Lithuanian export competitiveness before economic recession

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The research paper discusses the concept of competitiveness of economy and analyzes export as an indicator of it. The analysis is started by the historical review of export development. Statistical data show that three Baltic countries have been following different path of export growth since Russian crisis. Different export market orientation and manufacturing sector's longer reorientation process provide an explanation. Furthermore, the historical analysis shows that export growth relation with foreign demand growth and GDP growth is not as strong as it might be expected. In order to estimate possible long-run GDP growth prospects, the structural analysis of trade is performed. The conclusions of the latter revealed high dependence of trade on conjuncture in foreign markets and supported the need of further price and non-price competitiveness analysis. Surprisingly, the results of the former indicate that price indicators do little to explain export development. Conversely, the results of the latter, based on CMSA methodology, show that market orientation of Lithuanian exports adds the most to its competitiveness; meanwhile the product orientation is generally unfavorable. Finally, the relation between FDI structure by countries and trade flows of processed industrial supplies is analyzed. Although data analysis does not reject the existence of such hypothesis, a more detail analysis should be conducted in the future.

Introduction

It is very much on topics of applied economists who are aware of the importance of the competitiveness as a determinant of macroeconomic performance. As Neary (2006) notes, many new agencies were created to monitor the competitiveness of economies. The concept of competitiveness has many definitions that evolved over time of economic practice. In general, the competitiveness of economy is its "ability to produce goods and services which meet the test of international markets, while at the same time maintaining high and sustainable levels of income or, more generally, the ability of regions to generate, while being exposed to external competition, relatively high income and employment levels…" (European Commission, 1999).

In the discussion about the precise definition of economy's competitiveness arises a conflict between individualistic and holistic approach: the former emphasizes the role of firms, the latter - the role of state. Krugman (1996) argues that only firms can be competitive as one firm's success will often be at the expense of another, and the success of one country creates rather than destroys opportunities for others. Thus, to Krugman's (1996) mind, countries' battle for market shares has not the same meaning as for the firms; countries can only compete by increasing their living standards. Krugman (1996) says that if competitiveness of a country has any meaning it is just another way to say productivity. Porter (1998) also agrees with Krugman's position saying that "a nation's standard of living in the long term depends on its ability to attain a high and rising level of productivity in the industries in which its firms compete". Moreover, Porter (1998) stresses that national productivity is the only meaningful concept of competitiveness at the national level. Thus, it is not surprising that the differences of competitiveness at the national level, according to Porter, can be explained by the determinants of productivity

and the rate of productivity growth. Although it is not the purpose of this paper to provide a deeper analysis of the theory, it should be noted that Porter (1998) makes a synthesis of individualistic and holistic approaches; i.e. although Porter states that "firms, not nations compete in international markets", he also recognizes the role of government in forming the right incentives and proper conditions for business.

Thus, national competitiveness is associated with growth of real income of citizens due to increase in country's exports. But as some authors state (Krugman, 1996; Porter, 1998), an increase in productivity means and increase in international competitiveness and ability to meet the needs of foreign markets. Despite the fact that all GDP components are related with productivity growth and international competitiveness, in this paper we mainly focus on exports and exports' (international) competitiveness[1]. The latter is "understood as the ability of the country to compete in international markets" (Ca'Zorzi, Schnatz, 2007). Even though the changes in productivity are important, as it is emphasized above, in most of the studies these changes are left aside as an endogenous factor.

There are some other approaches to international competitiveness in empirical literature and they put more weight on macro not micro side of competitiveness analysis[2]. The most common view of exports competitiveness is related to price indicators. Price competitiveness can be improved by a decrease in export prices or domestic prices, and increase in foreign prices or a nominal depreciation of the domestic currency (Stahn, 2006). So, the main concern here is about changes in nominal and real effective exchange rates, that reflects the relative development of domestic prices.

Furthermore, the trend toward globalization and the associated increase in international competition suggest a heightened sensitivity of export performance to costs. A number of studies (e.g., Carlin, Glyn, and Van Reenen, 1999) have used variables reflecting labor costs and technology to explain export performance. Technological improvement helps to increase productivity and to keep labor costs relatively lower. On the other hand, already Ricardian theory suggests that countries will specialize in industries in which they have a comparative advantage. Consequently, in that case labor costs should be initially lower than in other countries in the industries that contribute the most to export development. But this comparative advantage may shift over time; as Porter (1998) observes, "today's low labor cost country is rapidly displaced by tomorrow's". Thus, changes in relative labor costs could be a good predictor for this transformation.

