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A small nation's comparative advantage: The case of Latvia

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Problem of comparative advantage in international trade is important in theoretical and practical aspect. Theoretical models in this area are periodically re-examined in search for empirical evidence. The aim of the paper is to verify the two fundamental theories in the case of a small European country - Latvia - and disclose problems in the country's trade specialization. In Latvia's trade with "old" EU countries, the Ricardian model and the Heckscher-Ohlin theorem can be corroborated. After 2000, however, share of EU-15 countries in Latvia's exports steadily declines. Instead, share of regional (Baltic) market increases, while the potential of CIS markets remains underexploited. Problem of identifying new areas of comparative advantage has become especially acute for Latvia. Latvia still can be considered a country with educated and easily teachable labour. Threat to this advantage is caused now by labour emigration and by situation in the country's science and educational system. Research is based upon application of traditional theory, analysis of official editions, comparison of statistical data, and author's own calculations.

JEL Classifications: F11, F14

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Introduction

Globalization, based upon the principles of market economy, gave an unprecedented impetus for international competition in all areas, raising this competition to the world scale. Problem of comparative advantage in international trade which has always been important in both theoretical and practical aspect now becomes even more crucial for any country. Traditional theoretical models existing in this area have periodically been re-examined in search for empirical evidence -with often contradictory results (e.g., Wood, 1994; Bowen et al., 1987; Krugman and Obstfeld, 2003). In this article, an attempt is made to find empirical evidence for the two fundamental concepts of international trade - the Ricardian model of comparative advantage and the Heckscher-Ohlin theorem of factor endowment - in the case of a small European country, Latvia.

In official texts, Latvia's adherence to principle of comparative advantage has been repeatedly emphasized. As stated in government editions, for Latvia "liberalization of foreign trade allows benefiting from comparative advantages and specialization of sectors more effectively ..." (Ministry of Economics, 2001, p.32). "...Latvia implements a liberal foreign trade policy which is based on the internationally recognized terms and conditions - most favoured nation treatment, principles of non-discrimination and mutual benefit, efficient use of comparative advantages of Latvia ..." (Ministry of Economics, 2002, p.36). It seems expedient, therefore, to pose the question: what exactly are Latvia's comparative advantages?

Verifying the theoretical models

Comparative advantage (Ricardo model)

Latvia is one of the new member states that joined the European Union in 2004. Like all other Central and East European countries that were admitted into the EU at that time, Latvia had much lower level of economic development and productivity than the 15 "old" EU members. But could Latvia have had a comparative advantage in any area by the moment of joining the EU? Seven years before Latvia became a full member of the European Union, Libermanis (1997) suggested the following data on productivity differences in selected areas between Latvia and the European Community by the middle of 1990s (Table1).

TABLE 1. YEARLY OUTPUT PER 1 PERSON EMPLOYED, EUROPEAN COMMUNITY AND LATVIA (BY THE MIDDLE OF 1990s*)

	EC	Latvia
Minibuses, units	10	2
Cement, t	5000	1000
Saw-timber, m3	1200	200
Milk, t	250	15
Live-stock, t	100	4
Grain, t	200	10

Source: *Libermanis (1997)

These data imply that despite lagging far behind the European Community in terms of absolute productivity (i.e., having no absolute advantage) Latvia, however, could claim to have comparative advantage in some areas. In terms of the Ricardian theory, a country has a comparative advantage in producing a good if the opportunity cost of producing that good (in terms of other goods) is lower in that country than it is in other countries. In other words, a country has comparative advantage in a particular industry if its productivity ratio to other countries in this industry is higher than in other industries. This is exactly the case in Table 1: while productivity in Latvia in such areas as production of milk, grain, or meat proved 17 to 25 times below the EC level, productivity in production of some other products was “only” 5-6 times less. One of such products appeared to be timber. Thus, it can be quite satisfactory justified by the theory of comparative advantage that Latvia became a timber exporter to the European market. Under the conditions of fierce market competition, this niche in European markets was spontaneously discovered by Latvian exporters. Soon, share of wood products in Latvia's exports exceeded 30-35%; moreover, in Latvian exports to the EU-15 countries this category of products accounted for 60% of the total value. At present, the role played by wood products in Latvia's exports to some countries can be seen from Table 2.

