Telecommunications Markets in the Nordic and Baltic Countries 2020

13 September 2021

TRAFICOM
Finnish Transport and Communications Agency

Norwegian Communications Authority

PUBLIC UTILITIES COMMISSION

ECOI
Electronic Communications Office of Iceland

Danish Energy Agency

PTS

Republic of Estonia
Consumer Protection and Technical Regulatory Authority

RRT

About the database

- The database was established in 2007 by the Nordic countries. The Baltic States are included since the spring of 2013.
- Consists of selected variables that are comparable between the countries.
- A dynamic database that will change as the telecom markets develop.
- The figures are collected and validated by the Nordic-Baltic working group on statistics and definitions.
- Unless otherwise stated, the sources for all figures are the national regulatory agencies and/or the national statistical agencies of each country.
- Graphs included in this publication cover the years 2015 – 2020. Previous years are available in the database only. The variables are stated as of the end of the year. Time series for each country are displayed from the year where data are available. Due to this, the length of time series may vary.
- Graphs include both private and business customers unless otherwise stated.
- The graphs are usually expressed as per capita, which means the amount of each variable (both private and business) divided by the relevant country's population.
- For more information, see the PTS statistics portal: http://statistik.pts.se/nordic-baltic-telecom-market/

Population

Population (in thousands) as of year end in the Nordic and Baltic countries. As most of the graphs in this presentation are scaled based on the population in each country, it should be noticed that the population is growing in some countries while decreasing in others. In this publication only the population figures from 2015 to 2020 are shown.

Population	2015	2016	2017	2018	2019	2020	Change 2015 - 2020
Denmark	5 707	5 749	5 781	5 806	5 823	5840	2%
Estonia	1 312	1 316	1 316	1 325	1 329	1 330	1%
Finland	5 487	5 503	5 510	5 518	5 525	5 534	1%
Iceland	333	338	348	357	364	369	11%
Latvia	1 969	1 950	1 934	1 920	1 908	1 893	-4%
Lithuania	2 889	2 849	2 810	2 794	2 794	2 795	-3%
Norway	5 214	5 257	5 296	5 328	5 368	5 391	3%
Sweden	9 851	9 995	10 120	10 230	10 328	10 379	5%

1. Mobile services

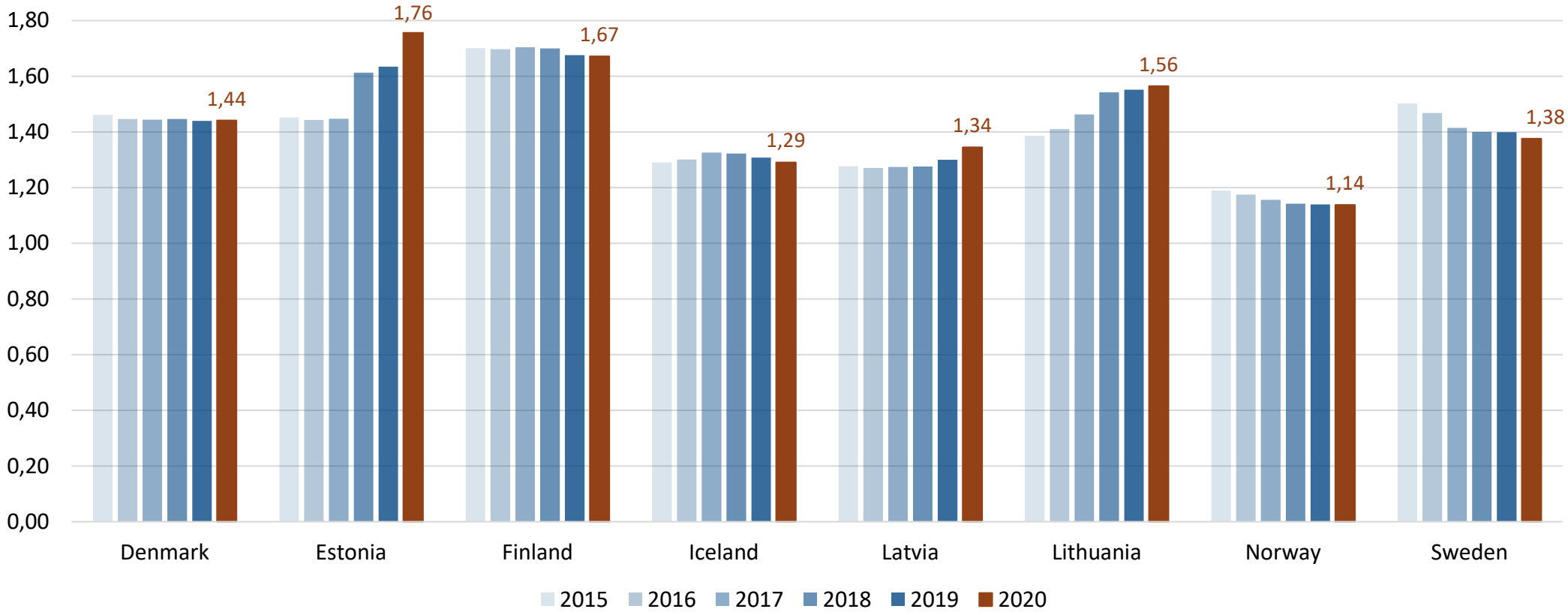
Mobile services

- Finland and Estonia were the only countries with over 1,6 mobile subscriptions per capita. In the other countries the number varied between 1,1 and 1,5 subscriptions per capita in 2020. While there are differences between the countries, it can be said that the total number of mobile subscriptions generally is stagnating.
- The number of mobile call minutes grew significantly in all countries in 2020. This criterion highly reflected an effect of covid19 on the electronic communications sector.
- Data traffic in mobile networks continued to increase in all of the countries. Finland had by far the largest data volumes, 48,2 Gbyte per capita and month, and traffic continued to grow fast. An important factor behind this development is the popularity of subscriptions without data caps in Finland. Volumes in the other countries ranged from 6,7 to 31,6 Gbyte per capita and month.
- The number of machine-to-machine (M2M) SIM cards was growing in all of the countries. M2M SIM cards per capita is highest in Norway, followed by Sweden. More than 75% of all M2M SIM cards with Swedish numbers are used outside of the country. The main reason for this is that Telenor’s global M2M operations are headquartered in Sweden.

1.1 Mobile subscriptions per capita

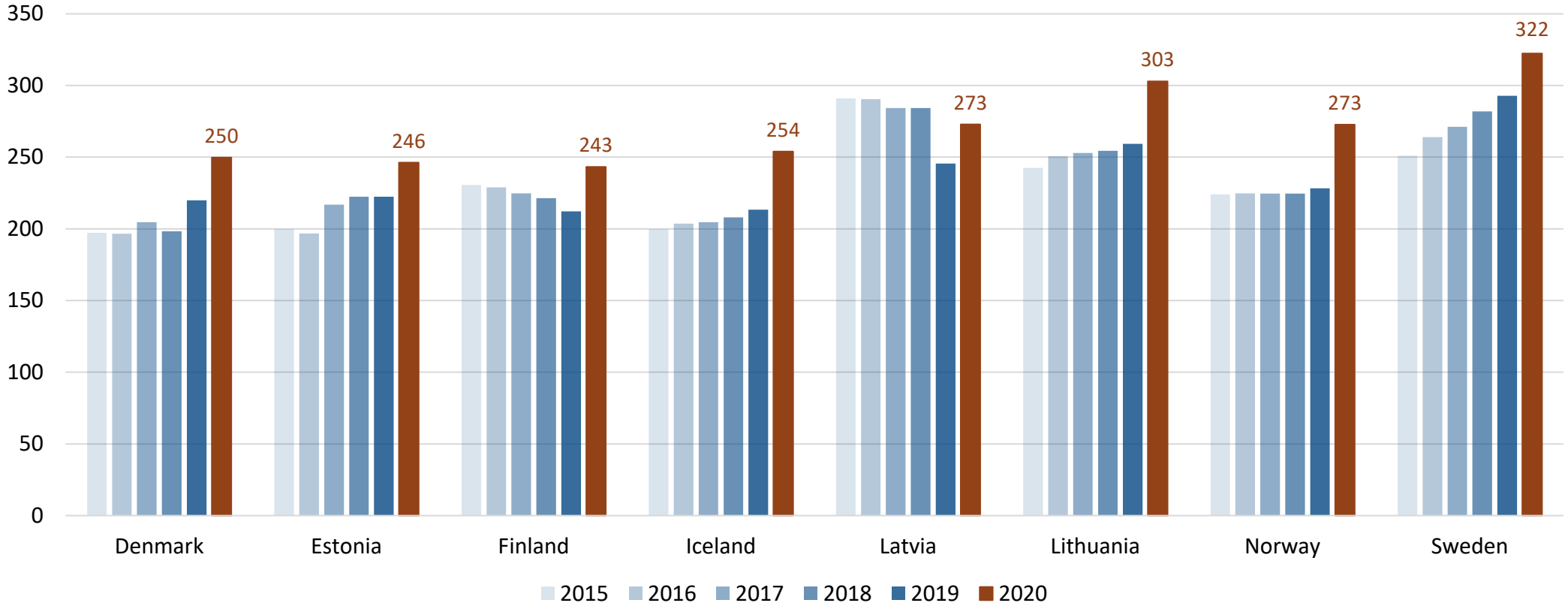
Number of mobile subscriptions (GSM/UMTS/LTE) for voice and data divided by population.

Pre-paid subscriptions are included and must have been active within the last 3 months of the period. M2M subscriptions are not included.



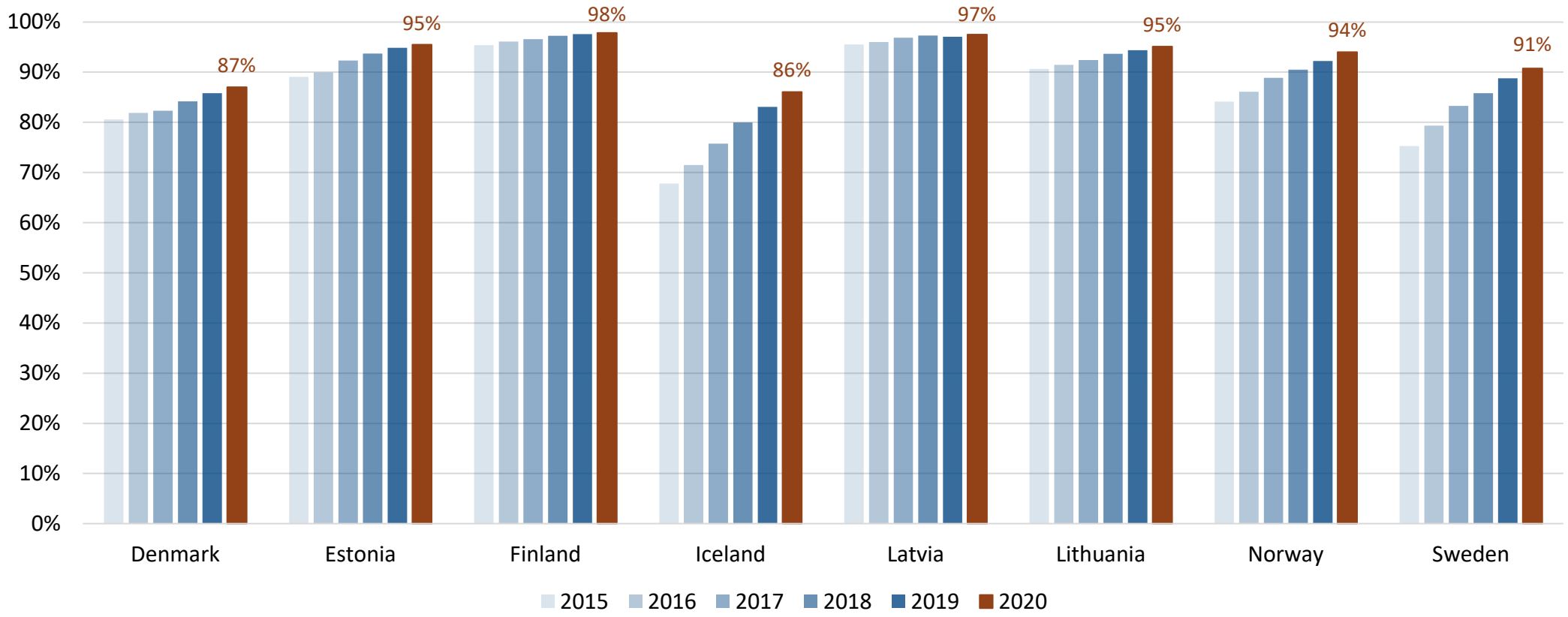
1.2 Mobile call minutes per capita in a month

Most of the mobile subscriptions today include unlimited minutes or at least a very large number of minutes. The figures exclude international roaming.



