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IN MANAGEMENT SCIENCES AND BUSINESS ADMINISTRATION

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**Based on Value and Price Methods
in Measurement of Competitiveness of Foreign Trade
on the example of Hungarian Meat Products**

PhD Thesis Summary

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1. The Backgrounds and the Aims of the Research

The aim of foreign trade and agrarian foreign trade, besid the limited availability of resources, is to increase the welfare of countries and that of their consumers by extending the possibilities of consumption. The foreign trade of the world is extending dynamically; the question is how the foreign trade position of each country is changing in the meantime.

The competitiveness of foreign trade is quite a complex notion, and the cognition of this phenomenon justifies a multilateral approach. Thus there is a wide range of methods applied in the analysis of foreign trade competitiveness. The principal aim of the dissertation is connected to the calculation of foreign trade competitiveness, the systematization of indicators and methods based upon data of foreign trade value – price – volume and the synthetization of results including numerous details. From another viewpoint, along with the enrichment of methods, it is expected that connections come up more extensively, and redundancy increases data mass unnecessarily and makes acumen more difficult. Excessive diversity obstructs the comparison of emprical results of different methodological backgrounds.

It is important to survey the relating points between methodological elements, to point them out partly by mathematical demonstration, partly in an empirical way. The constructive succession, perfection can be traced back in several cases in methodology. The researcher's fundamental task is to choose the suitable method, which includes the essential core of the precedents, and to prevent its weaknesses.

The author examines two big methodological groups, which are an appropriate analytical means of foreign trade competitiveness; these are value- and price-based measuring numbers. The related scientific literature marks clearly the two fields off from each other, however, their joint application, based upon the relation between price and value (price·volume=value), makes a more detailed, more complex analysis and further consequences possible.

Researches applying value- and price-based indicators often mention the fundamental problems of these methods, the data distorted by governmental interventions, which may lead to false conclusions in the analysis of orientation and specialization of foreign trade, the ex-post character, which has a minor importance in economical decision-making, as well as the lack of theoretical foundation in some cases. Nevertheless, the fact is that indicators, beside the data being available in the suitable way, can be relatively easily and simply calculated in the course of researches, thus they are very popular despite the imperfections and weaknesses mentioned above.

Methodological explanations are completed with empirical analysis. The researcher's aim to improve methodology – the systematization of numerous indicators and procedures to analyse competitiveness, their limitation to the most essential, the possible joining of methods – can be

achieved only in this way.

The product group of meat, meat products and further 61 products constitutes the target of analysis. The choice of product group is explained by the fact that relatively few products may cover a considerable part of the agrarian foreign trade, which, due to its foreign trade balance, has always played a crucial role in the foreign trade of the sector. This product range used to have the greatest share for a long time, but, regrettably, it is declining at present.

The product level analysis has partly a methodological reason, higher aggregation may hide the eventually differing results between product level and product group. On the other hand, product level analyses have a relatively poor scientific literature, this research would like to contribute to its enrichment.

Competitveness analysis applies to the period between 1997 and 2007. At the time of writing the dissertation, as for the year 2008, the range of countries providing the data was incomplete in the UNO COMTRADE database employed in the analysis.

The aim of the empirical analysis is to answer the following questions: To what extent can the unfavourable changes of the product group be considered general? Are there products which, contrary to the tendency of the product group, may make a breakthrough for the sector?; Does the processing level of the products influence results, and does change affect the various kinds of meat?

The dissertation touches on the role of the target country/country-group, examines the effect of economic integration, and the eventual differences of trade with the European Union[1] and the Third World countries, furthermore, it deals emphatically with the Central and Eastern European countries[2], which have always played a significant role in Hungary's foreign trade due to geographical proximity, the same effects of international politics, power dominancies, as well as regional trade previously encouraged by CEFTA.

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[1] In the dissertation the European Union refers to the 27 members of the EU regarding the whole studied period.
[2] Central and Eastern European countries are defined differently in some studies. The author means seven countries by Central and Eastern European countries, namely Hungary, Bulgaria, the Czech Republic, Poland, Romania, Slovakia and Slovenia.

2. The Methods and the Database of the Research

According to the aims defined above, the treatment of scientific literature requires a particular methodological approach. The aim was not only to get to know the international and national sceintific literary backgrounds, or to present a critical comment on it but it was also a motivating fact to expose the more profound complexities of methods, to formulate new aspects concerning applications.

