



Marine Transportation and Manufacturing

In the Baltic Region

January 2022

Borg Moller & Partners

Strategic footprint

Borg Moller & Partners is a group of highly skilled individuals with expertise within the environmental, defence and energy sectors. The group focuses on the energy supply security in the Baltic region as well as logistics and special solutions for offshore activities.

Borg Moller & Partners will establish an import terminal for

LNG supplying the Baltic region, as well as build a fleet of coasters and smaller vessels, in order to support the region's increased logistics needs.

Borg Moller & Partners has in cooperation with its foreign partners established a strategic network in throughout the world.

In addition to servicing the Baltic region, the coordinating office being in Denmark, the company has readily accessible and established network connections in the following countries: Australia, Brazil, China, Dubai, Greenland, India, Lebanon, Luxembourg, Singapore, Switzerland, UK and USA.



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1 EXECUTIVE SUMMARY

In this report the focus will be on the major trends within the transport pattern as well as the manufacturing industry in the Baltic region.

The overall transported volume in the region has from 2002 to 2020 increased by 38% equivalent to 1.82% yearly measured in tonnes albeit the major part being prior to the financial crises (29%). The largest increases in volumes are in the container and dry bulk segments with increases of 148% and 72%, respectively. The pattern for the containers follows the global development with more containerised cargoes.

There are large variances within the region when it comes to the individual commodities ie. decrease in the Danish coal import and an increase in the Polish coal import (the latter combined with a decreasing export).

The marine goods are handled by large harbours in each country. The top-3 harbours in most of the countries handle a minimum of 50% of the country's marine transport and in some countries 100% - only in Denmark and Sweden are the figure around one third of the handled goods.

The manufacturing production in the Baltic region has revealed positive growth rates for all countries when measured in current USD but when adjusted for the GDP-deflator the picture is more blurred. The Scandinavian countries apart from Denmark have a smaller manufacturing production than 25 years ago when adjusted. However, Poland and the Baltic countries all have positive growth rates compared to 25 years ago. The latter countries have been helped by the transition from the communist era into open-market economies as well as the assimilation into the EU.

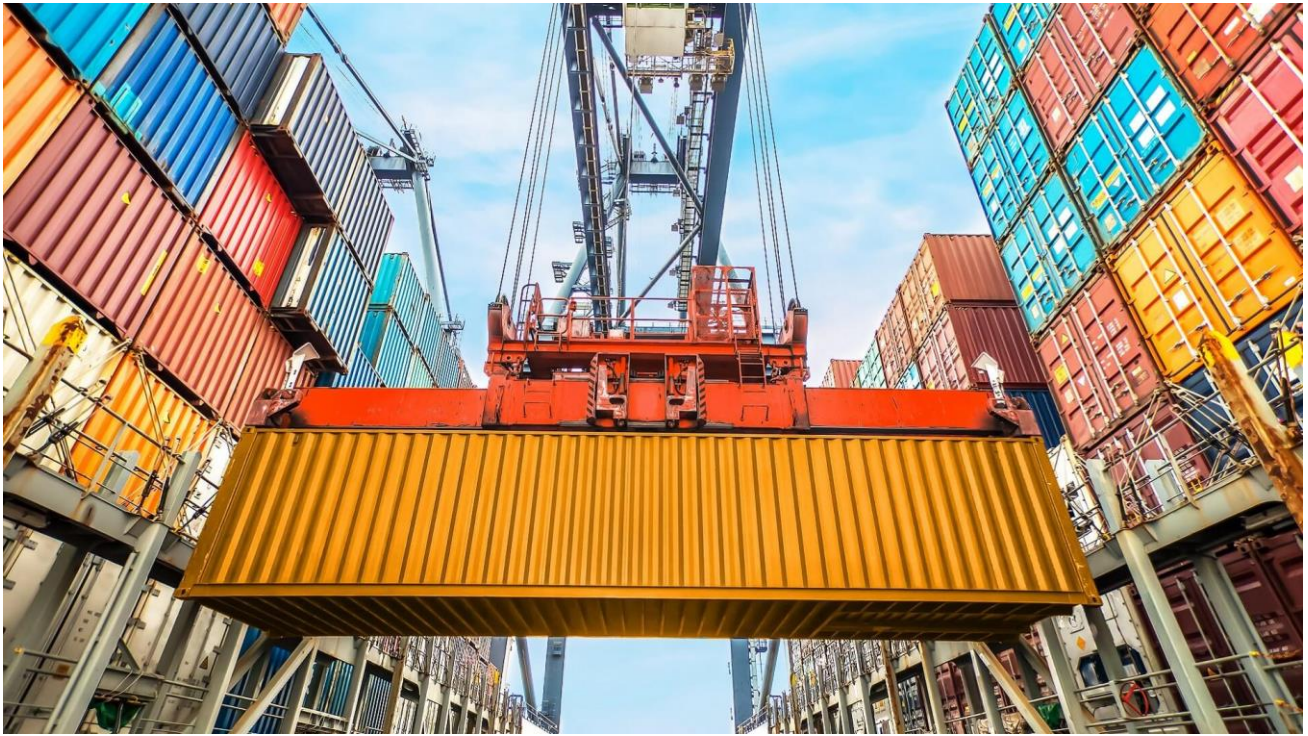
The industrial sector in the Baltic region has during the last 25 years lost approximately 300,000 jobs and that is including the 1 million jobs created in Poland after the country joined the EU in 2004. Only Norway and Poland posted net additions in the industrial work force over the last quarter of a century all other countries experienced substantial decreases in the industrial work force - some countries lost up to one third of the work force employed in the industry sector. Some Baltic countries have had severe problems with a migrating population ie. from 1998 to 2017 560,000 people or approximately 20% of the current population migrated from Lithuania.

The overall work force in most countries has increased (only two Baltic countries with severe migration have not) and it is primarily in the service sector that new jobs have been created ie. Sweden has over the last 25 years created 1 million new jobs in the service and agricultural sectors (virtually all in the service sector) out of a current work force of 5.4 million!

Adjusted with the GDP-deflator the manufacturing output in most countries has been positive over the depicted period indicating that the average output per industry employee has increased and even more when the loss of industrial jobs is taken into consideration.

When looking into the downturn in local manufacturing especially after the financial crises it is likely to believe that the diminishing manufacturing has been substituted by Chinese or Asian import. However,

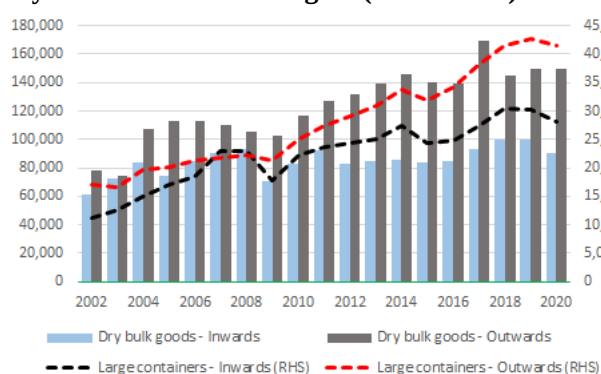
this believe is not supported by the import figures for the Asian region - over the last decade import to the Baltic region as a whole have not been increasing (measured in USD). No doubt that the Chinese economy has grown tremendously over the last 20 years, but the majority of the increase were up until just after the financial crises. The average yearly increase in exports has been 3.18% from 2011 to 2019 whereas the average growth from the period 2001 to 2019 has been a massive 12.19% on a yearly basis (20.61% on a yearly basis from 2001 to 2011).



2 MARINE TRANSPORTATION IN THE BALTIC REGION

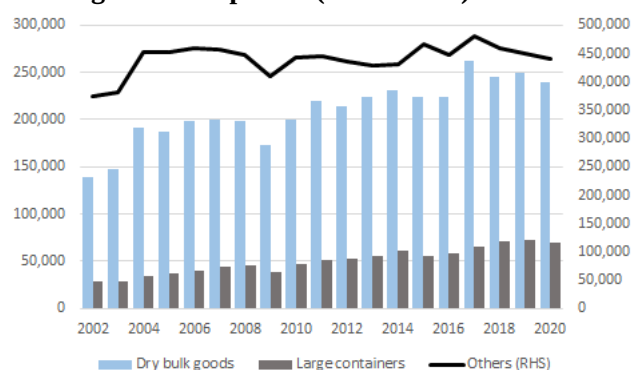
The overall transported volume has increased by 38% over the depicted period, however, most of the increase materialised prior to the financial crises (29%) and only minor increases since. There are large differences in the development within the various segments - large containers and bulk cargoes have increased the most with 148% and 72%, respectively. With regards to the large containers the pattern follows the overall global development within the container industry - large quantities of cargoes are now being shipped via container.

Dry bulk & container cargoes ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM)

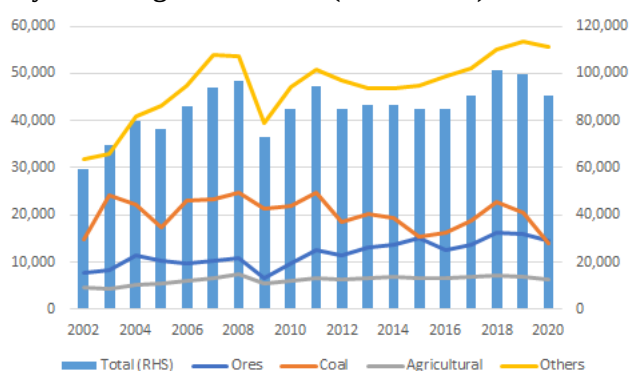
Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM)

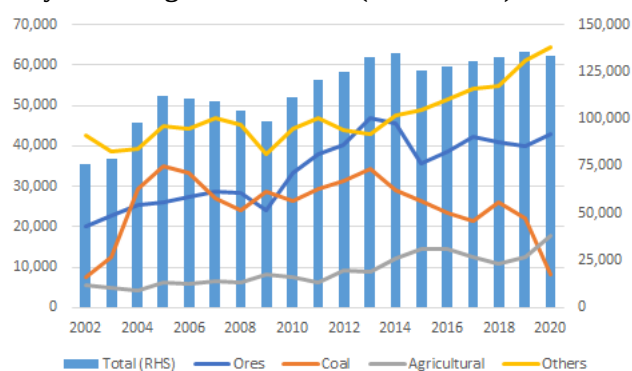
The increase in transported dry bulk cargoes is primarily due to a larger outbound/export traffic compared to import/inbound. The outbound freight has also been the bigger but has increased more over the years. Outbound dry bulk cargoes have increased by 87% compared to 44% for the inbound. The variances in the region's transported volumes of dry bulk cargoes contains large differences on a country level. With regards to coal the Danish need for import of coal has diminished substantially during the period as most of the Danish powerplants have been converted into multi-fuel powerplants using woodchips or pellets instead of coal. This has, however, been partly reversed by the increase of coal import to Poland. With regards to coal export this commodity increased three-fold in the beginning of the period and has maintained volumes in that vicinity until 2020 where the export practically stopped - Latvia being the largest contributor to this fall with approximately 13.5 million tonnes or 80% of the country's previous volumes.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM)

Dry bulk cargoes - outwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM)

The transportation of ores has on the inbound side been fairly stable over the monitored period whereas the outbound freight volumes have doubled in the depicted period. This increase is the result of a large increase in the Finnish export of iron ores and a steady growth in the Norwegian export of aluminium, nickel, and iron ores.

