

Telecommunication Markets in the Nordic and Baltic Countries

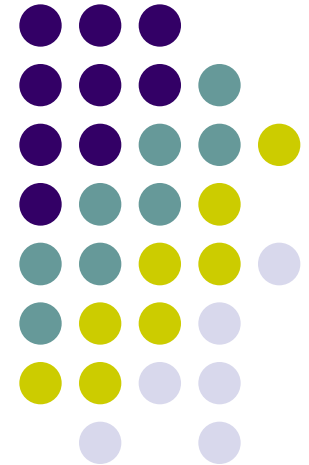
- Per 31.12.2013 -



Communications Regulatory Authority
of the Republic of Lithuania



PUBLIC
UTILITIES
COMMISSION

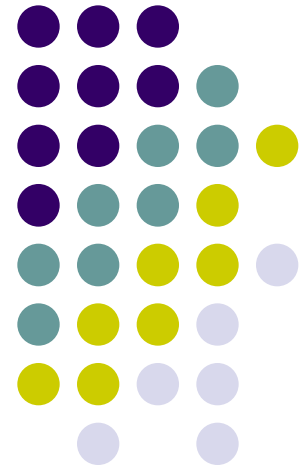


About the database

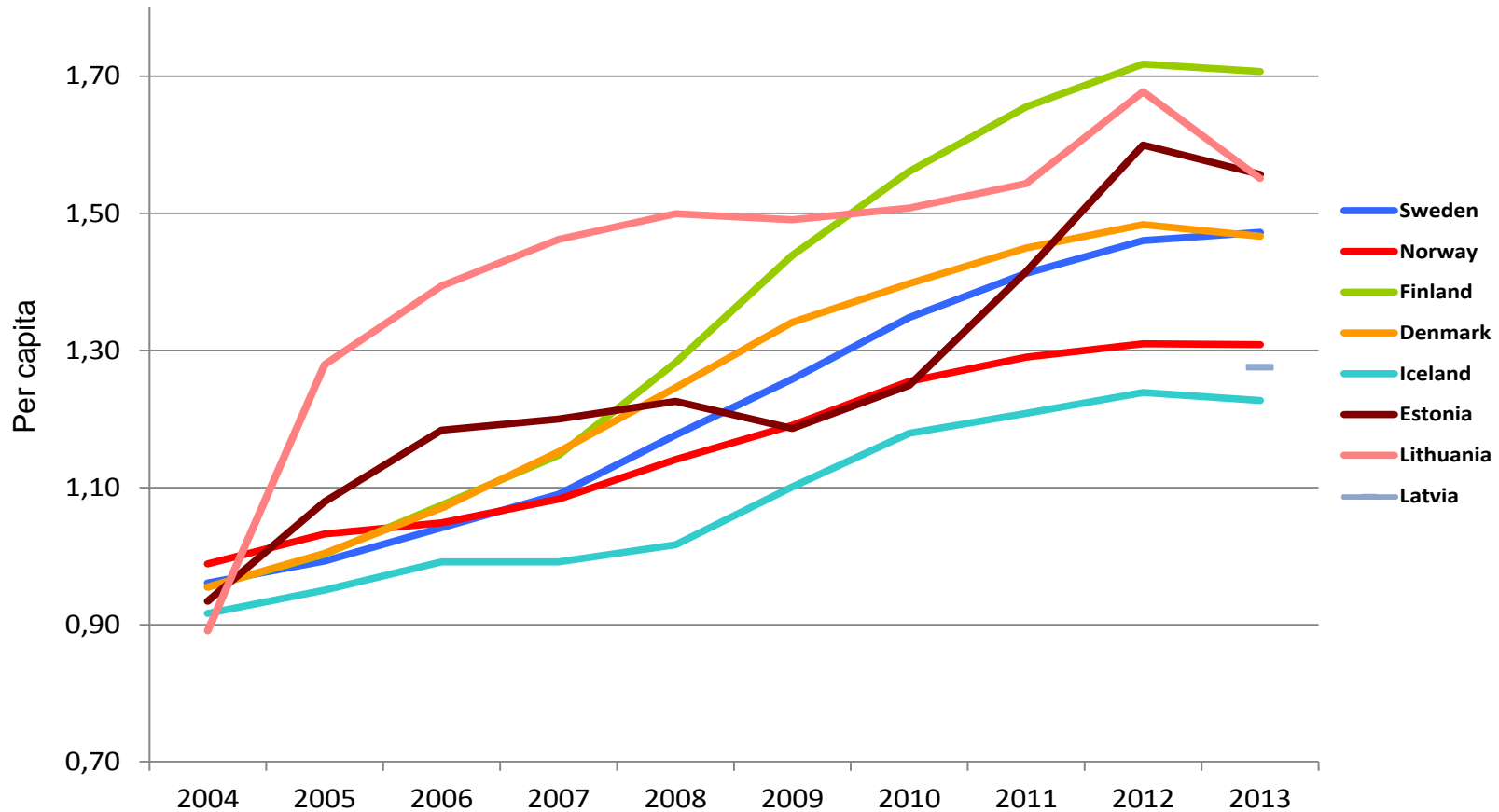


- Established 2007
 - The Baltic States included spring 2013
 - A descriptive database
 - A selected number of variables that is comparable between the Nordic and Baltic countries
 - A dynamic database that will change and grow with developments in the telecom markets
 - The figures are collected and validated by the Nordic-Baltic working group on statistics and definitions
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- If not stated otherwise the sources for all figures are the relevant National Regulatory Agencies and National statistical agencies of each country
 - If not stated otherwise graphs includes figures for both private and business
 - In comparing penetration rates note that the population is decreasing in Lithuania and Estonia while increasing in all other countries
 - For more detailed information see the statistical portal under 'Tables':
<http://www.statistik.pts.se/PTSnordic/NordicCountries2013/indexNordic.html>

Mobile Services



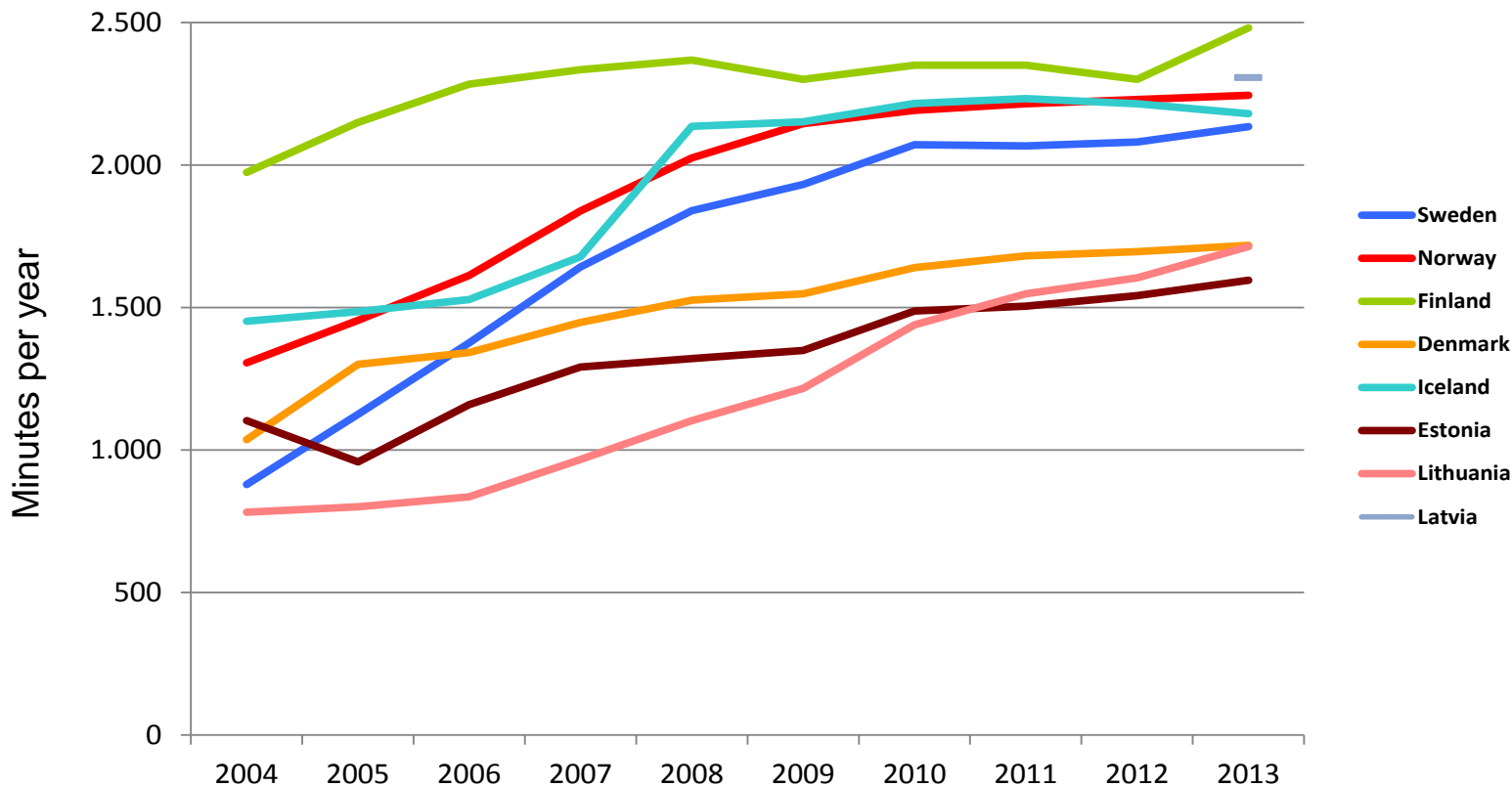
Mobile subscriptions¹ per capita



The growth of mobile subscriptions has stagnated for most countries. The decrease for Lithuania and Estonia in 2013 is due to changes in definition from the operator. The growth before 2013 was mostly due to the growth in mobile broadband. The mobile penetration rate were highest in Estonia and Lithuania until 2008/2009.

¹Including GSM/UMTS/LTE subscriptions and mobile broadband. Pre-paid subscriptions are also included and should be active the last 3 months. Only data for Latvia in 2013.

