

Towards the structural transformation of Latvian economy: wood products

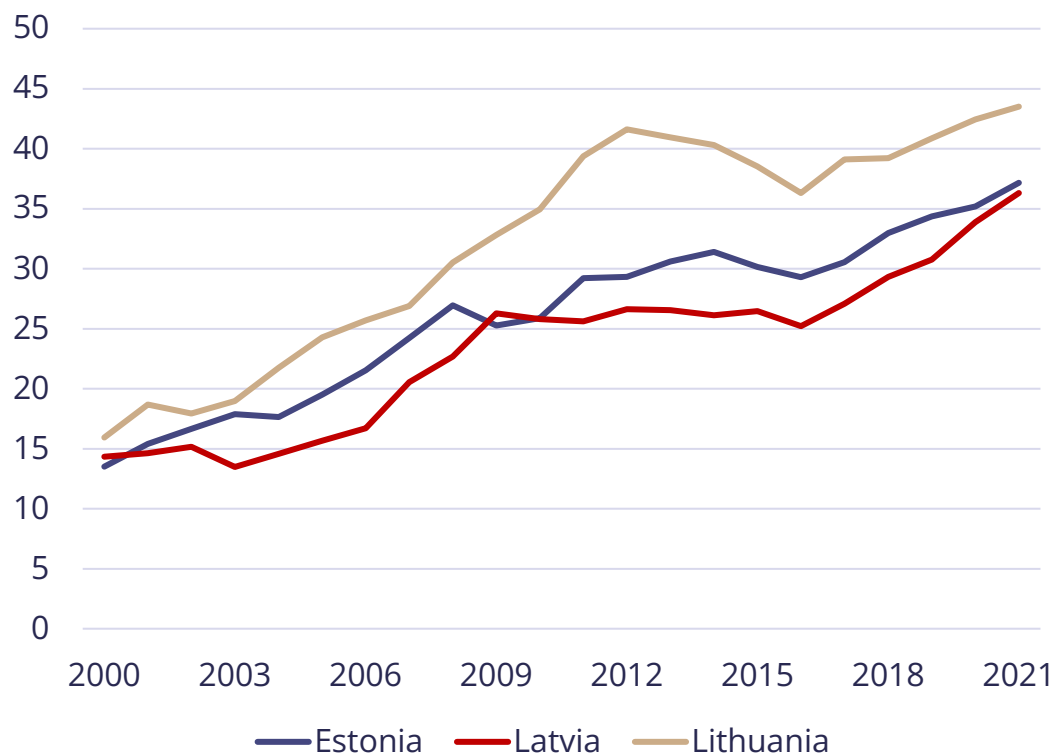
Dr. Olegs Krasnopjorovs
Chief Economist, Monetary Policy department, Bank of Latvia
Olegs.Krasnopjorovs@bank.lv

10.04.2024.

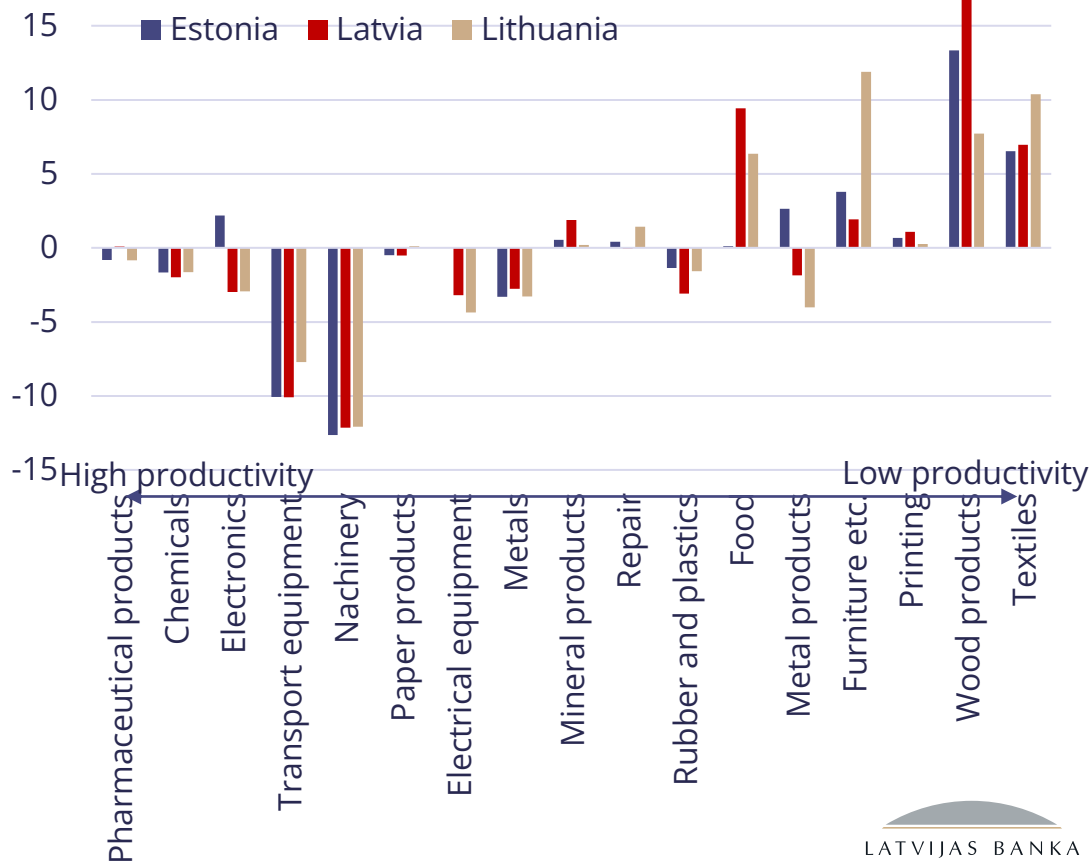


Rather low productivity of manufacturing in the Baltics is partly driven by manufacturing structure

Labour productivity in manufacturing
(% of Germany; thousands of euros per employee)



Employment differentials with Germany by manufacturing sub-sectors (percentage points; in 2021)*



Research motivation

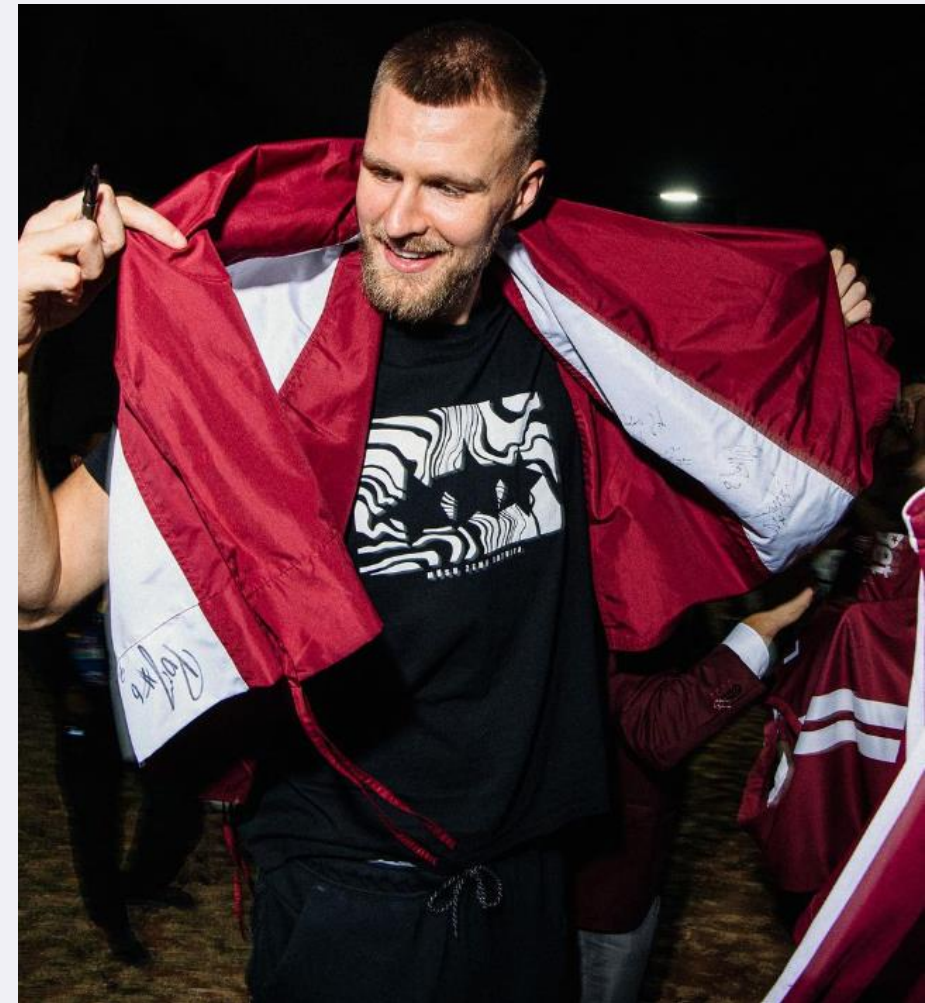
The fact that the key to economic success today is the production of complex products (such as microchips) does not mean that all countries must produce only microchips.

Just as Kristaps Porzingis should not only play basketball but also know how to do easy things for a happy life (e.g., brushing his teeth), also every country should know how to produce basic products (such as food).

However, just as Kristaps Porzingis brushing his teeth is not a unique skill that could earn him millions, the country cannot achieve a high standard of living just by baking bread and producing similar simple products that everyone else knows how to produce.

This is exactly how the idea of structural transformation of the Latvian economy should be understood. We don't have to demolish the food industry, wood processing or textile industry (because these industries have "low added value" and low productivity), but we should be able to produce the most complex products which could be produced from agricultural raw materials and wood, which are in demand on the global market.

The main question of this presentation –
are we able to produce the most complex products from wood?



Structural transformation of wood products:

Main findings



Latvia ranks first in the EU in terms of the share of wood products in exports, but last in terms of its complexity. This means that wood resources can be used more efficiently to improve the welfare of the country.



Latvia has a high export capacity in wood products of primary processing (fuel wood, packing boxes, particle board), but not so much in wood products of secondary processing (pulp, paper, furniture, musical instruments).



In Latvia, the wood product with the greatest export capacity (RCA: revealed comparative advantage) is fuel wood. Latvia is Europe's largest exporter of fuel wood.



Latvia exports unprocessed wood mainly to Sweden and Finland. Latvia mainly imports paper from these countries. This is just one example of the import of a complex product, the production of which uses raw materials from Latvia.



