Labour intensive	Low skill industry
274 Basic precious and non-ferrous metals	3	Capital intensive	Low skill industry
177 Knitted and crocheted articles	2	Mainstream	Low skill industry
181 Leather clothes	2	Labour intensive	Low skill industry
203 Builders' carpentry and joinery	2	Labour intensive	Blue collar workers
205 Other products of wood	2	Labour intensive	Blue collar workers
271 Basic iron and steel and ferro-alloys	2	Capital intensive	Low skill industry
273 Other first processing of iron and steel	2	Capital intensive	Low skill industry
296 Weapons and ammunition	2	Mainstream	High skill industry
351 Ships and boats	2	Labour intensive	Blue collar workers
153 Processed fruit and vegetables	1	Marketing-driven	Low skill industry
193 Footwear	1	Marketing-driven	Low skill industry
202 Panels and boards of wood	1	Labour intensive	Blue collar workers
204 Wooden containers	1	Labour intensive	Blue collar workers
231 Coke oven products	1		
251 Rubber products	1	Mainstream	Low skill industry
265 Cement, lime and plaster	1	Capital intensive	Low skill industry
355 Other transport equipment	1	Mainstream	Blue collar workers

Notes:

* Each NACE 3-digit group presented in the table is one of the five 'top RCA' groups for at least one of the seven Southeast European countries.

** Number of countries where a given commodity group is within the five 'top RCA' groups.

Source: own calculations based on Eurostat COMEXT data

Table 10.1

Factor intensity of manufacturing products (WIFO taxonomy I)

	NACE rev. 1	Memorandum item: labour skills (WIFO taxonomy II)
Mainstream industries		
Other textiles	175	low-skill
Knitted and crocheted fabrics	176	low-skill
Knitted and crocheted articles	177	low-skill
Articles of paper and paperboard	212	medium-skill/white collar
Paints, coatings, printing ink	243	medium-skill/white collar
Rubber products	251	low-skill
Plastic products	252	low-skill
Glass and glass products	261	low-skill
Articles of concret, plaster and cement	266	low-skill
Other non-metallic mineral products	268	low-skill
Tubes	272	low-skill
Other fabricated metal products	287	medium-skill/blue collar
Machinery for production, use of mech. power	291	high-skill
Other general purpose machinery	292	high-skill
Agricultural and forestry machinery	293	high-skill
Other special purpose machinery	295	high-skill
Weapons and ammunition	296	high-skill
Domestic appliances n. e. c.	297	medium-skill/white collar
Electric motors, generators and transformers	311	medium-skill/white collar
Isolated wire and cable	313	medium-skill/white collar
Accumulators, primary cells and primary batteries	314	medium-skill/white collar
Lighting equipment and electric lamps	315	medium-skill/white collar
Motorcycles and bicycles	354	medium-skill/blue collar
Other transport equipment n. e. c.	355	medium-skill/blue collar
Labour-intensive industries		
Textile weaving	172	low-skill
Made-up textile articles	174	low-skill
Leather clothes	181	low-skill
Other wearing apparel and accessories	182	low-skill
Dressing and dyeing of fur; articles of fur	183	low-skill
Sawmilling, planing and impregnation of wood	201	medium-skill/blue collar
Panels and boards of wood	202	medium-skill/blue collar
Builders' carpentry and joinery	203	medium-skill/blue collar
Wooden containers	204	medium-skill/blue collar
Other products of wood; articles of cork, etc.	205	medium-skill/blue collar
Ceramic goods	262	low-skill
Bricks, tiles and construction products	264	low-skill
Cutting, shaping, finishing of stone	267	low-skill
Structural metal products	281	medium-skill/blue collar

(Table contd)

(Table contd)

	NACE rev. 1	Memorandum item: labour skills (WIFO taxonomy II)
Steam generators	283	medium-skill/blue collar
Machine-tools	294	high-skill
Electrical equipment n. e. c.	316	medium-skill/white collar
Bodies for motor vehicles, trailers	342	medium-skill/blue collar
Ships and boats	351	medium-skill/blue collar
Railway locomotives and rolling stock	352	medium-skill/blue collar
Furniture	361	medium-skill/blue collar
Jewellery and related articles	362	medium-skill/blue collar
Capital-intensive industries		
Textile fibres	171	low-skill
Pulp, paper and paperboard	211	medium-skill/white collar
Refined petroleum and nuclear fuel	232	medium-skill/white collar
Basic chemicals	241	medium-skill/white collar
Man-made fibres	247	medium-skill/white collar
Ceramic tiles and flags	263	low-skill
Cement, lime and plaster	265	low-skill
Basic iron and steel, ferro-alloys (ECSC)	271	low-skill
Other first processing of iron and steel	273	low-skill
Basic precious and non-ferrous metals	274	low-skill
Parts and accessories for motor vehicles	343	medium-skill/blue collar
Marketing-driven industries		
Meat products	151	low-skill
Fish and fish products	152	low-skill
Fruits and vegetables	153	low-skill
Vegetable and animal oils and fats	154	low-skill
Dairy products; ice cream	155	low-skill
Grain mill products and starches	156	low-skill
Prepared animal feeds	157	low-skill
Other food products	158	low-skill
Beverages	159	low-skill
Tobacco products	160	low-skill
Tanning and dressing of leather	191	low-skill
Luggage, handbags, saddlery and harness	192	low-skill
Footwear	193	low-skill
Publishing	221	medium-skill/white collar
Printing	222	medium-skill/white collar
Detergents, cleaning and polishing, perfumes	245	medium-skill/white collar
Tanks, reservoirs, central heating radiators and boilers	282	medium-skill/blue collar
Cutlery, tools and general hardware	286	medium-skill/blue collar

(Table contd)

(Table contd)

