

DEVELOPMENT OF FOREIGN TRADE IN MINERAL RESOURCES IN LATVIA

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Abstract. Mineral resources present a major natural resource of Latvia and they are used for satisfying both the domestic consumption and the external demand. Although, the range and amount of mineral resources available in Latvia is low, they play an important role in the development of the construction, manufacturing, agriculture, and other industries. Mineral products also present an important group of the Latvian export products that contribute to the growth of the Latvian GDP. In 2012, the export of mineral products accounted for 8.8% of total export of goods and presented the sixth most important product group.

The main aim of the article is the analysis of development trends of foreign trade in mineral products across various product groups during the time period from 2002 to 2012 in Latvia.

The research led to a conclusion that the flows of the external trade in combustible mineral resources had not changed during the studied period and they still predominated in the export and import of mineral products. The trends of export of non-metallic mineral products attest indicate stable development and competitiveness on foreign markets - export of cement products has both experienced rapid growth and changed the structure of the sales market within the studied period.

Key words: mineral resources, foreign trade in mineral products.

JEL code: O44, O50, Q31

Introduction

Although, in comparison with other countries, the range of natural resources available in Latvia is small and a large share of required resources has to be imported, still, versatile non-metallic mineral resources, like sand, quartz sand, sand-gravel mix, gravel, clay, dolomite, gypsum rock as well as freshwater limestone and calcareous tufa, can be found in the earth of Latvia. Peat that is used in agriculture and energy has an important economic value. Latvia has also abundant resort resources, i.e. curative mud and mineral waters. Sapropel that can be used in agriculture and in chemistry industry can be found in lakes.

Over time, demand by both consumers of mineral products and manufacturers has changed along with the development of the national economy of Latvia. As the command-based economy collapsed, in the beginning of the 1990s, the extraction of certain non-metallic mineral resources and the production volume of mineral products decreased sharply in Latvia; however, along the development of the economy

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and changes in the demand, the market of extraction of mineral resources has also changed (Curkina I., Sproge I., Jekabsone S., 2013).

The **aim** of the present research is the analysis of the development trends of foreign trade on mineral products in Latvia across various product groups during the time period from 2002 to 2012.

In accordance with this aim, the following **research tasks** were defined:

- 1) to analyse the information on the balance of mineral reserves in Latvia and the statistical indicators describing the development of the import and export of mineral products;
- 2) to summarise the Eurostat data on external trade in three groups of mineral products comprising the sub-groups of non-metallic mineral resources and products, the product groups of ores and mineral fuels in order to arrive to conclusions regarding the trends of changes in export and import of mineral resources;
- 3) to compare the first three product groups with the highest proportional share in the trade in Latvia with the neighbouring Baltic States, as the proportional share of export and import is generally concentrated within certain product groups.

The **methods** of comparative analysis and synthesis, monographic, logically constructive and statistical data analysis were used for the assessment of data. The main research **sources** include the information available in the databases of the CSB and Eurostat, and the studies and reports by the Latvian Environment, Geology and Meteorology Agency.

Research results and discussion

Mineral resources and their extraction volume in Latvia in 2012

The effective use of resources is among the priorities of the European long-term development strategy (Europe 2020). Also the long-term development perspective of Latvia is related with a lower emission amount and the effective use of energy resources.

Extraction of non-metallic mineral resources in Latvia is closely related with the demand of related industries, basically construction, road construction, agriculture, manufacturing of building materials that create demand for both domestically extracted and imported resources. The other mineral resources that are not available in the earth of Latvia are imported and consist mainly of fossil fuel and required non-metallic mineral products.

To a certain extent, conclusions regarding the use of and the demand for mineral resources can be drawn based upon general macroeconomic indicators. Therefore, the value added that is created by the extraction industry and the quarry development amounted to 0.6% of total volume of the national economy in 2010. According to the most recent statistical data, the value added created by the extraction industry amounted to EUR 18 million in 2002 and EUR 117 million in 2012, and the value added created by the manufacturing of mineral products increased from EUR 36 to 130 million over the same period (data of 2010) (Eurostat).