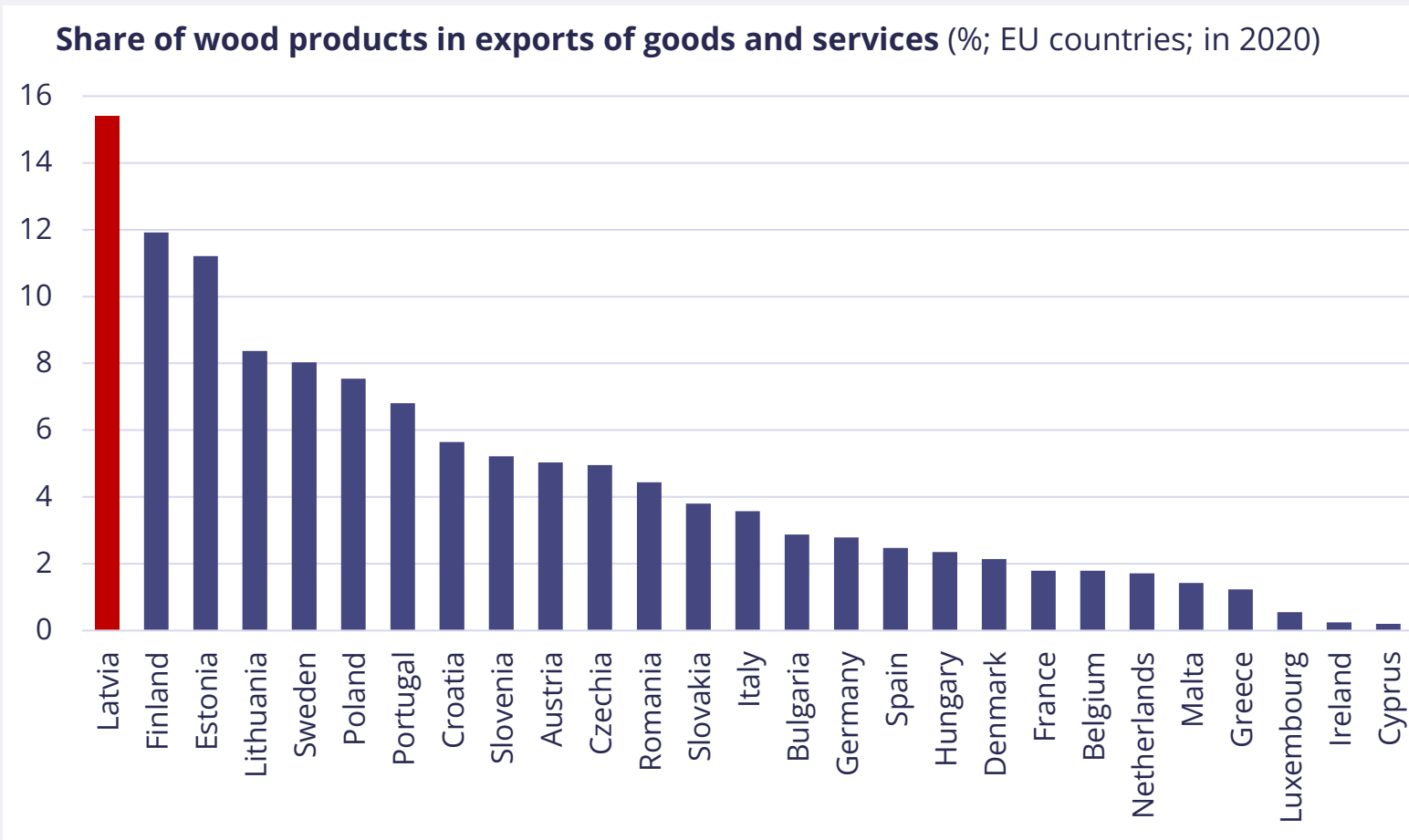
Possible directions of wood processing structural transformation in Latvia – more complicated primary processing of wood (like Poland), developing furniture production (Lithuania), production of prefabricated buildings (Estonia), production of pulp and paper products (Finland, Sweden) and production of musical instruments (Germany, Sweden).



Further advancing only primary wood processing will never make Latvian exports of wood products as complex as it is in Scandinavian countries. Development of secondary wood processing is a key to increase export complexity.

Latvia - the highest share of wood products in exports among the EU countries

- Wood products – main component of Latvian exports.
- Every sixth euro of Latvian exports comes from wood products (in broad definition*).

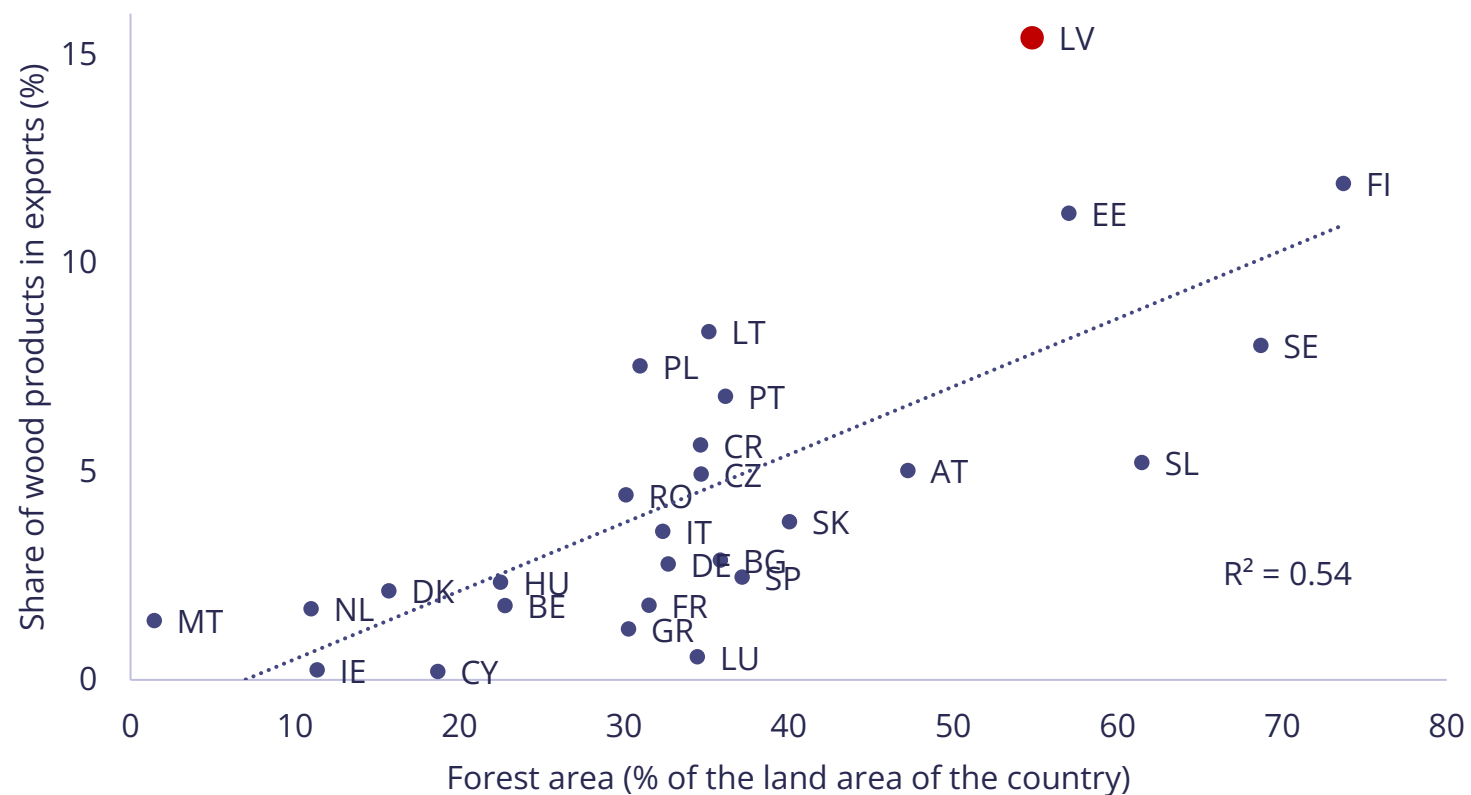


* Wood products are: wood products of primary processing (product groups 44, 45 and 46 according to HS92 classification); pulp, paper and printing (product groups 47, 48 and 49); wood chemistry products (3803-3807); furniture (9401 and 9403); prefabricated buildings (9406); musical instruments (product group 92).

Latvian exports of wood products – bigger than could be expected from its forest area

- In some other Northern European countries - Estonia, Finland and Sweden - even larger part of the land area is forested, but wood products are not the most important export component.
- Latvian comparative advantage in manufacturing of wood products reflects not only availability of materials (forest), but also other factors, including efficient business ecosystem (clusters of wood processing companies) and skilled employees.

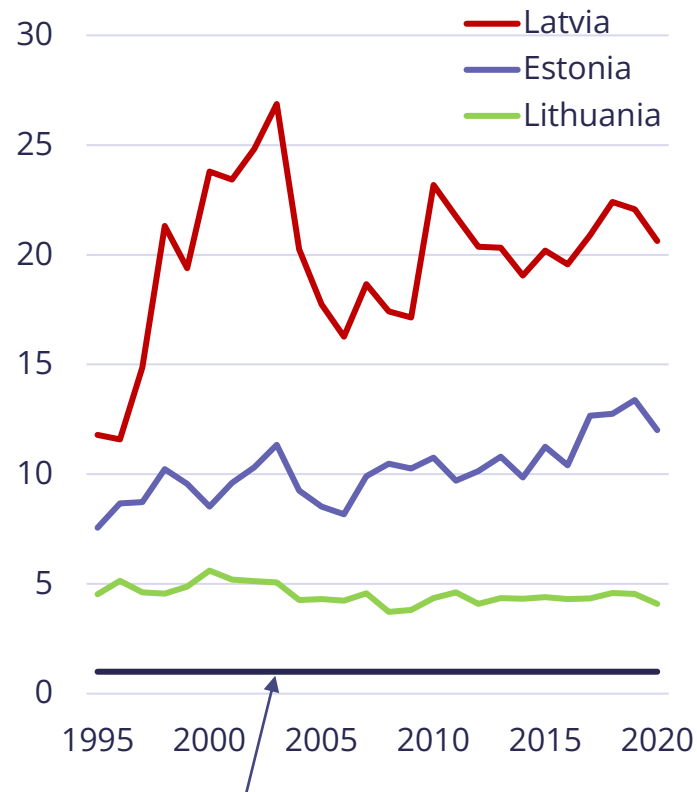
Forest area and share of wood products* in exports (%; in 2020)



* Wood products are: primary processed wood products (product groups 44, 45 and 46 according to HS92 classification); pulp, paper and printing (product groups 47, 48 and 49); wood chemistry products (3803-3807); furniture (9401 and 9403); prefabricated buildings (9406); musical instruments (product group 92).

Wood products of primary processing*: Latvia has a clear comparative advantage and even is a region leader

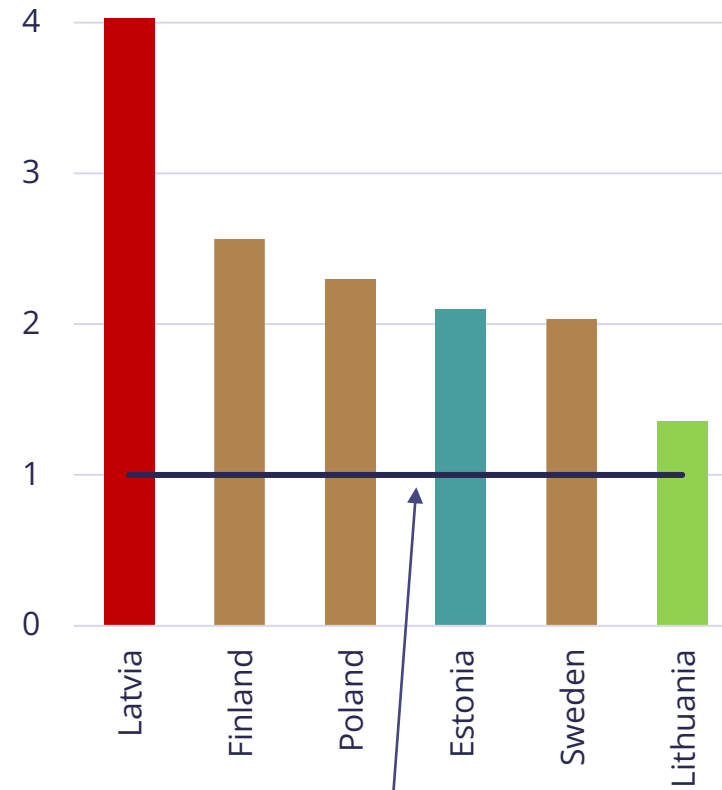
Export capacity (RCA index)



High / low export capacity threshold (revealed comparative advantage = 1: share of wood products in national exports equals its share in global trade).

Source: Atlas of Economic Complexity data, author's calculations.