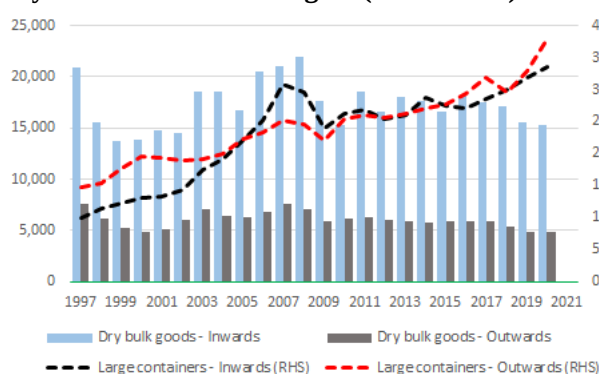
When it comes to the availability of harbours for marine transport there is an outspoken difference between the Scandinavian countries and the former communist ruled countries (Poland and the three Baltic countries). The Scandinavian countries have a variety of harbours handling cargoes resulting in the fact that the largest three harbours maximum represent 50% of the country's marine handling capacity whereas Poland and the three Baltic countries main ports almost constitute the countries entire marine handling capacity (in Latvia there are only two major harbours).



2.1 Denmark

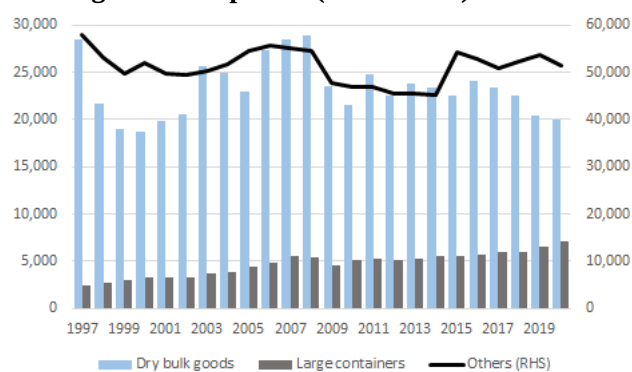
The total volume of maritime transported goods to and from Denmark has been quite stable over the last 25 years at around 80 million tonnes annually. There has been a minor decrease in the dry bulk segment but that has been offset by an increase in the containerised marine transport. The containerised cargo volumes have increase 3 to 4-fold over the depicted period which is substantially more than most other countries in the Baltic Sea region.

Dry bulk & container cargoes ('000 tonnes)



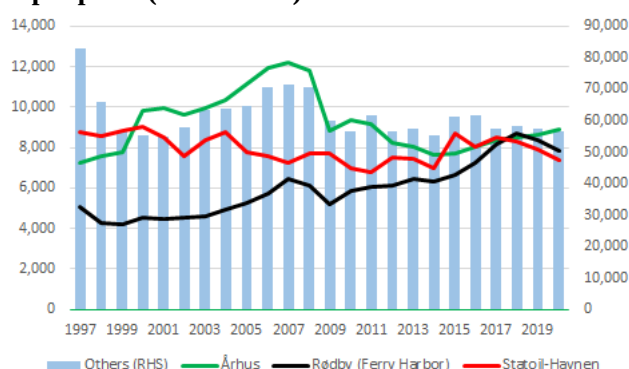
Source: EUROSTAT (MAR_GO_AM_DK)

Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_DK)

Top-3 ports ('000 tonnes)

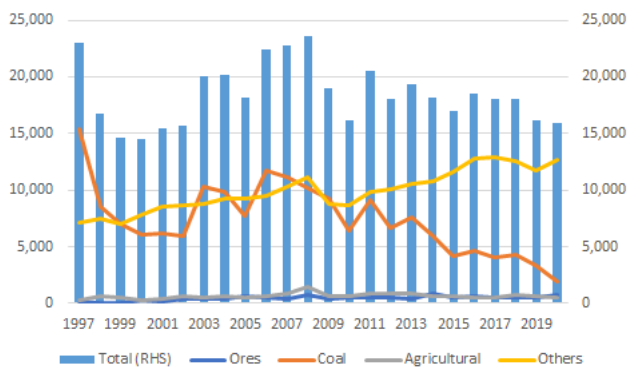


Source: EUROSTAT (MAR_GO_AM_DK)

The volumes in the port of Århus increased until the financial crises occurred whereafter volumes decreased for a couple of years and has been more or less flat since - the early increase in volumes were primarily driven by increases in container traffic. The port of Århus is the main Danish port for container traffic. Rødby ferry harbour is the main Danish maritime transportation hub connecting Germany. The increase in volumes derives from the overall increase in truck cargoes going to and from Scandinavia to the European continent. The Statoil harbour is the designated harbour for the Statoil refinery located in Kalundborg ie. the cargoes are crude oil and refined products.

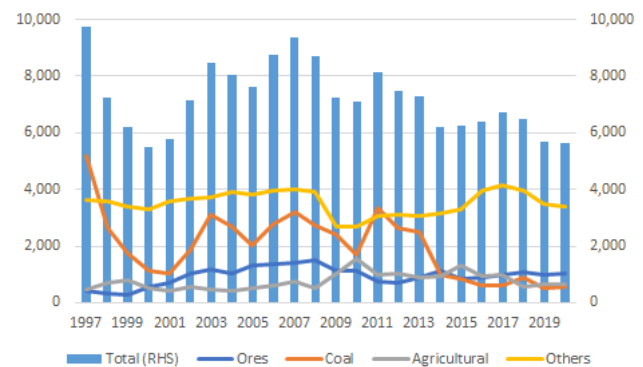
The 3 ports accounts for 30% of the Danish maritime cargoes measured in tonnes.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_DK)

Dry bulk cargoes - outwards ('000 tonnes)



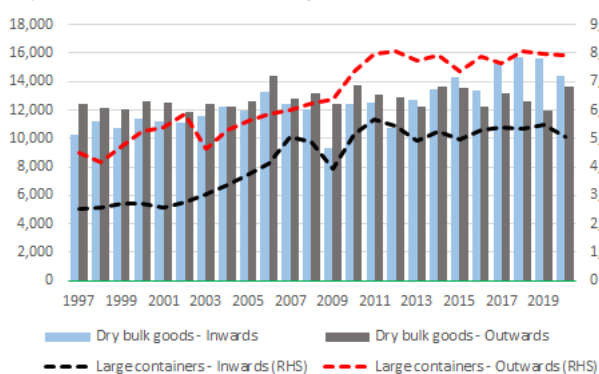
Source: EUROSTAT (MAR_GO_QM_DK)

From the above graphs it can be seen that Denmark is a net-importer of goods via maritime transportation. Worth noticing is the deteriorating amount of coal which Denmark is importing. That correspond well with the switch of fuel in the Danish powerplants from coal to biofuel such as woodchips and wood pellets. The coal line on the “outwards” graph depicts the internal freight of coal in Denmark from one harbour to another ie. the coal is offloaded in one primary import harbour and then freighted to the individual powerplants scattered across the country. Otherwise, the graphs reveals that the maritime transport to and from Denmark peaked just before the financial crises and has gradually declined since - primarily due to the fall in the coal import.

2.2 Sweden

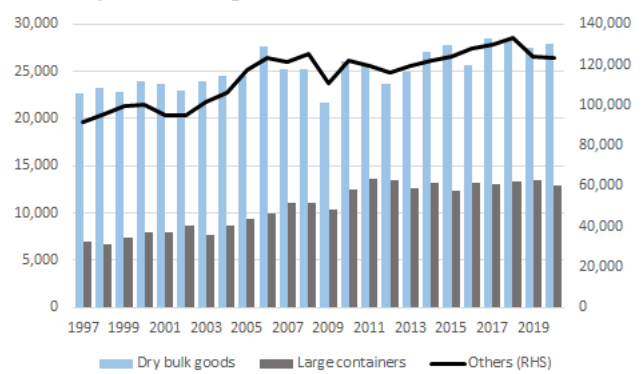
The Swedish transport patterns have not change much for the past 25 odd years. Minor annual increases in total transport volumes for “Large containers” are the only noticeably development in freight volumes in Sweden which correlates with the globally development in goods transported in containers.

Dry bulk & container cargoes ('000 tonnes)



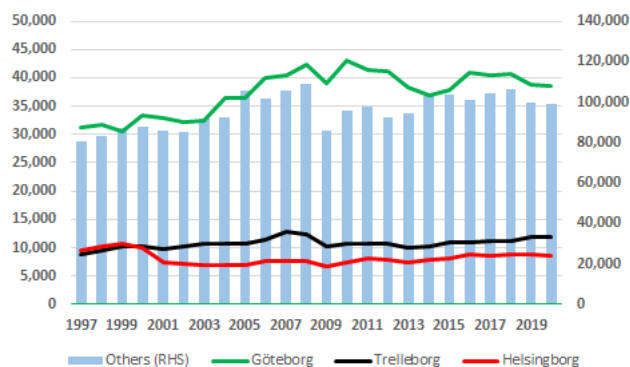
Source: EUROSTAT (MAR_GO_AM_SE)

Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_SE)

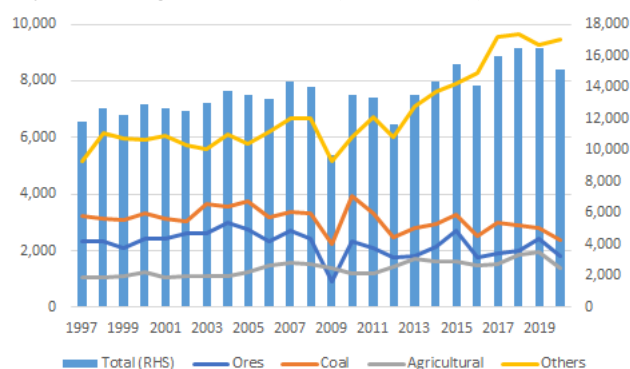
Top-3 ports ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_SE)

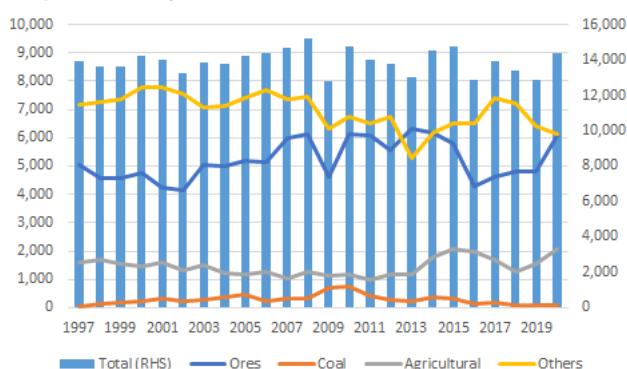
As with the overall Swedish marine transportation volumes the development in the cargo volumes in the top-3 ports in Sweden has been minor as well. The financial crises diminished the transported volumes in 2009 and this decrease seems not to have been recuperated.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_SE)

Dry bulk cargoes - outwards ('000 tonnes)



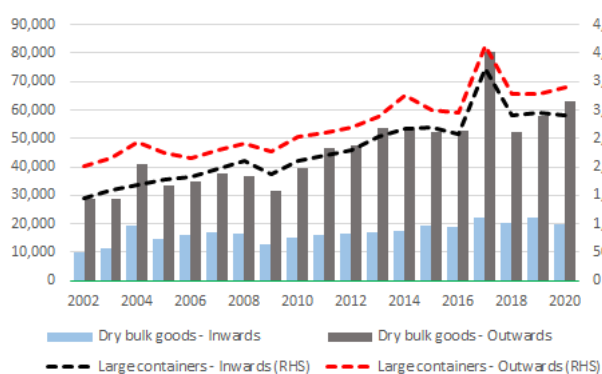
Source: EUROSTAT (MAR_GO_QM_SE)

The Swedish maritime inward and outward transportation in harbours have been surprisingly stabile over the reported period of almost 25 years. Only at the peak of the financial crises (2009) the volumes dropped only to regain momentum the following year. The sub-segments have also been stable throughout the period with the exception of the category “Others” for the inwards transport.