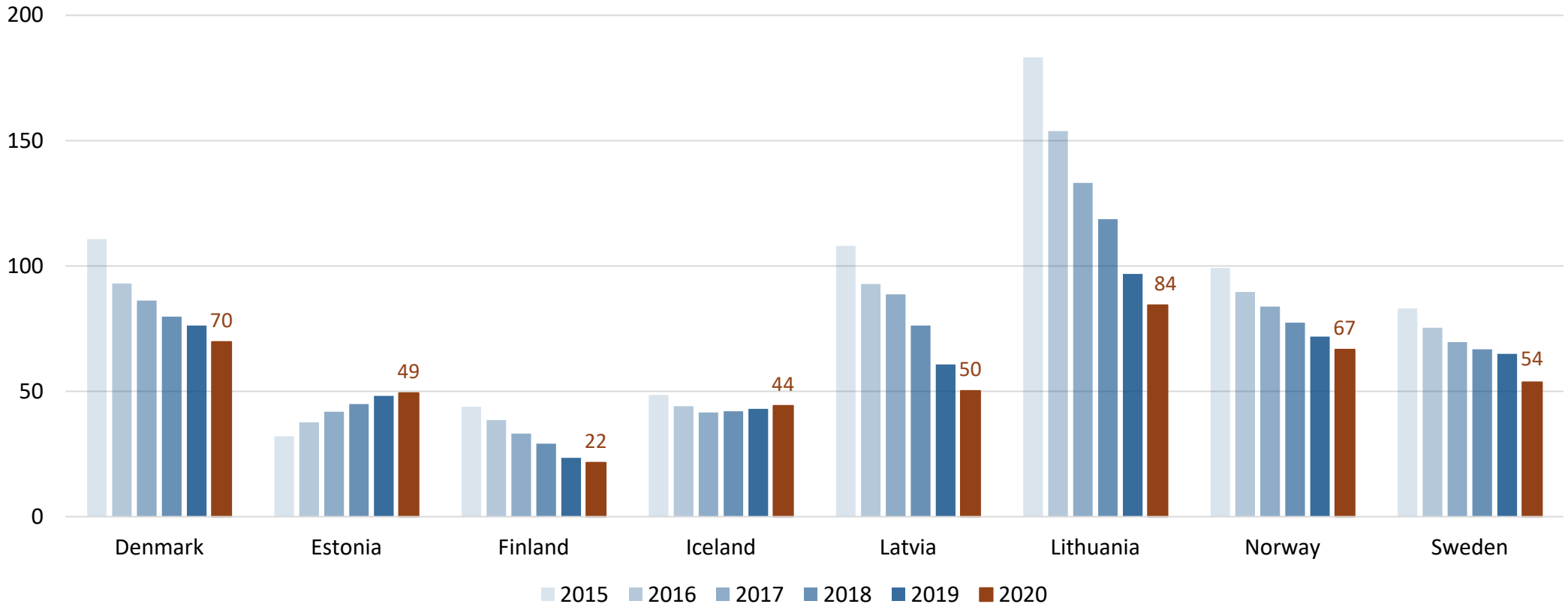
1.3 Share of mobile minutes of all originated minutes

"All originated minutes" are the sum of all fixed minutes and all mobile minutes.



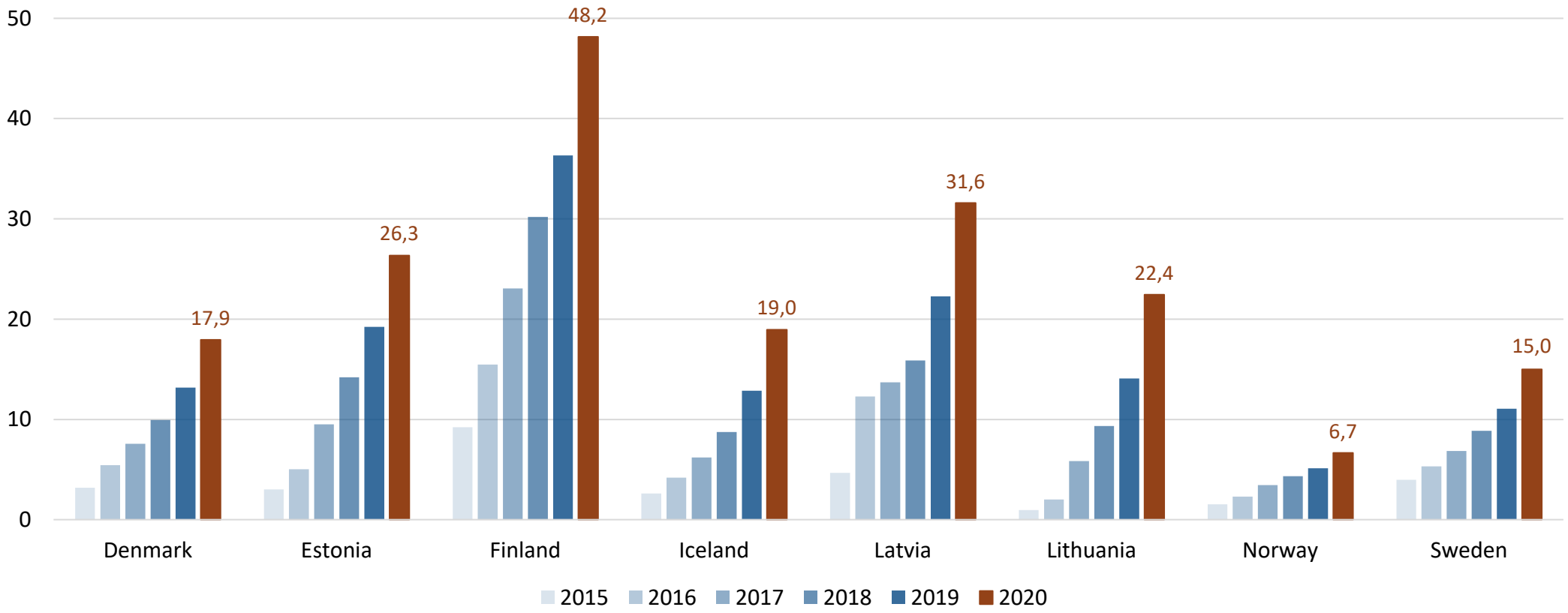
1.4 Average number of SMS messages sent per capita in a month

A2P messages is included in the numbers from Estonia, Finland, Latvia and Lithuania (until 2019).



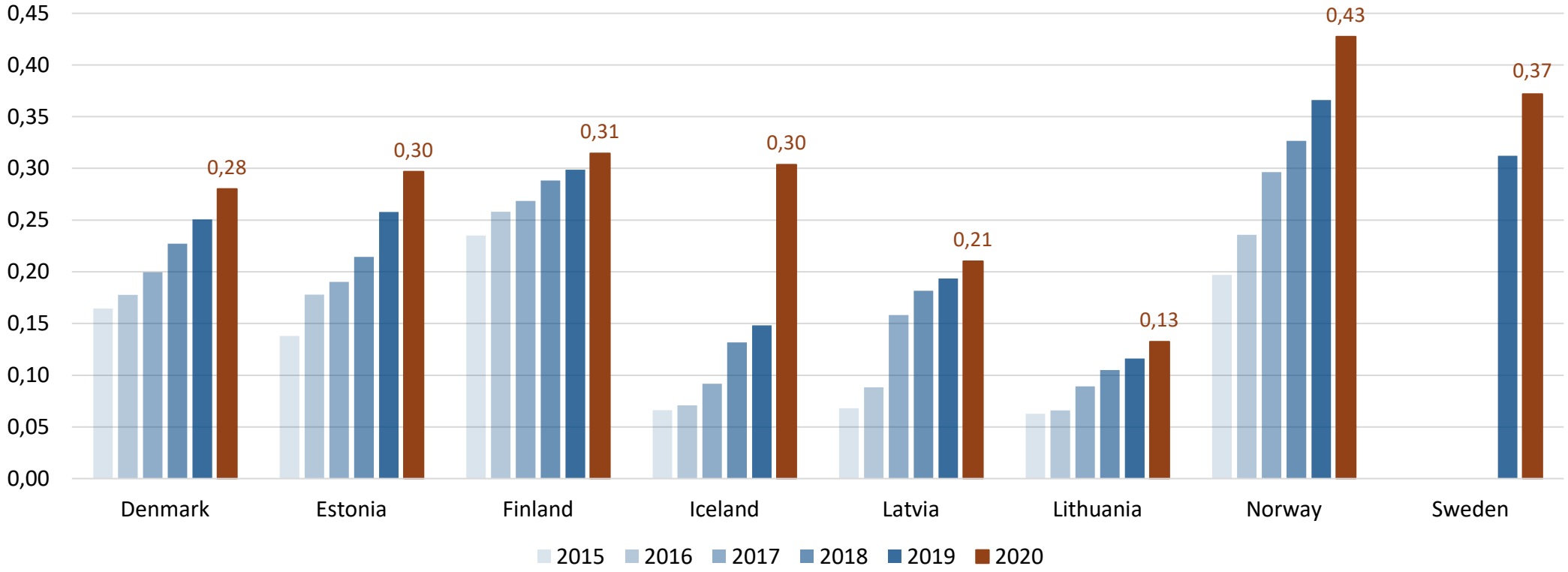
1.5 Data transferred over mobile networks per capita in a month (Gbytes)

Includes both uploaded and downloaded traffic. Data roaming abroad is not included. Calculated by the binary system (1 GB = 1024^3 B).



1.6 Machine-to-machine (M2M) SIM cards per capita

Includes SIM cards sold specifically to be used with or between machines in, for example, energy consumption meters, cars and surveillance cameras. The 2019-2020 figure for Sweden is based on the estimated number of M2M SIM cards used within the country. For 2020 the total number of M2M cards sold in Sweden was 16,9 million, corresponding to 1,63 M2M per capita



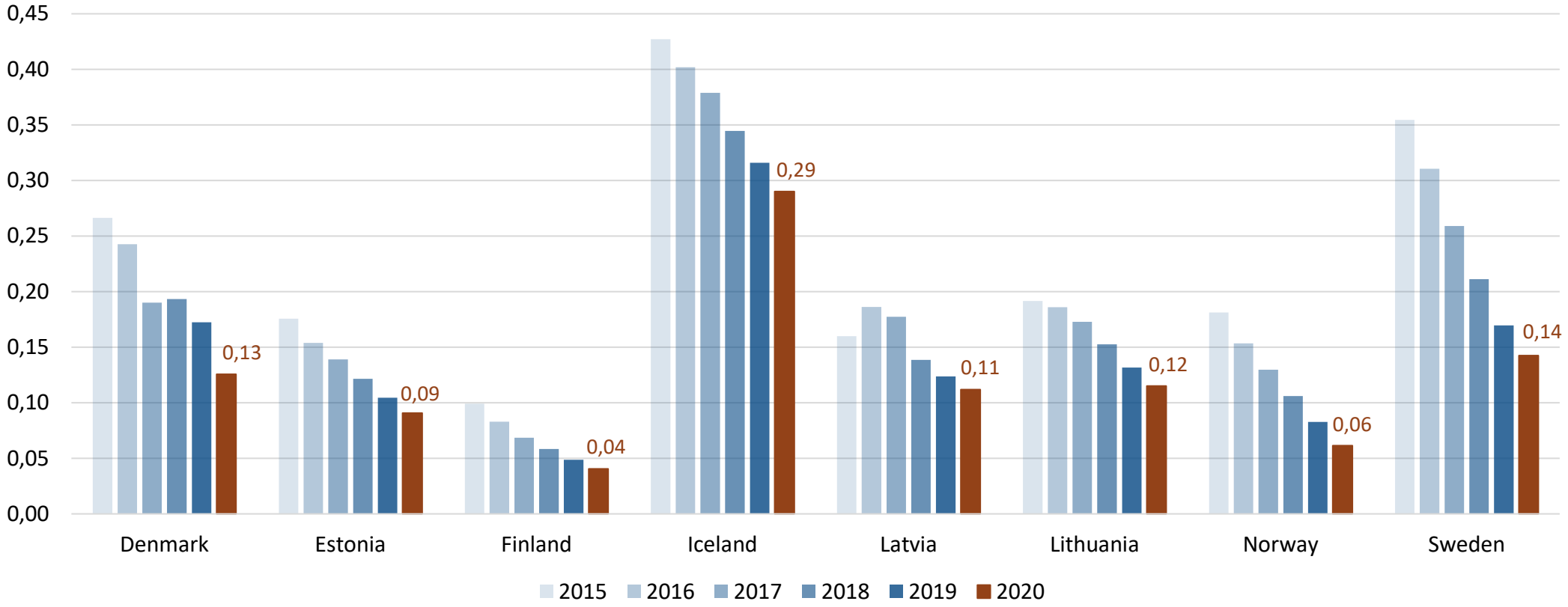
2. Fixed call services

Development of fixed call services

- Covid19 slowed the decrease of the number of fixed call minutes in all countries. The value of this indicator even increased a little bit in Denmark and Lithuania in 2020.
- The share of mobile minutes of all originated minutes varied between 86 and 98 percent in 2020, the relative amount of fixed call minutes is steadily decreasing in all countries.
- There are major differences between the countries in the number of IP telephony (managed VoIP) subscriptions per capita and the numbers are developing differently to some degree as well. The Danish figures include both managed and unmanaged VoIP.
- In Sweden and Iceland there were above 0,1 IP telephony subscriptions per capita. In Estonia, Finland, Lithuania and Norway, the number of VoIP subscriptions per capita was 0,06 or lower.
- The Latvian and Icelandic incumbents plan to gradually switch their entire fixed networks over to IP technology and eventually shut down the PSTN networks. IP telephony is often bundled with other services such as fixed broadband and TV. In those cases the IP telephony part of the bundle may be inactive.