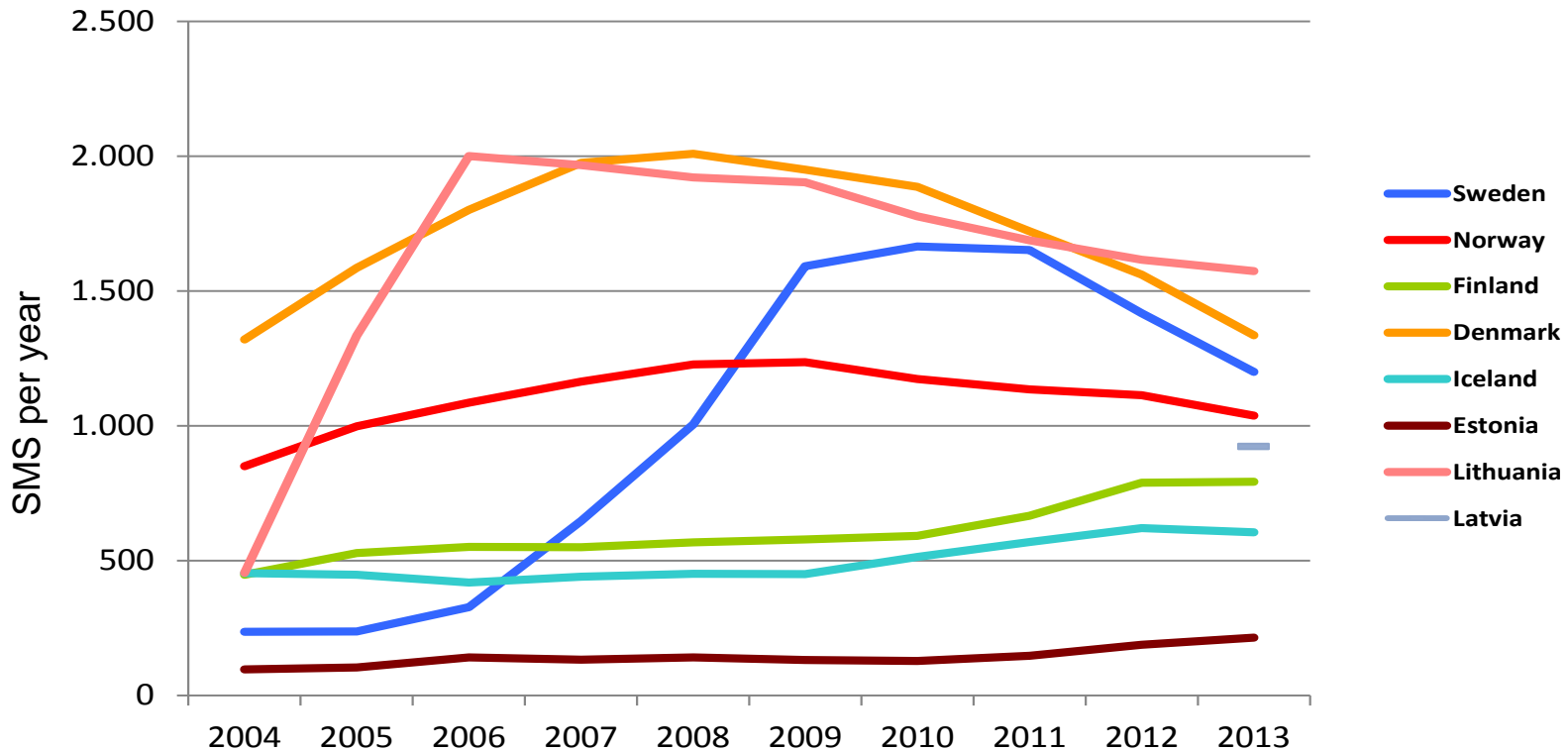
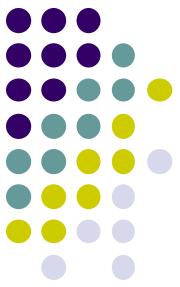
Mobile call minutes per subscription¹ in a year



Finland still has the highest usage of mobile telephony for speech. At the same time Finland has the lowest penetration and usage of fixed telephony and of broadband telephony (VoIP). Denmark, Estonia and Lithuania has the lowest minutes per subscription, but Lithuania has the highest use of SMS messages together with Denmark.

¹Subscriptions is the average of the number of subscriptions at the beginning and end of each year except for subscriptions for Lithuania in 2004 and Latvia in 2013 which are from the end of the period. Exclusive mobile broadband subscriptions. Only data for Latvia in 2013. In Finland, the number of mobile call minutes per subscription has grown in 2013 because the number of subscriptions which have been used just for making phone calls has decreased. In reality, the total number of calls minutes is decreasing.

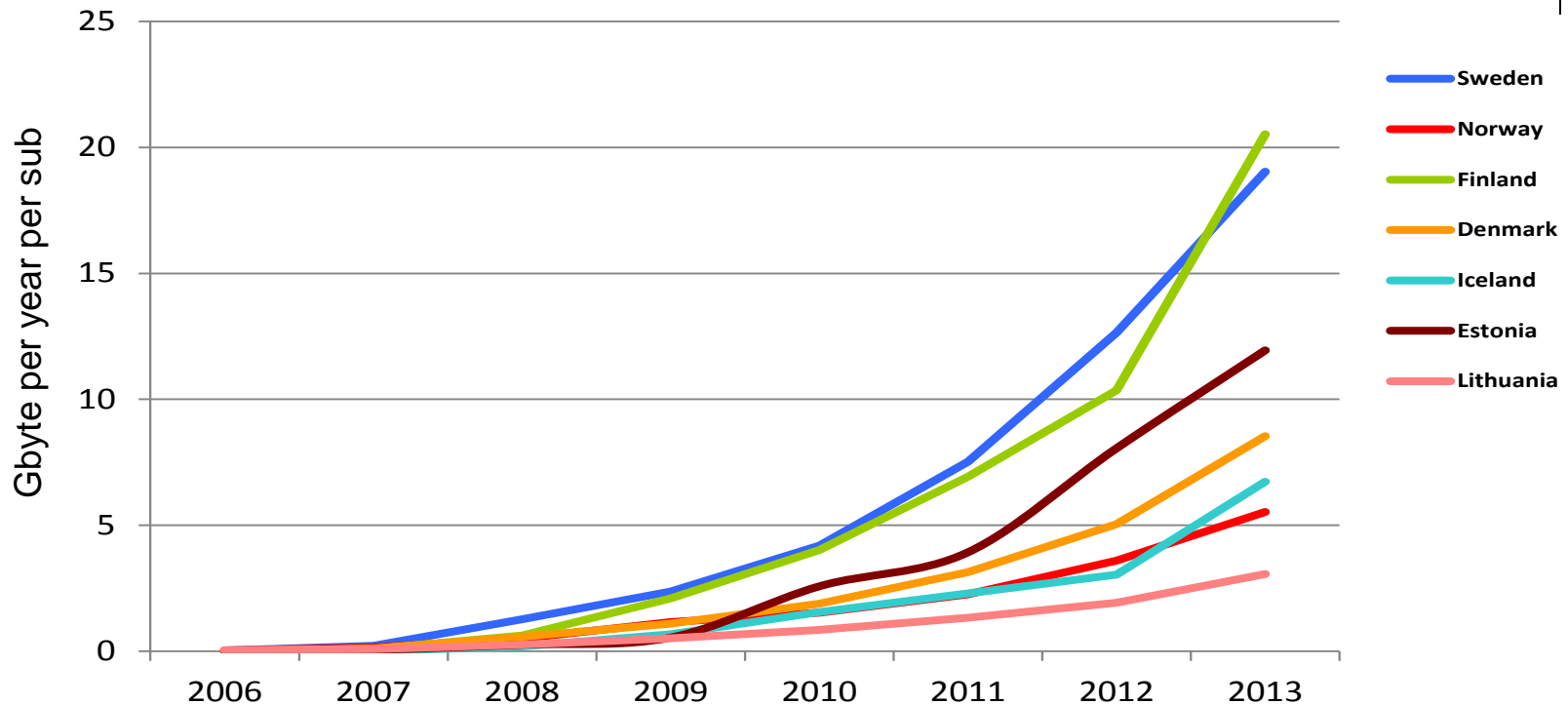
Average number of SMS messages sent per subscription¹ in a year



There is a decrease in SMS messages for all countries except for Estonia had a modest increase for the last three years. The reason for decrease is mainly due to Skype and other mobile messages services. In Estonia the use of SMS messages per subscription have been significantly lower than in the other countries.

¹Subscriptions is the average of the number of subscriptions at the beginning and end of each year except for subscriptions for Lithuania in 2004 and Latvia in 2013 which are from the end of the period. Exclusive mobile broadband subscriptions. Only data from Latvia in 2013.

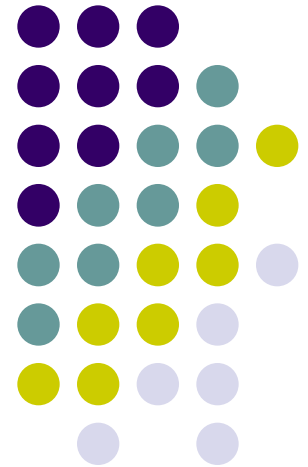
Data volume transferred over mobile networks, average Gbyte per subscription¹ per year



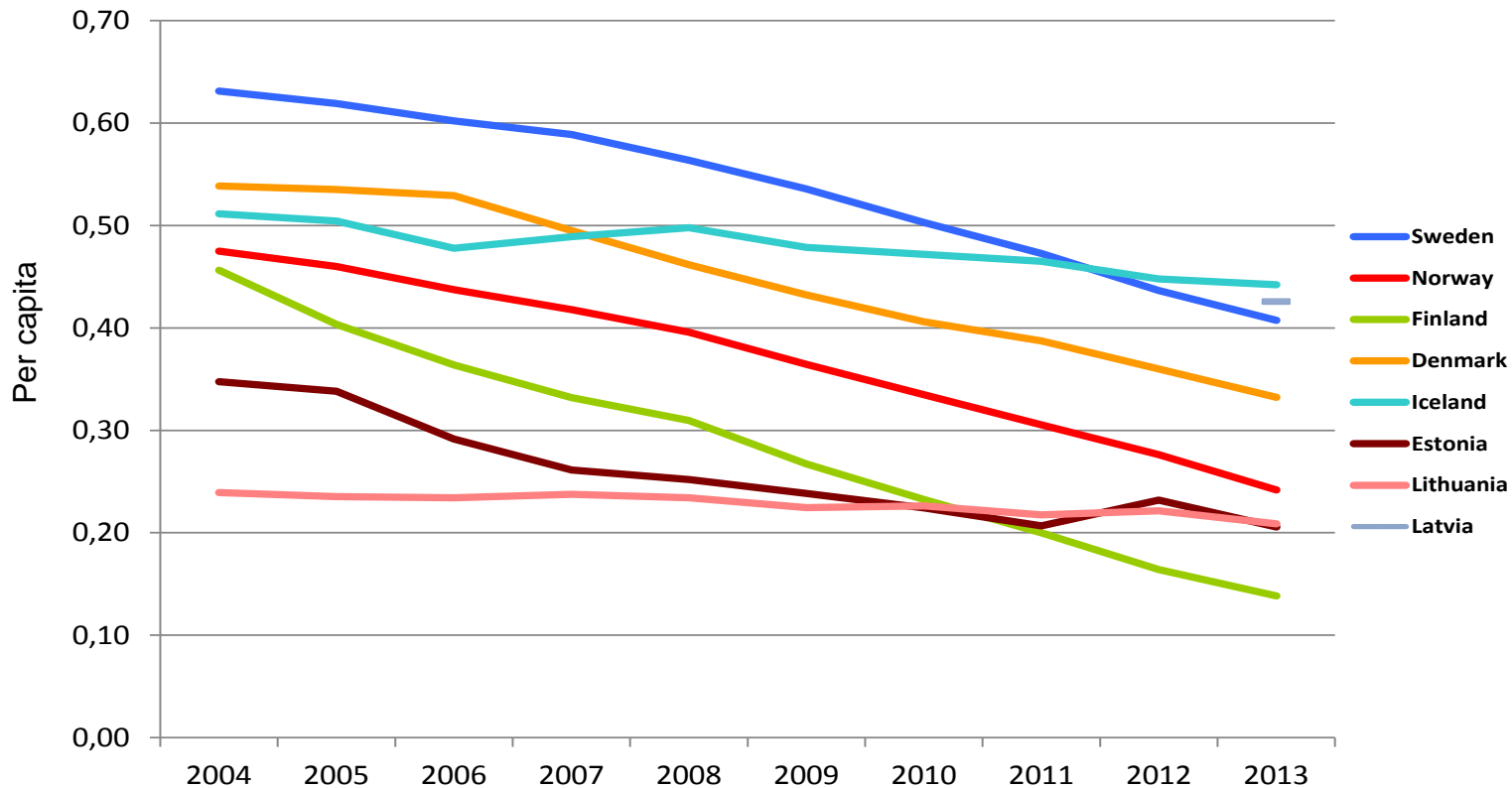
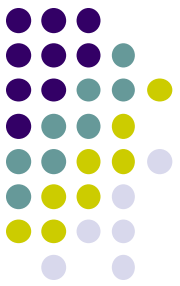
Data volumes transferred over mobile networks are still increasing fast in all countries. The growth in data traffic per subscription per year is above or equal to 50 percent yearly in all countries during 2013 except for Estonia where it's 48 percent. It is still the dedicated data subscriptions which generates most of the data traffic in mobile networks except for Denmark where it's just below 50 pct. Lithuania has the lowest number of dedicated data subscriptions per capita, and Finland the highest. This may be one of the reasons behind the relatively large difference in Gbyte per subscription.

