RCAs within Western Europe

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by

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Abstract: This paper analyses the revealed comparative advantage for six European countries: Austria, France, Germany, Italy, the Netherlands and the UK. The results can be summarized as the follows: Italy always had a trade specialisation index which was well above average. Apart from Italy, whose trade performance index decreased substantially, changes in the trade performance index were fairly small. Austria, Germany and the Netherlands faced increasing average RCA-values (but they remain positive), while France, Italy and the United Kingdom faced decreasing average RCA-values. Italy's RCA-value correlated negatively with the other countries (except for the correlation between Italy and France), while the other countries (Austria, France, Germany, the Netherlands and the United Kingdom) faced a positive correlation with each other. The top ten sectors with the highest RCA-value, shared about 50 % of total exports in France, Germany and the Netherlands. In the other three countries, the share was less than 40%. Regarding the top five sectors, specialization can be found only in Germany (>40 %) and the Netherlands (>30 %) whereas in the other countries the share was less than 20%. Germany and the Netherlands were the countries, in which most of the top 10 export sectors in 2005 also had CCA. The other countries had several top 10 export sectors with RCA-indicators significantly below the CCA-benchmarks.

Keywords: Revealed Comparative Advantage, Comparative Cost Advantage, Trade Specialisation

JEL-Classifications: F14

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1. Introduction

Trade theory[4] predicts that a state should concentrate on the export sectors in which it has comparative advantages. Balassa (1965, 1977 and 1986) measured comparative cost advantages (CCA) by using the "revealed comparative advantages" (RCA) approach on trade data. Therefore high exports relative to imports in one sector, might indicate international advantages in this sector, compared to the other sectors. Another indication of cost advantage is the ratio of exports from one sector to total exports from one country, compared to the ratio of exports from the same sector to worldwide total exports. Furthermore, the specialisation process can be captured by certain trade-specialisation indices.

In order to measure the degree of specialisation, we use the Michaely index, and to determine which sectors are the most competitive, we use two different RCA-indices. One index compares net exports to the total sector trade within a country and the other one compares the country export structure to the worldwide export structure. The analysis covers the years 1995 to 2006, and six European Union member countries: Austria, France, Germany, Italy, the Netherlands and the United Kingdom.

Research on the comparative advantages of European countries is surprisingly rare. A reasonable amount of research has been conducted on Asian countries, such as Carolan et al. (1998), Chow (1990), Lee (1986) and Rana (1990). Lutz (1987) analyses the comparative advantage for NICs and developing countries. Research on Europe concentrates mainly on trade between Western and Eastern Europe, including Aturupane et al. (1997), Kaminski (2000), Marques (2002) and Rollo and Smith (1993), even though not all used an RCA-analysis. Cadot et al. (1995) concentrate on three western European countries, namely France, Germany and Italy.

This present paper tries to detect the different RCAs within Western Europe. The results can be summarized as the follows: Italy always had a trade specialisation index which was well above average. Apart from Italy, whose trade performance index decreased substantially, changes in the trade performance index were fairly small.

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[4] See for example the Ricardian theory, the Heckscher-Ohlin-Samuelson theory or the Neo-Factor-Proportion theory.

Austria, Germany and the Netherlands faced increasing average RCA-values (but they remain positive), while France, Italy and the United Kingdom faced decreasing average RCA-values.

Italy's RCA-value correlated negatively with the other countries (except for the correlation between Italy and France), while the other countries (Austria, France, Germany, the Netherlands and the United Kingdom) faced a positive correlation with each other.

France and the UK were the only ones facing a decreasing number of sectors with CCA between 1996 and 2005. Austria, however, revealed new sectors with CCA in 2005, unlike the situation in 1996.

The top ten sectors with the highest RCA-value, shared about 50 % of total exports in France, Germany and the Netherlands. In the other three countries, the share was less than 40%. Regarding the top five sectors, specialization can be found only in Germany (>40 %) and the Netherlands (>30 %) whereas in the other countries the share was less than 20%. Germany and the Netherlands were the countries, in which most of the top 10 export sectors in 2005 also had CCA. The other countries had several top 10 export sectors with RCA-indicators significantly below the CCA-benchmarks.

The paper proceeds as follows. We start with an introduction of the methodology and then describe the dataset in Sections 2 and 3. Section 4 covers the specialisation index, while Section 5 deals with revealed comparative advantages. Section 6 concludes.

2. Methodology

This paper uses two methodologies. The first is the Michaely index (Amable, 2000) which captures the degree of trade specialisation. The other methodology consists of two simple RCA indices, the RCA 1 index (Balassa (1986)) and the RCA 2 index (Balassa (1965, 1979)).[5]

The Michaely index is calculated as:

$$I = \left(\frac{1}{2}\right)\sum_{i=1}^{n}\left|\frac{X_i}{\sum_i X_i} - \frac{M_i}{\sum_i M_i}\right|, \qquad \qquad \textbf{1)}$$

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[5] For RCA indices see also Vollrath (1991).

where X_i and M_i are the exports and imports from Sector i in a given year. The Michaely index is rather traditional, with values between zero and one. A value close to zero indicates a small degree of specialisation, fairly higher diversification within a certain sector or sectors, while a value closer to one indicates a greater degree of specialisation within a certain sector or sectors.

The RCA 1-index is calculated as:

$$\mathrm{RCA}_i\,1 = \left[\frac{X_i - M_i}{X_i + M_i} \right], \qquad \textbf{2)}$$

where i stands for the export (X) or import (M) sector i. The RCA 1-index therefore compares net exports with total sector trade volume. The RCA 1-values are calculated as an average over three years. Therefore, the RCA 1-value for the year k is the average of the RCA 1-values for $k\text{-}1$, k and $k\text{+}1$. The values can range between -1 and 1. An RCA 1-value of -1 therefore indicates that the country is only importing goods from this sector and that there are no exports (from this sector). An RCA 1-value of 1 therefore indicates that the country only exports goods from this sector, and does not import anything. An RCA 1-value close to one indicates that the sector has a high export surplus relative to the total trade volume within this sector. This can be interpreted as CCA. However, the RCA 1-value provides no indication at all of the importance of the sector. This is done through the RCA 2-index.

The RCA 2-index is calculated as:

$$RCA_i\,2 = \left[\frac{\dfrac{X_{ij}}{\sum\limits_i X_{ij}}}{\dfrac{\sum\limits_j X_{ij}}{\sum\limits_i \sum\limits_j X_{ij}}} \right], \qquad 3)$$

where X_{ij} are the exports from Sector i for Country j. Therefore, the RCA_i 2-index calculates the ratio of Sector i exports from Country j to total country exports in relation to the aggregate Sector i export in relation to aggregate total exports. The aggregate

exports consist of the exports from twelve European countries, namely Austria, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. These countries were chosen in order to determine whether the six countries analysed have comparative advantages compared to the other European countries.

The RCA 2-index does not consider imports. Therefore, it is possible for a country to have a sector with a high RCA 2-value, even though this country imports more goods from this sector than it exports. The RCA 2-index ranges between 0 and ∞. An RCA 2-value between 1 and 0 indicates that this sector contributes a smaller share to the country exports, than the aggregate level for all sectors. An RCA 2-value from 1 to ∞ indicates that exports from this sector are dominant for the country, while the exports are less important at the aggregate level.

3. Data and Countries

The 4-digit ISIC data, which contains the annual volume of exports and imports, are taken from the UNIDO[6] and aggregated from 81 manufacturing sectors into 31 sectors, as done by Bender and Li (2002). The analysis covers only the period 1995 to 2006. Table 1 shows how the aggregated 31 sectors are structured.

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[6] The Industrial Demand-Supply Balance Database can be purchased directly from the UNIDO (www.unido.org).

Table 1: Classification of Manufacture Sectors

No.	Name	No.	Name
1	Food	17	Tyre and tube industry, manufacture of rubber products
2	Animal Food	18	Manufacture of plastic products
3	Beverages	19	Manufacture of pottery, china and earthenware
4	Tobacco	20	Manufacture of glass and glass products
5	Textiles	21	Non-metallic mineral products
6	Apparel	22	Iron and steel
7	Leather and Fur	23	Non-ferrous metal
8	Footwear	24	Metal castings and fabricated metal products
9	Wood processing	25	Machinery & equipment
10	Furniture	26	Special office, computing and accounting machinery
11	Paper converting	27	Manufacture of electrical industrial machinery and apparatus
12	Printing	28	Entertainment, communications and domestic electrical products
13	Chemicals excluding pharmaceuticals	29	Transport equipment and vehicle/transport construction
14	Pharmaceuticals, paints and lacquers	30	Manufacturing of precision and optical instruments (equipment, clocks, etc.)
15	Petroleum refineries	31	Other manufacturing (jewellery, musical instruments, sporting goods, etc.)
16	Manufacture of products of petroleum and coal		

The countries chosen are: Austria, France, Germany, Italy, Netherlands and the UK. France, Germany, Italy and the Netherlands are founding members of the European Union (EU). The UK joined the EU in 1973 and Austria entered the EU in 1995. France, Germany, Italy, the Netherlands and the UK were chosen, because they are the five largest exporters in the EU. The EU's ninth largest exporter, Austria, is admitted, since it is one of the newest members of the EU. Accordingly, this analysis facilitates a comparison of the founding members with a country that joined the EU in 1973 and with one that joined in 1995. Furthermore, it might also be worthwhile to determine the extent to which the major export countries differ from a rather small one.

4. Trade Specialisation Index (Michaely Index)

With respect to the *trade specialisation index*, it is obvious that, even though its index is decreasing, Italy had the highest specialization index of all countries in the sample.

While, in 1996, the average index of the remaining five countries had a value of 0,14, the Italian index had a value of 0,29 and was, therefore, more than twice as high. Even though the Italian index decreased to a value of 0,24 in 2006, the index was still 1,7 times higher than the average index of the remaining five countries, with, once again, a value of 0,14.

Figure 1: Trade Performance Index (including Italy)
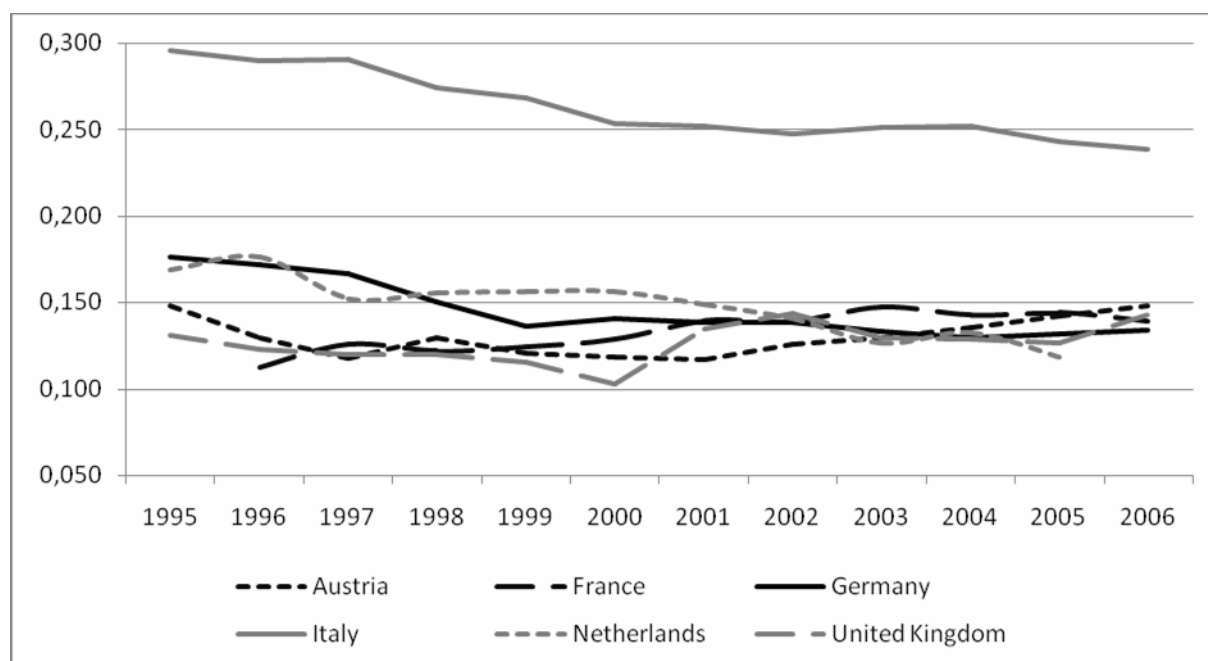
By removing Italy from the analysis, Figure 2 allows us to take a closer look at the development of the trade performance index of the five remaining countries. It can be seen that the gap between the countries with the highest index and those with the lowest index, decreased between 1995 and 2006. While, in 1995, the trade performance index had a variance of 0,000423, this decreased to 0,000037 in 2006. Small differences in export performance indices are to be expected, as developed countries produce a multiplicity of products.[7]

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[7] See Amable (2000).

Figure 2: Trade Performance Index (without Italy)
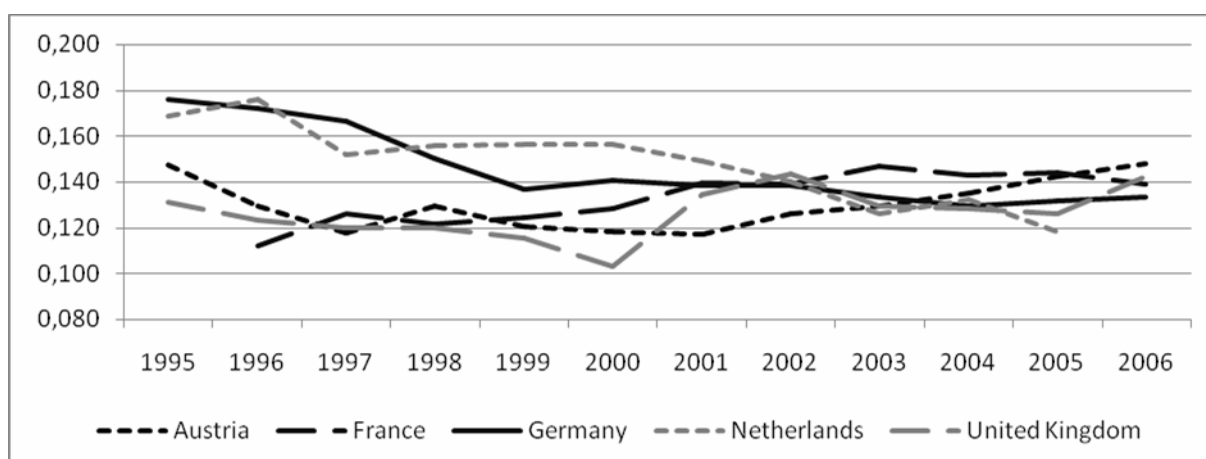
It is also noticeable that the order of countries in terms of the value of their index has, in some cases, changed dramatically. In 1995, Germany had the highest value and therefore, the highest degree of trade specialisation (behind Italy), while in 2006, Germany had the lowest value and therefore the lowest degree of trade specialisation.[8] On the other hand, the United Kingdom had the second lowest value for trade specialization in 1996, rising to the second highest value in 2006. Due to the fact that the differences between the countries have decreased, only small changes in exports and imports were necessary to change the rank order. The results for 2006 are, however, nothing more than a snap-shot and do not reveal structural results, in contrast to 1995, when greater changes were necessary in order to change the rank order.