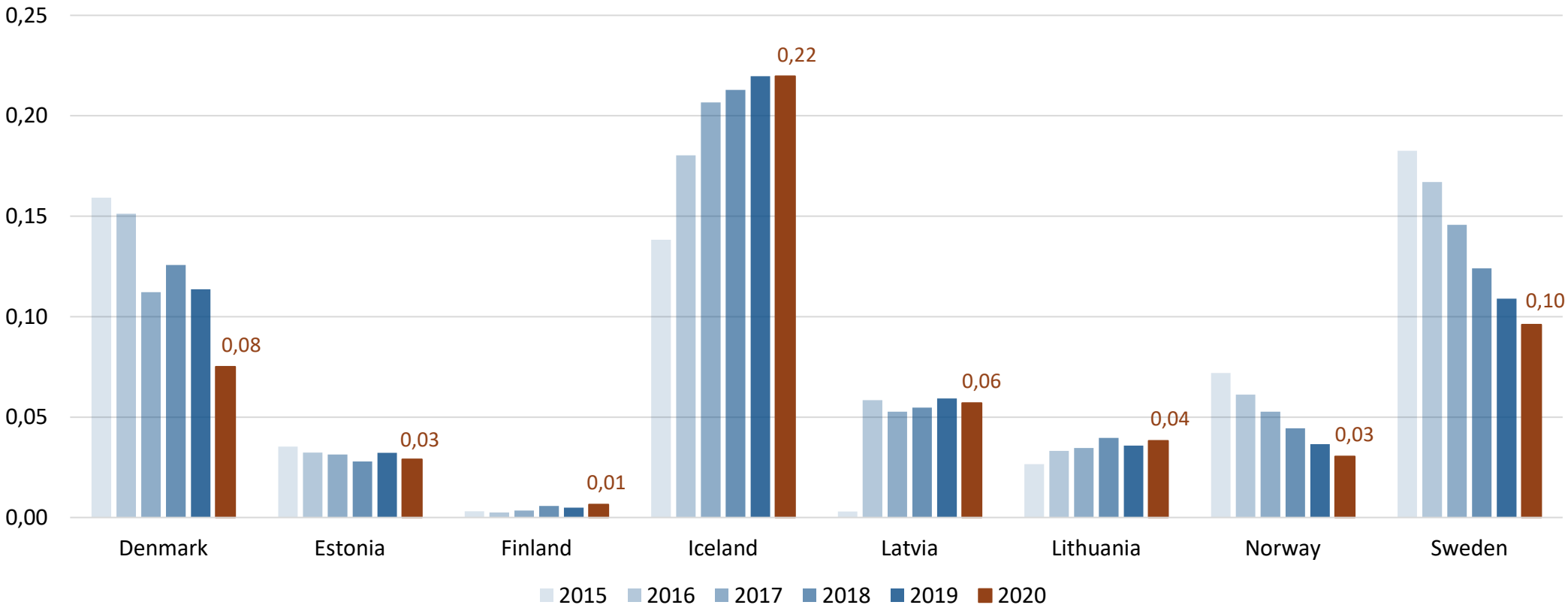
2.1 Fixed telephony subscriptions per capita

Includes PSTN, ISDN and IP telephony. The figures include both business and private subscriptions, which may differ significantly in terms of traffic generated, since a business customer may have many users of the same fixed telephony connection (e.g. ISDN).



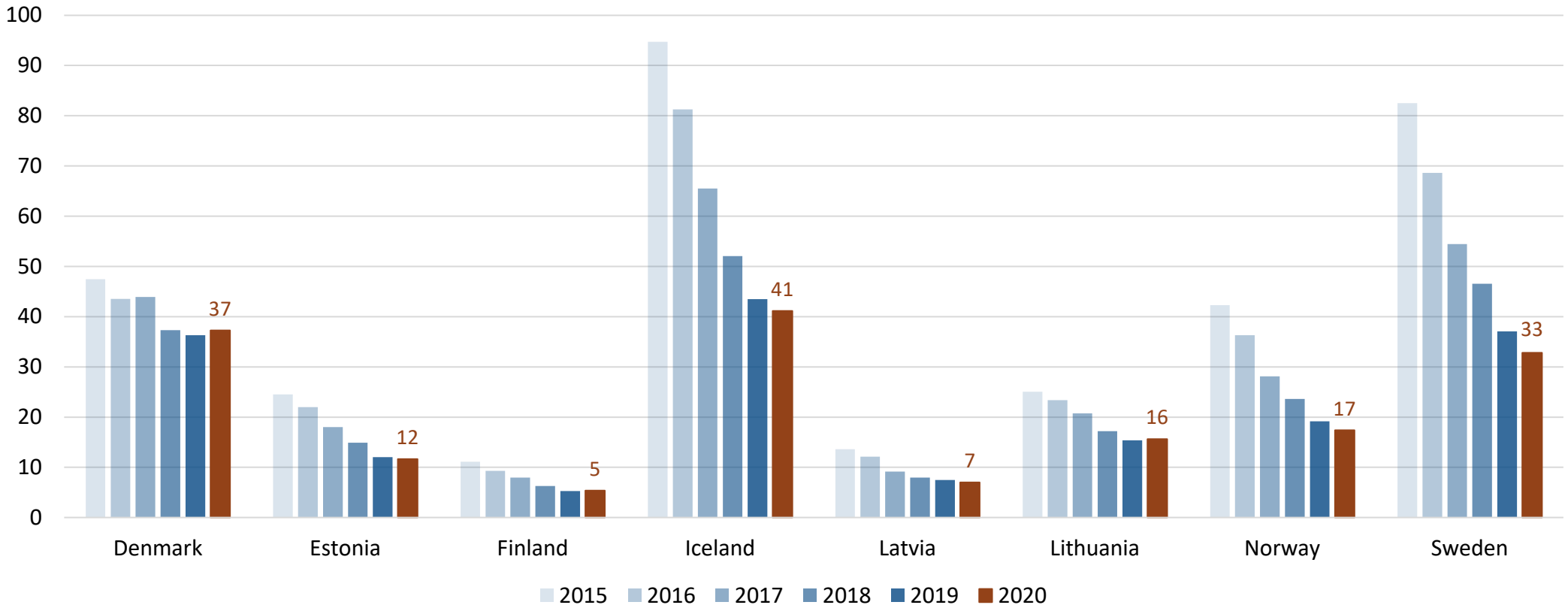
2.2 IP telephony subscriptions per capita

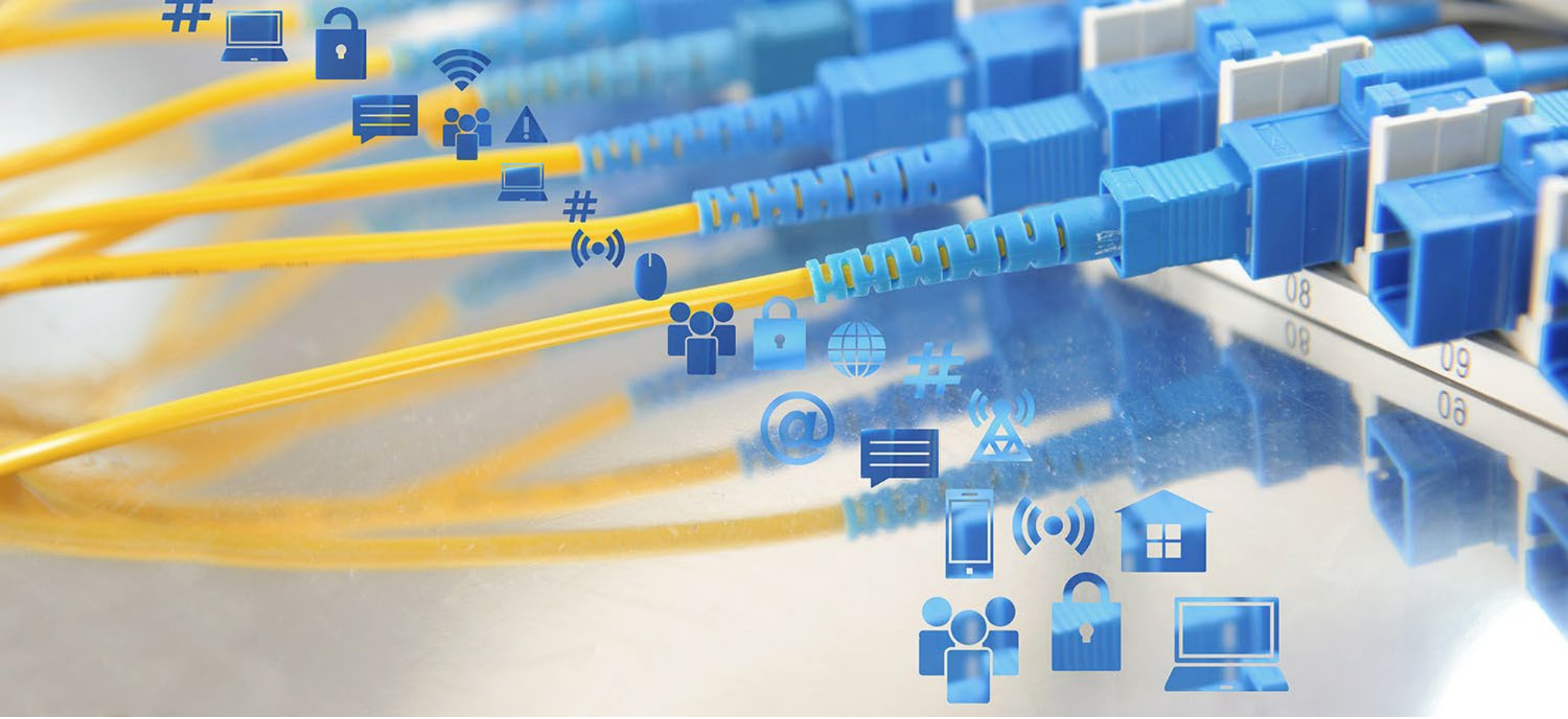
The increase in Iceland is due to the closing down of the PSTN network, which is scheduled for 2022.



2.3 Fixed call minutes per capita in a month

The Danish incumbent, TDC, had a change of definition from 2017 to 2018.