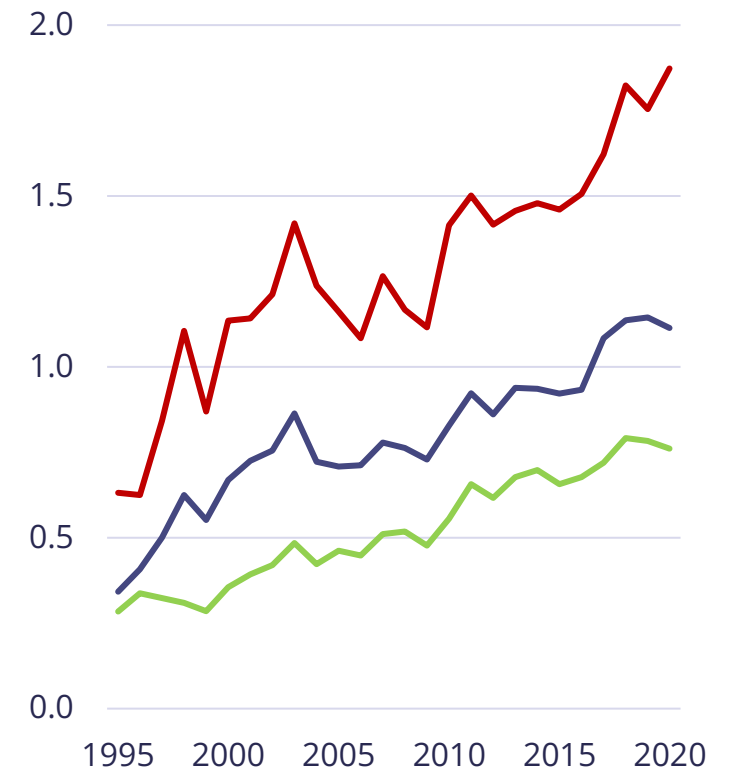
Export - import ratio (2018–2020 average)



Exports of wood products in monetary terms equals to its import.

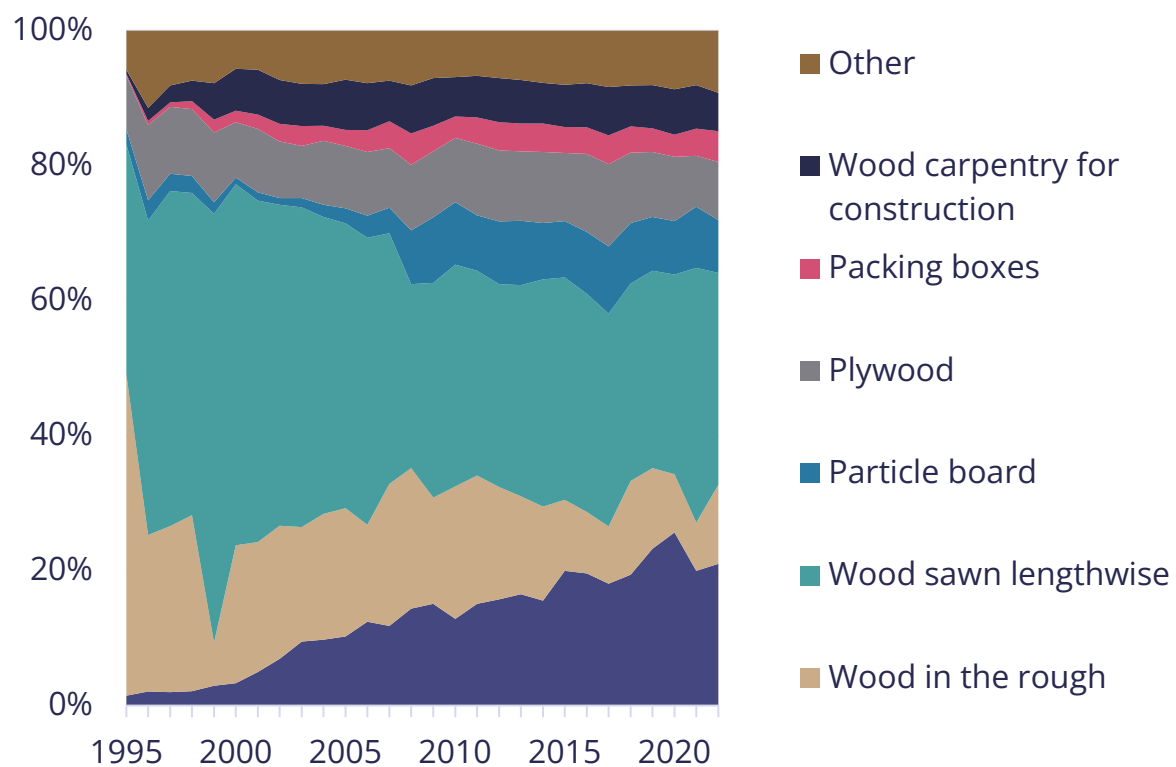
Note. Wood products of primary processing includes product group 44 according to HS92 classification.

World market share (%)

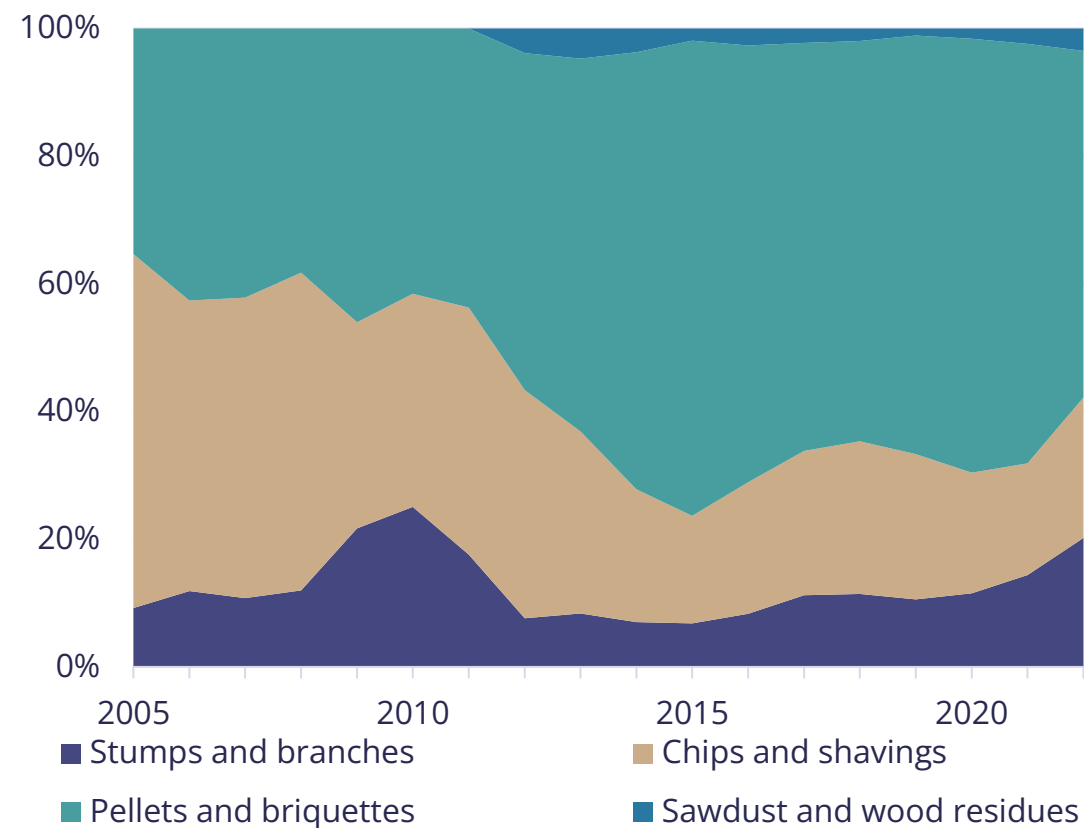


Latvian exports of primary processed wood products became more sophisticated over time

Latvian export structure of primary processed wood (%)

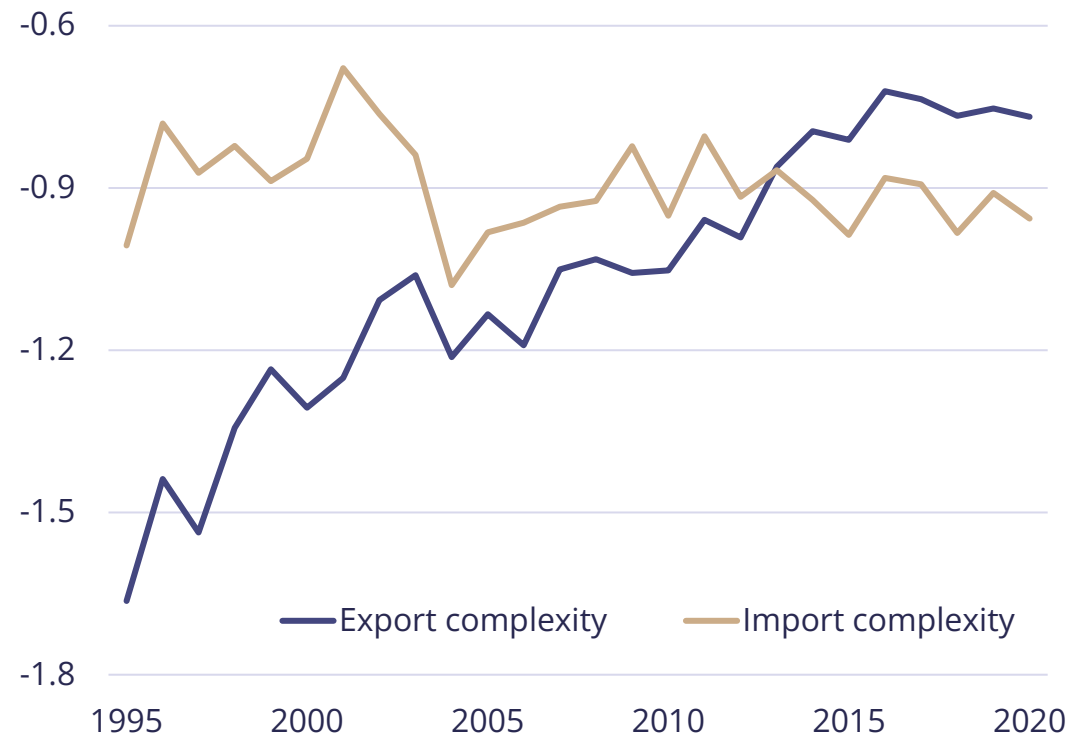


Latvian export structure of fuel wood (%)

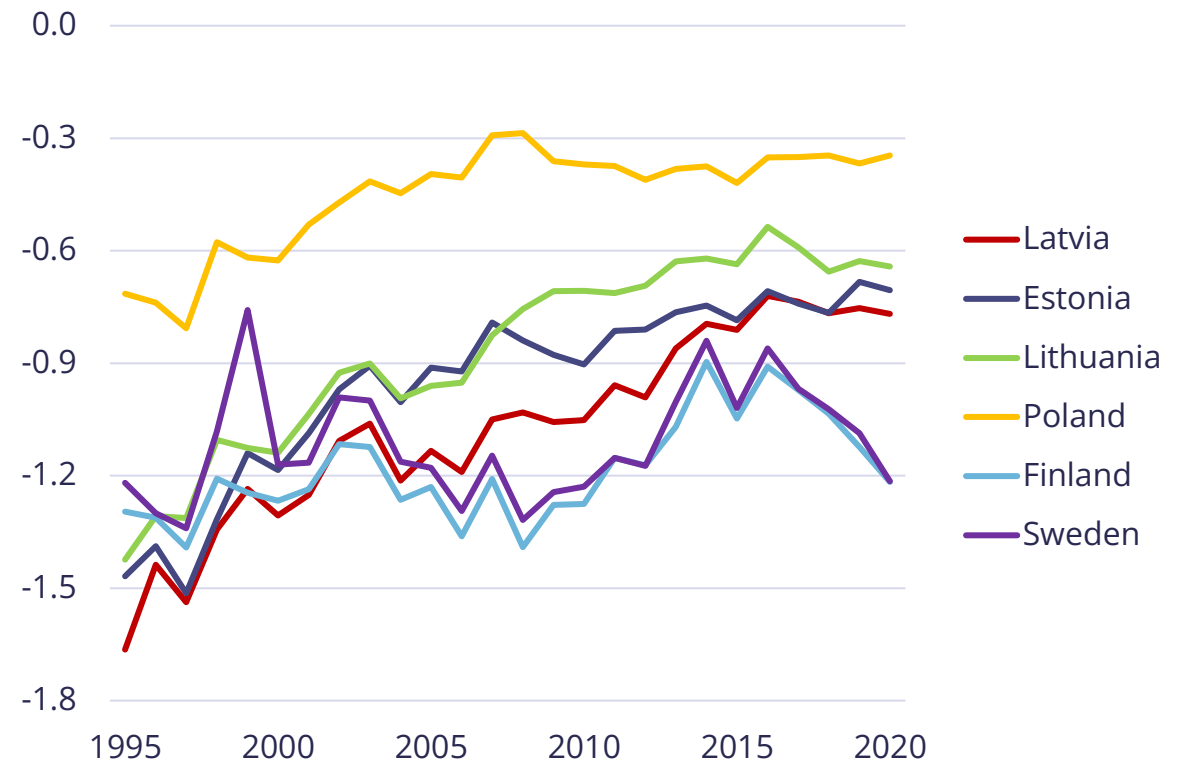


Latvian exports of primary processed wood products is even more sophisticated than that of Scandinavian countries