TABLE 2. SHARE OF WOOD PRODUCTS IN LATVIA'S EXPORTS TO SELECTED EUROPEAN COUNTRIES, 2008

Country	Population per 1 km2	Latvia's exports to the particular country	
		Total commodity exports, millions of Euro	Wood and wood products, % of the total
Belgium	343	55.3	38.2
United Kingdom	247	222.4	56.1
Germany	231	467.4	22.3
Italy	194	101.6	15.9
Denmark	126	267.7	16.8
France	110	105.2	29.5
Austria	98	24.4	28.0
Sweden	20	393.5	47.8
Finland	15	183.5	31.8

Source: Central Statistical Bureau of Latvia, 2007; Ministry of Economics, 2010.

It is worth mentioning here that historically timber was the principal export product of Latvia also during the first period of independence, in 1920s - 1930s. Within all this period, share of timber fluctuated between 25 and 35% of the total value of exports in most of years, never dropping below 19% (Statistical Yearbook of Latvia, 1929; 1934; 1939).

So, in the case of wood exports, the Ricardian model seems to be successfully corroborated for Latvia. But even then we must admit that the question of comparative advantage remained disputable in relation to such products as cement or minibuses (also appearing in Table 1). Construction materials have never become major export item for Latvia. As concerns transport machine-building, it vanished in the country in the post-Soviet times; only recently, attempt was made to restore the production of buses.

The Heckscher-Ohlin theorem

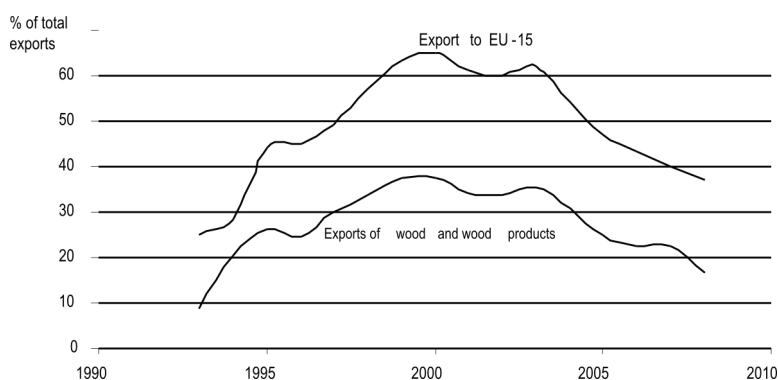
According to the Heckscher-Ohlin theorem, a country will tend to export goods whose production is intensive in factors which the country is abundantly endowed. Can Latvia be considered abundantly endowed with any of factors of production: labour, land, or capital? In fact, the country is very small in territory, in population, and has quite limited resources of capital. However, in the

context of Heckscher-Ohlin theory, a country has to be considered abundant in a factor if it has a larger supply of this factor relative to its supply of other factors (Krugman and Obstfeld, 2003). Turning to labour/land ratio, we can compare Latvia to other European countries in this aspect and demonstrate that Latvia proves to be relatively rich in land. Population of Latvia is one of the smallest in Europe. By the middle of 2009 it was 2.255 million inhabitants on the territory of 64 thousand square kilometers (LR Ekonomikas Ministrija;

Statistical Yearbook of Latvia, 2009) which makes less than 35 people per square kilometer. It makes one of the lowest population densities in Europe. To compare, Denmark and the Netherlands on territories equal to 2/3 of Latvia have populations of 5.5 million and more than 16 million, respectively; Belgium with less than half of Latvia's territory has 10.5 million inhabitants. Among 27 EU member states, only Finland, Sweden, and Estonia have lower population density than Latvia (Central Statistical Bureau of Latvia, 2007). So, it can again be demonstrated in full accordance with the theory that Latvia has to produce and export land-intensive products, such as wood.

Figure 1 presents share of wood products in Latvian exports in relation with share of exports to EU-15. As can be seen, development trends of the two variables coincide almost ideally.

FIGURE 1. EXPORTS TO EU-15 COUNTRIES AND EXPORTS OF WOOD PRODUCTS, AS % OF TOTAL EXPORTS FROM LATVIA, 1995-2008



Source: Produced by author using data from Ministry of Economics, Republic of Latvia, Central Statistical Bureau of Latvia.