3. Broadband services

Development of broadband services

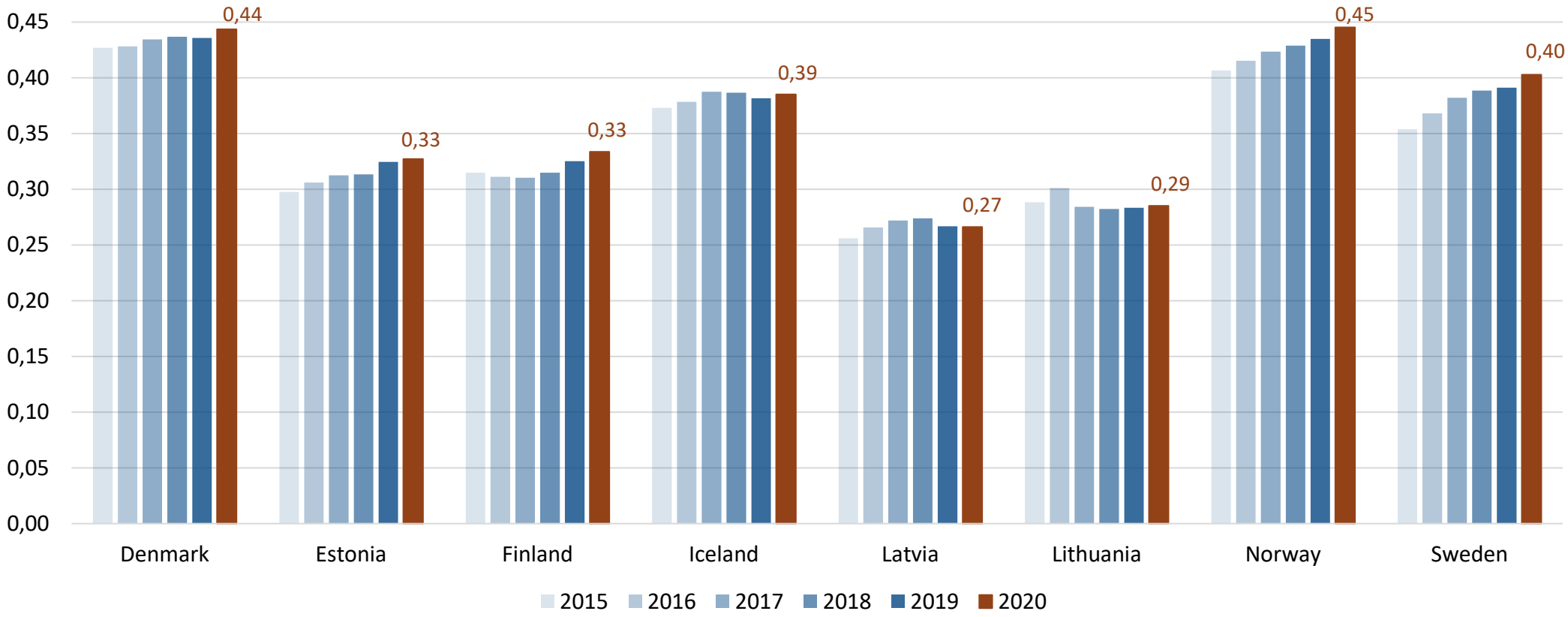
- Denmark had most fixed broadband subscriptions: 0,45 per capita in 2020. The share was over 0,27 in all of the countries.
- When comparing the penetration of dedicated mobile data subscriptions, Latvia and Finland were well above the rest of the countries with 0,39 and 0,38 subscriptions per capita. The rest of the countries were between 0,06 and 0,25.
- When adding dedicated mobile broadband subscriptions to fixed broadband subscriptions, Finland had a broadband penetration rate of 0,72 subscriptions per capita, followed by Latvia with 0,65 subscriptions per capita.
- There was only two countries with a penetration rate for mobile voice and data subscriptions above 1. A penetration of 1,17 per capita was found in Finland and Sweden had the penetration of 1,11 per capita.

Development of the fastest broadband services

- Sweden was well above the other countries in terms of broadband subscriptions with speeds of 100 Mbps or more downstream. The Swedish penetration rate for 100 Mbps or more reached 0,35 subscriptions per capita, while the second highest penetration rate (0,28) was found in Iceland. The penetration rate continued to increase in all of the countries during 2020.
- The share of fiber subscriptions of all fixed broadband subscriptions was highest in Lithuania at 77 percent followed by Sweden and Latvia, with 75 and 71 percent in 2020.
- When combining fiber and cable subscriptions per capita, Sweden and Norway had the highest penetration rate with 0,37. The combined penetration rate for cable and fiber was increasing in all countries, mostly due to growth in fiber subscriptions.
- Due to the increase in fiber subscription, there is a steady increase in broadband upload speeds.

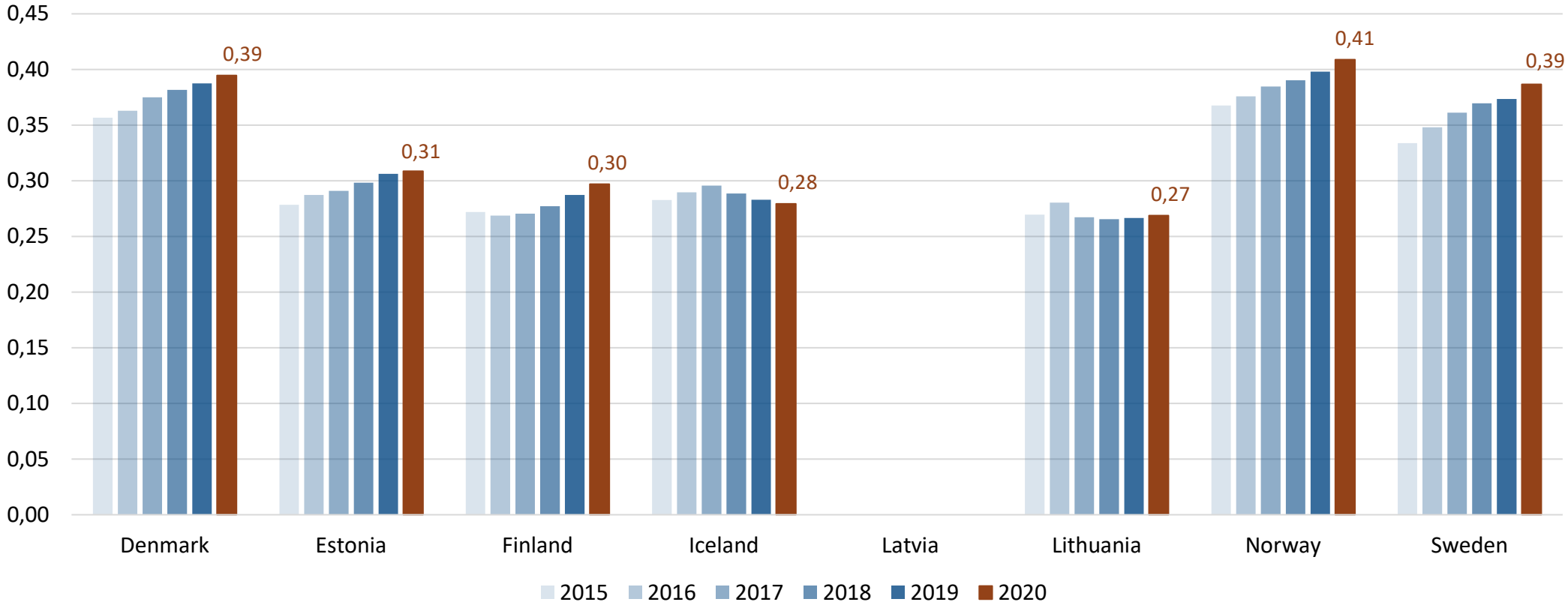
3.1a Fixed broadband subscriptions per capita

The decrease for Lithuania in 2017 is due to a switch from WiMAX (fixed) to LTE (mobile) technology by one of the broadband providers.



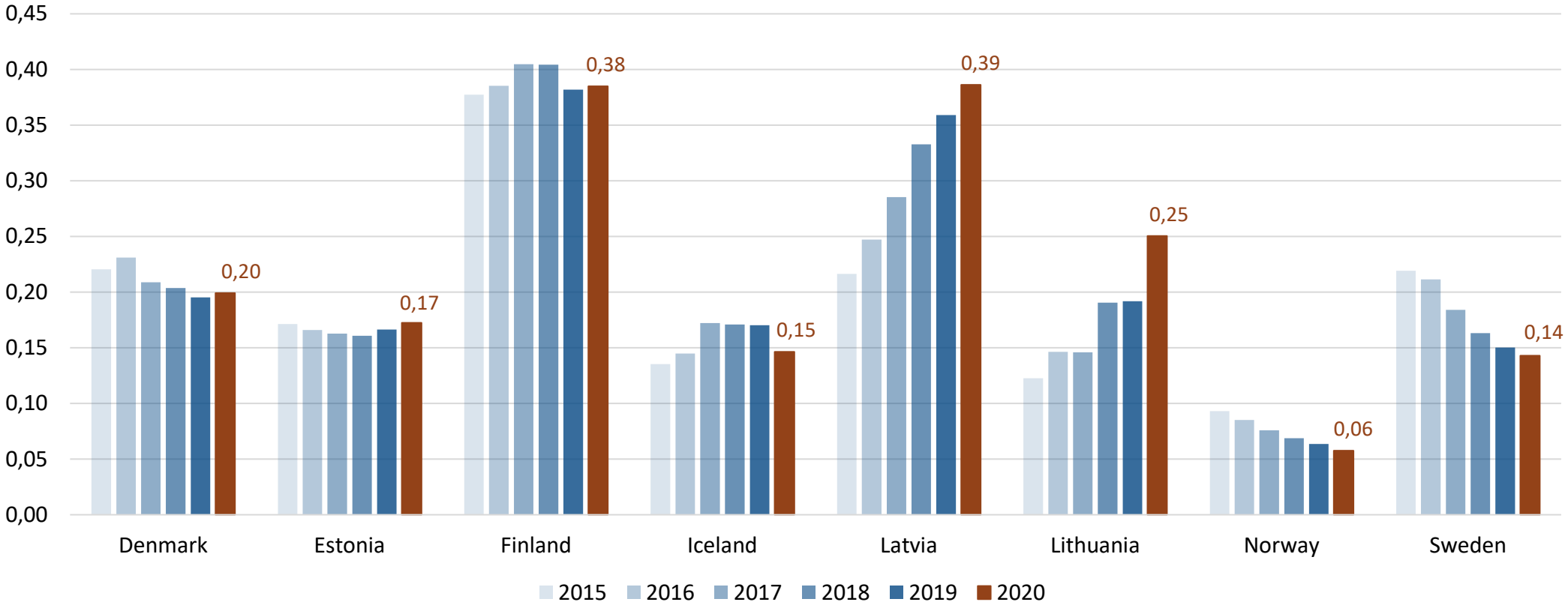
3.1b Residential fixed broadband subscriptions per capita

The decrease for Lithuania in 2017 is due to a switch from WiMAX (fixed) to LTE (mobile) technology by one of the broadband providers. Figures not available for Latvia.



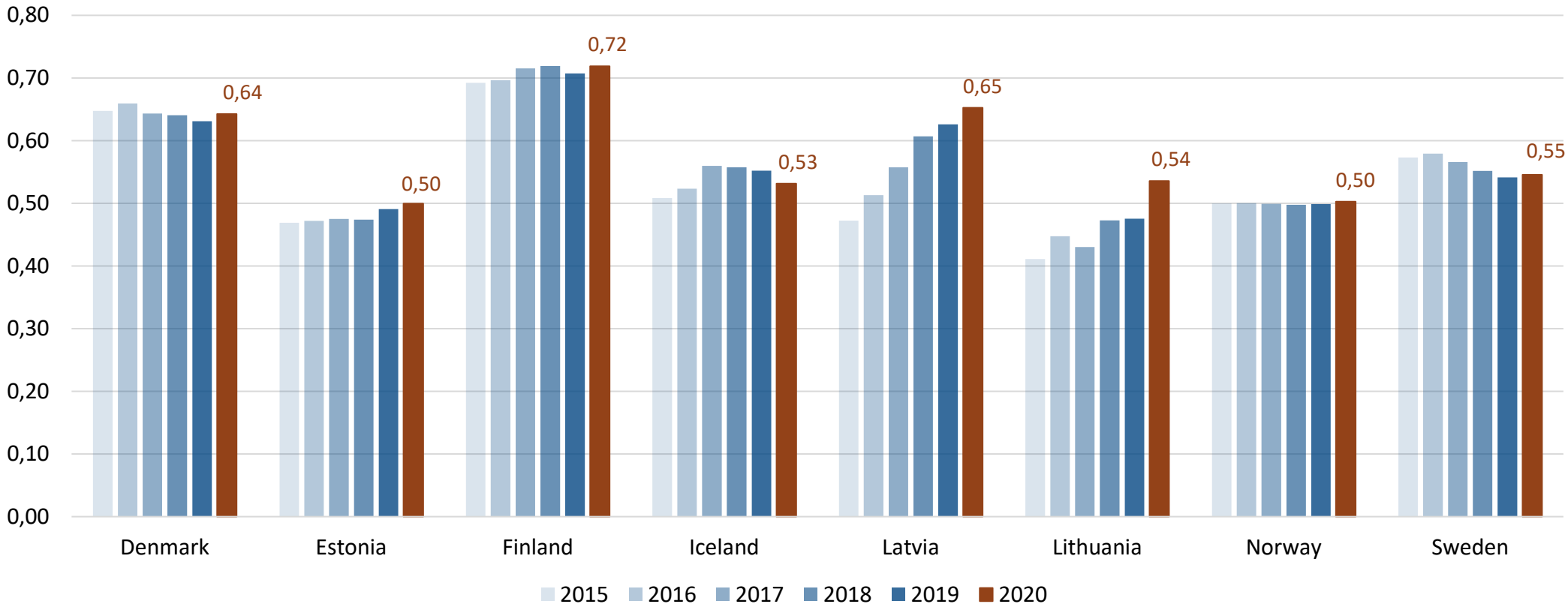
3.2 Number of dedicated mobile data subscriptions per capita

Subscriptions without voice and SMS/MMS messaging services. The broadband service is typically used via a dongle, tablet or mobile router. All countries has roaming limitation, but most countries have unlimited national quotas.