The complexity of exports and imports of primary processed wood products (Latvia; over 1995–2020)



Primary processed wood: export complexity in selected European Union countries (over 1995–2020)



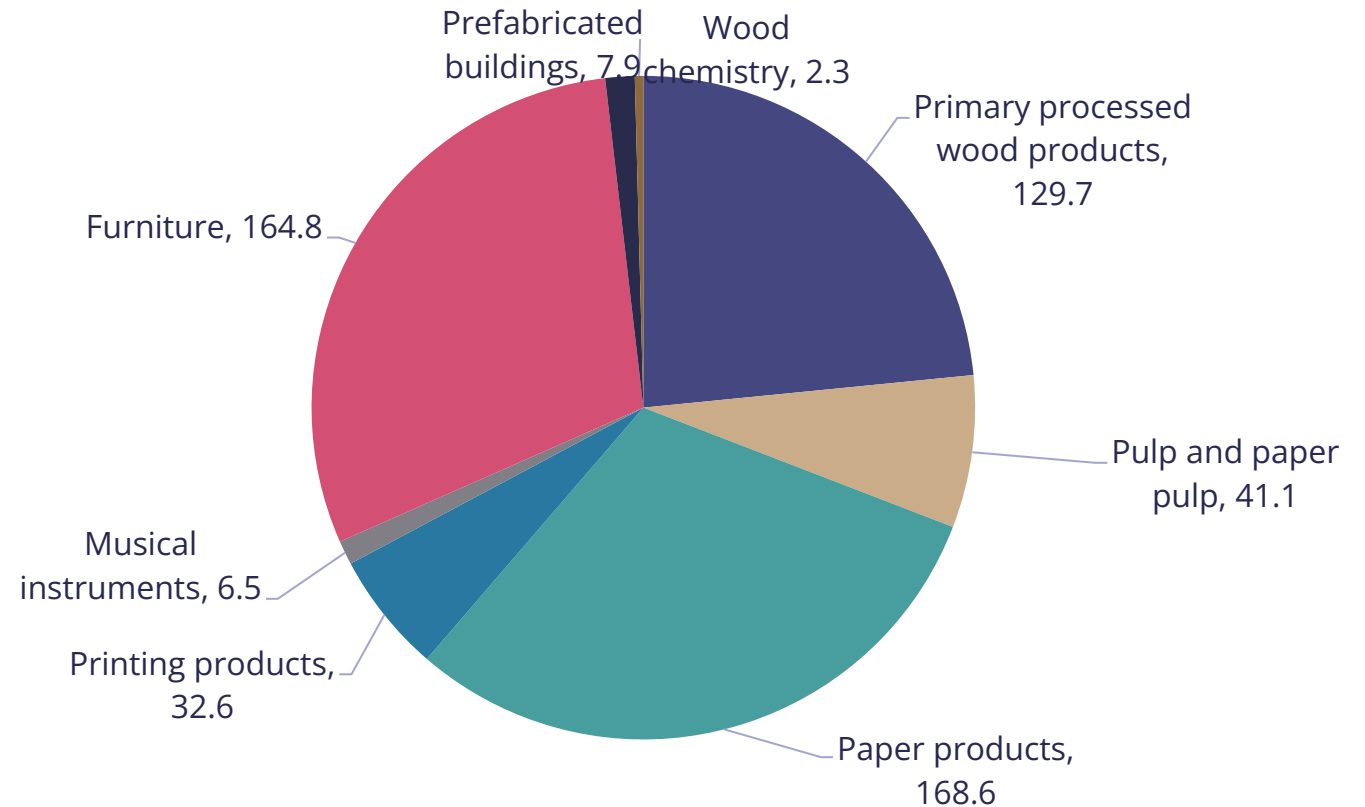
Note. Wood products of primary processing includes product group 44 according to HS92 classification. The average complexity of the entire range of products in the specified year is 0 with a standard deviation of 1.

Previously we talked about wood products of primary procession. But it is only $\frac{1}{4}$ of total exports of wood products – the remaining part is wood products of secondary procession

Wood products of primary processing discussed above constitute only $\frac{1}{4}$ of the global trade in wood products.

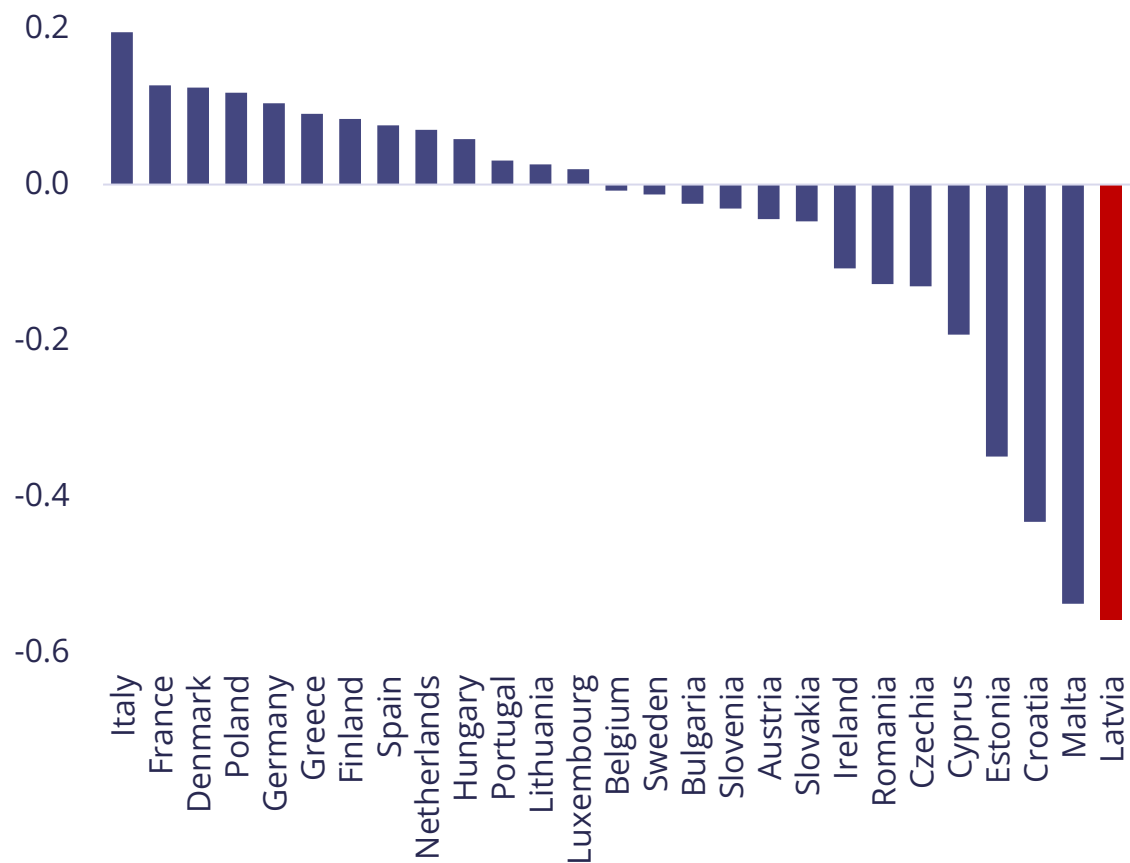
The remaining three quarters belong to (more complex) wood products of secondary processing - paper products, furniture etc.

Global trade of wood products (billion USD; in 2020)

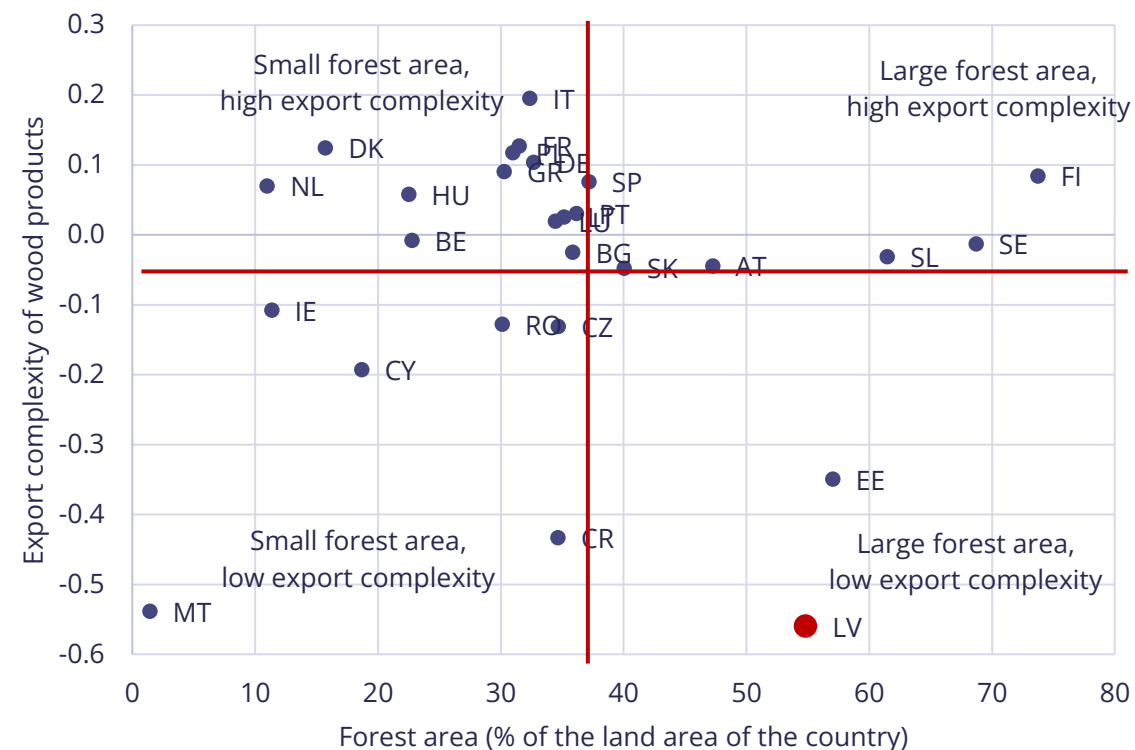


Export complexity of wood products in Latvia is the lowest in the EU; and it is not a feature of large forest area

Export complexity of wood products in the European Union countries (in 2020)



