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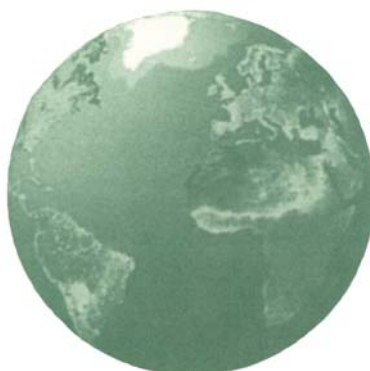
## W o r k i n g P a p e r s

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COMPETITIVENESS AND POSITION CHANGES OF  
HUNGARIAN MANUFACTURING PRODUCT GROUPS  
IN THE EU MARKET



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## SUMMARY

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By the end of the 1990s, Hungary entered a network of free trade agreements that virtually contained the current EU25 plus the associated countries as well. Apart from very few products imports were fully liberalized. Concerning the impacts of liberalization on competitiveness, we may conclude, that the major changes occurred when state licensing on production inputs and equipment was lifted. This was accomplished by 1994. Since then economic agents are free to import any type of production inputs and production equipment that they consider optimal for further growth and development. This means that import barriers to become competitive were eliminated. There was a steady tendency of declining customs duties (except 1994–1996). This was required by WTO and also by the signed free trade agreements. Except for a few goods like textile, apparel, passenger cars, and agricultural products low and declining tariff rates were applied, and quantitative restrictions were quickly eliminated. The process ended with the taking over the EU's *acquis* on customs including the CXT.

Competitiveness has become one of the key words and concepts used by economists in the last 20 years, but it has to be borne in mind that there is no one universally accepted definition behind it. Competitiveness implies elements of productivity, efficiency and profitability. But it is not an end or target in itself. It is a powerful means of raising living standards and increasing social welfare – a tool for achieving targets. The most important and commonly accepted factors in competitiveness seem to be the ability of an industry or country to improve its income and market share, along with the ability to enhance the quality of life for its people.

This paper presents evidence on whether or not the change in market share relates to the change in the opposite direction of price level (relative unit export value, RUEV; this paper compares the average price of a tonne of exports by Hungary to a tonne of exports from the EU). Both indicators can be used for measuring competitiveness, depending only on the definition. But what we are really interested in here is the success on foreign markets, and the simplest and

most accessible indicator of that is change in market share. This is the key indicator of these analyses. The intention with RUEV is simply to explain the change in market share.

Between 1996 and 2003 Hungary more than doubled its share in EU25 intra exports, and became one of the most important AC exporter in the enlarged market. In 2001 Hungary earned almost one from every four euro spent in the 10 accession country by other members of the EU. From 1999 the share of Hungarian exports to EU15 in the total exports of 10 accession countries to EU was slightly diminished, since in the previous years the country experienced quick increase.

In the Hungarian manufacturing industry more than 70 product groups (out of 95 analysed) increased its market share in the EU15 market, and more than two-thirds of them increased its relative unit export value (RUEV) simultaneously. The general trend of growth of the RUEV value show, that not only the quantity, but the quality of the products had increased during the period of analyses. The findings show that the RUEV of successful branches did not fall as market share grew. Hungarian firms did not necessarily need to lower

prices to increase their share in the EU market. Finally, no evidence could be found on the relation between the direction of change of market share and RUEV (using the very simple methodology of the study), which means that there may not be branch-specific relations between these indicators, or Hungarian manufacturers were able to sustain their relative price level by increasing quality, although this could not be measured directly.

## INTRODUCTION\*

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Manufacturing plays a very major role in Hungarian exports, with the European Union as a factor of great and still increasing importance in them. The change of economic structure (transition) and concentration of exports to the West started in 1990, but only in the last 10 years has it become indisputable and irreversible, in the short and medium term at least. This study seeks to identify the product groups and industries that were most competitive in the EU15 market in the 1995–2003 period. Competitiveness in this case means a growing market share and success in market penetration. An attempt is made to identify the main competitors for Hungarian industries and sectors, whether they are from the EU15, other accession countries (ACs) or third countries. A relationship is sought between change of market share and prices of Hungarian export products (relative unit export value, RUEV) in the EU15 and the relative unit labour cost (RULC).