¹Includes subscriptions and data traffic for both mobile and mobile broadband.

Fixed Call Services



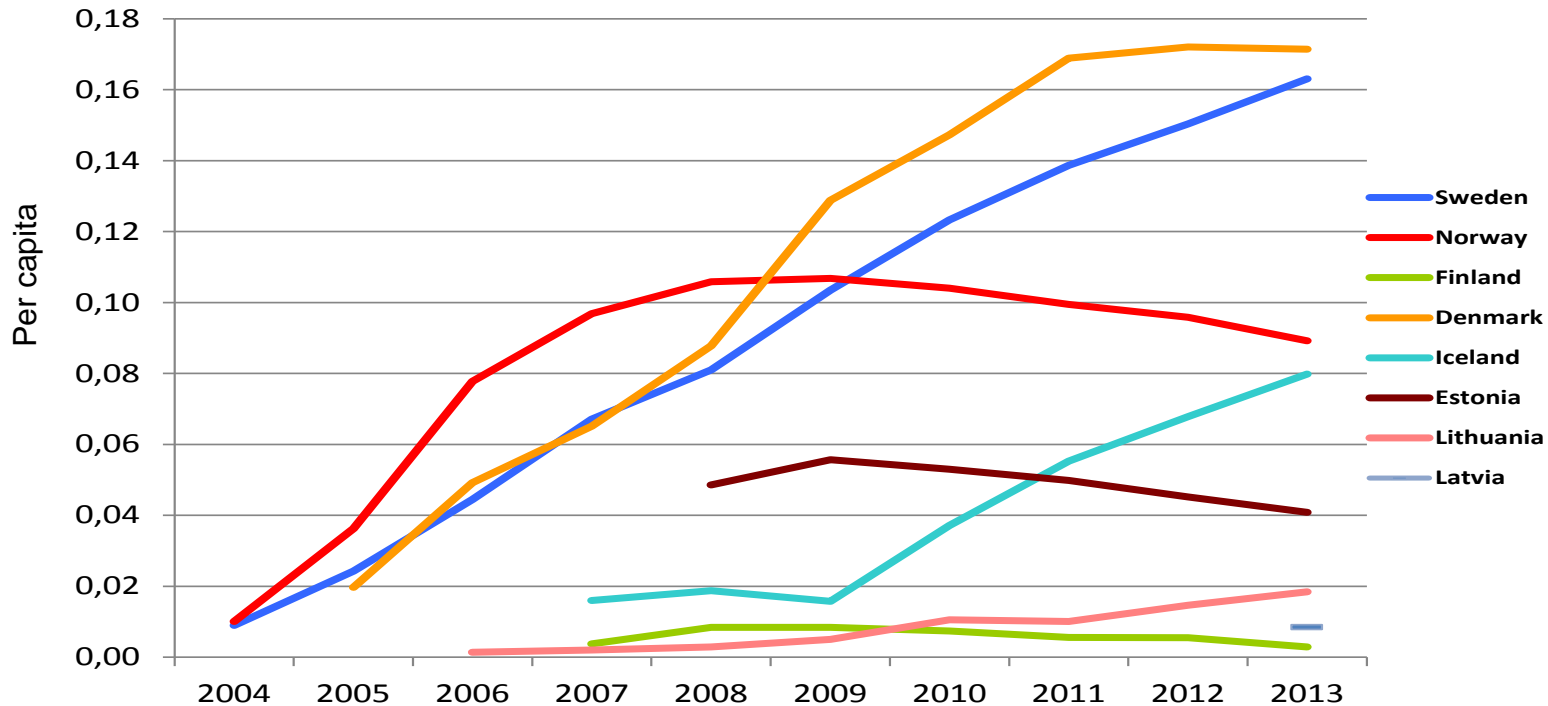
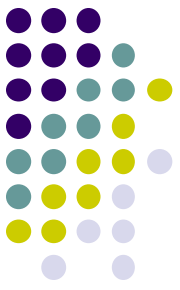
Fixed telephony subscriptions¹ per capita



The number of fixed telephone subscriptions per capita is decreasing in all countries, but in Iceland at a slower pace. The slow decrease in the Lithuanian penetration is created by a decline in population in the period. The actual number of lines were decreasing by approx. 7 percent annually in 2012 and 2013.

¹Includes PSTN-, ISDN- and broadband telephony subscriptions (VoIP). Only data from Latvia in 2013.

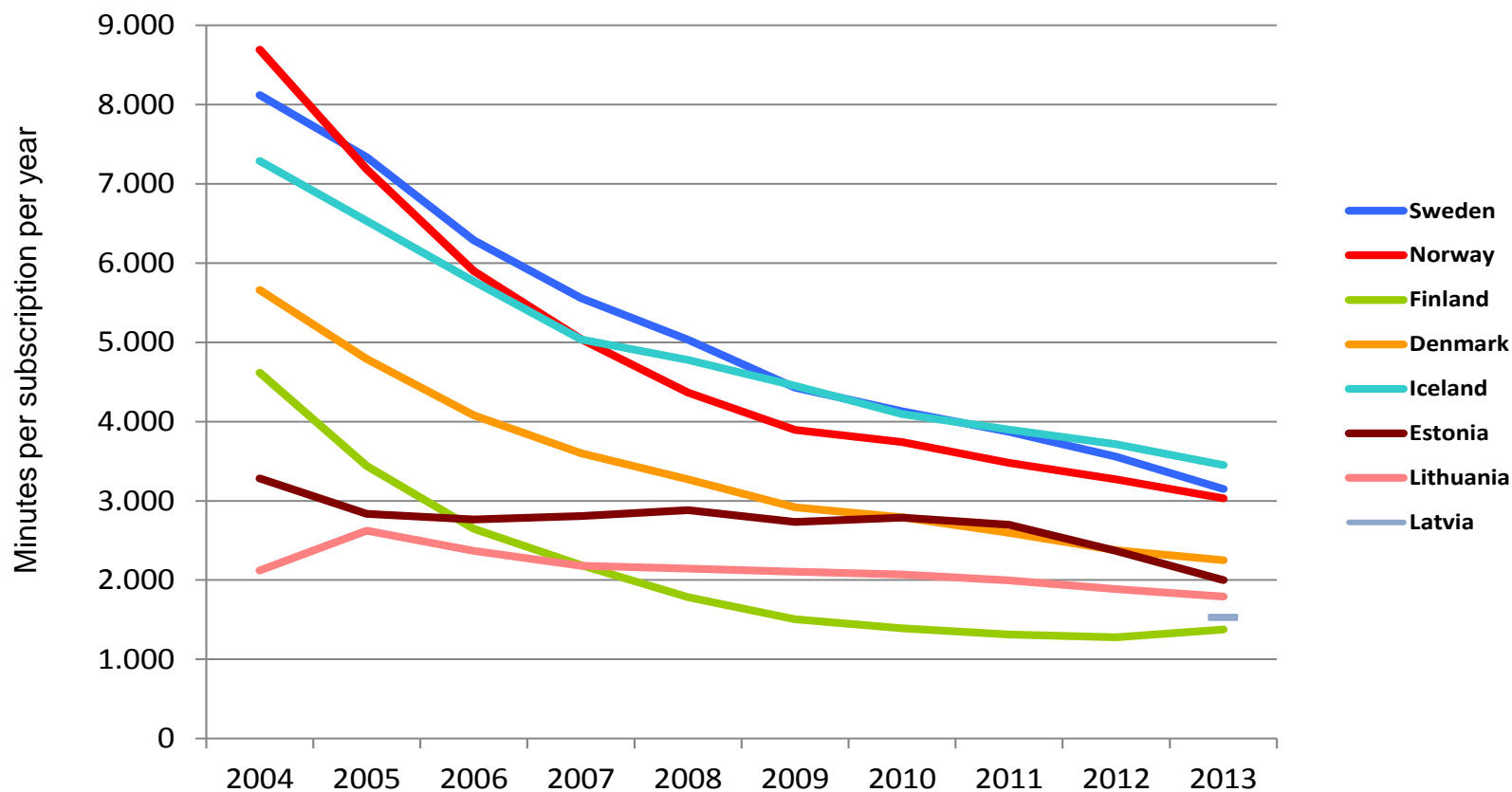
Broadband telephony (VoIP) subscriptions¹ per capita



The number of VoIP subscriptions per capita has been increasing fast up to 2011 in Denmark but the development has been stagnating during 2013 though at the highest level compared to the other countries. In Sweden and Iceland the number of subscriptions is still growing although Sweden has more than twice as many VoIP subscriptions per capita than Iceland. Estonia has had a modest decrease from 2009. In Lithuania, Latvia and Finland the number of VoIP subscriptions is low compared to the other countries. VoIP subscriptions are often sold in bundles with e.g. a fixed broadband connection and TV.

¹Only data for Estonia in 2008 to 2013, Lithuania 2006 to 2013, Denmark 2005 to 2013, Iceland 2007 to 2013 and Finland 2007 to 2013. Only data from Latvia in 2013.

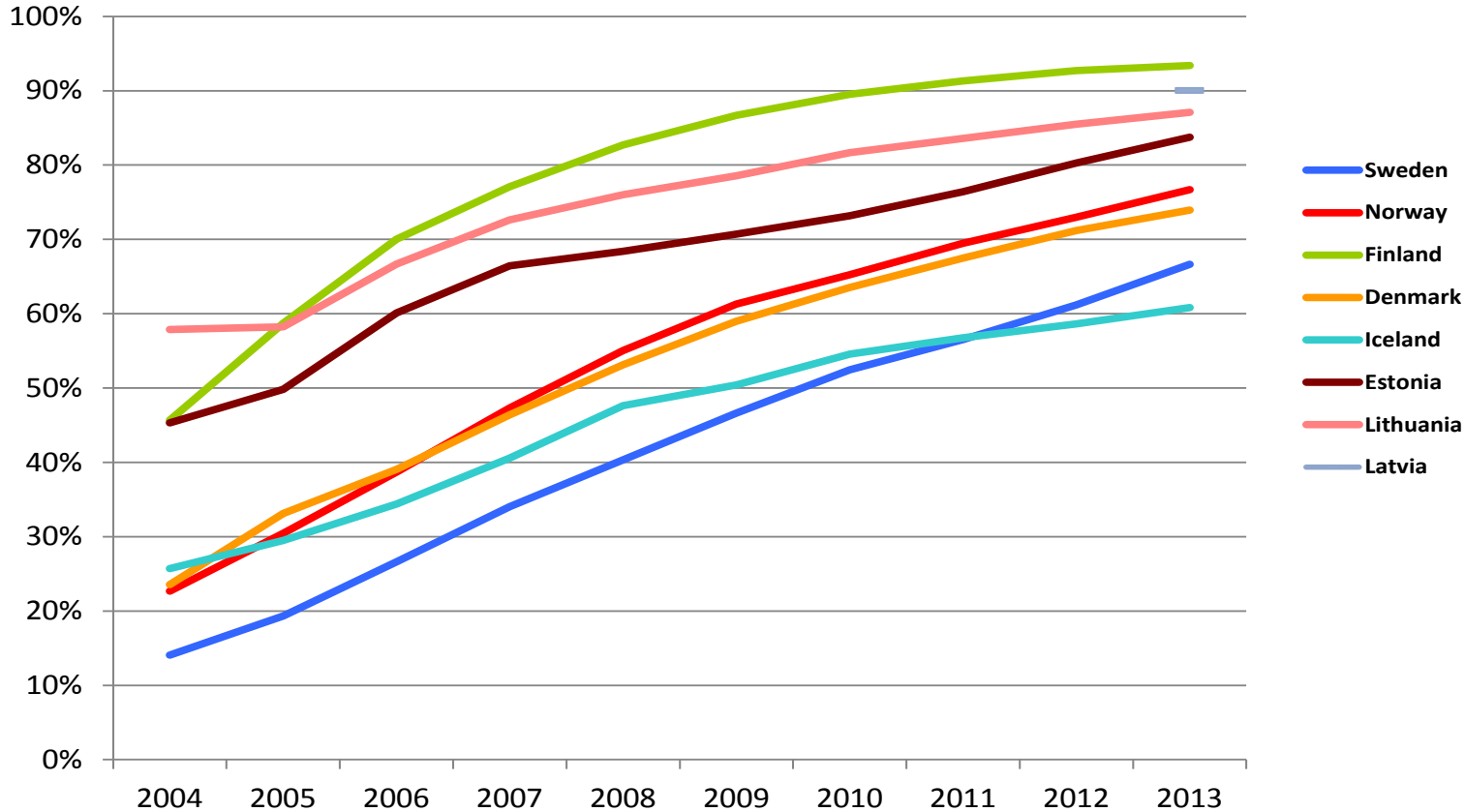
Number of fixed call minutes per subscription¹ in a year



The usage is declining in all countries but except for Finland which still has the lowest usage, but at the same time the highest usage of mobile telephony. Iceland has in 2013 the highest amount of fixed call minutes per subscription.