5. RCA

Using the average RCA-values, it is striking that only two countries (Italy and Germany) had a positive value most of the time. Nonetheless, the value has developped differently. In 1996, Italy had an average RCA-value of 0,15 and this value decreased to 0,11 in 2005. Germany started with a negative value of -0,003 in 1996, but turned positive to 0,002 in 1997 and increased to 0,08 by 2005. Besides Italy and Germany, there was only one other country, the Netherlands, which had a positive value by 2005. Until 2003, the Netherlands had a negative average value and they first started having a postive value of 0,001 in 2003. By 2005, the positive value rose to 0,02.

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[8] Notice that for France data for 1995 and 2006 were not available.

All three other countries remained with a negative average value. While Austria was able to raise the negative average value from -0,12 to -0,03, in France and the United Kingdom, the average values even accelerated.

Figure 3: Average RCA 1-Values
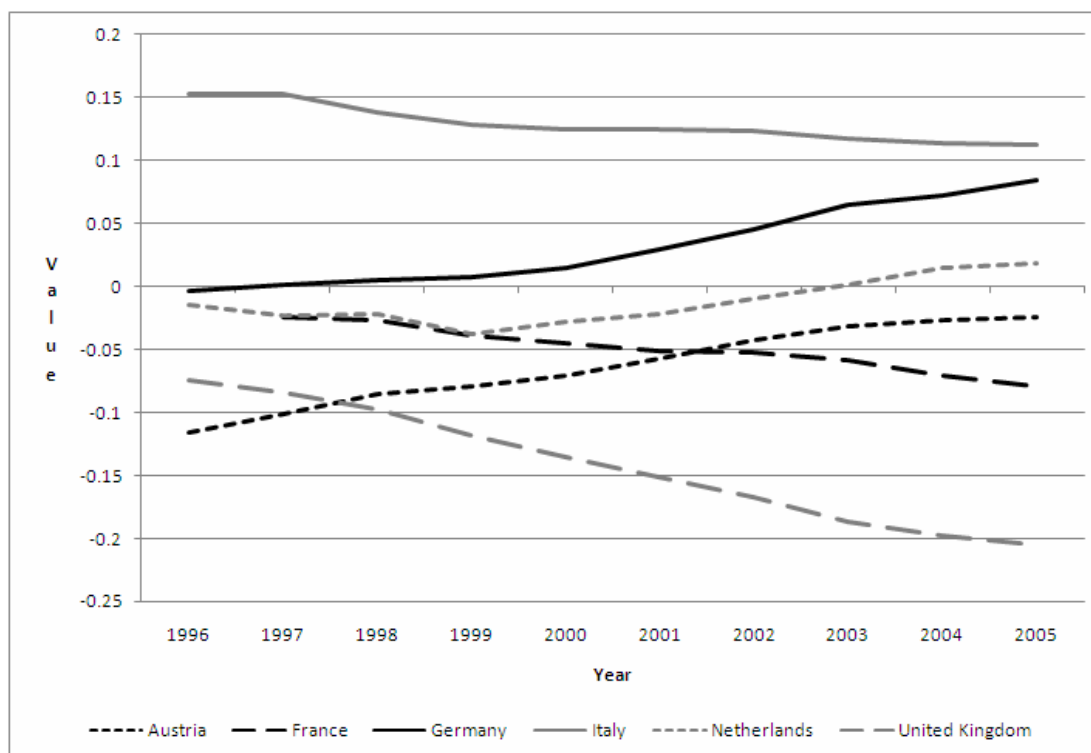
Figure 4 shows the trade balance as a percentage of the total trade volume. By so doing, we determine whether the performance of the average RCA 1-values were rougly the same as the trade balances or not. In 1996, Italy had the highest value, which subsequently decreased to become the third highest by 2005. This development was consistent with the decreasing average RCA 1-value of Italy. The fact that Germany had an increasing average RCA 1-value is also reflected by the increasing trade balance. The development of Austria, with respect to the average RCA 1-value and the trade balance as a percentage of the total trade volume, was almost parallel. Even though France had a negative average RCA 1-value, the trade balance as a percentage of the total trade volume was positive most of the time, but, in both cases, the development was downward sloping. The value for the United Kingdom was in a similar manner to the RCA 1-value negative and generally downward sloping. The United Kingdom traditionally had a negative trade balance.[9]

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[9] See Office for National Statistics, UK. Ultimately the balance of trade of the United Kingdom was positive in 1982.

Figure 4: Trade Balance as Percentage of Total Trade
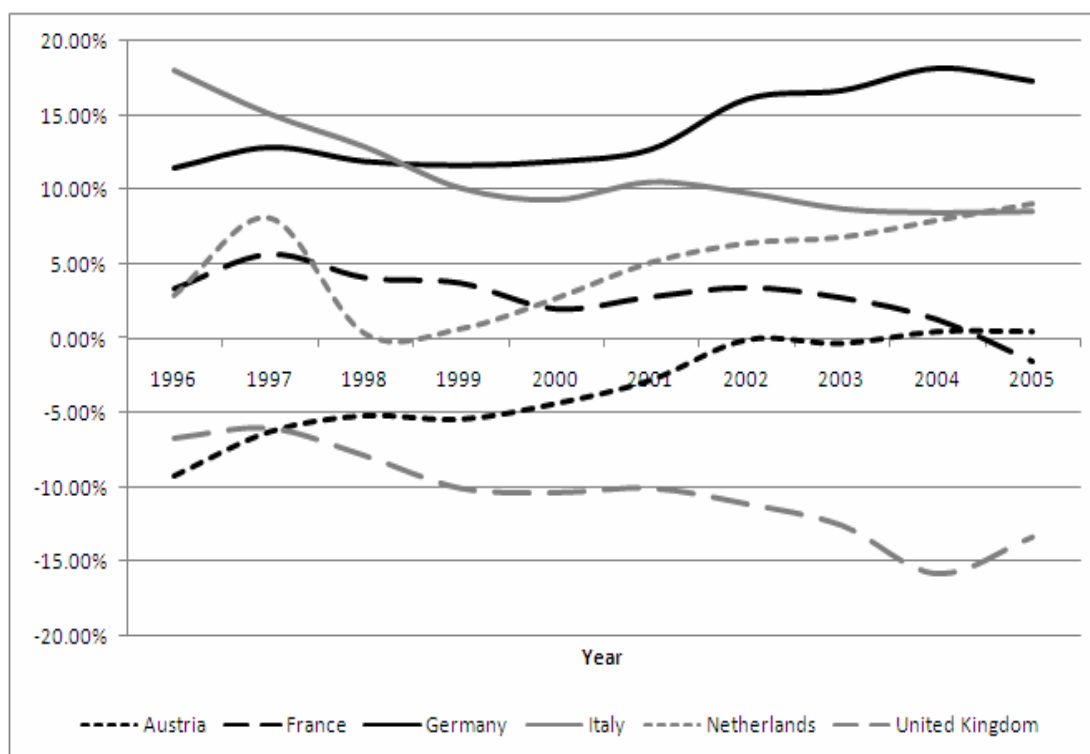
Comparing the Average RCA 1-values with the average RCA 2-values (Figure 5), it is evident that Italy was again in front and, unlike the average RCA 1-values, the average RCA 2-values have increased between 1996 and 2005. Austria again faced increasing RCA-values. For France and the United Kingdom, almost no change had occurred. Between 1996 and 1997, the average RCA 2-values for the Netherlands and Germany have increased, but, while for Germany, the average RCA 2-value has remained almost constant from 1997 on, it decreased for the Netherlands. It is notable that Germany had the lowest average RCA 2-values, while having the second highest RCA 1-value. Austria, the Netherlands and Italy were the only countries with RCA 2-values above 1. Italy repeated its position as the most specialised country. Regarding Austria and the Netherlands, their size must be taken into account. As the smallest of the analysed countries, their home market is not as receptive for their own goods, as is the case for the larger countries.[10]

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[10] Balassa (1965), S, 107.

Figure 5: Average RCA 2-Values
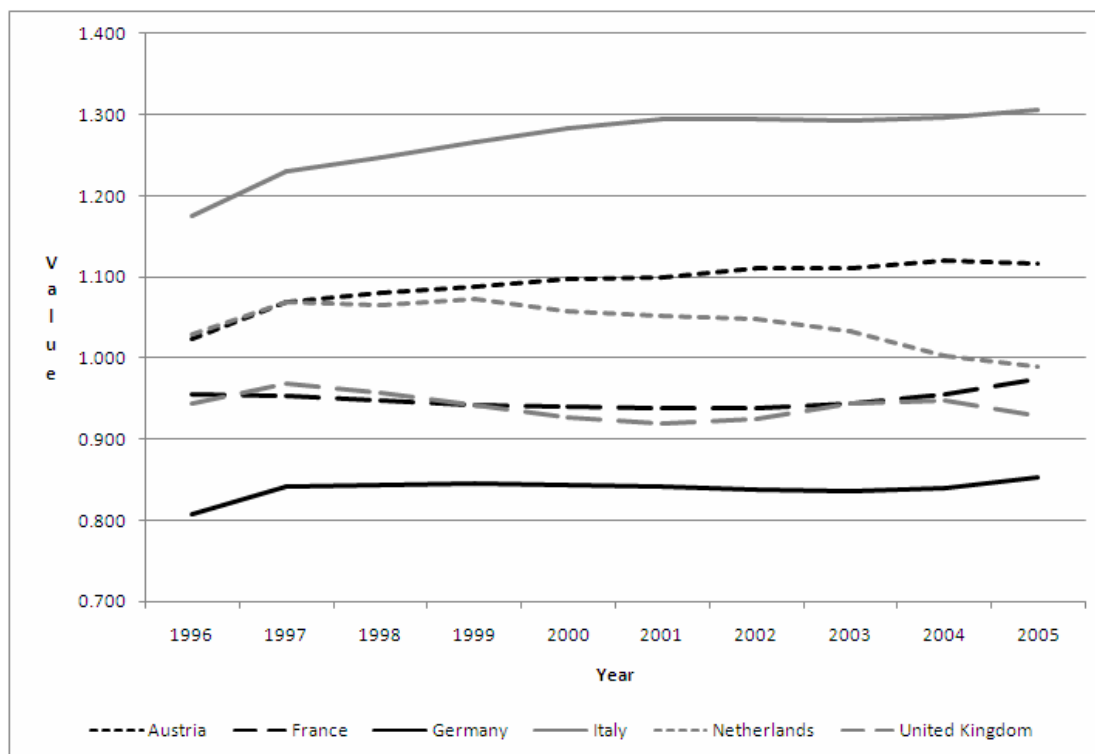
After looking at the average RCA-values of each individual country, it is also useful to determine the extent to which the average RCA-values of the countries depend on each other. Table 2 presents the correlation matrix of the average RCA 1-values between the countries. It is interesting to note that the correlation between Italy and all the other states besides France was negative and ranges between -0,198 and -0,528. This may indicate that Italy had different trade patterns to those of the other countries, apart from France. If all corresponding four countries gained a comparative advantage in a certain sector, Italy lost it, sharing only a common development with France.

Table 2: Correlation of RCA 1-Values

	Austria	Germany	France	Italy	Netherlands	UK
Austria	1,000					
Germany	0,281	1,000				
France	0,185	0,095	1,000			
Italy	-0,198	-0,271	0,194	1,000		
Netherlands	0,050	0,348	0,075	-0,528	1,000	
United Kingdom	0,067	0,631	0,094	-0,239	0,623	1,000

The greatest correlation was between the United Kingdom and the Netherlands (0,623) as well as between the United Kingdom and Germany (0,631). The smallest positive correlation was between the Netherlands and Austria (0,050), and the United Kingdom and Austria (0,067). Therefore, it is not surprising that, after Italy (-0,208), Austria had the lowest correlation coefficient at 0,077. The Netherlands (0,114), France (0,128), Germany (0,217) and the United Kingdom (0,235) followed.

Table 3 presents the correlation of the average RCA 2-values between the countries. In most cases, the correlation was negative. Only France with Austria (0,027) and the United Kingdom (0,150), as well as the United Kingdom with Germany (0,108) and the Netherlands (0,306), the latter also being the highest positive correlation, had a positive correlation with each other. Italy had a negative correlation with all other countries and the correlation of Italy with France (-0,493) was the most negative correlation. The general correlation of one country with all the others, was negative in all cases. Italy (-0,323) had the most negative general correlation, followed by Austria (-0,186), the Netherlands (-0,151), Germany (-0,090), France (-0,082) and the United Kingdom (-0,037).

Table 3: Correlation of RCA 2-Values

	Austria	Germany	France	Italy	Netherlands	UK
Austria	1,000					
Germany	-0,118	1,000				
France	0,027	-0,050	1,000			
Italy	-0,058	-0,233	-0,493	1,000		
Netherlands	-0,393	-0,115	-0,083	-0,472	1,000	
United Kingdom	-0,388	0,108	0,150	-0,360	0,306	1,000

Before looking at the RCA 1- and RCA 2-values of each individual country, we show the five sectors with the highest export share for each country, as well as the aggregate level. This is done in Table 4, Table 5 and Table 6.

Table 4: Best Export Sectors 1996

No.	Austria		France		Germany	
	Name	ES %	Name	ES %	Name	ES %
1	Transport equipment and vehicle /transport construction	15,20	Transport equipment and vehicle /transport construction	19,61	Transport equipment and vehicle /transport construction	20,90
2	Special office, computing, accounting machinery	13,66	Special office, computing, accounting machinery	11,44	Special office, computing, accounting machinery	16,33
3	Entertainment, Communications and Electrical housewares	6,66	Chemicals including pharmaceuticals	8,81	Chemicals including pharmaceuticals	9,14
4	Paper Converting	6,41	Entertainment, Communications and Electrical housewares	8,58	Entertainment, Communications and Electrical housewares	8,45
5	Metal castings and fabricated metal products	6,05	Pharmaceuticals, Paints, Lacquers	6,85	Pharmaceuticals, Paints, Lacquers	4,23

No.	Italy		Netherlands		United Kingdom	
	Name	ES %	Name	ES %	Name	ES %
1	Special office, computing, accounting machinery	18,17	Special office, computing, accounting machinery	14,63	Special office, computing, accounting machinery	17,99
2	Transport equipment and vehicle /transport construction	10,89	Chemicals excluding pharmaceuticals	13,54	Transport equipment and vehicle /transport construction	14,3
3	Textiles	7,30	Food	12,29	Entertainment, Communications and Electrical housewares	10,8
4	Metal Castings and fabricate metal products	5,43	Entertainment, Communications and Electrical housewares	7,26	Chemicals excluding pharmaceuticals	7,04
5	Entertainment, Communications and Electrical housewares	5,15	Transport equipment and vehicle /transport construction	7,26	Pharmaceuticals, Paints, Lacquers	6,89

We can readily see that in all six countries, the sector "special office, computing, accounting machinery" was either at position one or two. In five of the six countries, the sector "transport equipment and vehicle / transport construction" was either at position one or two. Only in the Netherlands was this sector at position five.