The empirical analysis required a world-wide foreign trade database. The analyses concerning foreign trade and its competitiveness are fundamentally based on data of two nomenclatures: Standard International Trade Classification – SITC and Harmonized System – HS.

Based on two databases the study provides an overview of the long-term tendencies of the international and national meat market as well as the various aspects of foreign trade – having influence on competitiveness - in the past ten years. Food and Agriculture Organization of the United Nations (FAO), the system of FAOSTAT provided the data to the former, while Commodity Trade Statistics Database (COMTRADE), database of the United Nations Organization did so for the latter. It is possible to search for data according to SITC (Rev. 1, 2, 3, 4), or HS (92, 96, 02, 07) or BEC nomenclature in COMTRADE database, while FAOSTAT based FAO codes on HS classification system.

To supply information for the calculations on foreign trade competiveness the search for data in the UNO database was finished in September 2009. Then according to the statistics of the database the range of countries providing the data is rather incomplete regarding the years before 1997 and the year 2008. It is significant because the data of the world[3] and that of the third world countries were needed to carry out the calculations. The studied period was marked in the light of the available data; the analysis covers the period between 1997-2007. The data come from the HS92 classification system.

In both the static and the dynamic analytical methods to compare the states of the beginning and end of the period, the calculations were carried out on the basis of average foreign trade data of the first (1997-99) and the last (2005-07) three consecutive years instead of the values of the extreme years of the chosen period. This way it was possible to moderate the sensitivity of the results of procedures based on the data of one single year.

The study examines the competitiveness of 61 products, product group level competitiveness and its trends; it also deals with the eventually different tendencies regarding the processing and the main meats (poultry, pork, beef, mutton and other kinds of meat).

Based on databases mentioned above, altogether 24 products and product group level

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3 The author studies the data of 120 countries whose collective proportion of the world's foreign trade is 95 %.

specialization indexes were calculated. In the course of competitiveness studies proportions and territorial comparative relative numbers (product group structure and relational competitiveness positions) play a crucial role. Proportions constitute the base of the concentration of foreign trade and also that of concentrational and similarity indexes suitable for analysis of structural changes.

The changes in the export and export share of meat and meat products are analysed with the help of 4 models given in scientific literature and their 2 modified versions. The foreign trade position of the products are clearly described by the quantified exchange rates of the study, the net export values, the particular price and volume indexes and their relational results as well as the product level export shares and their changes. The time change is shown by simple time series analytical methods and trend functions fitted on time series. Calculations were done with the help of EXCEL and ACCESS 2007 programmes.

The aim of the study is to examine the consistency of methods. Regarding the specialization indexes quantifying competitiveness, the content-based correspondance of the results can be assessed on three levels as the final result of the measuring numbers may be taken as binary variable, ordinal number and numerical value measurable on ratio scale.

The scientific literature examined, in case of the ordinal and cardinal tests, the co-motion of the results of two-two indexes by applying some relational-analytical index. Due to the difficulties of comparison per pairs the aims of the study are mostly achieved with multi-dimensional procedures. The study presents then employs these multi-variable analytical means. Kendell's concordance index examines the co-motion of product sequences based on specialization indexes. The factor analysis reflects the informational content of the indexes with fewer factors, facilitates the systematization of indicators. The method of cluster analysis helps the classification of products based on their similarity from the viewpoint of competitiveness. Both the factor and the cluster analyis were carried out with the help of programme SPSS 15.0.

3. Hypotheses

Based upon the train of thought outlined in the introduction, hereby I will expound on my methodological hypotheses concerning the analysis of foreign trade competitiveness as well as my practical hypotheses regarding the tendency of the foreign trade position of national meat products:

1 There are several solutions to quantify the competitveness of foreign trade. The range of specialization indexes which are part of the methodology is extremely diverse. According to the hypothesis the measuring numbers interrelate and can be systematized. Indicators of the same logical bases permit to draw similar consequences. Therefore, hypothetically, the content of information of the great number of indexes elaborated in scientific literature can be guaranteed with the employment of much fewer indexes. The information on the theoretical background of the measuring numbers used in the analysis and the mathematical demonstration of the relationship between them are included in subchapter 1.3.1. The consistency examination based on empirical data is in subchapter 4.1.2.

