



Study on State asset management in the EU

Final study report for Pillar 2 – Denmark

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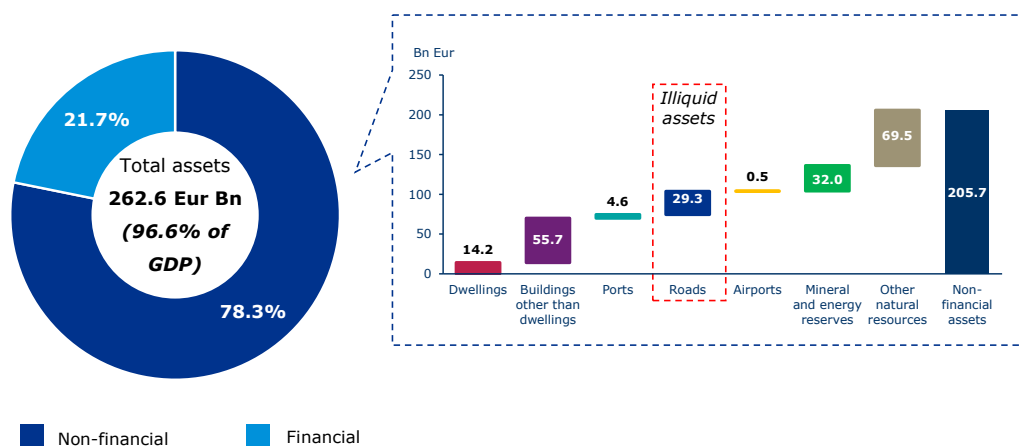
This Country fiche presents a quantitative overview of the mix of non-financial assets owned by the Danish General government.

A recap and a summary table on sources of data and valuation methods used to map and assess (as far as possible) non-financial assets owned by the Danish General government is reported in the Appendix (Table C).

1. OVERVIEW OF NON-FINANCIAL ASSETS

In 2015, the estimated value of Non-financial assets owned by the Danish General government was equal to 205.7 Eur Bn, accounting for about 78.3% of the estimated value of all assets (including Financial assets) owned by the General government¹.

Figure 1 General government's Financial and Non-financial assets (Eur Bn), Denmark, 2015



Source: KPMG elaboration. Data on Gross Domestic Product were directly retrieved from Eurostat on 19th September 2017.

- (1) Estimated values refer to 2015 as the latest available year for both financial assets and all clusters of non-financial assets.
- (2) In this chart, the "estimated value" of financial assets is reported in terms of Total Assets of the country's PSHs as weighted by the stake(s) owned by the Public sector into the PSHs themselves².
- (3) In this chart the estimated value of Other natural resources only includes the estimated value of lands.
- (4) Values of Non-financial assets are estimated according to the valuation approaches explained in the Methodological Notes for Pillar 2.
- (5) In this chart, the value of Railways is not represented as it has already been accounted for in Pillar 1.
- (6) In Denmark, Airports are valued both in Pillar 1 and 2 as they are partly owned by PSHs (see par. 1.2 for more details).
- (7) Since roads are an illiquid asset we applied a Perpetual Inventory Method (PIM). However, this valuation method tends to slightly overestimate the value of the asset. Therefore the chart shows the lower bound figure of the range of road and railways valuation estimates only.
- (8) The value for Mineral and Energy reserves refers to the estimate computed on 2015 average prices. Since the prices of Oil and Natural Gas can present many fluctuations over the year, the average of all price points was used as an accurate representation of the annual value of this assets, in order to better account for possible outliers.

¹ As explained in the Methodological Notes for Pillar 2, Non-financial assets that are owned by PSHs are evaluated through the equity method. Therefore their value is not represented in this Pillar as it has already been accounted for in Pillar 1. The allocation of Non-financial assets between Pillar 1 and 2 is listed in Table A in the Appendix to the EU Fiche.

² For more details on how Total Assets for Financial Assets are calculated, please see Pillar 1.

2. DWELLINGS

Eurostat and other sources do not provide the value of Dwellings for Denmark, although the transmission of this data is mandatory for all the EU28 Member States.