	NACE rev. 1	Memorandum item: labour skills (WIFO taxonomy II)
Watches and clocks	335	medium-skill/white collar
Musical instruments	363	medium-skill/blue collar
Sports goods	364	medium-skill/blue collar
Games and toys	365	medium-skill/blue collar
Miscellaneous manufacturing n. e. c.	366	medium-skill/blue collar
Technology-driven industries		
Pesticides, other agro-chemical products	242	medium-skill/white collar
Pharmaceuticals	244	high-skill
Other chemical products	246	medium-skill/white collar
Office machinery and computers	300	high-skill
Electricity distribution and control apparatus	312	medium-skill/white collar
Electronic valves and tubes, other electronic comp.	321	medium-skill/white collar
TV, and radio transmitters, apparatus for line telephony	322	medium-skill/white collar
TV, radio and recording apparatus	323	medium-skill/white collar
Medical equipment	331	medium-skill/white collar
Instruments for measuring, checking, testing, navigating	332	medium-skill/white collar
Optical instruments and photographic equipment	334	medium-skill/white collar
Motor vehicles	341	medium-skill/blue collar
Aircraft and spacecraft	353	high-skill
Factor intensity not available		
Coke oven products	231	
Nuclear fuel	233	

Source: Peneder, M. (2001), Entrepreneurial Competition and Industrial Location, Edward Elgar, Cheltenham, UK.

Table 10.2

Skill intensity of manufacturing products (WIFO taxonomy II)

	NACE rev. 1	Memorandum item: factor inputs (WIFO taxonomy I)
Low-skill industries		
Meat products	151	marketing-driven
Fish and fish products	152	marketing-driven
Fruits and vegetables	153	marketing-driven
Vegetable and animal oils and fats	154	marketing-driven
Dairy products; ice cream	155	marketing-driven
Grain mill products and starches	156	marketing-driven
Prepared animal feeds	157	marketing-driven
Other food products	158	marketing-driven
Beverages	159	marketing-driven
Tobacco products	160	marketing-driven
Textile fibres	171	capital-intensive
Textile weaving	172	labour-intensive
Made-up textile articles	174	labour-intensive
Other textiles	175	mainstream
Knitted and crocheted fabrics	176	mainstream
Knitted and crocheted articles	177	mainstream
Leather clothes	181	labour-intensive
Other wearing apparel and accessories	182	labour-intensive
Dressing and dyeing of fur; articles of fur	183	labour-intensive
Tanning and dressing of leather	191	marketing-driven
Luggage, handbags, saddlery and harness	192	marketing-driven
Footwear	193	marketing-driven
Rubber products	251	mainstream
Plastic products	252	mainstream
Glass and glass products	261	mainstream
Ceramic goods	262	labour-intensive
Ceramic tiles and flags	263	capital-intensive
Bricks, tiles and construction products	264	labour-intensive
Cement, lime and plaster	265	capital-intensive
Articles of concret, plaster and cement	266	mainstream
Cutting, shaping, finishing of stone	267	labour-intensive
Other non-metallic mineral products	268	mainstream
Basic iron and steel, ferro-alloys (ECSC)	271	capital-intensive
Tubes	272	mainstream
Other first processing of iron and steel	273	capital-intensive
Basic precious and non-ferrous metals	274	capital-intensive

(Table contd)

(Table contd)

	NACE rev. 1	Memorandum item: factor inputs (WIFO taxonomy I)
Medium-skill/blue collar industries		
Sawmilling, planing and impregnation of wood	201	labour-intensive
Panels and boards of wood	202	labour-intensive
Builders' carpentry and joinery	203	labour-intensive
Wooden containers	204	labour-intensive
Other products of wood; articles of cork, etc.	205	labour-intensive
Structural metal products	281	labour-intensive
Tanks, reservoirs, central heating radiators and boilers	282	marketing-driven
Steam generators	283	labour-intensive
Cutlery, tools and general hardware	286	marketing-driven
Other fabricated metal products	287	mainstream
Motor vehicles	341	technology-driven
Bodies for motor vehicles, trailers	342	labour-intensive
Parts and accessories for motor vehicles	343	capital-intensive
Ships and boats	351	labour-intensive
Railway locomotives and rolling stock	352	labour-intensive
Motorcycles and bicycles	354	mainstream
Other transport equipment n. e. c.	355	mainstream
Furniture	361	labour-intensive
Jewellery and related articles	362	labour-intensive
Musical instruments	363	marketing-driven
Sports goods	364	marketing-driven
Games and toys	365	marketing-driven
Miscellaneous manufacturing n. e. c.	366	marketing-driven
Medium-skill/white collar industries		
Pulp, paper and paperboard	211	capital-intensive
Articles of paper and paperboard	212	mainstream
Publishing	221	marketing-driven
Printing	222	marketing-driven
Refined petroleum and nuclear fuel	232	capital-intensive
Basic chemicals	241	capital-intensive
Pesticides, other agro-chemical products	242	technology-driven
Paints, coatings, printing ink	243	mainstream
Detergents, cleaning and polishing, perfumes	245	marketing-driven
Other chemical products	246	technology-driven
Man-made fibres	247	capital-intensive
Domestic appliances n. e. c.	297	mainstream
Electric motors, generators and transformers	311	mainstream
Electricity distribution and control apparatus	312	technology-driven

(Table contd)

(Table contd)

	NACE rev. 1	Memorandum item: factor inputs (WIFO taxonomy I)
Isolated wire and cable	313	mainstream
Accumulators, primary cells and primary batteries	314	mainstream
Lighting equipment and electric lamps	315	mainstream
Electrical equipment n. e. c.	316	labour-intensive
Electronic valves and tubes, other electronic comp.	321	technology-driven
TV, and radio transmitters, apparatus for line telephony	322	technology-driven
TV, radio and recording apparatus	323	technology-driven
Medical equipment	331	technology-driven
Instruments for measuring, checking, testing, navigating	332	technology-driven
Optical instruments and photographic equipment	334	technology-driven
Watches and clocks	335	marketing-driven
High-skill industries		
Pharmaceuticals	244	technology-driven
Machinery for production, use of mech. power	291	mainstream
Other general purpose machinery	292	mainstream
Agricultural and forestry machinery	293	mainstream
Machine-tools	294	labour-intensive
Other special purpose machinery	295	mainstream
Weapons and ammunition	296	mainstream
Office machinery and computers	300	technology-driven
Aircraft and spacecraft	353	technology-driven
Skill intensity not available		
Coke oven products	231	
Nuclear fuel	233	

Source: Peneder, M. (2001), Entrepreneurial Competition and Industrial Location, Edward Elgar, Cheltenham, UK.