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## COMPETITIVENESS

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Competitiveness has become one of the key words and concepts used by economists in the last 20 years, but it has to be borne in mind, that there is no one universally accepted definition behind it. Competitiveness is not an exact term, or rather, there are a handful of different definitions and indicators used. Common definitions include the ability of a country to achieve sustained high rates of growth in GDP per capita (World Economic Forum 1996), or to create added value and so increase national wealth by managing assets and processes, attractiveness and aggressiveness, globality and proximity, and by integrating these relationships into an economic and social model (International Institute for Management Development).

Competitiveness implies elements of productivity, efficiency and profitability. But it is not an end or target in itself. It is a powerful means of raising living standards and increasing social welfare – a tool for achieving targets. Globally, by increasing productivity and efficiency in the context of international specialization, competitiveness provides the basis for raising peoples' earnings in a non-inflationary way (Competitiveness Advisory Group, First report to the President of the Commission, the Prime Ministers and the Heads of State. June 1995).

Competitiveness can also be seen as a basic means of raising the standard of living, providing jobs for the unemployed, and eradicating poverty (Competitiveness Advisory Group, Second Report to the President of the Commission, the Prime Ministers and the Heads of State. December 1995). Others say competitiveness is the degree to which a nation can, under free trade and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long term (OECD). It is also defined as giving support for the ability of companies, industries, regions, nations or supra-national regions to generate relatively high factor income and factor employment levels, while exposed to international competition (OECD, 1996).

So the most important and commonly accepted factors in competitiveness seem to be the ability of an industry or country to improve its income and market share, along with the ability to enhance the quality of life for its people. Some of the definitions quoted so far apply to countries and others to industries or firms.

This paper presents evidence on whether or not the change in market share relates to the change in the opposite direction of price level (relative unit export value, RUEV; this paper compares the average price of a tonne of exports by Hungary to a tonne of exports from

the EU). Both indicators can be used for measuring competitiveness, depending only on the definition. But what we are really interested in here is the success on foreign markets, and the simplest and most accessible indicator of that is change in market share. This is the key indicator of these analyses. The intention with RUEV is simply to explain the change in market share.

The change in RUEV can be explained in two different ways. Lower price level could result from a change in the quality segment in which the industry competes, or just from price competition as competition strengthens. Higher RUEV can be explained by a change in quality segment again, and because it is very unlikely that a Hungarian exporter will increase prices because of its strong market position there is no other realistic explanation of it. The change of unit labour cost relative to the EU might be a reason behind the change in market share.

The descriptive analyses of the change in market shares among Hungarian manufacturing industries in recent years is followed by a search for evidence of a relation between RUEV on the one hand and change in market position on the other. The first part looks for change in the position and tries to identify the real competitors to Hungarian industries. Are they from elsewhere in the EU, from other ACs, or from third countries?

## CHANGES IN PRODUCT-GROUP POSITIONS IN THE INTRA EX- PORTS OF AN ENLARGED EU MARKET

Relative unit export value (RUEV) is used here as a measure of the quality position of Hungarian exports as compared with the intra-EU15 exports of a given product group. Unit export value is defined as nominal export sales divided by tonnes. A drop in RUEV indicates a decline in relative prices and increasing price competition, or change of quality segment, as mentioned earlier.

*Table 1* describes the basic characteristic of Hungarian manufacturing export penetration (market shares) in the EU market.<sup>1</sup> 'Share of Hungarian exports to EU in enlarged EU25 intra exports'

denotes Hungary's percentage share of the total exports of the EU25 to other member-states. It can be seen that Hungary more than doubled its share in EU25 intra exports over the period analysed (1995–2001, 0.7 to 1.5 per cent) and became one of the most important AC exporters in the enlarged market (a 24.7 per cent share of the total exports of the 10 ACs). This means that Hungary earned almost one in every four euros spent in the 10 ACs by other members of the EU in 2001. The rate of growth was steady because the main (drastic) part of the restructuring of manufacturing production had ended in Hungary by 1995–6.

