



Development trends of main bioeconomy sectors in Latvia

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WYDZIAŁ NAUK
EKONOMICZNYCH



Term “bioeconomy”

“A bio-based *economy* integrates the full range of natural and renewable biological resources - land and sea resources, biodiversity and biological materials (plant, animal and microbial), through to the *processing and the consumption of these bio-resources*”



European Commission, 2012

Current areas of bioeconomy

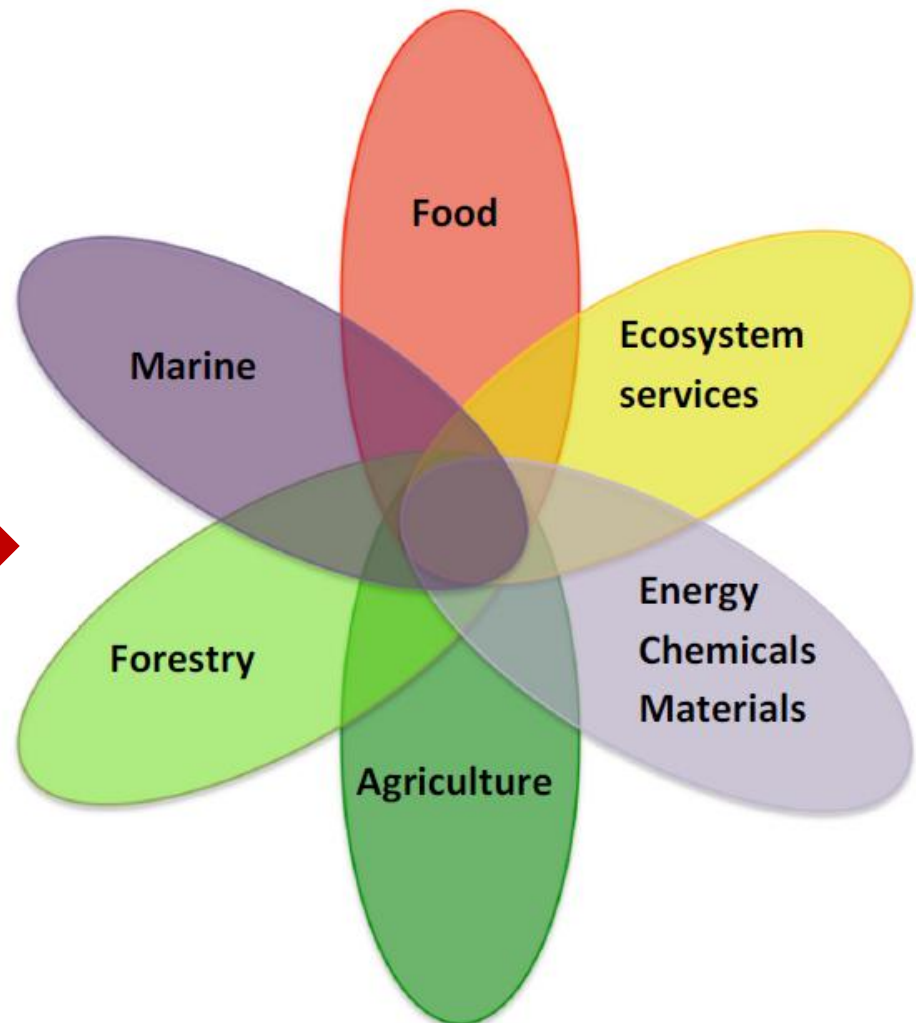
Bioeconomy sectors



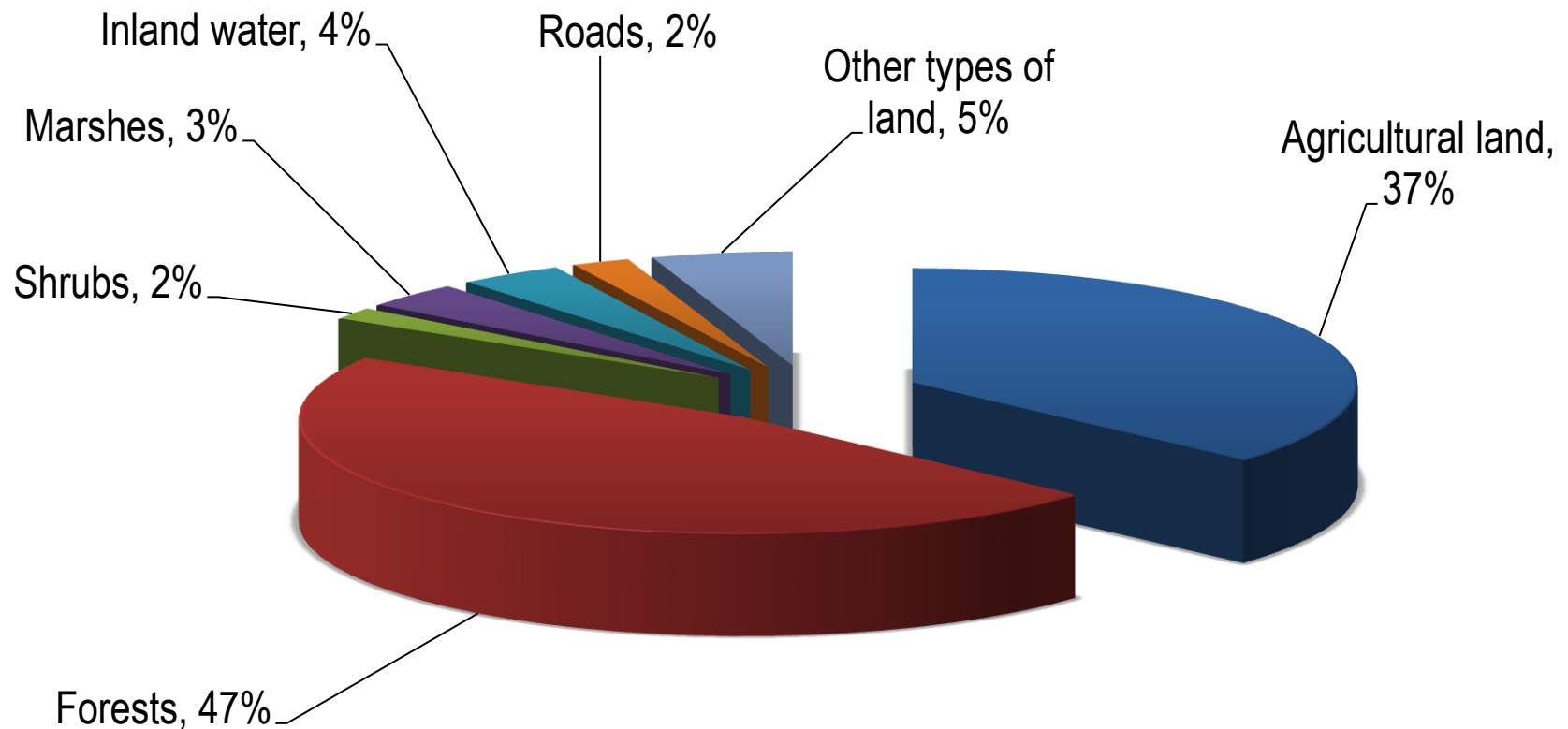
*Bioresources
production sectors*



- Animal origin bioresources
- Plant origin bioresources
- Soil
- Peat



Territorial structure of Latvia at the beginning of 2015, %

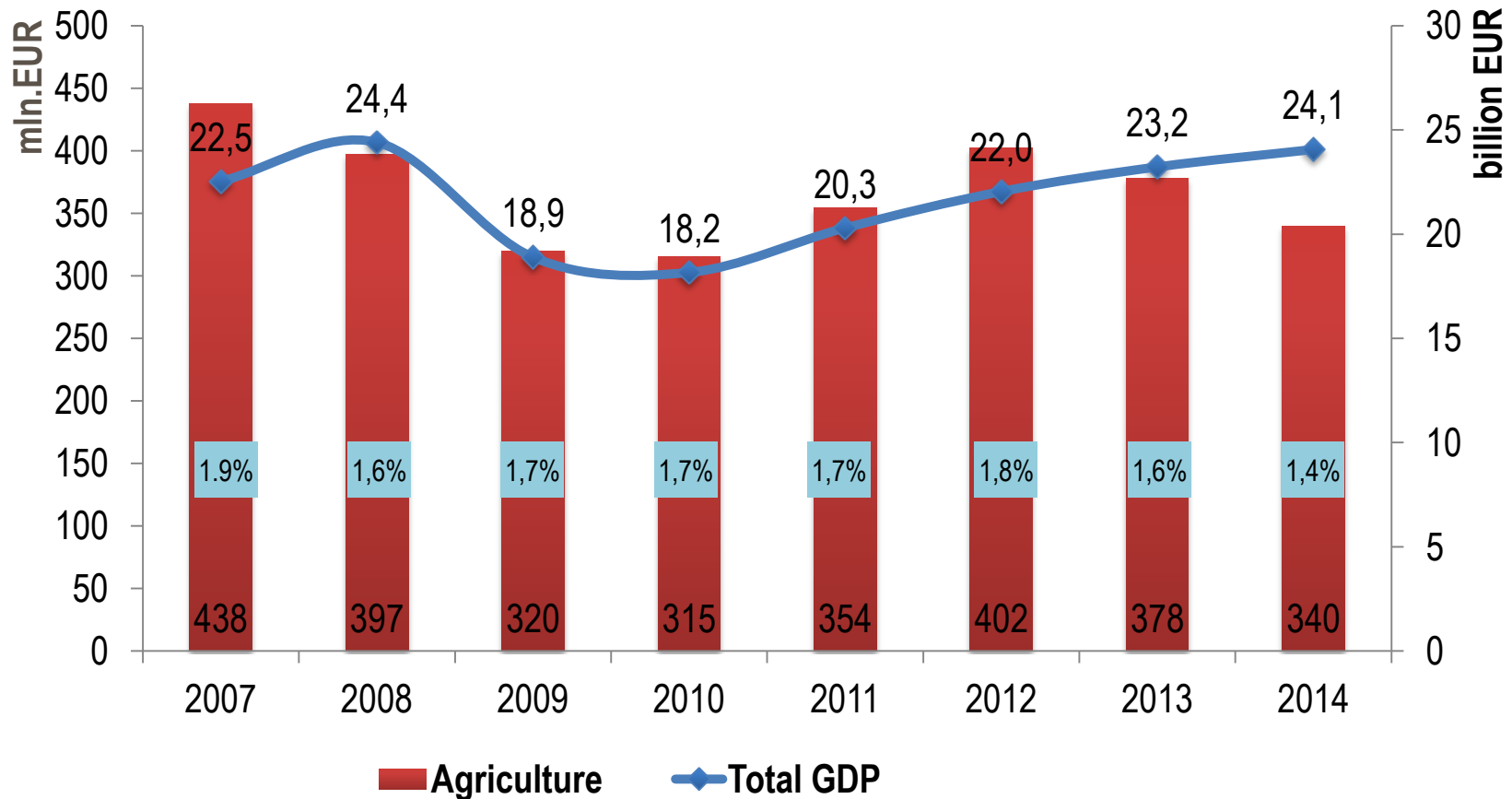


➔ Total area 64.5 thsd. km²

Agricultural sector



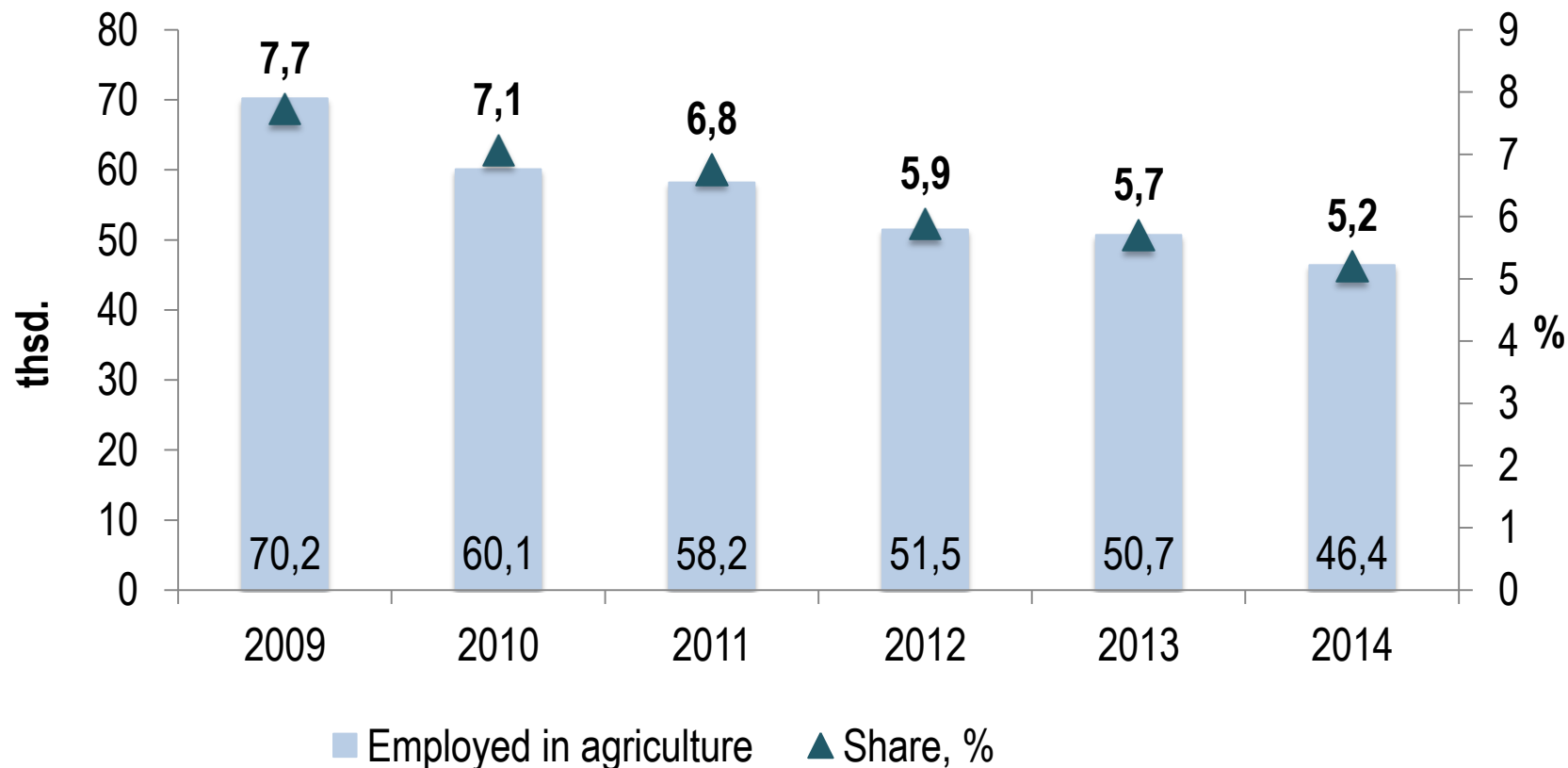
Role of agriculture in the economy - share of agriculture in GDP, 2007-2014



➡ **Most ancient sector of national economy**

➡ **High competition from other sectors with growing value added**

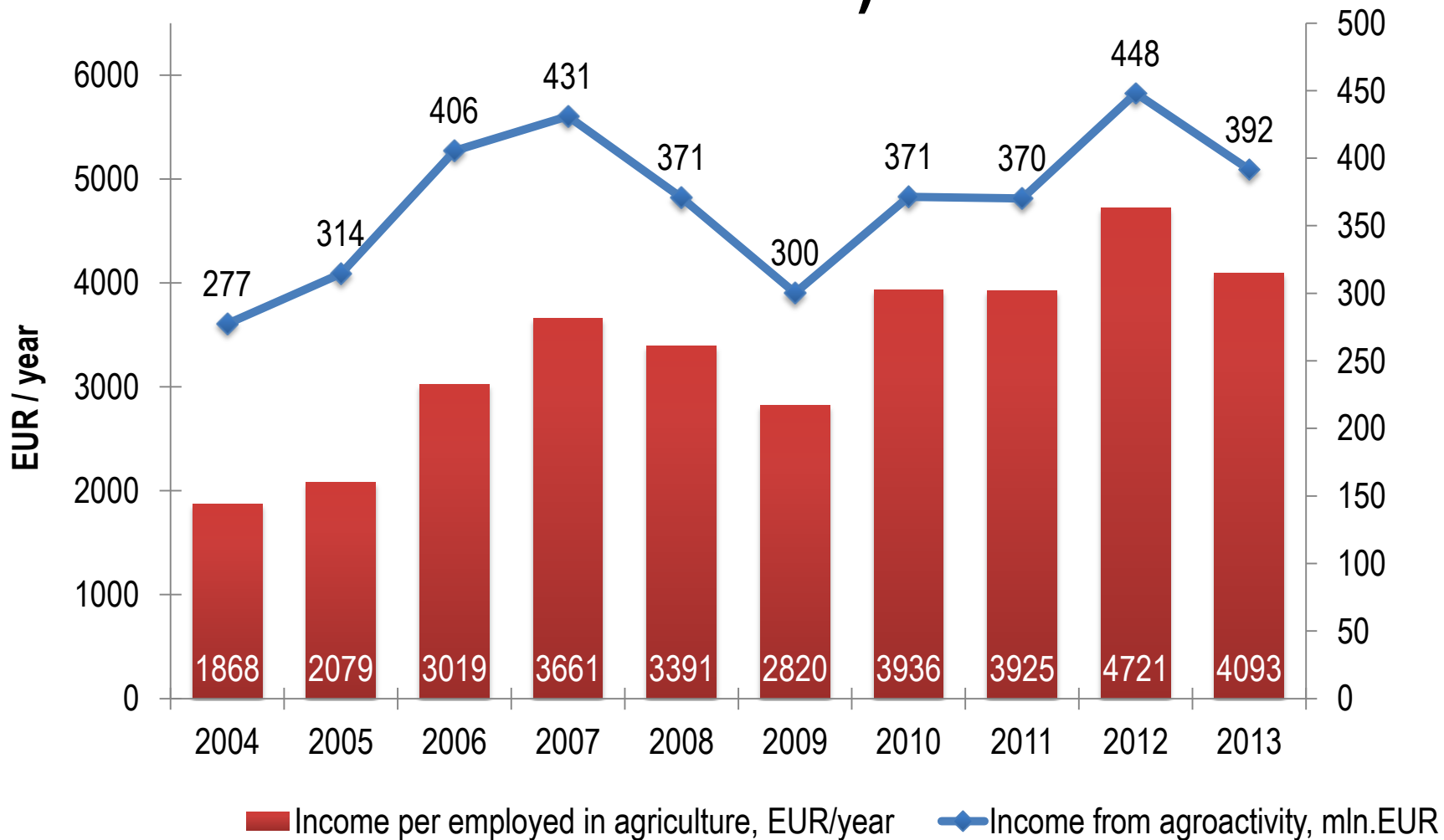
Share of population employed in agriculture in Latvia, 2009-2014 (thsd. and %)