The value added created by the construction industry amounted to EUR 542 million in 2002 and increased up to EUR 678 million by 2012 (Eurostat).

According to the data of the Latvian Environment, Geology and Meteorology Centre, the following mineral resources were extracted in 2012: gypsum rock, limestone, dolomite, clay, quartz sand, sand-

gravel mix, sand, sandy loam and loam, aleirite, peat, sapropel and curative mud (Balance ..., 2013). In comparison with the preceding year, the volume of extraction of resources has increased in 2012 regarding all the mineral resources, except sand-gravel mix, peat and sapropel (Table 1).

Table 1

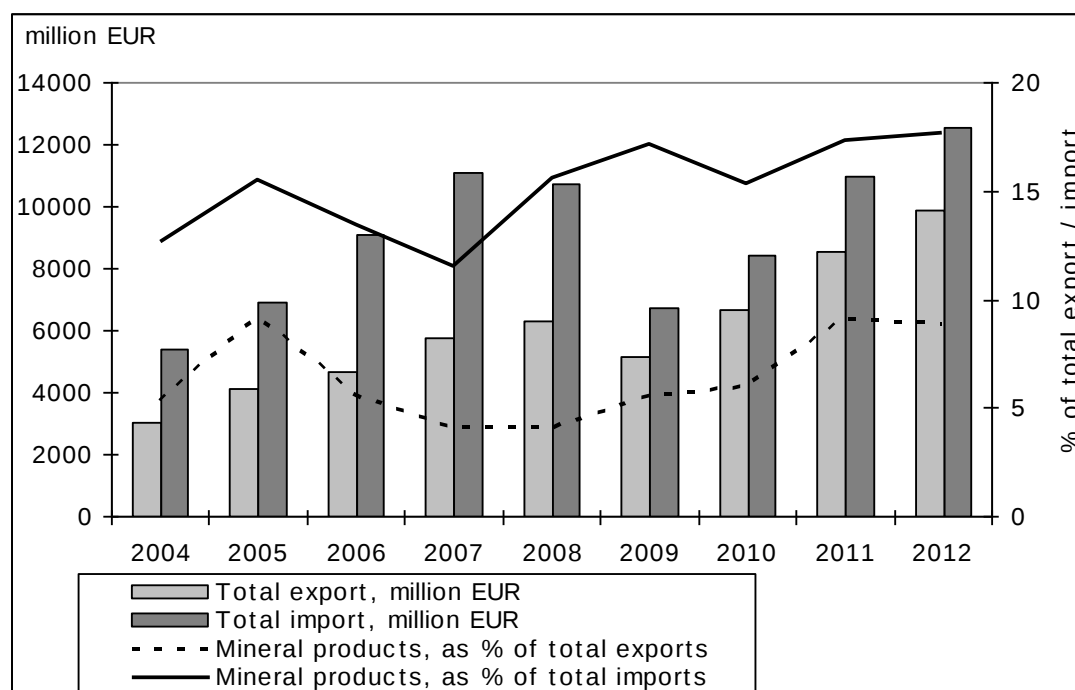
Extraction of mineral deposits in Latvia in 2011 - 2012

Mineral deposit	Units	Extraction in 2011	Extraction in 2012
Gypsum rock	thou. m ³	98.16	114.87
Limestone	thou. m ³	629.18	731.88
Dolomite	thou. m ³	1593.27	1638.27
Clay	thou. m ³	271.86	312.2
Quartz sand	thou. m ³	14.89	29.99
Sand-gravel mix	thou. m ³	2764.9	2634.91
Sand	thou. m ³	3557.7	3727.82
Sandy loam and sand rock	thou. m ³	92.36	107.29
Aleirite	thou. m ³	0	12.9
Peat	thou. t with 40% humidity	946.95	738.64
Sapropel	thou. t with 60% humidity	0.2	0.05
Curative mud	thou. t with 90% humidity	0.46	0.53

Source: Balance of Mineral ..., 2013

Export and import of mineral resources by groups in Latvia in 2012

Mineral products present an important group in the external trade of Latvia. In 2012, the export of mineral products accounted for 8.8% of total export of goods and presented the sixth most important product group within export; and mineral products are the second leading group of products in import accounting for almost one fifth of the total import of goods (Economics ..., 2012). The importance of mineral products in the external trade of Latvia has increased considerably since 2000, in particular, following the accession to the EU (Figure 1).