One sign of competitive weakening in manufacturing can be seen in the last four years (2000–2003), when the share of Hungarian exports to the EU15 in the total EU exports of the 10 ACs slightly diminished: it was 22.6 per cent in 2003, down from a 1999 peak of 25.6

Table 1  
Changes in the share of Hungarian exports in enlarged EU25 intra imports,  
in exports of 10 acceding countries to the EU and in external imports of the EU  
(per cent)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Share of Hungarian exports to EU in enlarged EU25 intra exports	0.7	0.8	1.0	1.1	1.2	1.3	1.5	1.5	1.5
Share of exports of 10 ACs to EU15 in enlarged EU25 intra exports	3.8	3.8	4.1	4.5	4.9	5.3	5.9	6.1	6.8
Share of Hungarian exports to EU15 in the total exports of 10 ACs to EU15	18.8	20.6	23.1	24.1	25.6	25.0	24.7	23.8	22.6
Share of EU15 imports from Hungary in EU15 external imports (excluding imports from new member states)	1.8	2.0	2.3	2.6	2.9	2.9	3.3	3.4	3.6

*Source:* Own estimates based on Comext database.

<sup>1</sup> Calculations were based on the Eurostat Comext database.

per cent after a rapid increase. One reason could be that Hungary had lost

some of its advantage in FDI attraction by then. For example, foreign firms in Poland were starting to orient production increasingly to the EU market in the final years. Initially, the Polish market alone had been big enough to attract investment, whereas foreign investors in Hungary were oriented to the EU15 market from the outset, coupled later to a small extent to the East European regional market.

The growth rate of Hungarian exports to the EU was much higher than that of EU15 intra exports (*Table 2*) – here EU15 intra exports again means total exports of EU15 member-states towards other EU15 member-states. The years after 1995 were a boom period for Hungarian manufacturing, but it can be seen that the growth rate was more modest in 2001 (10.3 per cent), and experienced quasi stagnation in the last two years. The reason behind this was not just weakening competitiveness of the sector, but the beginning of recession in the EU after 2000, apparent in the table as negative values. The fact that Hungary's exports to the EU grew by 26 per cent in 2000, while little of EU im-

ports from the 10 ACs was being lost (*Table 1.*) shows that other ACs increased their exports to the EU even more than Hungary did.

*Table 3* likewise shows how big a share of steadily growing EU import capacity Hungarian producers took. Hungary was highly successful in the EU15 market in this period, but its share in the total exports of the ACs to the EU15 slightly diminished from 2000 to 2003. The changes in three indicators are examined in this table, two of which relate directly to Hungary. The share of Hungary's manufacturing sectors in EU25 intra exports and in EU15 extra imports (from non-member countries) increased throughout the period analysed, but parallel with the change of market share of the group of the 10 ACs, the years 1995–8 are obviously the most prosperous (Column 1), while from 1999, the speed of growth of Hungary's market share decreased significantly (Column 5). With the average growth rates of the market shares of the 10 ACs in the

Table 2  
Rates of growth of Hungarian exports to the EU and of EU15 total intra exports  
(per cent)

	1996	1997	1998	1999	2000	2001	2002	2003
Rate of growth of EU15 intra export	5.0	9.4	9.1	5.8	16.8	-0.3	0.1	-3.0
Rate of growth of Hungary's exports to EU	16.2	34.8	25.9	21.1	26.0	10.3	1.8	3.1

*Source:* Own estimates based on Comext database.

Table 3  
Changes in share of Hungary's exports to the EU in EU25 intra exports  
and in EU extra imports, and of exports of 10 acceding countries in EU25 intra exports  
(per cent)

	1995– 1998	1996– 1998	1998– 2000	1996– 2000	1998– 2001	2000– 2001	1995– 2001	2001– 2003	1998– 2003	1995– 2003
Changes in share of Hungary's exports to EU15 in enlarged EU25 intra exports	53.7	39.7	22.2	70.7	33.7	9.4	105.4	2.5	39.7	119.6
Changes of share of total exports of 10 ACs in enlarged EU25 trade	20.2	19.4	17.7	40.6	30.4	10.8	56.7	15.4	51.3	79.2
Changes of share of Hungary's exports to EU15 in EU15 extra imports	46.8	32.2	11.0	46.7	25.3	12.9	83.9	9.1	38.5	100.0

Source: Own estimates based on Comext database.

