

# Telecommunication Markets in the Nordic Countries



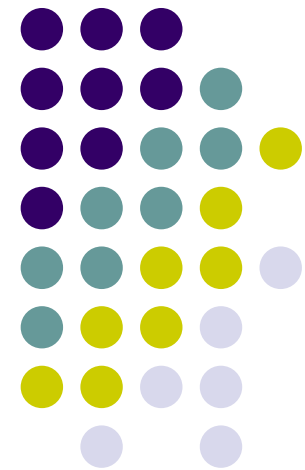
**Finnish Communications  
Regulatory Authority**



**IT- og Telestyrelsen**  
Ministeriet for Videnskab  
Teknologi og Udvikling



**Post- og teletilsynet**  
Norwegian Post and Telecommunications Authority



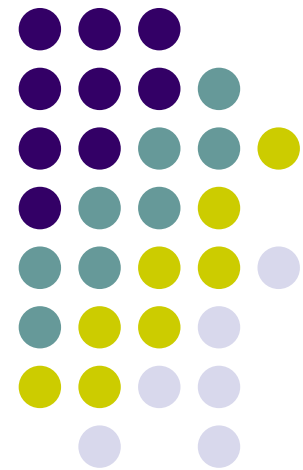
# About the Nordic tele database



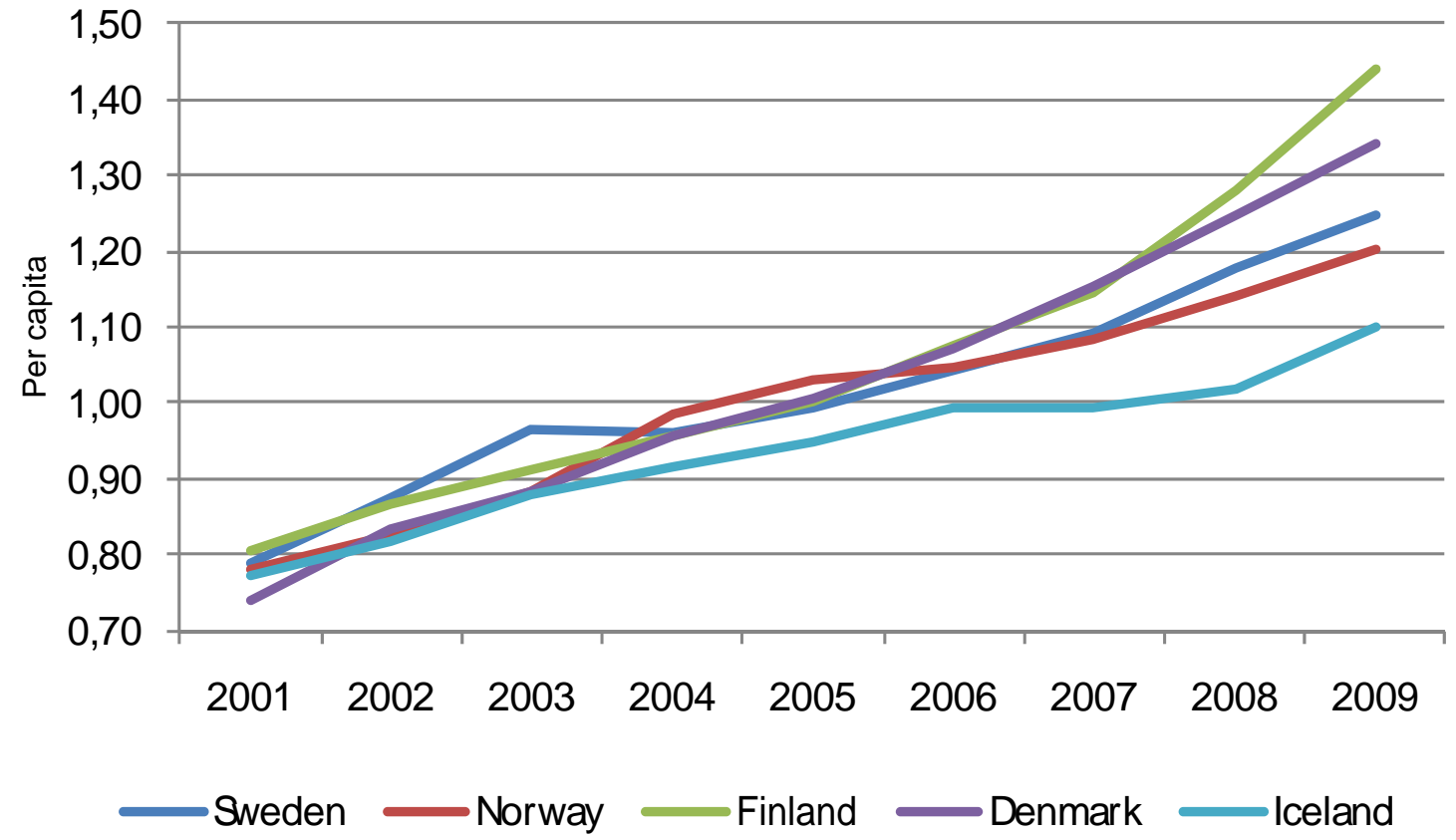
- Established 2007
- A descriptive database
- A selected number of variables that is comparable between the Nordic countries
- A dynamic database that will change and grow with developments in the telecom markets
- If not stated otherwise the sources for all figures are the NRA and national statistical agency of each country
- If not stated otherwise graphs includes figures for both private and business