Table 5: Best Export Sectors (aggregate level)

No.	1996		2005	
	Name	ES %	Name	ES %
1	Transport equipment and vehicle / transport construction	16,81	Transport equipment and vehicle / transport construction	18,84
2	Special office, computing, accounting machinery	14,49	Special office, computing, accounting machinery	13,67
3	Entertainment, Communications and Electrical housewares	8,20	Entertainment, Communications and Electrical housewares	8,20
4	Chemicals excluding pharmaceuticals	7,40	Chemicals excluding pharmaceuticals	7,23
5	Food	5,38	Pharmaceuticals, Paints, Lacquers	6,90

The results for (almost) each of the six countries held true at the aggregate level. The sectors "transport equipment and vehicle / transport construction" as well as "special office, computing, accounting machinery" were the two dominant export sectors.

Table 6: Best Export Sectors 2005

No.	Austria		France		Germany	
	Name	ES %	Name	ES %	Name	ES %
1	Transport equipment and vehicle /transport construction	18,56	Transport equipment and vehicle /transport construction	23,81	Transport equipment and vehicle /transport construction	23,97
2	Special office, computing, accounting machinery	13,61	Pharmaceuticals, Paints, Lacquers	9,75	Special office, computing, accounting machinery	15,34
3	Entertainment, Communications and Electrical housewares	7,84	Special office, computing, accounting machinery	9,44	Entertainment, Communications and Electrical housewares	9,13
4	Iron and Steel	5,79	Entertainment, Communications and Electrical housewares	7,97	Chemicals excluding pharmaceuticals	7,83
5	Metal Castings and fabricated metalproducts	5,66	Chemicals excluding pharmaceuticals	7,30	Pharmaceuticals, Paints, Lacquers	6,07

No.	Italy		Netherlands		United Kingdom	
	Name	ES %	Name	ES %	Name	ES %
1	Special office, computing, accounting machinery	16,90	Special office, computing, accounting machinery	17,70	Transport equipment and vehicle /transport construction	15,85
2	Transport equipment and vehicle /transport construction	11,53	Chemicals excluding pharmaceuticals	12,84	Entertainment, Communications and Electrical housewares	14,56
3	Textiles	5,51	Entertainment, Communications and Electrical housewares	11,29	Special office, computing, accounting machinery	13,14
4	Metal Castings and fabricated metalproducts	5,51	Food	8,76	Pharmaceuticals, Paints, Lacquers	9,57
5	Pharmaceuticals, Paints, Lacquers	5,32	Petroleum	7,12	Chemicals excluding Pharmaceuticals	7,90

We now consider the sectors with the highest RCA-values in each country. The sectors chosen were one of the best performing RCA-sectors, either in 1996 (1997 for France) or in 2005. Starting with Austria, we can see from Figure 6, that sector "Wood processing" (=9) was the best sector in 1996. Even though this sector was able to increase its RCA-value from 0,336 to 0,449, in 2005, it had only the second highest RCA-value, because the sector "Beverages" (=3) increased its RCA-value from 0,218 to 0,577 and, in 2005, was the sector with the highest RCA-value in Austria. The sector "Paper converting" (=11) has declined from second to fourth place. "Tobacco" (=4) has retained its third place. "Manufacture of glass and glass products" (=20) was number six in 1995 and number five in 2005. The sector "Iron and steel" (=22) was number five in 1995 and number seven in 2005.

It is noticeable that the average RCA 1-value of the three best performing sectors was 1995 in 0,287 and 0,481 in 2005. This is also confirmed by the chart. While in 1995, all sectors were rather close together in terms of RCA 1-values, in 2005, a gap emerged between the best three performing sector and the rest. This indicates that Austria has increased its competitive in three sectors more than in the remaining ones. The results for the six sectors shown correspond to the general result that, between 1996 and 2005 Austria is characterised by a slight increase in the average RCA-value.

Figure 6: Highest RCA 1-Values Austria
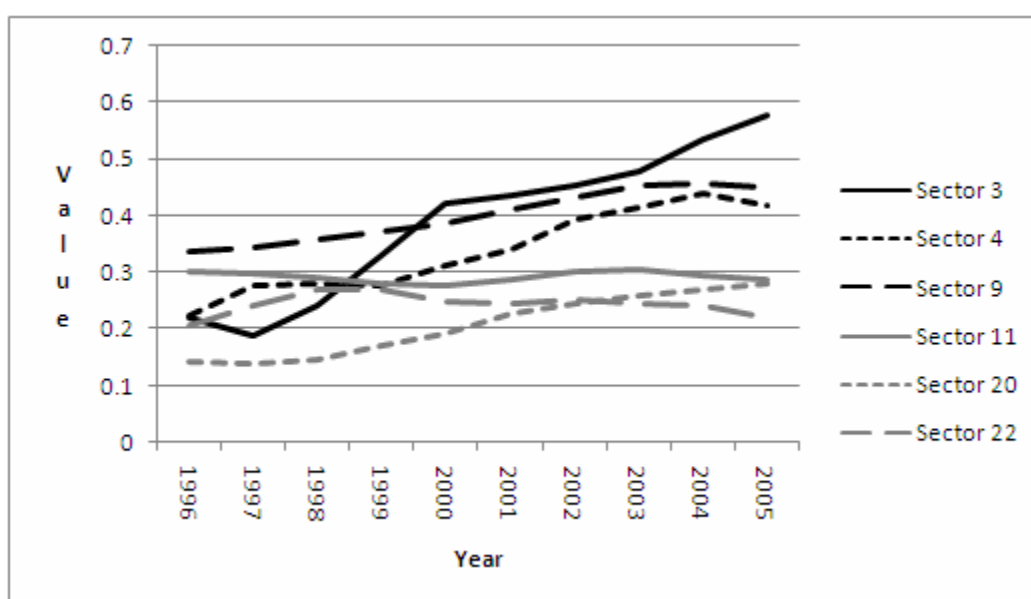
The highest RCA 2-values present another important result. The sectors "Wood processing" (=9), "Paper converting" (=11), "Manufacture of glass and glass products" (=20) and "Iron and steel" (=22), which had high RCA 1-values, also had high RCA 2-values. Sectors which had high RCA 2-values, but not such a high RCA 1-value, were "Metal castings and fabricated metal products" (=24) and "Machinery and equipment" (=25). "Wood processing" (=9) had an RCA 2-value between twice and three times higher than the next top export sectors. The RCA 2-value of the sector "Wood processing" (=9) was the second highest among the six countries. An RCA 2-value of 3.7 means that "wood processing" (=9) contributes 3,7 times more to Austrian exports than it does to aggregate exports.

Figure 7: Highest RCA 2-Values Austria
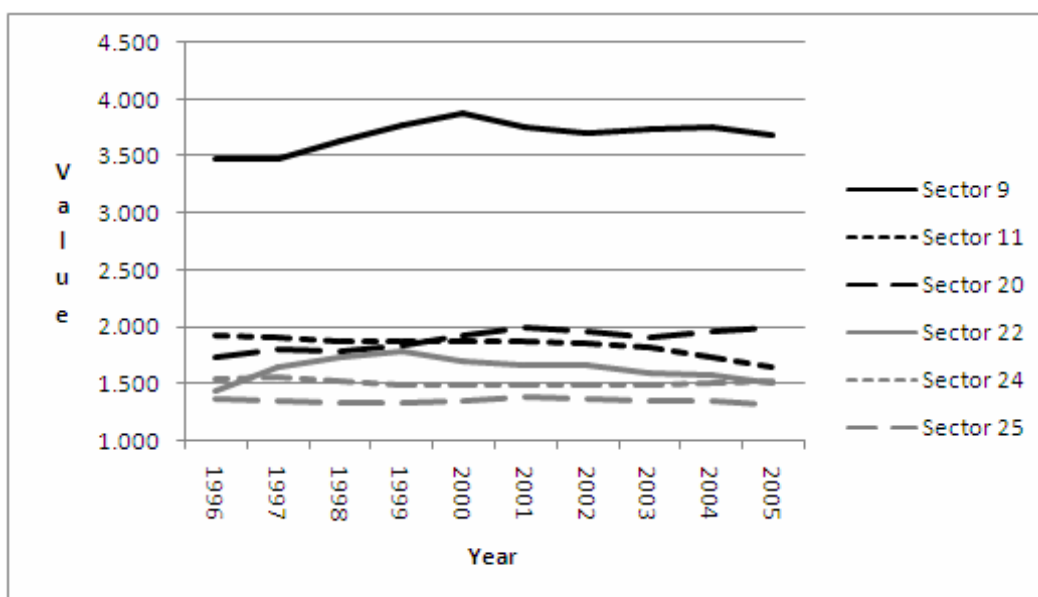
Figure 8 shows the sectors with the highest RCA 1-values for France. The results are quite different from the Austrian results. With respect to the RCA 1-value, the sector "Beverages" (=3) had an outstanding position. Between 1996 and 2005, France exported between 370 % and 470 % more beverages than it imported. As will be shown in due course, besides Austria, this sector also had a relative high RCA-value in Italy, the Netherlands and the United Kingdom. In Germany, by contrast, "Beverages" (=3) performed relatively poorly.

Figure 8: Highest RCA 1-Values France
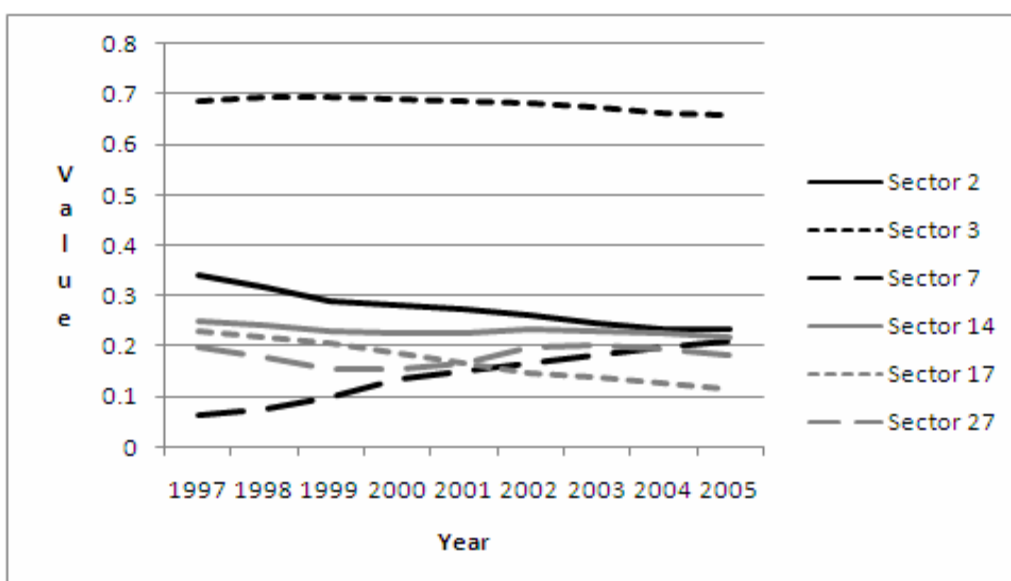
The sector "Animal Food" (=2) and "Pharmaceuticals, Paints, Lacquers" (=14) maintained their second and third positions, even though they faced decreasing RCA 1-

values. "Tyre and tube industries, manufacture of rubber products" (=17) and "Manufacture of electrical industrial machinery and apparatus" (=27) had decreasing RCA 1-values from 0,230 to 0,114 and from 0,198 to 0,183 respectively. The sector "Leather and Fur" (=7) faced increasing RCA-values from 0,063 to 0,210, but was still far removed from the best performing sector 2.

Figure 9 shows the highest RCA 2-values for France. The results are similar to the highest RCA 1-values. "Beverages" (=3) was again the sector with the highest value and was again well above the following sectors. The exports from the sector "Beverages" (=3) was around 2.5 times more important for France than it was for the aggregate level. Furthermore, the situation was the same with the RCA 2-value, as it was with the RCA 1-value, that the sector "Animal food" (=2) has lost some of his competitiveness, while "Leather and Fur" (=7) has gained. Only one change occurred in the sectors. The sector "Manufacture of electrical industrial machinery" (=27) was replaced by "Manufacture of glass and glass products" (=20).

Figure 9: Highest RCA 2-Values France
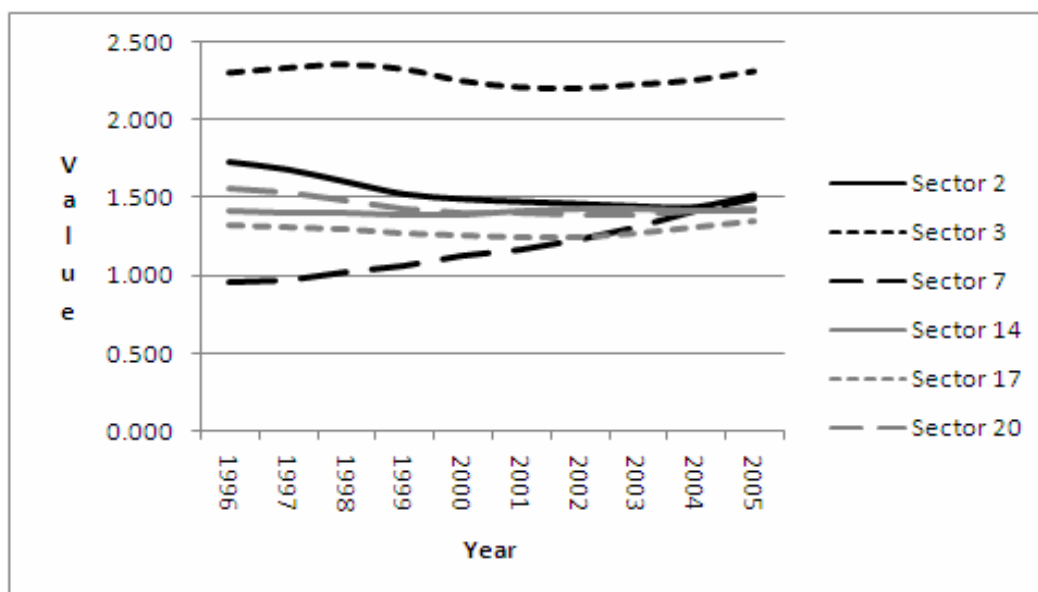
Figure 10 presents the highest RCA 1-values for Germany. For 1996, the top RCA 1-sectors were fairly close together, but the development diverged. The ratio between the sectors "Tobacco" (=4) and "Special office, computing, accounting machinery" (=26) was 1,418 (=0,380/0,268) and increased to 1,878 (=0,524/0,279) 2005. Germany exported between 100 % and 260 % more tobacco products than it imported over the sample period. While the average RCA 1-value increased only from 0,328 to 0,360 between 1996 and 2005, the variance increased from 0,002 to 0,008. The re-

sults were similar to those for Austria. At the beginning of the sample period, all sectors were rather close together and at the end of the regarded period one sector (sector 4) was clearly at the top, a group of three sectors ("Printing" (=12), "Machinery and equipment" (=25) and "Transport equipment and vehicle/transport construction" (=29)) followed by RCA-values of 0,380, 0,363 and 0,325 in 2005 and, in the last position, we have two sectors ("Special office, computing, accounting machinery" (=26) and "Manufacture of electrical industrial machinery and apparatus" (=27)) with RCA-values of 0,279 and 0,279 for 2005.