The value of residential buildings has been estimated through a market approach, as outlined in Methodological Notes. As Table 1 shows, the estimated value of Danish residential buildings is equal to 14.2 Eur Bn in 2015.

Table 1 Estimated values of General government's Dwellings (Eur Mn), Denmark, 2010-2015

Data in Eur Mn	2010 (€)	2011 (€)	2012 (€)	2013 (€)	2014 (€)	2015 (€)
General government	9,607	9,799	11,602	12,047	11,984	14,199
Share of the total economy	2.1%	2.1%	2.3%	2.3%	2.2%	2.4%

Source: KPMG calculations on EU Building Stock Observatory and Eurostat data [downloaded in July 2017]. The country-specific capital value of the asset was directly retrieved from a global specific real estate database: MSCI Real Estate Analytics Portal.

(1) The share of Dwellings in the economy refers to the estimated value of Dwellings (rather than the number of Dwellings).

3. OTHER BUILDINGS AND STRUCTURES

- *Buildings other than dwellings*

Eurostat provides good coverage of data on the value of Buildings other than dwellings owned by the Danish General government, hence data on this cluster of assets is retrieved from Eurostat only.

As shown in Table 2, the value of these assets is equal to about 56 Eur Bn in the last year worth of data (2015) – or 31.3% of all Danish buildings other than dwellings.

Table 2 General government's Buildings other than dwellings (Eur Mn), Denmark, 2010-2015

Data in Eur Mn	2010	2011	2012	2013	2014	2015
General government	51,531	53,018	54,405	55,207	56,091	55,731
Share of the total economy	29.1%	29.3%	30.1%	30.7%	31.3%	31.3%

Source: KPMG calculations on ENTRANZE and Eurostat data [downloaded in March 2017].

(1) The share of Buildings other than dwellings to the economy refers to the value of Buildings other than dwellings (rather than the number of Buildings other than dwellings).

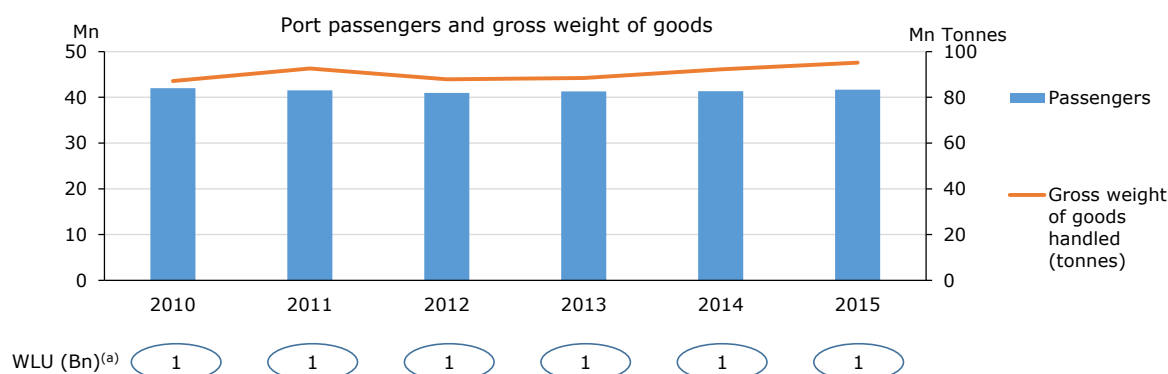
- *Ports*

According to the current Danish legislation, port infrastructures are publicly owned (through municipalities). Then, these public bodies may grant concession to manage the infrastructure to other entities. For instance, as far as the Copenhagen Port is concerned, the infrastructure is owned by the municipality of Copenhagen, while *Copenhagen Malmö Port (CMP)* is the managing operator.

Figure 2 shows the overall maritime port traffic (for both passengers and goods) in Denmark over the 2010–2015 time period³.

³ For the list of Maritime Ports included in this Study, please see Table B in the Appendix.