On the other hand, it would prove hardly possible to explain the volume and pattern of Latvia's trade with the neighbouring Baltic countries (Estonia and Lithuania) on the basis of the Ricardian or Heckscher-Ohlin theory. Therefore, the case of Latvia supports the conclusion drawn earlier by other authors (Krugman and Obstfeld, 2003): namely, that the Heckscher-Ohlin theorem proves more reliable when applied to trade between countries with substantially different levels of economic development - such are Latvia and advanced EU-15 countries. Even in this case, a critic can easily argue that highly developed Nordic countries - Sweden and Finland - having even lower population density than Latvia, nevertheless appear among major importers of Latvian wood (the fact that in essence contradicts the assumption of the Heckscher-Ohlin theorem). And, finally, the theoretical models discussed above contain no answer to questions of future reorientation of an economy or possible change of a country's comparative advantage.

Further prospects: Facing new challenges

Exports to the EU countries accounts now for 3/4 of Latvia's total exports. However, behind this overall figure there are two distinct groups of trade partners: (i) "old" EU members (EU-15) and (ii) 11 new member states of the EU (Central and East European countries including the two Baltic neighbours of Latvia - Lithuania and Estonia). During 1995 -2008, the geographic pattern of Latvia's exports underwent rather drastic changes.

Tables 3 and 4 and Figures 2 and 3 present the trends in geographic orientation of Latvia's exports. Table 3 and Figure 2 depict dynamics of Latvian exports by groups of countries in 1995-2001. Within this period, since the free trade regime between Latvia and the EU had been established in 1995, the share of EU-15 countries in total volume of Latvia's exports steadily increased (from 44% in 1995 to 65% in 2000). After 2000, a completely opposite trend takes place, and the share of EU-15 countries in Latvia's exports consistently declines.

TABLE 3. LATVIA'S EXPORTS BY GROUPS OF COUNTRIES, 1995-2001

Groups of countries	Share in Latvia's exports (%)						
	1995	1996	1997	1998	1999	2000	2001
EU -15	44	45	49	57	63	65	61
Lithuania and Estonia	9	11	12	12	12	13	14
CIS	38	36	30	19	12	9	10
Other countries	9	8	9	12	13	13	15

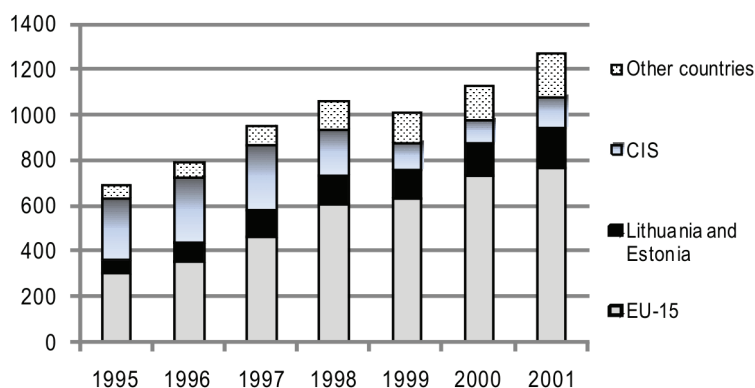
Source: Ministry of Economics, Republic of Latvia, June 2002.

TABLE 4. LATVIA'S EXPORTS BY GROUPS OF COUNTRIES, 2002-2008

Groups of countries	Share in Latvia's exports (%)						
	2002	2003	2004	2005	2006	2007	2008
EU -15	60	62	54	47	43	40	37
Lithuania and Estonia	14	15	18	22	27	30	31
Other EU member states	-	-	6	7	4	6	6
CIS	10	10	11	12	14	15	15
Other countries	16	13	11	11	11	9	12

Source: Ministry of Economics, Republic of Latvia, 2004, 2009.

FIGURE 2. LATVIA'S EXPORTS BY GROUPS OF COUNTRIES, MILLION LVL, 1995-2001



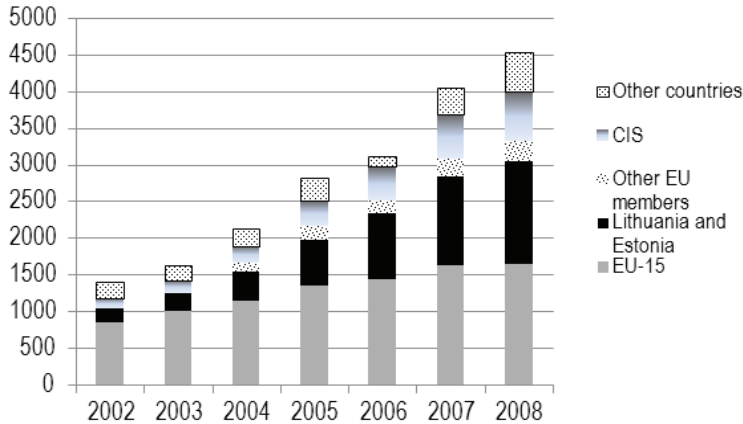
Source: Ministry of Economics, Republic of Latvia.