Figure 10: Highest RCA 1-Values Germany
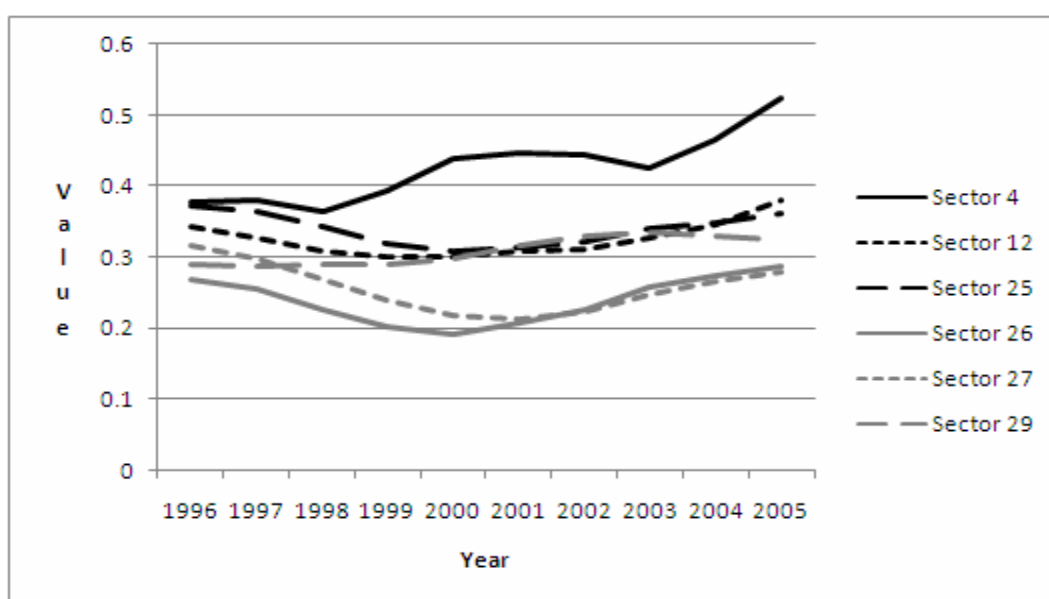
Four sectors ("Machinery and equipment" (=25), "Special office, computing, accounting machinery" (=26), "Manufacture of electrical industrial machinery and apparatus" (=27) and "Transport equipment and vehicle/transport construction" (=29)) which had a high RCA 1-Value also had a high RCA 2-value (see Figure 10). The sectors "Chemicals excluding pharmaceuticals" (=13) and "Manufacture of precision and optical instruments" (=30) had a high RCA 2-value, but not such a high RCA 1-value, relative to the other sectors in Germany. It is notable that the top sector in Germany reached the highest RCA 2-value in 2000 with 1,331. This value was way below the top RCA 2-value of the other countries, whose top RCA 2-sectors had at least an RCA 2-value of more than 2,000. The Netherlands even had a top RCA 2-value of 4,781 in 1999.

Figure 11: Highest RCA 2-Values Germany
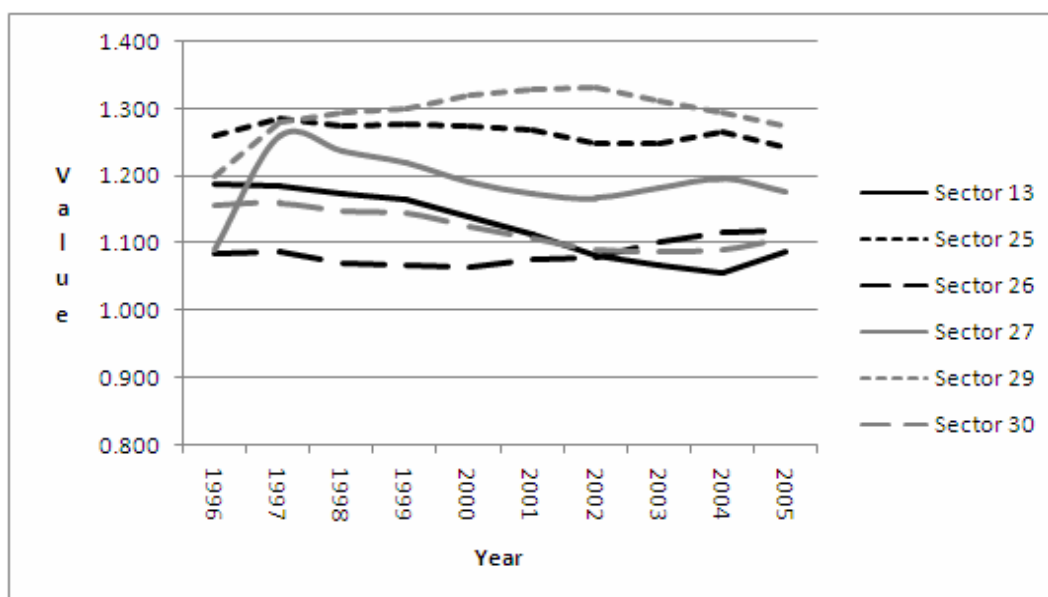
Figure 12 presents the RCA 1-results for Italy. The fact that the average RCA 1-values for Italy decreased over time also helds true for the sectors with the highest RCA 1-values. Sector "Furniture" (=10) and the sector "Non-metallic mineral products" (=21) had RCA 1-values of 0,845 and 0,739 in 1995, but by 2005, the RCA 1-values decreased to 0,667 and 0,639. The strongest decrease was recorded for the sector "Footwear" (=8) which fell from an RCA 1-value of 0,632 (3rd rank) in 1996, to an RCA 1-value of 0,366 (6th rank) in 2005. Also, the RCA 1-value of the sector "Metal castings and fabricated metal products" (=24) decreased between 1996 and 2005, from 0,573 to 0,502. The RCA 1-Values of the sector "Beverages" (=3) and "Machinery and equipment" (=25) remained almost constant (0,542 → 0,551 and 0,423 → 0,431). In summary, four of the top six sectors faced decreasing RCA 1-values, two sectors almost constant RCA 1-values and none experienced increasing RCA 1-values.

Figure 12: Highest RCA 1-Values Italy
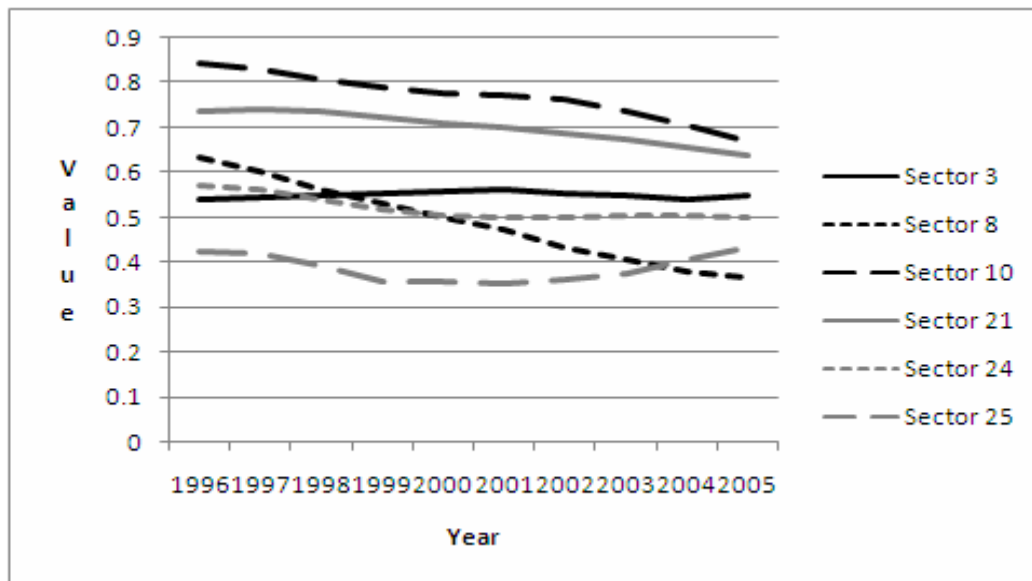
Regarding the RCA 2-values for Italy, the top two sectors had almost equal RCA 2-values and were well above the subsequent sectors. The RCA 2-values of the sectors "Leather and Fur" (=7) and "Footwear" (=8) were amongst the highest RCA 2-values of the six countries outperformed only by sector "Wood processing" (=9) in Austria and definitely by sector "Tobacco" (=4) in the Netherlands. While the sectors "Furniture" (=10) and "Non-metallic mineral products" (=21) more or less maintained the RCA 2-value, the RCA 2-value of the sector "Apparel" (=6) increased, while that of the sector "Other Manufactures (jewellery, musical instruments, sporting goods, etc.)" (=31) decreased.

Figure 13: Highest RCA 2-Value Italy
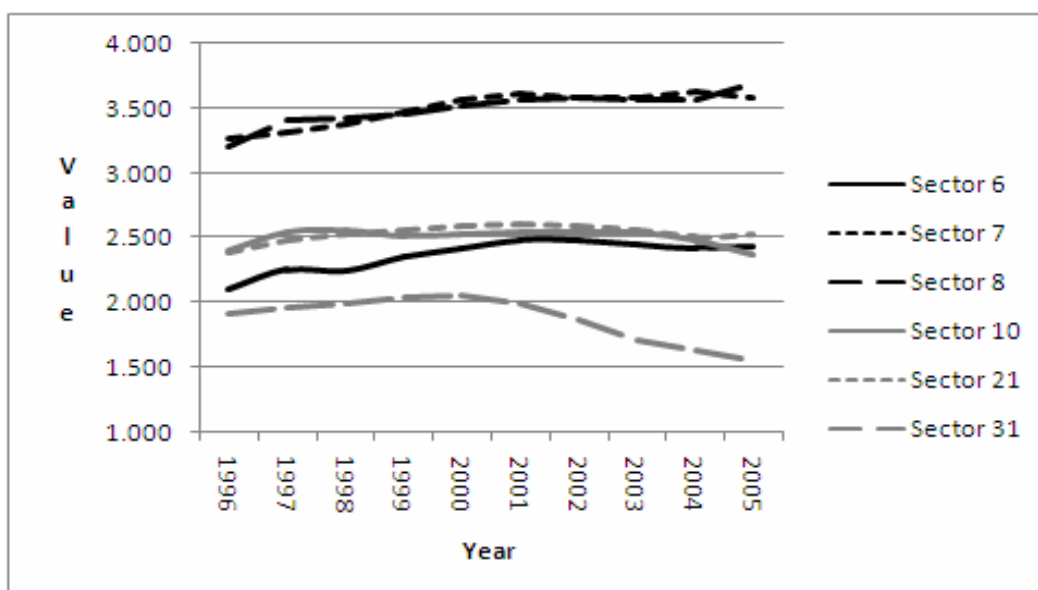
As shown in Figure 14, the RCA 1-values for the Netherlands were similar to those of France. One sector, "Tobacco" (=4), was with RCA 1-values of 0,695 in 1996 and 0,698 in 2005 well above those of all other sectors. The second highest RCA 1-value in 1996 was for the sector "Petroleum refineries" (=15) with 0,695 in 1996 and 0,698 in 2005. These values were comparable with those for "Beverages" (=3) for France. With respect to the second highest RCA-value, the sectors were changing. In 1995, the sector "Petroleum refineries" (=15) had the second highest value, with an RCA-value of 0,454, but the value decreased to 0,249 in 2005, which was equivalent to the 5th rank. The second highest RCA-value 2005 was assumed by the sector "Animal food" (=2) with an RCA-value of 0,468, which rose from 0,388 in 1995. The RCA-value of the sector "Chemicals excluding pharmaceuticals" (=13) increased from 0,211 to 0,282, while the RCA-value of the sector "Beverages" (=3) decreased after a down-up movement from 0,205 to 0,176.

Figure 14: Highest RCA 1-Values Netherlands
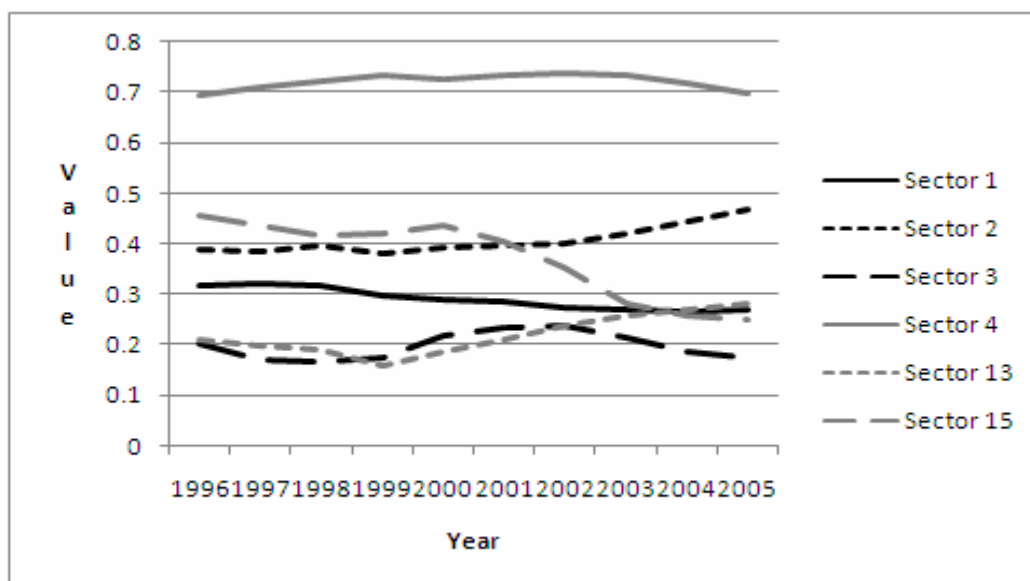
The top RCA 2-values for the Netherlands (shown in Figure 15) were, along with Italy, those yielding the highest values compared to the other remaining five countries. The RCA 2-value of the sector "Tobacco" (=4) was the highest RCA 2-value, even though the values decreased after 1999. Even the second highest RCA 2-value, for the sector "Petroleum refineries" (=15), was greater than the highest RCA 2-value for France, Germany and the United Kingdom. The sector "Petroleum

refineries" (=15) also had decreasing RCA 2-values. The other sectors more or less retained their RCA 2-Value over time.