2.3 Norway

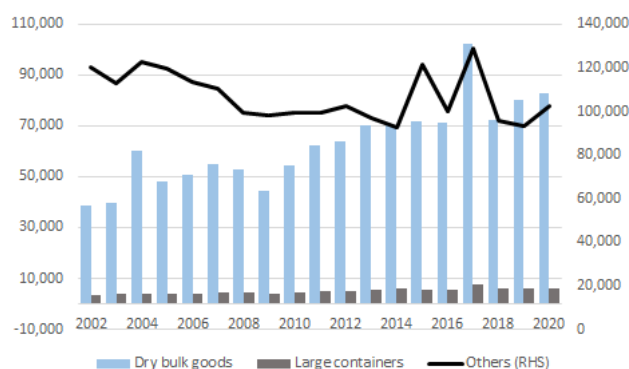
Norway has doubled the dry bulk cargoes handled over the last 20 years. The transported volumes of oil and gas has been stable over the period with the odd yearly fluctuations - especially in 2015 and 2017. Oil and gas are the main commodities under the “Others” category. The container freight has increased as well but from fairly low levels - the current levels for inwards and outwards freight volumes are at approximately 3 - 3.5 million tonnes yearly.

Dry bulk & container cargoes ('000 tonnes)



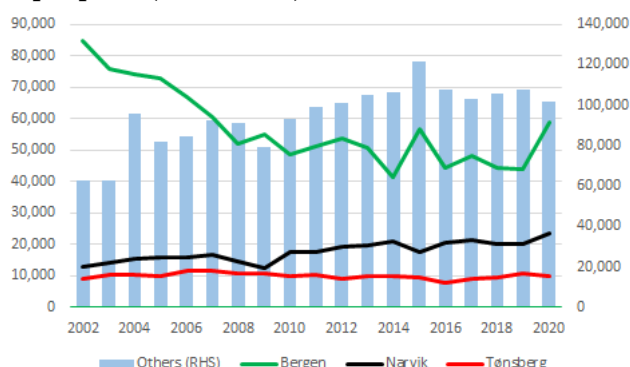
Source: EUROSTAT (MAR_GO_AM_NO)

Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_NO)

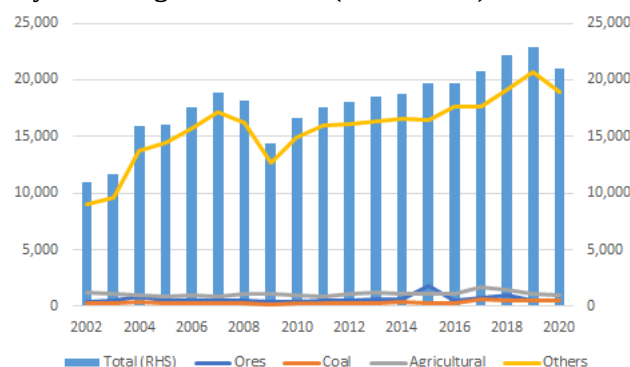
Top-3 ports ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_NO)

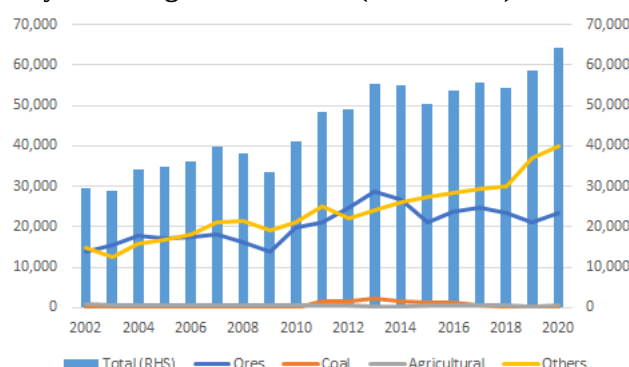
The volumes in Bergen harbour have fallen up until the financial crises whereafter the volumes have been more or less flat. It is out of Bergen that Norway exports most of its commodities from the oil and gas industry.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_NO)

Dry bulk cargoes - outwards ('000 tonnes)



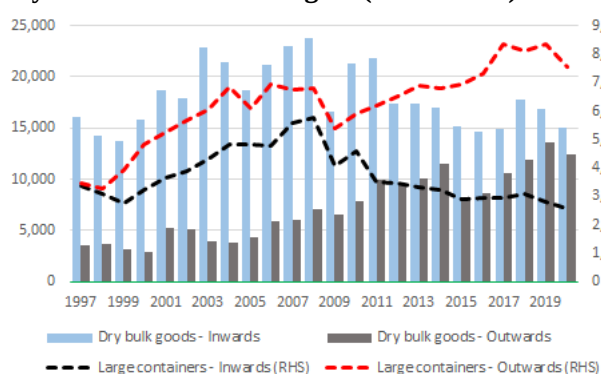
Source: EUROSTAT (MAR_GO_QM_NO)

The inward going dry bulk cargoes to the Norwegian ports increased sharply until the financial crises in 2009 after which the volumes have increase to a slightly higher level in recent years. Almost every thing is under the “Others” segment. The Norwegian export of ores such as aluminium, nickel and iron ores has been stable at around 20 million tonnes annually.

2.4 Finland

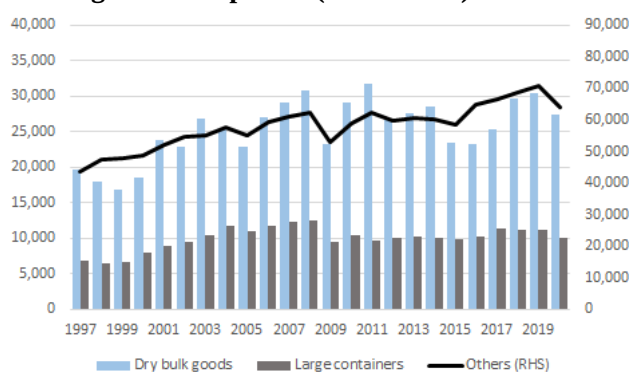
The Finish maritime transport volumes have increased marginally over the years (1.63% on average). However, there are huge variances in the development in volumes within the different cargo categories. The inward transported volume of dry bulk cargo has practically not changed over the 23-year period, but the outward volume has quadrupled - Finland export within the dry bulk segment contains among other commodities such as iron/steel, wood/woodpulp and paper. The container volumes have increased but that is only due to a rise in the outwards going containers as the number of inward-bound containers has fallen continuously since the financial crises.

Dry bulk & container cargoes ('000 tonnes)



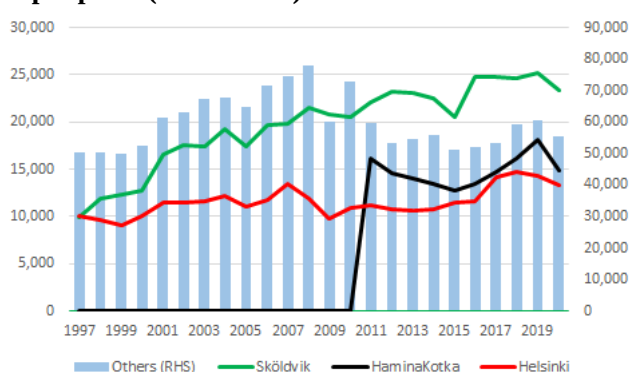
Source: EUROSTAT (MAR_GO_AM_FI)

Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_FI)

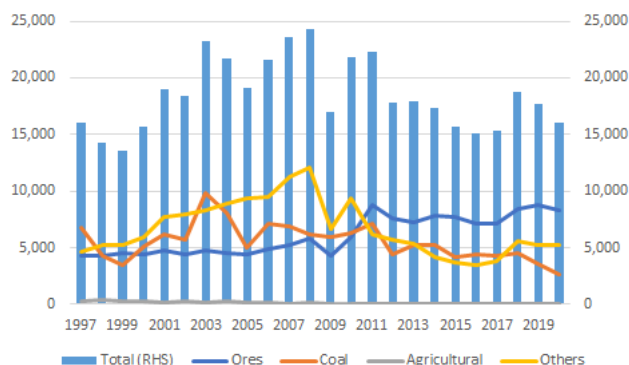
Top-3 ports ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_FI)

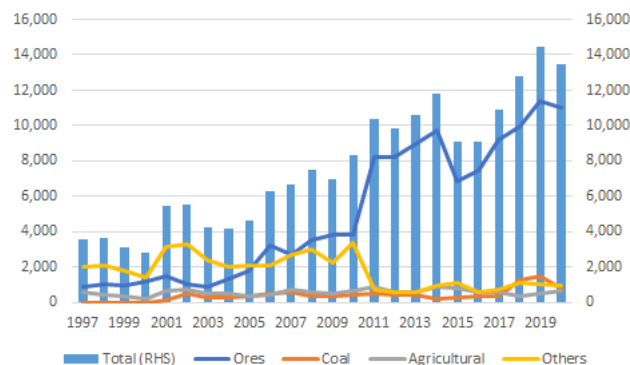
In 2011 the two harbours Hamina and Kokta were combined under one entity - the harbour HaminaKotka was not build just merged. The Hamina harbour has always been one of Finland's largest harbours. The port of Sköldvik (Kilpilahti in Finnish) is the largest Finnish harbour (measured in tonnes). The harbour functions as a liquid cargo harbour for the largest refinery and petrochemical cluster in the Nordic region (built around the Neste refinery). Approximately 2/3 of the cargo volume is import.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_FI)

Dry bulk cargoes - outwards ('000 tonnes)



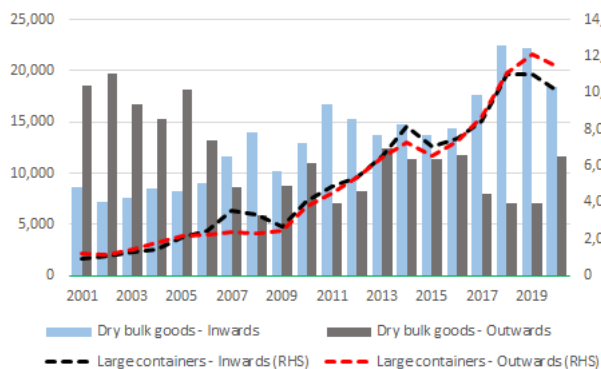
Source: EUROSTAT (MAR_GO_QM_FI)

The predominant part of the Finnish dry bulk inwards transport is categorised as “Others” and can therefore not be identified. The outwards going cargoes on the other side have a large quantum of “Ores” which is iron ore and as Finland has a large forest industry a large part of the “Others” can be designated as being timber/wood products and paper.