Source: authors' construction based on the CSB data

Fig. 1 Foreign trade dynamics and share of mineral products in exports and imports in Latvia (mln EUR, 2000-2012)

In order to obtain a more complete insight of the external trade in mineral products in Latvia, the authors will apply the system of the combined nomenclature codes of two and four digits. Two digits will be applied for general description of the trends of trade in relevant products and four digits will be applied for studying the three biggest product groups within the export and import. Further analysis has been done based upon the Eurostat data.

Groups of mineral products 25 - **salt; sulphur; earths and stone; plastering materials, lime and cement** (hereinafter referred to as Product Group 25), export revenues in Latvia have increased ten-fold since 2002. The biggest export markets in 2012 were Russia, Finland, and Lithuania (80% of total export revenue).

Export revenue secured by the sale of the product group outside the EU-28 countries amounted to EUR 27.6 million in 2012 in Latvia and this was an increase of 41 times compared with 2002. The export revenue of the Product Group 25 within the EU-28 countries amounted to EUR 37.8 million and this was an 8-fold increase compared with 2002.

In comparison with the neighbouring countries Estonia and Lithuania, the export revenue of Product Group 25 have increased most since 2002 in Latvia (from EUR 5 to 66 million), and the growth in Estonia and Lithuania has been slower (from EUR 15 to 443 million and from EUR 13 to 55 million respectively).

The source of export revenue of Product Group 25 in 2012 in the Baltic States was based on the EU-28 countries; however, their proportional share within the revenue has changed considerably since 2012: export revenues from countries outside the EU have increased. For example, in 2002 in Latvia sales outside the EU provided 13% of export revenue, and in 2012 their proportional share increased up to 42%. The share of export revenue generated from the EU-extra countries was 18% in 2002 and 45% in

2012; in Estonia and in Lithuania the share of revenue generated from the EU-extra countries increased from 27% to 71% respectively.

Distribution per type of product - in 2012, the biggest export revenue within Product Group 25 were generated by the following three product subgroups:

- in Latvia - 80% sales of cement, incl. cement clinker; 11% sales of gypsum products; and 4% sales of salts;
- in Estonia - 56% sales of cement, incl. cement clinker; 24% sales of pebbles, gravel, broken or crushed stone; and 12% sales of limestone flux; limestone and other calcareous stone;
- in Lithuania - 64% sales of cement, incl. cement clinker; 15% sales of vermiculite, perlite and other mineral substances; and 6% sales of natural calcium phosphates and natural aluminium calcium phosphates.

For the sake of comparison, in 2012, the biggest export revenue within Product Group 25 were generated by the following three product subgroups:

- in Latvia - 55% sales of gypsum; anhydrite; plasters consisting of calcined gypsum or calcium sulphate; 29% sales of cement, incl. cement clinkers; and 13% sales of pebbles, gravel, broken or crushed stone;
- in Lithuania - 62% sales of cement, incl. cement clinker; 25% sales of pebbles, gravel, broken or crushed stone; and 3% sales of vermiculite, perlite and other mineral substances;
- in Estonia - 64% sales of cement, incl. cement clinker; 26% sales of pebbles, gravel, broken or crushed stone; and 6% sales of limestone flux; limestone and other calcareous stone.