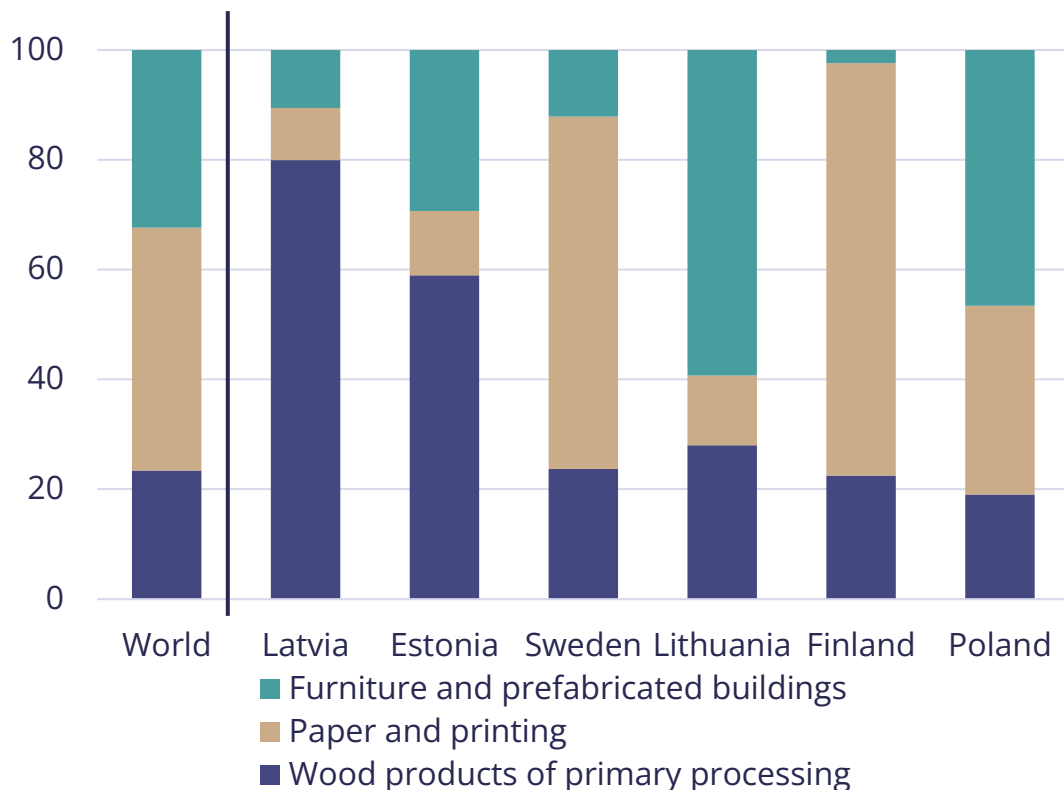
Forest area and export complexity of wood products (in 2020)



Note. The vertical red line represents the EU average share of forest areas (35%). The horizontal red line represents the EU average export complexity of wood products (-0.05). The average complexity of the entire range of products in the specified year is 0 with a standard deviation of 1.

Top of Latvian wood exports: only wood products of primary processing

Wood products export structure in the world and in selected European Union countries (in 2020)



Countries ranked by the complexity of exporting wood products in 2020: countries with low complexity on the left, with high complexity on the right. Wood and wood products – product groups 44, 45 and 46 according to HS92 product classification; pulp, wood chemistry, paper and printing - product groups 47, 48, 49, as well as products 3803-3807; furniture, prefabricated houses and musical instruments - products 9401, 9403 and 9406, as well as product group 92.

Top-5 wood products with the highest export capacity (denoted by RCA index) in selected EU countries (2016-2020 average)

	Latvia	Estonia	Sweden	Lithuania	Poland	Finland
1	Fuel wood	Prefabricated buildings	Uncoated kraft paper and paperboard	Packing boxes	Packing boxes	Transparent paper
2	Packing boxes	Semichemical woodpulp	Newsprint	Prefabricated buildings	Newspapers and journals	Paper and paperboard
3	Particle board	Wood shaped along its edges	Paper and paperboard	Wood carpentry for construction	Wooden frames	Semichemical woodpulp
4	Wood sawn lengthwise	Fuel wood	Wood sawn lengthwise	Furniture	Wood carpentry for construction	Chemical woodpulp
5	Wood in the rough	Wood carpentry for construction	Semichemical woodpulp	Cigarette paper	Seats	Paper used for graphic purposes

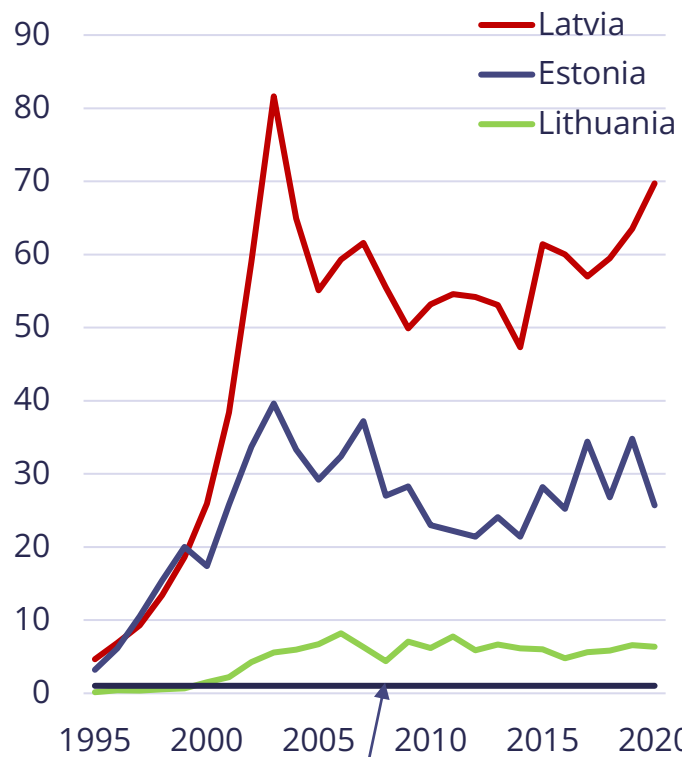
Sample: 6 EU countries with the highest share of wood products in exports in 2020. The countries are ranked according to the average value of the complexity of the products shown in the table: countries with low complexity on the left, with high complexity on the right.

Orange – wood products of primary processing (product group 44);
Blue – wood products of secondary processing.

Only products with a large volume of global trade (or products for which the Atlas of Economic Complexity has calculated the RCA index) are included.

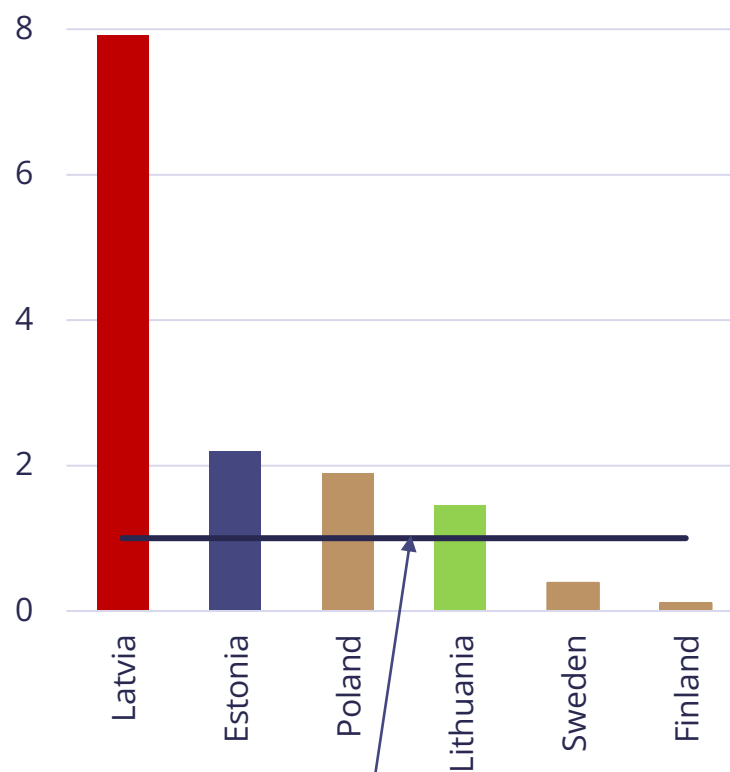
Wood product with the highest export capacity (RCA index) in Latvia – fuel wood

Export capacity (RCA index)



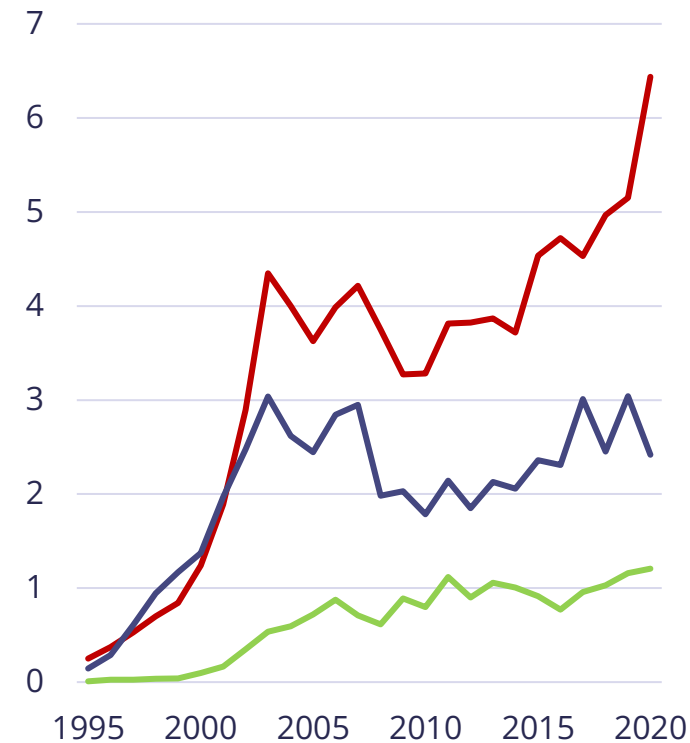
High / low export capacity threshold (revealed comparative advantage = 1: share of wood products in national exports equals its share in global trade).

Export - import ratio (2018–2020 average)



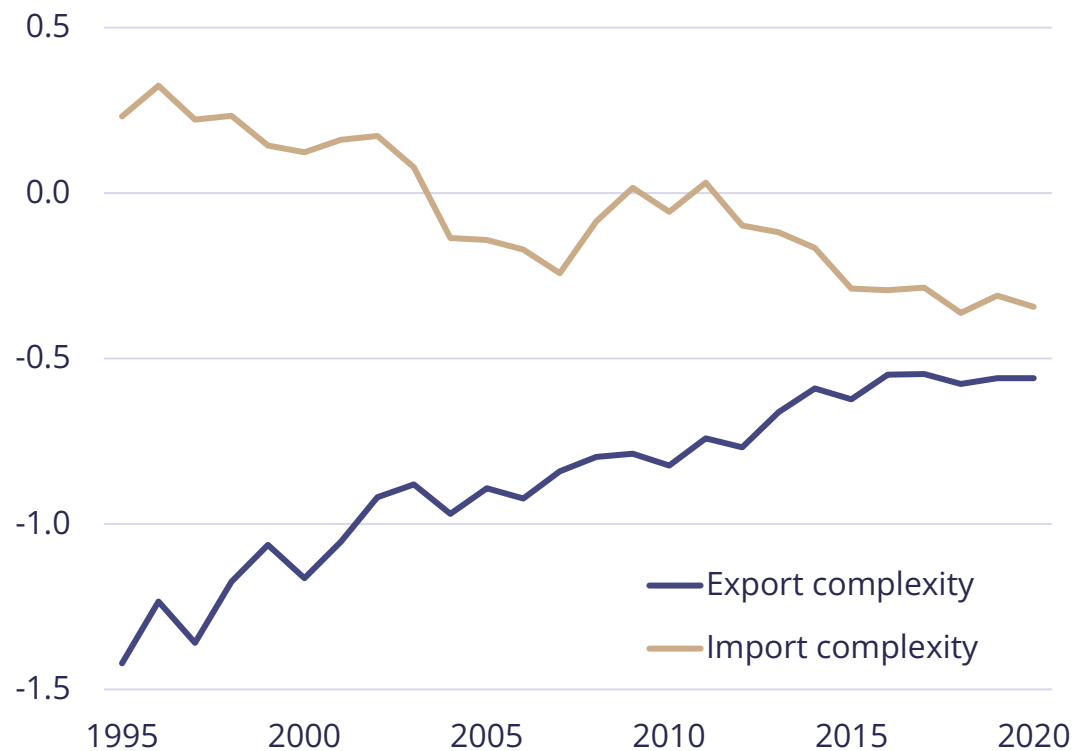
Exports of wood products in monetary terms equals to its import.