Some of the researches (e.g., Cheptea, Gaulier, and Zignago, 2005) follow the Ricardian idea of comparative advantage. They analyze the exports structure and its changes in different countries in order to assess their export competitiveness. Due to changes in demand, a country's initial geographical and sectoral specialization is an important factor shaping the development of exports competitiveness. Then, it is not only costs advantage that matters, but also the development in global structure of foreign trade and a country's ability to grab these changes.

In summary, exports growth is considered as one of the presumptions for sustainable economy growth in a long-term. Historically Lithuanian exports of goods were growing at a high rate especially after its reorientation that followed Russian crisis. Though, discussions on sustainability of Lithuanian economy development raise a question about durability of exports performance. For a small and open economy export growth is the key factor of economic recovery. The assessment of competitiveness of Lithuanian exports is even more relevant topic, as there is a shortage of similar studies in Lithuania.

The aim of this study is to analyze the development of Lithuanian exports of goods and its determinants in order to make some reasonable conclusions about the competitiveness of manufacturing sector in Lithuania.

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[1] The broader research is limited by the size of the paper.

[2] Economics is an empirical and interpretative science, i.e. differences of opinions can only be decreased, not abolished. (Schumpeter, 1998 [1942]).

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As it was discussed above, mainly there exist two approaches to competitiveness: gross domestic product and export growth approach and productivity approach. Although both approaches put different emphasis on competitiveness, the truth is that both of them are the two sides of the same coin. As this study is macro oriented, the first approach is chosen and the more detail analysis of export behavior is conducted.

Methodological background for competitiveness analysis

Our research on competitiveness of Lithuanian exports with some exceptions is based on the methodology used in European Central Bank (ECB) occasional paper (2005). The general idea lying behind the concept of exports competitiveness is that competitive countries are able to sell their production easily in international markets. Gains or losses of exports market shares are often considered as an indicator of trade competitiveness of an individual country. Therefore, the change of market share under development of exports is the main subject of competitiveness analysis.

In this study we analyze real market shares in value terms. The market share can be computed as a total or as a weighted indicator. For large economies (such as Euro zone, USA, Japan, Germany, etc.) usually a share of a country's exports in the total market for exports is calculated. But for small economies, that have a smaller number of exports markets and their shares in the world exports are poor, weighted indicator should be much better. We use weights for geographical exports markets according to their importance in Lithuanian exports.

There are different factors analyzed when making studies about exports competitiveness. In order to gauge Lithuanian exports performance we look at two of them. First, we take the most common point of view and we analyze changes of price indicators. But usually they can explain only a part of exports behavior. That is why we look at initial geographical and production structure of Lithuanian exports and its changes to reveal the advantages in certain manufacturing sectors and/or in the markets.

Price competitiveness is commonly understood as a manufacturer's capacity to compete at current prices in international markets. In macro level it is typically measured using relative exports prices (RXP) and real effective exchange rates (REERs). In line with them, price competitiveness[1] is often examined on the basis of indicators, which use cost measures and reflect more a country's "underlying competitiveness" which is defined as the relative cost position of the country. Intuitively relative export prices should explain quite well the developments in exports of the country, as they tend to be a combination of both: mark-up on costs as well as pricing-to-market strategies. As a result, export prices of goods are likely to change in line with domestic costs and competitors' exports price. But it has some limitations as well as the other measures available (Ca'Zorzi and Schnatz, 2007). As there is no single better approximate indicator for price competitiveness, together with relative exports prices we also examine REERs and relative labor costs.

Exports development and changes in its market shares does not only depend on price competitiveness. A change in composition of exports across countries and products may have an impact on relative exports price index without implying a change in competitiveness conditions. Product and geographical structure of a country's exports can also make an affect. Constant market share analysis (CMSA) is a traditional tool to deal with such structure effects. The underlying feature of this method is that countries with strong initial position on the most dynamic markets and products benefit from the higher exports growth. If Lithuania is more specialized in export products and destination markets where demand is strong in comparison to other products and markets, then its

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[1] The term "price competitiveness" is typically used in price and exchange rate analysis. Cost related indicators such as wage rates and productivity are more often addressed to the assessment of "cost competitiveness". But as the idea behind both of them is the same and the indicators should be interrelated, we use one term "price competitiveness".

aggregate exports market share will tend to increase. The technique of CMSA provides a breakdown of a country's exports performance into the separate components. Some of them are due to exports product and destination market composition, and some - due to other factors, defined as competitiveness. There is a detailed explanation about CMSA technique and its application to assess exports growth at country level provided in Chaptea, Gaulier, and Zignago (2005) working paper.