Figure 2 Port passengers and gross weight of goods, Denmark, 2010-2015



Source: Eurostat database, 2010-2015 [downloaded in March 2017]. Country level - passengers embarked and disembarked in all ports by direction (available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mar_mp_aa_cphd&lang=en) and Gross weight of goods handled in all ports by direction (available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=mar_go_aa&lang=en).

(1) With regard to passengers, all passengers embarked from and disembarked to all maritime ports within the country have been considered.

(2) With regard to the gross weight of goods handled, the Gross weight of goods handled in all maritime ports within the country have been considered.

(a) A Workload Unit (WLU) is defined as one passenger or 100 kg of cargo.

On the basis of the market value (per workload unit) for ports, retrieved from recent transactions⁴, the estimated value of maritime ports in Denmark was estimated (as shown in Table 3) over the period 2010-2015. In 2015, this was equal to about 4.6 Eur Bn.

Table 3 Estimated value for Maritime Ports (Eur Mn), Denmark, 2010-2015

Data in Mn Eur	2010	2011	2012	2013	2014	2015
Ports	4,202	4,455	4,232	4,260	4,437	4,570

Source: KPMG calculations based on Eurostat and the Mergermarket database, 2010-2015 [downloaded in March 2017].

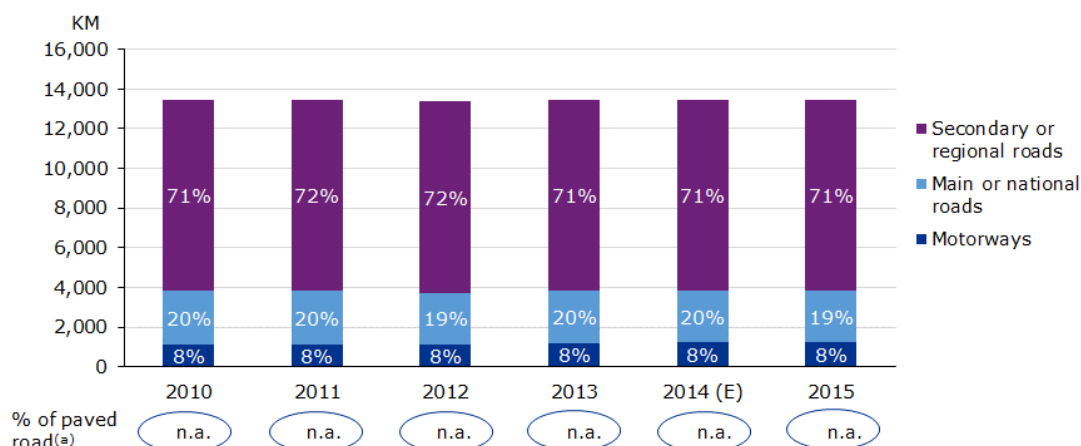
- Roads

According to current legislation, the Danish Road Network consists of Main or national roads, which are owned by the Central Government, and local roads, which are owned primarily by local municipalities.

However, as already mentioned throughout the Study, for the sake of cross-country comparability and data accuracy, Motorways, Main or national roads, and Secondary or regional roads only are taken into account.

⁴ For the list of the so-called "comparable" transactions included in our "peer group", please see the list of Table 8 in the Annex.

Figure 3 Length (in km) of Motorways, Main or national roads and Secondary or regional roads, Denmark, 2010-2015



Source: Directorate-General for Mobility and Transport (DG MOVE) database, 2010-2015 [downloaded in September 2017]. Values for percentage of paved road were calculated using Eurostat data on length of other roads by type of surface.

- (1) DG MOVE's data does not report the length of Main or national roads for year 2014. Therefore, the values for the year 2014 have been estimated as average between 2013 and 2015 values.
- (2) DG MOVE's data not report the values of Secondary or regional roads from 2006 on. Therefore, the values for the following years have been estimated on the growth on the other road network according to Eurostat.
- (3) For the sake of accuracy and comparability among the EU28 Member States, the valuation includes Motorways, Main or national roads and Secondary or regional roads only.
- (4) According to DG MOVE's data, the extension of the Danish road network is equal to 74,496 Km (including the length of Motorways, Main or national roads, Secondary or regional roads and Other roads) in 2015.
- (5) Eurostat does not report the length of paved road network for years taken into account.
- (a) The percentage of paved road has been calculated based on the total extension of the road network (including other roads). It represents the length of paved road network over the total length of road network.