Import expenditure of Product Group 25 have tripled in Latvia since 2002: expenditure for products to the countries outside the EU amounted to EUR 21 million in 2012 in Latvia and this equaled a triple increase compared with 2002. Expenditure for import from the EU-28 countries amounted to EUR 38 million or a triple amount of that in 2002. Estonia, Norway, and Lithuania presented the biggest import markets in 2012 (accounting for 47% of total import value of this group).

Among the Baltic States, import expenditure for products of Product Group 25 have increased most since 2002 in Lithuania (from EUR 93 million to EUR 303 million); the increase has been the lowest in Estonia (from EUR 15 million to EUR 37 million), and in Latvia, the increase has been from EUR 20 million to EUR 59 million.

Import expenditure differs among the Baltic States from the point of view of their geographic distribution: in Lithuania, expenditure for imported products refers to the EU-extra countries both in 2002 and in 2012 (85-86%). Estonia and Latvia import mineral products of Product Group 25 from the EU-intra countries. In 2002, 82% of expenditure for import products in Estonia and 67% of expenditure for import products in Latvia were attributed to the EU-intra countries and this proportion decreased slightly in 2012 and amounted to 79% and 64% respectively.

As regards distribution per type of product, in 2012, the biggest import expenditure within Product Group 27 were generated by the following three product subgroups:

- in Latvia - 26% for pebbles, gravel, broken or crushed stone; 14% for salts; and 11% of import expenditure for cement, incl. cement clinker;

- in Lithuania - 65% for natural calcium phosphates and natural aluminium calcium phosphates, natural and phosphatic chalk products; 10% for sulphur; and 5% for cement, incl. cement clinker;
- in Estonia - 42% for pebbles, gravel, broken or crushed stone; 14% for salts; and 9% of import expenditure for cement, incl. cement clinker.

The structure of import expenditure for product subgroups was similar in Latvia also in 2002 accounting for 14% of total import expenditure. In 2002, in Lithuania, 59% of import expenditure were attributed to natural calcium, natural aluminium calcium phosphates, natural and phosphatic chalk; 10% to sulphur; and 9% to pebbles, gravel, broken or crushed stone. The structure of expenditure in 2002 in Estonia was as follows: 48% for pebbles, gravel, broken or crushed stone; 20% for salts; and 9% for gypsum; anhydrite products.

The export revenue in Latvia generated by Product Group 26 of mineral products **Ores, slag and ash** amounted to EUR 0.9 million in 2012. The volume of export was similar also in Lithuania, and in Estonia it amounted to EUR 2.9 million. In general, 75% of export revenue in Latvia in 2012 within this product groups were generated by sales to Hong Kong, Russia, and Lithuania. Import expenditure for import of products from this group in 2012 exceeded the export 4 times and the biggest import markets were Cyprus, Mexico, and Chile (62% of total value of import of this product group).

As regards the split per type of products, in 2012, the biggest portion of import expenditure within Product Group 26 were generated by import in molybdenum ores and concentrates (62%) in Latvia; by import of niobium, tantalum, vanadium or zirconium ores and concentrates (97%) in Estonia; and by import of granulated slag from the manufacture of iron or steel (56%) in Lithuania.

For the sake of comparison, in 2002, the biggest import expenditure within Product Group 26 was related with the following products: import of granulated slag from the manufacture of iron or steel imports (67%) in Latvia, import of titanium ores and concentrates (93%) in Estonia; and import of granulated slag from the manufacture of iron or steel imports (51%) in Lithuania.

Export revenue from Product Group 27 of mineral products **Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes** (hereinafter referred to as Product Group 27) have increased more than twenty times in Latvia since 2002. Biggest export markets in 2012 were as follows: Poland, Lithuania, and Afghanistan (65% of total export value of the Product Group).

Export revenue secured by the sale of the Product Group outside the EU-28 countries amounted to EUR 244 million in 2012 in Latvia (EUR 4 million in 2002). The export revenue of Product Group 27 within the EU-28 countries amounted to EUR 578 million (EUR 32 million in 2002).