Table 11

**Indices of specialization of individual Southeast European countries
within the SEE-7 region in manufacturing industry exports to the EU-15, by commodity group in 1999**

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
15.1 Production, processing and preserving of meat and meat products	2.21	3.20	2.10	1.10	0.33	0.39	1.42
15.2 Processing and preserving of fish and fish products	13.89	0.00	0.75	1.32	0.00	0.73	0.13
15.3 Processing and preserving of fruit and vegetables	0.35	0.76	1.33	0.12	1.26	0.15	11.60
15.4 Manufacture of vegetable and animal oils and fats	0.79	0.04	0.06	0.11	0.01	1.55	3.77
15.5 Manufacture of dairy products	0.00	0.00	0.00	1.20	0.00	1.61	0.00
15.6 Manufacture of grain mill products, starches and starch products	0.00	0.51	0.19	0.64	0.00	0.73	9.92
15.7 Manufacture of prepared animal feeds	0.00	0.00	5.15	0.06	0.00	0.03	0.02
15.8 Manufacture of other food products	6.05	0.47	1.56	2.05	1.27	0.12	2.34
15.9 Manufacture of beverages	0.04	0.18	3.19	0.28	3.66	0.30	0.16
16.0 Manufacture of tobacco products	0.00	6.21	0.71	1.79	0.86	0.68	0.00
17.1 Preparation and spinning of textile fibres	0.07	2.07	1.05	1.84	2.88	0.55	0.28
17.2 Textile weaving	0.35	0.50	2.57	1.12	0.49	0.54	0.38
17.4 Manufacture of made-up textile articles, except apparel	0.31	0.18	0.91	1.03	1.52	1.12	0.22
17.5 Manufacture of other textiles	1.08	0.07	0.42	2.10	0.14	1.03	0.71
17.6 Manufacture of knitted and crocheted fabrics	0.28	0.06	0.30	0.29	9.75	0.56	2.34
17.7 Manufacture of knitted and crocheted articles	0.34	0.26	0.63	1.14	0.47	1.26	0.62
18.1 Manufacture of leather clothes	0.00	2.92	0.55	2.13	0.28	0.82	0.67
18.2 Manufacture of other wearing apparel and accessories	1.22	0.85	0.87	0.71	1.37	1.16	0.42
18.3 Dressing and dyeing of fur; manufacture of articles of fur	1.17	0.00	0.11	2.48	6.42	0.31	1.47
19.1 Tanning and dressing of leather	5.30	0.42	0.98	0.81	0.12	0.83	3.06
19.2 Manufacture of luggage, handbags and the like, saddlery and harness	0.46	0.18	1.47	0.42	0.01	1.09	1.98
19.3 Manufacture of footwear	3.22	1.39	0.51	0.83	0.33	1.25	0.46

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
20.1 Sawmilling and planing of wood, impregnation of wood	0.98	5.66	0.35	2.20	0.39	0.56	1.66
20.2 Manufacture of veneer sheets, plywood, laminboard, particle board, etc.	0.01	2.80	1.65	1.81	0.03	0.53	0.80
20.3 Manufacture of builders' carpentry and joinery	0.03	0.07	0.03	1.47	0.07	1.44	0.62
20.4 Manufacture of wooden containers	0.87	0.34	2.32	0.25	0.12	0.95	0.29
20.5 Manufacture of other products of wood; articles of cork, straw, plaiting materials	1.69	0.91	0.49	0.73	0.04	1.33	1.29
21.1 Manufacture of pulp, paper and paperboard	0.01	0.01	1.42	2.51	0.00	0.62	0.28
21.2 Manufacture of articles of paper and paperboard	3.22	0.15	1.86	2.72	0.07	0.24	0.36
22.1 Publishing	0.37	1.80	0.25	4.89	0.04	0.07	1.17
22.2 Printing and service activities related to printing	1.35	0.28	1.15	3.11	0.23	0.25	2.16
23.1 Manufacture of coke oven products	0.00	0.00	0.00	0.00	0.00	2.01	0.00
23.2 Manufacture of refined petroleum products	1.63	0.06	0.73	3.57	0.00	0.48	0.12
23.3 Processing of nuclear fuel	48.27	0.00	0.00	0.00	1.03	0.00	0.00
24.1 Manufacture of basic chemicals	0.14	0.45	1.52	2.30	0.09	0.52	1.23
24.2 Manufacture of pesticides and other agro-chemical products	0.09	0.00	1.11	1.10	0.00	1.19	0.38
24.3 Manufacture of paints, varnishes and similar coatings, printing ink and mastics	0.00	1.77	0.61	1.94	0.00	0.62	4.20
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	0.02	0.65	1.03	3.73	0.03	0.33	0.21
24.5 Manufacture of soap and detergents, cleaning and polishing preparations, etc .	0.02	0.03	3.41	0.84	0.26	0.29	1.22
24.6 Manufacture of other chemical products	1.93	1.78	2.50	0.57	0.39	0.37	2.86
24.7 Manufacture of man-made fibres	0.00	0.00	0.91	0.93	0.30	1.15	1.82
25.1 Manufacture of rubber products	0.05	0.34	0.81	0.21	0.19	0.85	7.64
25.2 Manufacture of plastic products	0.72	0.67	0.81	2.73	0.14	0.66	0.66
26.1 Manufacture of glass and glass products	0.22	0.03	0.60	1.36	0.08	1.23	0.89
26.2 Manufacture of non-refractory ceramic goods and refractory ceramic products	0.17	0.03	1.32	0.55	0.56	1.16	1.09
26.3 Manufacture of ceramic tiles and flags	0.00	0.00	3.75	1.37	0.00	0.10	0.40