¹ Subscriptions is the average of the number of subscriptions at the beginning and end of each year except for subscriptions for Lithuania in 2004 and Latvia in 2013 which are from the end of the period. VoIP is included. Only data from Latvia in 2013.

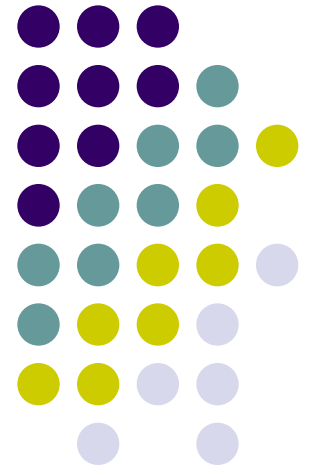
Share of mobile minutes of all originated minutes



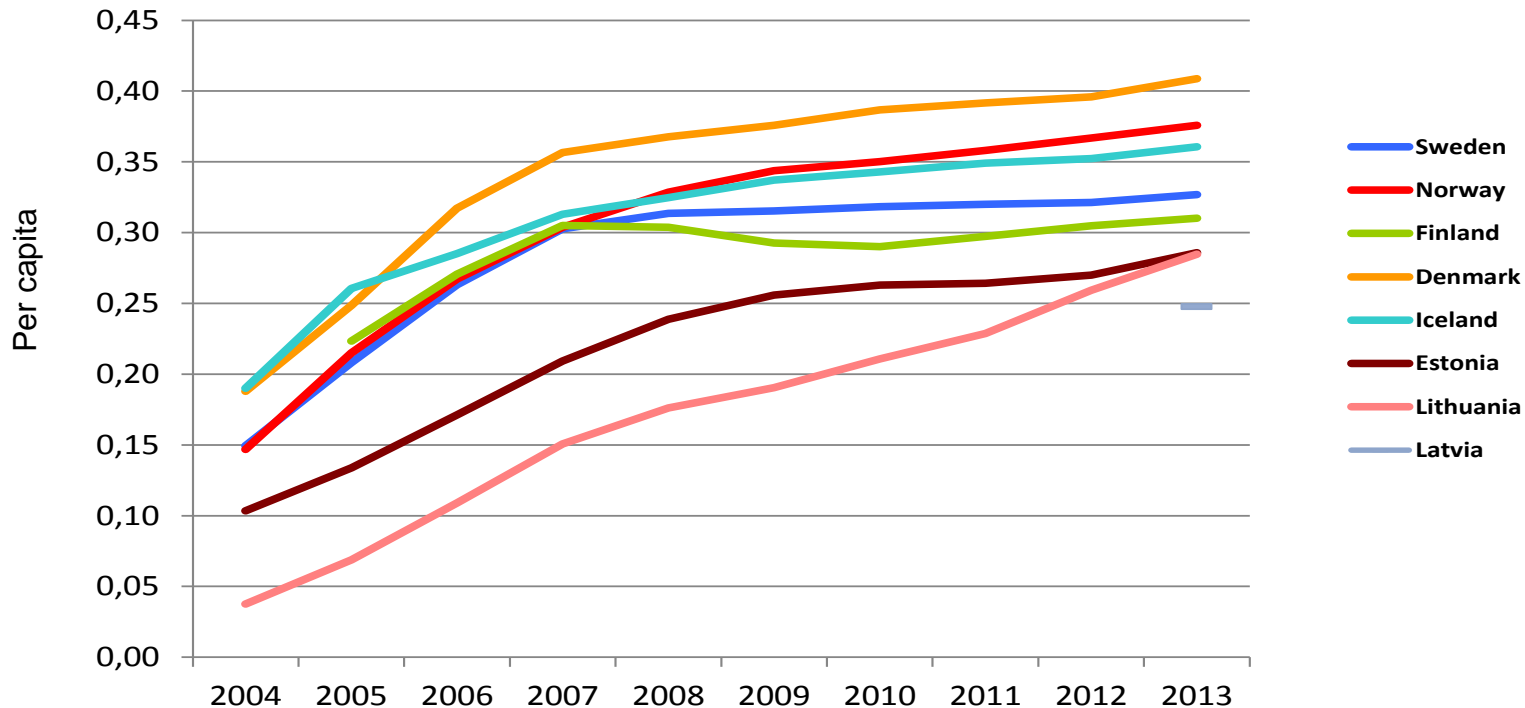
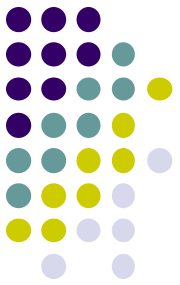
The graph shows that the usage of mobile telephony are more and more dominant also in terms of minutes. Even Iceland, Sweden and Denmark with the lowest share of mobile minutes and also the highest fixed penetration rate have a share of about 60 percent and above. Finland has the highest share of mobile minutes of all originated minutes with almost 93 percent in 2013. Latvia and Lithuania are second and third with shares of 90 and 84 percent.

¹All originated minutes are the sum of all fixed minutes and all mobile minutes. Only data from Latvia in 2013.

Broadband



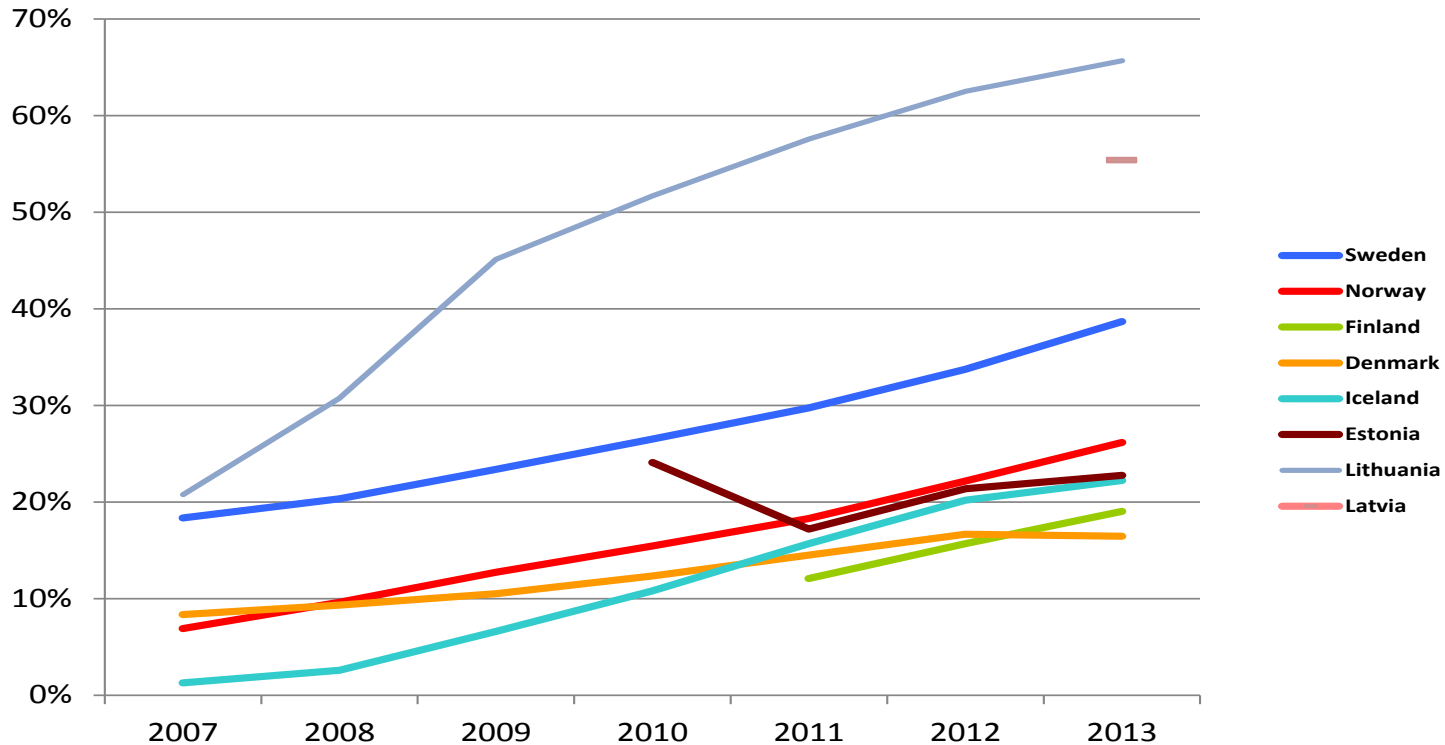
Number of fixed broadband subscriptions¹ per capita



The growth has stagnated in all countries except for Lithuania and Estonia. Lithuania and Estonia has fewer fixed broadband subscriptions per capita than the other countries, but the Lithuanian penetration rate grew 13 percent in 2012 and about 10 percent during 2013, while all other countries only had growth up to 3,5 percent in the same periods except for Estonia where the growth was 5,9 percent.

¹Only data for Finland 2005 to 2013. Only data from Latvia in 2013.