World market share (%)

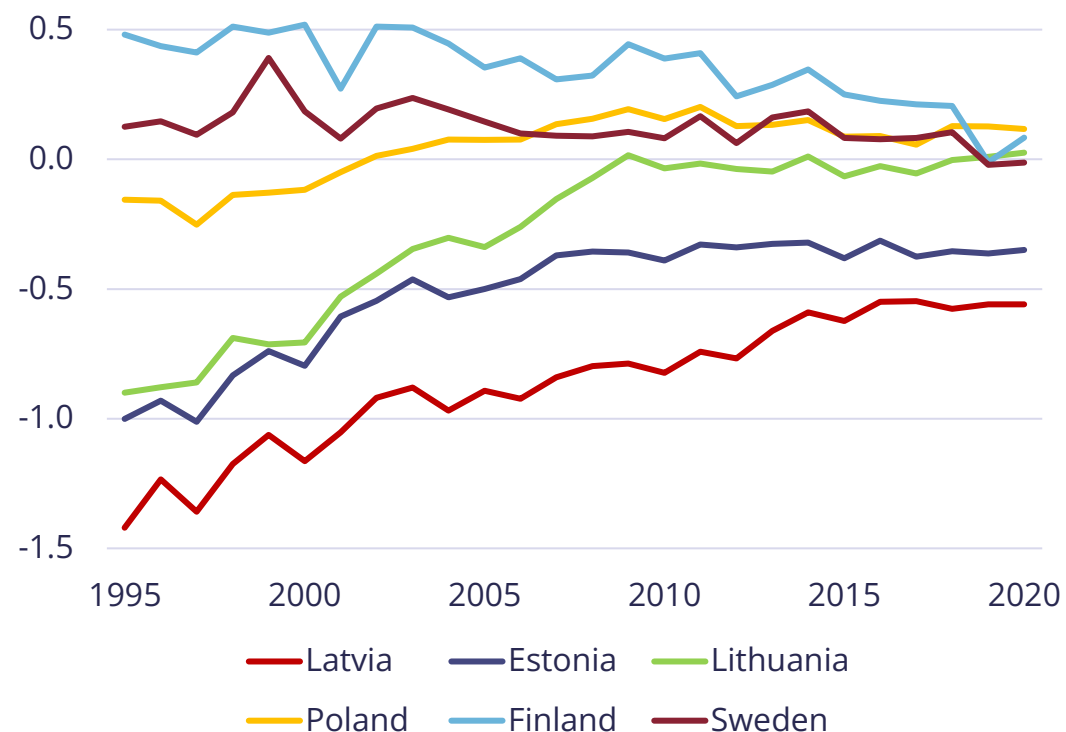


Latvia imports more complex wood products than exports; export complexity stagnated

Latvia: complexity of wood products in exports and imports (over 1995–2020)



Export complexity of wood products in selected EU countries (over 1995–2020)



Note. Wood products include product groups 44-49 and 92, as well as products 9401, 9403, 9406 and 3803-3807 under the HS92 classification. The average complexity of the entire range of products in the specified year is 0 with a standard deviation of 1.

How Latvia can achieve structural transformation in wood products: 4 possible directions

First direction – raise complexity of primary processing wood products

Raw wood materials (4403: wood in the rough; 4407: wood sawn lengthwise) are still exported much more than imported in Latvia. Thus, Latvia could develop more complicated wood processing, increasing its market share both in those complex products in which it already has a comparative advantage (4415: packing boxes, 4410: particle board) and also in those which Latvia exported relatively little until now (4411: fiberboards, 4417: wooden tools, 4418: wood carpentry for construction).

In this direction Latvia has been taking big steps since the 1990s. The achievements are remarkable.

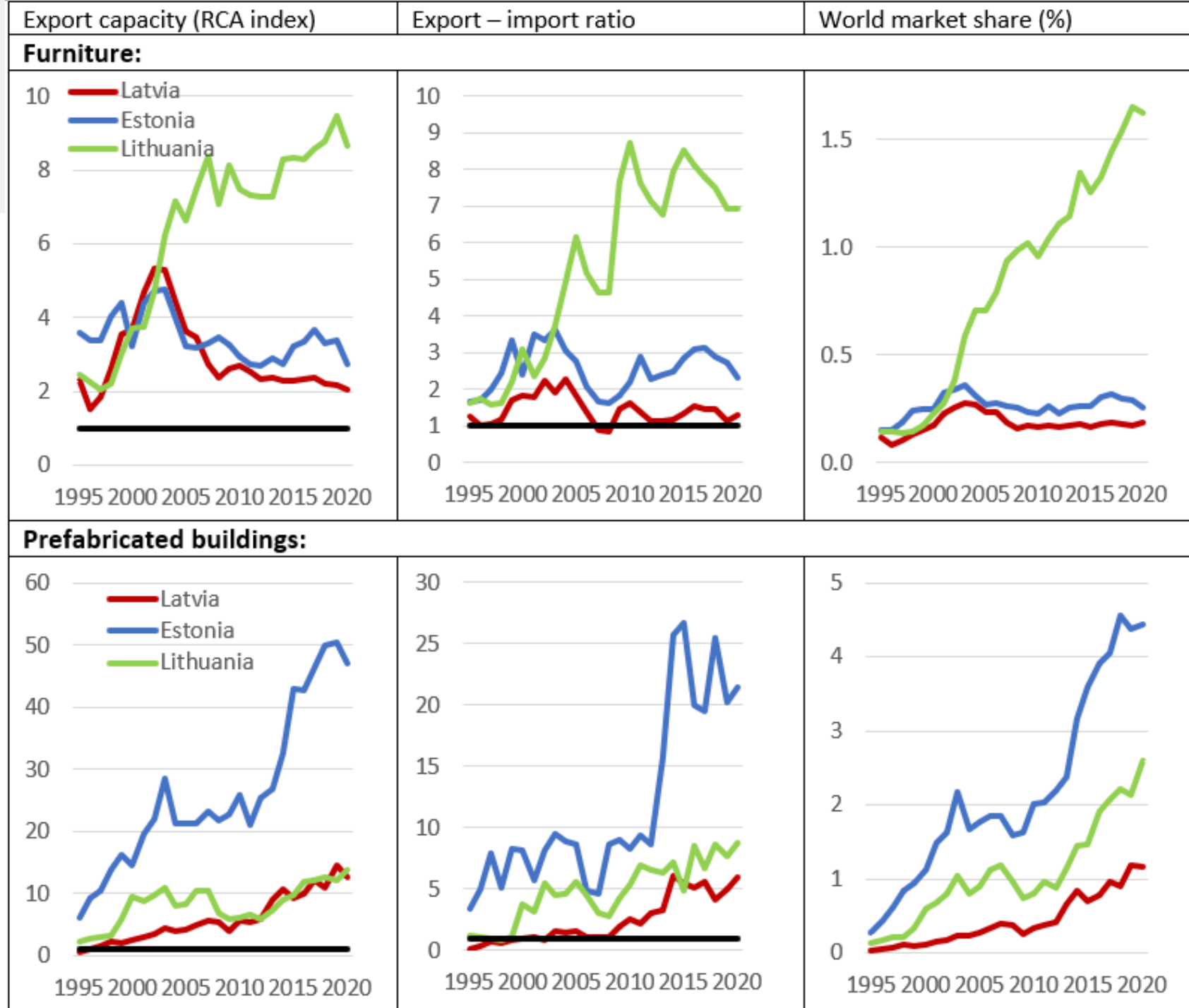
Continuing this direction would be the simplest thing that Latvia can do, because it does not require the transformation of the national economy - Latvia already has a high export capacity ($RCA > 1$) in almost all groups of primary processing wood products. Therefore, further potential improvements in this direction are not large. In addition, even the most complicated primary processing wood products (such as packing boxes) are simpler than furniture or paper.

=> **only by improving primary wood processing, Latvia will never reach wood export complexity level of Scandinavian countries.**

Second direction - develop production of furniture and prefabricated buildings

- The direction is promising, as it envisages developing the production of goods in which Latvia already has a comparative advantage (high RCA index).
- However, Lithuania is well ahead in the production of furniture, while Estonia - in the production of prefabricated buildings.

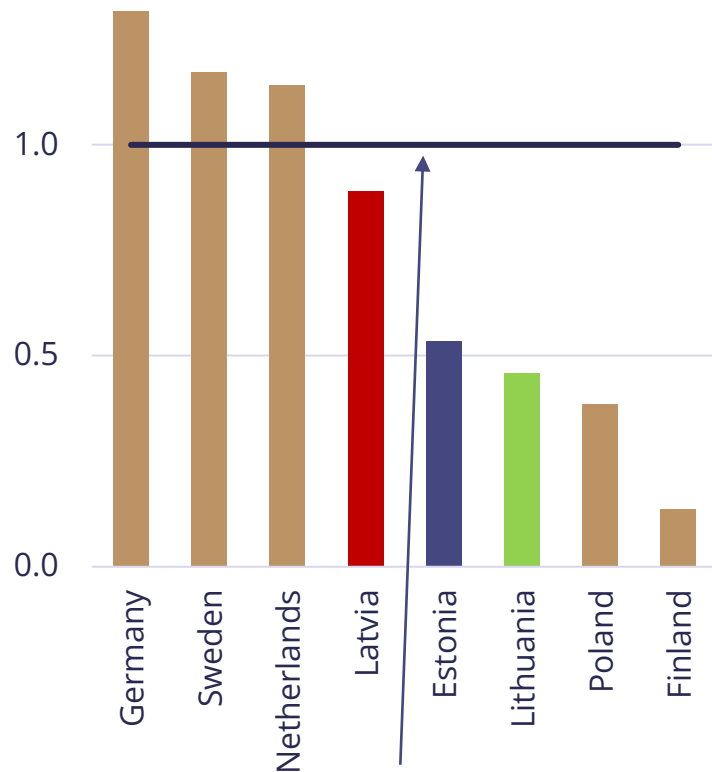
According to HS92 classification:
 furniture - products 9401 and 9403;
 prefabricated buildings - product 9406.



Third direction – develop production of musical instruments

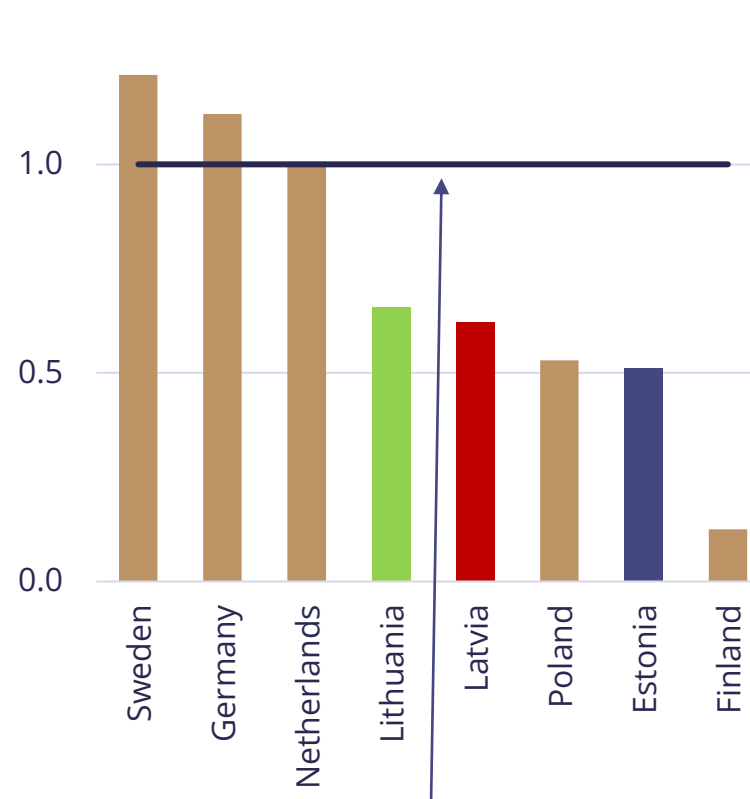
(today $RCA < 1$, small global market capitalization, biggest manufacturers come from Asia)