Figure 15: Highest RCA 2-Values Netherlands
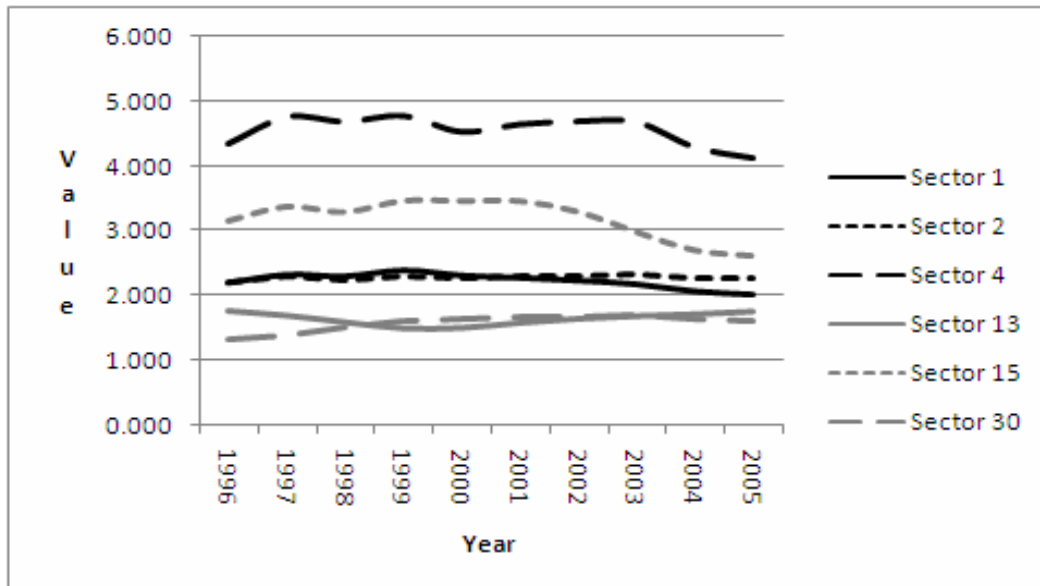
The most surprising RCA 1-results are from the United Kingdom in Figure 16. As for France and the Netherlands, one sector striked out. The sector "Tobacco" (=4), with RCA-values of 0,703 and 0,434 in 1996 and 2005, was more than 300% higher than the sector "Pharmaceuticals, Paints, Laquers" (=14) which was, with RCA 1-values of 0,223 and 0,126, ranked at the second position. Generally, all top sectors lost some of their comparative advantage. The RCA 1-value of the sector "Beverages" (=3) changed from 0,184 to a slightly negative value of -0,015. This development was even more dramatic for the sector "Manufacture of pottery, china and glass products" (=19). These results were consistent in that, on average, the United Kingdom faced substantially declining RCA 1-values.

Figure 16: Highest RCA 1-Values United Kingdom
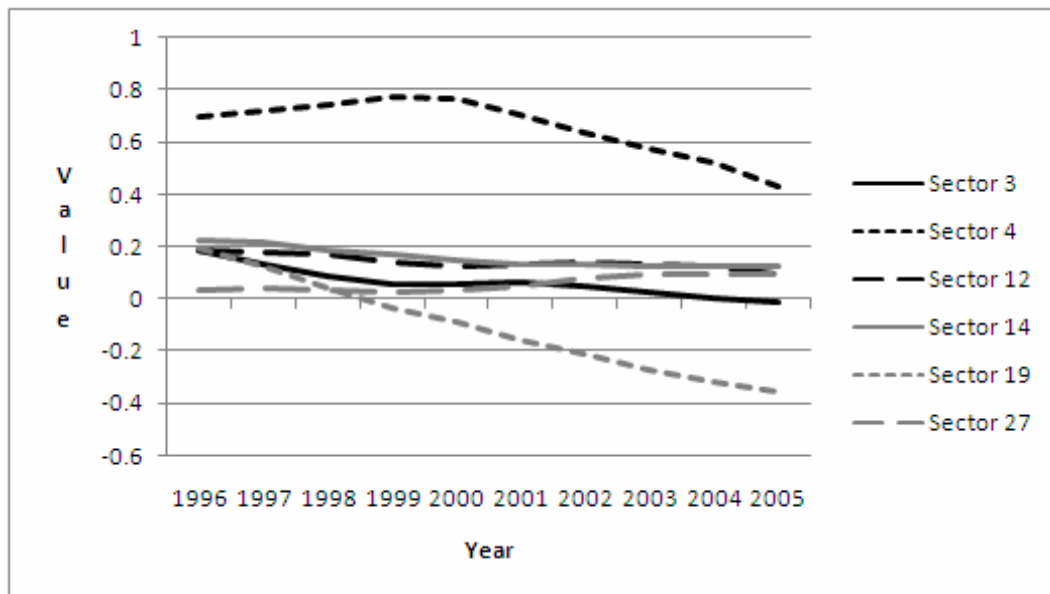
The RCA 2-values for the United Kingdom presented in Figure 17 do not reveal a clear pattern. The best performing sector, "Other manufactures (jewellery, musical instruments, sporting goods, etc.)" (=31) started with decreasing RCA 2-values, which continue until 2000, after which the RCA 2-values increasd steeply to a maximum value of 2,535 in 2004. Because the same applied to the RCA 1-value, the RCA 2-value of sector "Tobacco" (=4) decreased. The most volatile behaviour was revealed by the sector "Entertainment, Communication and electrical housewares" (=28). Between 1996 and 2001, the RCA 2-values rose from 1,295 to 1,521 and then decreased to 1,243 in 2004, only to rise to 1,477 in 2005.

Figure 17: Highest RCA 2-Values United Kingdom
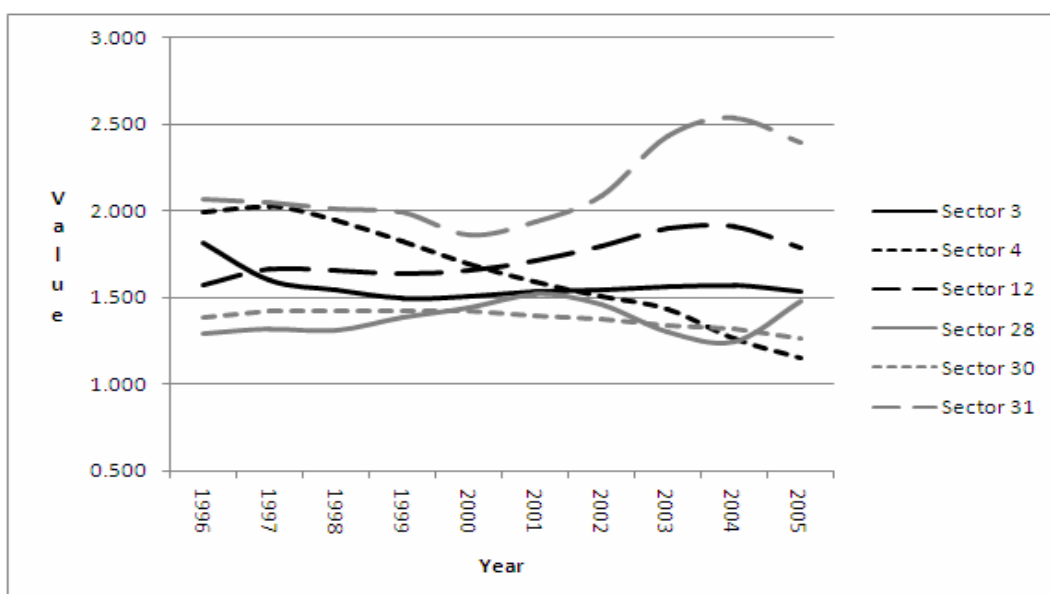
Compairing the number of sectors with RCA-values indicating CCA, there were differences in the development between the various analysed countries (Table 26, Appendix). Austria increased the number of sectors with CCA calculated with RCA 1, as well as the RCA 2-indicator, whereas France and especially the UK lost sectors, mainly in the RCA 1-analysis. Besides the changes in the top-RCA sectors in the UK, the loss of RCA 1-sectors indicates an alteration in Great Britain's trade structure. The traditional trade deficit is also reflected in the decrease in the RCA 1-values and corresponds to the downward slope of the average RCA 1-index (Figure 3). Italy and Germany had by far the most sectors with CCA and most of them were in the RCA 1-field. It is also noticable that the share of sectors with RCA-values, which were far above the "normal" values (and thus close to one at the RCA 1-index and above two for the RCA 2-index) did not change significantly. In this context, only the highest RCA 1-values of Italy and of the UK decreased clearly.

Table 7 presents an overview of the distribution of the three best performing RCA-sectors in 1996. Only three sectors were part of the Top-3 in more than one country. The sector "Tobacco" (=4) even appeared in four countries (Austria, Germany, the Netherlands and the United Kingdom) in the top three. The sectors "Animal Food" (=2) and "Pharmaceuticals, Paints, Laquers" (=14) appeared in two countries (France and the Netherlands; France and the United Kingdom) in the top three. It is remarkable that, even though France shared a common top RCA-sector with the Netherlands and the United Kingdom, it had no common ground with respect to the sector "Tobacco" (=4) and the other countries. By contrast, the Netherlands and the United Kingdom had, besides the sector "Animal food" (=2) and "Pharmaceuticals, Paints, Laquers" (=14) also "Tobacco" (=4) in the top three, as was also the case for Austria and Germany.

Unlike 1996 with 13 different sectors, Table 7 contains 10 sectors in 2005. The sector "Tobacco" (=4) was still the RCA-sector which had the most in common with the other countries. The sharing countries (Austria, Germany, the Netherlands and the United Kingdom) remained the same. France and the Netherlands again shared the sector "Animal food" (=2), as well as France and the United Kingdom sharing the sector "Pharmaceuticals, Paints, Lacquers" (=14). The sector "Beverages" (=3) was a new sector, which shared a high RCA-performance with three other countries. In 1995, the sector "Beverages" (=3) performed well in France, and in 2005, the sector "Beverages" (=3) performed well, not only in France, but also in Austria and Italy. Be-

sides Germany, the sector "Printing" (=12) performed well in the United Kingdom. These results might indicate that the comparative advantages within Europe were concentrated in certain sectors, while other sectors were losing relative comparative advantages.

Table 7: Best 3 performing RCA 1-Sectors 1996 / 2005

Sector	Country											
	Austria		France		Germany		Italy		Netherlands		United Kingdom	
	1996	2005	1996	2005	1996	2005	1996	2005	1996	2005	1996	2005
Animald Food (2)			X	O					X	O		
Beverages, 3		O	X	O				O				
Tobacco, 4	X	O			X	O			X	O	X	O
Footwear, 8							X					
Wood processing, 9	X	O										
Furnitures, 10							X	O				
Paper converting, 11	X											
Printing, 12					X	O						O
Chemicals excluding pharmaceuticals,13										O		
Pharmaceuticals, Paints, Laquers, 14			X	O							X	O
Petroleum, 15									X			
Manufacture fo glass and glass products, 19											X	
Non-metallic mineral products, 21							X	O				
Machinery and equipment, 25					X	O						

If we look at the best three performing RCA 2-sectors in 1996 (Table 8), we can see that they covered 14 different sectors. Ten of them were also among the best three performing RCA 1-sectors in 1996. Sectors 2, 3, 4 and 20 were among the best three best performing RCA 2-sectors in two countries: sector 2 in France and the Netherlands, sector 3 in France and the United Kingdom, sector 4 in the Netherlands and the United Kingdom and sector 20 in Austria and again in France.

In 2005, there were 15 sectors among the best three performing RCA 2-sectors. Only three sectors were among the best three in more than one country. As in 1996, sector 2 was among the best performing sectors, but at that point, in France and the Netherlands. Sector 3 was again among the best performing sectors in France and the United Kingdom. A new sharing sector is sector 7, which was among the best performing sectors in (again) France and the United Kingdom. In 2005, sector 4 and

sector 20 were only among the best three performing RCA 2-sectors in one country (the Netherlands and Austria).

Table 8: Best 3 performing RCA 2-Sectors 1996 / 2005

	Country											
	Austria		France		Germany		Italy		Netherlands		United Kingdom	
	1996	2005	1996	2005	1996	2005	1996	2005	1996	2005	1996	2005
Animal Food, 2			X	O					X	O		
Beverages, 3			X	O							X	O
Tobacco, 4									X	O	X	
Leather and Fur, 7				O			X	O				
Footwear, 8							X	O				
Wood processing, 9	X	O										
Furniture, 10							X					
Paper converting, 11	X	O										
Printing, 12												O
Chemicals excluding pharmaceuticals, 13					X							
Petroleum, 15									X	O		
Manufacture of glass and glass products, 20	X	O	X									
Non-metallic mineral products, 21								O				
Machinery and equipment, 25					X	O						
Manufacture of electrical industrial machinery and apparatus, 27						O						
Transport equipment and vehicle/transport construction, 29					X	O						
Other manufactures, 31											X	O

Table 9 provides us with information about the contribution of the 3, 5 or 10 best RCA 1-sectors to the total exports from the particular country. In 1996, the fraction of

the three best RCA-sectors to the total exports laid at about 10 %. The only excemption was Germany with a fraction of 4,75 %. In 2005, the results looks quite different. The fraction of the three best RCA 1-sectors in Austria, Germany and Italy was well below 10 % (5,58 %, 4,32 % and 6,21%). The fraction in France, the Netherlands and the United Kingdom was above 10 % (14,06%, 16,59% and 11,32%). The fraction of the best five RCA-sectors to total exports for Austria, France, Italy and the United Kingdom was constantly below 20 %. Even though the best three RCA 1-sectors of Germany contributed the smallest amount to total exports, the best five RCA 1-sectors contribute, in 2005, 43,62% to total exports which was the highest value of all countries considered. The same result holds true if we look at the best ten RCA 1-sectors. The best five RCA 1-sectors in the Netherlands also contained a high proportion of total exports. The fraction of the best ten RCA 1-sectors to total exports was also quite high in France and the Nehterlands. Austria, Italy and United Kingdom yield somewhat small fractions.