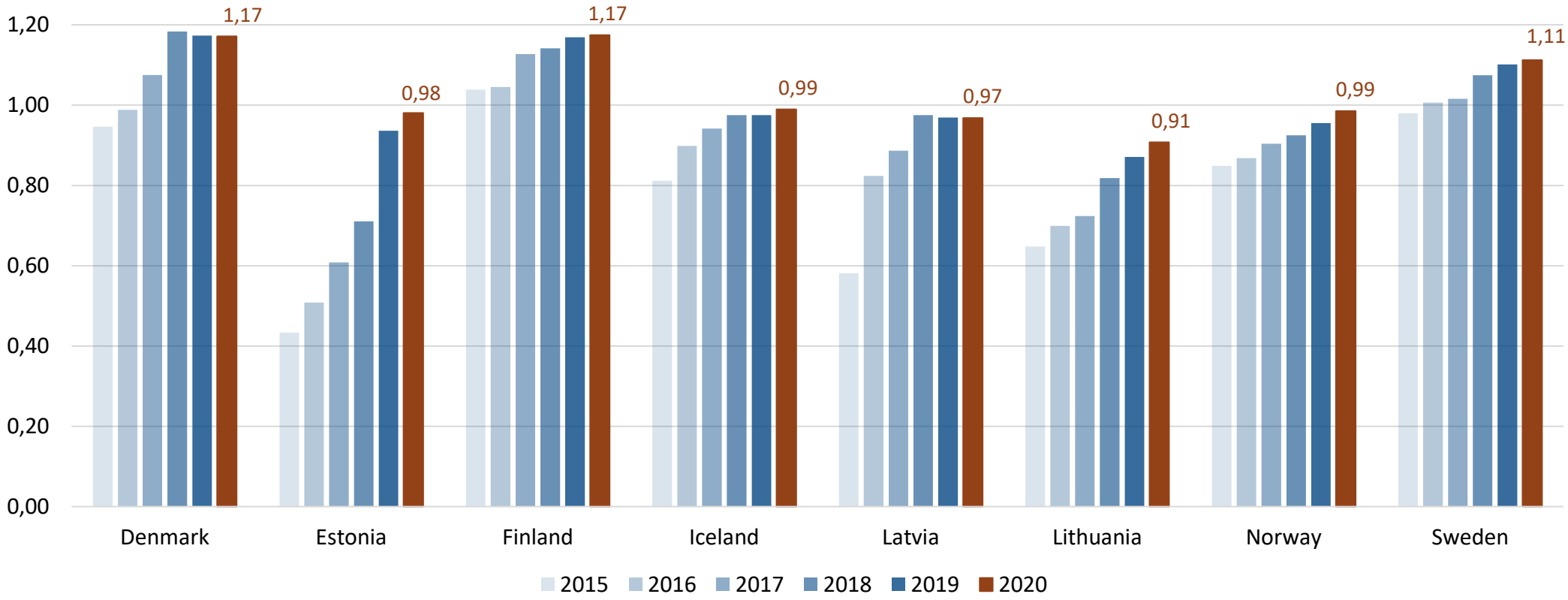
3.3 Number of fixed and mobile broadband subscriptions per capita

Includes all fixed broadband subscriptions and dedicated mobile data subscriptions. The 2017 drop for Lithuania is due to a change in definitions.

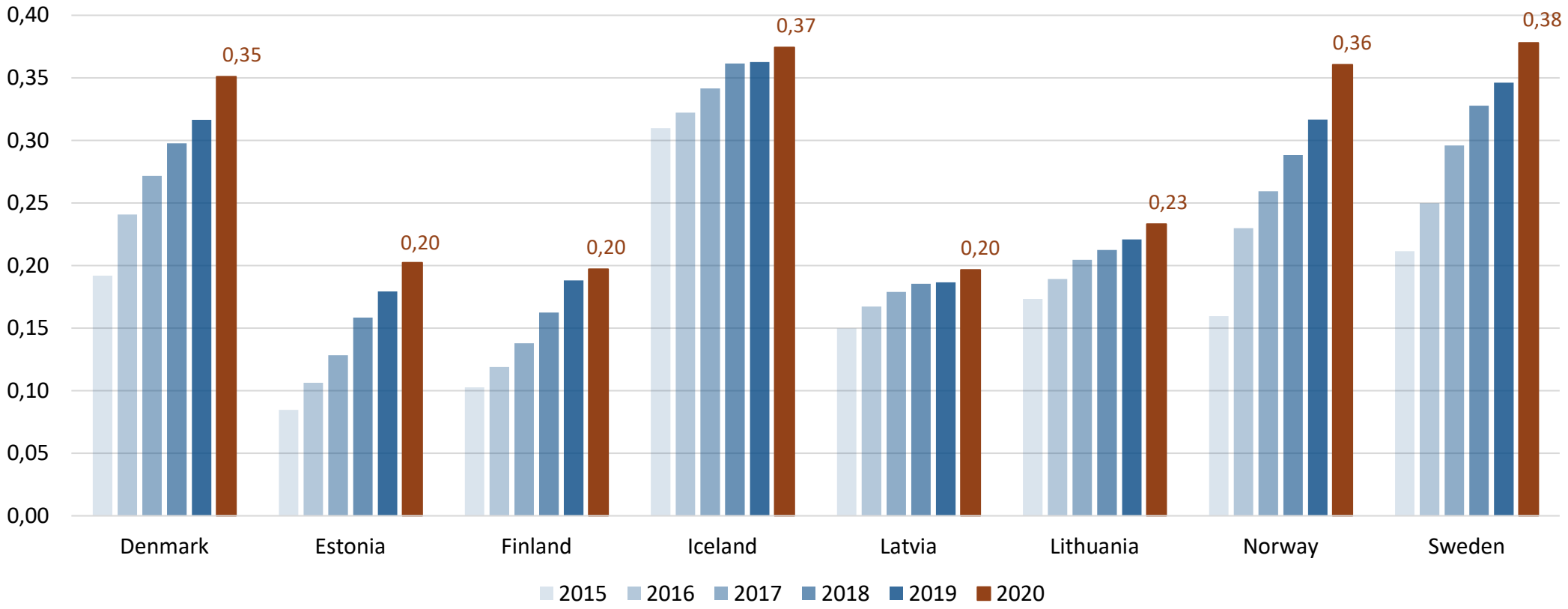


3.4 Number of mobile voice and data subscriptions per capita

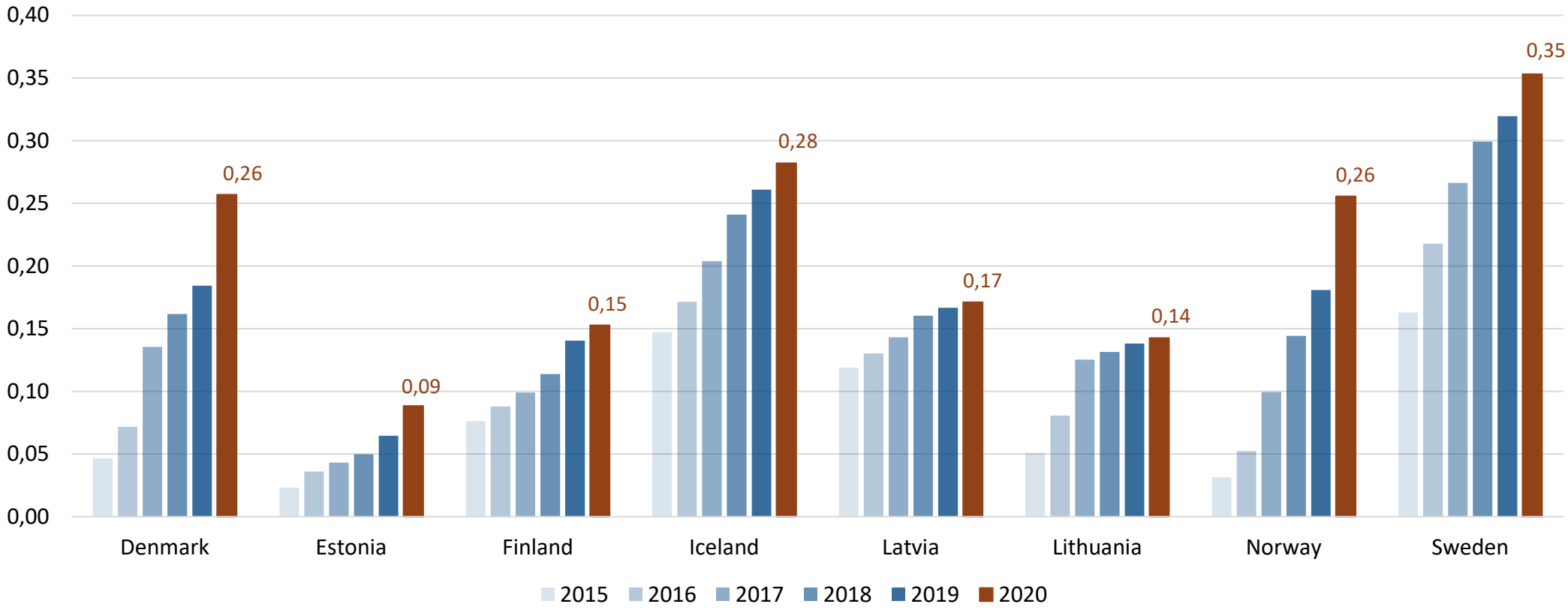
Subscriptions where both mobile data and voice are included. Excludes data add-on subscriptions and dedicated mobile data subscriptions.