2 Beside value-based indexes, the price-based measuring numbers are also suitable for analysing the position of foreign trade. Linking the two kinds of indicators makes the separation of effective factors and the recognition of their individual role possible. It is proved in chapter 1.6. The application of methodology is presented in subchapters 4.1.3, 4.2.2. and 4.2.3.

3 Due to the structural alteration in agriculture after the regime change national meat production declined significantly, the export of meat and meat products decreased. According to the hypothesis, during the studied period (1997-2007), the position of the product group did not improve; moreover, furthur detorioration of competitiveness took place. Supposedly, this change cannot be considered general, contrary to the tendency of the product group level, there may be products that constitute a breakthrough for the sector.

Each subchapter of chapter 4 examines the competitiveness of the products belonging to the studied product group with the help of various methods.

4 As a result of free trade due to the accession to the European Union, rearrangements regarding trade within the sector and a focal shift regarding country groups occurred. Findings on the tendency of trade can be found partly in chapter 3.3, partly in subchapter 4.1.3.
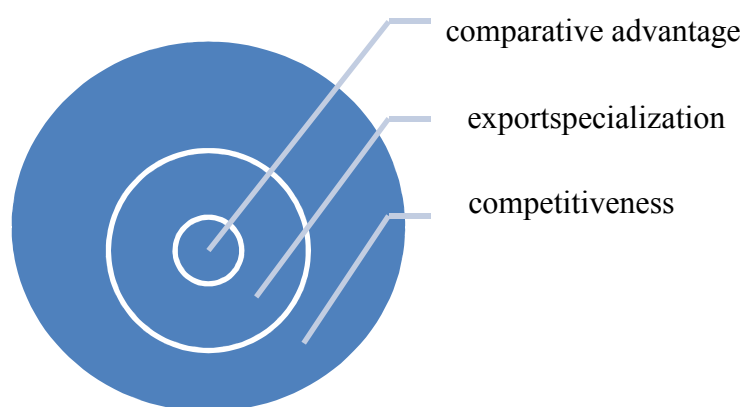
4. The Results of the Research, Conclusions and Recommendations

1. Competition is the essential motivation and the prime mover of the operation of market economy both on microlevel and macrolevel. Several studies and articles deal with the notion, measurability and measurement of national economy. Chapter 1.1 has justified that there is disagreement over the definition. The lack of a consistent definition of competitiveness is due to the various dimensions of the notion.

Scientific sources mention among the theoritical bases of competitiveness the so-called static theories preceeding and based on that of comparative advantages. Thus the notion of competitiveness and that of comparative advantage are inherently interconnected. In accordance with Frohberg-Hartmann's point (1999) the only difference between them that competitiveness can be described in terms of distortions and imperfections of the market contrary to comparative advantage. According to this fact, under free trade conditions certain countries specialize in raising livestock and become their net exporters, which provide them with comparative advantages. So comparative advantage is manifested in specialization, which refers to competitiveness.

The notion of revealed comparative advantage (RCA) which is based on specialization was created to employ the theory of comparative advantages. The indexes of revealed comparative advantage permit to find out on the basis of the export specialization of a country's foreign trade or its lack where the given country's comparative advantages and disadvantages are hidden.

Based on the statements in chapter 1.2 the revealed comparative advantage indexes are export specialization indexes, however, the study of export specialization cannot only be carried out with the help of RCA-indexes. The revealed comparative advantage indexes are such export specialized indexes that relate the foreign trade position of a given product / product group to another product or make a relational comparison. The following figure shows the relationship of competitveness, export specialization and comparative advantage:

Chapter 1.3 has enumerated more than 20 export specialization indexes formulated in various ways, proving the identical or similar content of indicators with theoretical examinations and mathematical demonstrations in the course of the analysis of competitiveness of product range of a given country on product level. Subchapter 4.1.2 examined the consistency of specialization indexes of product level based on empirical data on three levels (nominal, ordinal, proportional) of measurement in the base and the current period. By comparing the results of the two periods the unjustifiable co-motion of indicators may be filtered out since interconnection of indexes is independent of time.