# Mobile Services

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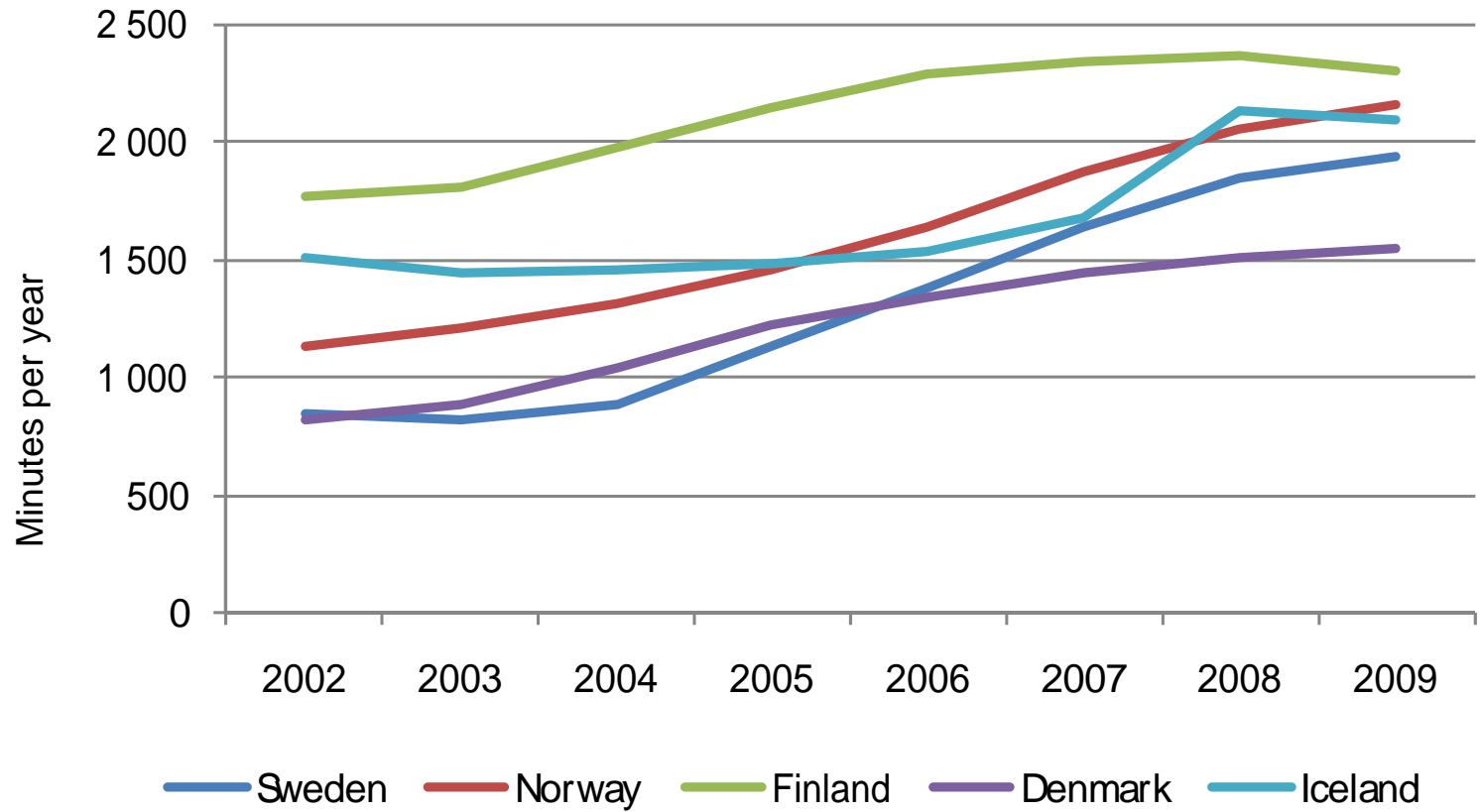
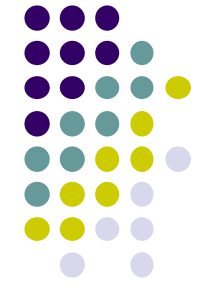
# Mobile subscriptions<sup>1</sup> per capita



Number of mobile subscriptions is still growing smoothly in every Nordic country. The increase in difference between the countries can be explained by the development of mobile broadband subscriptions. Iceland was adopting mobile broadband later than other Nordic countries. That is the reason why the growth of subscriptions have been faster in other Nordic countries between 2007 and 2008.