The total effect in CMSA measures the variation in the aggregate exports market share and it can be divided into two main parts: structure effect and competitiveness effect. A structure effect measures hypothetical change in the aggregate exports market share because of the geographical breakdown and sectoral composition of country's exports. In general, it is further decomposed into three terms. Product effect reflects the changes due to adaptation of the sectoral breakdown of exports. Market effect shows the exports market share growth from changes in geographical structure of exports. And the residual corresponds to the market share growth because of initial market and product structure of exports. Competitiveness effect reveals the capacity of a country to increase its market share independently of structural development. Sometimes it is called "pure" market effect as it summarizes the changes in price competitiveness as well as change in non-price competitiveness, expressed by qualitative factors reflecting product differentiation.

Indicators for export competitiveness analysis

The aggregate export market share in value terms is calculated as a weighted sum of market shares of Lithuanian exports in the export markets analyzed. Lithuanian export market share for each geographical destination is calculated by using statistics of imports of every country. This helped to increase the compatibility of the data analyzed. The share of each destination country in total Lithuanian exports is used as its weight. In this way we address to the changes of market shares in different markets by their importance for Lithuanian exports. The indicator could be a better predictor for export development in the nearest future. The weights are adjusted for every year accordingly to the development of exports. Lithuanian export market share during the period t is calculated:

$$XMS_t = \sum_i \alpha_{ti} \frac{I_{it}^{LT}}{I_{it}}$$

where: α_{it} is a weight for country i at time t (its share in Lithuanian exports); I_{it}^{LT} - imports from Lithuania in country i at time t; and I_{it} - total country's i imports at time t.

In ECB (2005) report relative export prices are defined as a ratio of the weighted sum of competitor exports prices to domestic exports prices (with the both terms expressed in domestic currency). As data on foreign trade of oil and its products is excluded from the analysis, aggregate export price index available from Eurostat and National statistic offices cannot be used as a measure. For simplicity every trade partner's import price index (excluding oil and its products) is used instead of the weighted sum of competitor export prices in that market. Both changes in import prices as well as in Lithuanian export price are derived from the foreign trade statistics in the following way. First, for every country the average price of quantity unit for each product group (at CN 6-digit level) is derived from trade statistics in nominal and real values. Then, the aggregate change is computed as a weighted sum of changes in prices of each product group. The development in relative export prices is measured by ratio of growth of Lithuanian export prices and a weighted sum of growth rates of import prices in every trading partner:

$$\Delta RXP_t = \frac{\Delta XP_t}{\sum_i \alpha_{it-1} \Delta IP_{it}}$$

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Here, ΔXP_t is a growth rate of Lithuanian export prices at year t; α_{it-1} - share of country i in Lithuanian exports at year t-1; and ΔIP_{it} - growth rate of import prices in country i at year t.

For the CMSA assessment we adopt the calculation technique used in ECB (2005) working paper. The change in export market shares between any two periods (total effect) is measured by the difference between Lithuanian export growth and a weighted sum of import growth in trading partners. Total effect is decomposed as follows:

$$g_t^{LT} - g_t = \left[\sum_i \sum_j \left(\frac{I_{ijt-1}^{LT}}{I_{t-1}^{LT}} - \frac{I_{ijt-1}}{I_{t-1}} \right) g_{ijt} \right] + \left[\sum_i \sum_j \frac{I_{ijt-1}^{LT}}{I_{t-1}^{LT}} \left(g_{ijt}^{LT} - g_{ijt} \right) \right]$$

The variable $g_t^{LT} \left(g_{ijt}^{LT} \right)$ stands for year-on-year growth rate of total (product i) imports from Lithuania in all partner countries (country j) at time t. Whereas g_{ijt} is year-on-year growth rate of product i imports in a country j at time t. Growth of total imports in all export markets of Lithuania analyzed $\left(g_t \right)$ is computed as a weighted sum of total imports growth rates in every market. Respectively, $I^{LT} \left(I_{ij}^{LT} \right)$ and $I \left(I_{ij} \right)$ is total (product i) imports from Lithuania in all its export markets analyzed (market j) and sum of total (product i) imports in the same markets (market j).