3.5 Fixed broadband subscriptions with a marketed downstream capacity of 30 Mbps or more, per capita

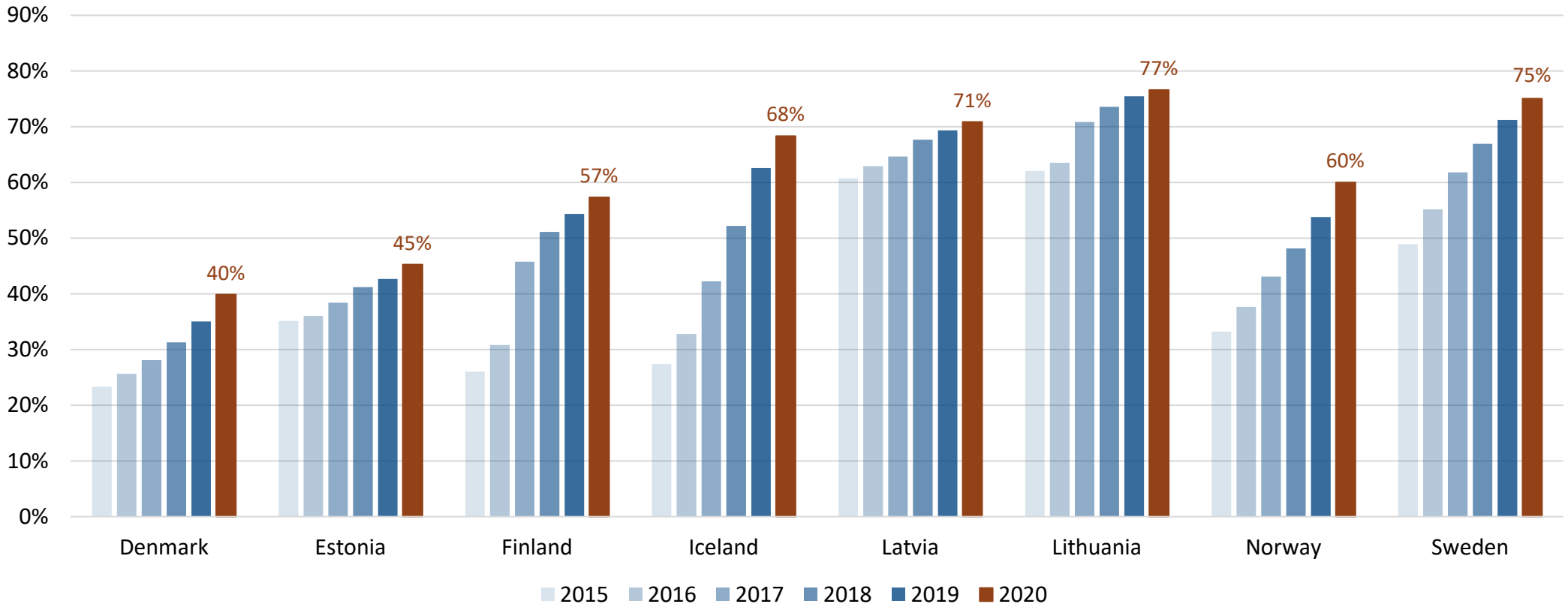


3.6 Fixed broadband subscriptions with a marketed downstream capacity of 100 Mbps or more, per capita



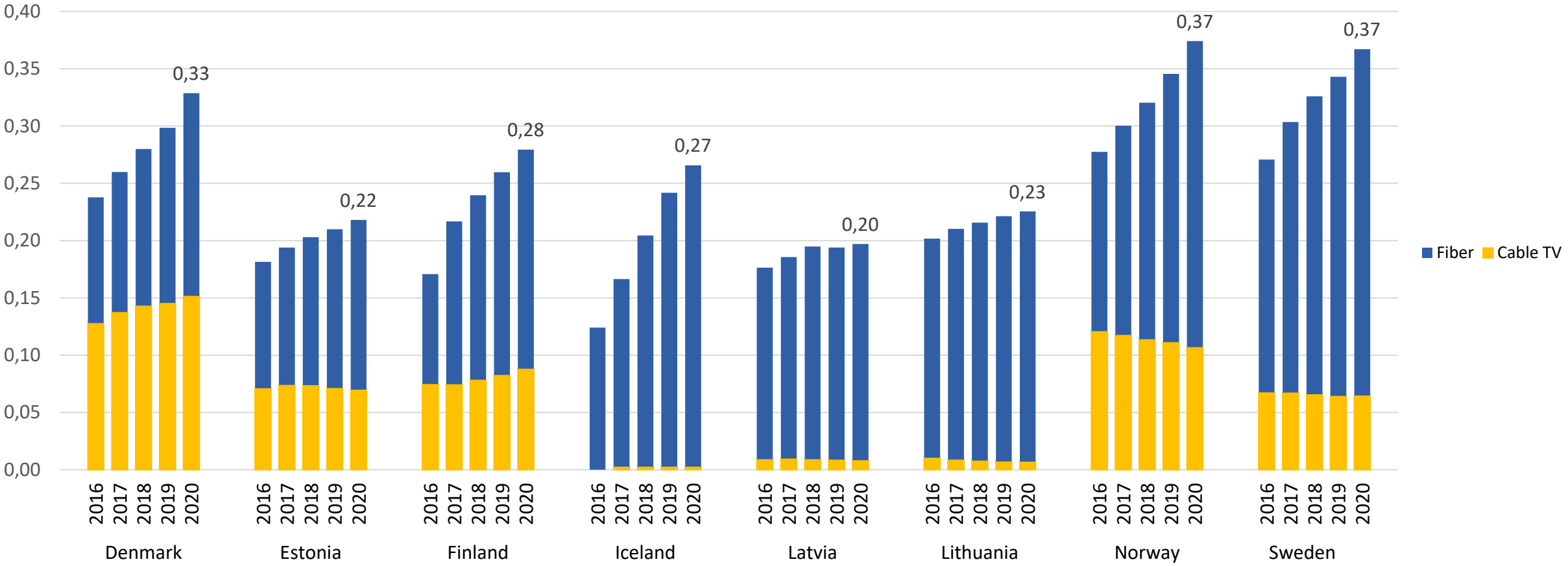
3.7 Share of fiber subscriptions of total fixed broadband subscriptions

Fiber includes both FTTH and FTTB. There was a change of definitions in Finland in 2017.



3.8 Fixed broadband subscriptions via fiber and cable networks per capita

Fiber and cable will be key to meeting the EU's broadband target that all households should have access to networks offering a download speed of at least 100 Mbps, which can be upgraded to 1 Gbps, in 2025.

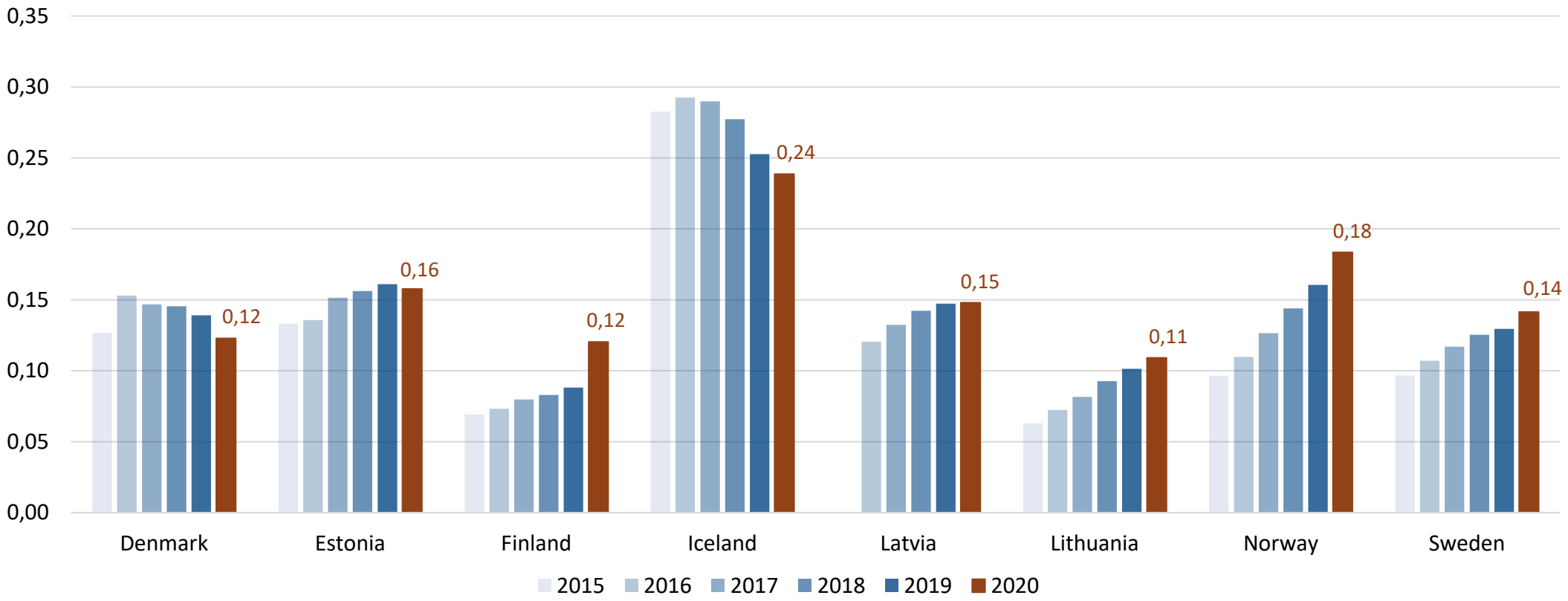


4. TV services

Development of traditional pay-TV services

- IPTV was the most popular pay-TV technology in all countries except Finland and Sweden.
- IPTV penetration was highest in Iceland, where there is no satellite TV. In 2020, there were 0,24 IPTV subscriptions per capita in Iceland. IPTV includes both DSL and fiber platforms.
- IPTV subscription per capita grew in all countries except Iceland and Estonia, in 2020.

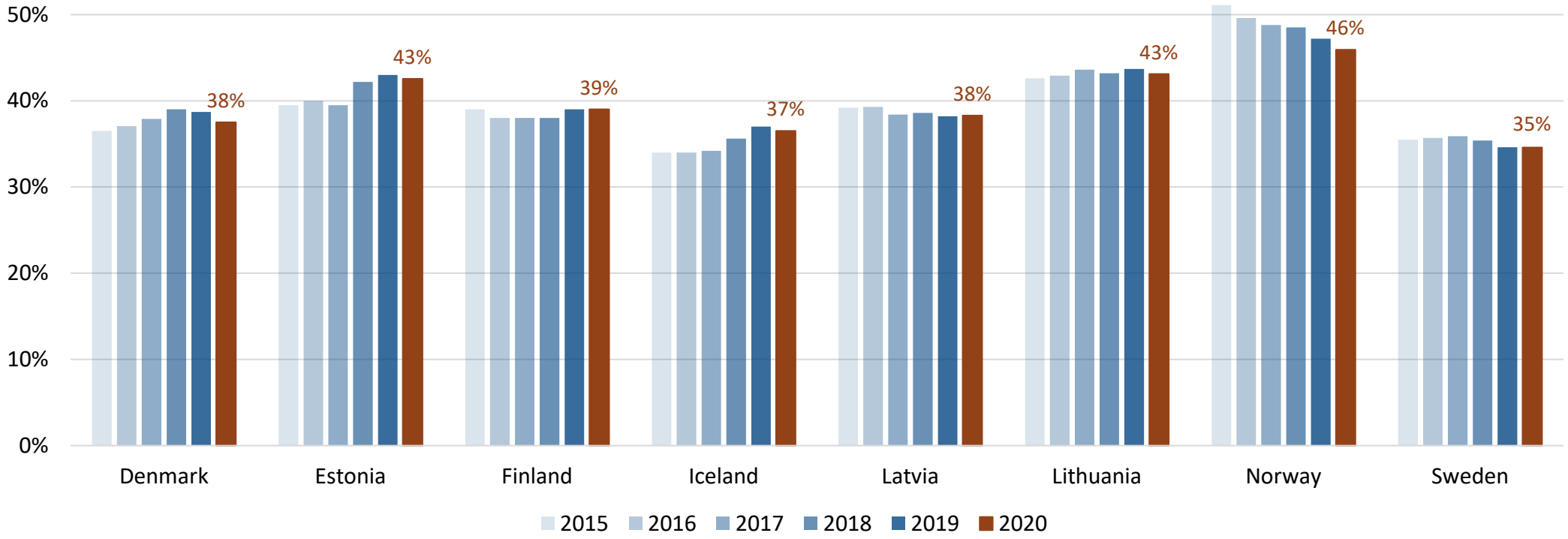
4.1 Number of IPTV subscriptions per capita



5. Market shares

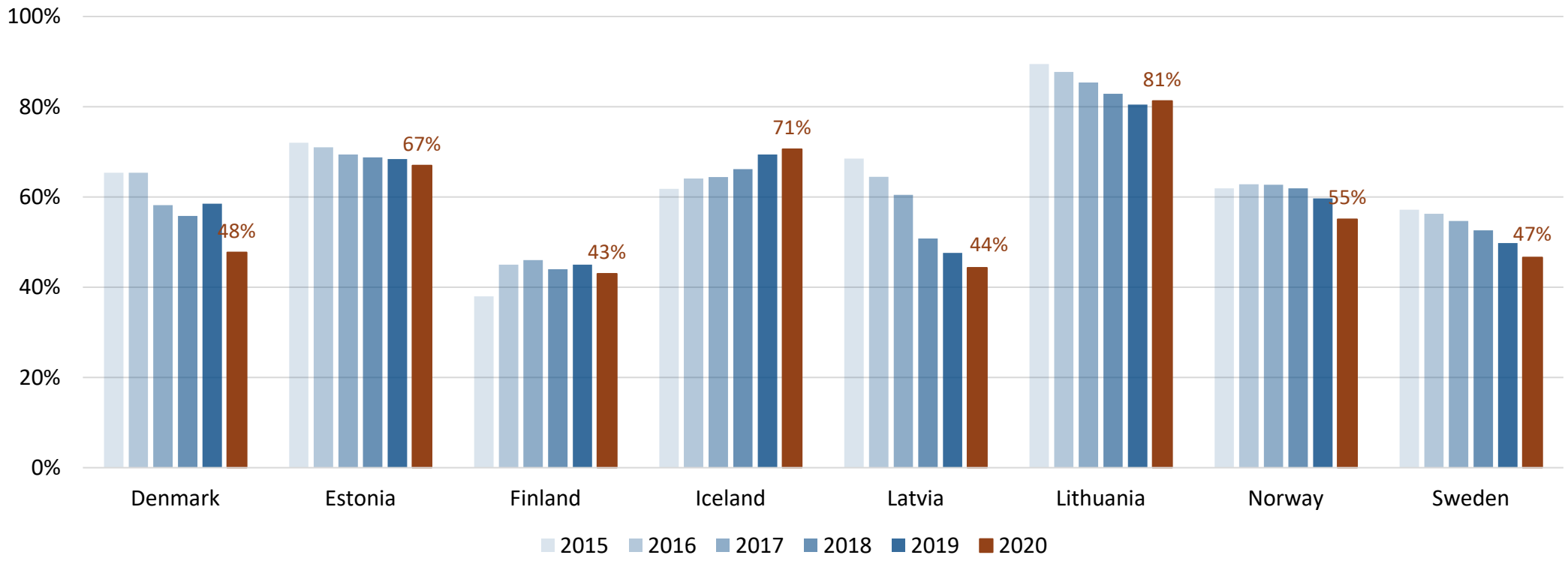
5.1 Market share of leading mobile operator

Operator with the largest market share, based on subscriptions. Market shares include subsidiaries. Mobile subscriptions includes all mobile voice and data subscriptions, including dedicated mobile data subscriptions.