Table 4 reports the results of the valuation exercise carried out according to the valuation procedure described in the Methodological Notes for Pillar 2. In this respect, please be reminded that, to ensure accuracy and comparability, the valuation includes Motorways, Main or national roads, and Secondary or regional roads only.

In Denmark, overall, in 2015, the estimated value of roads ranged between 29 Eur Bn to 31 Eur Bn.

Table 4 Estimated road value for Motorways ,Main or national roads and Secondary or regional roads only (Eur Mn), Denmark, 2010-2015

Data in Eur Mn		2010	2011	2012	2013	2014	2015
Motorways	Min	6,393	6,961	7,645	8,059	8,485	8,882
	Max	7,310	7,887	8,577	8,981	9,396	9,780
Main or national roads	Min	2,428	2,573	2,739	2,827	2,916	2,995
	Max	2,868	3,017	3,187	3,270	3,353	3,426
Secondary or regional roads	Min	15,439	16,027	16,692	16,933	17,177	17,378
	Max	16,118	16,713	17,384	17,617	17,853	18,044
Total	Min	24,260	25,561	27,076	27,819	28,578	29,256
	Max	26,296	27,617	29,148	29,867	30,602	31,250

Source: KPMG calculations on Directorate-General for Mobility and Transport (DG MOVE) and Eurostat data [downloaded in July 2017].

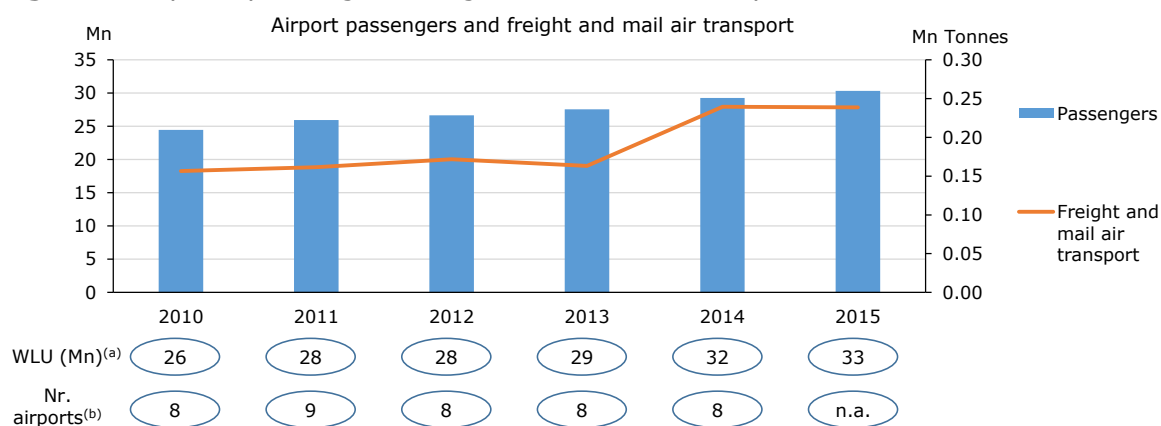
- Airports

According to the *Air Navigation Law*, Danish aerodromes and other facilities are supervised by the *Minister of Transport*, which lays down regulations on operations and maintenance of such facilities.

In compliance to Art. 52 of the above-mentioned law, municipalities own and operate aerodromes. The municipality may, alone or with others, undertake the management of airport facilities in the form of a company. This is the case of the *Copenhagen Airports A/S (CPH)*, a PSH in which the Danish state owns shares for 39.2% of the company; CPH also owns and operates the airports of *Roskilde* and *Kastrup* in Copenhagen⁵.

As shown in Figure 4 below, airport traffic in Denmark has been increasing over the 2010–2015 time period⁶.