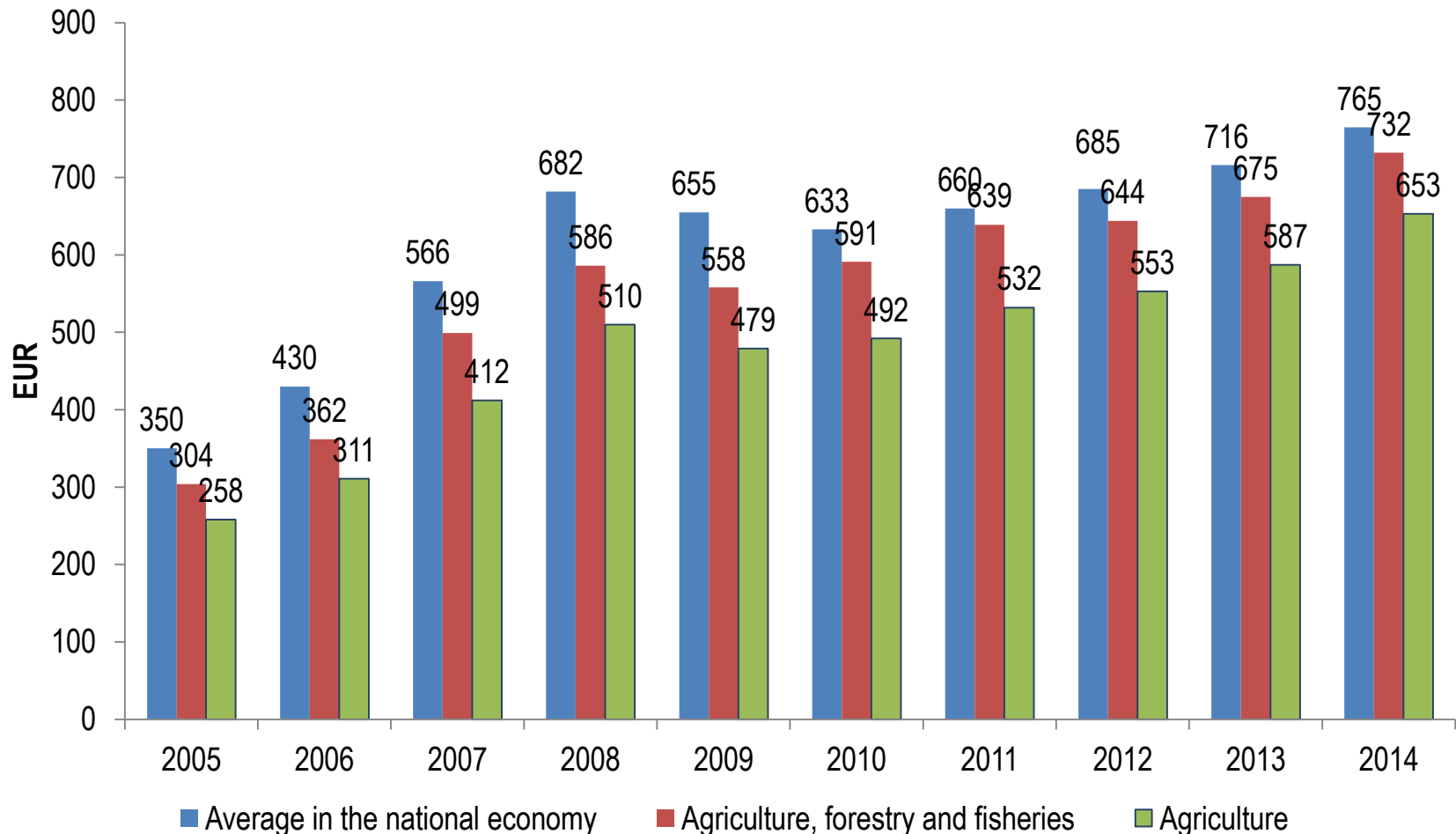
➡ **Farms modernisation**

➡ **People are moving to the cities**

Farm income and income of population employed in agriculture in Latvia, 2004-2013 (EUR/year and mln. EUR)

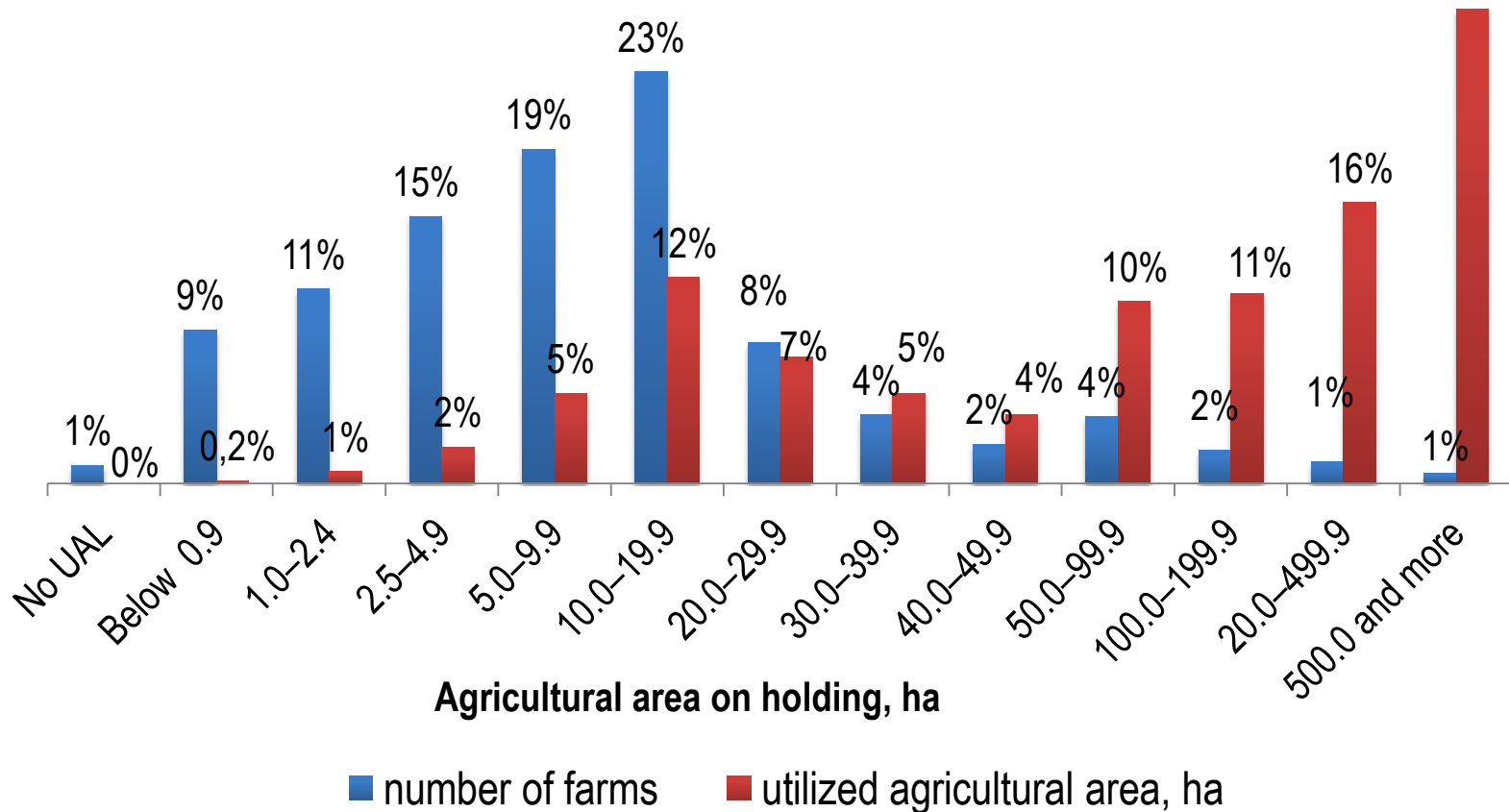


Comparison of gross monthly wages and salaries average in country and in agriculture, 2005-2014 (EUR/month)

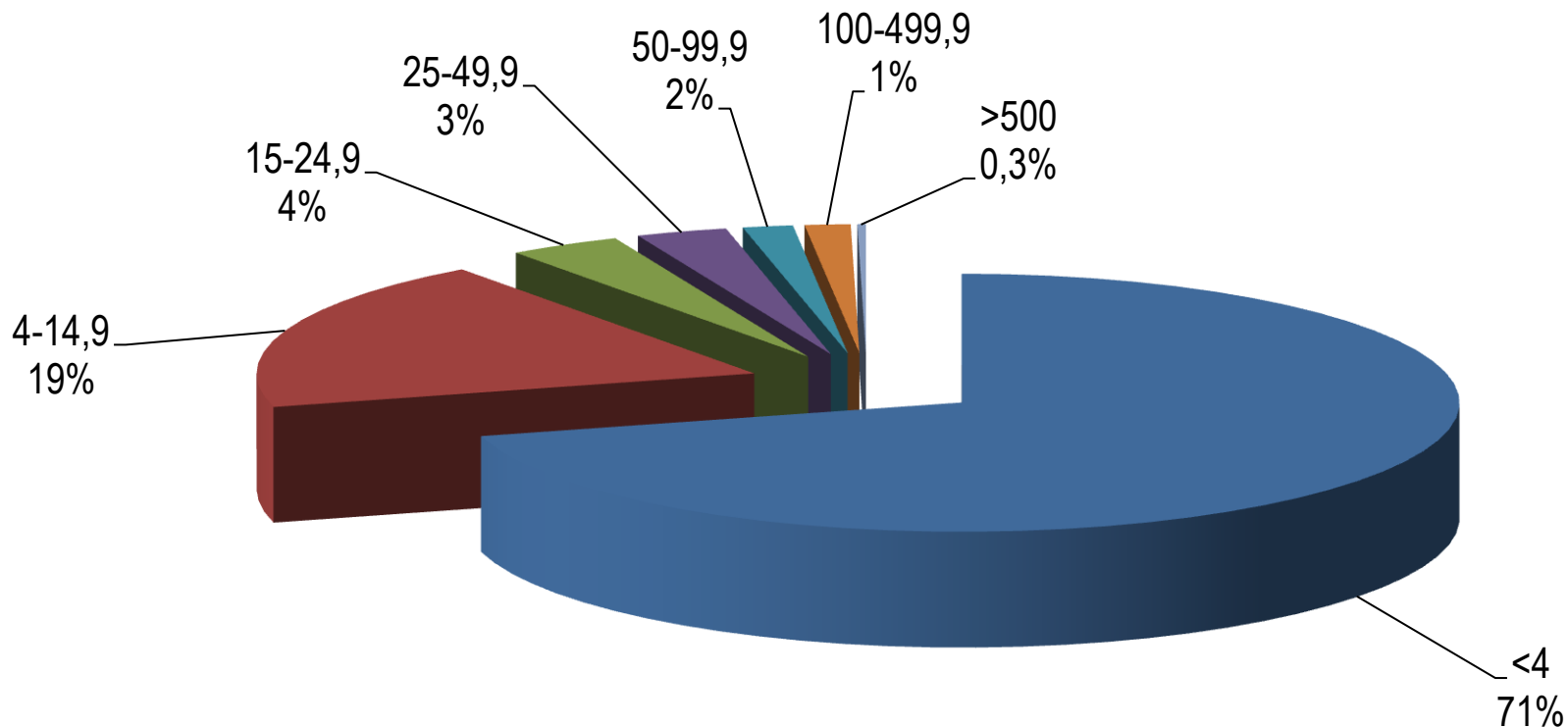


Structure of farms and utilized agricultural land in farms of different size in 2013 (%)

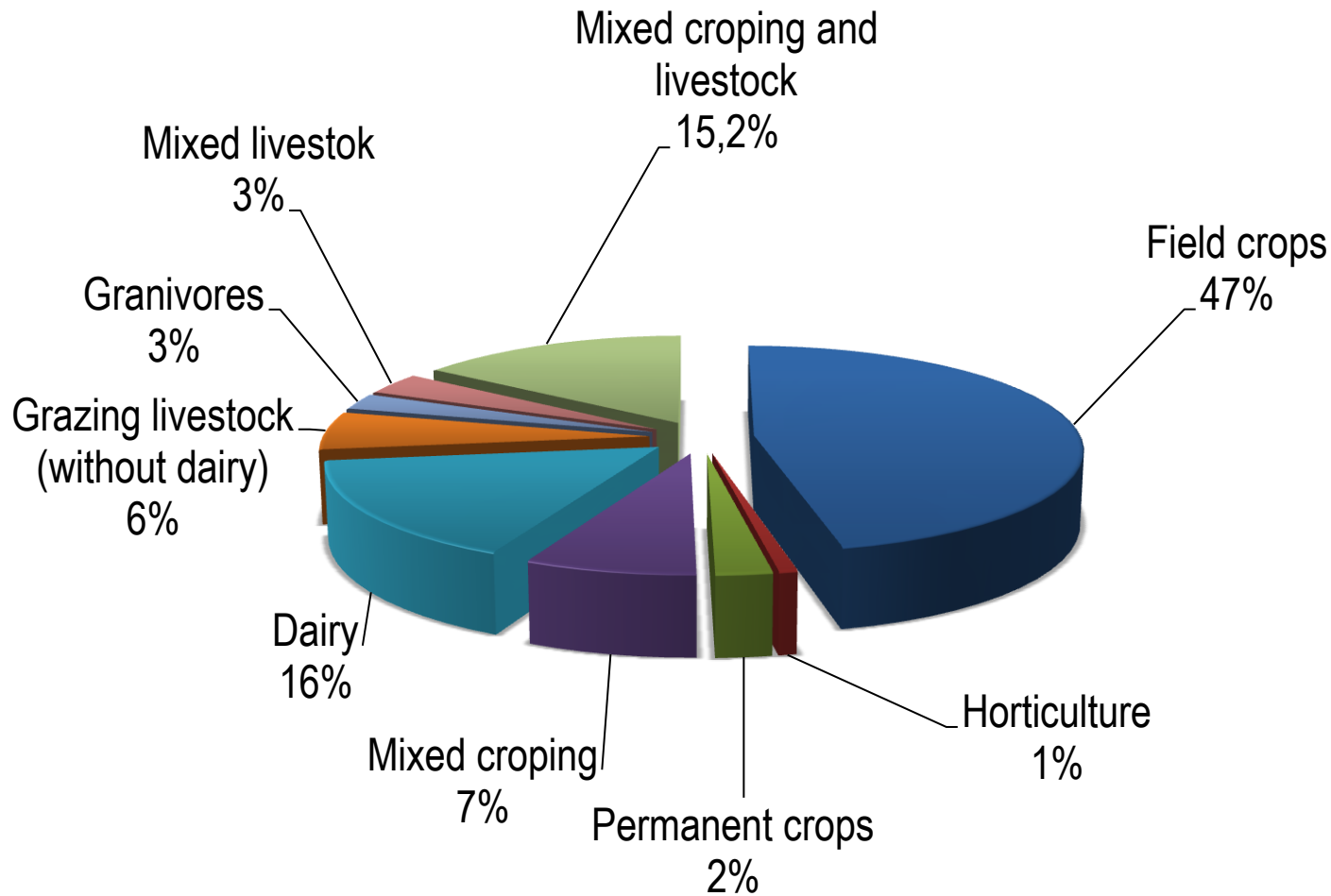
➔ **Total 83,4 thsd. farms**



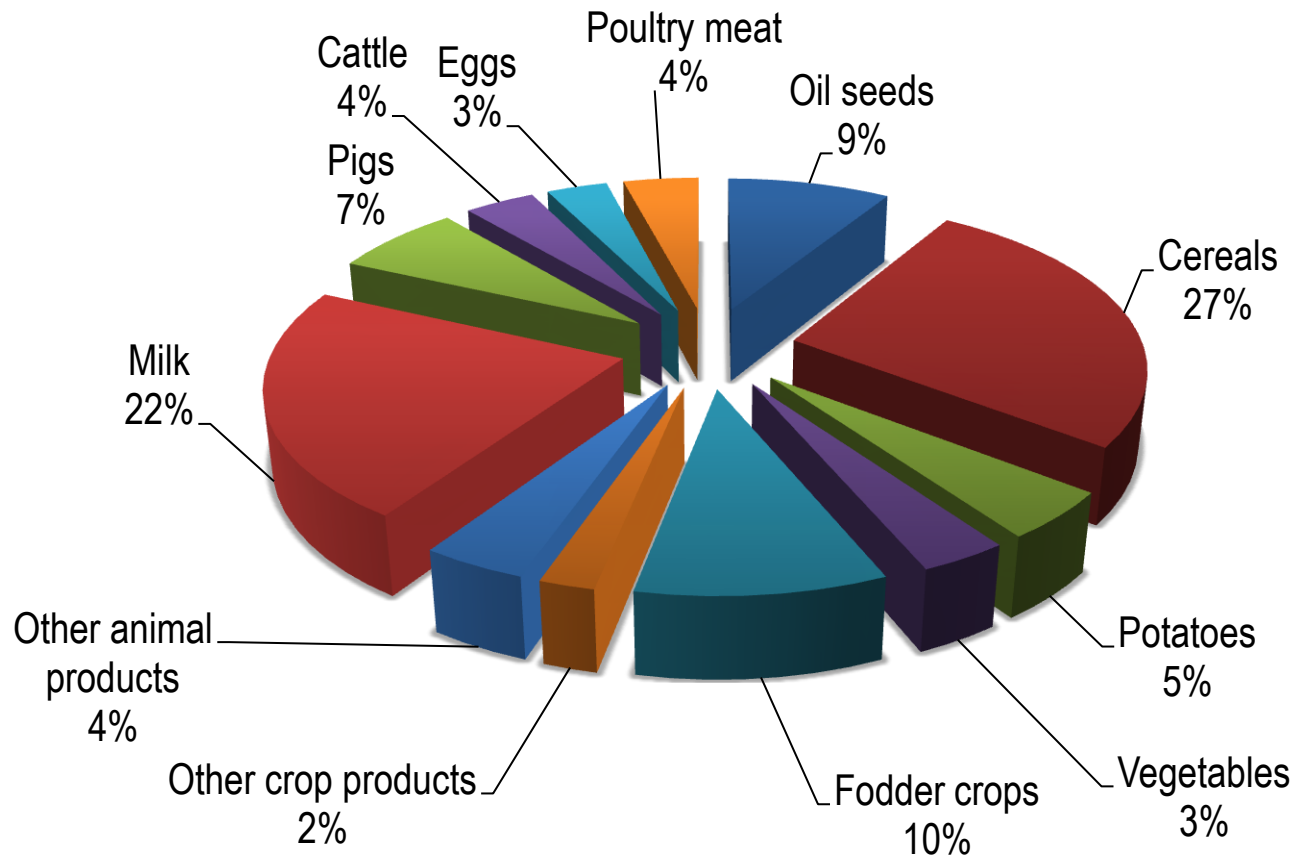
Division of farms by economic size in Latvia, 2013 (standart output thsd. EUR)