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
26.4 Manufacture of bricks, tiles and construction products, in baked clay	0.00	0.00	1.44	0.72	0.01	1.23	0.00
26.5 Manufacture of cement, lime and plaster	0.00	0.00	0.96	3.66	0.00	0.44	0.00
26.6 Manufacture of articles of concrete, plaster and cement	4.89	0.15	0.40	1.62	0.26	1.08	0.14
26.7 Cutting, shaping and finishing of stone	0.21	0.27	1.53	1.38	1.46	0.72	0.80
26.8 Manufacture of other non-metallic mineral products	0.06	0.27	0.30	3.51	0.25	0.58	1.19
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	0.07	0.01	2.02	0.06	2.19	0.90	1.01
27.2 Manufacture of tubes	0.02	0.03	0.39	1.42	1.95	1.13	0.70
27.3 Other first processing of iron and steel	6.53	4.57	0.39	0.02	7.52	0.51	0.32
27.4 Manufacture of basic precious and non-ferrous metals	0.31	2.48	1.78	0.52	1.27	0.67	2.04
28.1 Manufacture of structural metal products	0.21	1.59	0.38	2.57	1.01	0.75	0.60
28.2 Manufacture of tanks, reservoirs and containers of metal; radiators and boilers	0.78	0.75	0.34	0.62	0.20	1.22	3.73
28.3 Manufacture of steam generators, except central heating hot water boilers	0.02	0.03	0.06	3.52	0.78	0.75	0.02
28.6 Manufacture of cutlery, tools and general hardware	3.43	4.94	1.25	0.67	0.02	0.75	1.17
28.7 Manufacture of other fabricated metal products	1.30	0.91	0.86	1.24	0.57	0.99	1.17
29.1 Manufacture of machinery for the production and use of mechanical power	0.02	0.34	1.28	0.67	0.84	1.11	0.91
29.2 Manufacture of other general purpose machinery	0.35	0.98	1.95	1.20	0.17	0.75	0.38
29.3 Manufacture of agricultural and forestry machinery	0.49	0.31	0.81	0.64	0.17	1.27	1.70
29.4 Manufacture of machine- tools	0.02	0.22	1.67	1.09	0.31	0.88	0.95
29.5 Manufacture of other special purpose machinery	0.56	0.53	0.75	2.47	0.12	0.80	0.55
29.6 Manufacture of weapons and ammunition	0.01	23.71	0.46	0.05	0.35	0.03	2.66
29.7 Manufacture of domestic appliances n.e.c.	0.09	0.02	0.66	1.30	0.08	1.27	0.53
30.0 Manufacture of office machinery and computers	0.09	0.09	0.15	0.24	0.16	1.82	0.21
31.1 Manufacture of electric motors, generators and transformers	0.36	0.75	0.59	1.64	0.27	1.09	0.76
31.2 Manufacture of electricity distribution and control apparatus	2.13	0.10	1.04	2.67	0.14	0.61	0.23

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug
31.3 Manufacture of insulated wire and cable	0.02	0.01	0.42	1.95	4.04	0.59	2.08
31.4 Manufacture of accumulators, primary cells and primary batteries	0.03	0.00	0.81	0.08	0.42	1.57	0.66
31.5 Manufacture of lighting equipment and electric lamps	0.17	0.04	1.31	0.65	0.14	1.27	0.09
31.6 Manufacture of electrical equipment n.e.c.	0.02	0.09	0.12	1.24	0.01	1.55	0.02
32.1 Manufacture of electronic valves and tubes and other electronic components	0.08	0.02	2.52	0.41	0.76	0.82	0.15
32.2 Manufacture of television and radio transmitters, line telephony, line telegraphy	2.25	0.31	0.41	0.39	0.40	1.53	0.46
32.3 Manufacture of television and radio receivers, sound or video recording	0.93	0.60	3.75	0.33	0.28	0.32	0.53
33.1 Manufacture of medical and surgical equipment and orthopaedic appliances	0.15	5.35	0.57	1.34	0.74	0.84	1.00
33.2 Manufacture of instruments and appliances for measuring, checking, testing, etc.	0.13	0.21	1.22	2.65	0.37	0.51	1.15
33.4 Manufacture of optical instruments and photographic equipment	0.04	0.24	3.00	0.35	0.02	0.69	0.49
33.5 Manufacture of watches and clocks	0.00	0.00	2.67	1.62	0.13	0.37	0.82
34.1 Manufacture of motor vehicles	2.36	5.75	0.25	2.74	0.64	0.42	0.77
34.2 Manufacture of bodies (coachwork) for motor vehicles; trailers and semi-trailers	0.01	0.04	0.57	1.12	0.02	1.37	0.48
34.3 Manufacture of parts and accessories for motor vehicles and their engines	0.06	0.97	0.40	0.62	0.67	1.33	1.98
35.1 Building and repairing of ships and boats	0.02	0.00	0.50	0.15	0.00	1.65	1.25
35.2 Manufacture of railway and tramway locomotives and rolling stock	0.00	0.06	0.33	0.58	0.49	1.62	0.19
35.3 Manufacture of aircraft and spacecraft	0.07	0.15	1.10	0.81	10.38	0.24	0.07
35.4 Manufacture of motorcycles and bicycles	0.15	1.32	0.44	4.70	0.00	0.12	0.94
35.5 Manufacture of other transport equipment n.e.c.	0.00	0.01	0.56	2.97	0.00	0.82	0.03
36.1 Manufacture of furniture	0.21	0.68	0.39	0.96	0.08	1.44	0.53
36.2 Manufacture of jewellery and related articles	0.00	0.07	0.56	0.50	0.02	1.63	0.00
36.3 Manufacture of musical instruments	0.66	0.01	0.64	0.02	0.03	1.72	0.06
36.4 Manufacture of sports goods	0.07	0.12	0.41	0.79	0.00	1.55	0.35
36.5 Manufacture of games and toys	3.01	0.13	1.93	0.51	0.01	0.98	0.06
36.6 Miscellaneous manufacturing	1.98	0.16	0.74	2.30	0.34	0.67	1.85
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: own calculations on the basis of Eurostat COMEXT data.