2.5 Poland

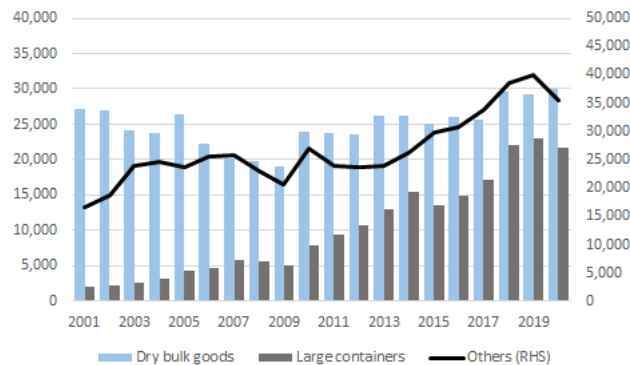
The Polish maritime transport has doubled over the depicted period of 20 years. The single largest contributor to the increase has been the growth in the containerised transportation which has increased around 10-fold to approximately 22 million tonnes in 2020. Under “Others” the liquified bulk products (oil products) accounts for 13 million tonnes of the total increase of 19 million tonnes.

Dry bulk & container cargoes ('000 tonnes)



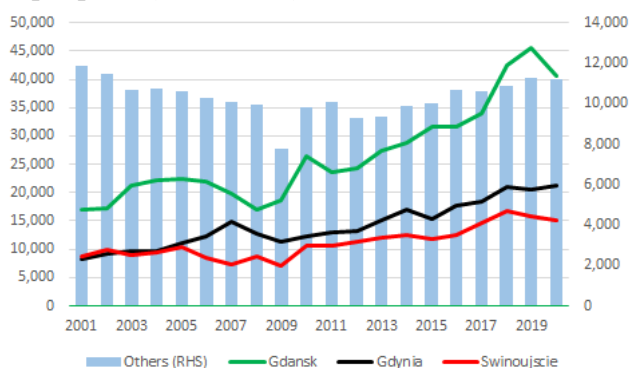
Source: EUROSTAT (MAR_GO_AM_PL)

Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_PL)

Top-3 ports ('000 tonnes)

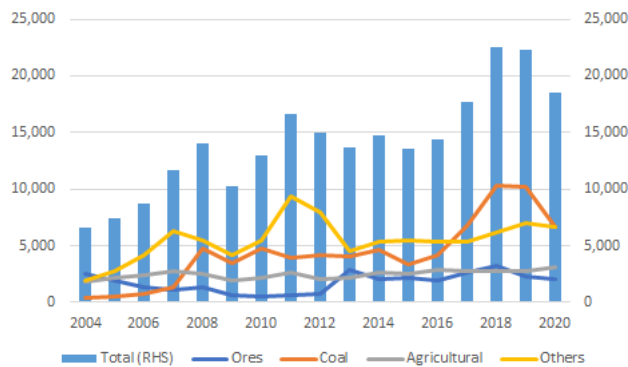


Source: EUROSTAT (MAR_GO_AM_PL)

When looking at the dry bulk goods it clearly reveals that Poland has developed into a net importer from a net exporter in the beginning of the period - from 10 million tonnes in net export to 7 million tonnes in net import.

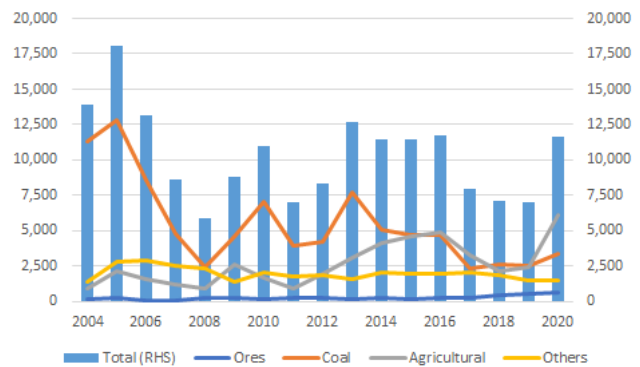
The 2 largest harbours in Poland (Gdansk and Gdynia) which are in close proximity have shown the largest increases in volumes with Gdansk being twice the size of Gdynia. The other harbours in Poland have handled more or less the same transported volumes throughout the period.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_PL)

Dry bulk cargoes - outwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_PL)

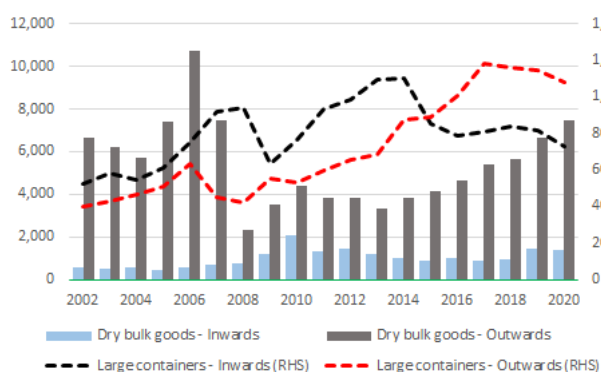
Previously the main export commodity within the dry bulk goods has been coal - this has changed as the share of coal has diminished to approximately 25% from above 80% in the beginning of the period. Agricultural products have increased in volume and accounted for more than 50% of the dry bulk maritime export in 2020. Poland has over time increased the volume of imported coal and in recent years almost half of the dry bulk import has been coal, which predominantly originates from Russia. Other dry bulk commodities have also increased from the beginning of the period, where Poland joined the EU (2004).



2.6 Estonia

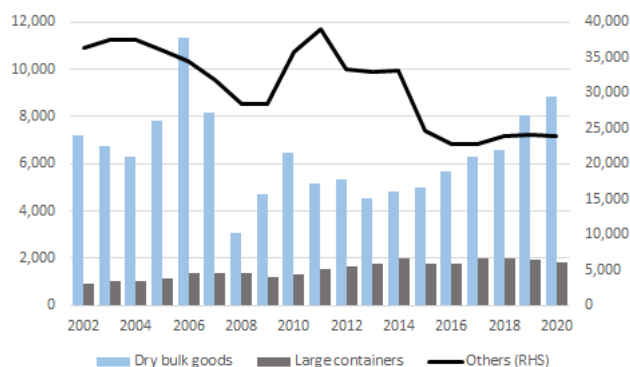
Over time the Estonian maritime transported volume has decreased by approximately 20% with large changes during the reported period. Especially in 2008 the dry bulk volume collapsed and even though volumes more or less have increased yearly from that time, the volumes have still not reached 2006-levels. Almost all of the dry bulk volume is export. The main components of the dry bulk export are wood (timber and wood pellets) and steel and iron. The container volumes have increased over time but are still at very low levels - total volumes are below 2 million tonnes yearly. However, Estonia has also the smallest population of the Baltic countries with around 1.3 million people. The primary reason for the decrease in “Others” derives from the transported volumes of liquid bulk goods (oil products) which accounts for 12.4 million tonnes of the 12.6 million tonnes variance.

Dry bulk & container cargoes (‘000 tonnes)



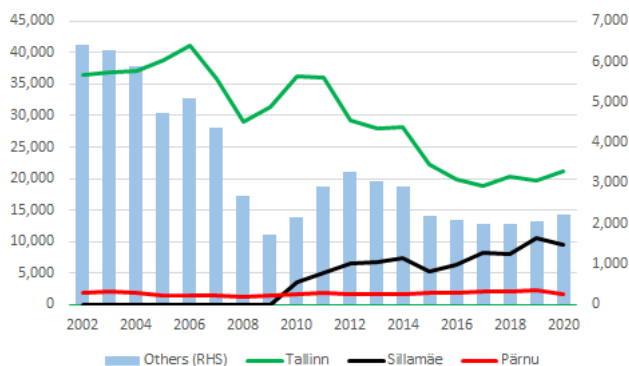
Source: EUROSTAT (MAR_GO_AM_EE)

Total goods transported (‘000 tonnes)



Source: EUROSTAT (MAR_GO_AM_EE)

Top-3 ports (‘000 tonnes)

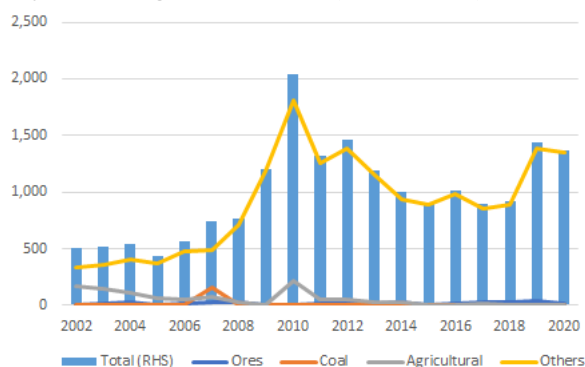


Source: EUROSTAT (MAR_GO_AM_EE)

The port of Tallinn has earlier been the only major harbour in Estonia, but this has changed as the harbour of Sillamäe opened for cargoes in 2010 - Sillamäe is only half the size of the port of Tallinn, but the latter has decreased dramatically in volumes during the reported period. The drop is mainly due to the downturn in liquid bulk cargoes. The harbour of Sillamäe handles all types of cargoes and is the port closest to the Russian border in the Baltic Sea (25 km).

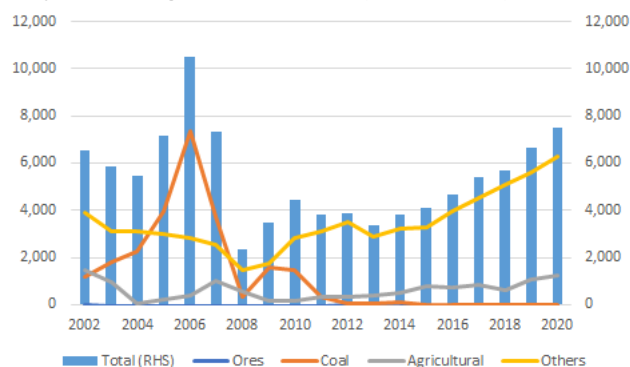
As can be seen from the below graphs Estonia exported in the beginning of the period large volumes of coal but this commodity has practically not been exported in the last decade. Ores (steel and iron) has a minor share of the Estonian export whereas “Others” accounts for the largest part. In this wood pellets and timber represents that largest part. The imported volumes are fairly small and are all under the “Others” segment.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_EE)

Dry bulk cargoes - outwards ('000 tonnes)

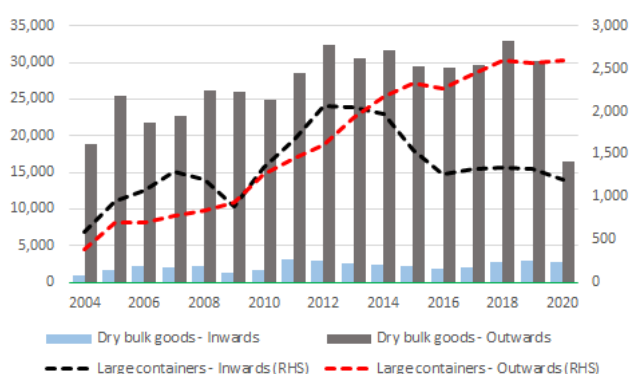


Source: EUROSTAT (MAR_GO_QM_EE)

2.7 Latvia

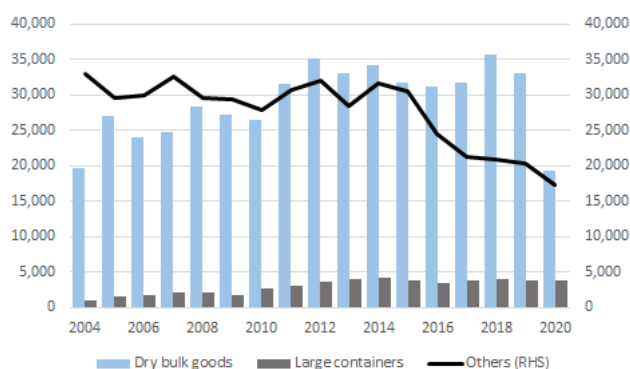
Like Estonia the quantum of marine transported goods has diminished since the beginning of the monitored period - total volumes measured in tonnes are down by 25%. Dry bulk goods have increased steadily until 2020 where the volumes almost were halved (coal export plummeted to nearly zero compared to earlier volumes). Import volumes for dry bulk goods have been fairly even throughout the period. In the “Others” category in the “Total goods transported” graph the liquid bulk goods are the predominant factor behind the drop in volumes over the last years. As with the development in other countries in the area the total container volumes have increased over the depicted period, however, the imported volumes decreased from 2012 and onwards.