As can be seen in Table 4 and Figure 3, share of Latvia's exports to the "old" member states of the European Union (EU-15 countries) has dropped from 65% in 2000 to 37% in 2008. Despite increase in overall volume (at current prices), Latvian exports obviously loses its orientation towards EU-15 markets. This decline in share of EU-15 markets along with declining share of wood products in Latvia's exports was demonstrated before in Figure 1. The role played before by markets of EU-15 now is captured more and more by regional (Baltic) market: share of Lithuania and Estonia in Latvian exports increased year by year, reaching 31% in 2008 instead of 9% in 1995.

Other important trends can be noticed if one observes Latvia's trade with its eastern neighbours - the Commonwealth of Independent States (CIS). During the first years after Latvia had regained its independence, eastern (first of all, Russian) market kept great importance for the country. But

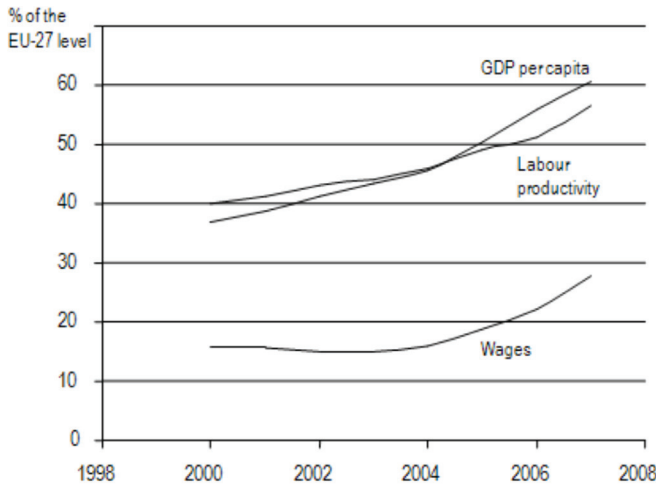
soon afterwards the CIS market was almost lost by Latvian exporters. The share of this potentially immense market had dropped to only 9% of Latvian exports in 2000. It was in fact a dramatic fault, caused first of all by political reasons. It very much reminded situation of 1930s when share of eastern (USSR) market dropped to only 3.4% of Latvia's exports and 3.7% of imports (Statistical Yearbook of Latvia, 1939). Certain restoration of eastern markets' role took place since 2001, but their huge potential for Latvia remains by far underexploited.

FIGURE 3. LATVIA'S EXPORTS BY GROUPS OF COUNTRIES, MILLION LVL, 2002 -2008



Source: Ministry of Economics, Republic of Latvia.

FIGURE 4. GDP PER CAPITA, LABOUR PRODUCTIVITY, AND WAGE LEVEL IN LATVIA, AS PERCENTAGE OF THE EU-27 AVERAGE, 2000 -2007



Source: Ministry of Economics, Republic of Latvia.

As concerns the product pattern of Latvian exports, it is obvious that the country can no longer rely upon export of timber as comparative advantage. It is a general trend in the global markets from 1970s onward that developing countries (former predominantly raw material exporters) managed to change the patterns of goods they exported, moving away from traditional reliance on agricultural and mineral products to manufactured goods. Subsequently, the share of raw materials in international trade turnover demonstrates a substantial decrease during last decades (Krugman and Obstfeld, 2003; Daniels et al., 2004; Medvedev, 2002). The more acute in this connection becomes the problem of identifying new areas of comparative advantage for the countries which earlier, as Latvia, focused on exports of resources.

This has become a typical declaration in politicians' speeches and economists' articles that Latvian economy needs to switch towards production and exports of goods with a higher value added. Unfortunately, no essential progress in this field has been achieved. As admitted in official comments, "... Latvia has not substantially improved its positions in this respect during the last years; ... no considerable reorientation to production of goods with higher value added has occurred on the supply side of Latvian economy" (Ministry of Economics, 2007, p.62).