Figure 4 Airports passengers, freight and mail air transport, Denmark, 2010-2015



Source: Eurostat database, 2010-2015, [downloaded in March 2017]. Air passenger transport by main airports in each reporting country (available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=avia_paoa&lang=en), Freight and mail air transport by main airports in each reporting country (available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=avia_qooa&lang=en) and Number of commercial airports with more than 15,000 passenger units per year (available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=avia_if_arp&lang=en).

(1) The number of passengers refers to all on board passengers.

(2) All freight and mail air transport is included.

(3) Eurostat does not report the number of commercial airports for 2015.

(a) A Workload Unit (WLU) is defined as one passenger or 100 kg of cargo.

(b) Total number of airports (with more than 15,000 passenger units per year).

To assess the value of airports, an income approach was applied (for more details, please see the Methodological Notes for Pillar 2).

According to the estimates reported in Table 5, in 2015, the overall estimated value of Public Airports was equal to about 0.5 Eur Bn, with an increase of about 4.0% since 2010. Please note that, as already mentioned earlier on, assets owned by *Copenhagen Airports A/S* (i.e. the airports in the Municipality of Copenhagen, Roskilde and Kastrup) do not qualify as public Non-financial assets; therefore, their value is not included in this estimation.

⁵ Copenhagen Airports A/S, Annual report 2016. Available at: https://www.cph.dk/globalassets/5.-om-cph/6.-investor/cph-annual-report-2016-uk_28mb.pdf [Accessed 22th May 2017].

⁶ For the list of Airports included in this Study, please see Table A in Appendix.

Table 5 Estimated value for airports, Denmark (Eur Mn), 2010-2015

Data in Mn Eur	2010	2011	2012	2013	2014	2015
Airports	444	463	430	445	456	462

Source: KPMG calculations on Eurostat database, 2010-2015 [downloaded in May 2017].

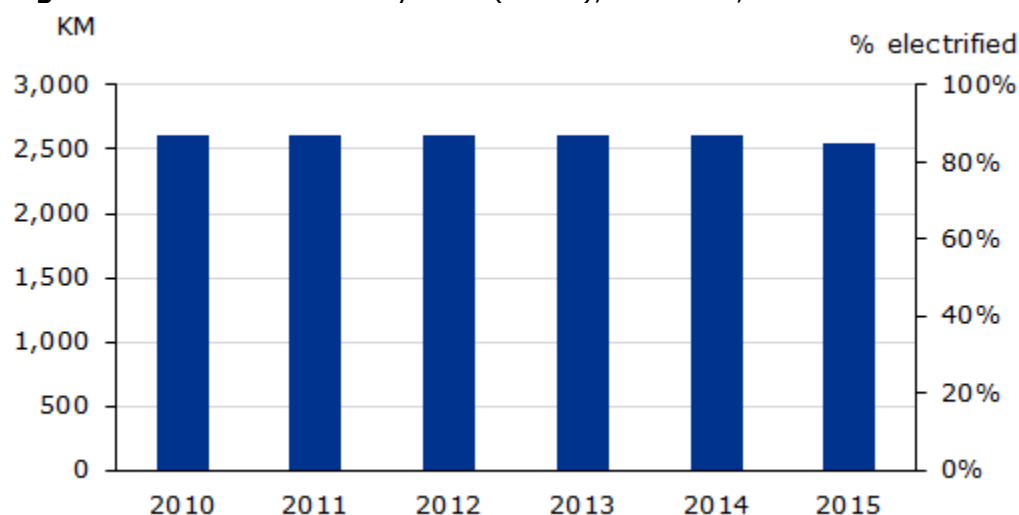
- (1) The WLUs used to calculate the value of airports do not match those represented in Figure 4 as they were calculated by adding the WLUs of all airports considered within the scope of this Pillar (see Table A in Appendix).
- (2) The WLUs used to assess the value of Danish airports do not include those related to airports owned by CPH (as it is a PSH already covered in Pillar 1 of this Study).