Dry bulk & container cargoes ('000 tonnes)



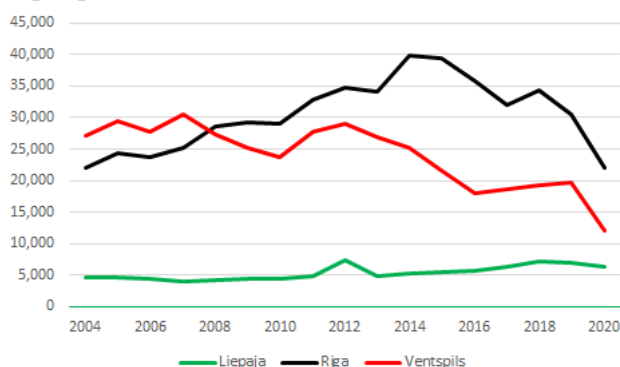
Source: EUROSTAT (MAR_GO_AM_LV)

Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_LV)

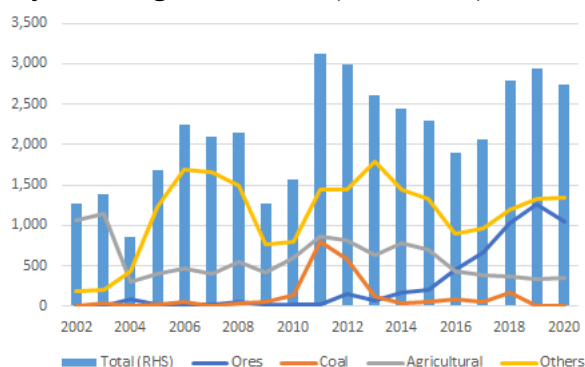
Top-3 ports ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_LV)

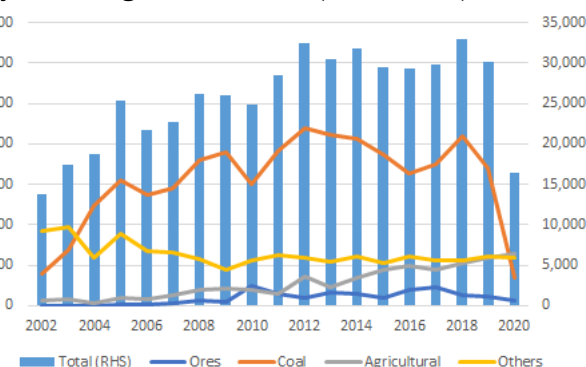
The harbours in Riga and Ventspils have by far been the largest in Latvia. But in recent years the volumes in both harbours have decreased substantially. The major reason for the drop in Ventspils has been the decrease in the export liquid bulk category, whereas the drop in Riga derives from the substantial drop in coal exports.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_LV)

Dry bulk cargoes - outwards ('000 tonnes)



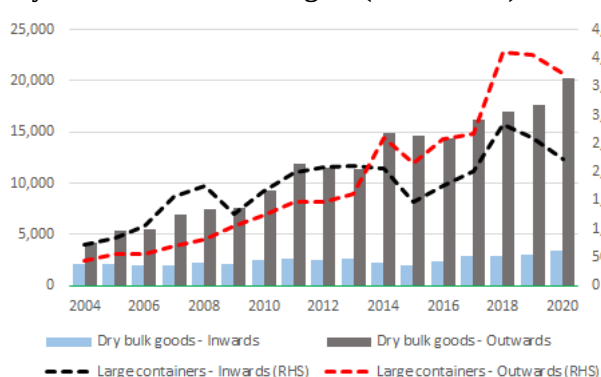
Source: EUROSTAT (MAR_GO_QM_LV)

Over the latest years the “Ores” category has increased and accounts for approximately 50% of the imported dry bulk goods, however, all categories are low when measured in tonnes as the entire import of dry goods cargoes adds up to around 2.7 million tonnes. When it comes to the export side of the dry bulk goods the most noticeable is the substantial drop in coal export from 2019 to 2020 - a fall of 80% or 13,469 tonnes. Coal being the sole contributor to the fall in the exported volumes that year.

2.8 Lithuania

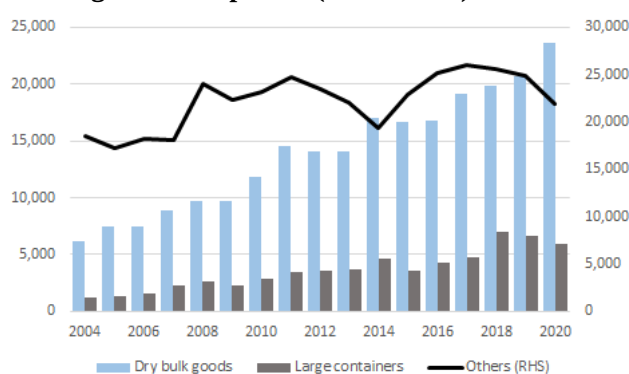
The total amount of transported goods to and from Lithuania has increased continuously since the beginning of the monitoring period at the start of the new millennium (2004). Especially dry bulk goods have increased substantially from just over 6 million tonnes annually to currently almost 24 million - dry bulk goods consist among others of ores, coal, and agricultural products. The import of dry bulk to Lithuania has been more or less flat throughout the period, however, the export has driven all the increase in the transported amount with a continuously annually increases. The goods transported in large containers have increase over the period as well albeit with a minor decrease in the last years. Import and export volumes have both increased, however, in 2013 export amount surpassed the imported numbers and has remained the larger.

Dry bulk & container cargoes ('000 tonnes)



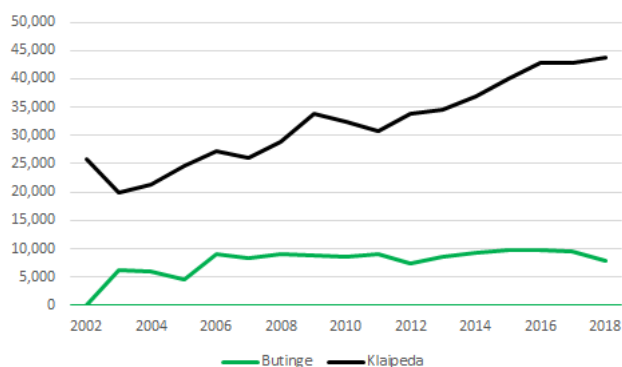
Source: EUROSTAT (MAR_GO_AM_LT)

Total goods transported ('000 tonnes)



Source: EUROSTAT (MAR_GO_AM_LT)

Top-3 ports ('000 tonnes)

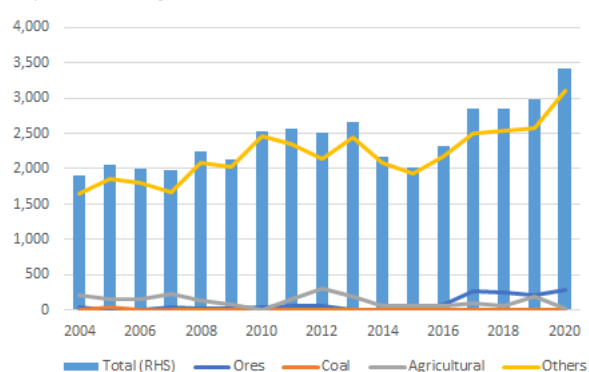


Source: EUROSTAT (MAR_GO_AM_LT)

There are only 2 major ports in Lithuania - Klaipeda and Butinge. Over the period the harbour of Klaipeda has almost doubled in size where Butinge has more or less stayed the same - the harbour went into operation in 2005. The increase in the transported volumes at Klaipeda predominantly derives from the export of dry bulk cargo, which has increased by 16 million tonnes from 2004 to 2020.

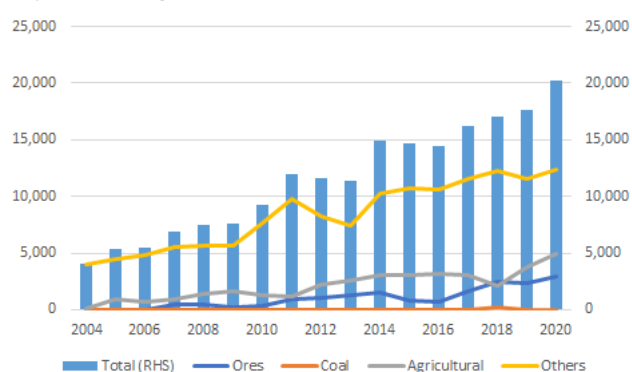
The below graphs depict the development of the sub-items in the dry bulk segment provided by Eurostat. The inwards cargoes primarily originate from the “Others” category whereas the individual commodity types such as “Ores”, “Coal” and “Agricultural” do not contribute much to the overall import. For the exported dry bulk goods, the categories “Ores” and “Agricultural” accounts for approximately 40% of the total maritime export volume. The overall import has increase over the period, however, from a low level whereas the exported volumes have increased 5-fold over the period to a total of approximately 20 million tonnes annually.

Dry bulk cargoes - inwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_LT)

Dry bulk cargoes - outwards ('000 tonnes)



Source: EUROSTAT (MAR_GO_QM_LT)

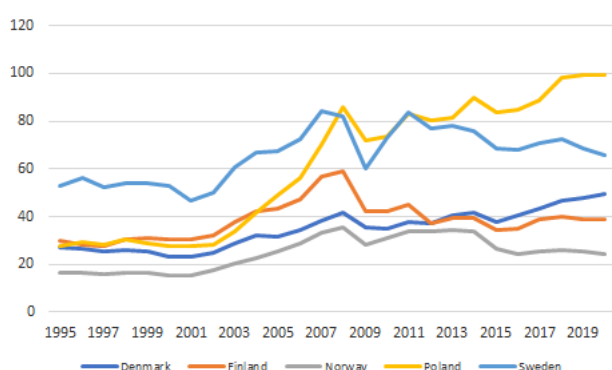
3 MANUFACTURING IN THE BALTIC REGION

The development in the manufacturing sector for the countries in the Baltic region has on the surface been positive. As can be seen from the below two graphs the value added output has increased, however, with very different paces. When adjusted for the GDP-deflator (inflation) the picture changes and there are major differences between the countries' performances (please see under each country's sub paragraph).

Poland has developed into the major manufacturing nation in the region primarily due to two factors - the country managed to curb the turmoil following the transition into a free-market economy and especially the assimilation into the EU in 2004. The three Baltic countries are substantially smaller economies than the rest of the Baltic Sea countries, but Lithuania has managed to outperform the other two economies in terms of value added output in the manufacturing sector despite a huge migration - from 1998 to 2017 totalling 560,000 people (approximately 20% of the current population).