Lithuania is the only country among the Baltic States where the export revenue generated by the sales of products of Product Group 27 abroad has experienced the lowest growth, i.e. from EUR 1096 to 5691 million during the period from 2002 to 2012. Both in Latvia and Estonia, the export revenue secured by this Product Group has increased 22 times within the above referred period.

Distribution per type of product- in 2012, the biggest export revenue within Product Group 27 were generated by the following three product subgroups:

- in Latvia - 59% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 13% by sales of peat; and 9% by sales of electrical energy;

- in Estonia - 80% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 11% by sales of electrical energy; and 3% by sales of peat;
- in Lithuania - 93% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 2% by sales of electrical energy; and 1% by sales of petroleum gas and other gaseous hydrocarbons.

In 2002, the biggest export revenue within Product Group 27 were generated by the following three product subgroups:

- in Latvia - 68% of the export revenue of the studied group were generated by sales of peat; 24% by sales of electrical energy; and 6% by sales of petroleum oils and oils obtained from bituminous minerals, crude;
- in Lithuania - 83% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 8% by sales of electrical energy; and 5% by sales of petroleum gas and other gaseous hydrocarbons;
- in Estonia - 37% by sales of peat; 30% by sales of electrical energy; and 27% by sales of petroleum oils (excl. crude).

The import expenditure attributable to Product Group 27 have increased almost five-fold since 2002. Import expenditure for products to the countries outside the EU amounted to EUR 972 million in 2012 in Latvia and this equalled a four-fold increase compared with 2002. Expenditure for import of products from the EU-28 countries amounted to EUR 1197 million or an amount ten times higher of that in 2002. Biggest import markets in 2012 were Lithuania, Russia, and Belarus (82% of total import value of the Product Group).

Among the Baltic States, import expenditure for products of Product Group 27 have increased most since 2002 in Estonia (from EUR 283 million to EUR 1818 million); the increase has been the lowest in Latvia (from EUR 395 million to EUR 2167 million), and in Lithuania, the increase of the import expenditure has been from EUR 1362 million to EUR 8188 million.

Import expenditure differs among the Baltic States from the point of view of their geographic distribution: in Lithuania, expenditure for imported products refers to the EU-extra countries both in 2002 and in 2012 (98% and 91% respectively). Estonia and Latvia have been mainly importing mineral products of Product Group 27 from EU-intra countries during past years. In 2002, 38% of expenditure for import products in Estonia and 31% of expenditure for import products in Latvia were attributed to the EU-intra countries and this proportion increased slightly in 2012 and amounted to 55% in each country.

As regards distribution per type of product, in 2012, the biggest import expenditure within Product Group 27 were generated by the following three product groups:

- in Latvia – 63% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude); 26% by import of petroleum gas and other gaseous hydrocarbons; and 7% by import of electrical energy;
- in Estonia - 75% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude); 12% by import of petroleum gas and other gaseous hydrocarbons; and 6% by import of electrical energy imports;

- in Lithuania - 67% by import of petroleum oils and oils obtained from bituminous minerals, crude; 15% by import of petroleum gas and other gaseous hydrocarbons; and 12% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude).

As regards distribution per type of product, in 2002 the biggest import expenditure within Product Group 27 were generated by the following three product subgroups:

- in Latvia – 51% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude) imports; 29% by import of petroleum gas and other gaseous hydrocarbons; and 15% by import of electrical energy;
- in Estonia – 70% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude); 19% import of petroleum gas and other gaseous hydrocarbons; and 4% import of petroleum coke, petroleum bitumen and other residues of petroleum oil;
- in Lithuania – 79% by import of petroleum oils and oils obtained from bituminous minerals, crude imports; 16% by import of petroleum gas and other gaseous hydrocarbons; and 3% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude).

The evaluation of the market demand for mineral products in Latvia leads to a conclusion that the highest proportional share of import expenditure refers to oil and its products (accounting for almost 90%), the import value of electrical energy accounts for 7%, and the other products account for the remaining 3%.