Export capacity
(RCA index; 2018–2020 average)



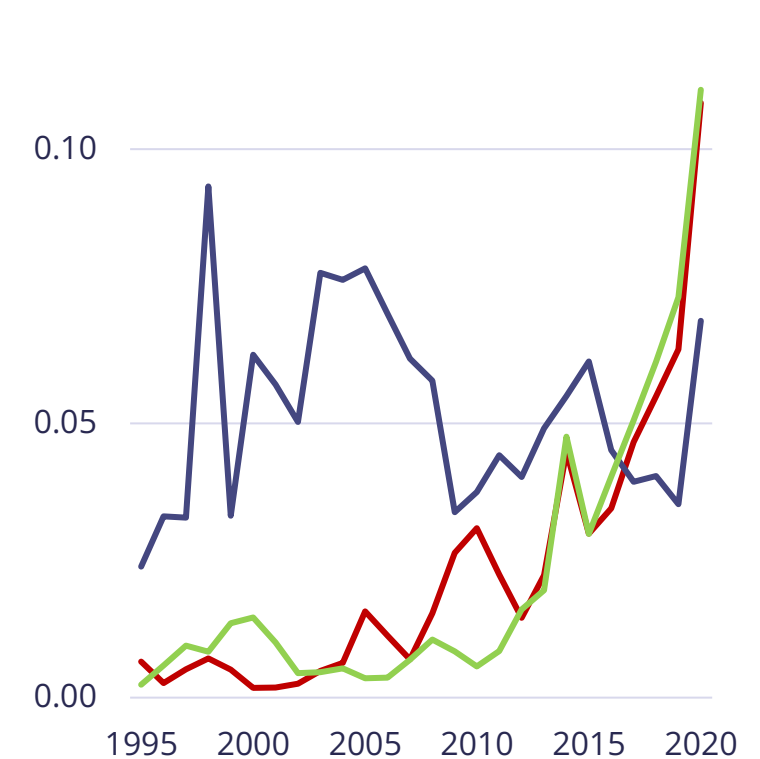
High / low export capacity threshold (revealed comparative advantage = 1: share of wood products in national exports equals its share in global trade).

Export – import ratio
(2018–2020 average)



Exports of wood products in monetary terms equals to its import.

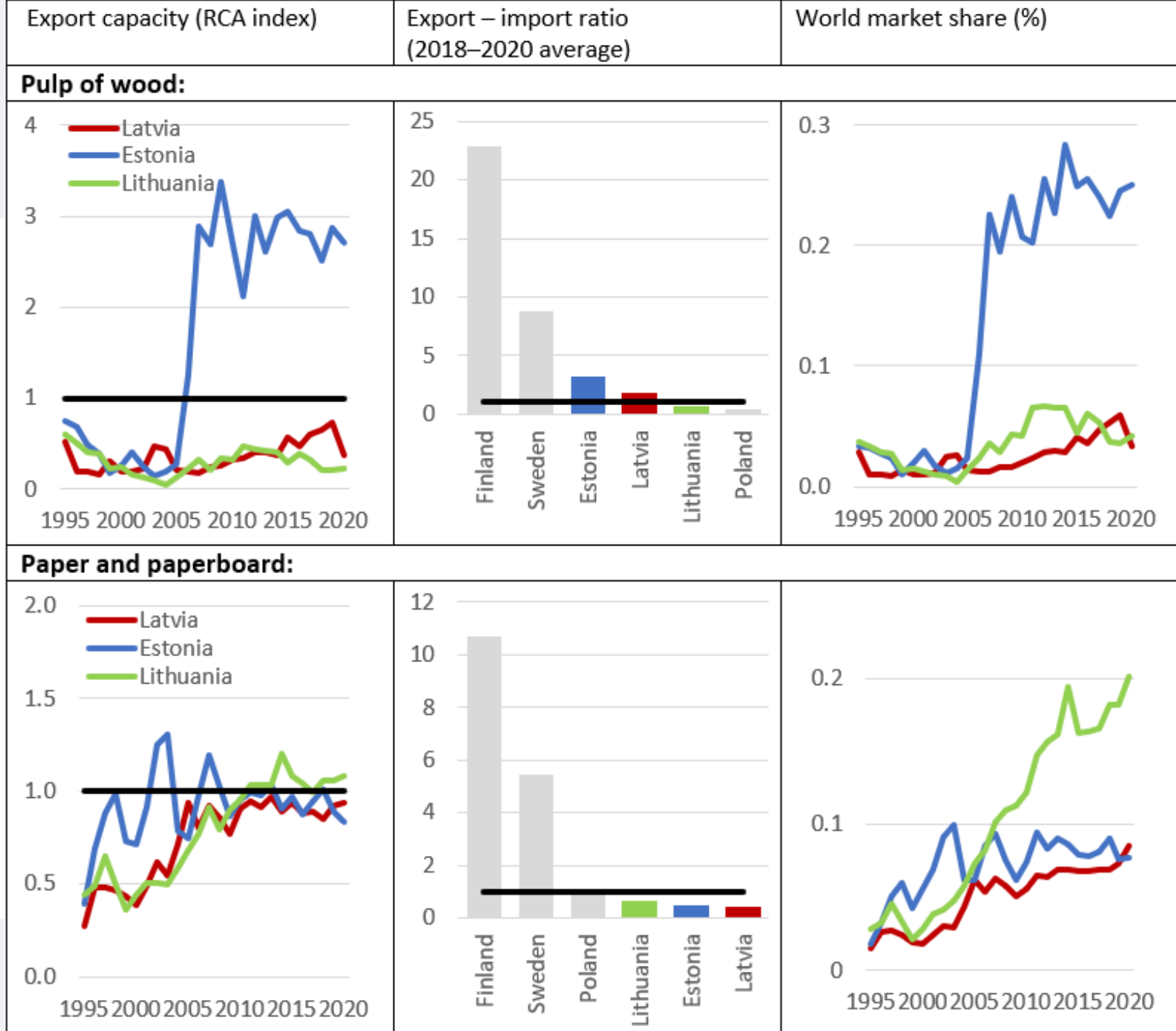
World market share
(%; over 1995–2020)



Fourth direction – develop production of pulp and paper products

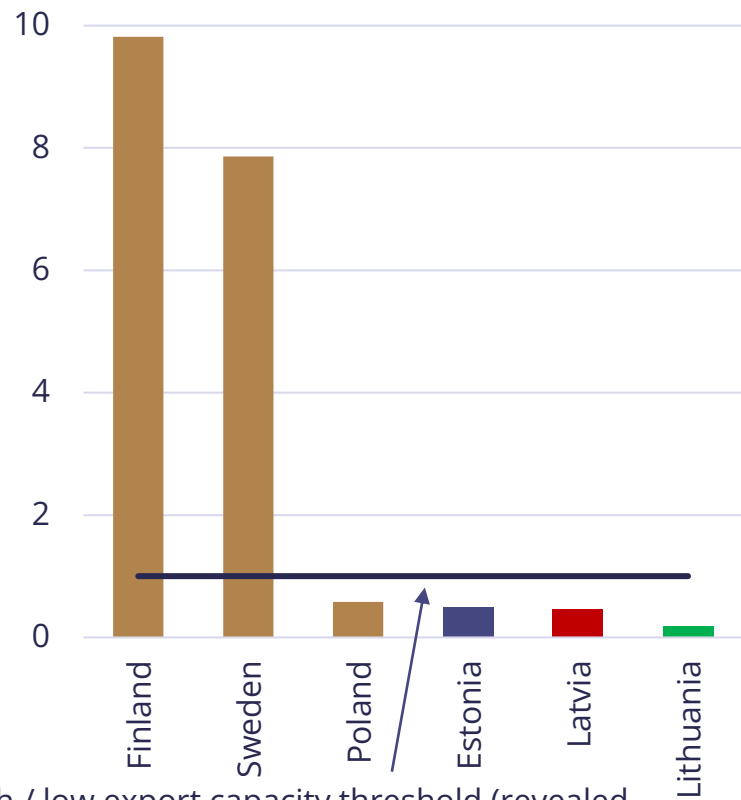
- $RCA < 1$
- Russian (Europe's largest exporter of unprocessed wood) wood exports to Latvia decreased to 0);
- the amount of wood available for primary wood processing may ↓, and wood price ↑.

According to HS92 classification:
pulp and paper pulp – product group 47;
paper products – product group 48.



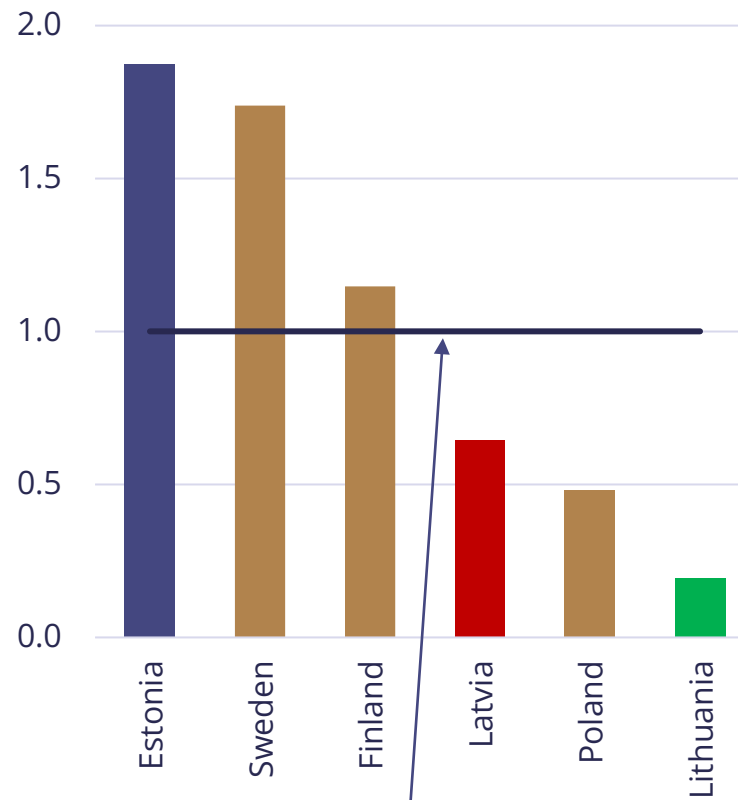
Sub-direction of the fourth direction – develop wood chemistry products (RCA<1, small global market capitalization)

Wood chemistry products: export capacity (RCA index; 2018-2020 average)



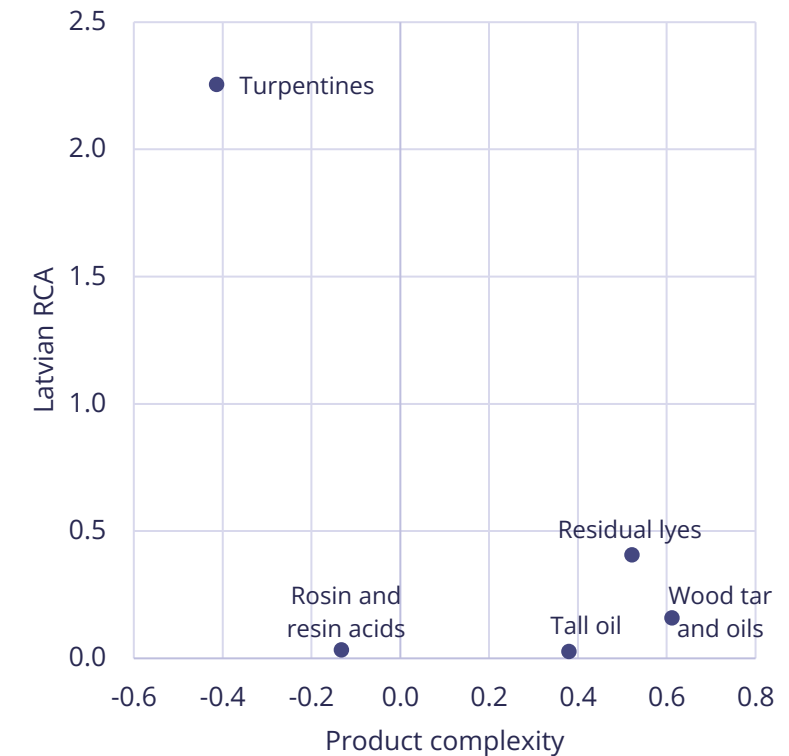
High / low export capacity threshold (revealed comparative advantage = 1: share of wood products in national exports equals its share in global trade).