The first term in square brackets is the structure effect as it sums the gains and losses of market share caused by relative export specialization in particular products and markets. According to the calculation method, it should be positive if Lithuanian export structure is more concentrated on high-growth products and/or markets than its competitors in the main export markets. Traditional studies used the export structure of the initial year; therefore, the structure effect was affected by the changes in structure that occurred during the time analyzed. In CMSA technique of ECB (2005) that is also applied in this paper, the structure of imports and exports is calculated continuously. So, that the structure effect can be decomposed into product and market effects and a mixed structure effect which is a residual.

$$product\_effect = \sum_i \left(\frac{I_{it-1}^{LT}}{I_{t-1}^{LT}} - \frac{I_{it-1}}{I_{t-1}} \right) * g_{it}$$

$$market\_effect = \sum_j \left(\frac{I_{jt-1}^{LT}}{I_{t-1}^{LT}} - \frac{I_{jt-1}}{I_{t-1}} \right) * g_{jt}$$

Product effect reflects the changes in exports due to its product structure. If Lithuanian exporters are more specialized in products that foreign demand grows faster, the product effect should be positive. Market effect is related with exports orientation towards particular geographical markets. The market effect should be bigger if the bigger share of Lithuanian exports is orientated towards faster growing markets. Mixed structure effect in this case comprises the interaction between product and market effects, as it is not possible to isolate completely product and geographical structures.

Depending on the calculation sequence in traditional studies either the product or market effect should include this interaction. ECB (2005) proposes the solution to calculate and present "*mixed structure effect*" which is applied in this paper too.

The dataset of exports analysis

Lithuanian exports development analysis is performed using annual foreign trade data covering the period of 1999-2006[1]. Longer time series are not available for Lithuania and its partners from CEE. The analysis covers 16 export markets that make more than 85 percent of Lithuanian exports. There are 10 EU-15 countries, 3 from CEE and 3 outside EU in the data set. The latter group of countries is called "other" even though they are quite different: Russia, Belarus and USA. In calculations for EU countries the external trade statistics in euros from Eurostat Comext database is used. But for other partners trade value is denominated in USD as we use data available at UN Comtrade. To make these two pools of data comparable we prefer to use proportional measures and indexes.

All the computations are performed using CN product classification at the 6-digit level and aggregated into sector data afterwards. Foreign trade with oil and its products (CN 25, 26, 27) is excluded from the analysis for couple reasons. First, it is usually done because of the high volatility of oil prices. Secondly, mineral products (oil and its products) have a big share in total Lithuanian exports (up to 25 percent). It is quite sensitive to political decisions and manufacturing capacities of single oil-refinery in the country.

Results of price competitiveness analysis

Since our earlier analysis indicated that price and cost related variables appear not to have captured entirely development of price competitiveness, measured by the relative export prices, the more formal investigation will be carried out now. In order to examine the presumptions about possible interrelations between price competitiveness and changes in production costs, the pooled data analysis was performed.

For this analysis we constructed the data set that includes 13 EU members - the main Lithuanian trading partners. Three of the countries (namely Latvia, Estonia and Poland) have similar macroeconomic indicators as Lithuania. In the rest countries from EU-15 the price and labor costs levels are higher. The aim of this analysis is to examine the presumptions that: (1) initially higher price level in the trading partner country allows the exporters to increase their prices more in relation to its competitors in the same market; (2) growth of labor costs in manufacturing sector affects export prices with the lag in time because the exporters need time for price adjustment.

The movements of relative export prices were modeled as a function of price level and some measures of relative labors costs and the linear regression function was composed:

$$RXP\_gc = c + \beta_1 P + \beta_2 LC + \beta_3 LC\_gc + \varepsilon$$

where *RXP_gc* indicates the changes in relative export prices. We expect that if the price level in export partner country (P) is higher, relative Lithuanian export prices should grow faster because of the catch-up possibilities. We include two variables related to the relative labor costs: *LC* - relative unit labor costs in manufacturing and *LC_gc* - the difference of growth rates of average unit labor costs in manufacturing in Lithuania and particular foreign market. We expect these two variables to present the different aspects of labor cost impact of relative export prices.