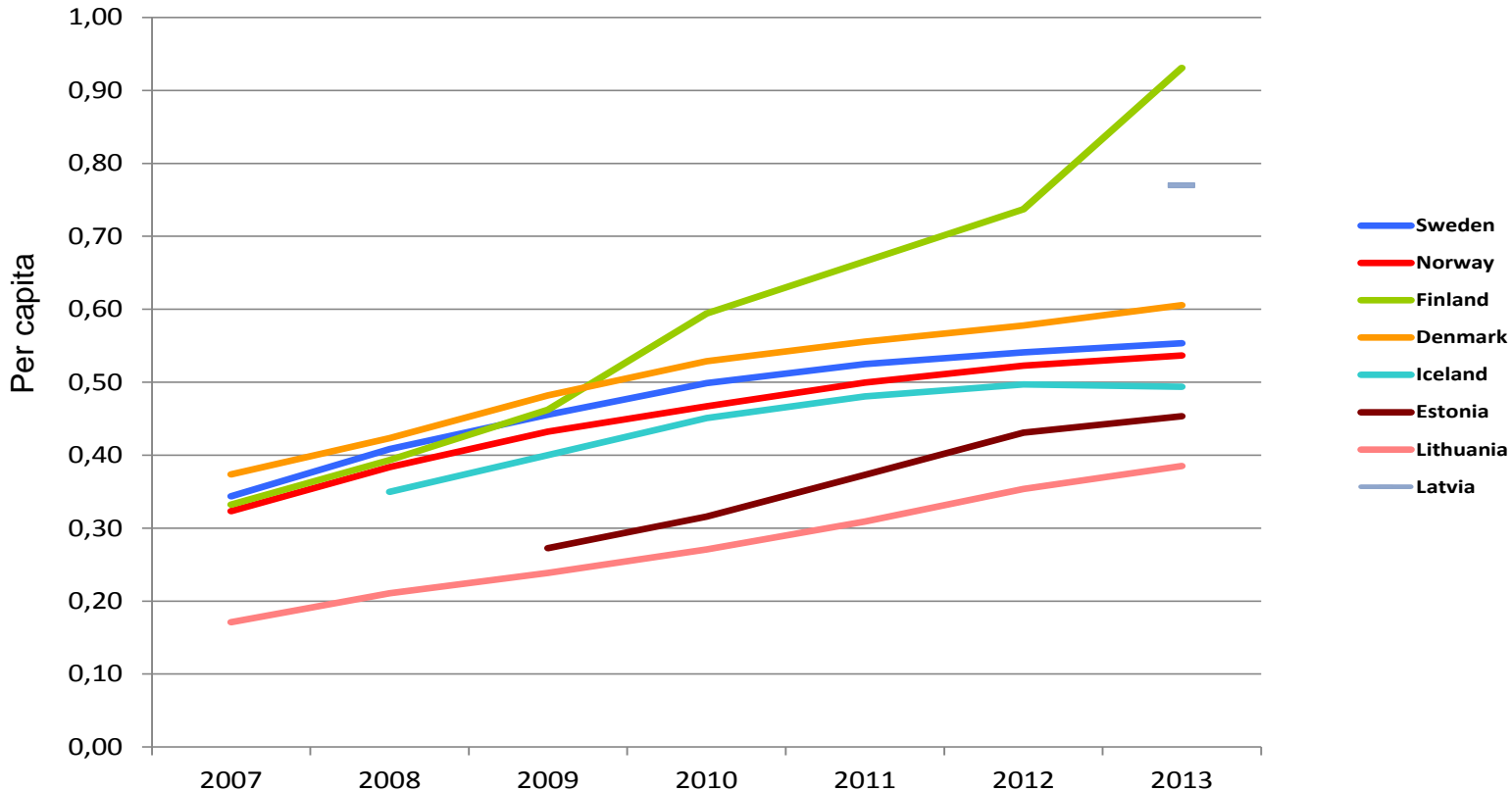
Share of fiber subscriptions of total fixed broadband subscriptions¹



The share of fiber subscriptions of total fixed broadband subscriptions was highest in Lithuania with almost 66 percent in 2013. Latvia had the second highest share at nearly 55 percent and Sweden had the third highest with 39 percent.

¹Only data for Estonia 2010 to 2013, Finland for 2011 to 2013 and Latvia 2013. Fiber includes Fiber-LAN networks (LAN connected to fiber).

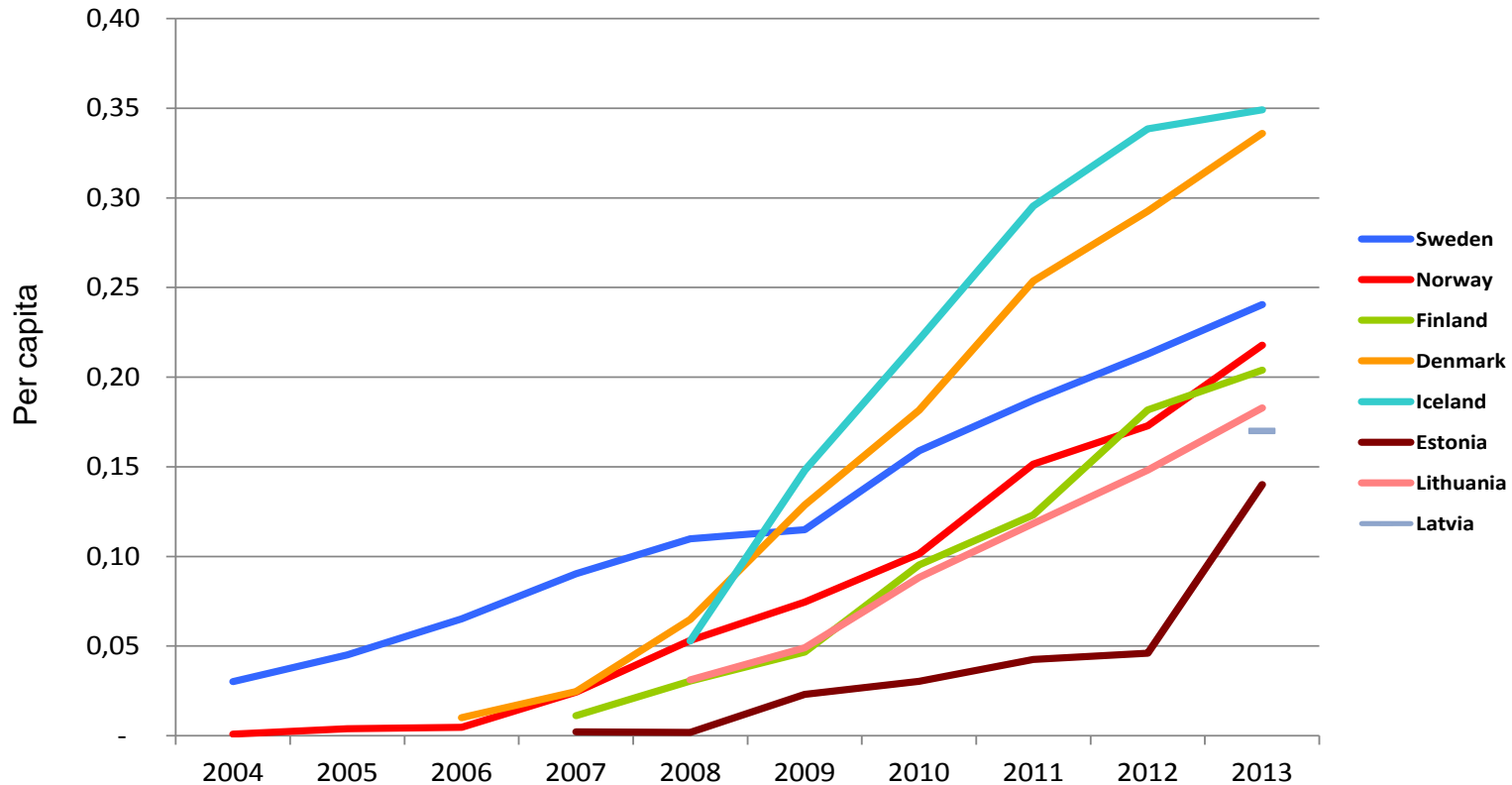
Number of broadband subscriptions per capita (incl. mobile broadband¹)



When adding the growth in mobile broadband to fixed broadband the graph shows that Finland has the highest penetration rate with a little more than 0,93 subscriptions per capita and Latvia was second with 0,77 subscriptions per capita. For Finland it includes all mobile broadband subscriptions with monthly fee and no data cap and for Latvia it includes standard mobile subscriptions with actual voice usage and dedicated data service without voice usage. Only data for Iceland 2008 to 2013 and Estonia 2009 to 2013. Denmark, Sweden and Norway lies within a spread of just 0,07 points from 0,54 to 0,61. Lithuania and Estonia has fewer subscriptions per capita than the rest of the countries (0,39 and 0,45), but at the same time both countries had growth rates above 40 percent from 2010 to 2013.

¹Includes only dedicated data subscriptions. Only data from Latvia in 2013.

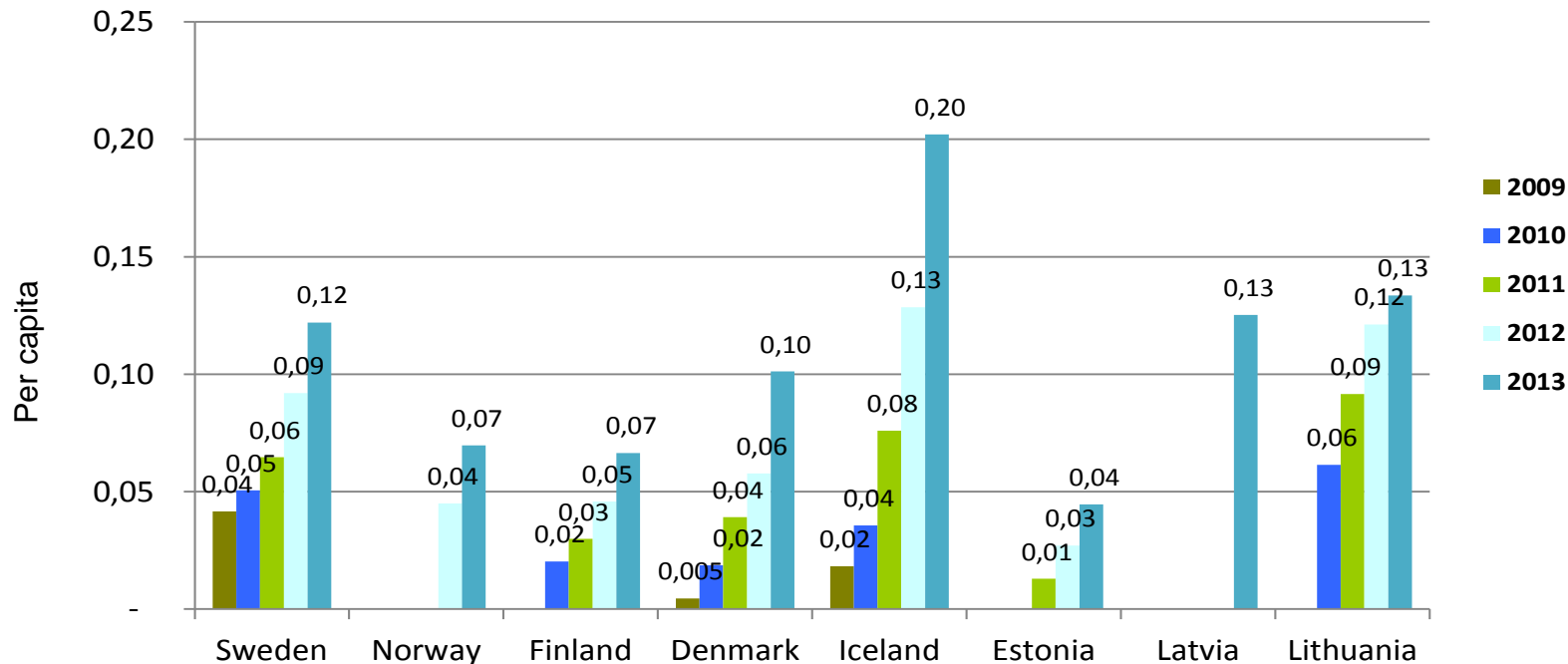
Number of fixed broadband subscriptions with a marketed capacity of 10 Mbps¹ or more per capita



The penetration rate for subscriptions with speeds of 10 Mbps or more downstream are increasing in all countries although there are rather big differences between the countries. Iceland and Denmark are still at the top with respectively 0,35 and 0,34 subscriptions per capita. Sweden is third with 0,24 subscription per capita. Lithuania have about half of Iceland's penetration rate. With 204 percent Estonia also had the highest growth rate during 2013.

¹Actual speed depends on factors like distance from the central exchange etc. This is the case for xDSL subscriptions in all the countries. Data from Norway: 8 Mbps or more until 2011, 10 Mbps or more in 2012 and 2013. Only data for Estonia in 2007 to 2013, Lithuania 2008 to 2013, Denmark 2006 to 2013, Iceland 2008 to 2013, Finland 2007 to 2013 and Latvia in 2013.