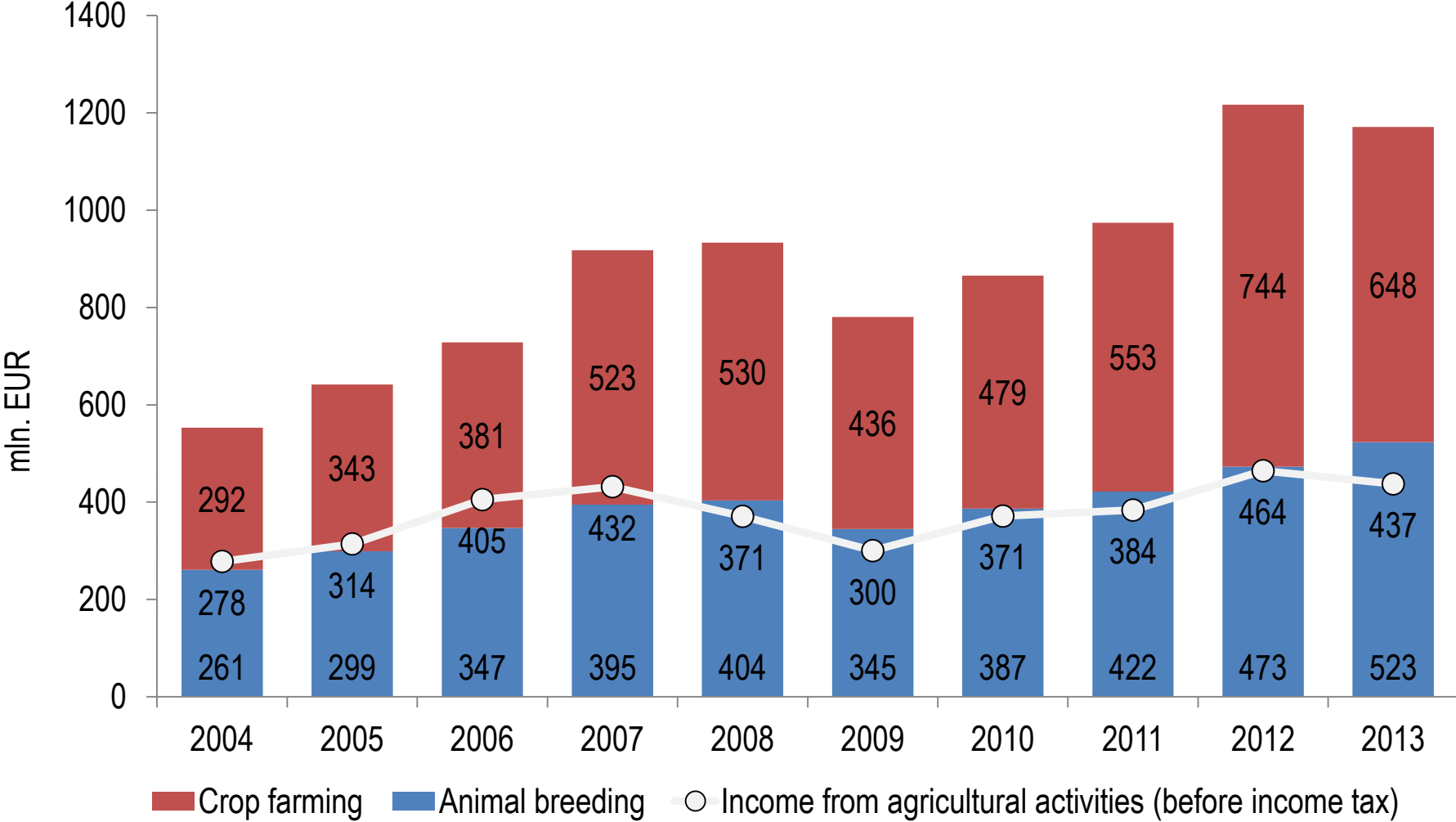
Division of farms by type of farming in Latvia, 2013 (%)



Structure of agricultural output in Latvia, 2013 (%)

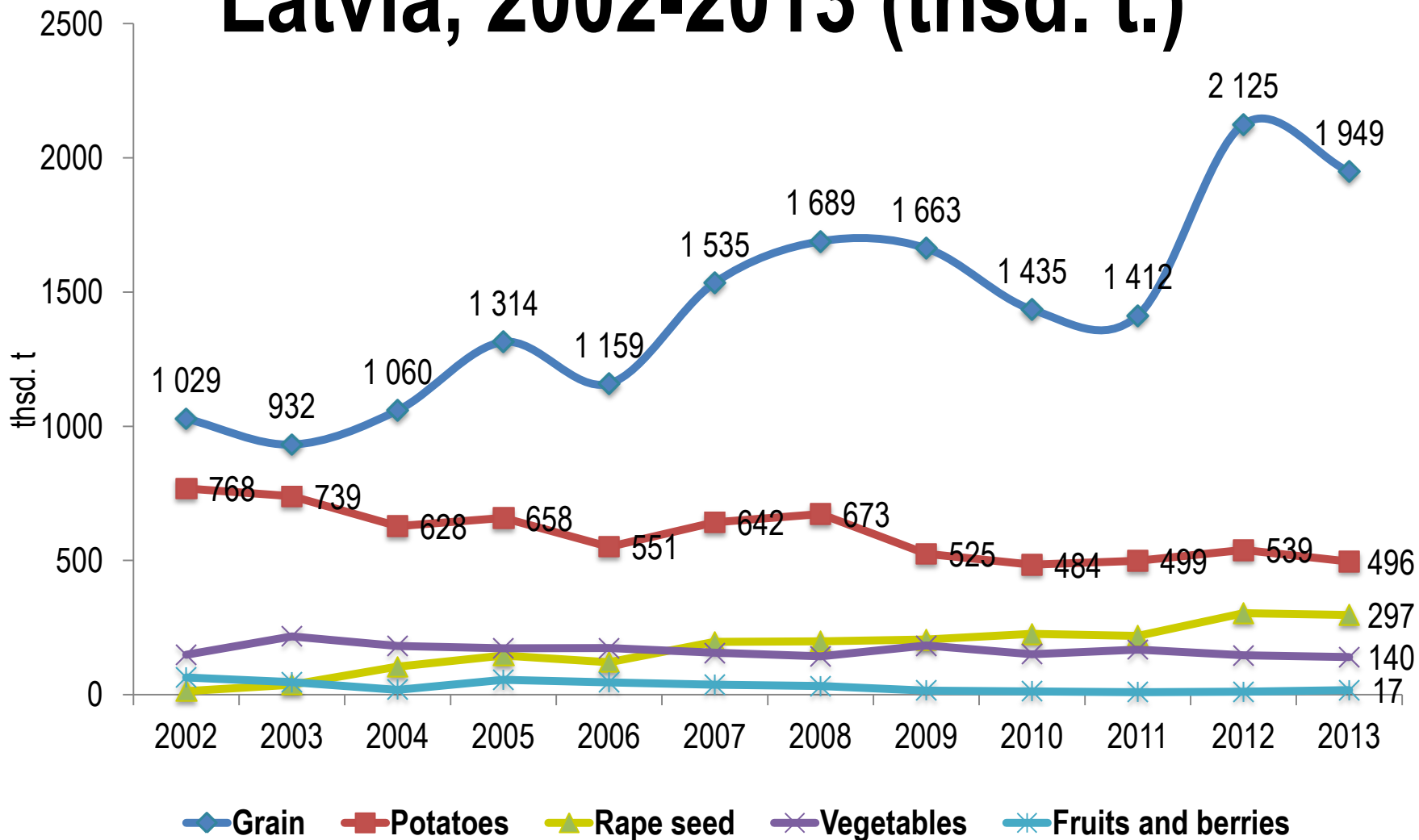


Output formation and gross income in agricultural industry in Latvia, 2004-2013 (mln. EUR)

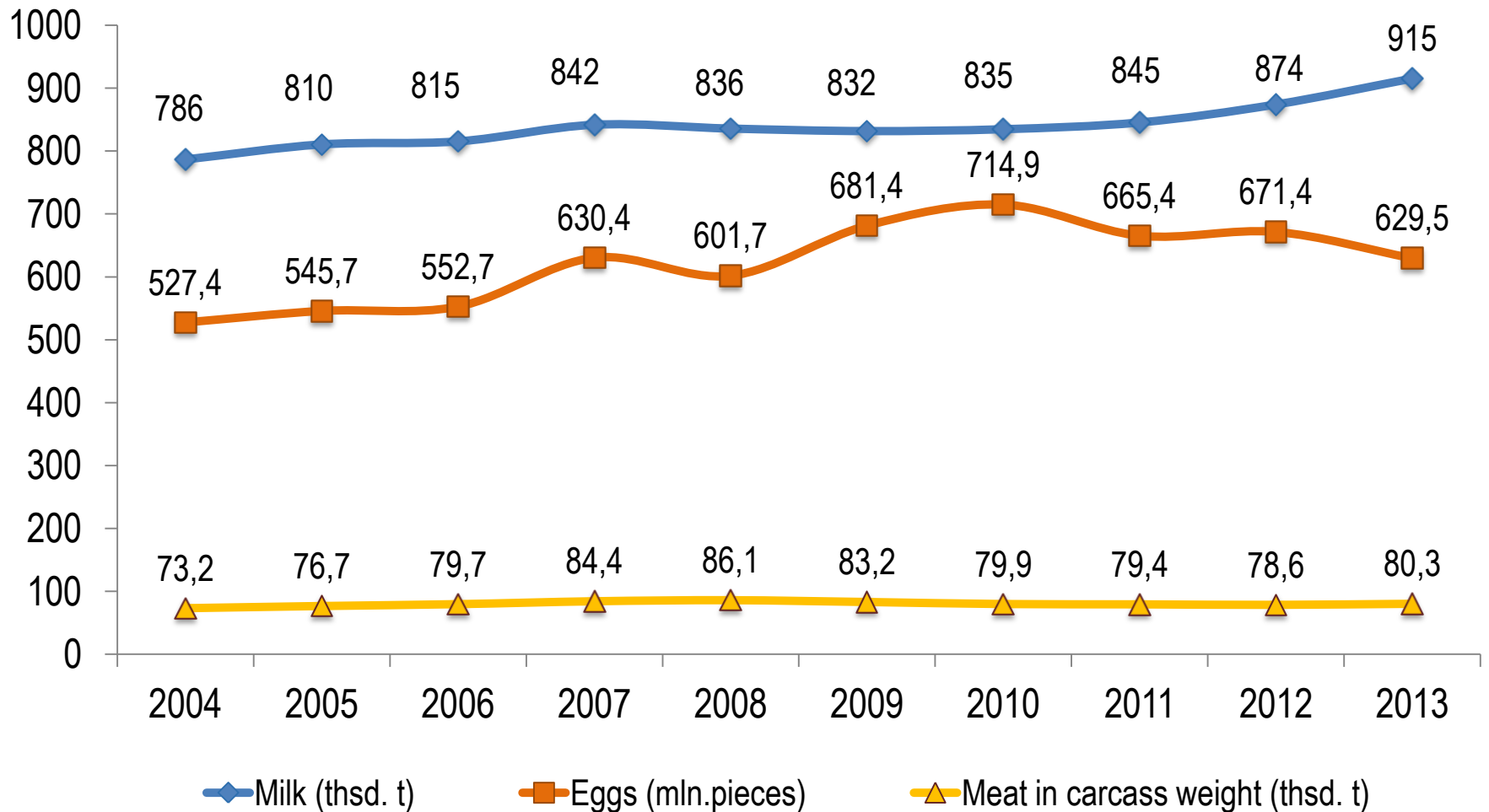


Source: Central statistical bureau of Latvia <http://www.csb.gov.lv/en>

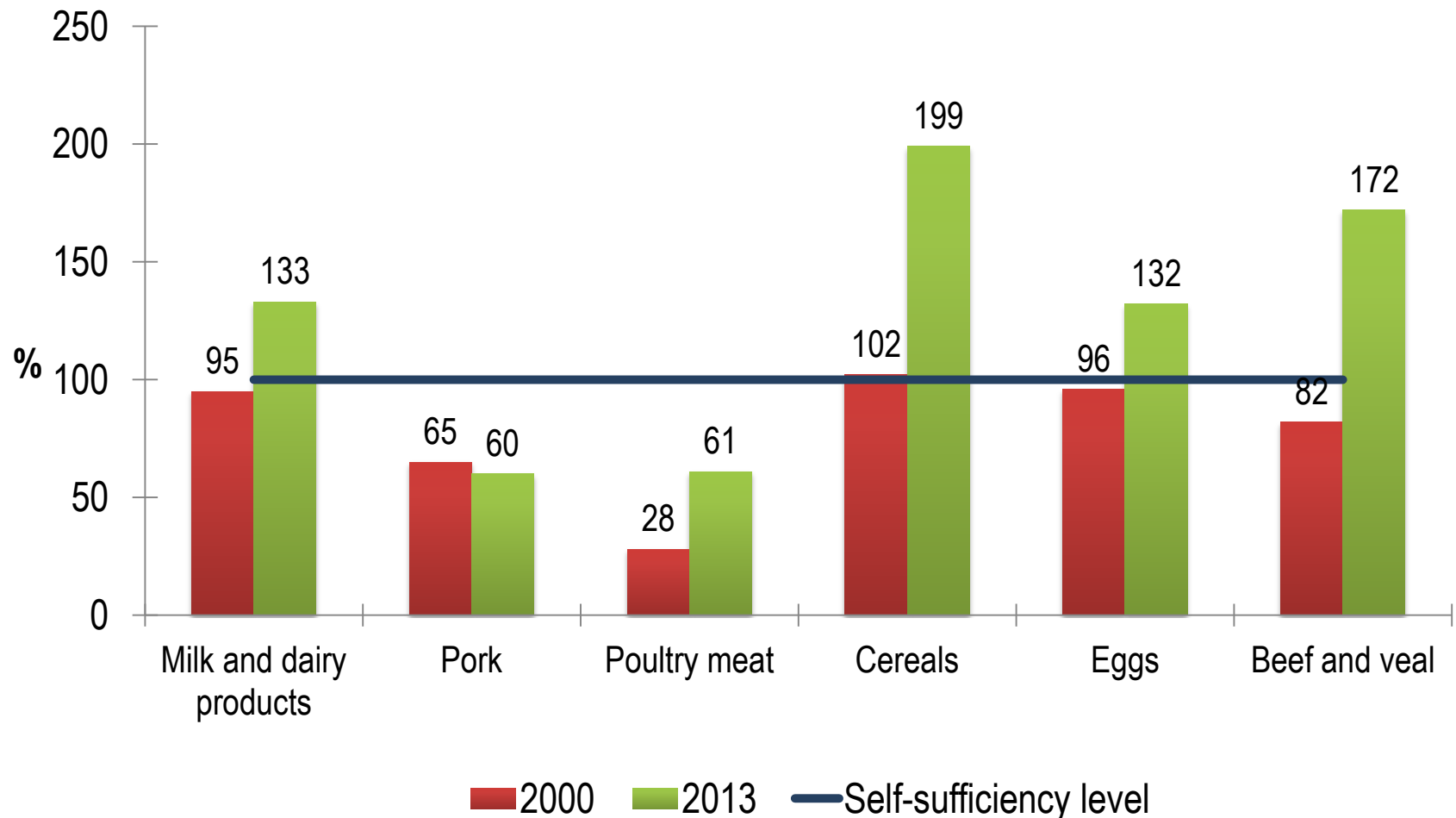
Production of crop products in Latvia, 2002-2013 (thsd. t.)



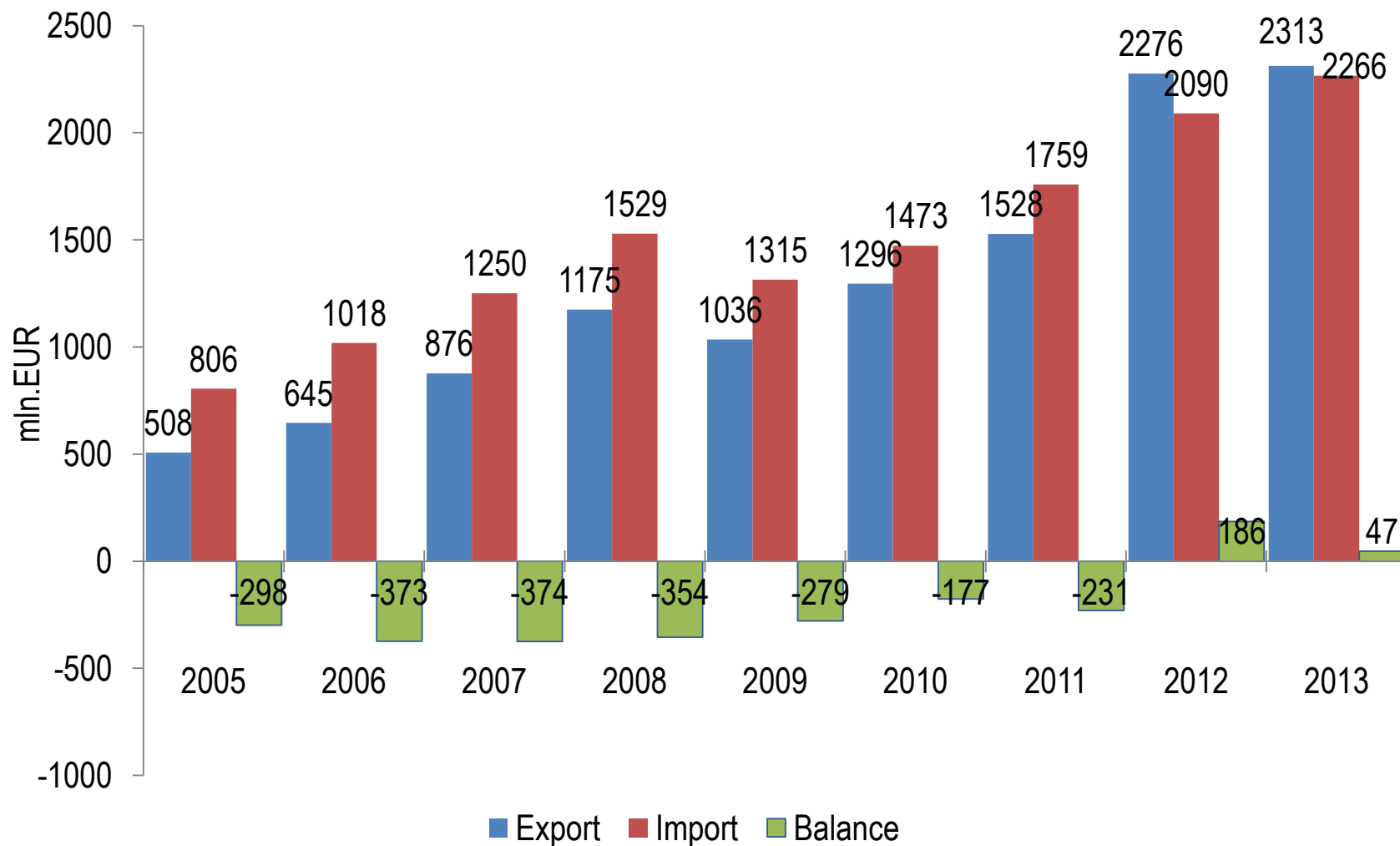
Production of livestock products in Latvia, 2004-2013 (thsd. t./ mln. pieces)