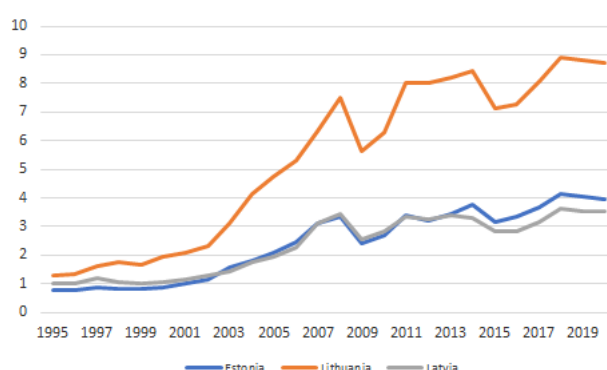
The World Bank's definition of value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources.

Manufacturing - value added (USD bn)



Source: World Bank (SL.TLF.TOTL.IN)

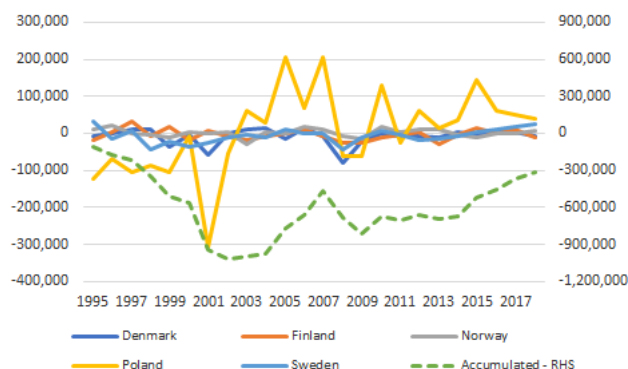
Manufacturing - value added (USD bn)



Source: World Bank (SL.TLF.TOTL.IN)

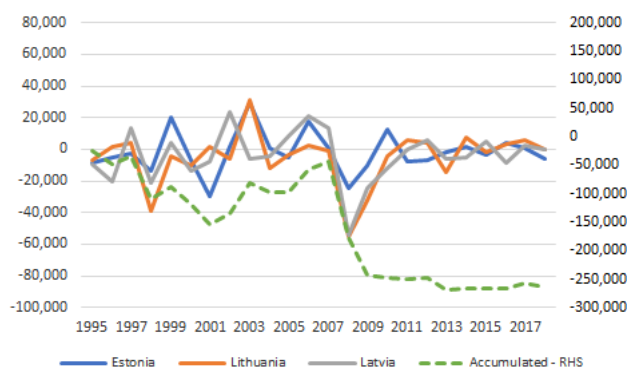
As can be seen in the left graph on the next page Poland (being the far largest country by work force) has the largest nominal fluctuations and is as well the primarily contributor to the increase in the industrial work force from the beginning of the millennium (2002) - Poland has created approximately 1 million jobs in the industry sector since then. Prior to that Poland lost 860,000 jobs in the industry sector over a 7 year period. Until the financial crises the Baltic countries had maintained a status quo in the industry sector whereafter the development deteriorated substantially for a couple of years which has not been reversed afterwards.

Yearly change in industry employment



Source: World Bank (SL.TLF.TOTL.IN)

Yearly change in industry employment



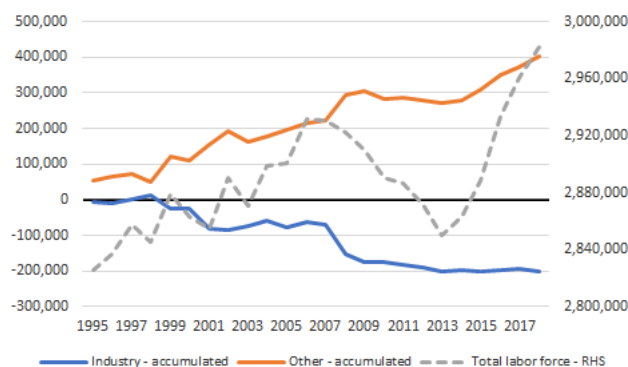
Source: World Bank (SL.TLF.TOTL.IN)

3.1 Denmark

In Denmark almost 200,000 jobs in the industrial sector have been lost since 1995. This is a huge number and correspond to approximately 7.2% of the total labor force. This decline has been more than reversed by the increase in other sectors (service and agriculture) of over 400,000 people - the service sector growing more than this as the agriculture sector also has declined over the depicted period. This increase amounts to 14.4% of the total labor force. The total labor force has increased by 156,000 people over the period, however, with large fluctuations. There was a continuous increase in the labor force until the financial crises materialized whereafter the labor force took a steep fall until 2013 from where the labor force has increase to an all-time record in 2018 where almost 3 million people was included in the total labor force. Compared to other countries in the Baltic region the fluctuations in the Danish labor force have been quite small - only 7.2% increase in the labor force over the period.

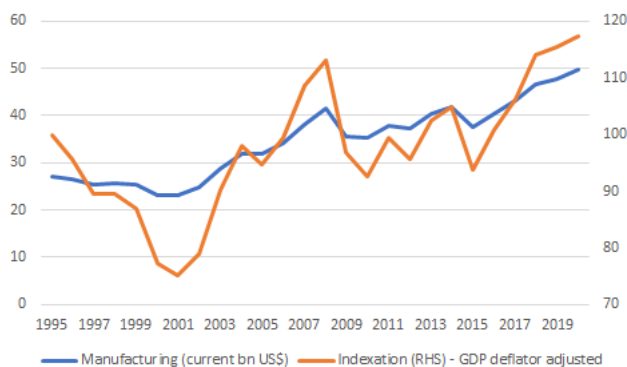
As can be seen in the below graph (Manufacturing - value added) the figures over the period for the value added in the manufacturing sector in Denmark reveals an increase of approximately USD 22.5 billion to USD 49.7 billion equivalent to an increase 85%. However, when adjusting with the GDP-deflator the increase only stands at 17.4% which is not a large increase over a period of 25 years. In the corresponding period the labor force in the manufacturing sector was diminished by 26.7% stating that the efficiency/output per person has increased.

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added



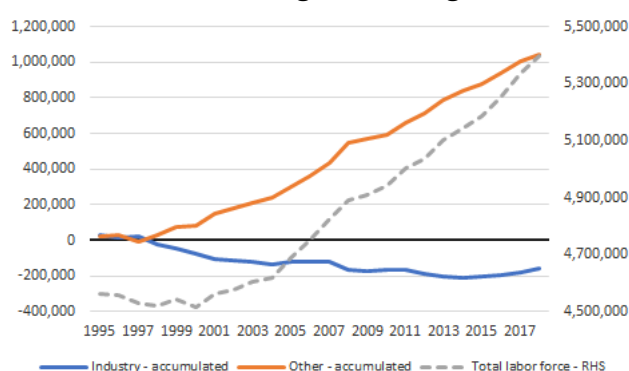
Source: World Bank (NV.IND.MANF.CD)

3.2 Sweden

Over the period the Swedish employment in the industry sector has declined by approximately 150,000 or equivalent to 2.9% of the total labor force. In the same period the total labor force in Sweden has increased by 889,000 people or 19.7%. All of the increase and then some has been in the service sector which has grown by 1 million people over the last 25 years. The service and agricultural sectors in Sweden currently accounts for 81.7% of the labor force whereas the corresponding number in 1995 was 74.2%

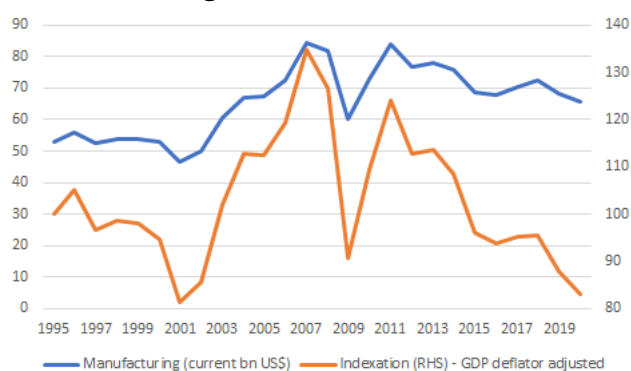
The below graph (Manufacturing - value added) shows a minor increase of USD 12.9 billion in the total value added in the manufacturing sector over the 25-year period or an increase of 24.4% measured in current prices. If the figures are adjusted by the GDP-deflator then it is a totally different story - the value added reveals a decrease of approximately 17% which even after correcting for the smaller labor force in the industrial sector shows a less efficient industry sector than it was 25 years ago.

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added



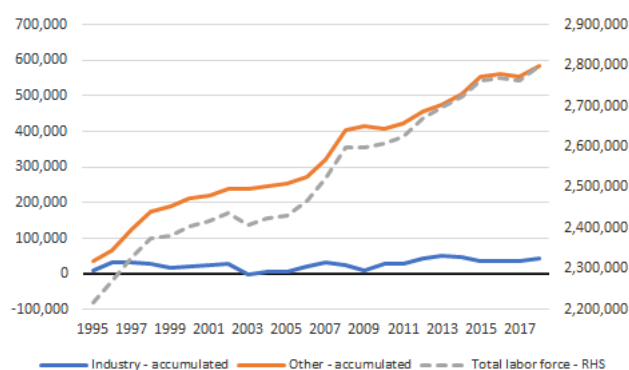
Source: World Bank (NV.IND.MANF.CD)

3.3 Norway

Opposite the other Scandinavian countries Norway has increased its labor force in the industrial sector - not by much but an increase anyway. A total of approximately 43,000 employees has been added to the Norwegian industrial sector. However, the major increase in employment has been in the service sector (Norway's agriculture sector is minor) where approximately 630,000 jobs have been created over the last 25 years.

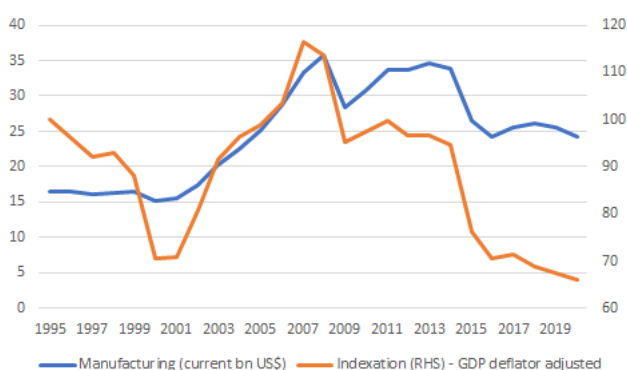
Even though the industry employment has increase by 1.9% over the last 25 years the GDP-deflator adjusted manufacturing output has decreased by a massive 33.9%. The manufacturing output has fluctuated substantially over the period but after the financial crises the development has been poorly with a decrease of 43.3%.