Table 12

**Indices of specialization of individual Southeast European countries
within the CEEC-15 region in manufacturing industry exports to the EU-15, by commodity group in 1999**

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug	SEE-7
15.1 Production, processing and preserving of meat and meat products	1.67	2.42	1.59	0.83	0.25	0.30	1.07	0.76
15.2 Processing and preserving of fish and fish products	7.14	0.00	0.39	0.68	0.00	0.38	0.07	0.51
15.3 Processing and preserving of fruit and vegetables	0.55	1.18	2.08	0.19	1.97	0.23	18.07	1.56
15.4 Manufacture of vegetable and animal oils and fats	0.92	0.04	0.07	0.12	0.01	1.81	4.41	1.17
15.5 Manufacture of dairy products	0.00	0.00	0.00	0.10	0.00	0.13	0.00	0.08
15.6 Manufacture of grain mill products, starches and starch products	0.00	0.12	0.04	0.14	0.00	0.17	2.25	0.23
15.7 Manufacture of prepared animal feeds	0.00	0.00	3.47	0.04	0.00	0.02	0.01	0.67
15.8 Manufacture of other food products	7.51	0.59	1.94	2.54	1.57	0.15	2.90	1.24
15.9 Manufacture of beverages	0.12	0.54	9.59	0.85	11.00	0.91	0.48	3.01
16.0 Manufacture of tobacco products	0.00	9.82	1.12	2.83	1.36	1.07	0.00	1.58
17.1 Preparation and spinning of textile fibres	0.05	1.69	0.86	1.50	2.35	0.45	0.23	0.82
17.2 Textile weaving	0.25	0.35	1.80	0.79	0.35	0.38	0.26	0.70
17.4 Manufacture of made-up textile articles, except apparel	0.29	0.17	0.86	0.98	1.44	1.06	0.21	0.95
17.5 Manufacture of other textiles	0.71	0.05	0.28	1.39	0.09	0.68	0.47	0.66
17.6 Manufacture of knitted and crocheted fabrics	0.25	0.05	0.27	0.27	8.91	0.51	2.14	0.91
17.7 Manufacture of knitted and crocheted articles	1.07	0.82	2.03	3.63	1.51	4.02	1.99	3.19
18.1 Manufacture of leather clothes	0.00	6.55	1.23	4.79	0.62	1.85	1.51	2.24
18.2 Manufacture of other wearing apparel and accessories	3.49	2.43	2.49	2.03	3.91	3.32	1.20	2.86
18.3 Dressing and dyeing of fur; manufacture of articles of fur	1.66	0.00	0.16	3.53	9.14	0.44	2.10	1.43
19.1 Tanning and dressing of leather	7.46	0.59	1.37	1.14	0.17	1.17	4.32	1.41
19.2 Manufacture of luggage, handbags and the like, saddlery and harness	0.83	0.33	2.64	0.75	0.02	1.97	3.57	1.80
19.3 Manufacture of footwear	11.90	5.15	1.89	3.08	1.22	4.61	1.71	3.69

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug	SEE-7
20.1 Sawmilling and planing of wood, impregnation of wood	1.30	7.50	0.47	2.91	0.52	0.74	2.20	1.32
20.2 Manufacture of veneer sheets, plywood, laminboard, particle board, etc.	0.01	2.73	1.61	1.76	0.03	0.52	0.78	0.97
20.3 Manufacture of builders' carpentry and joinery	0.02	0.06	0.03	1.20	0.06	1.18	0.50	0.82
20.4 Manufacture of wooden containers	0.22	0.09	0.59	0.06	0.03	0.24	0.07	0.26
20.5 Manufacture of other products of wood; articles of cork, straw, plaiting materials	1.28	0.69	0.37	0.55	0.03	1.01	0.98	0.76
21.1 Manufacture of pulp, paper and paperboard	0.00	0.01	0.65	1.14	0.00	0.28	0.13	0.46
21.2 Manufacture of articles of paper and paperboard	1.22	0.06	0.70	1.03	0.03	0.09	0.14	0.38
22.1 Publishing	0.21	1.04	0.14	2.82	0.03	0.04	0.68	0.58
22.2 Printing and service activities related to printing	0.19	0.04	0.16	0.43	0.03	0.03	0.30	0.14
23.1 Manufacture of coke oven products	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.06
23.2 Manufacture of refined petroleum products	1.18	0.05	0.53	2.59	0.00	0.35	0.09	0.73
23.3 Processing of nuclear fuel	3.51	0.00	0.00	0.00	0.07	0.00	0.00	0.07
24.1 Manufacture of basic chemicals	0.16	0.51	1.75	2.66	0.10	0.60	1.42	1.16
24.2 Manufacture of pesticides and other agro-chemical products	0.11	0.00	1.42	1.40	0.00	1.51	0.49	1.27
24.3 Manufacture of paints, varnishes and similar coatings, printing ink and mastics	0.00	0.16	0.06	0.18	0.00	0.06	0.38	0.09
24.4 Manufacture of pharmaceuticals, medicinal chemicals and botanical products	0.04	1.19	1.89	6.84	0.05	0.61	0.39	1.83
24.5 Manufacture of soap and detergents, cleaning and polishing preparations, etc.	0.01	0.01	1.12	0.28	0.09	0.10	0.40	0.33
24.6 Manufacture of other chemical products	1.35	1.24	1.74	0.40	0.27	0.26	1.99	0.70
24.7 Manufacture of man-made fibres	0.00	0.00	0.59	0.60	0.19	0.75	1.18	0.65
25.1 Manufacture of rubber products	0.03	0.18	0.45	0.12	0.10	0.47	4.21	0.55
25.2 Manufacture of plastic products	0.32	0.30	0.36	1.21	0.06	0.29	0.29	0.44
26.1 Manufacture of glass and glass products	0.13	0.02	0.36	0.81	0.05	0.73	0.53	0.60
26.2 Manufacture of non-refractory ceramic goods and refractory ceramic products	0.25	0.04	1.88	0.78	0.79	1.64	1.55	1.42
26.3 Manufacture of ceramic tiles and flags	0.00	0.00	4.93	1.81	0.00	0.13	0.53	1.32