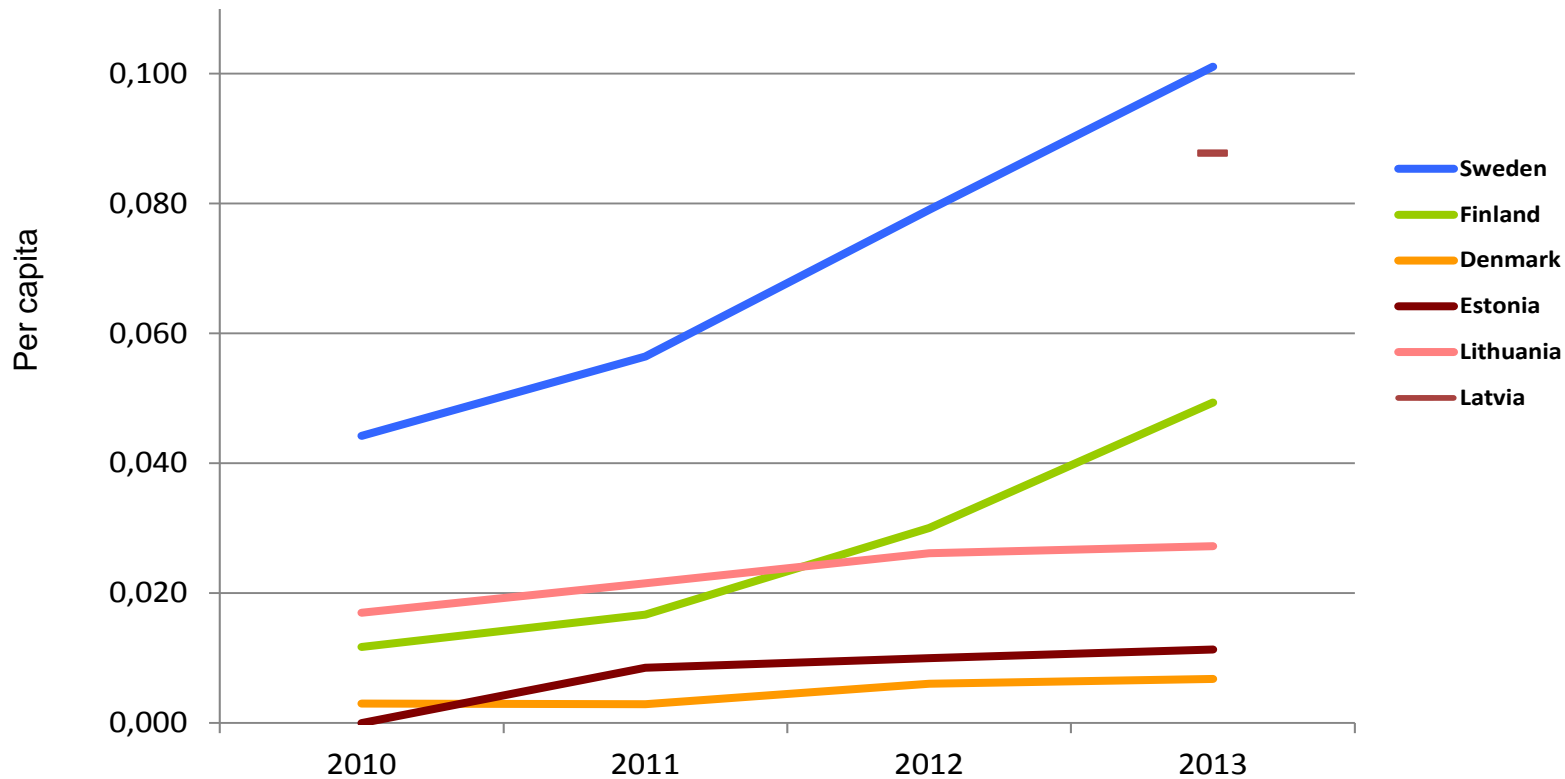
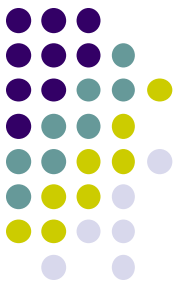
Number of fixed broadband subscriptions with a marketed capacity of 30 Mbps or more per capita



Also the penetration rate for subscriptions with speeds of 30 Mbps or more downstream are increasing in every country. As with the rates for 10 Mbps downstream there are significant differences between the countries. Iceland has the highest penetration rate at 0,20, Latvia and Lithuania are second with 0,13 subscriptions per capita in 2013. Sweden is third with 0,12. Finland and Norway have the same rate at 0,07 and Estonia has the lowest rate at 0,04 subscriptions per capita in 2013.

¹Actual speed depends on factors like distance from the central exchange etc. This is the case for xDSL subscriptions in all countries. The Finnish figures are 25 Mbps and above. The Icelandic data is VDSL and fiber subscriptions with advertised downstream capacity up to 50 Mbit/s. Only data for Norway in 2012 and 2013, Estonia in 2011 and 2013, Lithuania 2009 to 2013, Finland 2010 to 2013 and Latvia in 2013.

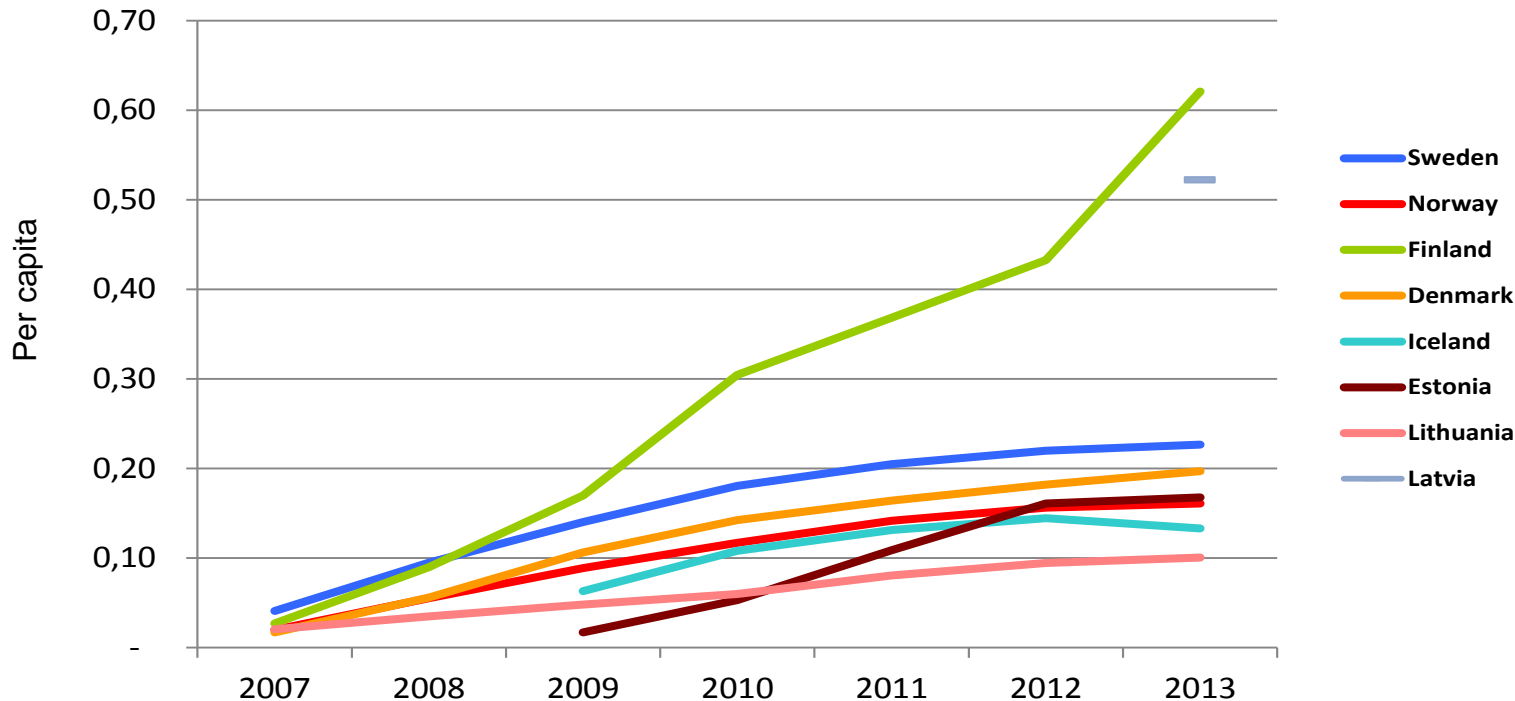
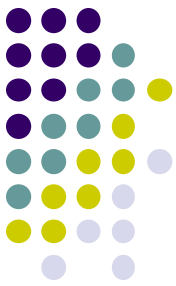
Number of fixed broadband subscriptions with a marketed capacity of 100 Mbps or more per capita



When it comes to broadband penetration for subscriptions with speeds of 100 Mbps or more downstream Sweden is well above the other countries except for Latvia. The Swedish penetration rate for 100 Mbps reached 0,10 subscriptions per capita in 2013. Latvia is second with 0,09 and Finland is third with 0,05 which is less than half the Swedish rate. Estonia and Denmark has the lowest rate with 0,01 and 0,007 subscriptions per capita in 2013.

¹ Only data from Latvia in 2013. No data for Norway and Iceland.

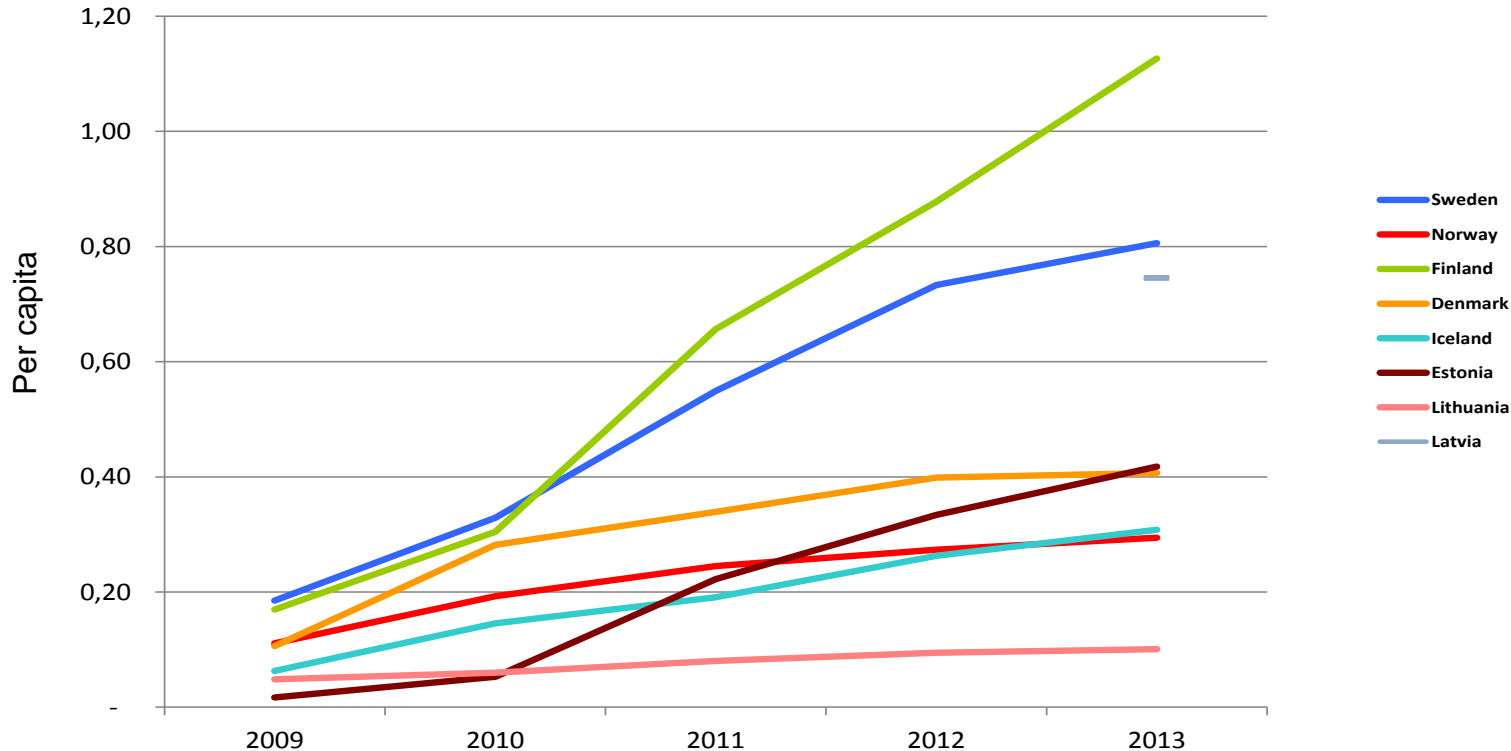
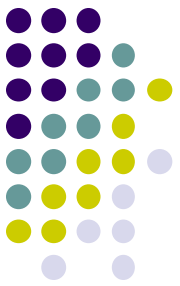
Number of mobile broadband subscriptions¹ per capita



In 2013 there was 0,62 mobile broadband subscriptions per capita in Finland and Latvia is second with 0,52 mobile broadband subscriptions per capita. For Finland it includes all mobile broadband subscriptions with monthly fee and no data cap and for Latvia it includes standard mobile with actual voice usage and dedicated data service without voice usage. Only data for Estonia in 2009 to 2013 and Iceland 2009 to 2013. Except for Lithuania which has the lowest mobile broadband penetration rate, the rest of the countries are rather close with 0,13 to 0,20 subscriptions per capita. In all countries penetration rate increases, but except for Iceland. The Finland growth rate at 44 percent during 2013, the rest of the countries have decreasing growth rates.