The estimated parameters of the regression function show that there is a time lag for the relative price and cost indicators to have an impact on the relative Lithuanian export prices:

$$RXP\_gc_t = \underset{(-3.26)}{-10.49} + \underset{(3.07)}{0.19 P_{t-1}} - \underset{(-2.51)}{1.24 LC_{t-2}} + \underset{(4.10)}{0.36 LC\_gc_{t-2}} + \varepsilon_t$$

$$\overline{R^2} = 0.23 \qquad\qquad DW = 2.33$$

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[1]Some Lithuanian foreign trade data covers the period of 1999-2007.

There is t-statistic in the brackets under estimated parameters provided and adjusted R-squared as well as Durbin-Watson statistics written under the regression.

The results of analysis show that the presumption about the higher price level and export price growth stands in Lithuanian case with the time lag of one year (in fact there was no significant difference in results if a time lag for one year or for two years was chosen). Higher price level also indicates about higher import prices and bigger possibilities for Lithuanian exporters to increase their production prices in the export market without experiencing a significant loss in the real market share. This can partly explain a weak interrelation between relative export prices and real market shares. This process is similar to catch-up in price levels, so it won't last forever. This export competitiveness independence on price-related indicators is likely a temporary effect. The latter proposition is also supported by results of analysis of cost-related indicators.

There is a direct relation between movements in relative export prices and unit labor costs. Relatively lower labors costs are a favorable condition for slower growth in export prices. The analysis results proved this proposition and it also showed that in Lithuanian exports case changes in labor related production costs make an effect on export prices in two years. There was a lag in time of two years estimated for both of the labor cost-related variables. As it was expected, rapid growth of wages in the country doesn't induce a straightforward increase in export prices and loss in price competitiveness, as the exporters should shift their profit margins. Even though the price level in Lithuania is low comparing with the major of its export partners, there are some risks related with labors costs.

Results of non-price competitiveness analysis

Indicators for price competitiveness, such as relative export prices, REER and changes in labor costs explains just a small part of movements of the real market share of Lithuanian exports - measure for export competitiveness. As it was already presumed, different trends in separate export product markets can possibly give an explanation. Closer investigation of the initial Lithuanian exports structure as well as its changes could help to understand better the development of export competitiveness as Lithuanian exports are quite specialized in particular sectors and markets. Analysis of Lithuanian exports structure should also help to reveal the sectors in manufacturing that gained in competitiveness by increasing its market shares during the period analyzed.

For investigation of changes in exports structure CMSA method was chosen. The calculations are based on the idea that if Lithuanian exports grow faster than imports of trading partners, Lithuanian export market share increases, so it gains in export competitiveness. The growth rates of Lithuanian market share might differ from the results discussed in the previous section because of different methodology used. But as we focus on the export structure and its contribution to changes in export market shares in this section, slight differences should not be relevant.

TABLE 1. MAIN RESULTS OF THE CONSTANT MARKET SHARE ANALYSIS OF LITHUANIAN EXPORTS

	2000	2001	2002	2003	2004	2005	2006
TOTAL	19.5	10.6	22.6	-0.9	3.3	15.0	16.6
COMPETITIVENESS	19.9	10.5	22.6	-0.6	5.1	16.0	16.2
STRUCTURE	-0.4	0.1	0.0	-0.3	-1.8	-1.0	0.4
PRODUCT	-4.9	3.0	4.1	-0.3	-4.5	-0.3	0.9
MARKET	-1.1	-3.9	13.4	4.2	5.7	4.3	8.0
MIXED	5.7	1.0	-17.5	-4.2	-3.0	-5.0	-8.4

Looking at the overall assessment of exports competitiveness, the results of the CMSA (Table 1) show that Lithuania was gaining in the exports market share during all the period analyzed. Just in year 2003 its market share declined and one third of the loss of the competitiveness was because of the export structure. In overall Lithuanian exports structure and its changes usually were unfavorable but quite modest. Only in 2004 and 2005 the structure effect was more significant on changes in Lithuanian export market share.