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug	SEE-7
26.4 Manufacture of bricks, tiles and construction products, in baked clay	0.00	0.00	0.69	0.35	0.00	0.59	0.00	0.48
26.5 Manufacture of cement, lime and plaster	0.00	0.00	0.82	3.15	0.00	0.38	0.00	0.86
26.6 Manufacture of articles of concrete, plaster and cement	0.65	0.02	0.05	0.22	0.03	0.14	0.02	0.13
26.7 Cutting, shaping and finishing of stone	0.18	0.23	1.30	1.18	1.24	0.62	0.68	0.85
26.8 Manufacture of other non-metallic mineral products	0.02	0.10	0.11	1.29	0.09	0.21	0.44	0.37
27.1 Manufacture of basic iron and steel and of ferro-alloys (ECSC)	0.14	0.02	3.88	0.12	4.20	1.72	1.93	1.92
27.2 Manufacture of tubes	0.02	0.04	0.56	2.02	2.79	1.61	0.99	1.43
27.3 Other first processing of iron and steel	6.56	4.59	0.39	0.02	7.55	0.51	0.32	1.00
27.4 Manufacture of basic precious and non-ferrous metals	0.59	4.73	3.40	0.99	2.42	1.27	3.88	1.90
28.1 Manufacture of structural metal products	0.05	0.34	0.08	0.55	0.22	0.16	0.13	0.21
28.2 Manufacture of tanks, reservoirs and containers of metal; radiators and boilers	0.44	0.42	0.19	0.34	0.11	0.67	2.07	0.56
28.3 Manufacture of steam generators, except central heating hot water boilers	0.01	0.02	0.04	2.53	0.56	0.54	0.02	0.72
28.6 Manufacture of cutlery, tools and general hardware	1.95	2.81	0.71	0.38	0.01	0.43	0.67	0.57
28.7 Manufacture of other fabricated metal products	0.64	0.45	0.42	0.61	0.28	0.49	0.57	0.49
29.1 Manufacture of machinery for the production and use of mechanical power	0.03	0.38	1.44	0.76	0.95	1.25	1.03	1.13
29.2 Manufacture of other general purpose machinery	0.17	0.47	0.93	0.57	0.08	0.36	0.18	0.48
29.3 Manufacture of agricultural and forestry machinery	0.13	0.08	0.22	0.17	0.04	0.34	0.45	0.27
29.4 Manufacture of machine- tools	0.02	0.22	1.64	1.07	0.31	0.87	0.93	0.99
29.5 Manufacture of other special purpose machinery	0.30	0.28	0.39	1.30	0.06	0.42	0.29	0.53
29.6 Manufacture of weapons and ammunition	0.02	34.61	0.67	0.07	0.51	0.05	3.89	1.46
29.7 Manufacture of domestic appliances n.e.c.	0.05	0.01	0.34	0.67	0.04	0.65	0.27	0.52
30.0 Manufacture of office machinery and computers	0.02	0.02	0.03	0.04	0.03	0.33	0.04	0.18
31.1 Manufacture of electric motors, generators and transformers	0.26	0.53	0.42	1.16	0.19	0.77	0.54	0.71
31.2 Manufacture of electricity distribution and control apparatus	0.61	0.03	0.30	0.77	0.04	0.18	0.07	0.29

(Table contd)

(Table contd)

NACE 3-digit manufacturing commodity group	Alb	B&H	Bul	Cro	Mac	Rom	Yug	SEE-7
31.3 Manufacture of insulated wire and cable	0.01	0.00	0.20	0.93	1.92	0.28	0.99	0.48
31.4 Manufacture of accumulators, primary cells and primary batteries	0.00	0.00	0.07	0.01	0.04	0.13	0.06	0.08
31.5 Manufacture of lighting equipment and electric lamps	0.06	0.01	0.45	0.22	0.05	0.44	0.03	0.35
31.6 Manufacture of electrical equipment n.e.c.	0.01	0.06	0.08	0.83	0.00	1.04	0.01	0.67
32.1 Manufacture of electronic valves and tubes and other electronic components	0.01	0.00	0.27	0.04	0.08	0.09	0.02	0.11
32.2 Manufacture of television and radio transmitters, line telephony, line telegraphy	1.39	0.19	0.25	0.24	0.25	0.94	0.28	0.62
32.3 Manufacture of television and radio receivers, sound or video recording	0.05	0.03	0.20	0.02	0.01	0.02	0.03	0.05
33.1 Manufacture of medical and surgical equipment and orthopaedic appliances	0.05	1.77	0.19	0.44	0.24	0.28	0.33	0.33
33.2 Manufacture of instruments and appliances for measuring, checking, testing, etc.	0.08	0.12	0.72	1.57	0.22	0.30	0.68	0.59
33.4 Manufacture of optical instruments and photographic equipment	0.02	0.13	1.69	0.20	0.01	0.39	0.27	0.56
33.5 Manufacture of watches and clocks	0.00	0.00	1.70	1.04	0.08	0.24	0.52	0.64
34.1 Manufacture of motor vehicles	0.04	0.10	0.00	0.05	0.01	0.01	0.01	0.02
34.2 Manufacture of bodies (coachwork) for motor vehicles; trailers and semi-trailers	0.00	0.01	0.13	0.26	0.00	0.31	0.11	0.23
34.3 Manufacture of parts and accessories for motor vehicles and their engines	0.01	0.19	0.08	0.12	0.13	0.26	0.39	0.20
35.1 Building and repairing of ships and boats	0.04	0.00	0.89	0.27	0.00	2.94	2.24	1.78
35.2 Manufacture of railway and tramway locomotives and rolling stock	0.00	0.03	0.15	0.26	0.22	0.74	0.09	0.46
35.3 Manufacture of aircraft and spacecraft	0.32	0.69	4.98	3.68	46.98	1.10	0.29	4.53
35.4 Manufacture of motorcycles and bicycles	0.02	0.21	0.07	0.76	0.00	0.02	0.15	0.16
35.5 Manufacture of other transport equipment n.e.c.	0.00	0.01	0.47	2.47	0.00	0.68	0.02	0.83
36.1 Manufacture of furniture	0.19	0.62	0.35	0.87	0.07	1.30	0.48	0.91
36.2 Manufacture of jewellery and related articles	0.00	0.10	0.79	0.71	0.03	2.31	0.00	1.42
36.3 Manufacture of musical instruments	0.34	0.01	0.33	0.01	0.01	0.89	0.03	0.52
36.4 Manufacture of sports goods	0.06	0.09	0.33	0.63	0.00	1.24	0.28	0.80
36.5 Manufacture of games and toys	1.96	0.08	1.26	0.33	0.00	0.64	0.04	0.65
36.6 Miscellaneous manufacturing	1.11	0.09	0.41	1.29	0.19	0.38	1.04	0.56
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: own calculations on the basis of Eurostat COMEXT data.