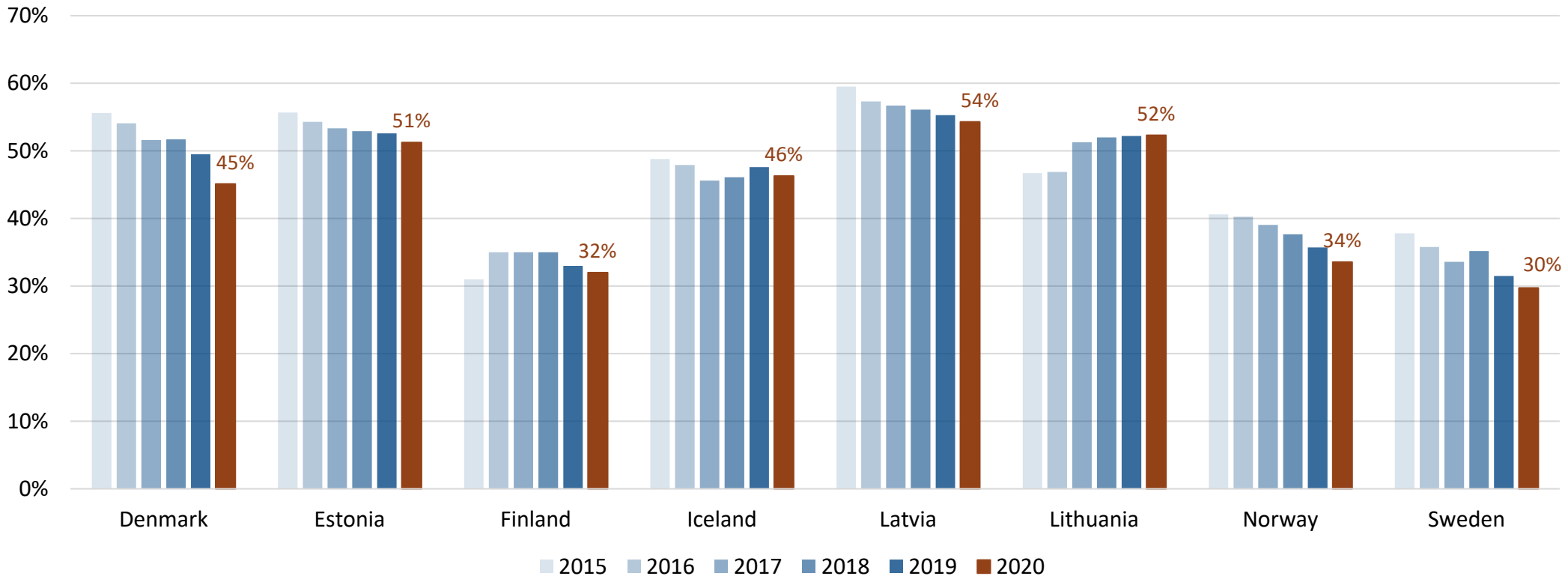
5.2 Market share of leading operator in fixed call services

Operator with the largest market share, based on subscriptions. Market shares include subsidiaries. Fixed telephony subscriptions include PSTN, ISDN and IP telephony subscriptions (managed VoIP).



5.3 Market share of leading operator in fixed broadband services

Operator with the largest market share, based on subscriptions.



6. Investments and revenues

Exchange rates

Revenues are given in Euros adjusted for purchasing power (EUR/PPP) to account for differences in price levels across the countries.

Nominal exchange rates:

- Source: European Central Bank
- Average exchange rate: 1 January - 31 December 2020

Year	EUR	Denmark	Estonia	Finland	Iceland	Latvia	Lithuania	Norway	Sweden
2020	1,00	7,45	1,00	1,00	154,59	1,00	1,00	10,72	10,48

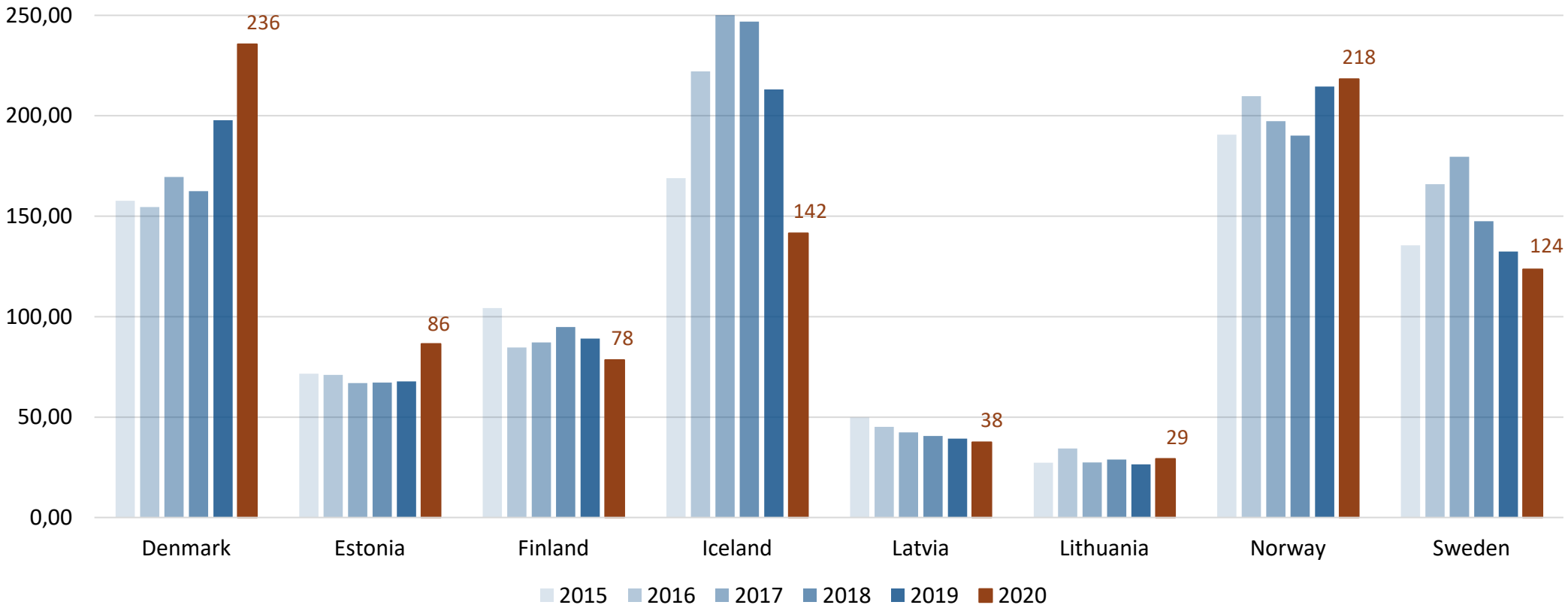
Purchasing power parity (PPP):

- Source: Eurostat, Purchasing power parities, price level indices and real expenditures for ESA 2010 aggregates
- EUR/PPP rates for each country are calculated based on price levels relative to EU27_2020=1
- Updated: 27-07-2021

TIME/GEO	European Union	Denmark	Estonia	Finland	Iceland	Latvia	Lithuania	Norway	Sweden
2020	1,00	9,88	0,80	1,26	217,55	0,72	0,68	15,01	13,12

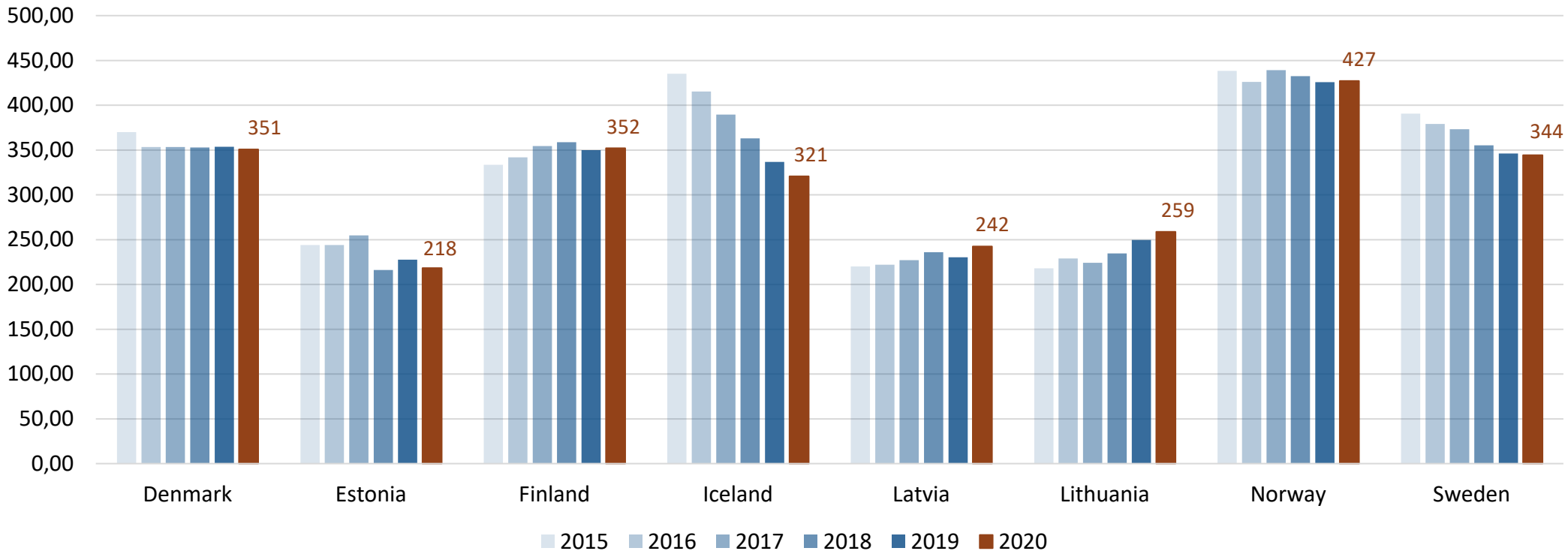
6.1 Investments per capita (EUR)

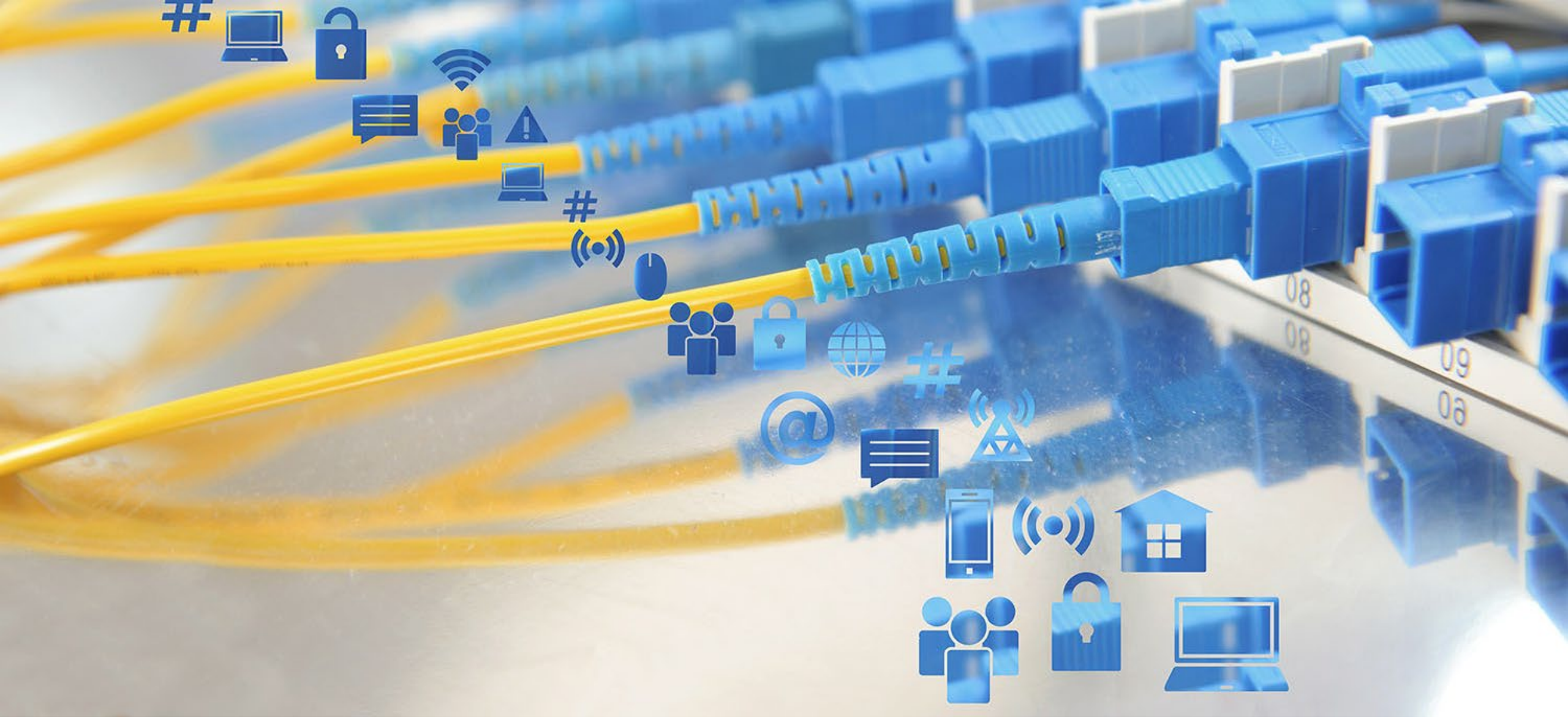
Investments in tangible fixed assets. Investments per capita in 2020 were highest in Denmark at 236 EUR per capita.