After breaking down the structure effect into product, market and mixed structure effects we find that *the market orientation of Lithuanian exports adds the most to its competitiveness*. Meanwhile the *product orientation is generally unfavorable*: Lithuanian exporters mostly underperform their competitors in the majority of the product markets. Lithuanian exports are low orientated towards the most rapidly growing product markets. In the following section we will look closer on both of these effects.

Analysis of the product effect

Lithuanian exports are quite concentrated on some specific products. So detailed analysis of the product effect should help to reduce the possible causes of total negative effect and to reveal the most successful orientations. There are two groups of countries analyzed in this research and the data available about their foreign trade was denominated in different currencies. For EU data in euros is used and for other countries - in US dollars. So the aggregate product effect was computed as a sum of product effects in EU and in the other countries.

The results of product effect analysis indicates that Lithuanian exports structure differ from the imports of its main trading partners. Lithuanian exporters are more specialized in low-tech product sectors comparing with their competitors in the main export markets. According to the indexes of relative product specialization Lithuanian exporters are specialized in food and its products, wood and furniture - the index has the biggest value in both - EU and the other markets. The index value for the textile production is diminishing over the period analyzed. This labor-intensive sector is loosing its importance in Lithuanian exports.

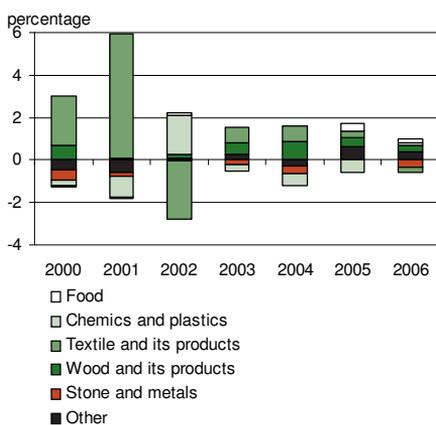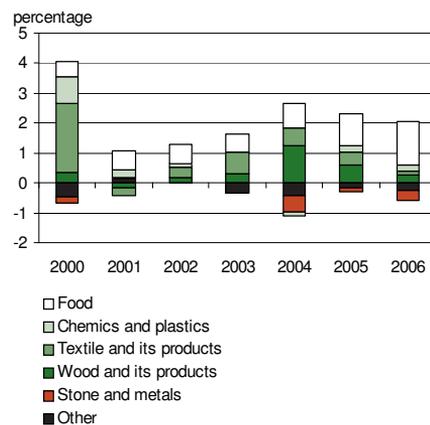FIGURE 1. CONTRIBUTORS OF DIFFERENT SECTORS TO PRODUCT EFFECT IN EU MARKETS

FIGURE 2. CONTRIBUTORS OF DIFFERENT SECTORS TO PRODUCT EFFECT IN OTHER MARKETS

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The observations about specialization of Lithuanian export help to understand and comment the contributors of different sectors to product effect (Figure 1 and Figure 2). It is clearly seen that product effect was bigger in the other markets; that is Lithuanian exports product structure is better orientated in Russia and Belarus than in most EU countries. Even though Lithuanian exports structure in these groups of countries is very alike, differences in imports development was more favorable in the other markets from the point of Lithuanian exports structure.

Lithuanian exports specialization in food and its products has the biggest positive contribution to total product effect. This was achieved because of intensive growth of the foreign demand for foods in the other countries and the ability of Lithuanian exporters to increase their market shares. The second biggest contribution to product effect is from relatively better exports specialization in wood and its products. Meanwhile, the contribution of textile products to total product effect is volatile over the time. As it was already noted, exports of textile and its products was very important in Lithuania at the beginning of the period analyzed. It still accounts for a reasonable share in Lithuanian exports, but the exporters are hardly able to compete with low labor costs countries and global competitors what is also suggested by diminishing its contribution to product effect.

In order to identify the products that are the most competitive (contribution to product effect is the biggest) we take a closer look at the separate product groups. We find that the relative specialization in furniture exports of Lithuania was the main contributor to its positive product effect in EU, but it had no effect in the other markets. In the food sector Lithuania is relatively more specialized in diary products. Their exporters compete successfully in most of the markets. Though, in 2006 there are slight indications that Lithuanian exporters orientated their production to EU countries more. In textiles Lithuania is still favorably specialized in clothing and sewing but their positive contribution to the product effect of the sector is almost offset by relatively lower orientation in other textile industries. Manufacturers of fertilizers dominate chemical industry in Lithuania. Together with exporters of plastics, they contribute much to total product effect, indicating Lithuanian specialization in these sectors and opportune development of their foreign demand.