- Railways

In Denmark, the railway infrastructures belong to *Rail Net Denmark (Banedanmark)*, which is a PSH under the *Ministry of Transport*.

As shown in Figure 5, the extension of the railway network in Denmark was equal to about 2,600 km in 2015.

Figure 5 Extension of railway lines (in Km), Denmark, 2010-2015



Source: Directorate-General for Mobility and Transport (DG MOVE), 2010-2015 [downloaded in October 2017]. The percentages of electrified lines were calculated using Eurostat database "Railway transport - length of tracks" available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=rail_if_tracks&lang=en [downloaded in October 2017].

- (1) The percentage of electrified network represents the length of electrified railway tracks over the total length of railway tracks for year.
- (2) Eurostat does not report the value of electrified network for the years taken into account.

Since the Danish railway network is owned by a PSH, then its value is assessed using the equity method (please see the Methodological notes for Pillar 2 for more details), and results are reported in Pillar 1 of this Study.

4. NATURAL RESOURCES

- *Mineral and Energy reserves*

The Danish upstream oil sector – as well as natural gas exploration and production – is regulated by the *Danish Subsoil Act*⁷. In accordance with this Law, all hydrocarbons in the Danish subsoil are property of the state. Moreover, the state can grant a license to potential licensees for investigations, exploration and production.

Table 6 reports the capacity of the Danish proven reserves for Oil and Natural gas in 2015.

Table 6 Proven reserves of mineral and energy reserves, Denmark, 2015

Data	Oil (Barrels)	Natural gas (cubic meters)
Proven reserves	611,000,000	29,930,000,000

Source: Central Intelligence Agency (CIA). World Factbook Database, 2015 [downloaded in March 2017].

As shown in Table 7, the estimated value for Oil reserves in Danish in 2015 was equal, on average, to 29.5 Eur Bn. With regard to Natural Gas, the value was instead equal to an average of about 2.4 Eur Bn.

Table 7 Estimated value of oil and natural gas proven reserves (Eur Mn), Denmark, 2015

Data in Mn Eur	Min	Max	Average
Oil	19,899	37,345	29,536
Natural gas	1,621	3,181	2,426
Total	21,520	40,526	31,962

Source: KPMG calculations on World Factbook Database, 2015 [downloaded in March 2017].

(1) Proven reserves are valued using average prices for 2015.

(2) Range is calculated using the minimum and the maximum prices for 2015.

- *Other natural resources*

Eurostat and National Statistics do not provide figures for the cluster of “Other natural resources” in Denmark.

The value of Other natural resources has been estimated through a market approach, as outlined in Methodological Notes. As Table 8 shows, the estimated value of Other natural resources is equal to 70 Eur Bn in 2015.

Table 8 Estimated values of General government's Other natural resources (Eur Mn), Denmark, 2010-2015

Data in Eur Mn		2010 (E)	2011 (E)	2012 (E)	2013 (E)	2014 (E)	2015 (E)
Land (net)	General government	72,212	74,140	70,704	66,921	66,826	69,524
	Share of the total economy	13.0%	13.0%	13.2%	13.1%	12.7%	12.4%

Source: KPMG calculations on Eurostat data [downloaded in July 2017].

(1) The share of the economy refers to the estimated value of natural resources (rather than the volume of the natural resources).

⁷ Act No. 960 of 13th September 2011 as amended by Act No. 535 of the 29th April 2015

Appendix I Denmark

Table A List of airports, Denmark, 2015 (Number of airports: 10)

List of airports
Non-financial (Pillar 2)^(a)
AALBORG airport
AARHUS airport
BILLUND airport
BORNHOLM/RONNE airport
ESBJERG airport
KARUP airport
SONDERBORG airport
THISTED airport
Financial (Pillar 1)^(b)
KOBENHAVN/KASTRUP airport
KOBENHAVN/ROSKILDE airport

Source: Eurostat database, 2015 [downloaded in May 2017].

(1) The list above includes the airports defined by Eurostat as "main airports", which meet the following criteria: at least 150 000 passenger movements per year.

(a) Within the scope of this Pillar.