On a nominal scale – where the index value indicates the advantageous or disadvantageous foreign trade position of the product – certain indicators provided contradictory results in many cases. According to this statement the adaptability of this method to assess competitiveness is rather doubtful.

Assessment and classification of the positions of the products by comparison to one another at an ordinal measurement level lead to a more advantageous approach. The result of Kendell's concordance index ($W^{1997-99}=0,67$; $W^{2005-07}=0,59$) indicates an averagely close co-motion concerning the product order made on the basis of 24 indicators of the study in both periods. Four groups can be separated (11+8+4+1) on the basis of the results of rank correlation matrices of the beginning and the end of the studied period. As for each group, the close co-motion permits the final categorization of the products and the creation of 4 instead of 24 sequences.

The content-based relation between the indicators, concerning the question of identity, the richest and most objective information could be formulated, relying on the current index values measured on the proportional scale, with the help of the method of factor analysis. Based upon the rotated component matrices of the factor analysis in the current period, it can be stated that the indexes, independent of time factor, constitute a relatively stable system of relations. Based on the composition of the factors the foreign trade position of the products can be described with the application of 7 indexes as a result of the concentration of the content of information of several indexes elaborated in scientific literature. It is advisable to choose the most frequently used and the most simply calculable index from the indexes of identical origin while taking the eventual professional remarks of scientific literature in consideration! According to the facts stated in the study, it is sufficient to apply the following specialization indexes in case of competitiveness analysis of foreign trade: Balassa index modified by James-Movshuk, revealed symmetrical comparative advantage, proportion of export / import, normalized foreign trade balance, relative net export, as well as Donges and Riedel index indicating separation.

2. There exist several methods of measuring international competitiveness, among which the following ones are to be distinguished:

– demand-side and supply-side

– product, sector and national economic level, according to the aggregation of the products being the subject of study

– micro, mezo and macrolevel based on the extension of examination

– static and dynamic

– and ex-post and ex-ante approaches.

The dissertation has demonstrated demand-side, ex-post indexes of competitiveness and its methods that are suitable to make statements about the foreign trade competitiveness of a country and its changes on the basis of foreign trade data of value-price-volume on product and sector level.

Chapter 1.3 outlined the static and Chapter 1.4 the dynamic method groups referring to export specialization. Chapter 1.5 delineated the static (unit value, terms of trade) and the dynamic (unit value indices, terms of trade indices) price-based indicators while Chapter 1.6 demonstrated the possibility to connect these indicators and and the importance of that in the cognition of the components behind competitiveness.

The written correlations revealed that the different export structures of the examined country and the reference market, the changes in those as well as its difference in price and quantity changes on product level compared to the reference market play an important role in the conformation of competitiveness. From the bidirectional foreign trade's aspect the simple and/or gross barter terms of trade may also result in improving competitiveness.

3. The conformation of the world's meat market status is determined by the relation of supply and demand. Chapter 3.1 of the thesis confirmed that demand and its main influential factors can be characterised in different ways regarding groups of developed and developing countries. The baby boom occurring in the developing countries has numerous consequences. On the one hand, a demand that is similar in proportion to that of the baby boom emerges for comestibles and, accordingly, for meat products. On the other hand, the urbanization brought about by the population growth and the increase in incomes are coupled to a rise in the realised demand for animal products and processed comestibles instead of staple foods, that is, a rise in consumer standards. The thesis confirmed that the excess demand for meat in developing countries originates from the growth of the population on the one hand and meat consumption per capita on the other hand.

The growing pace of supply is determined by demand. This is confirmed by the fact that production shows a change that is very similar to that of consumption. As a result of different changes characterising developed and developing countries their share in the world production is

shifted. In the base period the share characterising developed countries is 72,2% while in the reporting period it is only 39,9%. The proportions are close to those of consumption.

Concerning the composition of meat production, it also follows the changes in demand. Due to the dynamic change in the case of poultry the decisive product is poultry meat apart from pork in both groups of countries in the reporting period.

The role of foreign trade denotes unambiguous growth on the basis of the export/production indicator. The proportion of developed countries is decisive in the meat export of the world: here the significant decline in proportion from the base period to the reporting period, which was detected in consumption and production, cannot be observed. As a result of these, the export production indicator of developed countries shows significant growth from base period to reporting period. Poultry and beef are decisive in the export.