The detailed analysis of product effect revealed that Lithuania is relatively more specialized in low-tech industries (namely food, textiles, wood and furniture), which contributes the most to the total product effect. Lithuanian exports product specialization is more favorable in the other markets as it corresponds better the changes in foreign demand their. In overall, positive product effects of Lithuanian exports in some specific sectors are too small to offset the negative contributions of the other sectors.

Analysis of the market effect

The analysis results show that in general the market effect has a positive contribution to structure effect of Lithuanian exports. This shows the relatively better orientation of Lithuanian export towards faster growing markets. A positive ratio indicates that faster Lithuanian export growth was partly determined by its orientation to the markets where the foreign demand development was more advantageous. Lithuanian export market effect was quite big and positive starting from 2002 after its successful reorientation to European countries. But we need more detailed analysis in order to understand the development of market effect better.

First of all, the development of market effect was broken down into three groups by trading partners: EU-15, CEE and "other" (USA, Russia and Belarus). This was done because of the economical, historical, geographical, political differences between them that might have influenced the orientation of Lithuanian exports. The main destinations of Lithuanian exports are EU-15 countries that on average accounts for 64 percent of total Lithuanian exports. Though, their share is declining. The rest two groups of countries on

average get 18 percent each of Lithuanian exports during the period analyzed. But there is tendency of CEE share to increase: it grew from 15 percent in 2000 to 23 percent in 2006. In general the changes in Lithuanian exports markets structure is obviously related to geographical proximity of the markets.

FIGURE 3. CONTRIBUTIONS TO THE MARKET EFFECT
OF DIFFERENT GROUPS OF COUNTRIES
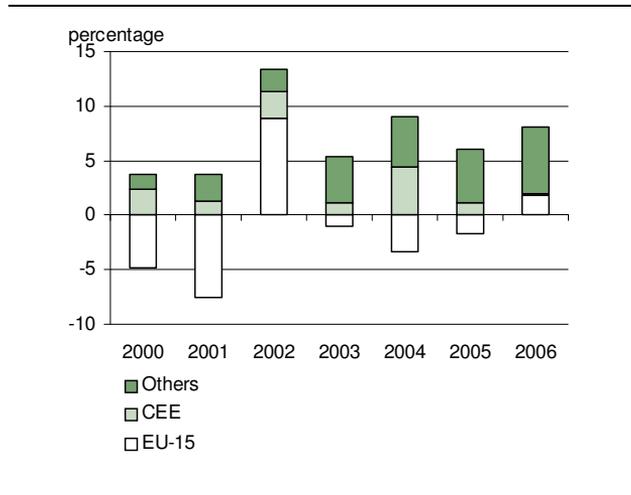
In the beginning of the period analyzed, the negative Lithuanian export market effect was mainly due to its poor orientation to EU-15 countries. Their negative contribution to the total market effect was large (Figure 3) and it remains negative during almost all the period analyzed. Germany is the biggest Lithuanian export market from EU-15 group and on average it accounts for 16.5 percent of Lithuanian exports to EU-15. Even though this country is the second in total Lithuanian exports, the share is quite small comparing with Germany's share in total imports. This possibly indicates about disability of Lithuanian exporters to increase their market shares there.

Rapid import growth, induced by increase in domestic demand, in CEE countries is one of the factors of Lithuanian exports growth. In initial Lithuanian exports structure CEE countries has a relatively big share. So the positive contribution to the market effect is related not only with Lithuanian exporter's ability to increase their market shares under the favorable situation in foreign market, but also with its initial orientation, mostly related to geographical situation of Lithuania. But because of decrease in Latvia's imports in 2006, the market effect in CEE countries was diminutive.

Lithuanian exports orientation to the "other" countries has the biggest positive contribution to total market effect (Figure 3). Mainly it is related with exports growth to Russia and Belarus and its initial orientation where traditionally these markets were important for Lithuanian exports development. The spurt of economic growth in Russia and Belarus during the last years makes favorable conditions for Lithuanian exporters to benefit while increasing their market shares.

For more detailed market effect analysis we calculate relative market specialization indexes[1]. Looking at them the Lithuanian exports appear to be specialized towards geographically close markets: Latvia, Estonia, Poland, Sweden and Denmark (Figure 4).