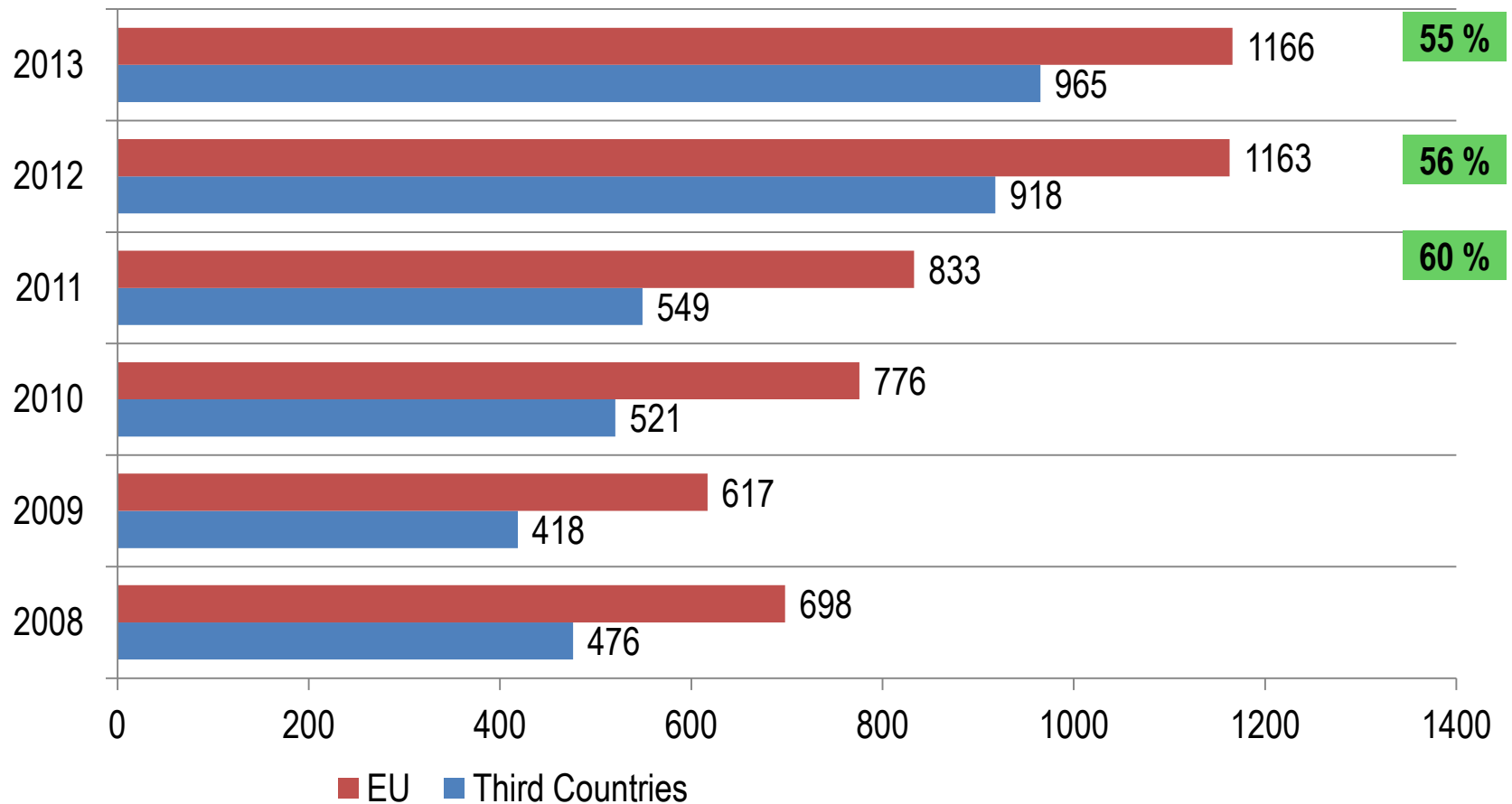
Self-sufficiency with agricultural products in Latvia, 2000 and 2013 (%)



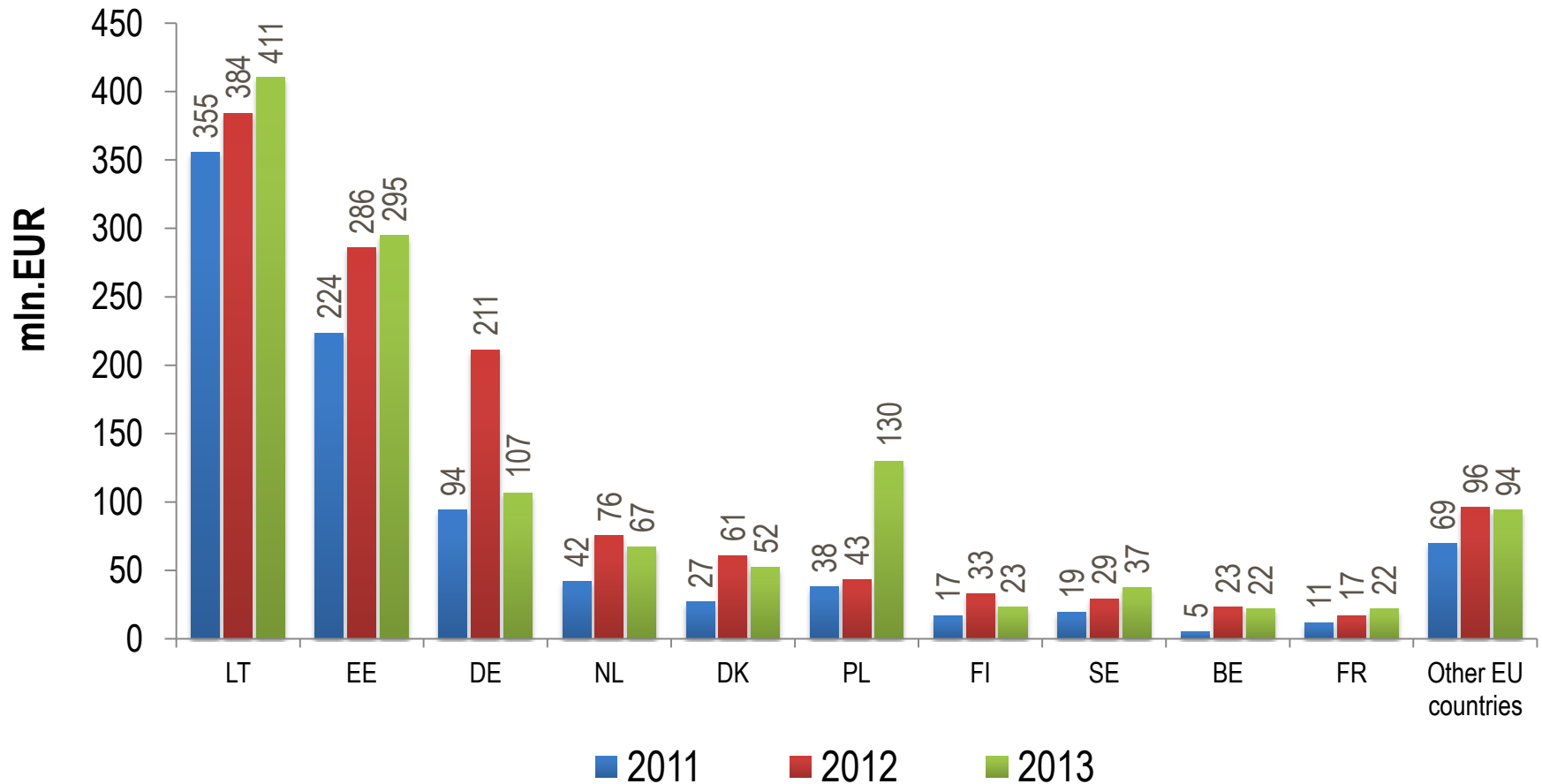
Latvian external trade balance of agricultural products, 2005-2013 (mln.EUR)



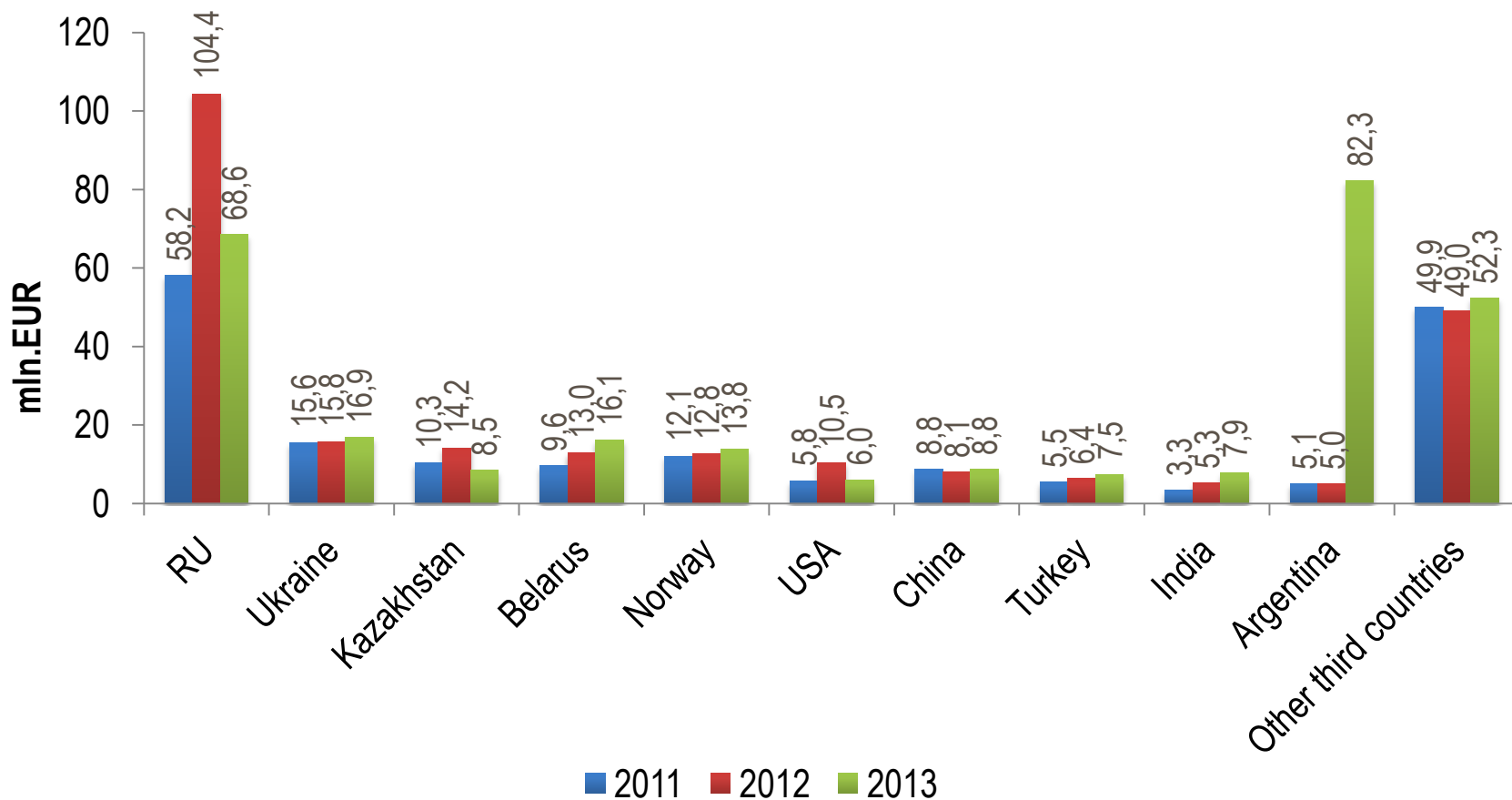
Export of Latvia's agricultural products to EU and Third Countries, 2008-2013 (mln. EUR)



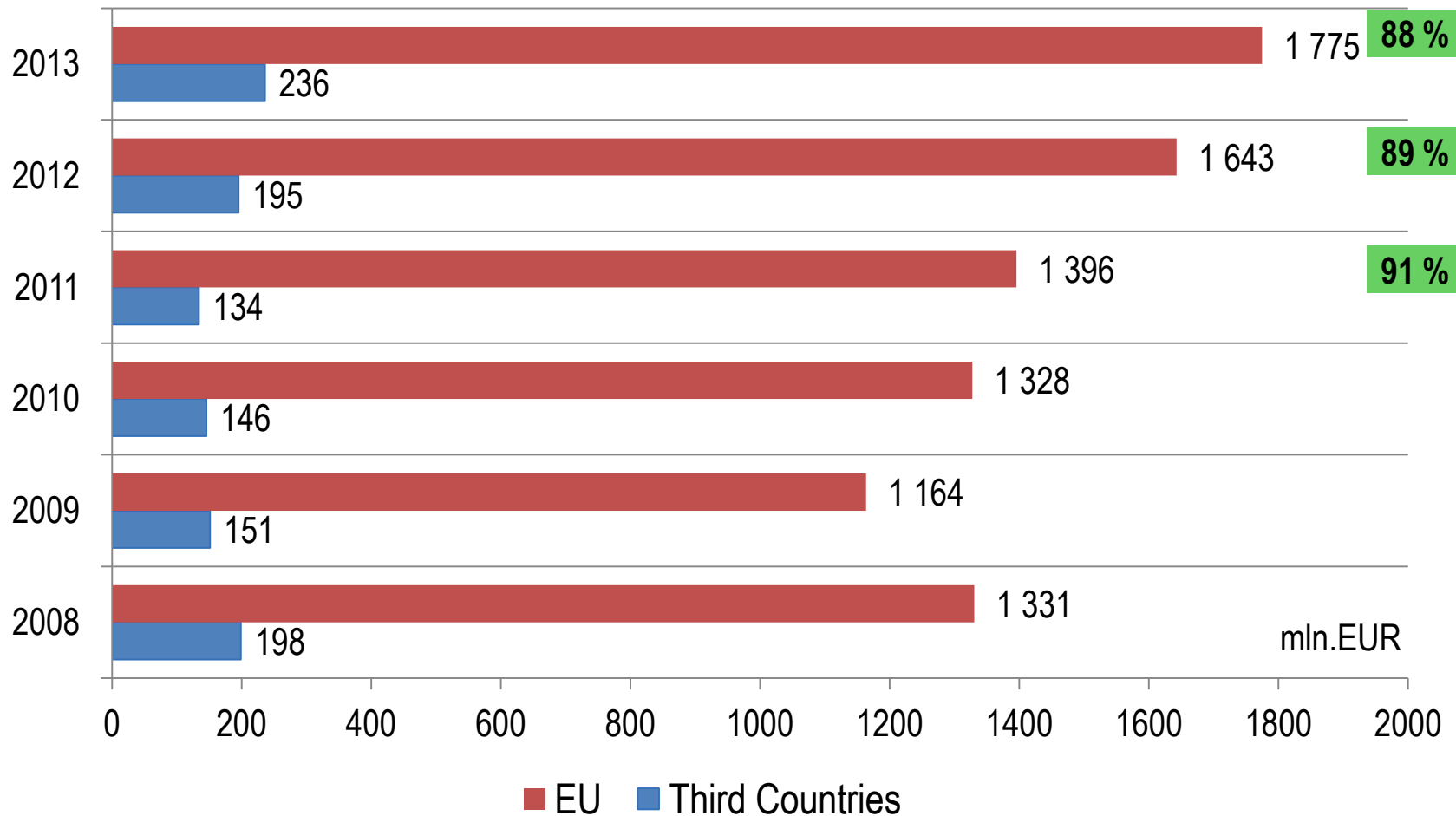
Exports of Latvia's agricultural products to EU Member States, 2011-2013 (mln. EUR)



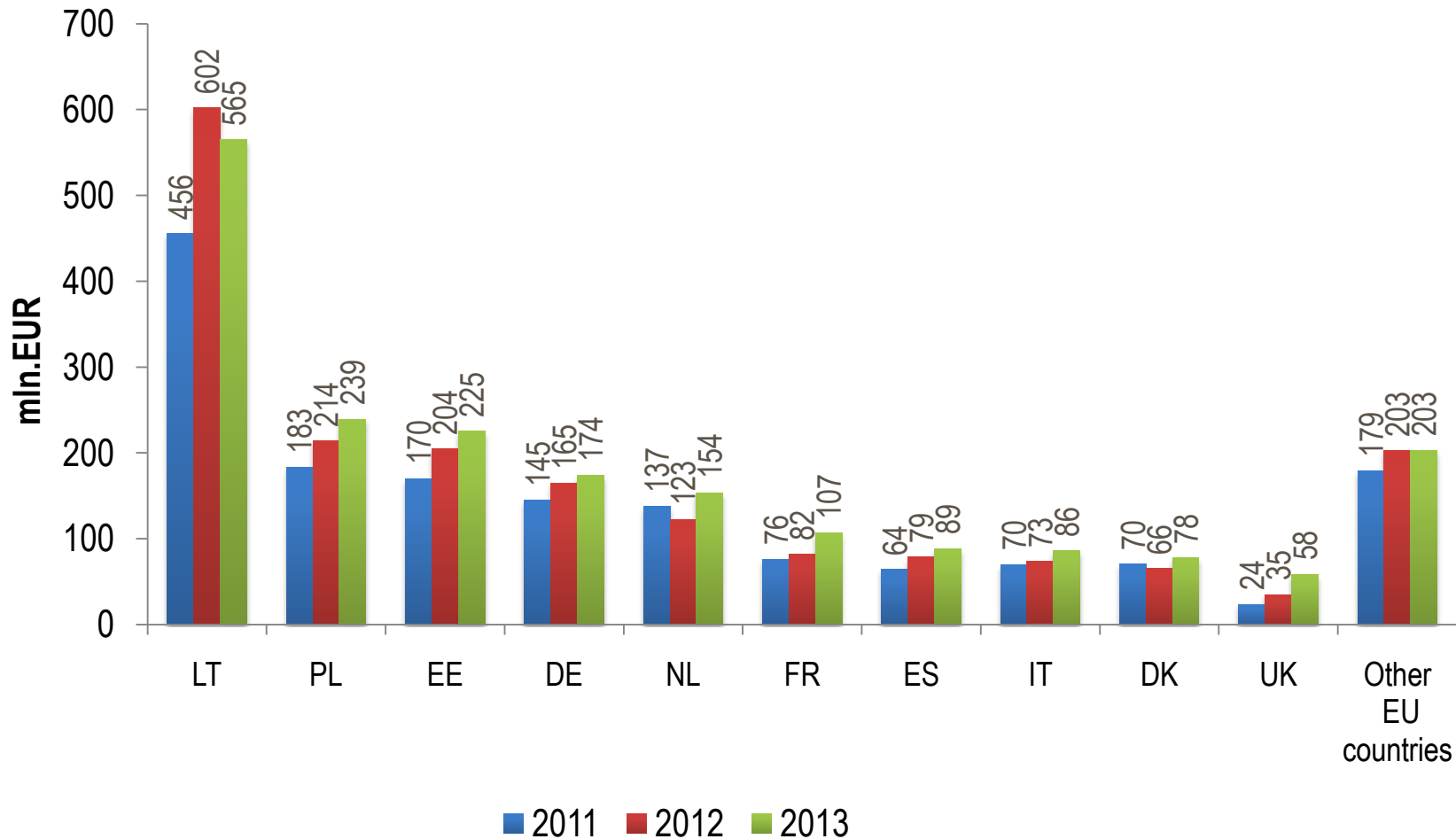
Export of Latvia's agricultural products to Third Countries, 2011-2013 (mln. EUR)