EU25 market, Hungary had a big advantage in the first period (1995–8 – 53.7 per cent, against an average of 20.2 per cent), but Hungary's market share converged on the average in the second period (1999–2001 – 33.7 per cent, against a 20.4 per cent average), and in the final three years we experienced lower than average growth rates. However, other ACs may also have increased their share in the EU15 market to a greater extent than their share in the EU25 market.

Table 4 shows an increased Hungarian share of the EU15 market for over

70 product groups (46 + 25 out of 95 analysed) and more than two-thirds of these increasing their RUEV as well. As the size of the industry groups did not change much (but we can see the sign of the already mentioned negative trend of the last three years), it can be concluded that there was no strong shift to strengthen the price competitiveness of Hungarian manufacturers. This is further evidence for the hypothesis that the restructuring of manufacturing largely happened in the early 1990s; the second part of the decade was a time of rapidly growing shares of the EU import

Table 4  
Allocation (number) of product groups by changes in RUEV and relative export dynamics  
(percent)

	1996-1998		1998-2001		1996-2003		2001-2003	
	Relative exports up	Relative exports down	Relative exports up	Relative exports down	Relative exports up	Relative exports down	Relative exports up	Relative exports down
RUEV up	43	15	46	17	58	15	36	20
RUEV down	26	11	25	7	18	4	22	19

Source: Own estimates based on Comext database.



market. Our results on the years 2001–2003 show, that after 1998–1999 Hungary have started to lose its advantage to their Eastern-European competitors. But the general trend of the growth of the RUEV shows, that quality as well as quantity of products improving during the period of analyses.

Hungarian manufacturing was classified according to two criteria: relative dynamics of growth of Hungary's EU15 exports (relative to that of EU15 intra exports) and changes in the RUEV of Hungary's exports. The exports were examined in four sections: (i) product groups increasing both RUEV and exports to the EU15 faster than EU15 intra exports, (ii) those increasing RUEV and the dynamics of exports to the EU15 less than the dynamics of EU15 intra exports, (iii) those with decreasing RUEV, while exports to the EU15 increased more slowly than EU15 intra exports, and (iv) those that decreased RUEV, while the dynamics of their exports to the EU15 were stronger than those of EU15 intra exports.

With the homogeneity of the groups (proxied by standard deviation,  $\sigma$ ), *Table 5* shows big differences of price position among the best performing Hungarian industries – those that increased market share in the EU15 and their RUEV over the period analysed. But the big decrease in the average RUEV of the best performing industries (from 2.21 to 1.08) and the fact that only 23 out of 43 in-

dustries (*Table 6*) qualified for this elite group for the next sub-period and only 7 of these for the third as well prove, that there was indeed strong pressure on Hungarian manufacturers to lower prices after 1998. But even in this second sub-period, their prices were still 8 per cent higher than those of their EU15 competitors.

*Table 4* shows that in terms of changes in market position of Hungarian exporters on the EU market there were two segments, one consisting of sections that increased competitive pressure on EU15 exporters – Sections (iv) and (i) in *Table 5* – and the other of sections that were eased out of the EU market by EU15 exporters. In 1998–2001, 46 product groups shifted to a higher quality section (i), 25 product groups gained higher percentages of the market at the cost of increasing prices, and 17 product groups were able to increase their RUEV, but this involved decreased market shares for these. Finally, 23 product groups faced such strong competition that even the reduced RUEV could not prevent them from losing market share. But only 7 of these product groups was able to maintain this production in our third sub-period.

*Table 5* compares average RUEV of the different sections of industries. These are averaged annual averages. Standard deviation ( $\sigma$ ) tells us how homogeneous the different subgroups are. It must be underlined that the composition of the

Table 5  
Differentiation of RUEV (Hungary vs. EU15)  
in sections of Hungary's manufacturing exports  
(per cent)

Sub-period		Section (i)	Section (ii)	Section (iii)	Section (iv)	M
1996-1998	M	2.21	0.94	0.83	0.60	1.41
		6.27	0.58	0.48	0.30	4.29
1998-2001	M	1.08	0.98	0.77	0.74	0.95
		0.98	0.47	0.41	0.41	0.76
2001-2003	M	1.19	1.07	0.89	1.78	1.79
		1.63	0.48	0.44	3.82	2.10
1996-2003	M	1.04	0.91	0.86	1.50	1.48
		1.11	0.45	0.16	2.45	1.40

Source: Own estimates based on Comext database.

sections differs between the sub-periods, however. One industry may be member of Section (i) in 1996–8 and Section (iii) for example in 1998–2001. It can be concluded that the very high RUEV in 1996–8 for Section (i) (2.21) is due to some extreme values, as the standard deviation show extreme heterogeneity. The big decline in RUEV in this section shows that in the second sub-period, the industries with the highest RUEV were unable to increase it further. Likewise, the industries with the lowest RUEV (ii)

did not suffer further decreases of RUEV. (The average RUEV increased in this subgroup.)