Wood chemistry products: export-import ratio (2018-2020 average)



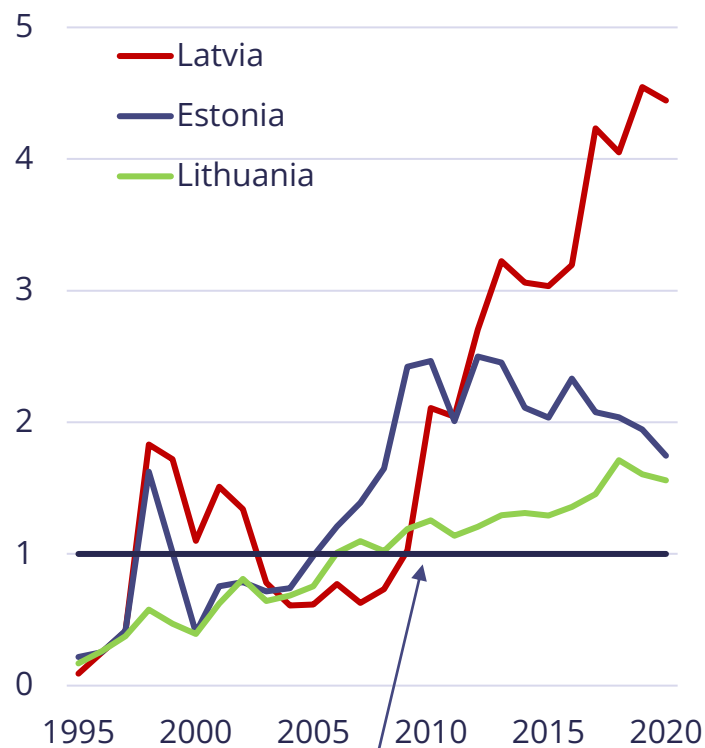
Exports of wood products in monetary terms equals to its import.

Complexity of selected wood chemistry products and Latvian export capacity (2018-2020 average)



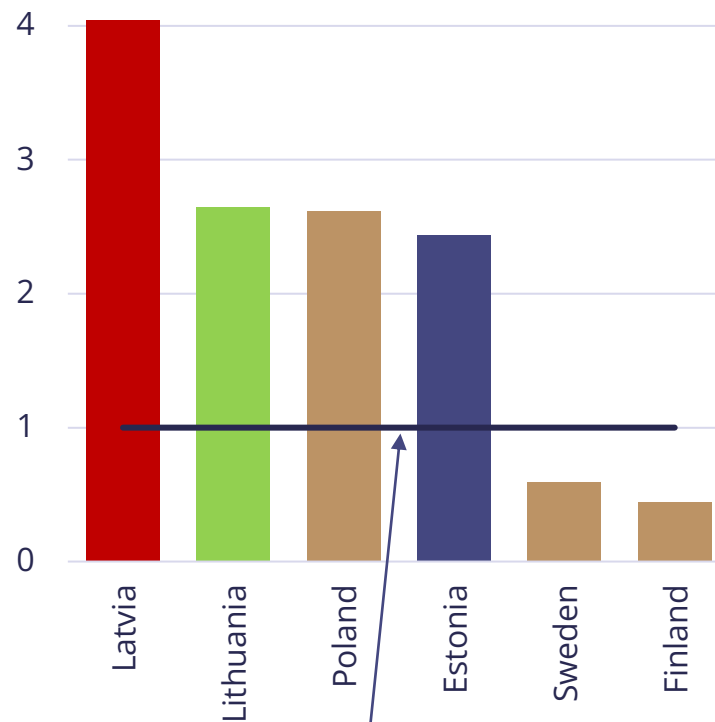
Success story – Latvian printing industry (also belongs to the wood products of secondary processing)

Export capacity (RCA index)



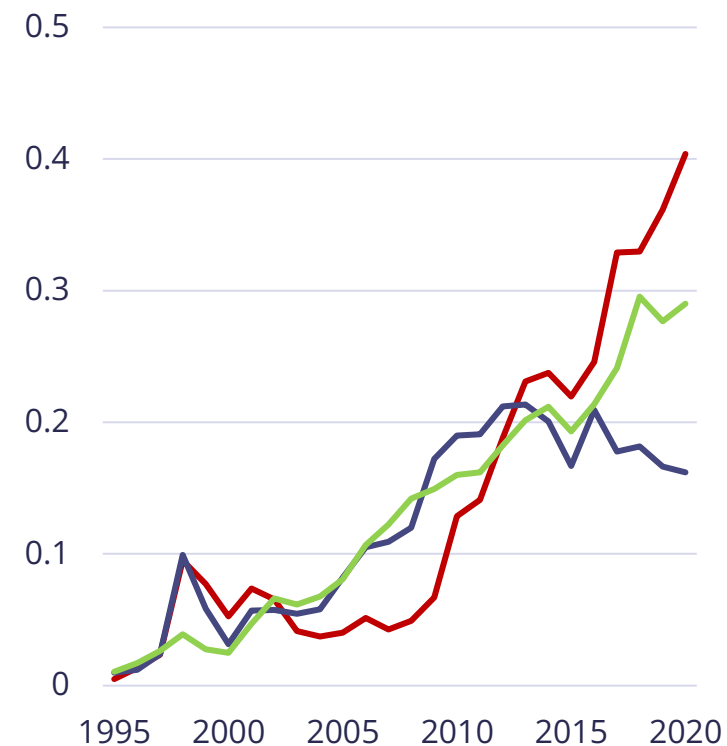
High / low export capacity threshold (revealed comparative advantage = 1: share of wood products in national exports equals its share in global trade).

Export – import ratio

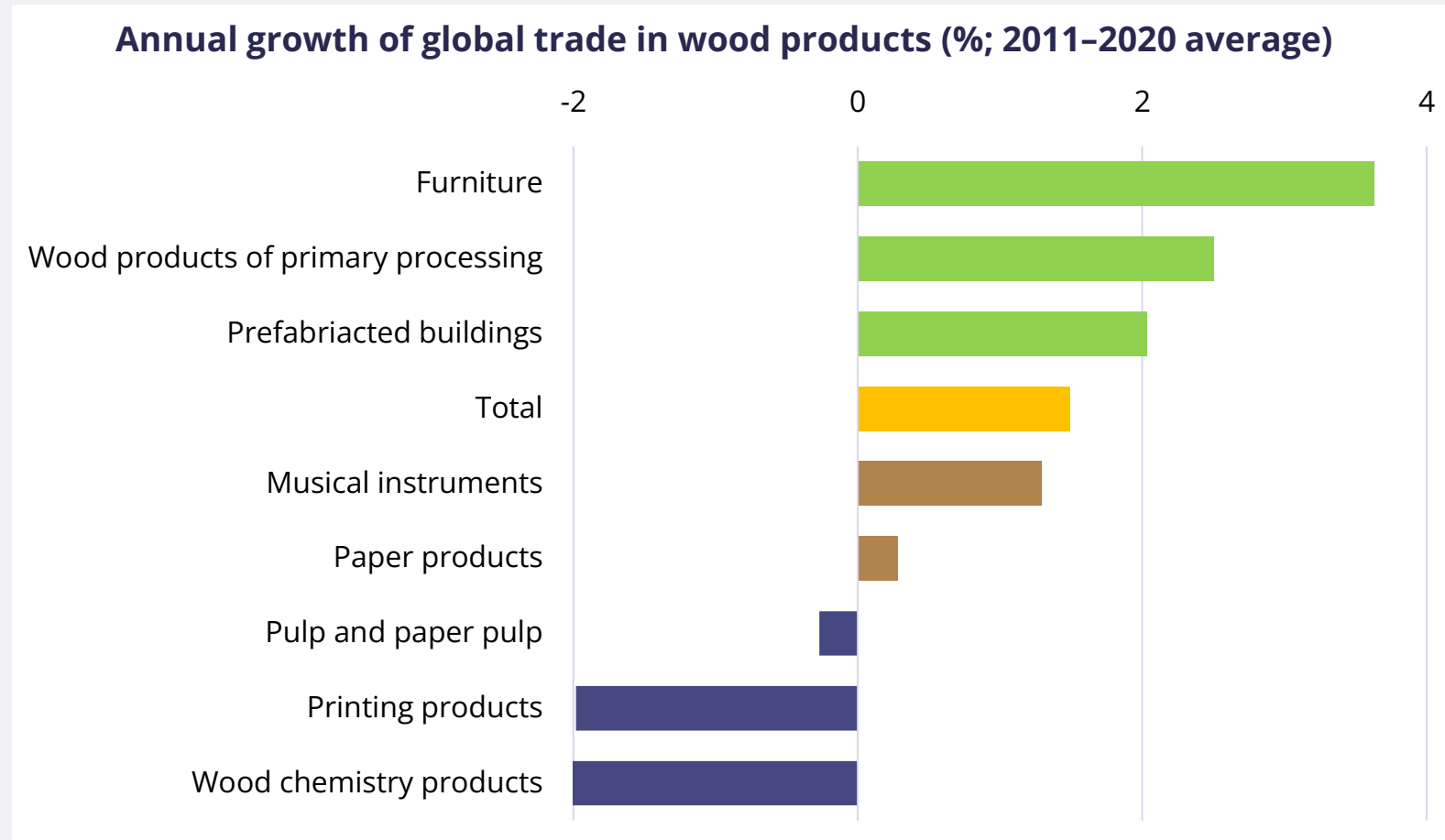


Exports of wood products in monetary terms equals to its import.

World market share (%)



Additional aspect to consider - dynamics of the global market (driven by digitization and other factors)



Notes. Green – growing market,
grey - stagnant market, blue - declining market.

According to HS92 classification:
furniture - products 9401 and 9403;
wood products of primary processing - product group 44;
prefabricated buildings – product 9406,
musical instruments – product group 92,
paper products – product group 48;
pulp and paper pulp – product group 47;
printing products – product group 49;
wood chemistry - products 3803-3807.

Source: Atlas of Economic Complexity data, author's calculations.

Takeaways



Latvia ranks first in the EU in terms of the share of wood products in exports, but last in terms of its complexity. This means that wood resources can be used more efficiently to improve the welfare of the country.



Latvia has a high export capacity in wood products of primary processing (fuel wood, packing boxes, particle board), but not so much in wood products of secondary processing (pulp, paper, furniture, musical instruments).



In Latvia, the wood product with the greatest export capacity (RCA: revealed comparative advantage) is fuel wood. Latvia is Europe's largest exporter of fuel wood.



Latvia exports unprocessed wood mainly to Sweden and Finland. Latvia mainly imports paper from these countries. This is just one example of the import of a complex product, the production of which uses raw materials from Latvia.



Possible directions of wood processing structural transformation in Latvia – more complicated primary processing of wood (like Poland), developing furniture production (Lithuania), production of prefabricated buildings (Estonia), production of pulp and paper products (Finland, Sweden) and production of musical instruments (Germany, Sweden).



Further advancing only primary wood processing will never make Latvian exports of wood products as complex as it is in Scandinavian countries. Development of secondary wood processing is a key to increase export complexity.



Referencing:

Olegs Krasnopjorovs (2024).

«Towards the structural transformation of Latvian economy: wood products».

Internal presentation. 10.04.2024.

will be published by the Bank of Latvia in 2024.

For questions and comments:

Olegs.Krasnopjorovs@bank.lv