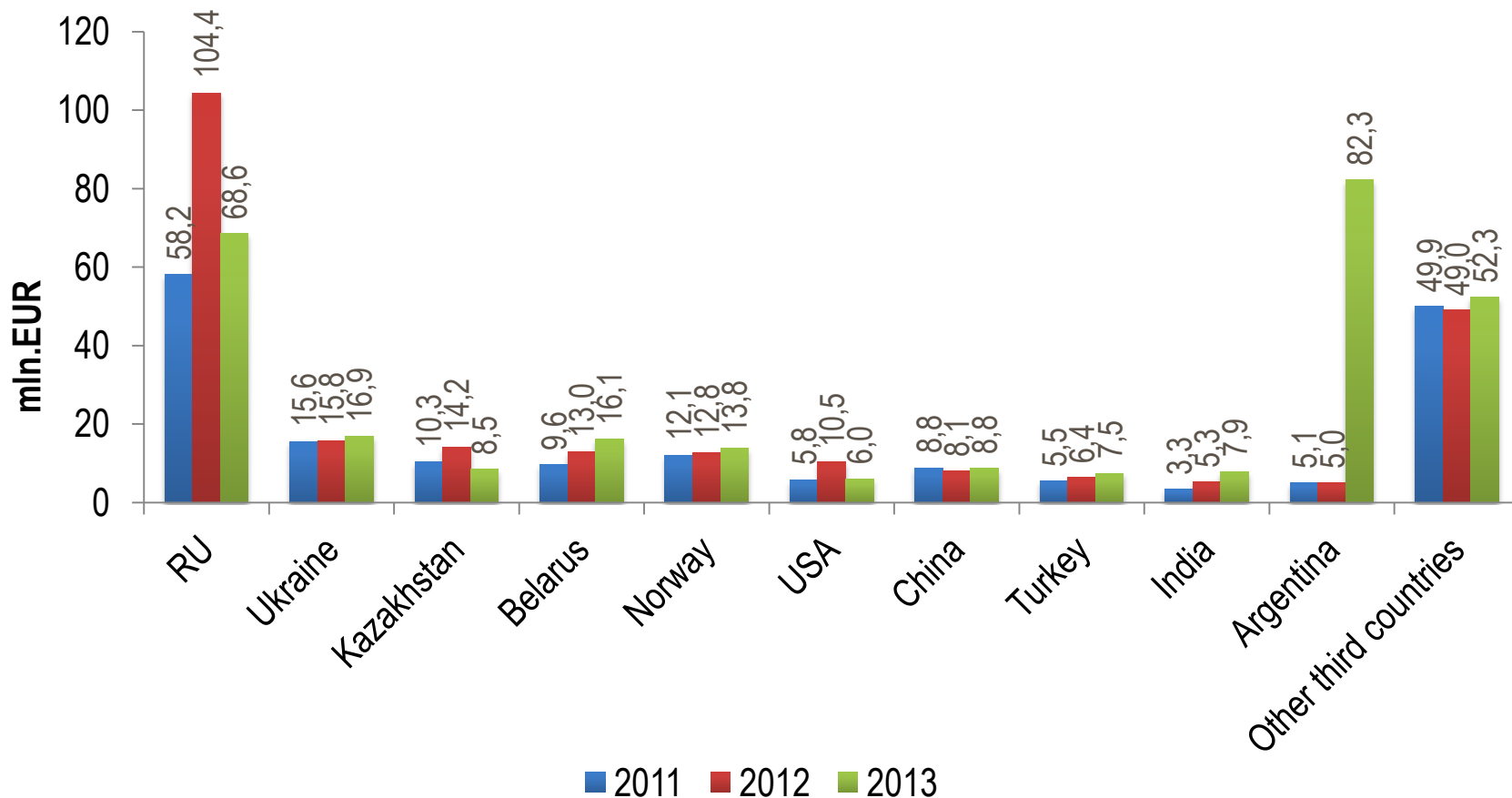
Import of agricultural products to Latvia from EU and Third Countries, 2008-2013 (mln. EUR)



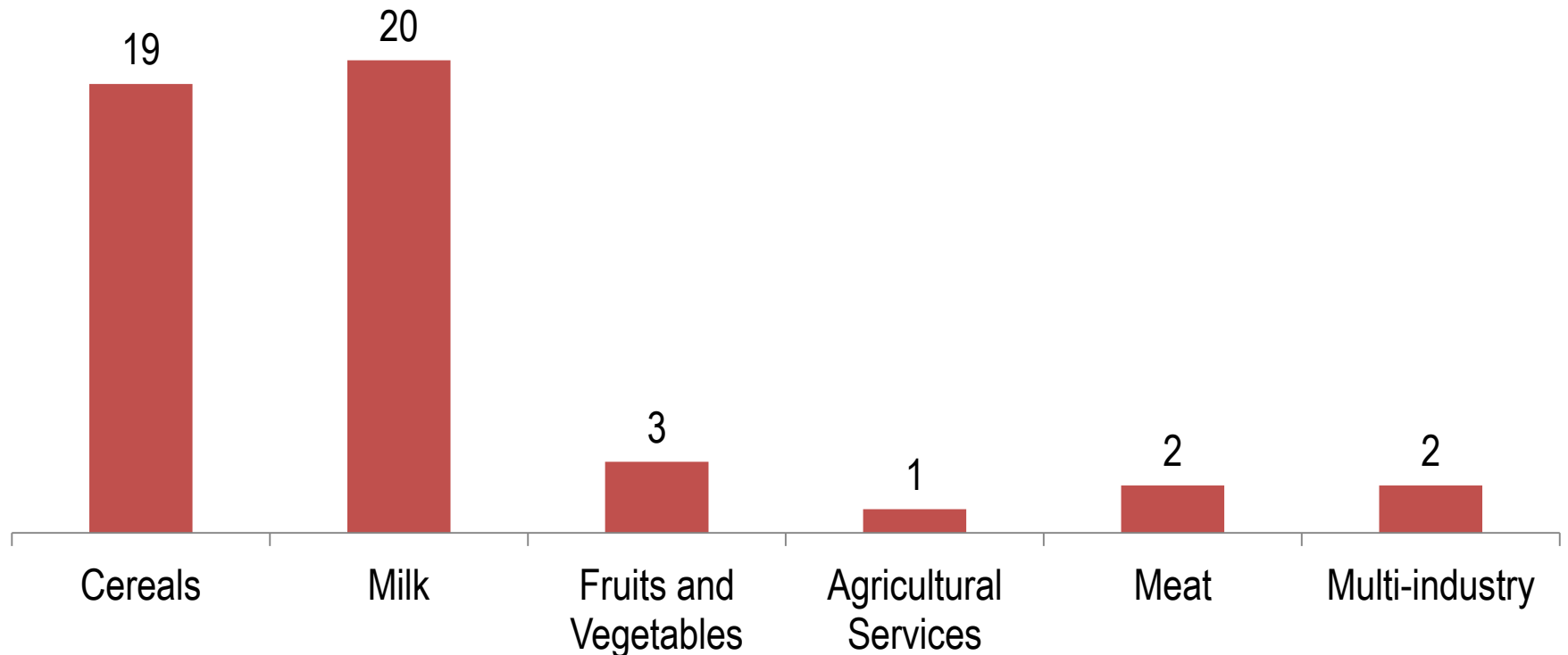
Import of agricultural products to Latvia from EU Member States, 2011-2013 (mln. EUR)



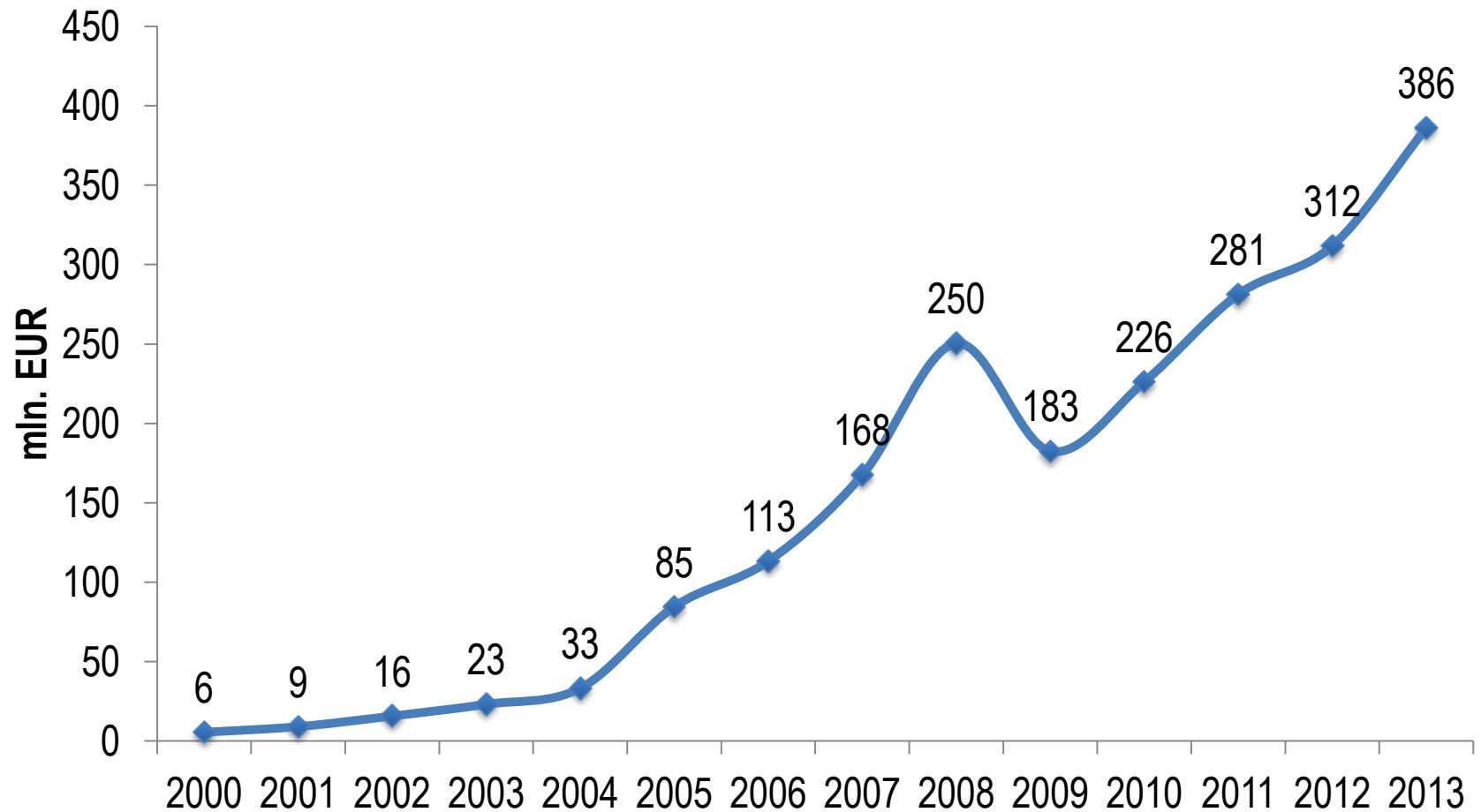
Imports of agricultural products to Latvia from Third Countries, 2011-2013 (mln. EUR)



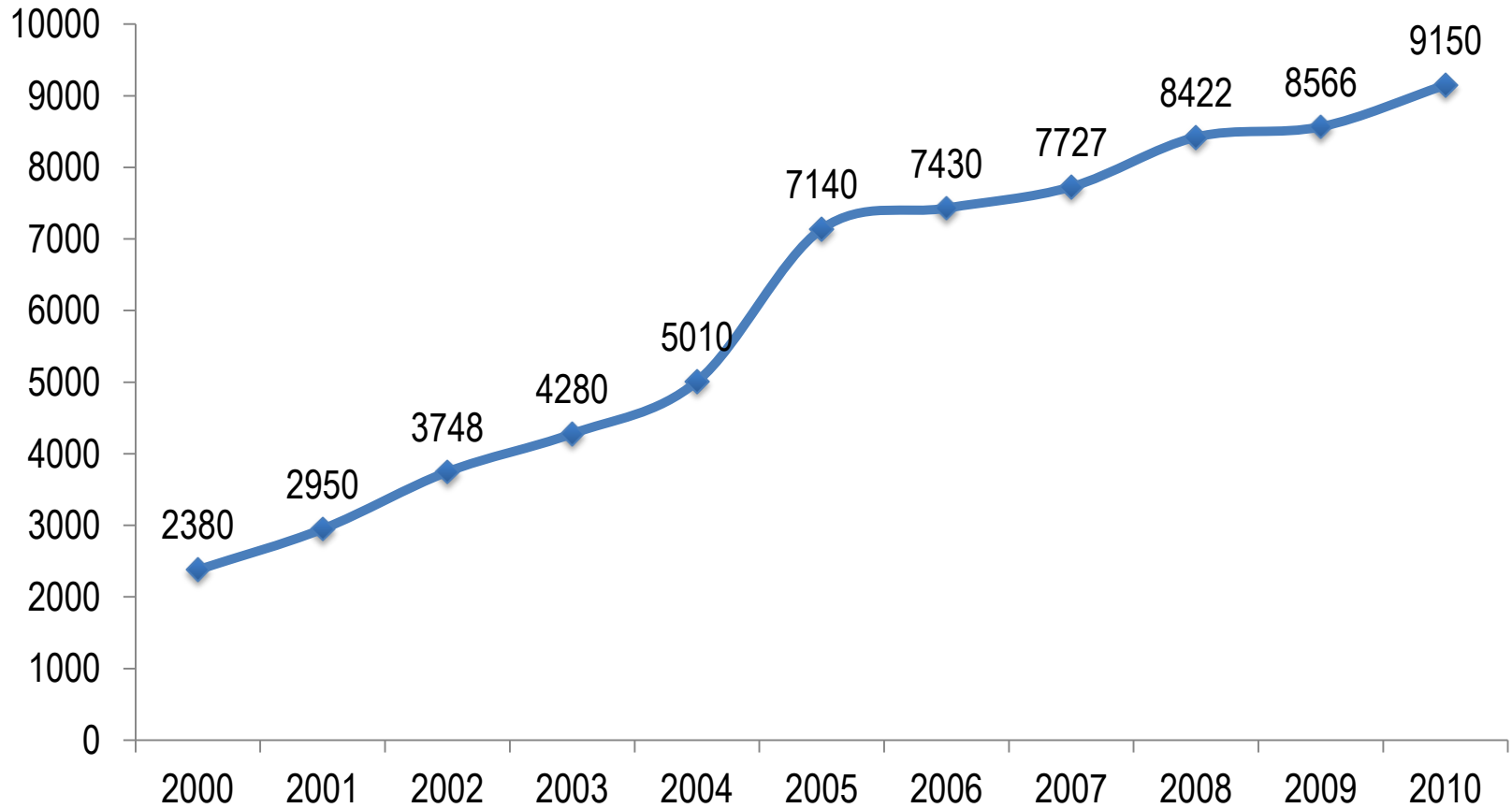
Number of agricultural cooperatives by industry in Latvia, 2013



Turnover of agricultural cooperatives in Latvia, 2000-2013 (mln. EUR)

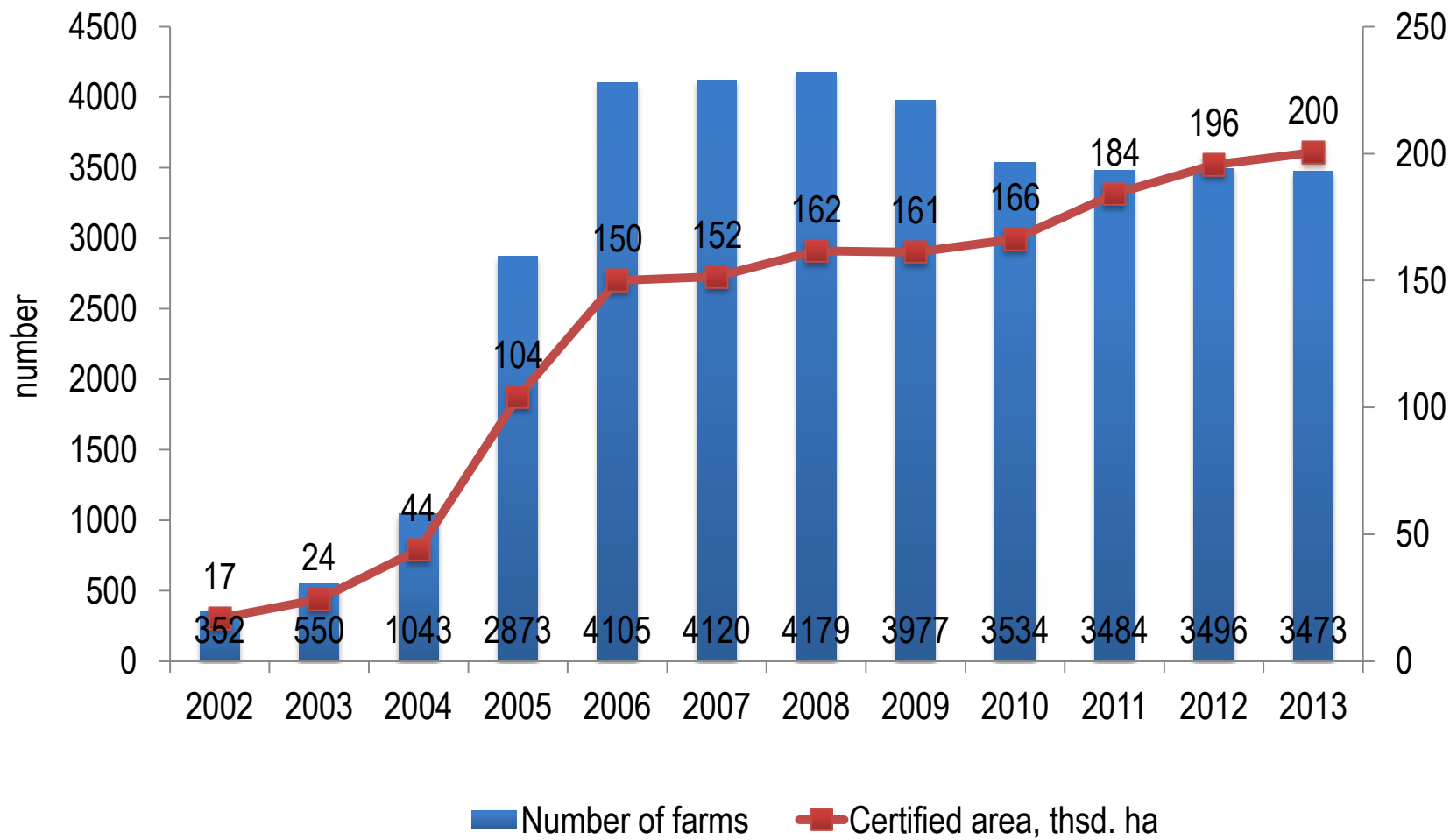


Increase in number of farmers participating in agricultural cooperatives in Latvia, 2000-2010