Since in both sub-periods, as many as 7 product groups (see Annexe, Table A7) improved RUEV as well as relative exports dynamics, it was decided to look more carefully at this area of Hungarian exports.

In *Table 6*, the average RUEV of the 7 industries able to increase their RUEV and market share simultaneously in both sub-periods was much lower than the

Table 6  
Average RUEV and standard deviation of 7 product groups that increased relative export dynamics and RUEV in the first two sub-periods

7 common product groups		1996-1998	1998-2001	2001-2003	1996-2003
RUEV	M	0.84	0.98	1.24	1.04
		0.14	0.22	0.41	0.25
	Variability ration	0.17	0.22	0.33	0.24
	Skewness	0.27	0.43	1.02	0.75
RUEV (rates of growth)	M	1.21	1.15	1.27	1.93
		0.21	0.11	0.28	0.88
	Variability ration	0.18	0.10	0.22	0.46
	Skewness	1.19	0.14	2.43	1.44

Source: Own estimates based on Comext database.

Table 7  
RUEV of 23 product groups across the two sub-periods analysed

	Average RUEV (no. of product groups) in categories where RUEV > average RUEV of 23 'best' groups	Average RUEV (no. of product groups) in categories where RUEV < average RUEV of 23 'best' groups
1996–8	0.92 (13)	0.43 (10)
1998–2001	1.20 (11)	0.67 (12)

*Source:* Own estimates based on Comext database.

total Hungarian manufacturing average and much lower (at least in the first two sub-period) than that of the EU15, but it was rising rapidly. These groups are much more homogeneous than Section (i) in either sub-period, which means that the industries with very high RUEV in 1998 was unable to sustain it and those successful in the longer term were those with modest, but steady growth of RUEV. We can see, that they was able to raise their RUEV to more than 1 (at least 5 of them) in the third sub-period.

The 23 product groups are divided into two sections based on average RUEV.

In both sub-periods, the average RUEV of Hungarian exports in the above-average group was relatively close to the EU average and improved by close to 30 percentage points between the two. Hardly more than 50 per cent of the most successful industries (these 23) managed to increase market share or RUVE in a situation where RUEV was already higher than the average manufacturing RUEV in the EU. This means that they operate in high-quality segments of manufacturing. The other 50 per cent works in low-RUEV industries.

Ultimately, Hungarian manufacturers in most of these industries managed to compete successfully with their EU counterparts, and most of the successful industries gained market share without sacrificing their price level.

In this final part of the paper, an attempt is made to distinguish product groups and industries that out-competed producers in other EU member-states or third-party producers from those out-competed by such producers. Two main segments of AC exports to the EU15 are distinguished, as are two groups within each.

(I) Product groups whose export dynamics to the EU15 are higher than EU15 and EU25 intra trade. This suggests that AC products pushed EU15 and EU25 products out of the EU15 market or that AC exports captured an increasing proportion of EU15 and EU25 intra trade. In Group (I), the dynamics of exports to the EU15 was higher than intra EU15 and EU25 trade, but the share of these in EU external imports increased. These were the groups where competitiveness increased. They out-competed all types of sup-

pliers on the EU markets. In Group 2, the dynamics of exports to the EU15 is higher than intra EU15 and EU25 trade, but the share of these groups in EU external imports declined. In other words, they lost some of the EU market to non-EU suppliers.