No doubt, the crucial problem for competitiveness of a national economy is the level of productivity. Latvia, along with the two other Baltic states, still demonstrates very low degree of productivity in all sectors of economy. Before the recent global economic crisis, statistical data indicated some progress made by Latvia in this respect and demonstrated certain degree of convergence of development levels with the rest of the EU. Figure 4 shows Latvia's progress in such aspects as GDP per capita, labour productivity, and wage level, in 2000-2007. Under the economic crisis, however, the situation again turned the other way. Latvia proved to be the country most severely hit by the crisis, and all previous gains in GDP per capita and productivity seem to be lost.

Under such conditions, it remains one of the most problematic questions for Latvia -which sectors of economy or which products must be chosen as national priorities and whether they need a special support: are they wood processing, biological agriculture, food industry, chemical industry, pharmaceuticals, or some other.

Among the most popular modern concepts in the area of international competition, there is the concept of nation's competitive advantage formulated by Porter (1998). The scheme known as "Porter diamond" explains a nation's competitive advantage in global markets as interaction of the four determinants: 1) factor endowments, 2) demand conditions, 3) relating and supporting industries, and 4) firm strategy, structure, and rivalry. In particular, factor endowments is interpreted as a nation's position in factors of production such as skilled labour or the infrastructure necessary to compete in a given industry (Hill, 2003; Daniels et al., 2004).

This concept of nation's competitive advantage may help to better realize some aspects of present Latvia's situation, especially in respect to factor endowments. For a long time, there is a widespread belief inherited from the Soviet era that Latvia, being poor in natural resources, possesses the advantage of skilled labour force. In the context of European Union, this statement was later supplemented in wording: "skilled and cheap labour force". Comparatively cheap Latvian labour indeed attracted foreign investment and facilitated economic growth in the country in preceding period. It deserves mentioning here that wage rate in Latvia in 2003 was only 15% of the EU average level (see Figure 4). Later some increase in labour costs due to rising wage levels in recent years partly reduced this advantage. Nevertheless, Latvia still can be considered a country with educated and easily teachable labour resources, with necessary infrastructure for production of high-technology products. However, this potential can be lost soon.

A serious threat to Latvia's competitive advantage is caused now by intensive labour emigration. "Drain" of labour resources substantially erodes Latvia's economic and intellectual potential. And, potentially the most dangerous threat to Latvia's comparative advantage is caused now by the situation in the country's science and educational system. Systematic neglect of needs of education and science, chronically insufficient and continuously decreasing funding of them may lead to irreversible consequences for the national economy. Support to development of science and education in the country are indispensable conditions for preserving Latvia's competitive advantage in global economy.

Conclusions

- As far as trade between Latvia and EU-15 countries is considered, the traditional Ricardian model of comparative advantage works fairly satisfactory (although with some exceptions);
- The Heckscher-Ohlin theorem in general also proves applicable as long as Latvia's trade with more developed (EU-15) countries is considered (with some deviations again);
- The traditional theoretical models do not indicate possible reorientation of exports or change of a country's comparative advantage;
- It seems hardly possible to explain the consistent increase of Latvia's trade with the neighbouring Baltic countries (Estonia and Lithuania) on the basis of the Ricardian or Heckscher-Ohlin models;
- After 2000, the share of EU-15 countries in total volume of Latvian exports steadily declines. Instead, it is replaced more and more by exports to regional (Baltic) market;

- Despite some positive trends in recent years, the huge potential of CIS markets for Latvia's exports still remains underexploited, mainly because of political reasons;
- As concerns the product pattern of Latvian exports, the country can no longer rely upon export of wood products as its main comparative advantage. Share of wood products in Latvia's exports steadily decreases after 2000 - along with decline of the share of exports to EU-15 countries;
- With worsening prospects for exports of raw materials, the problem of identifying other areas of comparative advantage becomes especially acute for Latvia;
- Latvia has been traditionally considered a country with educated and easily teachable labour resources, with potential for production of high-technology products. However, this potential can be lost soon;
- A serious threat to Latvia's competitive advantage is created now by intensive emigration. "Drain" of labour resources erodes Latvia's economic and intellectual potential;
- By destroying the country's science and educational system, government policy threatens to completely eliminate Latvia's competitive advantage - skilled labour. Support to science and education in the country are indispensable conditions for preserving Latvia's competitive advantage.

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