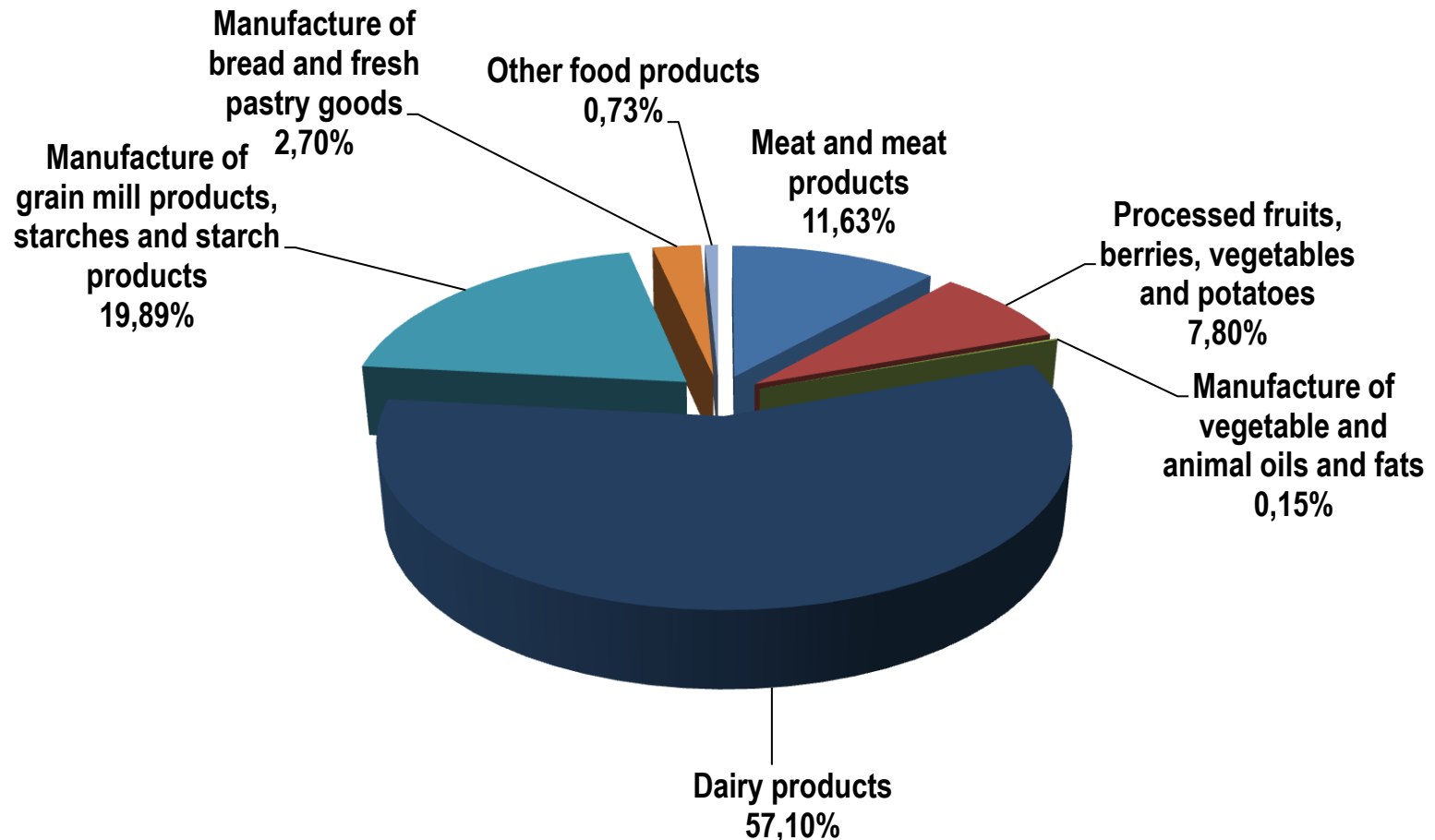


Source: Latvian Agricultural Cooperatives Association

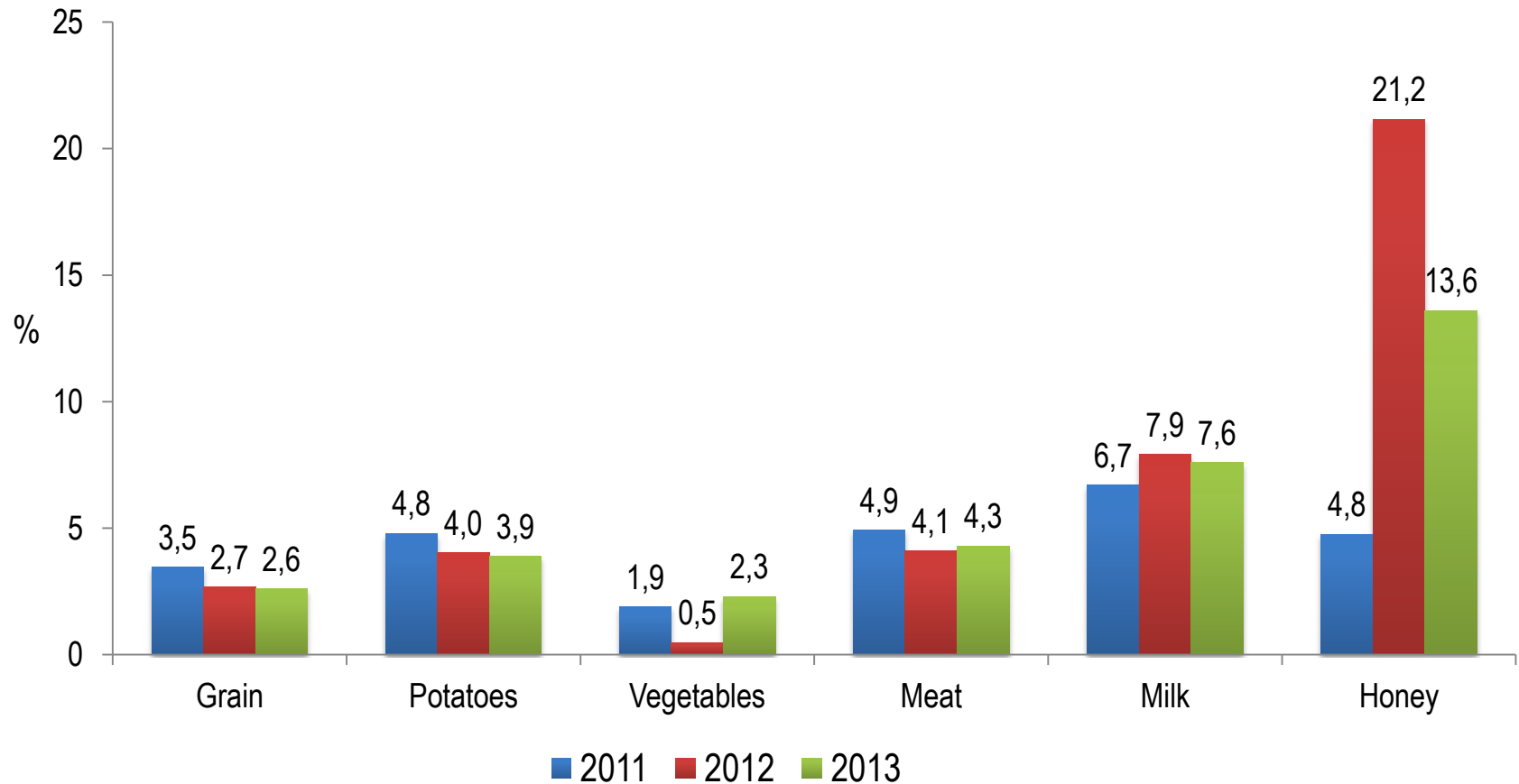
Development of organic farming in Latvia, 2002-2013



Structure of processed organic agricultural production in Latvia, 2013 (%)



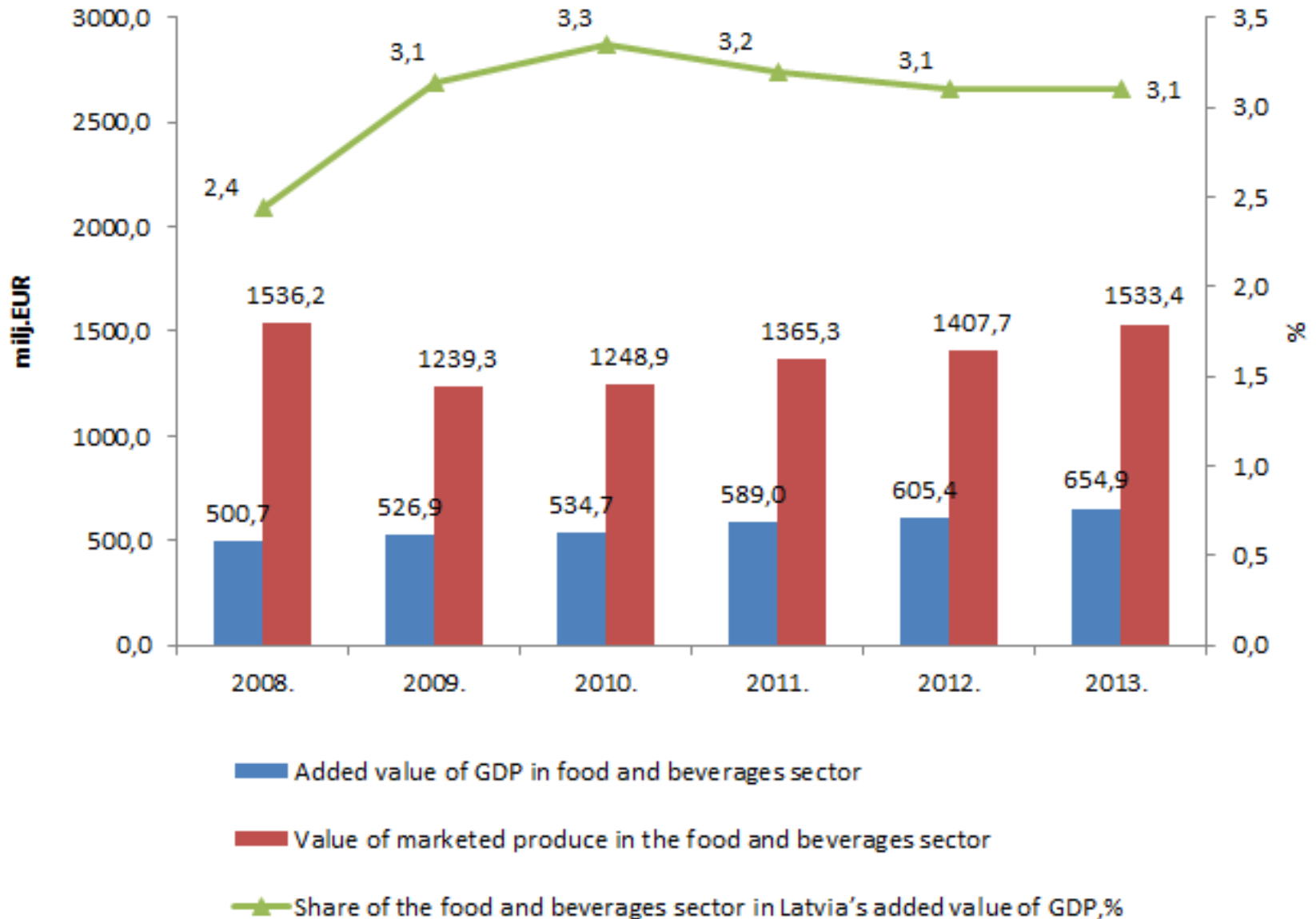
Share of organically produced goods in total agricultural production in Latvia, 2011-2013 (%)



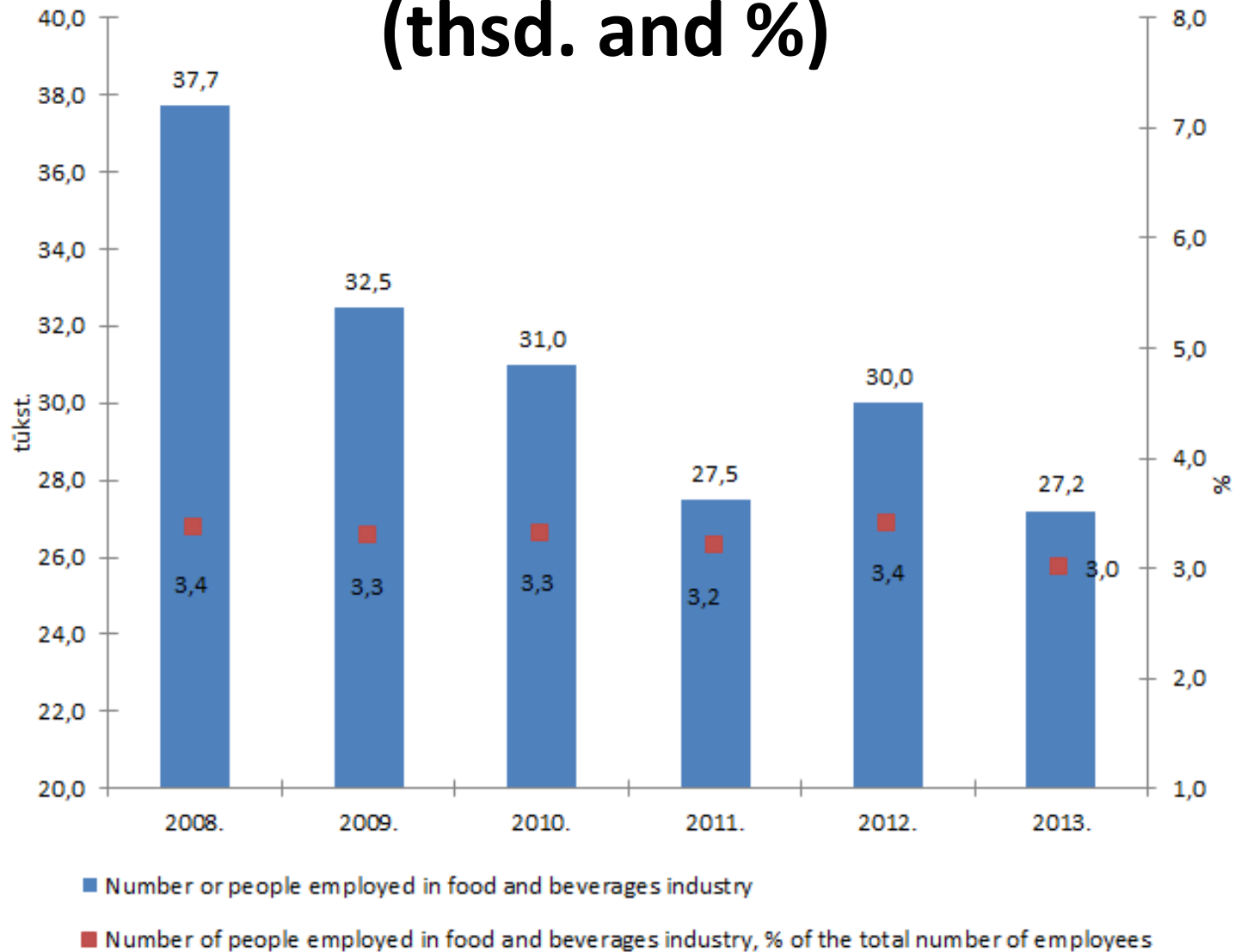
Food and beverages sector



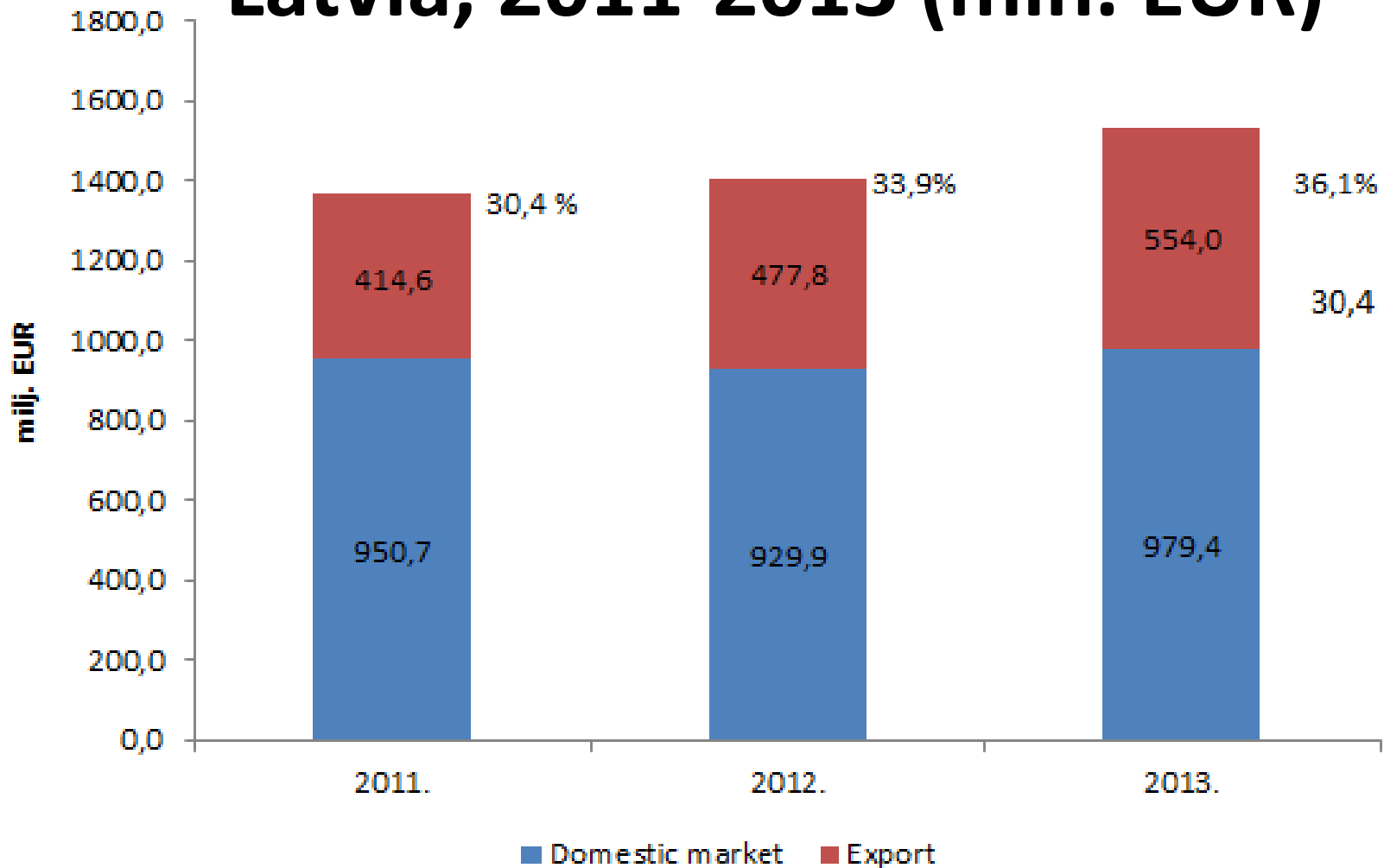
Economic indicators of Latvia's food and beverages sector, 2008-2013 (mln. EUR)