¹Includes only dedicated data subscriptions. Only data from Latvia in 2013.

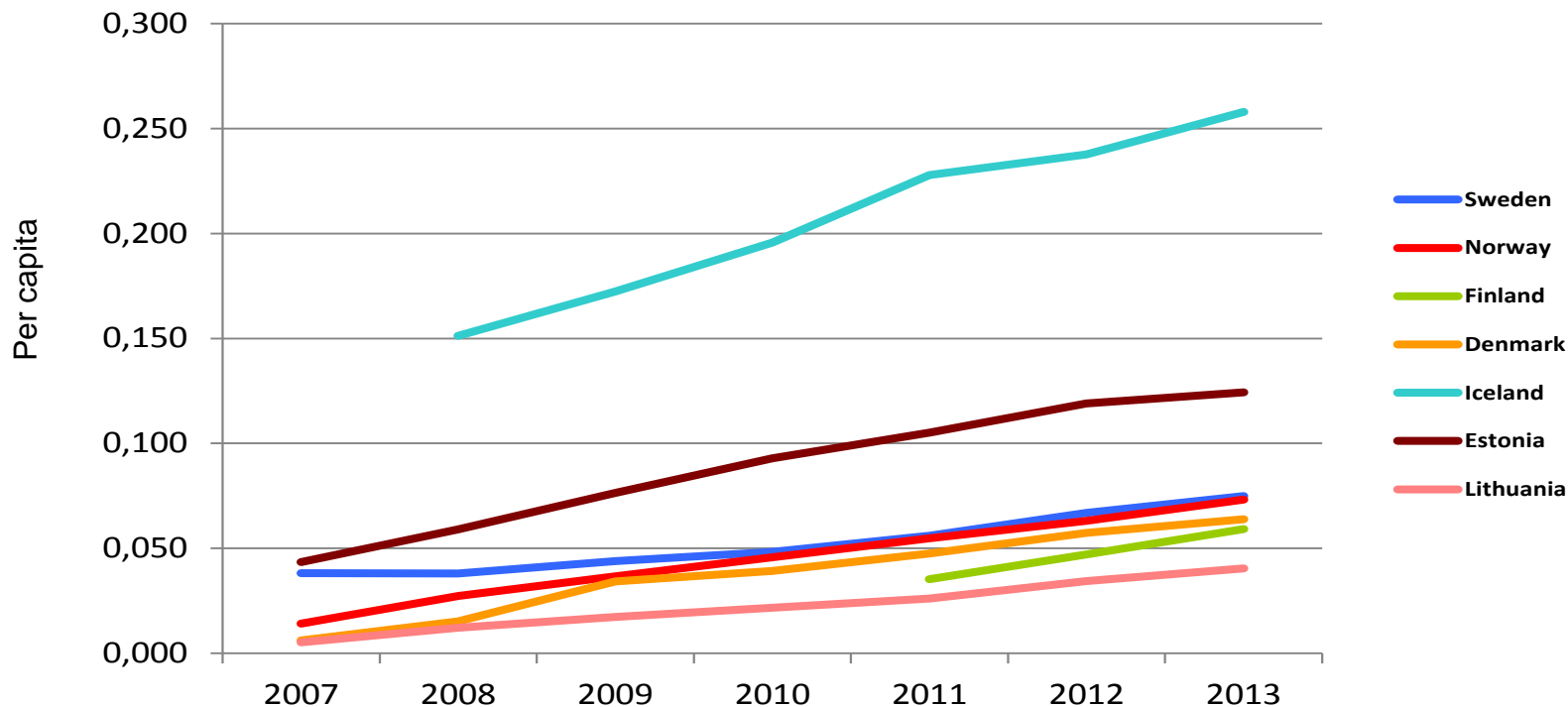
Number of mobile broadband subscriptions¹ + “add-on” data packages per capita



When the “add-on” data packages is included in the mobile broadband subscriptions the Finnish penetration rate is the highest at 1,13 subscriptions per capita in 2013 and Sweden is second with 0,81 subscriptions per capita and Latvia is third with 0,75 subscriptions per capita. Less than half the Finnish rate are the Danish, Estonian, Lithuanian, Norwegian and Icelandic rates that goes from 0,10 to 0,42 subscriptions per capita.

¹Dedicated data subscriptions. Finland: Until 2010 it includes monthly paid mobile data transfer subscriptions without data cap. From 2011 and onwards the Finnish data includes all monthly paid mobile data transfer subscriptions. Lithuanian data is only dedicated data subscriptions. Sweden subscriptions includes all subscriptions with 1 GB and more. Latvia subscriptions includes standard mobile with voice usage, dedicated data service and add on data package. Only data from Latvia in 2013.

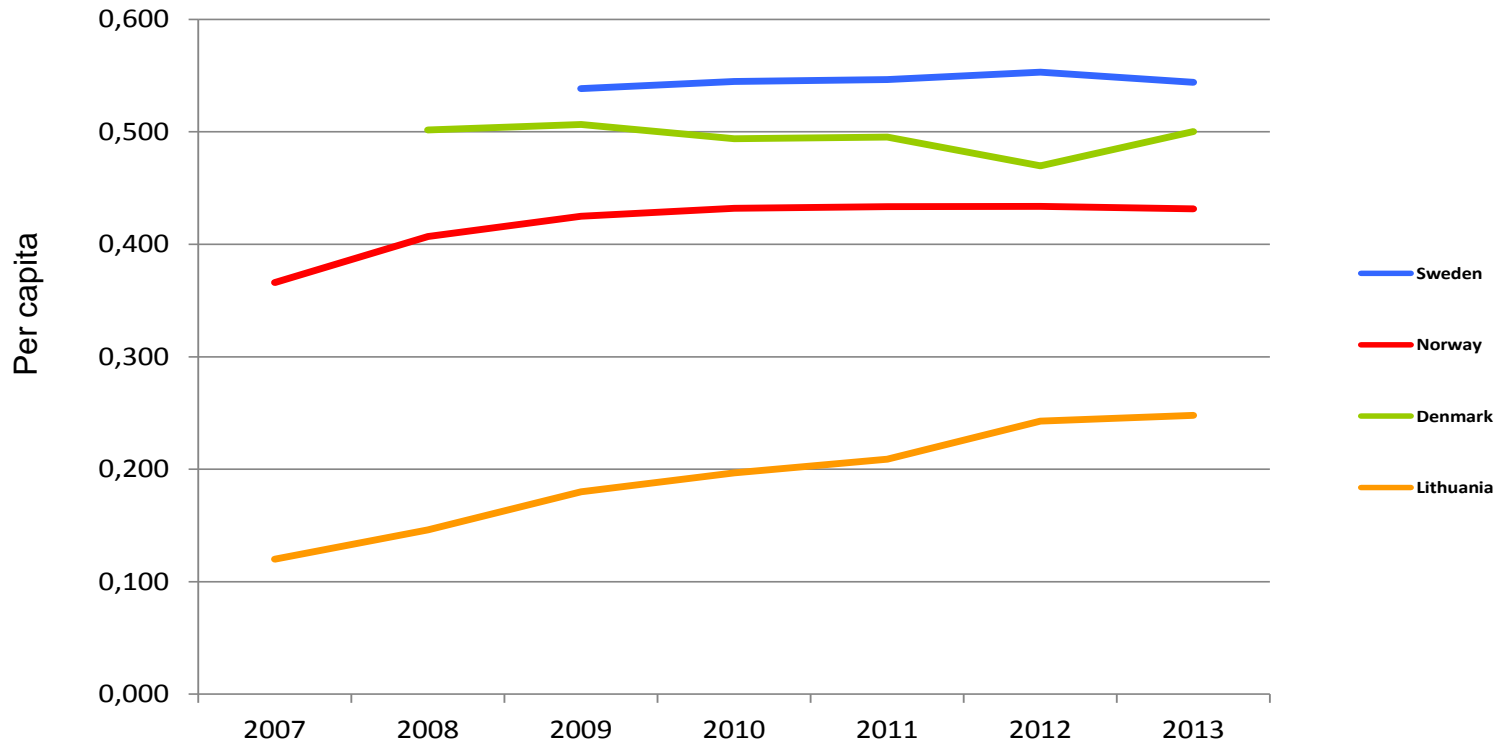
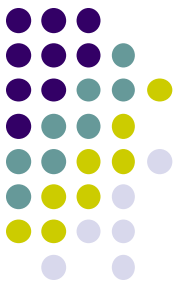
Number of IPTV subscriptions¹ per capita



IPTV penetration is highest in Iceland where there is no cable-tv. In average 26 out of 100 Icelandic inhabitants have an IPTV subscription. Estonia is second with 12 out of a 100 inhabitants. The rest of the countries are rather close with rates from 4 to 8 subscriptions per a 100 inhabitants.

¹Fixed IPTV subscriptions. Only data for Iceland in 2008 to 2013 and Finland 2011 to 2013. Numbers includes subscriptions both for fiber and xDSL.