- (II) Product groups whose export dynamics to the EU15 are lower than the dynamics of EU15 and EU25 intra trade. This shows which AC product groups were being pushed out of the EU market. In Group (1) here, the dynamics of exports to the EU15 were lower than dynamics of the EU15 and EU25 intra trade, but the share in EU15 external imports increased. This means these groups were pushed out of the EU15 market by EU15 and EU25 exporters, but out-competed non-EU suppliers in EU markets. In Group (2), the dynamics of exports to the EU were lower than the dynamics of EU15 and EU25 intra trade and their share in EU external imports diminished as well. These AC groups show diminished competitiveness and were out-competed by all suppliers in the EU15 market

As the three distinguishing indicators, change in RUEV is given where possible, with share of Hungarian exports to the EU15 in EU15 intra trade (2003) and share of Hungarian exports to the EU15 in EU25 intra trade (2003) and share of import from Hungary in total EU15 ex-

tra import (except for 9 AC). Our period of analyses was 1996–2003. In the columns with share of Hungarian exports to the EU15 in EU15 intra trade (2003) and share of Hungarian exports to the EU15 in EU25 intra trade (2003), the highest ten values and lowest ten values are shown. By these is meant the industries in which Hungary has the most and least importance in the EU15 market.

*Table 8* shows that in the analysed periods, Hungarian manufacturers were competitive with EU counterparts in about 73 of the 95 product groups (Segment I) and most of these (62) were also competitive against third-country competitors. It is interesting that in the markets for 22 product groups, Hungarian manufacturers were out-competed by EU15 and EU25 products, but third-country makers lost smaller share of the market than Hungarians did or even gain share. We can see, that Hungary in the field of manufacturing production if increased its market share, it was because it competed out producers originated mainly from EU member states. But when Hungarian producers lost market share they was competed out by third-country producers.

There is no big difference between segments and groups according to whether their RUEV increased or decreased (*Tables 9*). *Tables 10* seem to show more interesting findings: the average RUEV of industries in Segment I is

Table 8  
Segments and groups of industries, 1996–2003

	Segment I	Segment II
Group 1	152, 153, 154, 155, 156, 157, 158, 171, 172, 175, 176, 183, 192, 201, 203, 211, 212, 222, 233, 244, 245, 246, 247, 251, 252, 261, 268, 273, 274, 282, 283, 286, 287, 291, 292, 293, 294, 295, 296, 297, 300, 311, 312, 313, 314, 316, 321, 322, 323, 331, 332, 334, 341, 343, 351, 352, 353, 354, 361, 362, 363, 366 (62)	151, 181, 202, 364 (4)
Group 2	177, 204, 262, 263, 265, 266, 267, 281, 315, 342, 355 (11)	159, 160, 174, 182, 191, 193, 205, 221, 231, 232, 241, 242, 243, 264, 271, 272, 335, 365 (18)

Source: Own estimates based on Comext database

highest than that of the EU, while those out-competed by the EU are the lowest.

Thus Hungarian industries reveal no significant differences in level or change of RUEV in relation to success or failure in the EU market against competitors from EU or third countries.

Table 9  
Number of industries in which RUEV increased (1996–2003)  
(per cent)

	Segment I	Segment II
Group 1	44 (71)	4 (100)
Group 2	8 (73)	12 (67)

Source: Own estimates based on Comext database.

Table 10  
Average RUEV and no. of product groups where RUEV is higher than 1, 1996–2003

	Segment I	Segment II
Group 1	1,13 (16/62)	1,08 (2/4)
Group 2	1,02 (4/11)	1,04 (7/18)

Source: Own estimates based on Comext database.

## CONCLUDING REMARKS

Hungarian manufacturing industries increased their share in the EU market in the period analysed (1995–2003) and play an important role in this respect among the ACs. They compete mainly with EU-based counterparts for the EU market, third-country producers playing a minor role from Hungary's point of view. Hungarian firms did not necessarily need to lower prices to increase their share in the EU market. The findings show that the RUEV of successful branches did not fall as market share grew. Finally, no evidence could be found of a relation between the direction of change of market share, RUEV (using the very simple methodology of the study), which means that there may not be branch-specific relations between these

indicators, or Hungarian manufacturers were able to sustain their relative price level by increasing quality, although this could not be measured directly.