6.2 Revenues per capita (EUR/PPP)

Retail revenues from mobile call services, fixed call services and broadband services. Revenues from TV and international roaming are not included. Revenues exclude VAT. Revenues per capita in 2020 ranged between 218 and 427 EUR in the countries.





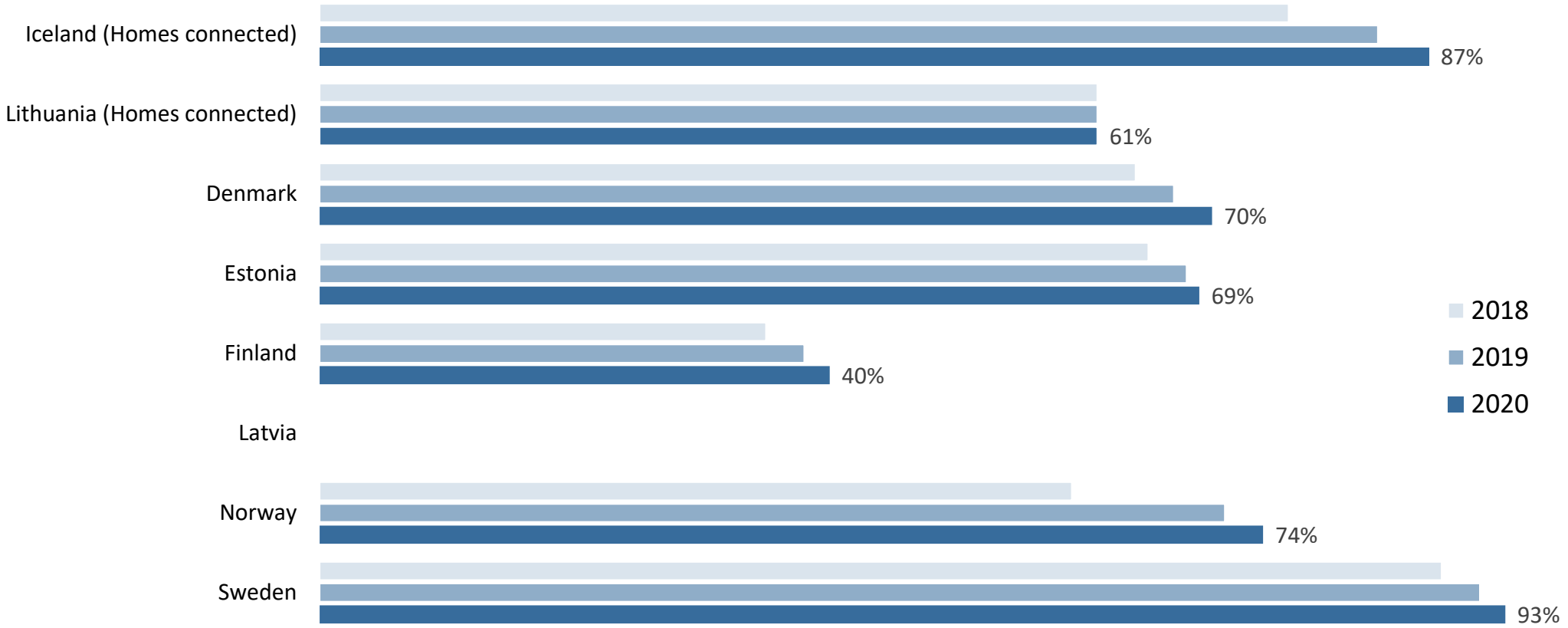
7. Broadband coverage

Definitions of broadband coverage

- In this publication, broadband coverage refers the proportion of households (permanent dwellings) who can get broadband access with certain characteristics.
- This includes households with physical broadband access (“homes connected”). It also includes households without physical broadband access that can order a broadband connection and get it installed by a broadband provider under certain, reasonable conditions (“homes passed”). Hence, the definition of broadband coverage in this publication aims to provide a measure of the total availability of broadband.
- The figures for Iceland and Lithuania refers only to the proportion of households with physical broadband access (“homes connected”). Data for Latvia are not available.
- The calculation of broadband coverage is based on data from broadband providers in each country.
- Methods and definitions vary to some extent between the countries. Numbers that are close to each other should therefore not be interpreted as significant differences in coverage.

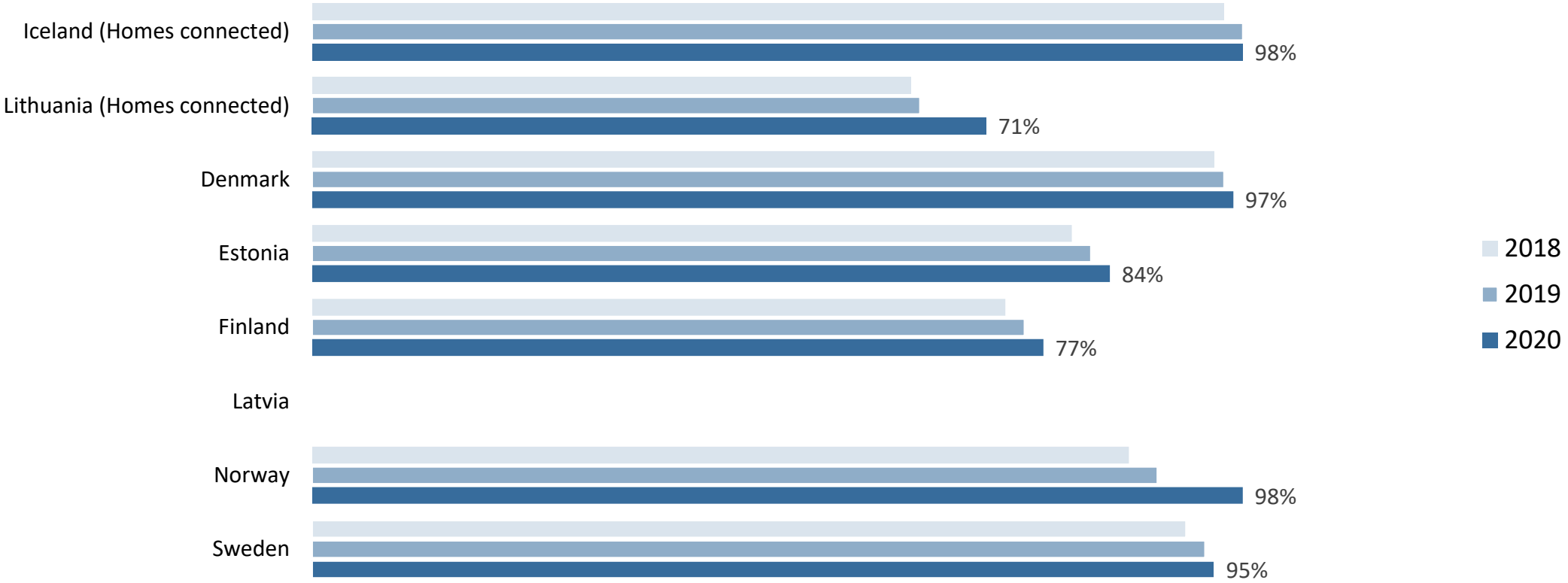
7.1 Coverage of fiber broadband, including fiber LAN (%)

For Iceland and Lithuania, data refer to homes connected, for all other countries data refer to homes passed.
Data for Latvia is not available.



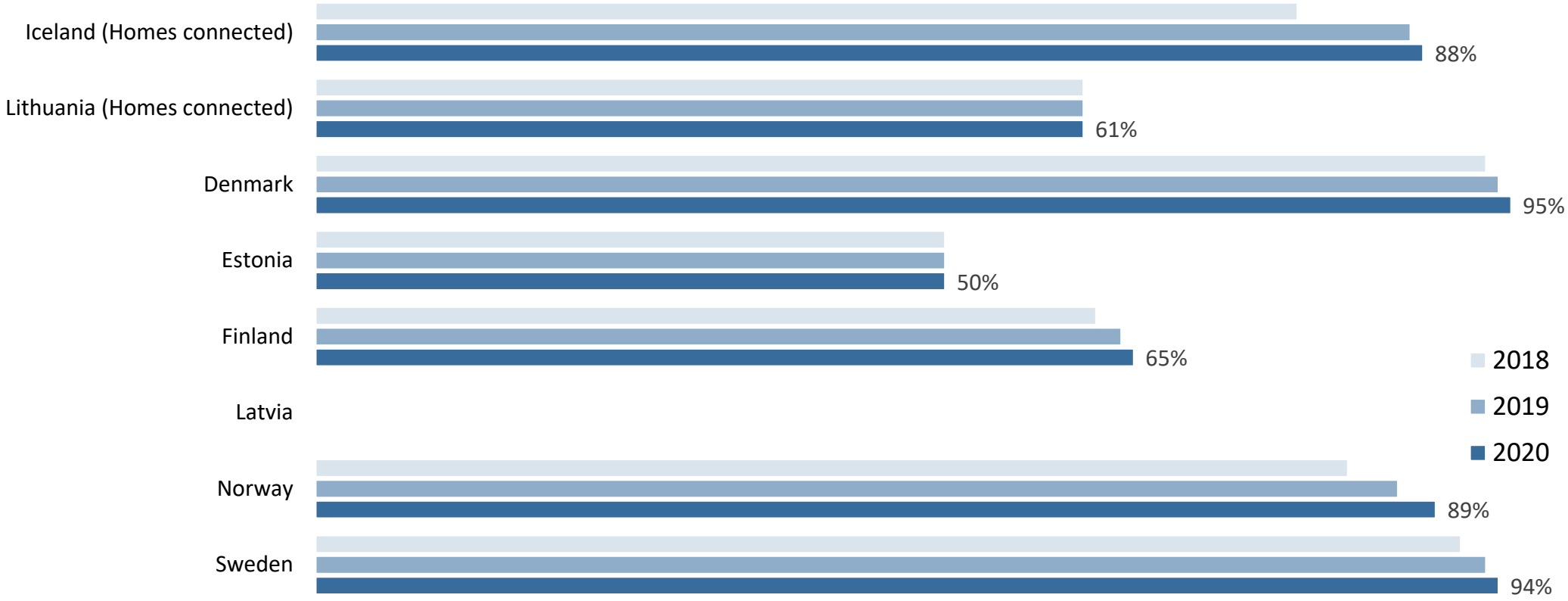
7.2 Coverage of fixed broadband with download speed of 30 Mbps or more (%)

For Iceland and Lithuania, data refer to homes connected, for all other countries data refer to homes passed. Data for Latvia is not available.



7.3 Coverage of fixed broadband with download speed of 100 Mbps or more (%)

For Iceland and Lithuania, data refer to homes connected, for all other countries data refer to homes passed. Data for Latvia is not available.



More statistics of each country

Denmark - https://ens.dk/ansvarsomraader/telepolitik/tal-paa-teleomraadet; https://tjekditnet.dk/; https://app.powerbi.com/view?r=eyJrIjoiYWEzM2FkOGQtMzQzYS00ZjgzLThjMjQtN2NmY2Y4ZTQwM2IxIiwidCI6IjI1YTRiZTU0LTRhN2MtNGFhMS04YTgwLWJlNmY2NmJiMGUwNiIsImMiOjl9

Estonia

Finland

Iceland – https://www.fjarskiptastofa.is/english/telecom-affairs/statistics/

Latvia - https://www.sprk.gov.lv/content/nozares-raditaji-9

Lithuania - https://www.rrt.lt/en/istekliai/reports-and-reviews/lietuvos-rysiu-sektorius-en/

Norway

Sweden - https://statistik.pts.se/