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added

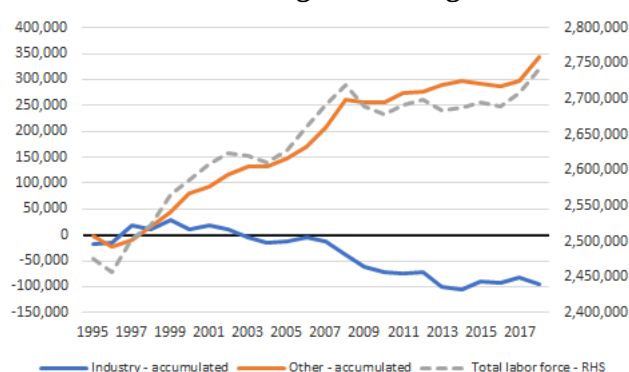


Source: World Bank (NV.IND.MANF.CD)

3.4 Finland

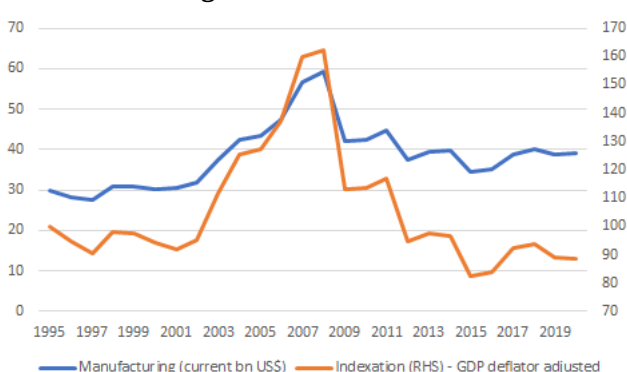
The overall Finnish labor force has increased by approximately 250,000 people or 10% since 1995. As with the majority of countries in Scandinavia the employment in the industrial sector has been declining over the period - revealing a drop of almost 100,000. At the same time the service and agricultural sectors have increased by approximately 350,000. The employment in the industrial sector had been relatively flat until the beginning of the financial crises whereafter the employment went into a negative spiral and shredded approximately 14% of the sector's labor force.

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added



Source: World Bank (NV.IND.MANF.CD)

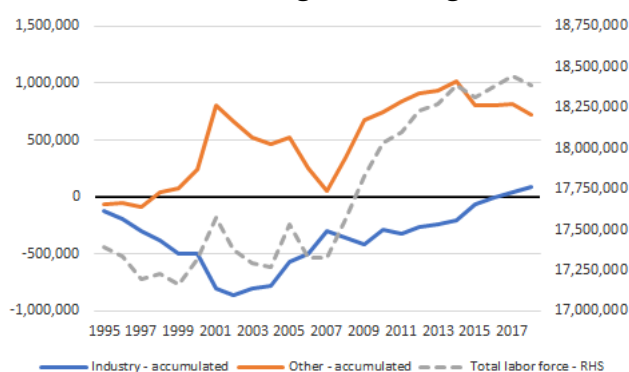
The decrease in the labor force in the industry sector is accelerated in the development in the GDP-deflator adjusted manufacturing output depicted in the above graph. The output peaked at the beginning of the financial crises with an output of USD 59.0 billion in current prices and an indexation of 162.2 (1995 = 100). Hereafter the output deteriorated massively and ended in index 88.5 or nearly halved in a little more than 10 years.

3.5 Poland

The Polish economy was prior to the below depicted period (1995) impacted by the turmoil created by the transition from state-run communism into a free-market economy. Many companies/factories were closed, and the unemployment rate peaked in 2002 with almost 20% of the Polish work force being unemployed. Poland officially applied for EU membership in 1994 and the country was included in the EU on 1 May 2004. From there on the industry sector in Poland has developed very favourable with nearly 1 million jobs created. And as with other countries the service sector has created a lot of new jobs as well. The overall labor force has increased by 816.000 people from 1995 to 18,391,000 in 2018.

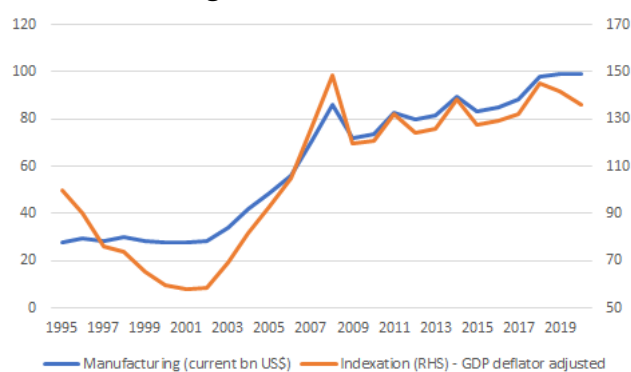
The value of the adjusted manufacturing output nearly fell to 50% before the joining of the EU reversed the trajectory peaking in 2008 in index 148 - up from index 58 only 6 years prior. However, since the financial crises the GDP-deflator adjusted manufacturing output has been more or less flat ending in index 136. In current USD the development of the Polish manufacturing output has been impressive – stating in approximately USD 28 billion and ending in USD 99 billion.

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added



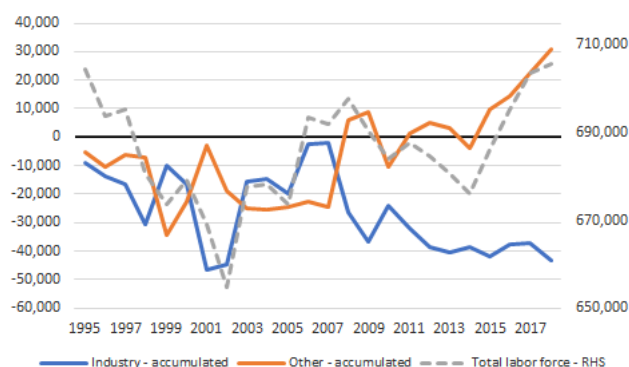
Source: World Bank (NV.IND.MANF.CD)

3.6 Estonia

As the only country of the three Baltic countries Estonia has managed to increase the domestic work force over the monitored period, however, not by much - only 0.2%. It is the increase in the service and agricultural sectors that eliminated the decrease in the industrial sector. The decrease in the industrial labor force in the beginning of the period was reversed in the start of the new millennium, however, this was short-lived as the elimination of industrial jobs began just before the financial crises and has continued ever since. Estonia has invested a lot in the digital sector as well as the roll-out of the digital system which has created many jobs in the service sector (support, service, programming etc.) and has therefore been able to maintain and expand the opportunities for domestic jobs.

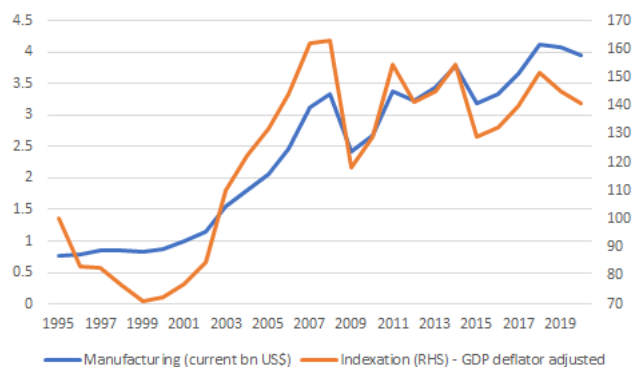
The GDP-deflator adjusted value added manufacturing output declined in the beginning of the depicted period but started increasing at the turn of the millennium until the financial crises began whereafter the development has been more or less flat with a slight negative trend. However, taking the diminishing labor force in the industrial sector over the past decade into consideration the development has been fairly good ending at index-level 140.

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added



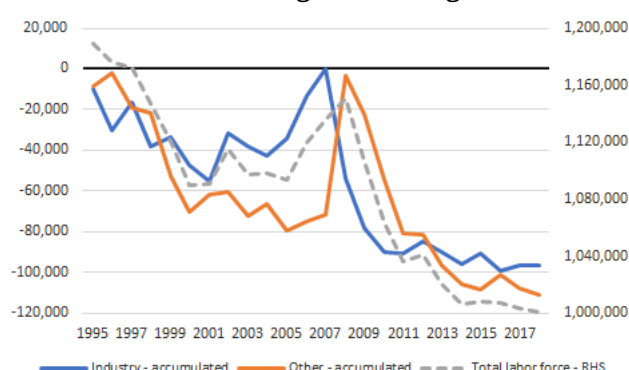
Source: World Bank (NV.IND.MANF.CD)

3.7 Latvia

Most countries have over the last 25 years experience an increase in the overall labor force. Latvia, however, has seen a fall of approximately 210,000 people (17.2%) in the labor force. The fall has been evenly split between the industrial sector and the service sector. After having regained the prior loss in the labor force at the time of the financial crises the drop in the labor force has been severe. The fall of almost 200,000 people indicates that of large part of the previously domestically employed people have migrated to other countries or at least applied for work in a foreign country.

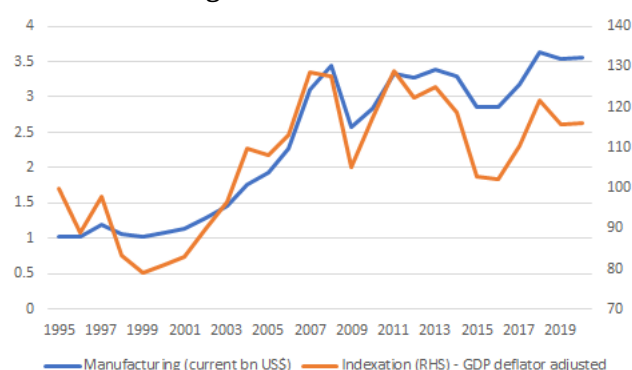
The value added manufacturing production has over the depicted period increased by approximately 250% measured in USD but adjusted for the GDP-deflator the increase has only been 16%. But in the same period the labor force in the manufacturing industry has been diminished by almost one third - from 327,000 people down to only 223,000.

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added



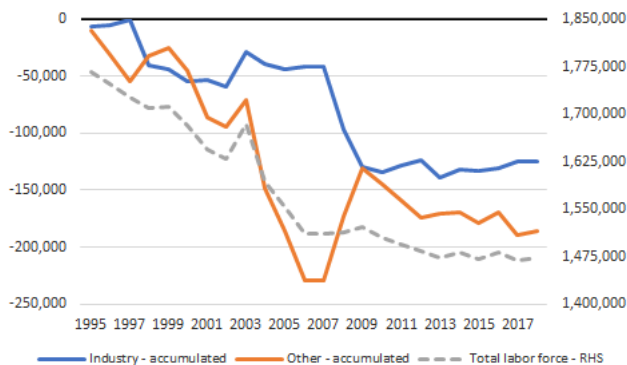
Source: World Bank (NV.IND.MANF.CD)

3.8 Lithuania

In terms of challenges in the development of the total labor force Lithuania is the most affected. The country has in the monitored period lost 310,000 domestic jobs equal to 21% of the current work force. All sectors have been affected, however, the development in the industrial sector has been flat since the financial crises. According to data from the World Bank the net migration from 1998 until 2017 was a mind-blowing 560,000 people of a current total population of approximately 2.8 million (for comparison the population topped in 1991 at 3.7 million).

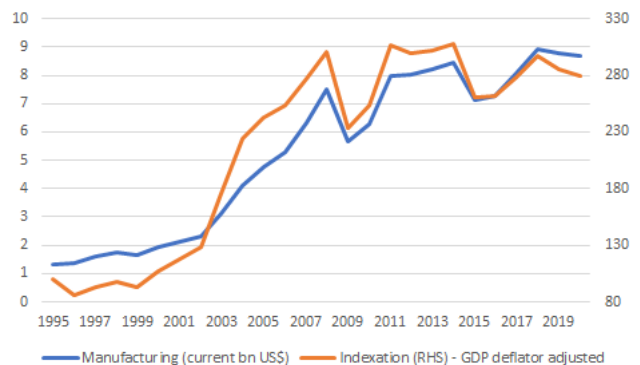
Despite the overall decrease in the labor force and in the employment in the manufacturing sector Lithuania has revealed a very positive development until the financial crises for thereafter to have a flat curve for the remainder of the depicted period. The value added in the manufacturing industry developed very favourable from the start of the millennium until the financial crises - revealing an increase from USD 1.9 bn to USD 7.5 bn. In terms of GDP-deflator adjusted figures the performance has been similarly positive going from index 107 to 301 in the same period (1995=100).