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## ANNEXE

Table A1  
Classification of Hungarian manufacturing by changes in position on EU25 intra exports

	1996–8	1995–8	1998–2001	1995–2001
Rise in Hungarian export share in total EU25 intra exports	155, 159, 160, 171, 172, 175, 176, 177, 181, 182, 183, 193, 201, 202, 204, 205, 211, 212, 222, 233, 241, 242, 245, 246, 247, 251, 252, 261, 262, 263, 264, 267, 268, 272, 274, 281, 282, 283, 286, 287, 291, 292, 293, 294, 295, 296, 297, 300, 311, 312, 315, 316, 321, 322, 323, 331, 332, 334, 335, 341, 342, 343, 351, 352, 355, 361, 364, 366 (68 groups)	151, 154, 155, 157, 158, 159, 171, 172, 175, 177, 181, 182, 183, 193, 201, 202, 204, 205, 211, 212, 222, 233, 242, 243, 245, 246, 247, 251, 252, 261, 262, 263, 264, 267, 268, 281, 283, 286, 287, 291, 292, 293, 294, 295, 296, 297, 300, 311, 312, 313, 314, 315, 316, 321, 322, 323, 331, 332, 334, 341, 343, 351, 352, 353, 354, 355, 361, 364, 366 (69 groups)	151, 152, 153, 155, 156, 157, 171, 172, 175, 176, 177, 183, 193, 201, 203, 204, 211, 212, 222, 241, 244, 245, 246, 251, 252, 261, 262, 265, 266, 267, 268, 273, 274, 281, 282, 283, 286, 287, 291, 292, 293, 294, 295, 296, 297, 300, 311, 312, 313, 314, 315, 316, 321, 322, 323, 331, 332, 334, 335, 341, 342, 343, 351, 352, 353, 354, 361, 362, 363, 366 (70 groups)	151, 155, 156, 157, 171, 172, 175, 176, 177, 183, 193, 201, 202, 204, 211, 212, 222, 233, 241, 242, 245, 246, 247, 251, 252, 261, 262, 263, 264, 265, 267, 268, 273, 274, 281, 282, 283, 286, 287, 291, 292, 293, 294, 295, 296, 297, 300, 311, 312, 313, 314, 315, 316, 321, 322, 323, 331, 332, 334, 341, 342, 343, 351, 352, 353, 354, 361, 362, 363, 364, 366 (72 groups)
Fall in Hungarian export share in total EU25 intra exports	151, 152, 153, 154, 156, 157, 158, 174, 191, 192, 203, 221, 231, 232, 243, 244, 265, 266, 271, 273, 313, 314, 353, 354, 362, 363, 365 (27 groups)	152, 153, 156, 160, 174, 176, 191, 192, 203, 221, 231, 232, 241, 244, 265, 266, 271, 272, 273, 274, 282, 335, 342, 362, 363, 365 (26 groups)	154, 158, 159, 160, 174, 181, 182, 191, 192, 202, 205, 221, 231, 232, 233, 242, 243, 247, 263, 264, 271, 272, 355, 364, 365 (25 groups)	152, 153, 154, 158, 159, 160, 174, 181, 182, 191, 192, 203, 205, 221, 231, 232, 233, 242, 243, 244, 266, 271, 272, 335, 365 (23 groups)

*Source:* Own estimates based on Comext database.

Table A2  
Classification of Hungarian manufacturing by changes in RUEV  
and relative export-growth dynamics, 1996–1998

	Product groups where dynamics of exports > dynamics of EU15 intra exports	Product groups where dynamics of exports < dynamics of EU15 intra exports
Product groups where RUEV increased	155, 159, 171, 182, 202, 211, 233, 241, 242, 245, 246, 251, 252, 261, 262, 267, 268, 272, 274, 286, 287, 292, 294, 296, 297, 300, 311, 312, 315, 316, 322, 323, 331, 332, 334, 335, 341, 342, 351, 355, 361, 364, 366 (43 groups)	151, 153, 154, 158, 191, 192, 221, 231, 232, 243, 271, 273, 313, 354, 365 (15 groups)
Product groups where RUEV decreased	160, 172, 175, 176, 177, 181, 183, 193, 201, 204, 205, 212, 222, 247, 263, 264, 281, 282, 283, 291, 293, 295, 314, 321, 343, 351 (26 groups)	152, 156, 157, 174, 203, 244, 265, 266, 353, 362, 363 (11 groups)

*Source:* Own estimates based on Comext database.