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[1] Relative market specialization is measured as the difference between the share of individual destination markets in Lithuanian exports and the corresponding share for total imports (ECB, 2005).

The relative market specialization index was also high for Russia. Despite Germany is the second biggest market for Lithuanian exports; its share in total imports is much bigger. This confirms the suggestion made previously that Lithuanian exporters are unable to compete with other importers there.

FIGURE 4. RELATIVE MARKET SPECIALIZATION
OF LITHUANIAN EXPORTS IN EU
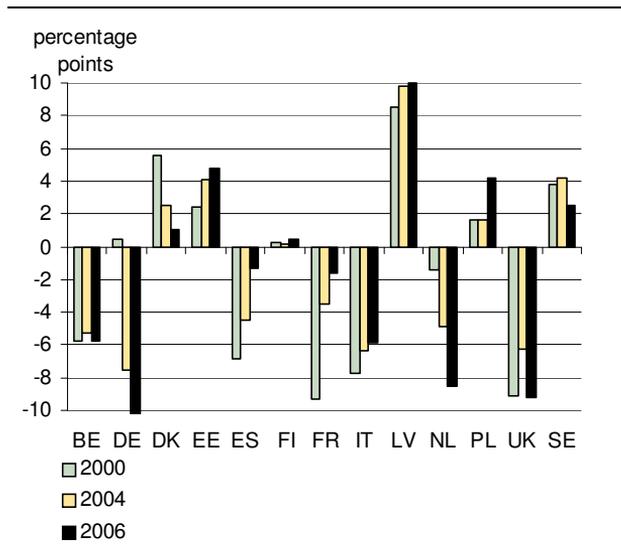
During the period analyzed Lithuanian exports became more orientated towards fast growing markets of CEE where the market specialization index for Poland almost doubled. Meanwhile, the index for Denmark and Sweden decreased and for Germany, Netherlands and UK - became more negative. That was the reason for negative Lithuanian export market effect in EU-15 countries.

 In summary, advantage of Lithuanian exports market orientation is related with its initial structure where geographically close markets has a relatively bigger share in total exports. As these markets were growing at a high rate during the period analyzed, it was a favorable condition for Lithuanian exporters to benefit and their exports to grow fast. But there is a risk related to economic slowdown in the main export markets, which would probably cause some difficulties for Lithuanian exports development.

Conclusion

The changes in exports should follow foreign demand growth, but in the case of Lithuania these two variables were only partly interrelated, i.e. the situation was opposite to that in Euro area. Different trends in product markets can be one of the explanations, because Lithuanian exports were quite specialized. Thus major foreign demand changes in other product markets left Lithuanian export unaffected. And vice versa, Lithuanian exports might be growing because of the increasing foreign demand for the specific product.

The results of price competitiveness analysis, which included such indicators as relative export price, real effective exchange rates and labor costs, shows that price determinants did little to explain the competitiveness of Lithuanian exports. But these results are in line with some findings that prove that growth of export market shares of CEE-8 countries, despite their losses in price competitiveness, was due to increasing quality of their production. As Fabrizio, Igan, and Mody (2007) note, with reduced prospects for catching up, and continued (and possibly heightened) technological competition, the pressure to

maintain market shares will increase. Hence, the observable unfavorable development of price competitiveness indicators may have a bigger negative effect on the export market shares in the nearest future.

The results of the CMSA analysis show that market orientation of Lithuanian exports added the most to its competitiveness. Meanwhile the product orientation was generally unfavorable: Lithuanian exporters mostly underperformed their competitors in the majority of the product markets. Lithuanian exports were low oriented towards the most rapidly growing product markets. According to the indexes of relative product specialization, Lithuanian exporters were specialized in food and its products, wood and furniture - the index has the biggest value in both - EU and the other markets. The index value for the textile production was diminishing over the period analyzed: this labor-intensive sector was loosing its importance in Lithuanian exports.

The assessment of Lithuanian exports competitiveness before economic downturn revealed the manufacturing sectors that have a comparative advantage and could induce the upturn in economy. The export is growing at about 30% on annual basis in 2010 in Lithuania. It is mainly because of the recovery of the exports of food and its products, wood and furniture, fertilizers and plastics - the sectors that had the highest competitiveness before economic downturn.

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