Table 9: Fraction best … RCA 1-Sectors to Total Exports

Best … RCA-Sectors	1996	2005	1996	2005
	Austria		France	
3	10,49 %	5,58 %	11,83 %	14,06 %
5	16,76 %	11,01 %	15,93 %	17,32 %
10	31,91 %	37,81 %	50,42 %	51,93 %
	Germany		Italy	
3	4,75 %	4,32 %	9,13 %	6,21 %
5	28,88 %	43,62 %	15,74 %	9,23 %
10	63,42 %	56,47 %	29,46 %	31,64 %
	Netherlands		United Kingdom	
3	9,46 %	16,59 %	8,13 %	11,32 %
5	35,27 %	32,58 %	12,11 %	16,26 %
10	50,48 %	47,47 %	24,68 %	36,78 %

The situations of Germany and Italy are worthy of note. As mentioned above, the share of the three best performing RCA 1-sectors in Germany and Italy were low. Regarding the share of the top five RCA 1-sectors, the situation in Italy did not vary significantly, whereas the share in Germany climbed to 43%.

An explanation of these different developments can be found by comparing the top export sectors shown in Tables 4 and 6 with the top RCA 1-sectors outlined in Figures 10 and 12. It is conspicious that in Germany, the two most important export sectors (29 and 26) were ranked at the 4th and 5th places of the RCA 1-sectors. Accordingly, the strong increase in the proportion of the best RCA 1-sectors to total

exports is not surprising. The increase in 15 percentage points, compared to 1996, is explained by the order of the top export sectors. In 1996, only sector 29 influeced the RCA 1-performance, as it was the 5th most important sector in this observation.

In Italy, however, only the 4th most important export sector was among the most important RCA 1-sectors. In both 1996 and 2005, sector 24 was listed at place 4.

Regarding the RCA 1-indicator, Germany seems to deploy its comperative cost advantages better than the other nations and especially better than Italy.

Table 10 presents the contribution of the 3, 5 or 10 best RCA 2-sectors to the total exports for the corresponding country. The contribution of Germany's top three RCA 2-sectors was, with 33,54% and 30,15% in 1996 and 2005, the highest of all countries. The contribution of the top three RCA 2-sectors in the other countries varied between 5,13 % (France, 2005) and 11,58 % (Austria, 1996). The results for the top three RCA 2-sectors for Germany were quite contrary to the RCA 1-sector results. With respect to the top five RCA 2-sectors, the contribution did not vary much between 1996 and 2005, besides for the United Kingdom. The latter increased the contribution of the top five RCA 2-sectors from 12,57 % in 1996 to 30,83 % in 2005. The best ten RCA 2-sectors in France, Germany and the Netherlands yielded the highest contribution to total exports, with a share between 56,78 % (France, 2005) and 75,66 % (Netherlands, 2005). With a share of 50,74 % and 49,78 %, the United Kingdom was more or less stuck in the middle, while Austria and Italy only had a share between 30,17 % (Italy, 2005) and 37,92 % (Austria, 1996).

Table 10: Fraction best … RCA 2-Sectors to Total Exports

Best … RCA-Sectors	1996	2005	1996	2005
	Austria		France	
3	11,58 %	8,94 %	5,99 %	5,13 %
5	23,30 %	20,38 %	14,45 %	15,66 %
10	37,92 %	32,31 %	61,66 %	56,78 %
	Germany		Italy	
3	33,54 %	30,15 %	8,51 %	6,48 %
5	40,47 %	45,80 %	15,91 %	12,95 %
10	72,74 %	64,72 %	36,00 %	30,17 %
	Netherlands		United Kingdom	
3	9,46 %	11,00 %	6,49 %	6,70 %
5	35,27 %	32,58 %	12,57 %	30,83 %
10	60,71 %	75,66 %	50,74 %	49,79 %

Germany was the only country in 2005 with a top export sector among the top 3 sectors of the RCA 2-analysis. Germany's leading export sector (29) was also the best

performing RCA 2-analysis. This is reflected in the proportion of 30,15% to total exports from the top 3 sectors and explains the very substantial gap between it and the other mentioned countries in this analysis. The two best RCA 2-sectors held the first and fourth places in 2005. This is, of course, again the best combination. Furthermore, just as revealed by the RCA 1, Italy's performance was the worst. None of its top export sectors were among the top 5 RCA 2-sectors. The United Kingdom, however, faced this situation in 1996. However, in 2005, its second best export sector took rank 4 of the RCA 2-sectors, thus explaining the 18 percentage-point increase.

This result might indicate that those sectors with the best RCA-values did not play an important role in Italy's exports. This is even more interesting, considering the extraordinary performance with the highest average RCA 1- and RCA 2-value outlined in Tables 1, 3 and 5. Italy had by far the highest RCA 1-, RCA 2-index and the highest trade-specialization of the surveyed countries. On the one hand, it is necessary to consider that Italy's dominant RCA-sectors (e.g. leather and fur, food ware, furniture) did not have such a substantial influence on the export-values as the leading export-sectors (special office, transport equipment and construction). On the other hand, the results suggest that the export focus were on sectors with low comparative cost advantages. This can be seen in Table 11, in which we analysed the RCAs of the ten most important export-sectors of the six countries, in terms of their RCA 1- and RCA 2-values. The framed values signal those sectors not having comparative cost advantages. The highlighted values therefore indicate these advantages. Furthermore, as assumed initially, Germany and the Netherlands had comparative cost advantages in most of their export-sectors. The situation of the other countries was quite different and heterogeneous. While the RCA 2-values of the two most important Austrian export-sectors were minimally below the limit of 1, the Italian sectors ranked at 2 and 3 were significant in the area, presenting no comparative advantages. Another remarkable aspect was the difference between the RCA 1- and RCA 2-sectors in the UK. While almost no export-sectors had comparative cost advantages in terms of the RCA 1-index, most of these sectors had cost advantages according to the RCA 2-index. This shows the flaws of the RCA-method very clearly. On the other hand, it is helpful to investigate the trade structure of several sectors. Sector 29, for instance, had advantages in the UK, concerning the RCA 2-Indicator. That is to say, the exports from these sectors contributed more to total exports in the United Kingdom than the exports from sector 29 to the total exports from the aggregated coun-

tries. Looking at the RCA 1-Indicator, it is obvious that in this sector, there were more imports than exports and. Although there might be comparative cost advantages, they faced international competition and did not gain from their advantages. In Austria, it was the other way round. Sector 29 had obvious advantages according to the RCA 1-Indicator. Yet, the RCA 2-Indicator suggests that this sector did not have the same implications as in the other countries. Austria might be intensifying its export performance in order to gain more from their advantages.

Table 11: Top10 export-sectors and their RCA-values

Austria				France				Germany			
Sector	Export	RCA 1	RCA 2	Sector	Export	RCA 1	RCA 2	Sector	Export	RCA 1	RCA 2
29	18,19%	0,052	0,986	29	23,98%	0,138	1,266	29	23,74%	0,325	1,274
26	13,52%	0,071	0,996	14	9,90%	0,219	1,411	26	15,38%	0,288	1,120
28	8,06%	-0,059	0,828	26	9,35%	-0,091	0,690	28	9,26%	0,048	0,967
22	5,95%	0,218	1,508	28	7,87%	-0,063	0,838	13	7,78%	0,175	1,087
24	5,53%	0,044	1,520	13	7,14%	-0,106	1,014	14	6,01%	0,167	0,879
14	5,08%	-0,100	0,692	1	4,51%	-0,040	1,167	24	3,96%	0,272	1,064
11	4,17%	0,287	1,649	22	4,06%	0,024	1,058	30	3,91%	0,243	1,109
13	3,69%	-0,188	0,560	30	3,26%	-0,064	0,926	25	3,24%	0,363	1,242
1	3,55%	-0,048	0,902	3	2,96%	0,657	2,312	22	3,18%	0,093	0,828
27	3,52%	0,224	1,408	24	2,78%	-0,127	0,733	27	2,96%	0,279	1,176

Italy				The Netherlands				UK			
Sector	Export	RCA 1	RCA 2	Sector	Export	RCA 1	RCA 2	Sector	Export	RCA 1	RCA 2
26	16,85%	0,336	1,237	26	17,84%	0,029	1,283	29	16,29%	-0,148	0,847
29	11,44%	-0,116	0,612	13	13,16%	0,282	1,756	28	13,40%	-0,067	1,477
14	5,52%	-0,006	0,771	28	11,38%	0,021	1,263	26	13,37%	-0,106	0,963
5	5,49%	0,254	2,166	15	8,48%	0,250	2,617	14	9,45%	0,126	1,397
24	5,44%	0,503	1,487	1	8,19%	0,270	2,014	13	7,98%	-0,065	1,097
13	5,32%	-0,237	0,734	14	6,49%	0,090	0,957	30	4,51%	-0,035	1,266
28	5,21%	-0,136	0,550	29	5,96%	-0,123	0,323	15	4,11%	-0,004	1,380
22	4,73%	-0,050	1,255	30	5,67%	0,141	1,619	31	3,47%	-0,162	2,395
6	3,89%	0,229	2,425	22	2,79%	0,041	0,737	22	3,01%	0,026	0,730
25	3,66%	0,431	1,432	2	2,01%	0,468	2,264	24	2,66%	-0,200	0,726

Hence, Italy should scrutinize its export sectors carefully, in order to determine whether there is scope for more cost reduction and efficiency. Furthermore, they might do well to investigate the potential for strengthening the exports from those sectors with comparative cost advantages.

With regard to the export sectors with their RCA-values, it is striking that Germany and the Netherlands did have comparative cost advantages in nearly all of their top10 export sectors, whereas the same did not apply to Italy, Austria and the United Kingdom (here mainly RCA 1). Their competitiveness was obviously not as high as in the former two countries. France, however was somewhat stuck in the middle.

6. Conclusion

This paper analyses the revealed comparative advantage for six European countries. With respect to the trade performance index, the variance decreased between 1995 and 2006. In 1995, there was a gap between the country with the highest trade performance index and the one with the lowest trade performance index. The gap decreased by 2006, while the average value remained almost the same.

Regarding the average RCA-value, France and the United Kingdom faced a negative development, starting with a negative average RCA-value and ending up with an even more negative RCA-value. Germany had a consistent average RCA-value and was able to increase its comparative advantage between 1995 and 2006. In 1995, Austria had a negative average RCA-value, but was able to constantly decrease it. Italy had a negative development, but the average RCA-value was still the highest of the six countries. In 1995, the Netherlands had a positive average RCA-value, 2006 the average RCA-value was negative.

Italy was the only country which had a negative correlation with Austria, Germany, the Netherlands and the United Kingdom. Italy had a positive correlation only with France. All the other countries had positive correlations with each other.

It is remarkable that sector 3 in France and Italy, and sector 4 in the Netherlands had RCA-values which were considerably higher than the next sectors. For all the other countries, the gap between the best and the second best RCA-sector was remarkably smaller.

Sectors 3 and 4, already mentioned above, were also sectors in the top three for more than one country. The same holds for sectors 2, 12 and 14. In 1995, there were 13 different sectors in the top three in the six analysed countries, whereas in 2005, there were 10 different sectors in the top three.

If we analyse the importance of the top five RCA-sectors for total exports, we find that the top five are particularly important for Germany and the Netherlands. The top ten sectors are relatively important in France, Germany and the Netherlands, where they make up about 50 % of total exports.

This paper provides only a small overview of the development of RCA-values of six European countries. Further research could usefully deal with those factors that are responsible for the developments and determine whether there is a difference between exports and imports between developed and developing countries.

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8. Appendix

Table 12: Classification of Manufacture Sectors

Sector name	3-Digit	4-Digit
1	311	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119
2	312	3121, 3122
3	313	3131, 3132, 3133, 3134
4	314	3140
5	321	3211, 3212, 3213, 3214, 3215, 3219
6	322	3220
7	323	3231, 3232, 3233
8	324	3240
9	331	3311, 3312, 3319
10	332	3320
11	341	3411, 3412, 3419
12	342	3420
13	351	3511, 3512, 3513
14	352	3521, 3522, 3523, 3529
15	353	3530
16	354	3540
17	355	3551, 3559
18	356	3560
19	361	3610
20	362	3620
21	369	3691, 3692, 3699
22	371	3710
23	372	3720
24	381	3811, 3812, 3813, 3819
25	382.1	3821, 3822, 3823
26	382.2	3824, 3825, 3829
27	383.1	3831
28	383.2	3832, 3833, 3839
29	384	3841, 3842, 3843, 3844, 3845, 3849
30	385	3851, 3852, 3853
31	390	3901, 3902, 393, 3909

Table 13: ISIC Classification

4-Digit Code	Name
3111	Slaughtering, preparing and preserving meat
3112	Manufacture of dairy products
3113	Canning and preserving of fruits and vegetables
3114	Canning, preserving and processing of fish, crustacca and similar foods
3115	Manufacture of vegetable and animal oils and fats
3116	Grain mill products
3117	Manufacture of bakery products
3118	Sugar factories and refineries
3119	Manufacture of cocoa, chocolate and sugar confectionery
3121	Manufacture of food products not elsewhere classified
3122	Manufacture of prepared animal feeds
3131	Distilling, rectifying and blending spirits
3132	Wine industries
3133	Malt liquors and malt
3134	Soft drinks and carbonated waters industries
3140	Tobacco manufactures
3211	Spinning, weaving and finishing textiles
3212	Manufacture of made-up textile goods except wearing apparel
3213	Knitting mills
3214	Manufacture of carpets and rugs
3215	Cordage, rope and twine industries
3219	Manufacture of textiles not elsewhere classified
3220	Manufacture of wearing apparel, except footwear
3231	Tanneries and leather finishing
3232	Fur dressing and dyeing industries
3233	Manufacture of products of leather and leather substitutes, except footwear and wearing apparel
3240	Manufacture of footwear, except vulcanized or moulded rubber or plastic footwear
3311	Sawmills, planing and other wood mills
3312	Manufacture of wooden and cane containers and small cane ware
3319	Manufacture of wood and cork products not elsewhere classified
3320	Manufacture of furniture and fixtures, except primarily of metal
3411	Manufacture of pulp, paper and paperboard
3412	Manufacture of containers and boxes of paper and paperboard
3419	Manufacture of pulp, paper and paperboard articles n.e.c.
3420	Printing, publishing and allied industries
3511	Manufacture of basic industrial chemicals except fertilizers
3512	Manufacture of fertilizers and pesticides
3513	Manufacture of synthetic resins, plastic materials and man-made fibres except glass
3521	Manufacture of paints, varnishes and lacquers
3522	Manufacture of drugs and medicines
3523	Manufacture of soap and cleaning preparations, perfumes, cosmetics and other toilet preparations
3529	Manufacture of chemical products not elsewhere classified
3530	Petroleum refineries
3540	Manufacture of miscellaneous products of petroleum and coal