Total labor force & changes in sub-segments



Source: World Bank (SL.TLF.TOTL.IN & SL.IND.EMPL.ZS)

Manufacturing - value added



Source: World Bank (NV.IND.MANF.CD)



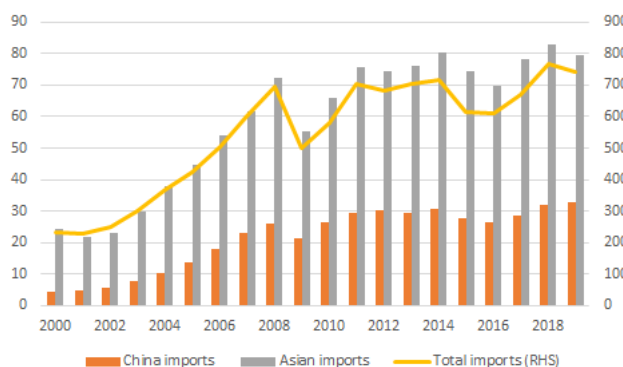
4 IMPORTS TO THE BALTIC REGION FROM CHINA/ASIA

Despite manufacturing has been declining or at best stagnating over the last decade in many of the monitored countries in the Baltic region imports from China or the Asian region as a whole have not been increasing. As can be seen from the below graph showing the imports to the region (Total, Asian and Chinese imports) the import levels for all three categories have been more or less at par with the levels just prior to the financial crises.

Opposite the general conception the Chinese export has not increased by much over the last many years. The average yearly increase in exports has been 3.18% from 2011 to 2019 whereas the average growth from the period 2001 to 2019 has been a massive 12.19% on a yearly basis. For comparison, according to the World Bank database, the global export of goods and services only increased by 1.0% yearly in the period from 2011 to 2018 - indicating that even though the Chinese export growth is diminishing it is still substantially higher than the world as a whole. Please see the below graph depicting the development in the overall Chinese export as well as the yearly percentual fluctuations in the export.

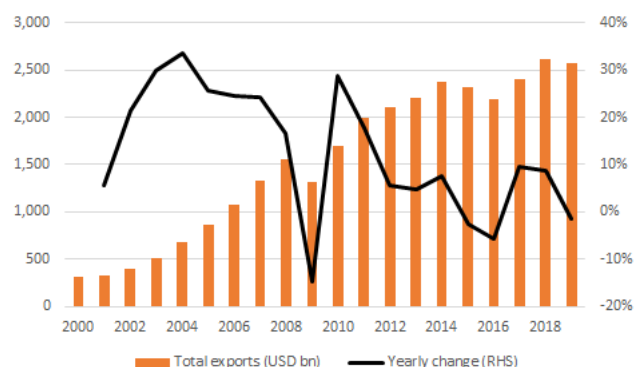
Parallel with China's growing monetary strength in the world the Chinese companies are increasing their presence in other countries through investments in the various domestic markets.

Imports to the Baltic Region (USD bn)



Source: Observatory of Economic Complexity (OEC)

Total Chinese exports (USD bn)



Source: Observatory of Economic Complexity (OEC)

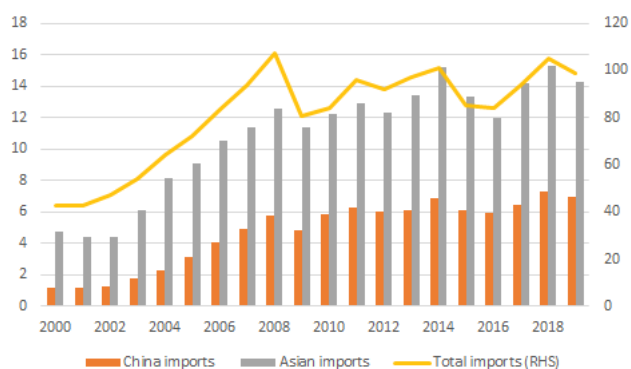
The data use in Observatory of Economic Complexity's database are supply by UN COMTRADE under the United Nations. UN COMTRADE is a repository of official international trade statistics and relevant analytical tables

As can be seen in paragraph 4.1 the pattern across the different countries is more or less identical.

4.1 Imports to the monitored countries

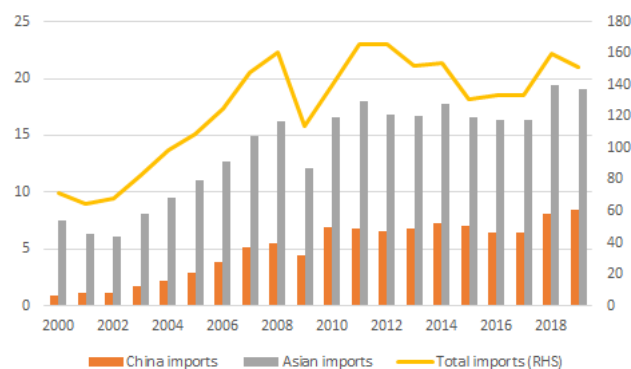
The import pattern for the Scandinavian countries is almost the same, however, Finland stands out with quite a lower import presently than prior to the financial crises. Identical for all four countries is the stagnation of the import from China (and the Asian region as well) after the financial crises.

Imports to Denmark (USD bn)



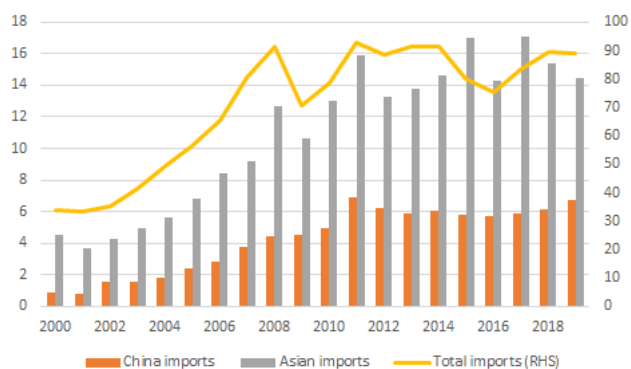
Source: Observatory of Economic Complexity (OEC)

Imports to Sweden (USD bn)



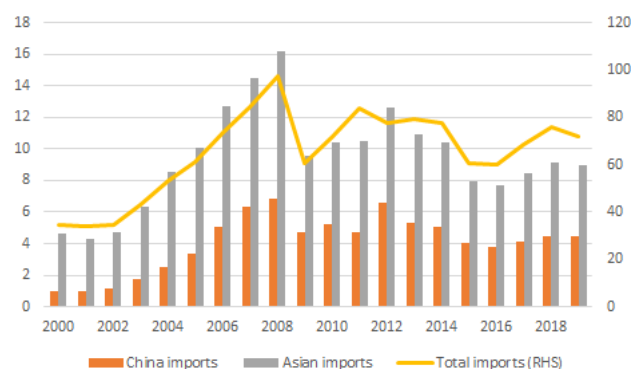
Source: Observatory of Economic Complexity (OEC)

Imports to Norway (USD bn)



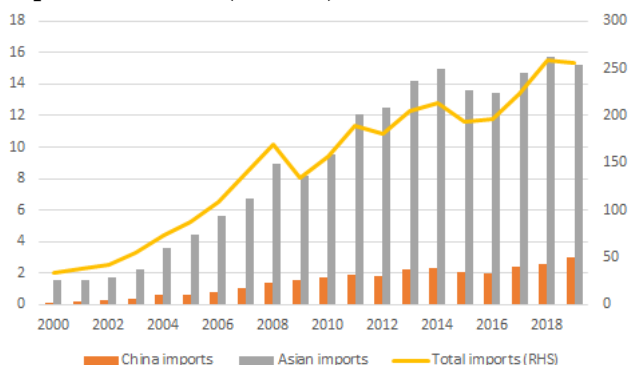
Source: Observatory of Economic Complexity (OEC)

Imports to Finland (USD bn)



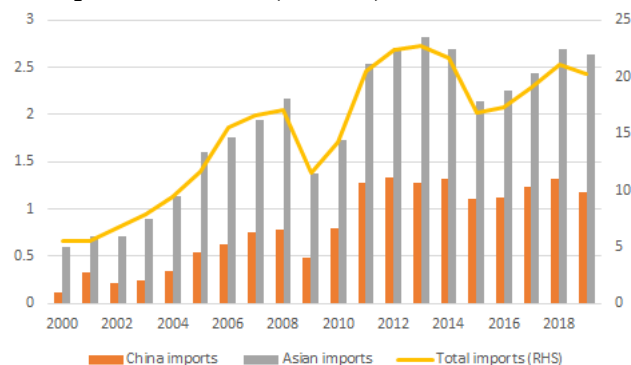
Source: Observatory of Economic Complexity (OEC)

Imports to Poland (USD bn)



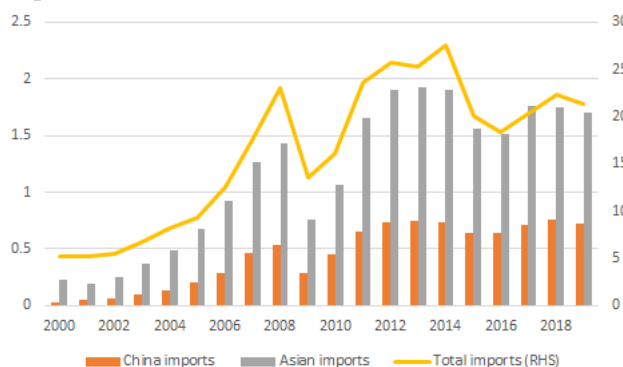
Source: Observatory of Economic Complexity (OEC)

Imports to Estonia (USD bn)



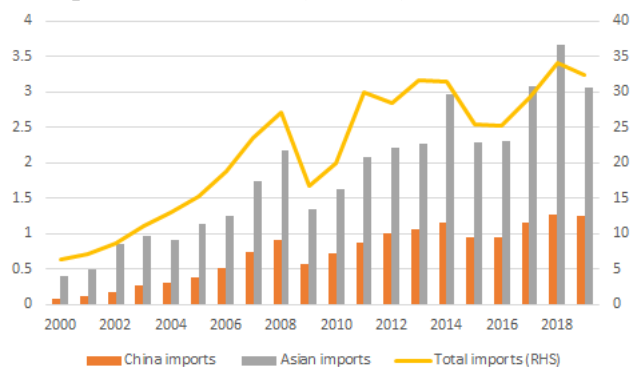
Source: Observatory of Economic Complexity (OEC)

Imports to Latvia (USD bn)



Source: Observatory of Economic Complexity (OEC)

Imports to Lithuania (USD bn)



Source: Observatory of Economic Complexity (OEC)

The development in the import pattern for the three Baltic nations and Poland is identical as well. Imports have increased after the financial crises - especially in Poland. The Chinese import has also been flat after the financial crises.

For all the countries except Poland the dominant exporter in the Asian region has been China. It was only in 2019 that China became the largest importer to Poland from the Asian region - prior to that it had been Turkey.

Marine Transportation and Manufacturing

In the Baltic Region