Meat and meat products play an important role in the Hungarian foreign trade. According to the calculations of Chapter 3.3, although concerning the examined product line the Hungarian export is the smallest, the import indicated the largest growth in comparison with the reference market the share of which is the largest within exports and the share of which is the smallest within imports for the time being if compared to the values that are characteristic in the case of the region, the EU and the third countries. Because of its share within the agrarian export as well as its foreign trade balance the product group played and still plays a decisive role in the agrarian foreign trade. For a long time it was the product line with the largest share in export. During the period between 1997 and 1999 it had a share of 24.8% while during the interval between 2005 and 2007 its share was only 17.1%. Its foreign trade balance is significant; but it indicates a decreasing tendency (its net export worth $636.8 million in the base period fell to $558.2 million). The deterioration of the balance is primarily caused by changes related to the EU accession, that is, the decline of export and - in parallel with it - the increase in import.

The tendencies surveyed so far consequently mark unfavourable changes. However, in relational comparison the position of the product group shows a favourable situation for the time being.

This is also supported by the specialised static indicators on product group level in Subchapter 4.1.1. The indicators evaluate the Hungarian position in foreign trade on the basis of the difference between the structure of the Hungarian foreign trade and that of the reference market foreign trade as well as on the grounds of the relationship between export and import. A certain inland share that is bigger than that of the reference market and a larger export/import proportion or foreign trade balance alike may indicate a favourable position in foreign trade.

On the basis of the results it can be established that:

- the product group is qualified as competitive by all of the indicators in the base and in the reporting period as well (24 indicators were involved in the survey),
- on the basis of the Balassa index the product group shows a medium comparative advantage in the period between 1997 and 1999 but only a weak comparative advantage in the period between 2005 and 2007,
- the majority of the annual indicator values shows an unbrokenly monotonous tendency, which indicates a weakening competitiveness,
- we can formulate a similar conclusion regarding the certain reference markets. The situation is the most advantageous compared to the countries outside the EU while concerning the EU the position of the Hungarian meat products is more favourable in comparison with the CEE countries.

The examined product line indicates competitiveness, albeit a deteriorating one irrespectively of processing in the base and the reporting period as well. The processed products were in a more favourable position in the base period. However, these statements are not so unambiguous concerning the reporting period.

According to the results of the calculations poultry, pork and other types of meat are qualified as competitive by all of the indicators, but their position is deteriorating. As far as beef, mutton and goat meat are concerned, the majority of the indicators shows a disadvantageous position in foreign trade. Regarding product processing as well as the certain meat types the statements are irrespective of the reference market.

Based on the results of CMS models employed for dynamic competitiveness surveys on product group level, which were delineated in Subchapter 4.2.1 the expansion of the Hungarian meat export is definitely due to the general growth of the reference markets. An unambiguous and significant decline can be determined in the case of the less processed, the processed product subgroups and every type of meat irrespectively of the reference market. The partner structure is favourable from every aspect. This cannot be stated in connection with the product structure. As for interaction, the market adaption shows an unfavourable change regarding competitiveness, that is, the increase in import is weaker on the markets that can be characterised by less export share decline.

Subchapter 4.2.2 confirmed that the deteriorating position is due to a decrease in the export quantity of the products and the unfavourable product structure. Prices have a decisive role
- on the one hand in the increase of the Hungarian export in absolute and relative approach
- on the other hand in the conformation of the product group's foreign trade balance.

Carrying out a survey on product level in Hungary's meat export the first four products with the largest export share are the same and make up for nearly half of the product group's export in the base and the reporting period. Their order according to proportion in the reporting period is the following: Swine (frozen, cuts), Poultry (fresh or chilled, cuts and offal - except liver), Duck, goose, guinea fowl (frozen, cuts, offal - except liver) as well as Sausages and similar products. These four products play a decisive role in the foreign trade of meat and meat products. The first three products can be found at the top of the product hierarchy based on the growth of the export value in dollars over a 10-year period. The 10 most important products according to the absolute increment represent 67.1% of the total export. In the aspects of the absolute export increment and percent growth the role of Bovine (fresh, chilled, carcasses and half carcasses), Swine (frozen, edible offal - except liver) and Products made from guinea fowl, duck and goose must be accentuated.