3551	Tyre and tube industries
3559	Manufacture of rubber products not elsewhere classified
3560	Manufacture of plastic products not elsewhere classified
3610	Manufacture of pottery, china and earthenware
3620	Manufacture of glass and glass products
3691	Manufacture of structural clay products
3692	Manufacture of cement, lime and plaster
3699	Manufacture of non-metallic mineral products n.e.c.
3710	Iron and steel basic industries
3720	Non-ferrous metal basic industries
3811	Manufacture of cutlery, hand tools and general hardware
3812	Manufacture of furniture and fixtures primarily of metal
3813	Manufacture of structural metal products
3819	Manufacture of fabricated metal products except machinery and equipment not elsewhere classified
3821	Manufacture of engines and turbines
3822	Manufacture of agricultural machinery and equipment
3823	Manufacture of metal and wood working machinery
3824	Manufacture of special industrial machinery and equipment except metal and wood working machinery
3825	Manufacture of office, computing and accounting machinery
3829	Machinery and equipment except electrical n.e.c.
3831	Manufacture of electrical industrial machinery and apparatus
3832	Manufacture of radio, television and communication equipment and apparatus
3833	Manufacture of electrical appliances and house wares
3839	Manufacture of electrical apparatus and supplies n.e.c.
3841	Ship building and repairing
3842	Manufacture of railroad equipment
3843	Manufacture of motor vehicles
3844	Manufacture of motorcycles and bicycles
3845	Manufacture of aircraft
3849	Manufacture of transport equipment n.e.c.
3851	Manufacture of professional and scientific, and measuring and controlling equipment, n.e.c.
3852	Manufacture of photographic and optical goods
3853	Manufacture of watches and clocks
3901	Manufacture of jewellery and related articles
3902	Manufacture of musical instruments
3903	Manufacture of sporting and athletic goods
3909	Manufacturing industries not elsewhere classified

Table 14: Rank Order of Austria's Export Sectors (RCA 1)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	9	9	9	9	3	3	3	3	3	3
2	11	11	11	3	9	9	9	9	9	9
3	4	4	4	11	4	4	4	4	4	4
4	3	22	22	4	11	11	11	11	11	11
5	22	3	3	22	22	22	22	20	20	20
6	20	20	20	20	20	20	20	22	22	27
7	27	27	27	27	27	27	27	27	27	22
8	25	25	25	25	25	25	25	25	25	25
9	7	7	7	7	7	7	7	7	7	7
10	24	31	31	31	31	31	31	31	31	26
11	31	24	26	26	26	26	26	26	26	31
12	26	26	24	24	24	24	24	24	24	29
13	5	5	5	23	23	29	29	29	29	24
14	18	18	29	5	29	23	18	18	21	21
15	23	23	18	29	18	18	28	21	18	18
16	29	29	23	18	5	28	10	10	1	1
17	28	28	13	1	28	5	1	1	10	28
18	8	1	28	28	1	1	23	28	28	10
19	30	13	1	13	13	10	5	23	5	5
20	1	10	10	8	10	13	21	5	23	14
21	13	8	17	10	8	8	13	13	14	30
22	10	30	8	17	17	14	14	30	30	23
23	21	17	30	21	14	30	8	14	8	2
24	14	21	21	30	30	21	30	8	13	8
25	2	14	14	14	21	17	2	2	2	13
26	12	12	12	12	12	12	12	12	12	12
27	17	2	2	2	2	2	17	17	17	17
28	6	6	6	6	6	19	19	19	19	19
29	15	15	19	19	19	6	6	6	6	6
30	19	19	15	15	16	16	16	16	16	16
31	16	16	16	16	15	15	15	15	15	15

Table 15: Rank Order of Austria's Export Sectors (RCA 2)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	9	9	9	9	9	9	9	9	9	9
2	11	11	11	11	20	20	20	20	20	20
3	20	20	20	20	11	11	11	11	11	11
4	24	22	22	22	22	22	22	22	24	24
5	22	24	24	24	24	24	27	27	22	22
6	25	23	23	23	23	10	10	24	27	27
7	23	18	27	27	27	27	24	10	3	3
8	18	27	18	18	18	23	25	25	10	10
9	5	25	25	25	10	18	18	18	25	25
10	10	10	10	10	25	25	23	23	18	18
11	27	5	31	31	31	31	31	31	31	31
12	31	31	7	7	5	5	7	3	4	4
13	7	7	5	5	8	26	26	7	21	21
14	12	12	8	8	7	8	3	26	23	23
15	8	8	12	26	26	7	5	21	26	26
16	26	29	17	12	29	3	28	5	29	29
17	29	26	26	17	12	28	8	28	8	8
18	28	28	29	29	3	29	21	29	5	5
19	6	6	28	28	17	12	29	8	1	1
20	3	1	6	6	28	17	12	4	2	2
21	21	30	21	21	1	1	1	12	7	7
22	17	14	14	1	21	21	2	1	28	28
23	14	21	30	3	6	14	17	2	12	12
24	13	1	1	14	14	2	14	30	6	6
25	16	13	13	3	30	30	4	14	19	19
26	1	2	2	13	2	6	30	17	14	14
27	2	16	3	2	13	13	6	6	30	30
28	3	19	19	19	16	16	16	16	17	17
29	19	3	16	16	19	19	13	13	16	16
30	15	15	15	4	4	4	19	19	13	13
31	4	4	4	15	15	15	15	15	15	15

Table 16: Rank Order of France's Export Sectors (RCA 1)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	-	3	3	3	3	3	3	3	3	3
2	-	2	2	2	2	2	2	2	2	2
3	-	14	14	14	14	14	14	14	14	14
4	-	17	17	17	17	29	27	27	7	7
5	-	27	27	29	29	27	29	7	27	27
6	-	20	29	27	27	17	7	29	29	29
7	-	29	20	20	7	7	17	17	17	17
8	-	22	22	7	20	20	20	20	20	20
9	-	7	7	22	22	22	22	22	22	22
10	-	28	28	28	28	28	28	28	1	1
11	-	1	1	1	1	1	1	1	28	25
12	-	24	24	24	12	12	12	12	12	28
13	-	12	12	12	13	13	13	13	25	30
14	-	13	13	13	24	24	5	25	30	12
15	-	26	26	26	26	5	24	30	13	26
16	-	21	5	5	5	26	26	26	26	13
17	-	5	21	18	30	30	30	5	5	31
18	-	18	18	15	16	18	25	24	24	11
19	-	30	30	30	18	31	18	31	31	24
20	-	9	15	16	15	25	31	1	18	5
21	-	31	9	31	31	11	11	11	11	18
22	-	15	31	21	9	16	15	15	15	16
23	-	25	16	9	21	15	16	23	23	15
24	-	16	25	11	11	9	9	9	16	23
25	-	23	11	25	25	21	21	16	9	9
26	-	11	10	10	10	23	23	21	21	21
27	-	10	23	23	23	10	19	19	19	6
28	-	19	19	19	19	19	10	10	10	19
29	-	6	6	6	6	6	6	6	6	10
30	-	8	8	8	8	8	8	8	8	8
31	-	4	4	4	4	4	4	4	4	4

Table 17: Rank Order of France's Export Sectors (RCA 2)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2	2
3	20	20	20	20	2	14	14	14	14	7
4	14	14	14	14	14	20	20	20	20	20
5	17	17	17	17	17	29	29	7	7	14
6	1	1	29	29	29	17	17	17	17	17
7	29	29	1	1	22	22	7	29	29	29
8	13	13	22	22	1	7	22	22	22	1
9	22	22	13	13	7	1	1	1	1	22
10	28	28	28	7	13	13	13	13	13	13
11	23	27	7	28	28	27	27	27	27	27
12	27	23	27	27	27	28	5	18	18	16
13	18	18	18	18	5	5	18	5	5	18
14	7	7	23	5	18	18	28	28	16	6
15	16	5	5	16	16	16	6	6	6	5
16	5	16	16	23	23	23	16	30	30	30
17	12	12	12	12	12	6	30	6	28	15
18	30	30	30	6	6	12	23	23	31	31
19	26	26	26	30	31	31	31	12	12	28
20	15	15	15	24	30	30	12	31	23	12
21	24	24	24	26	24	24	15	15	15	23
22	6	6	6	15	26	15	24	24	24	19
23	31	31	31	31	15	26	26	11	11	24
24	11	11	11	11	11	19	11	19	19	11
25	21	9	9	19	19	11	19	26	25	26
26	9	19	19	9	9	25	25	25	26	25
27	19	21	10	10	10	9	9	10	10	9
28	25	25	21	25	25	10	10	9	9	10
29	10	10	25	21	21	21	21	21	21	21
30	8	8	8	8	8	8	8	8	8	8
31	4	4	4	4	4	4	4	4	8	4

Table 18: Rank Order of Germany's Export Sectors (RCA 1)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	4	4	4	4	4	4	4	4	4	4
2	25	25	25	25	25	29	29	25	25	12
3	12	12	12	12	12	25	25	29	12	25
4	27	27	29	29	29	12	12	12	29	29
5	29	29	27	27	14	24	24	26	26	26
6	26	26	14	14	27	27	26	24	27	27
7	14	14	26	26	24	16	27	27	24	24
8	13	24	24	24	26	20	20	20	30	21
9	24	13	20	20	20	14	30	30	21	30
10	20	20	13	30	30	30	13	13	20	18
11	30	30	30	13	13	13	14	21	13	13
12	17	17	17	17	18	18	18	18	18	20
13	22	22	22	18	17	17	22	14	14	14
14	18	18	18	22	22	22	17	22	11	11
15	28	28	11	2	2	2	21	17	22	2
16	11	11	28	11	11	21	11	11	17	22
17	2	2	2	28	21	11	2	2	2	17
18	23	23	23	21	28	28	28	28	28	28
19	21	21	21	23	23	23	23	19	19	19
20	5	5	5	19	19	19	19	23	23	9
21	16	16	16	5	1	1	31	31	31	31
22	31	31	31	1	5	31	1	1	9	1
23	1	1	19	16	31	5	5	5	1	23
24	19	19	1	31	16	10	9	9	5	5
25	10	10	10	10	10	16	10	10	15	15
26	3	7	7	7	7	7	7	15	3	3
27	7	3	3	9	9	9	16	7	10	10
28	9	9	9	3	3	3	3	3	7	7
29	15	15	15	15	15	15	15	16	16	16
30	6	6	6	6	6	6	6	6	6	6
31	8	8	8	8	8	8	8	8	8	8

Table 19: Rank Order of Germany's Export Sectors (RCA 2)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	25	25	29	29	29	29	29	29	29	29
2	29	29	25	25	25	25	25	25	25	25
3	13	27	27	27	27	27	27	27	27	27
4	30	13	13	13	23	23	23	23	26	26
5	27	30	30	30	13	13	24	26	23	4
6	17	23	23	23	30	30	30	30	30	30
7	26	24	24	24	24	24	13	24	24	23
8	24	26	26	26	26	26	26	13	13	13
9	23	17	17	17	17	17	17	17	17	24
10	28	18	18	18	18	18	18	28	28	17
11	18	20	20	20	20	20	28	18	18	18
12	20	12	12	12	12	12	20	12	12	12
13	12	22	22	22	28	28	12	20	20	28
14	22	28	28	28	22	22	22	22	14	14
15	14	14	14	14	4	4	4	14	4	20
16	5	16	16	4	14	14	14	11	22	11
17	16	5	2	16	16	16	11	16	11	22
18	11	2	11	2	2	11	16	4	16	19
19	2	11	5	11	11	2	2	19	19	16
20	19	4	4	19	19	19	19	2	2	2
21	4	19	19	5	5	5	5	10	10	1
22	21	1	1	10	10	10	10	5	5	21
23	10	10	10	1	1	1	1	21	21	10
24	1	21	21	21	21	21	21	1	1	5
25	31	6	6	6	6	6	31	31	31	31
26	6	31	31	31	31	31	6	6	9	9
27	9	9	9	9	9	9	9	9	6	6
28	7	7	15	15	15	15	15	15	15	15
29	15	15	7	7	7	7	7	7	7	8
30	3	8	8	8	8	8	8	8	8	7
31	8	3	3	3	3	3	3	3	3	3

Table 20: Rank Order of Italy's export sectors (RCA 1)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	10	10	10	10	10	10	10	10	10	10
2	21	21	21	21	21	21	21	21	21	21
3	8	8	8	3	3	3	3	3	3	3
4	24	24	3	8	24	24	24	24	24	24
5	3	3	24	24	31	31	31	19	25	25
6	19	19	31	31	8	8	19	31	19	8
7	31	31	19	19	19	19	8	8	8	19
8	6	6	6	6	6	25	25	25	31	31
9	18	25	25	18	25	6	12	12	26	26
10	25	18	18	25	18	18	18	26	2	12
11	12	26	12	12	12	12	6	18	7	7
12	26	2	26	7	7	5	26	5	18	18
13	7	7	7	5	5	26	5	7	5	5
14	5	5	5	26	26	7	7	6	6	15
15	20	20	20	20	20	20	20	20	15	6
16	17	17	17	17	17	17	17	27	20	20
17	27	27	27	27	27	27	27	17	27	27
18	29	16	16	16	16	14	15	15	17	17
19	16	29	14	14	14	15	2	2	2	2
20	14	14	29	15	15	16	14	4	14	14
21	22	22	15	2	2	2	16	22	22	22
22	28	28	22	29	22	22	22	11	11	11
23	30	30	2	22	29	28	28	28	30	16
24	2	2	28	28	28	29	11	16	29	30
25	11	15	30	30	11	30	29	30	28	29
26	15	11	11	11	30	11	30	29	16	28
27	13	1	1	1	1	1	1	1	1	1
28	1	13	13	13	13	13	13	13	13	13
29	9	9	9	9	9	9	9	9	9	9
30	23	23	23	23	23	23	23	23	23	23
31	4	4	4	4	4	4	4	4	4	4