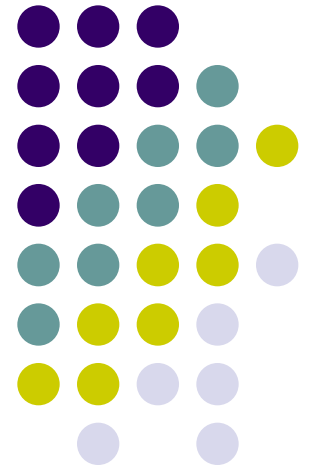
Number of Pay-TV subscriptions¹ per capita



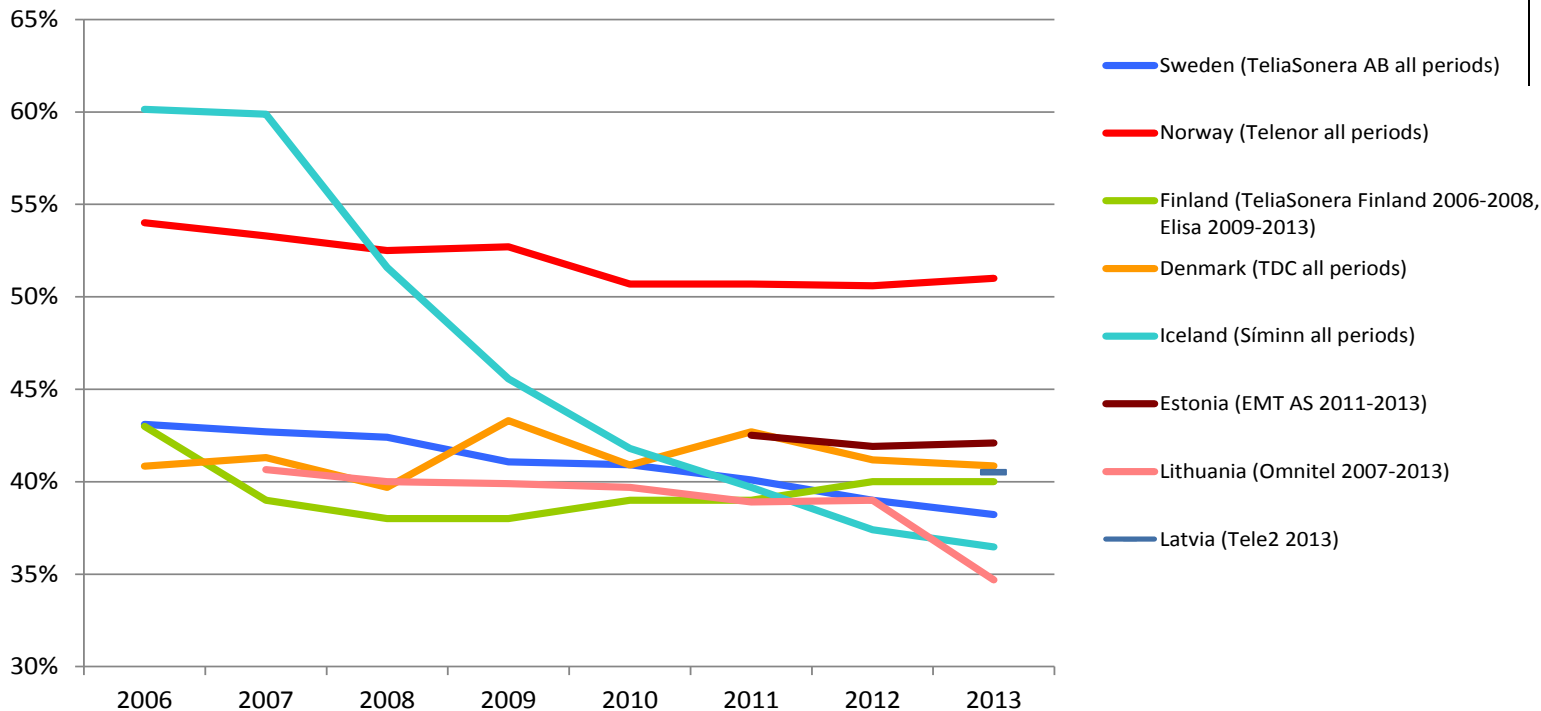
Pay-TV penetration is highest in Sweden where in average 54 out of 100 Sweden inhabitants have Pay-TV subscription. Denmark is second with 50 out of a 100 inhabitants and Norway is third with 43 out of a 100 inhabitants.

¹Total Pay-TV subscriptions. Only data for Sweden in 2009 to 2013 and Denmark 2008 to 2013. Numbers includes subscriptions for IPTV, cable-, digital terrestrial- and satellite television. The Danish numbers include free-to-air digital terrestrial tv, which is excluded by the other countries. The number of subscription can be more than the number of households in Sweden because some households holds two or more subscriptions.

Market Shares



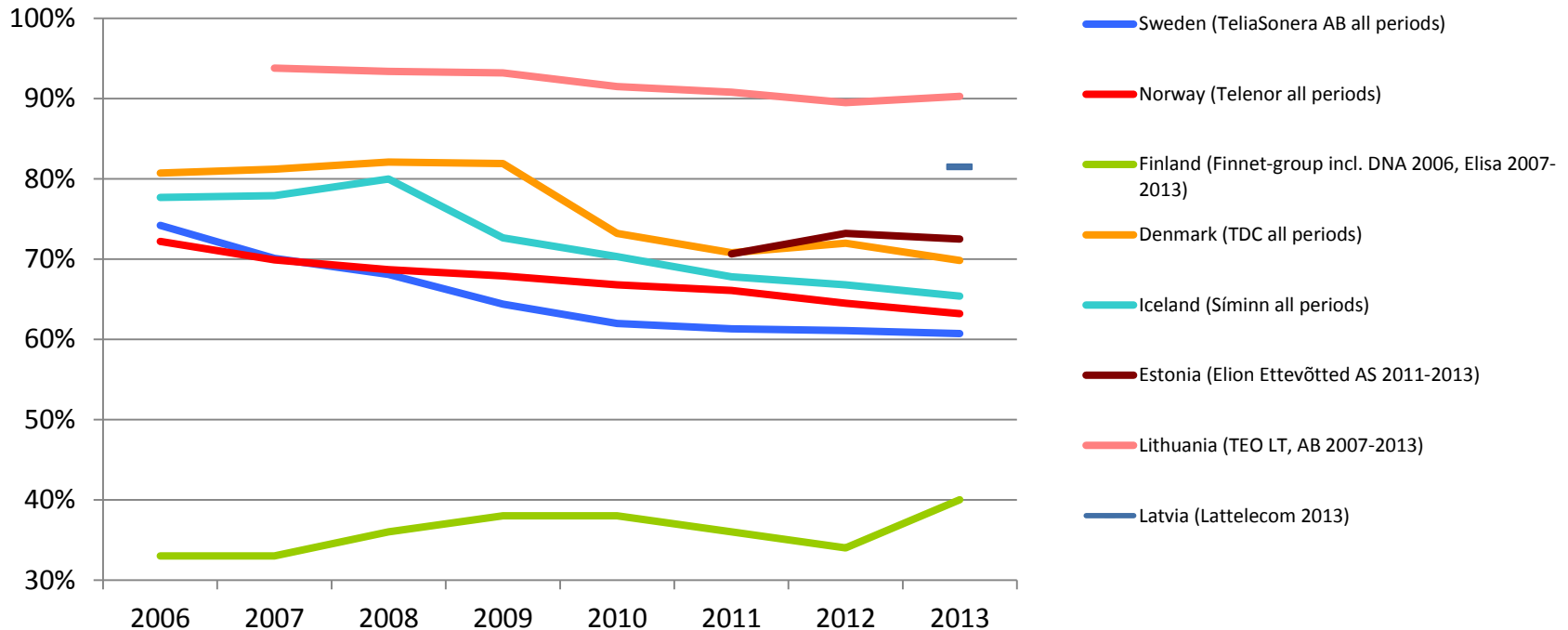
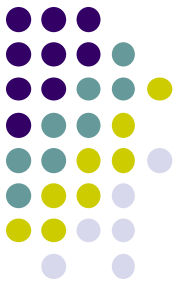
Market share of mobile subscriptions, leading operator¹



Except for Iceland the market share of the leading mobile operator is rather stable in all countries except for Lithuania. Telenor in Norway has since 2008 been the single mobile operator with the biggest share in a national market. Iceland's Síminn had a dramatic decrease in market share from the highest level in 2006 at 60 percent to the lowest at 37 percent in 2013. In the rest of the countries the leading operator had market shares between 35 and 42 percent and in average declining a bit in the period 2006 to 2013. In Finland the leading operator changed from TeliaSonera to Elisa in 2009.

¹Operator with the biggest market share in the period. Market share includes subsidiaries. Mobile subscriptions includes ordinary mobile subscriptions and dedicated data subscriptions. Only data for Estonia in 2011 and 2013. Only data for Lithuania in 2007 to 2013 and Latvia in 2013.

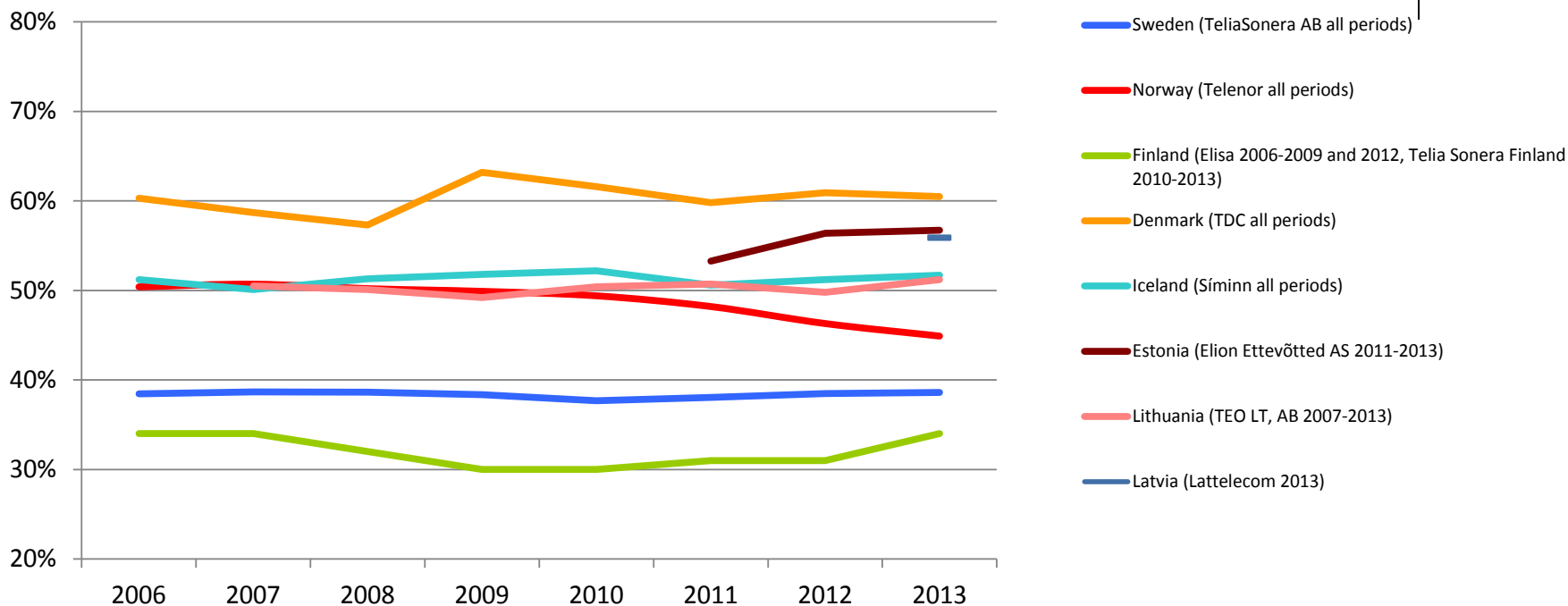
Market share of fixed telephony subscriptions, leading operator¹



Regarding the market share of fixed telephony subscriptions, Lithuanian TEO LT, AB had since 2007 the single biggest share of any of the fixed markets with 90 percent or more, while the Finnish Elisa had the smallest share in the same period remaining at approx. 40 percent in 2013. In Denmark, Sweden and Norway the leading operators market share is decreasing with approx. 9 to 14 points from 2006 to 2013.

¹Operator with the biggest market share in the period. Market share includes subsidiaries. Fixed telephony subscriptions includes PSTN-, ISDN- and broadband telephony subscriptions (VoIP). Only data for Estonia in 2011 and 2013. Only data for Lithuania in 2007 to 2013 and Latvia in 2013.

Market share of fixed broadband subscriptions, leading operator¹



As with the mobile market the fixed broadband market also shows rather stable market shares for the leading operator. TDC in Denmark had the biggest share in a national broadband market in the entire period. Telenor in Norway is the only operator with decreasing market shares throughout the period - going 1,4 and 0,5 points down to 45 and 61 percent of the market in 2013. TeliaSonera's share is quite stable just below 40 percent of the Swedish fixed broadband market. In Finland the market shares of Elisa and TeliaSonera are very close together, and the largest operator has changed two times since 2006.

¹Operator with the biggest market share in the period. Market share includes subsidiaries. Only data for Estonia in 2011 and 2013. Only data for Lithuania in 2007 to 2013 and Latvia in 2013.