Figure 1.1

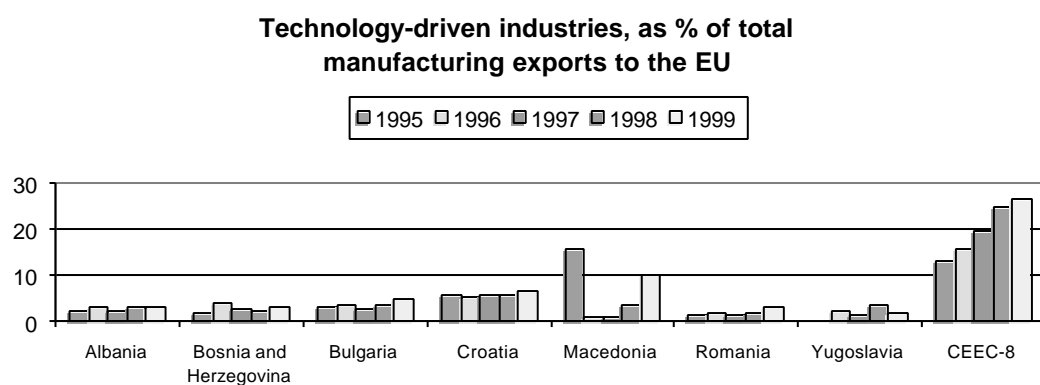


Figure 1.2

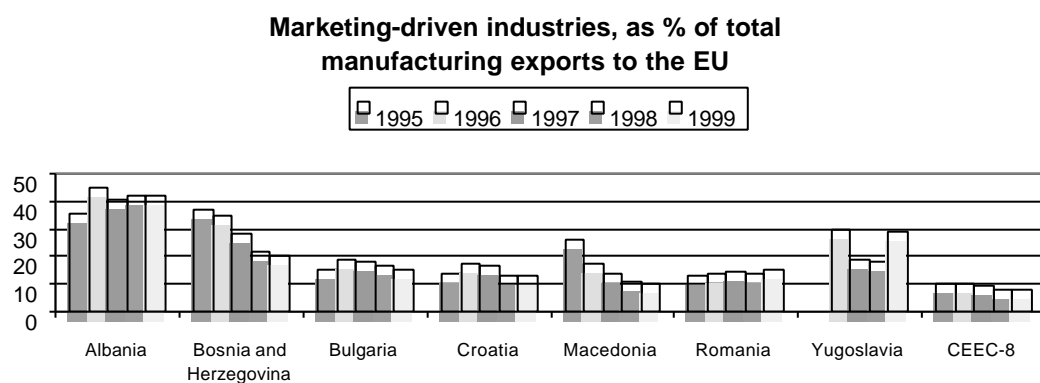


Figure 1.3

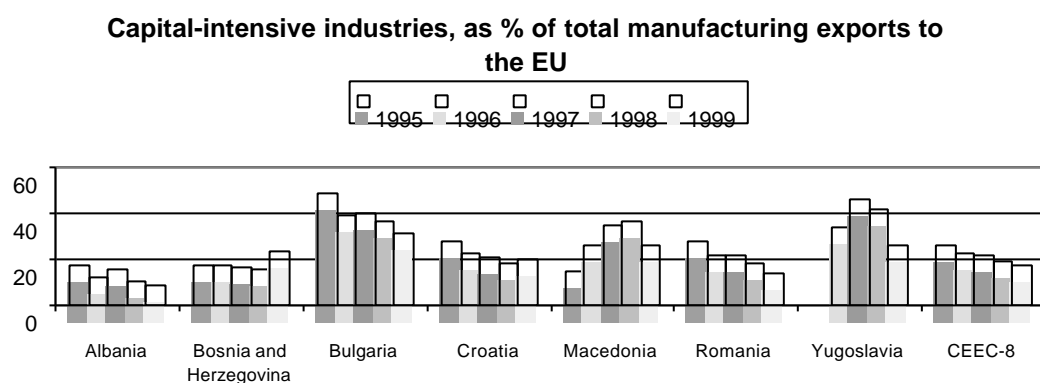


Figure 1.4

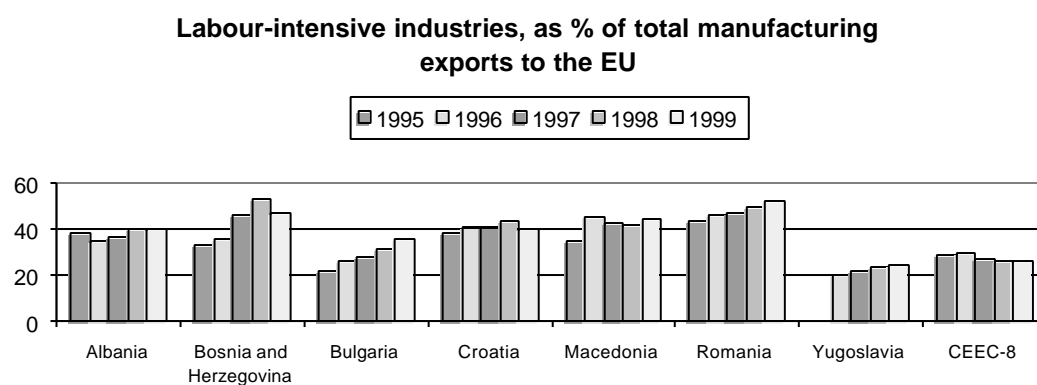