Number and share of employed in Latvia's food and beverages sector, 2008-2013 (thsd. and %)



Dynamics of the value of marketed food and beverages products in Latvia, 2011-2013 (mln. EUR)

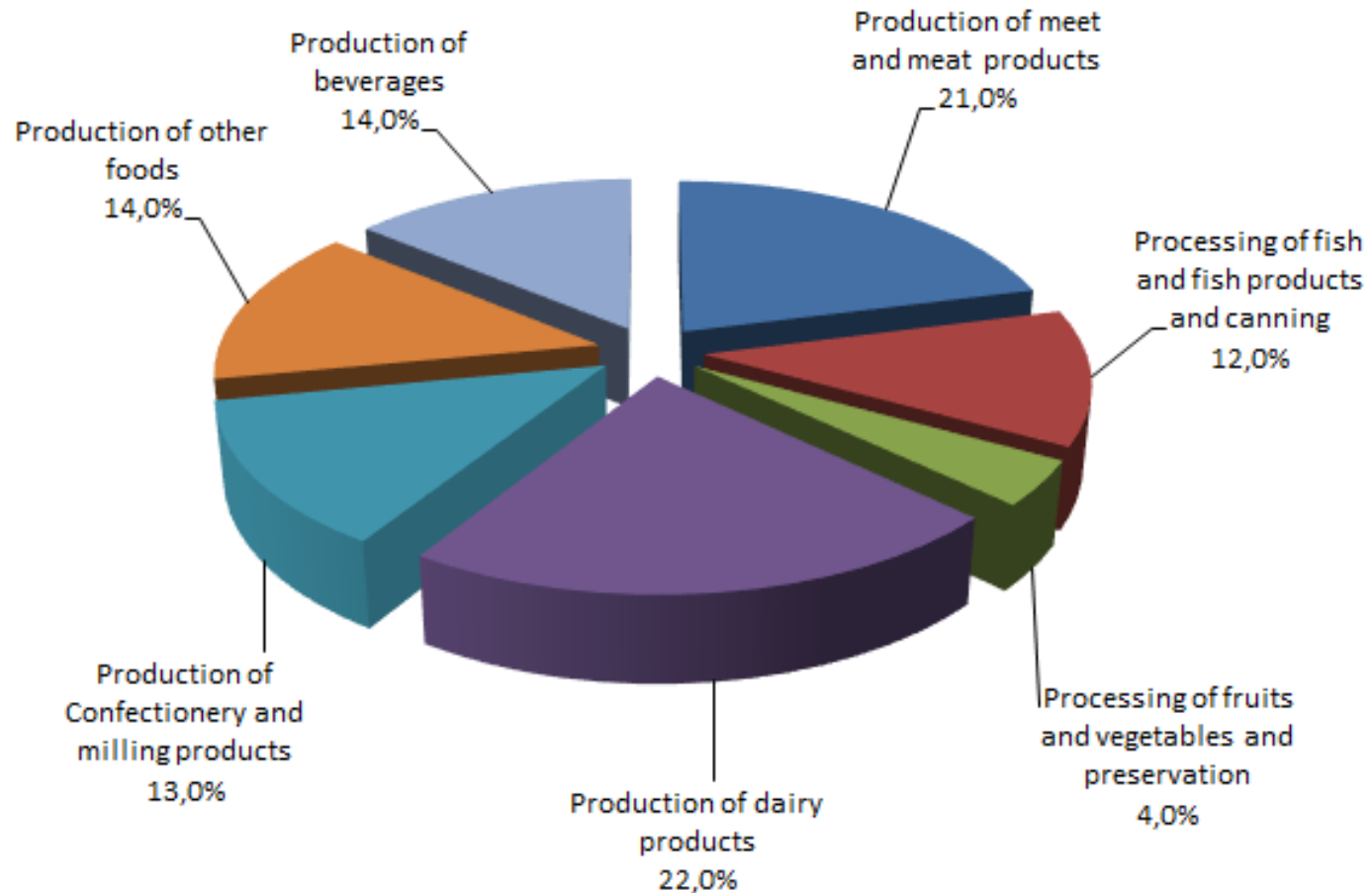


Product groups with largest share of exports

- Fish processing products and canned fish – 75%
- Processed fruits and vegetables – 53%
- Beverages – 37%



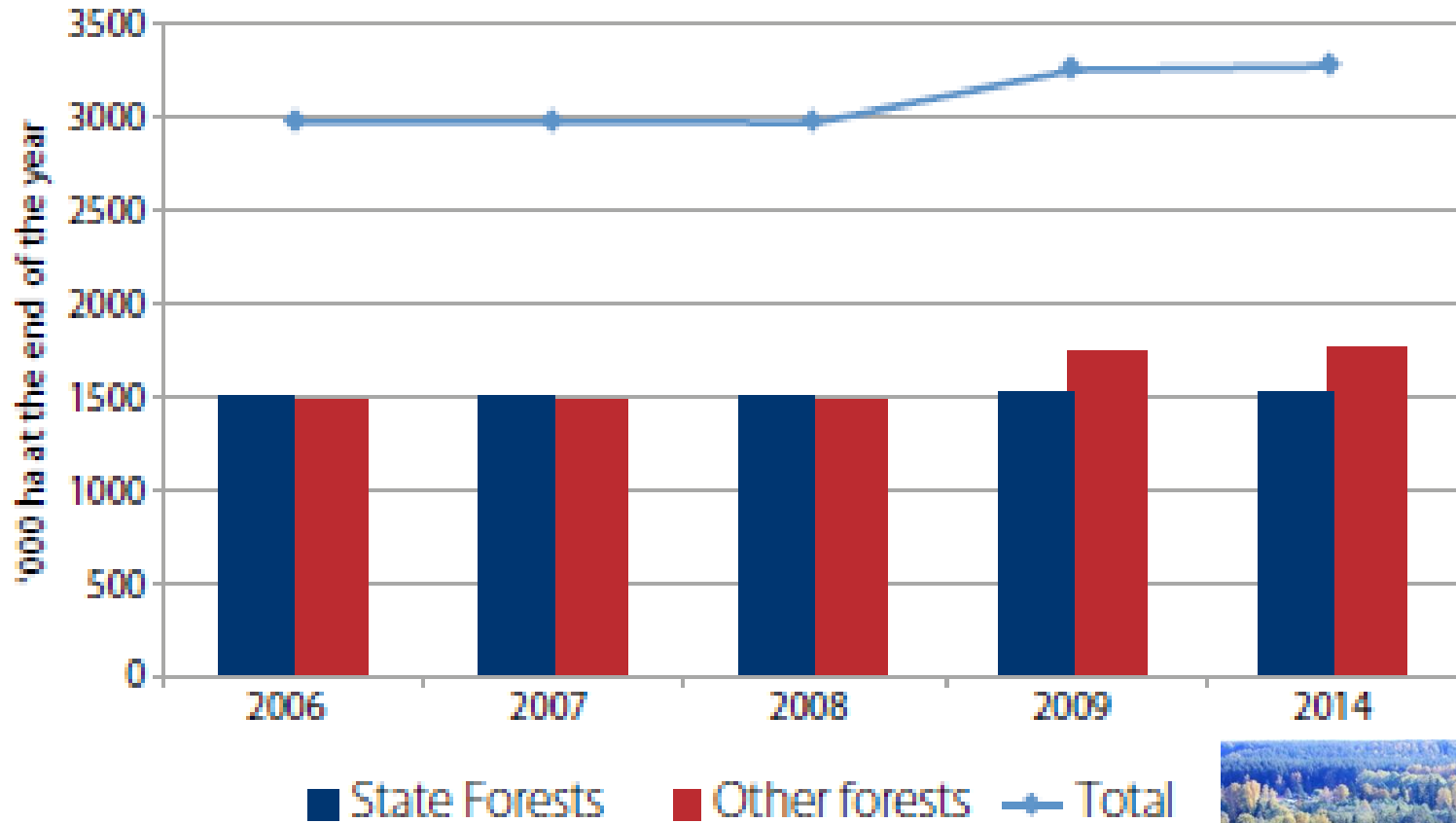
Structure of the marketed value of food and beverages in Latvia, 2013 (%)



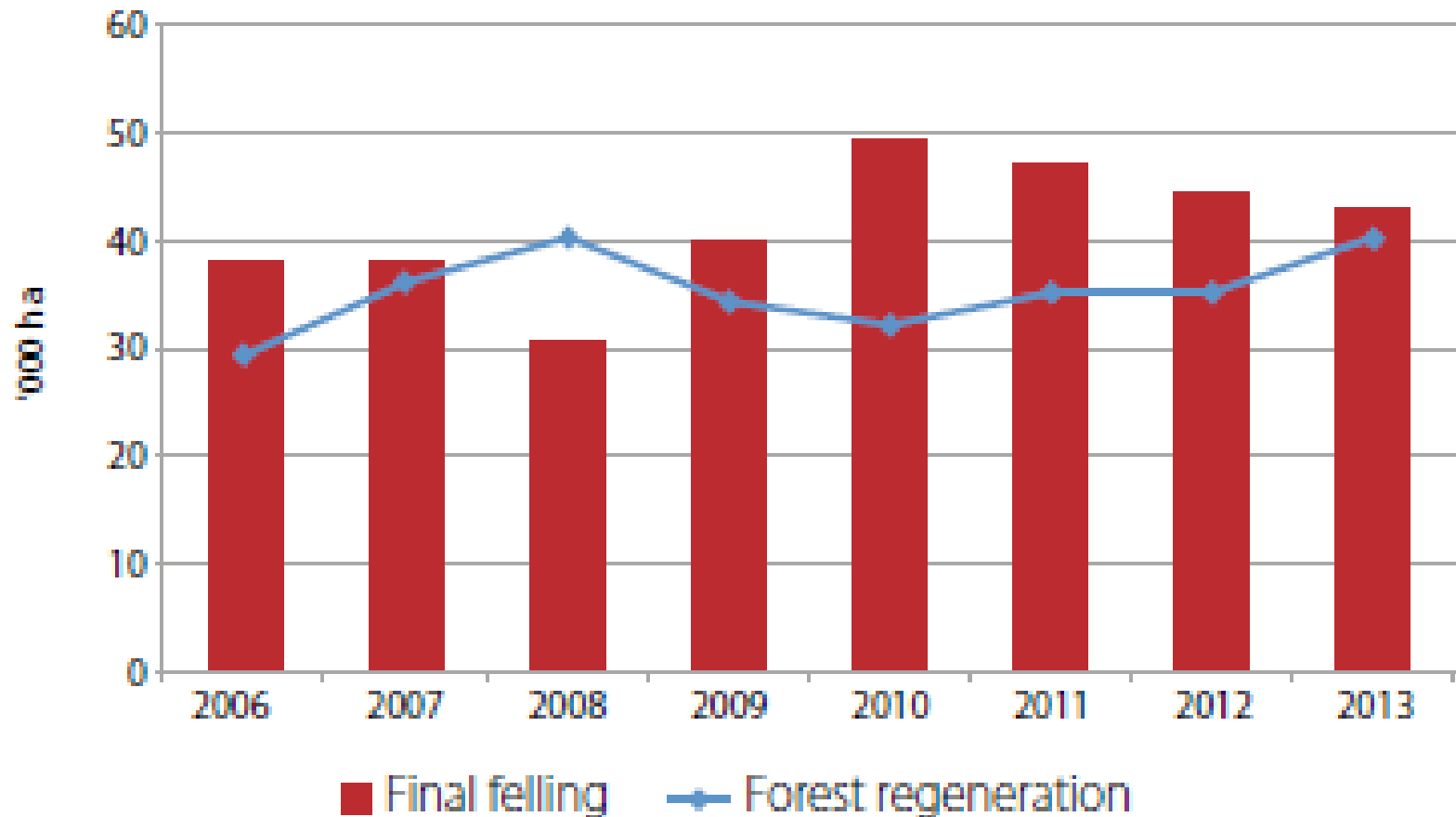
Forestry sector



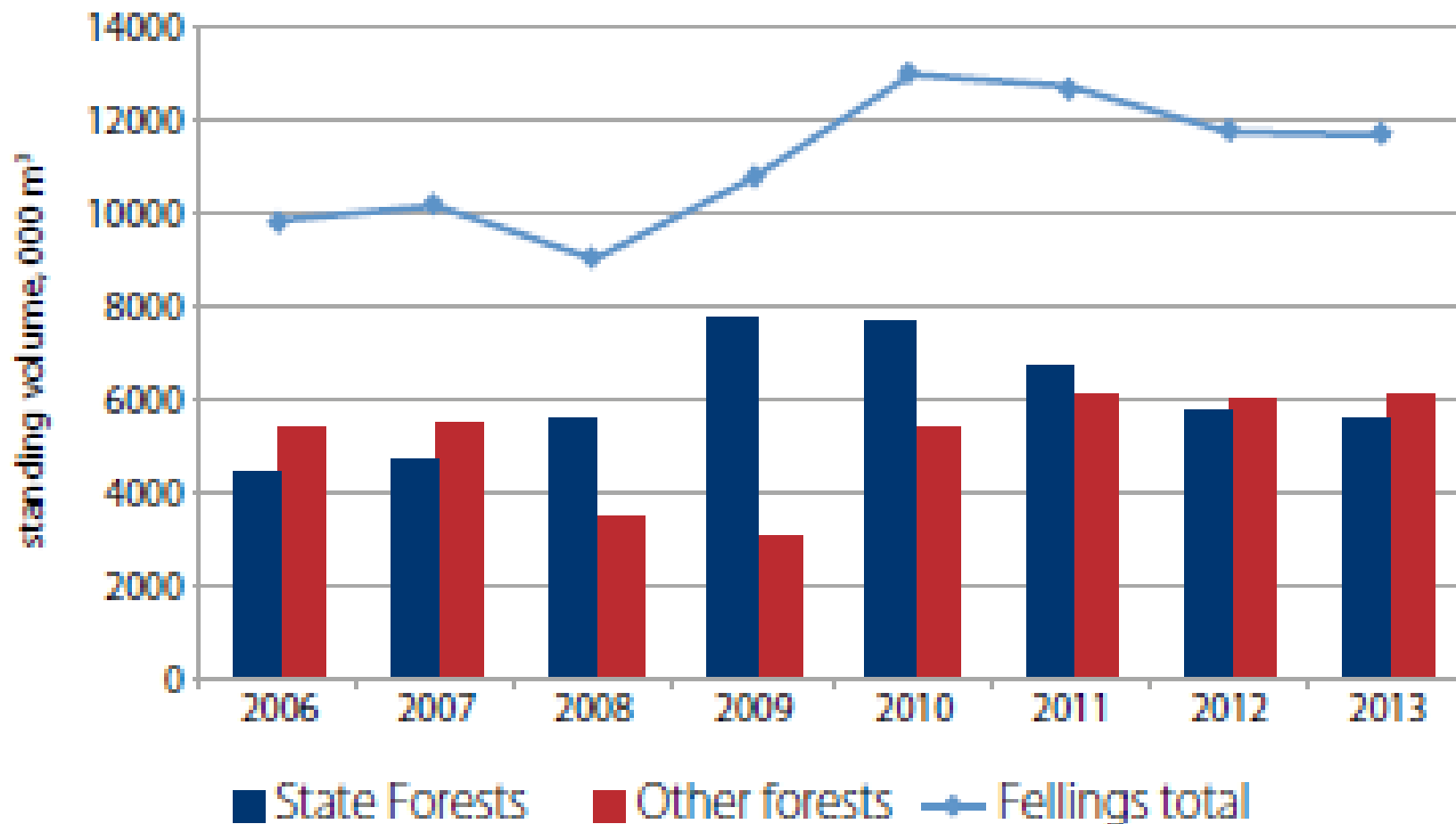
Distribution of forest area by ownership in Latvia, 2006-2014