Table A3  
Classification of Hungarian manufacturing by changes in RUEV  
and relative dynamics of export growth, 1998–2001

	Product groups where dynamics of exports > dynamics of EU15 intra exports	Product groups where dynamics of exports < dynamics of EU15 intra exports
Product groups where RUEV increased	152, 157, 171, 175, 177, 183, 201, 203, 204, 222, 241, 244, 251, 252, 261, 262, 265, 268, 274, 281, 282, 283, 286, 292, 293, 295, 297, 311, 312, 313, 314, 315, 316, 322, 331, 332, 341, 342, 343, 351, 352, 353, 361, 362, 364, 366 (46 groups)	154, 158, 160, 174, 181, 191, 192, 202, 205, 231, 242, 243, 247, 263, 264, 272, 355 (17 groups)
Product groups where RUEV decreased	151, 153, 155, 156, 172, 176, 193, 211, 212, 245, 246, 266, 267, 273, 287, 291, 294, 296, 300, 321, 323, 334, 335, 354, 363 (25 groups)	159, 182, 221, 232, 233, 271, 365 (7 groups)

*Source:* Own estimates based on Comext database.

Table A4  
Classification of Hungarian manufacturing by changes in RUEV  
and relative dynamics of export growth, 1996–2000

	Product groups where dynamics of ex-ports > dynamics of EU15 intra exports	Product groups where dynamics of exports < dynamics of EU15 intra exports
Product groups where RUEV increased	153, 155, 157, 171, 177, 183, 201, 202, 204, 205, 241, 242, 247, 251, 252, 261, 262, 263, 265, 267, 268, 274, 282, 283, 286, 292, 294, 295, 296, 297, 300, 311, 312, 313, 314, 315, 316, 322, 323, 331, 332, 335, 341, 342, 343, 351, 352, 353, 355, 361, 362, 364, 366 (53 groups)	151, 152, 154, 158, 159, 160, 181, 182, 191, 192, 221, 231, 243, 244, 271, 272 (16 groups)
Product groups where RUEV decreased	156, 172, 175, 176, 193, 211, 212, 222, 233, 245, 246, 264, 273, 281, 287, 291, 293, 321, 334, 354 (20 groups)	174, 203, 232, 266, 363, 365 (6 groups)

*Source:* Own estimates based on Comext database.



Table A5  
Classification of Hungarian manufacturing according to changes in RUEV  
and relative dynamics of export's growth  
(2001–2003)

	Product groups which dynamics of exports > dynamics of EU-15 intra exports	Product groups which dynamics of exports < dynamics of EU-15 intra exports
Product groups which RUEV increased	153,154,171,172,175,176,183,192,203,211,221,222,244,245,246,247,251,252,261,266,268,273,274,281,287,291,292,293,294,295,300,313,321,353,354, <b>361,363</b> (total 37)	152,157,158,159,160,262,272,282,286,297,311,312,316,322,323,331,332,343,362,366 (total 20)
Product groups which RUEV decreased	151,174,181,182,193,201,202,205,233,242,263,264,265,267,296,341,351,352,355,365, (total 20)	155,153,177,191,204,212,231,232,241,243,271,283,314,315,334,335,342,364 (total 18)

Source: own estimation basing on Comext database.

Table A6  
Classification of Hungarian manufacturing according to changes in RUEV  
and relative dynamics of export's growth  
(1996–2003)

	Product groups which dynamics of exports > dynamics of EU-15 intra exports	Product groups which dynamics of exports < dynamics of EU-15 intra exports
Product groups which RUEV increased	153,154,156,157,158,159,171,183,192,201,203,204,211,244,247,251,252,261,262,263,265,267,268,273,282,283,286,287,291,292,293,294,295,297,300,311,312,313,315,316,322,331,332,341,342,343,352,353,354,355,361,362,363,366 (total 54)	152,155,172,175,176,177,212,222,233,245,246,266,274,281,296,314,321,323,334,351 (total 20)
Product groups which RUEV decreased	151,174,181,182,191,202,205,221,231,241,242,243,264,271,272,364 (total 16)	160,193,232,335,365 (total 5)

Source: own estimation basing on Comext database.

Table A7  
The 7 'best' product groups which increased RUEV and relative dynamics of exports

The 7 product groups which increased their RUEV and relative export dynamics in all sub-periods (96-98; 98-01 and 01-03)
171,251,252,261,268,274,361

Source: own estimation basing on Comext database.