Table 21: Rank Order of Italy's export sectors (RCA 2)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	7	8	8	7	7	7	7	7	7	8
2	8	7	7	8	8	8	8	8	8	7
3	10	10	10	21	21	21	21	21	21	21
4	21	21	21	10	10	10	10	10	10	6
5	6	6	6	6	6	6	6	6	6	10
6	31	31	31	31	5	5	5	5	5	5
7	5	5	5	5	31	31	31	19	19	19
8	19	19	19	19	19	19	19	31	31	31
9	24	25	25	24	24	24	24	24	24	24
10	25	24	24	25	25	25	25	25	25	25
11	18	18	18	18	18	18	18	26	26	22
12	26	26	26	26	26	26	26	18	18	26
13	20	20	2	20	2	20	20	20	2	18
14	17	22	22	22	22	22	22	22	22	2
15	3	17	17	17	17	3	3	3	3	3
16	22	16	3	3	3	17	17	17	17	17
17	16	3	16	16	16	16	16	16	15	15
18	12	12	12	12	12	12	15	15	16	16
19	15	15	15	15	15	15	12	1	1	1
20	13	1	1	1	1	14	1	12	12	12
21	30	27	27	14	14	1	14	14	27	27
22	1	14	14	27	27	27	27	27	14	14
23	29	13	13	13	13	13	13	13	13	13
24	28	3	29	29	23	23	23	23	23	2
25	14	29	30	30	29	30	30	30	30	23
26	27	23	23	23	30	29	2	2	2	30
27	23	28	28	9	9	9	29	29	29	29
28	9	9	9	28	28	2	9	9	11	11
29	11	11	11	2	2	28	28	11	9	9
30	2	2	2	11	11	11	11	28	28	28
31	4	4	4	4	4	4	4	4	4	4

Table 22: Rank Order of the Netherland's Export Sectors

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	4	4	4	4	4	4	4	4	4	4
2	15	15	15	15	15	15	2	2	2	2
3	2	2	2	2	2	2	15	15	13	13
4	1	1	1	1	1	1	1	1	1	1
5	13	13	13	3	3	3	13	13	15	15
6	3	3	3	13	13	13	3	3	3	3
7	14	14	30	30	30	30	30	30	30	30
8	12	30	14	12	12	12	12	12	12	12
9	30	12	12	14	14	14	25	25	25	14
10	5	5	5	23	25	25	14	14	14	25
11	23	23	25	5	26	26	26	22	5	5
12	27	27	23	25	23	22	23	5	22	22
13	25	26	27	26	22	23	22	26	26	26
14	26	25	26	22	5	27	5	23	28	28
15	24	22	22	27	27	5	27	27	27	27
16	22	24	24	11	11	11	11	11	18	18
17	18	18	18	24	24	16	18	18	23	20
18	28	28	11	18	18	24	24	28	11	11
19	11	11	28	20	16	18	28	24	24	24
20	16	16	20	16	31	31	16	20	7	7
21	17	20	16	7	20	20	31	7	20	23
22	7	7	7	28	28	28	17	17	8	8
23	20	17	17	21	17	29	29	31	31	31
24	31	21	21	17	29	17	7	29	17	17
25	6	29	29	29	7	7	20	8	29	29
26	21	6	6	31	21	21	8	16	16	16
27	29	31	31	6	8	8	21	21	21	21
28	19	19	19	19	6	6	6	6	6	6
29	8	8	8	8	19	19	19	19	19	19
30	10	10	10	10	10	10	10	10	10	10
31	9	9	9	9	9	9	9	9	9	9

Table 23: Rank Order of Netherlands's export sectors (RCA 2)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	4	4	4	4	4	4	4	4	4	4
2	15	15	15	15	15	15	15	15	15	15
3	2	1	1	1	1	2	2	2	2	2
4	1	2	2	2	2	1	1	1	1	1
5	13	13	13	30	30	30	30	30	13	13
6	30	3	30	13	13	13	13	13	30	30
7	16	26	26	26	26	26	26	26	26	26
8	14	16	23	23	16	16	16	28	28	28
9	26	23	16	16	23	14	3	14	14	14
10	3	14	6	14	14	3	14	23	23	23
11	5	6	14	18	3	23	23	16	16	16
12	23	5	5	12	18	18	28	3	18	18
13	6	18	18	11	12	12	18	18	3	3
14	18	28	28	3	11	11	11	11	5	5
15	28	11	11	22	28	22	12	12	22	22
16	11	12	12	6	31	28	22	22	11	12
17	12	3	3	5	22	6	5	5	12	11
18	17	22	22	24	6	5	6	17	17	17
19	24	24	24	28	5	31	17	6	6	8
20	22	17	17	17	24	17	31	24	8	6
21	9	27	31	31	17	24	24	27	24	24
22	31	31	27	20	27	27	27	8	27	27
23	20	20	20	27	20	8	8	31	31	20
24	27	9	25	25	25	20	25	25	20	31
25	25	25	9	9	8	25	20	20	25	25
26	21	29	29	29	9	29	29	10	10	10
27	29	21	21	21	29	9	9	9	21	21
28	7	7	7	8	21	10	10	21	9	7
29	10	10	10	7	10	21	19	29	7	9
30	19	19	19	10	19	19	21	7	19	19
31	8	8	8	19	7	7	7	19	29	29

Table 24: Rank Order of the United Kingdom's Export Sectors (RCA 1)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	4	4	4	4	4	4	4	4	4	4
2	14	14	14	14	14	14	12	12	14	14
3	19	12	15	12	12	12	14	14	12	12
4	3	15	12	15	25	3	27	27	27	27
5	12	3	3	25	3	25	25	15	15	22
6	21	19	25	3	15	27	3	25	25	25
7	15	21	21	30	27	15	15	3	22	15
8	22	25	19	21	30	30	30	22	3	3
9	25	22	30	27	22	28	13	30	30	30
10	30	30	22	22	21	22	28	13	13	13
11	27	27	27	13	13	13	22	28	26	28
12	26	26	26	19	28	21	26	26	28	26
13	31	24	24	28	26	26	21	31	31	23
14	24	17	13	24	19	24	31	21	23	29
15	17	28	17	26	24	29	24	29	29	21
16	28	13	28	17	17	17	29	23	21	31
17	13	29	29	29	29	31	17	24	24	24
18	29	31	31	31	31	19	23	17	17	17
19	18	18	18	2	23	23	19	2	20	20
20	7	2	2	16	2	16	2	20	2	18
21	2	20	20	18	16	2	16	18	18	2
22	23	7	16	23	18	18	18	19	19	16
23	10	23	23	20	20	20	20	16	16	19
24	20	10	7	7	7	7	5	5	5	5
25	16	16	10	10	5	5	7	7	7	11
26	5	5	5	5	10	10	11	11	11	7
27	1	1	1	1	1	11	1	1	1	1
28	6	11	11	11	11	1	10	10	10	10
29	11	6	6	6	6	6	6	6	6	6
30	8	8	8	8	8	8	8	8	9	8
31	9	9	9	9	9	9	9	9	8	9

Table 25: Rank Order of United Kingdom's export sectors (RCA 2)

Position / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	31	31	31	31	31	31	31	31	31	31
2	4	4	4	4	4	12	12	12	12	12
3	3	12	12	12	12	4	3	3	3	3
4	12	3	3	3	3	3	4	14	14	28
5	30	30	30	30	28	28	28	4	15	14
6	14	14	14	28	30	30	14	30	30	15
7	28	28	28	14	14	14	30	28	4	30
8	19	19	26	26	26	23	13	15	28	23
9	26	26	19	25	23	13	15	23	23	4
10	23	23	25	23	13	26	23	13	13	13
11	25	25	15	27	27	15	26	26	26	26
12	13	27	23	13	25	27	25	25	25	19
13	17	15	27	15	15	25	27	27	27	25
14	15	13	13	19	19	19	19	19	19	27
15	27	29	29	29	29	29	29	29	29	29
16	29	17	17	17	2	18	18	18	18	18
17	22	22	18	18	18	2	24	24	17	2
18	18	18	2	2	17	24	2	1	24	17
19	5	2	24	24	24	17	17	2	2	5
20	24	24	22	5	5	5	5	5	22	22
21	2	5	5	6	6	22	22	22	5	24
22	6	6	6	22	22	6	6	6	6	6
23	16	16	1	16	16	16	20	20	20	21
24	21	21	21	21	20	20	16	16	16	20
25	7	1	1	20	21	21	21	21	21	16
26	1	7	20	1	1	1	1	1	1	10
27	11	20	7	7	10	10	10	10	10	1
28	20	11	11	10	7	7	7	7	11	11
29	10	10	10	11	11	11	11	11	7	7
30	8	8	8	8	8	8	8	8	8	8
31	9	9	9	9	9	9	9	9	9	9

Table 26: Sectors with RCA-values indicating CCA in 1996 and 2005.

Austria

Rank	RCA1 Sector 1996	Value	Sector 2005	Value	RCA2 Sector 1996	Value	Sector 2005	Value
1	9	0,336	3	0,577	9	3,381	9	3,685
2	11	0,302	9	0,449	11	1,878	20	1,993
3	4	0,223	4	0,417	24	1,490	11	1,649
4	3	0,218	11	0,287	20	1,488	24	1,520
5	22	0,206	20	0,280	25	1,386	22	1,508
6	20	0,143	27	0,224	22	1,304	27	1,408
7	27	0,106	22	0,218	5	1,220	3	1,344
8	25	0,074	25	0,172	18	1,175	10	1,325
9	7	0,017	7	0,097	23	1,141	25	1,318
10	24	-0,036	26	0,071	31	1,130	18	1,296
11	31	-0,046	31	0,068	7	0,986	31	1,213
12	26	-0,049	29	0,052	10	0,943	4	1,187
13	5	-0,058	24	0,044	26	0,889	21	1,038
14	18	-0,069	21	0,023	8	0,871	23	1,028

France

Rank	RCA1 Sector 1996	Value	Sector 2005	Value	RCA2 Sector 1996	Value	Sector 2005	Value
1	3	0,685	3	0,657	3	2,302	3	2,312
2	2	0,347	2	0,234	2	1,728	2	1,515
3	14	0,247	14	0,219	20	1,558	7	1,495
4	17	0,239	7	0,210	14	1,418	20	1,429
5	20	0,184	27	0,183	17	1,330	14	1,411
6	29	0,166	29	0,138	1	1,221	17	1,358
7	27	0,157	17	0,114	29	1,182	29	1,266
8	22	0,101	20	0,089	13	1,154	1	1,167
9	7	0,073	22	0,024	22	1,124	22	1,058
10	28	0,047	1	-0,040	28	1,004	13	1,014
11	1	0,025	25	-0,060	23	1,003	27	0,969
12	13	0,000	28	-0,063				

Germany

Rank	RCA1 Sector 1996	Value	Sector 2005	Value	RCA2 Sector 1996	Value	Sector 2005	Value
1	4	0,380	4	0,524	25	1,261	29	1,274
2	25	0,373	12	0,380	29	1,199	25	1,242
3	12	0,342	25	0,363	13	1,189	27	1,176
4	27	0,317	29	0,325	30	1,155	26	1,120
5	26	0,290	26	0,288	27	1,089	4	1,113
6	26	0,268	27	0,279	17	1,083	30	1,109
7	14	0,206	24	0,272	26	1,083	23	1,102
8	13	0,204	21	0,246	24	1,075	13	1,087
9	24	0,189	30	0,243	23	1,016	24	1,064
10	20	0,159	18	0,192	28	1,012	17	1,031
11	30	0,151	13	0,175	18	0,936	18	1,011
12	17	0,123	20	0,169				
13	22	0,095	14	0,167				
14	18	0,080	11	0,146				
15	28	0,044	2	0,103				
16	11	0,003	22	0,093				
17	2	-0,005	17	0,093				
18	23	-0,069	28	0,048				
19	21	-0,087	19	0,042				
20	5	-0,107	9	0,021				

Italy

Rank	RCA1 Sector 1996	Value	Sector 2005	Value	RCA2 Sector 1996	Value	Sector 2005	Value
1	10	0,845	10	0,667	7	3,264	8	3,697
2	21	0,739	21	0,639	8	3,199	7	3,579
3	8	0,632	3	0,551	10	2,404	21	2,528
4	24	0,573	24	0,503	21	2,390	6	2,425
5	3	0,542	25	0,431	6	2,097	10	2,368
6	19	0,530	8	0,366	31	1,914	5	2,166
7	31	0,529	19	0,346	5	1,829	19	1,724
8	6	0,478	31	0,343	19	1,646	31	1,553
9	18	0,433	26	0,336	24	1,384	24	1,487
10	25	0,423	12	0,318	25	1,370	25	1,432
11	12	0,403	7	0,285	18	1,213	22	1,255
12	26	0,402	18	0,273	26	1,205	26	1,237
13	7	0,358	5	0,254	20	1,041	18	1,199
14	5	0,344	15	0,250	17	0,985	20	1,182
15	20	0,180	6	0,229	3	0,915	3	1,092
16	17	0,160	20	0,201	22	0,908	17	1,080
17	27	0,089	27	0,151				
18	29	0,022	17	0,110				
19	16	0,007	2	0,053				

The Netherlands

Rank	RCA1 Sector 1996	Value	Sector 2005	Value	RCA2 Sector 1996	Value	Sector 2005	Value
1	4	0,695	4	0,698	4	4,350	4	4,130
2	15	0,454	2	0,468	15	3,159	15	2,617
3	2	0,388	13	0,282	2	2,218	2	2,264
4	1	0,318	1	0,270	1	2,204	1	2,014
5	13	0,211	15	0,250	13	1,766	13	1,756
6	3	0,205	3	0,176	30	1,331	30	1,619
7	14	0,111	30	0,141	16	1,028	26	1,283
8	12	0,095	12	0,118	14	1,014	28	1,263
9	30	0,082	14	0,090				
10	5	0,020	25	0,085				
11	23	-0,012	5	0,064				
12	27	-0,012	22	0,041				
13	25	-0,031	26	0,029				
14	26	-0,032	28	0,021				
15	24	-0,053	27	0,010				
16	22	-0,055	18	0,004				

UK

Rank	RCA1 Sector 1996	Value	Sector 2005	Value	RCA2 Sector 1996	Value	Sector 2005	Value
1	4	0,703	4	0,434	31	2,071	31	2,395
2	14	0,223	14	0,126	4	1,995	12	1,791
3	19	0,192	12	0,095	3	1,818	3	1,531
4	3	0,184	27	0,090	12	1,570	28	1,477
5	12	0,183	22	0,026	30	1,389	14	1,397
6	21	0,119	25	0,003	14	1,359	15	1,380
7	15	0,105	15	-0,004	28	1,295	30	1,266
8	22	0,074	3	-0,015	19	1,223	23	1,188
9	25	0,074	30	-0,035	26	1,194	4	1,153
10	30	0,038	13	-0,065	23	1,081	13	1,097
11	27	0,030	28	-0,067	25	1,017	26	0,963
12	26	0,024	26	-0,106				
13	31	0,001	23	-0,136				

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