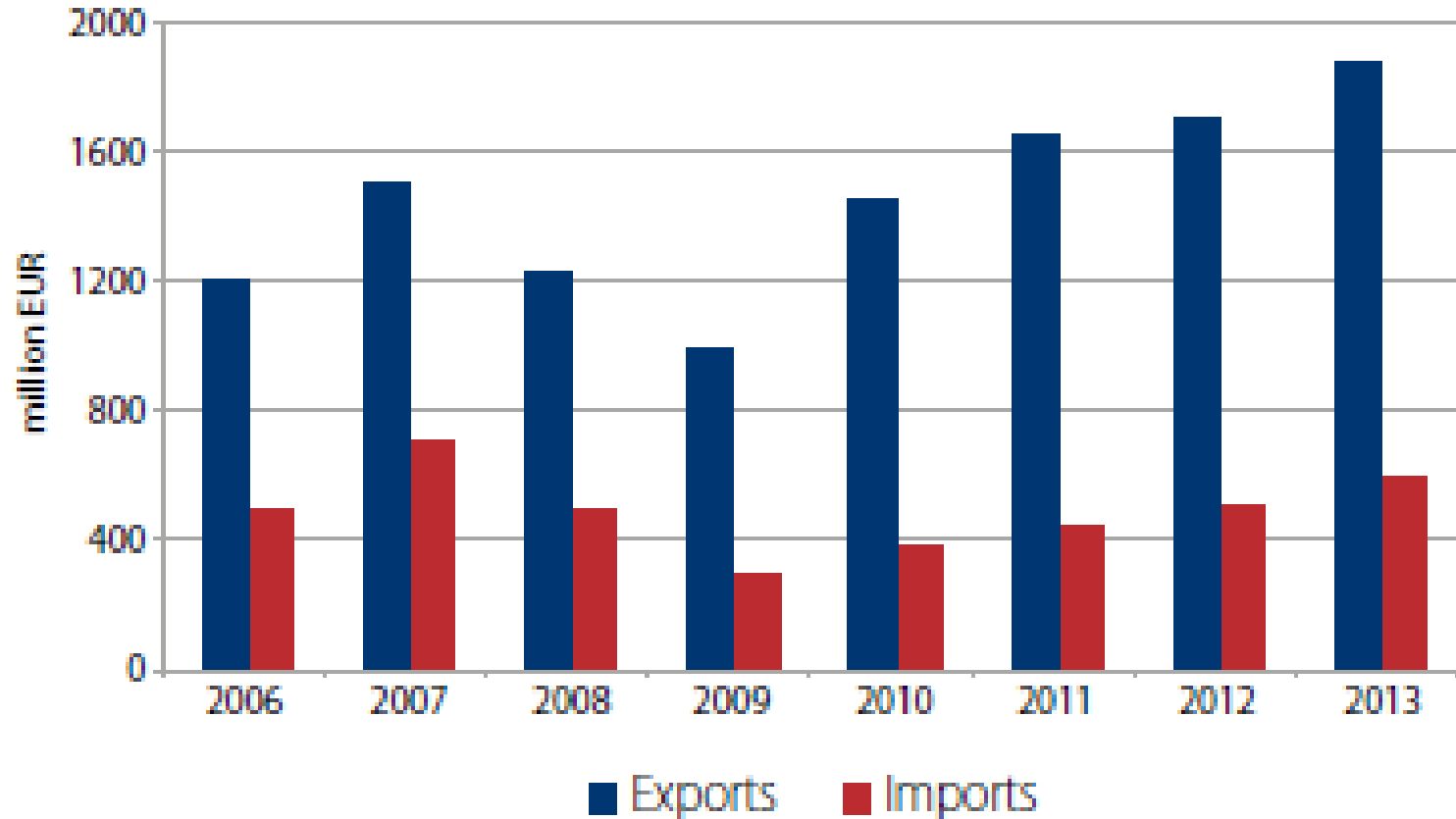
Final felling and forest regeneration in Latvia, 2006-2013 (thous. ha)



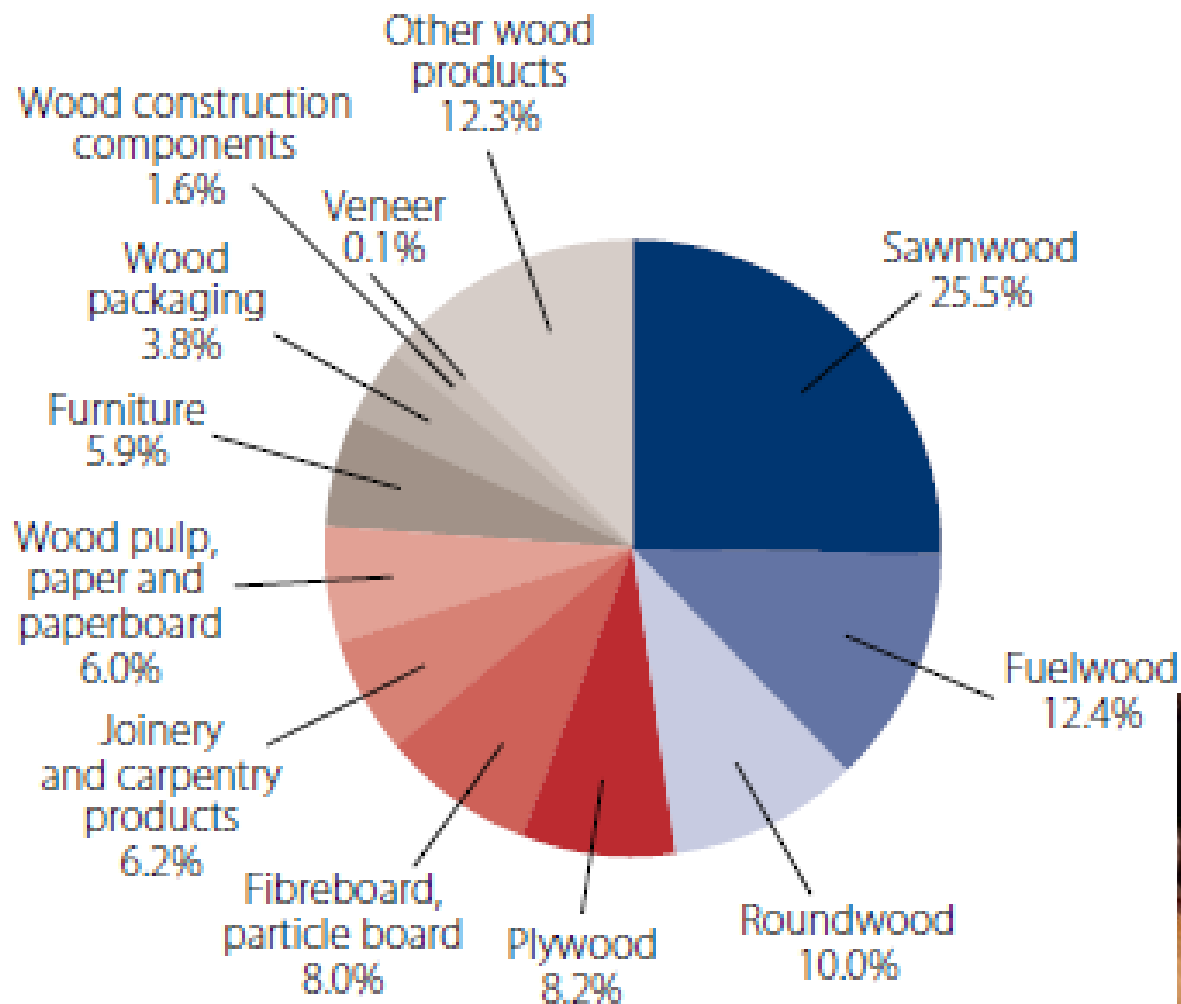
Volume of felling by ownership in Latvia, 2006-2013



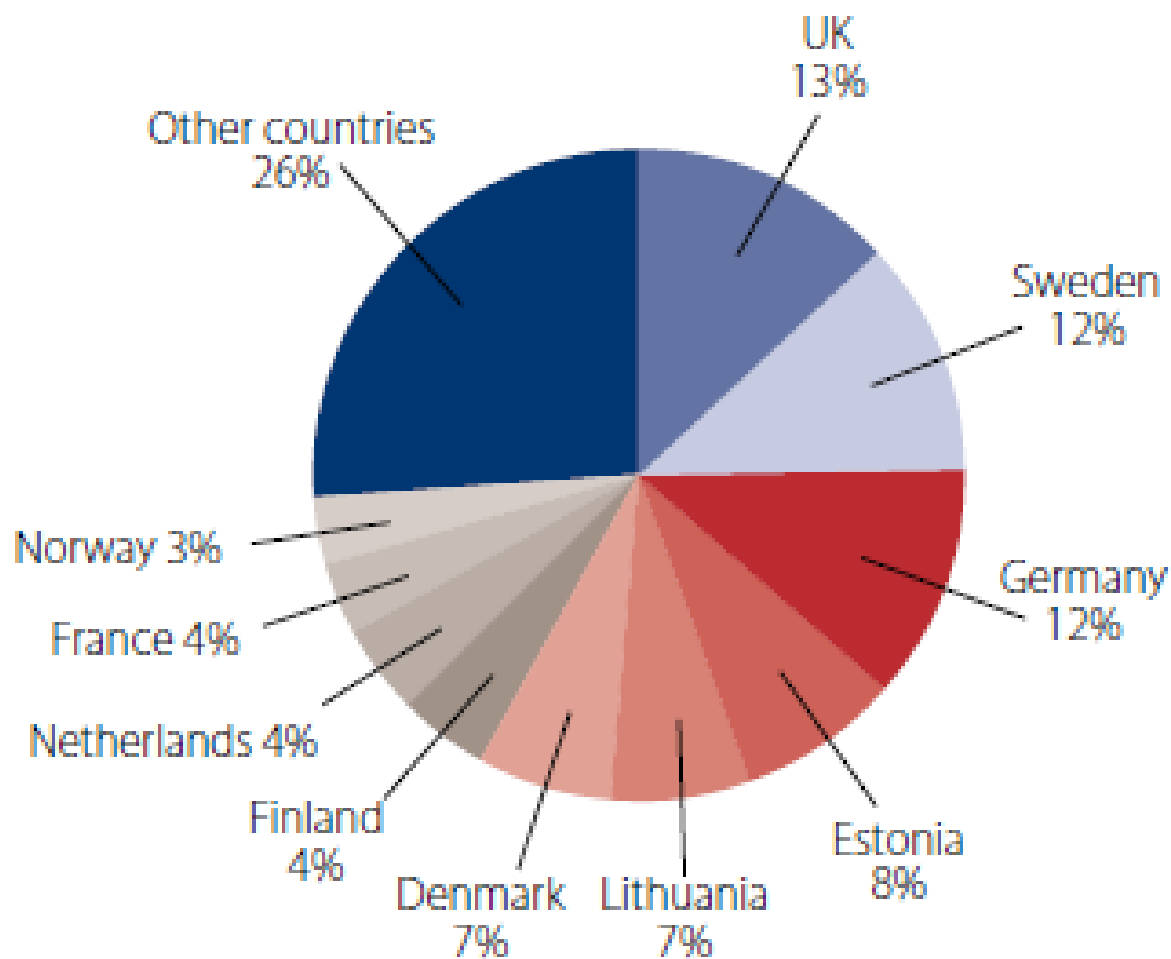
External trade of woodworking products in Latvia, 2006-2013 (mln. EUR)



Latvia's woodworking product export by type of product, 2013 (%)



Export of Latvia's woodworking products by country, 2013 (%)

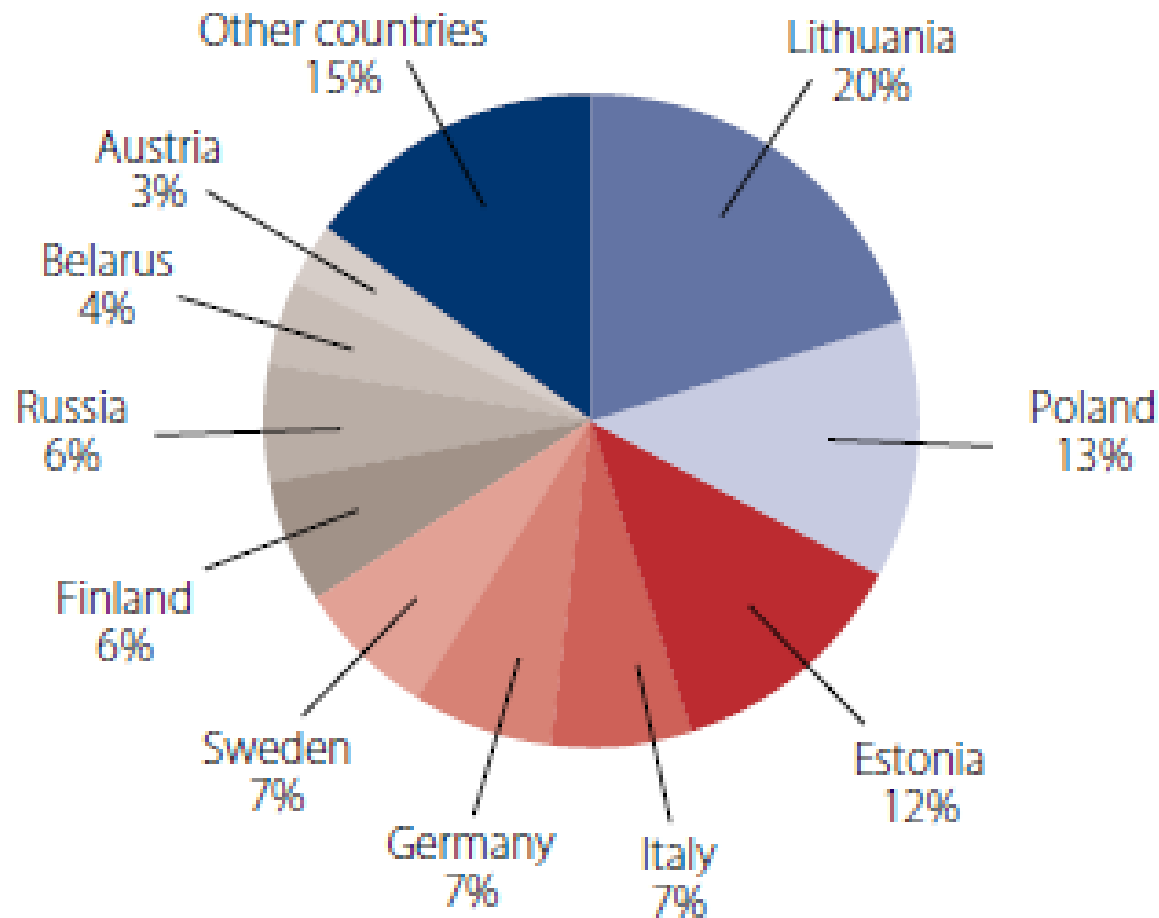


Value-added wood products

- **Sawnwood**
- **Furniture**
- **Products for**
- **Wood-based**
- **Wood Packaging**
- **Pulp and Paper**



Import of woodworking products by country in Latvia, 2013 (%)



Bioenergy sector



Sustainability aspects of bioenergy

- Sustainable biofuel production - when entire production and supply chain is deemed to deliver positive environmental, social and economic impacts.



Development of biofuel production

1st generation

- Oil crops
- Cereals
- Starch



2nd generation

- Non-edible parts of plants
- Waste
- Manure



3rd generation

Algae



Distribution of biogas stations in Latvia, 2014

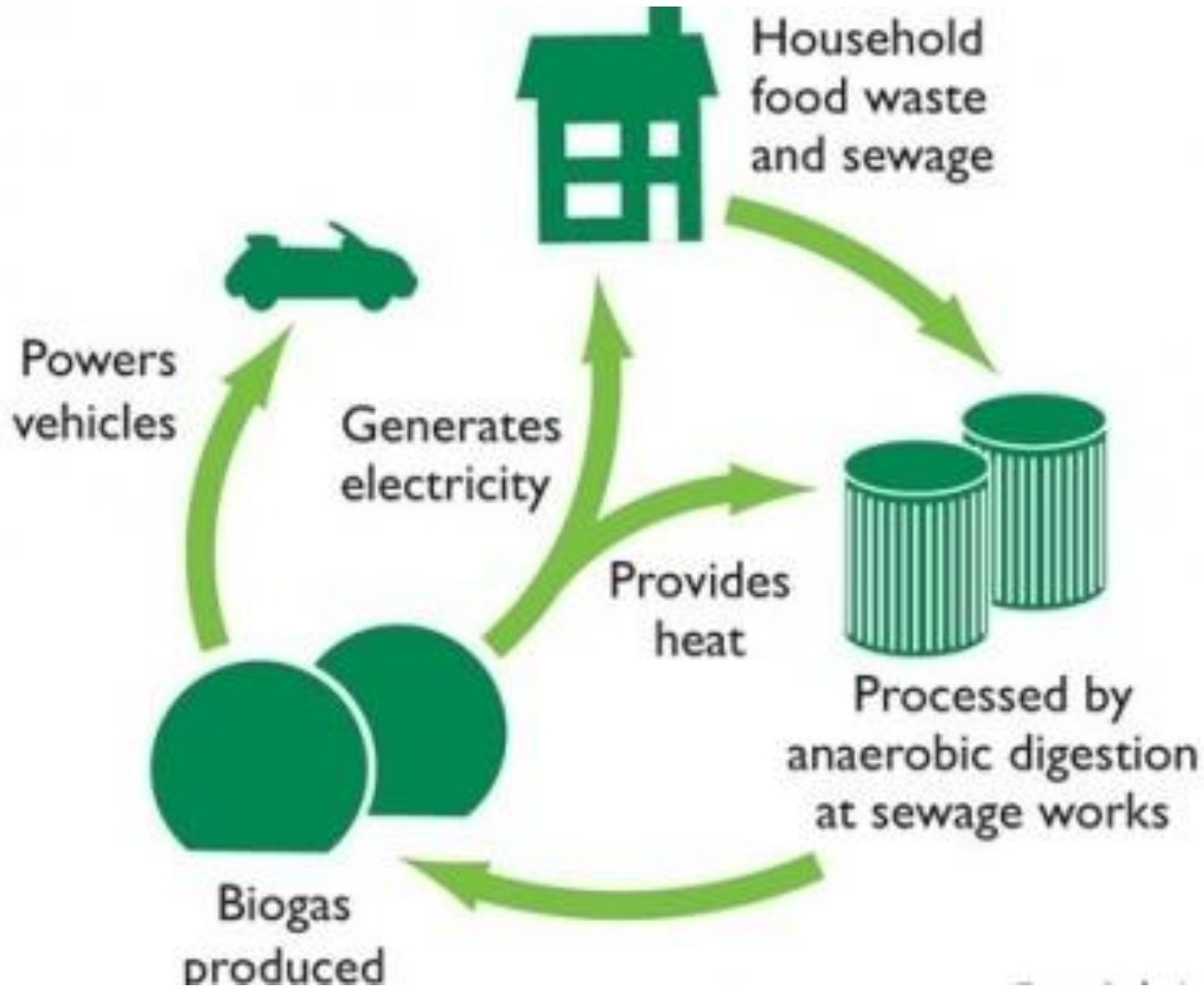


Source: author's construction

Manure used for biogas production in Latvia, 2013 (t/year and %)

| Kind of biomass | Quantity | |
|--|-----------|-------|
| | t/year | % |
| Cattle manure | 395 150 | 37.4 |
| Pig manure | 130 000 | 12.3 |
| Poultry manure | 27 050 | 2.6 |
| Other biomasses (maize silage, unconsumed grass fodder, etc.) | 504 400 | 47.7 |
| Total | 1 056 600 | 100.0 |

Biogas production from food waste and sewage



Dziękuję za uwagę!