The volume of export revenue of mineral products has also increased over time and this attests to stable development of the industry and its external competitiveness. The biggest export revenue (almost 70%) was generated by oil products in 2012, followed by the export of peat accounting for 13%, and the export of electrical energy accounting for 9% of total export revenue of mineral products; the export value of cement accounted for 7% in comparison with the share of 4% in 2002.

Cement products secured the highest proportional share (80%) of export of non-metallic mineral products in 2012: EUR 53 million, and the sales markets of products were in Russia, Finland, Lithuania, Belarus, Estonia, and Norway. In comparison with the year 2002, the export markets of cement products have changed considerably: the export value increased 33 times and the biggest sales markets, i.e. Lithuania and Estonia (99%) were replaced by Russia and Finland (69% of export of cement). Therefore, in comparison with the year 2002, the external demand has increased and the split of sales markets has changed considerably in 2012.

The second Product Group of non-metallic mineral products with the highest export value in 2012 was gypsum and similar products: EUR 7 million (11% of export of Product Group 25). The biggest sales markets were Lithuania, Belarus, Estonia, and Russia (99.9%). In comparison with the year 2002, the export value of products has almost tripled, and the biggest sales markets have not changed considerably - sales to Lithuania, Estonia, and Belarus generated 99.6% of export revenue.

Salts with the total value of EUR 2.5 million presented the third biggest Product Group within the export of non-metallic mineral products (4%), moreover, their export value has increased 43 times in 2012 compared with 2002. The sales markets of salts have not changed considerably over time: Lithuania and Estonia generated 99% of export revenue both in 2002 and also in 2012. It should be noted that the number of sales markets has increased in 2012 and they have expanded to the CIS countries, Europe and Scandinavia; however, the value of products exported to these markets is low.

According to the long-term development strategy of Latvia until 2030, the growth of the demand for construction materials is forecasted. Therefore, in longer term, the demand for construction materials will increase, and the domestic manufacturers will have opportunities to use domestic as well as imported raw materials and mineral deposits to meet growing demand.

Conclusions, proposals, recommendations

1. The importance of mineral products in the external trade of Latvia has increased considerably since the 2000s, and currently it is the sixth most important group of goods within export and the second leading group of products in import accounting for almost one fifth of the total import of goods; however, the export of mineral products is considerably lagging behind the import due to the different structures of export and import.
2. The structure of import and export of mineral products of Latvia has changed comparatively little across different product groups. Three products dominated the export in the product group of non-metallic mineral products in 2012: cement, gypsum, and salt; as regards the import the dominating products were gravel, pebbles, salt, and cement.
3. Cement products secured the highest proportional share (80%) of export of non-metallic mineral products in 2012. In comparison with the year 2002, the export markets of cement products have changed considerably: the export value increased 33 times and the biggest sales markets, i.e. Lithuania and Estonia (99%) were replaced by Russia and Finland (69% of export of cement).
4. Gypsum was the second largest product group within the export of the group of non-metallic minerals in 2012 (11%), its biggest sales markets were Lithuania, Belarus, Estonia, and Russia (99.9%). In 2002, sales to Lithuania, Estonia, and Belarus accounted for 99.6% of export revenue. In comparison with the year 2002, the export value of products has almost tripled, the volumes of sales markets have changed and their geography has expanded by the addition of Russia.
5. Salts presented the third biggest product group within the export of the group of non-metallic minerals in 2012 (4%). Its export value has increased 43 times in 2012 in comparison with 2002. At the same time, the sales markets of salts have not changed considerably: Lithuania and Estonia generated 99% of export revenue both in 2002 and also in 2012. It should be noted that the number of sales markets has increased in 2012, and they have expanded to the CIS countries, Europe and Scandinavia; however, the value of products exported to these markets is low.
6. According to the long-term development strategy of Latvia until 2030, the growth of the demand for construction materials is forecasted. Therefore, in longer term, the demand for construction materials will increase, and the domestic manufacturers will have opportunities to use domestic as well as imported raw materials and mineral deposits to meet growing demand.

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