Figure 1.5

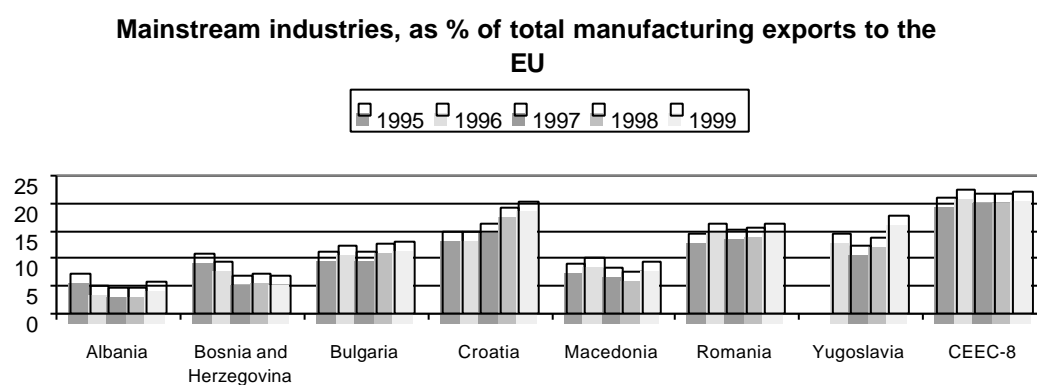


Figure 2.1

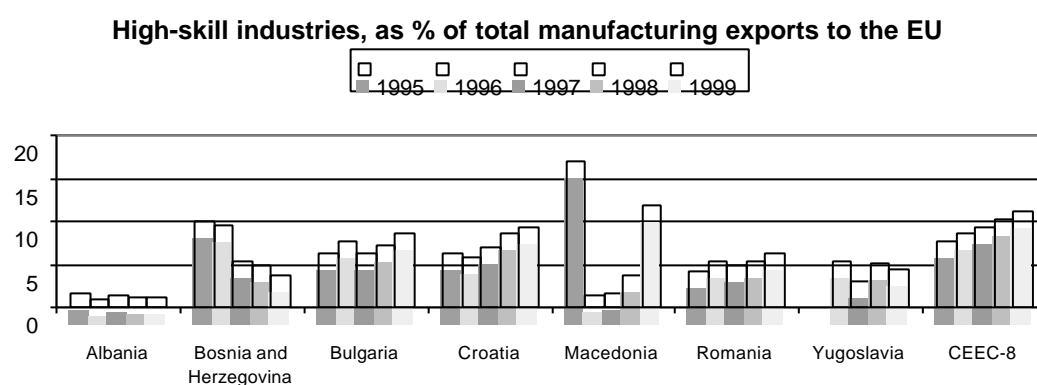


Figure 2.2

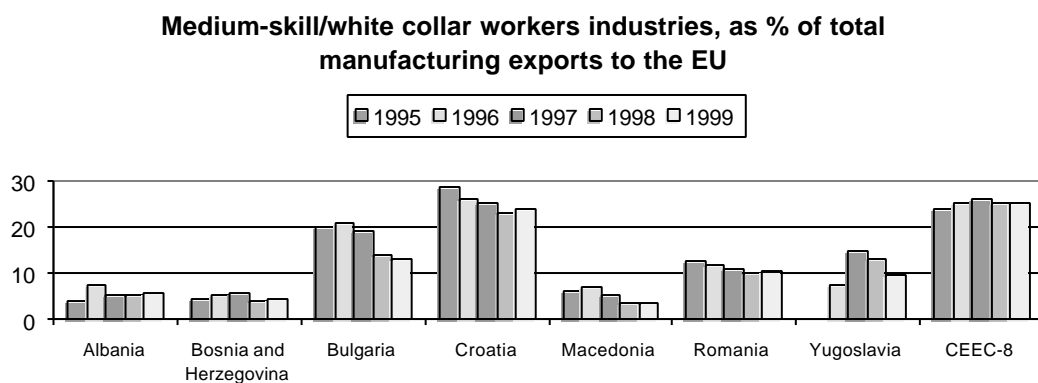


Figure 2.3

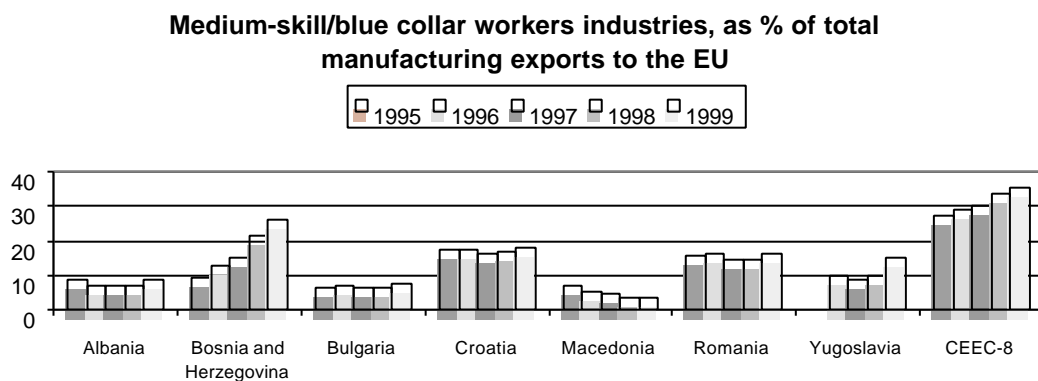


Figure 2.4