The outstanding position of the products showing the largest export value expansion (mainly beef and pork) is due to their increase in quantity, as opposed to the statements formulated above, which refer to the whole product group.

Based on the results of the static specialised indicators on product level by the application of the cluster analysis (subchapter 4.1.2) two extreme competitive groups were defined with the following characteristic products:
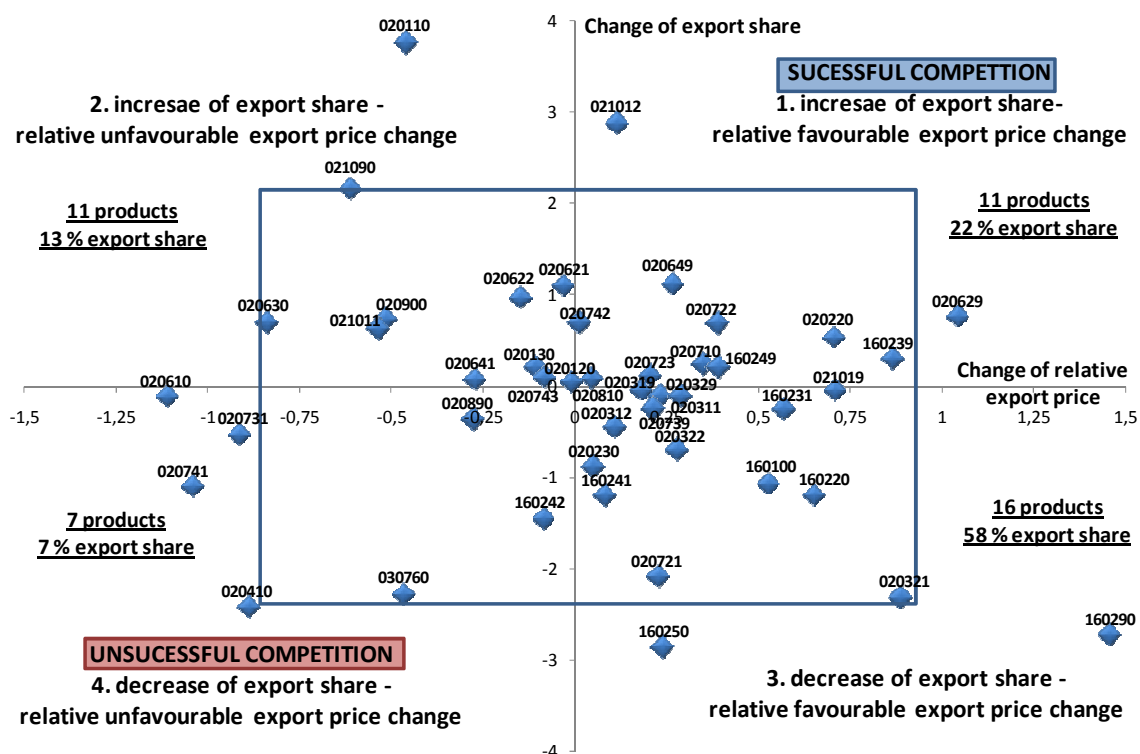
Chart 1: The two extreme competitiveness cluster on the basis of SPSS outputs

The most competitiveness products	Codes		The least competitiveness products	Codes	
	1997-99	2005-07		1997-99	2005-07
Swine fresh or chilled hams, shoulders and cuts bone in	020312		Bovine frozen cuts bone in	020220	020220
Swine frozen hams, shoulders and cuts bone in	020322		Bovine frozen cuts boneless	020230	
Swine frozen cuts nes	020329	020329	Sheep fresh or chilled carcasses and half carcasses	020441	
Lamb fresh or chilled carcasses and half carcasses		020410	Sheep frozen cuts bone in	020442	
Domestic fowls frozen whole	020721		Sheep frozen boneless	020443	020443
Ducks, geese, guinea fowls frozen whole	020723	020723	Horse, ass, mule hinny meat	020500	020500
Ducks and geese fresh or chilled Fatty livers	020731	020731	Bovine fresh or chilled edible offal		020610
Poultry fresh or chilled cuts and offal except liver	020739	020739	Bovine frozen livers	020622	
Fowl frozen cuts and offal except liver	020741		Bovine frozen edible offal except livers and tongues	020629	020629
Turkey frozen cuts and offal except liver		020742	Swine fresh or chilled edible offal	020630	020630
Ducks, geese, guinea fowls frozen cuts and offal except liver	020743	020743	Swine frozen livers	020641	
Rabbit or hare meat	020810	020810	Swine frozen edible offal except livers	020649	
Sausages and similar products	160100	160100	Frog legs	020820	
Turkey meat Prepared and preserved except liver		160231	Swine salted, dried and smoked hams and shoulders	021011	021011
Fowl, duck, goose Prepared and preserved		160239	Bovine meat Prepared and preserved		160250
			Extrackts, joices of meat …	160300	160300