(b) Not valuated here since they are not within the scope of Pillar 2.

Table B List of ports, Denmark, 2015 (Number of ports: 110)

List of ports	
Non-financial (Pillar 2) ^(a)	
Aabenraa	Gedser
Aalborg	Grenå
Aalborg Portland (Cementfabrikken Rordal)	Gulfhavnen
Ærøskøbing	Hals
Agersø	Hanstholm
Agger Havn	Hardeshøj
Aggersund Havn	Havneby
Anholt	Havnsø
Århus	Helsingør (Elsinore)
Årø	Hirtshals
Årøsund	Hobro
Askø	Holbæk
Asnæs Inter Terminal	Horsens
Asnæsværkets Havn	Hou Havn
Assens	Hundested
Avedøreværkets Havn	Hvalpsund
Avermakø/Lyø	Kalundborg
Båggø	Kleppen
Ballebro	Københavns Havn
Bandholm (Maribo)	Køge
Bøjden	Kolby Kås Havn
Branden Havn	Kolding
Cementfabrikken Kongsdal Havn	Korsør
Christiansø Havn	Kragenæs
Dansk Salts Havn	Kyndbyværkets Havn
Egense	Marstal
Endelave	Masnedø Godningshavn (Uno-X Havn)
Ensted Inter Terminal	Næssund
Enstedværkets Havn	Næstved
Esbjerg	Nakskov
Fåborg Havn	Neksø
Fakse Ladeplads Havn	Nordby Havn, Fanø
Feggesund	Nordjyllandsværkets Havn
Fejø	Nyborg
Femø	Nykøbing Falster
Fredericia (Og Shell-Havnen)	Nykøbing Mors
Frederikshavn	Odense
Frederiksværk Havn (Frederiksværk Stålvalseværk)	Omø
Fur	Orø
Fynshav	Randers

Source: Eurostat database, 2015 [downloaded in March 2017].

(1) The list above includes those ports defined by Eurostat as "reporting ports", for which statistics of inward and outward maritime transport flows are compiled.

(a) Within the scope of this Pillar.

[Continue]

List of ports	
Non-financial (Pillar 2) ^(a)	
Rødby	Stigsnaes Inter Terminal
Rødby (Fægehavn)	Stigsnæsværkets Havn
Rønne	Struer Havn
Rørvig	Strynø
Rudkøbing	Studstrupværkets Havn
Sælvig Havn	Sundsøre
Sejerø	Svendborg
Sjællands Odde	Tårs
Skagen	Thisted
Skarø/Drejø	Thyborøn
Skive	Tunø
Søby Havn	Vejle
Spodsbjerg Havn	Venø Havn
Statoil-Havnen	Vesterø Havn, Læsø
Stigsnæs	Vordingborg Havn

Source: Eurostat database, 2015 [downloaded in March 2017].

(1) The list above includes those ports defined by Eurostat as "reporting ports", for which statistics of inward and outward maritime transport flows are compiled.

(a) Within the scope of this Pillar

Table C Overview of the valuation approaches and the sources used to value Non-Financial assets in this Study, Denmark

Clusters of Non-financial assets	Valuation approach	Sources
Dwellings	Market value	- EU Building Stock Observatory - Eurostat
Buildings other than dwellings	Market value	- Eurostat
Ports	Market value	- Eurostat - Mergermarket
Roads	Perpetual Inventory Method (PIM)	- DG MOVE - Eurostat - EIB - Other sources
Airports	- Market value - Equity method ^(a)	- Eurostat - Bureau van Dijk (BvD) Orbis ^(a)
Railways	Equity method (Pillar 1)	- Bureau van Dijk (BvD) Orbis
Mineral and Energy reserves	Market value	- World Factbook Database
Other natural resources	Market value	- Eurostat

Sources: KPMG elaborations

(1) For more details on "other sources" used to carry out road valuations, please see Table 3, Table 4, and Table 5 at the Annex.

(a) In Denmark, airports are valued both in Pillar 1 and 2 as some of them are owned by PSHs (see para 1.2 for more details).