Among the formed five clusters these two ones indicated the biggest stability. While those belonging to the group of the most competitive products total up to more than 70% of export the share of the least competitive products is below 1%. For the reporting period the group of the products with a medium, average position in foreign trade had widened significantly owing to the deterioration of certain products' position in foreign trade and the melioration of others.

On the basis of the ad valorem and price-based position change in competitiveness four product groups were defined. Their position in the frame of reference is shown in Figure 1:

Figure 1: Competitiveness on product level in a dynamic approach

N. B. The application of logarithm values was reasonable so that transparency and symmetry could be achieved. The products outside the rectangle indicate extreme situations.

The main characteristics of these competitiveness groups combining two aspects:
- the 11 products in the first quarter can be considered the most competitive. There are outstanding ones among them, e.g. Swine (salted, dried, smoked, bellies, streaky) that is decisive on the basis of its export share and Bovine (frozen, edible offal – except tongue and liver) the export price of which has increased to a significantly greater extent compared to the world market, that could reach such a position because of its very low price in the base period.
- three from the four products that determine export were forced to decrease their export share in parallel with a successful price competition – consequently the export ratio of the third group – but, as opposed to this, in the second Duck, goose, guinea fowl (frozen, cuts, offal - except liver) could

reach a smaller extent of price growth owing to its base price that is higher than that on the world market, but in the meantime they increased their export share on the market,

- as far as the results of the dynamic competitiveness analyses are concerned, the situation can be described as favourable in the aspect that the number and export ratio of products that are valueless regarding the value and price competition is low. In the base period high price characterises the products that represent a definitely low value concerning the relative export price change.

4. By the reporting period import had occurred in the case of numerous products that used to have a lack of it. This had an effect on the moderation of concentration. On the other hand, the intra-industry trade also became stronger as a result of these processes. The traditional Grubel-Lloyd type of intra-industry index was 0.11 at the beginning of the examined period and then rose to 0.43 in accordance with the abovementioned facts

According to the assumption the CEE countries are characterised by the highest GL index both in the base and the reporting period while the third countries are characterised by the lowest one and the temporal growth of these is feasible. However, the results of Chapter 3.3 bore the expected relations regarding only the reporting period. So it can be ascertained that as the result of foreign trade liberalisation and the predomination of the free trade the intra-industry trade in connection with the EU member countries has grown in a decisive manner.

At the beginning of the examined period the difference is significant between the import and export prices of the certain products, that is, there was no horizontal product differentiation in the case of either products. But in the period between 2005 and 2007 12 products' share in foreign trade can be characterised by a 11.5% horizontal product differentiation. The number of the products with unfavourable terms of trade is 11 and their proportion is only 8%. The ratio of the 16 products with favourable terms of trade is decisive (61,6 %).
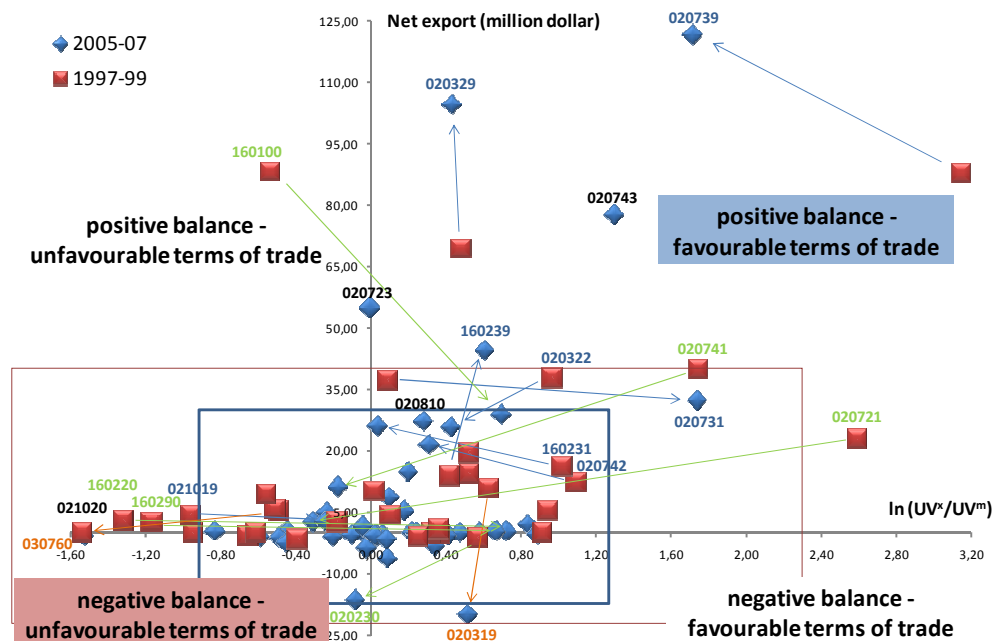
In the base period the bidirectional trade was more significant in connection with mainly the third countries and EU member countries not belonging to the CEE ones. In both relations the products with favourable terms of trade were dominant in intra-industry foreign trade. By the end of the examined period due to the boost in import the intra-industry trade had escalated towards the EU member countries. As in the meantime the import from the third countries relapsed, in this relation the unidirectional foreign trade is almost exclusive in the reporting period. In the foreign trade with CEE countries the horizontal export specialisation as well as the one under favourable terms of trade is significant while in the case of the other EU member countries the latter is unambiguously characteristic henceforward.

In the bidirectional foreign trade the graphic representation of the competitiveness positions (Figure 2) formed on the basis of the net export values and the terms of trade (Subchapter 4.1.3) led

to the following statements:

- irrespectively of the period there are relatively many products that are indifferent from the aspect of their foreign trade balance,

- as for net export the dispersion had grown by the base period.

Figure 2: The competitiveness position of the products taking part in trade in the sector connected to world trade and the changes of this position

N. B. The application of logarithm values was reasonable so that transparency and symmetry could be achieved. The products outside the rectangle indicate extreme situations.

- on the contrary, the differences between terms of trade indicates moderation at the same time,

- in the frame of reference the majority of the products can be found in the first quarter of the competitiveness enforcing two aspects, where a positive foreign trade balance and favourable terms of trade are characteristic (the most important products in export also belong here),

- in the base as well as the reporting period there are products that exhibit outstanding performance in the bidirectional trade (see the products outside the rectangle in the figure).

- the favourable change from the base period to the reporting period is indicated by the fact that the export share of the products located in the first quarter of the competitiveness enforcing two aspects shows a 12% point increase.

So it can be ascertained that although the product group's decline in specialisation is partly due to the fact that the intra-industry trade has escalated because of integration, on the basis of the products' competitiveness position the product group successfully participates in the bidirectional foreign trade, moreover, it had improved its position in foreign trade for the reporting period.

5. Theses

1. Based on theoretical grounds and the factor analysis of 24 specialised indicators' results on product level in the base and the reporting period, in the case of the competitiveness analysis of a certain country the information content of the numerous indicators elaborated in the literature can be condensed into 7 important indicators.

2. The successful junction of the competitiveness' ad valorem and price-based indicators enables the cognition of the active factors. The role of the different export structure of the examined country and that of the reference market as well as the changes in export price and quantity on product level compared to the reference market can be revealed in the formation of competitiveness.

3. For the time being in Hungary the position of meat and meat products shows a favourable situation in relational comparison but its foreign trade has suffered an unambiguous decline in position in the last 10 years. This fact can be attributed to the decreasing export amount of the products and the unfavourable product structure. The partner structure is favourable in the aspect of the increase and competitiveness components, too.

4. As a result of the foreign trade liberalisation and the predomination of the free trade the intra-industry trade escalated in connection with the EU member countries during the examined period. In the meantime, in this relation the unidirectional foreign trade is almost exclusive in the reporting period due to a decline in the import from the third countries.

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