<sup>1</sup>Includes both private and business GSM/UMTS subscriptions. Pre-paid subscriptions should be active last 3 months (Iceland last 6 months).

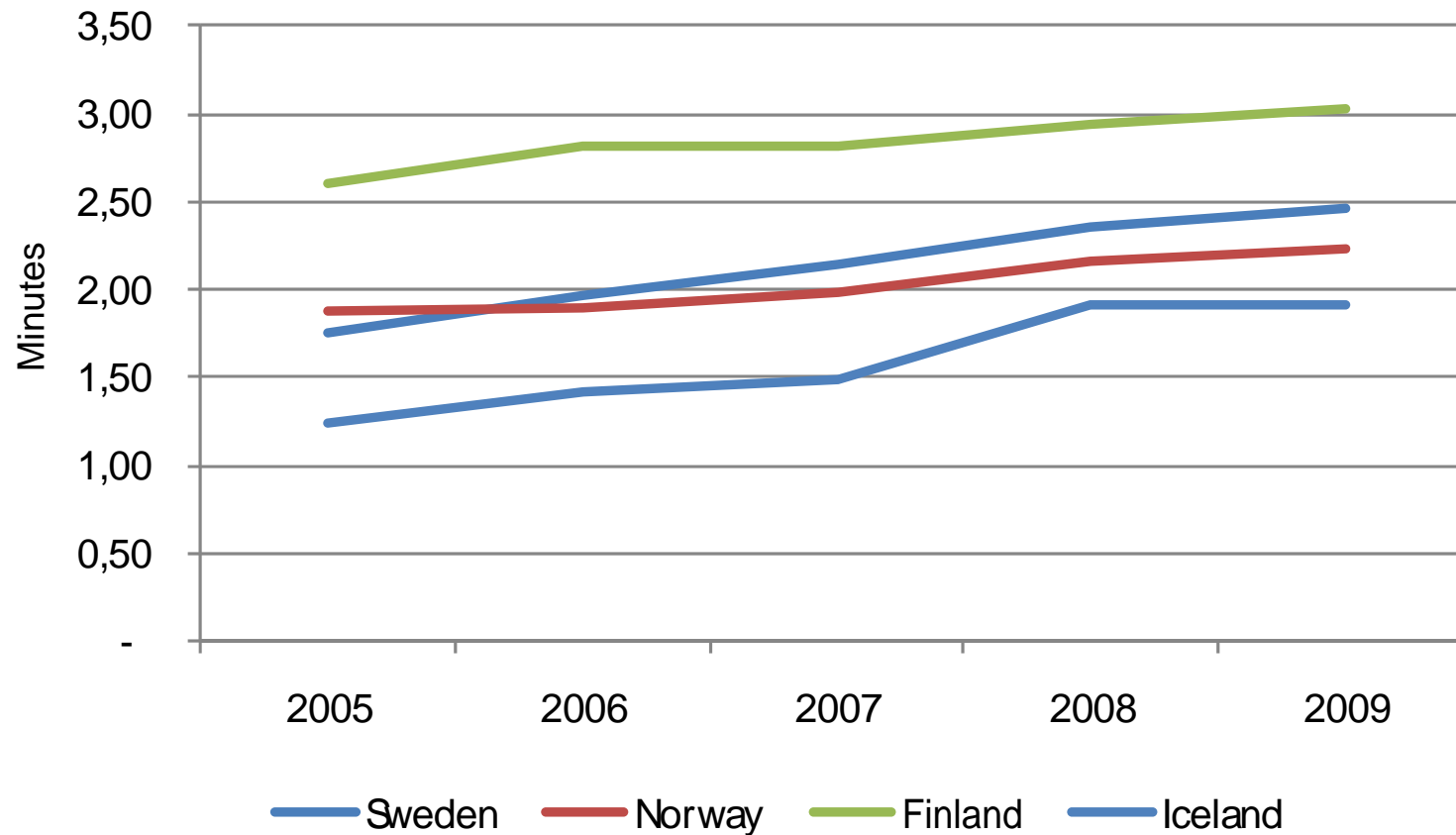
# Mobile call minutes per subscription<sup>1</sup> in a year



Finland has a significant higher usage of mobile telephony for speech. Finland has the lowest penetration and usage of fixed telephony and of broadband telephony (VoIP). Denmark has the lowest minutes per subscription, but the highest use of SMS messages.

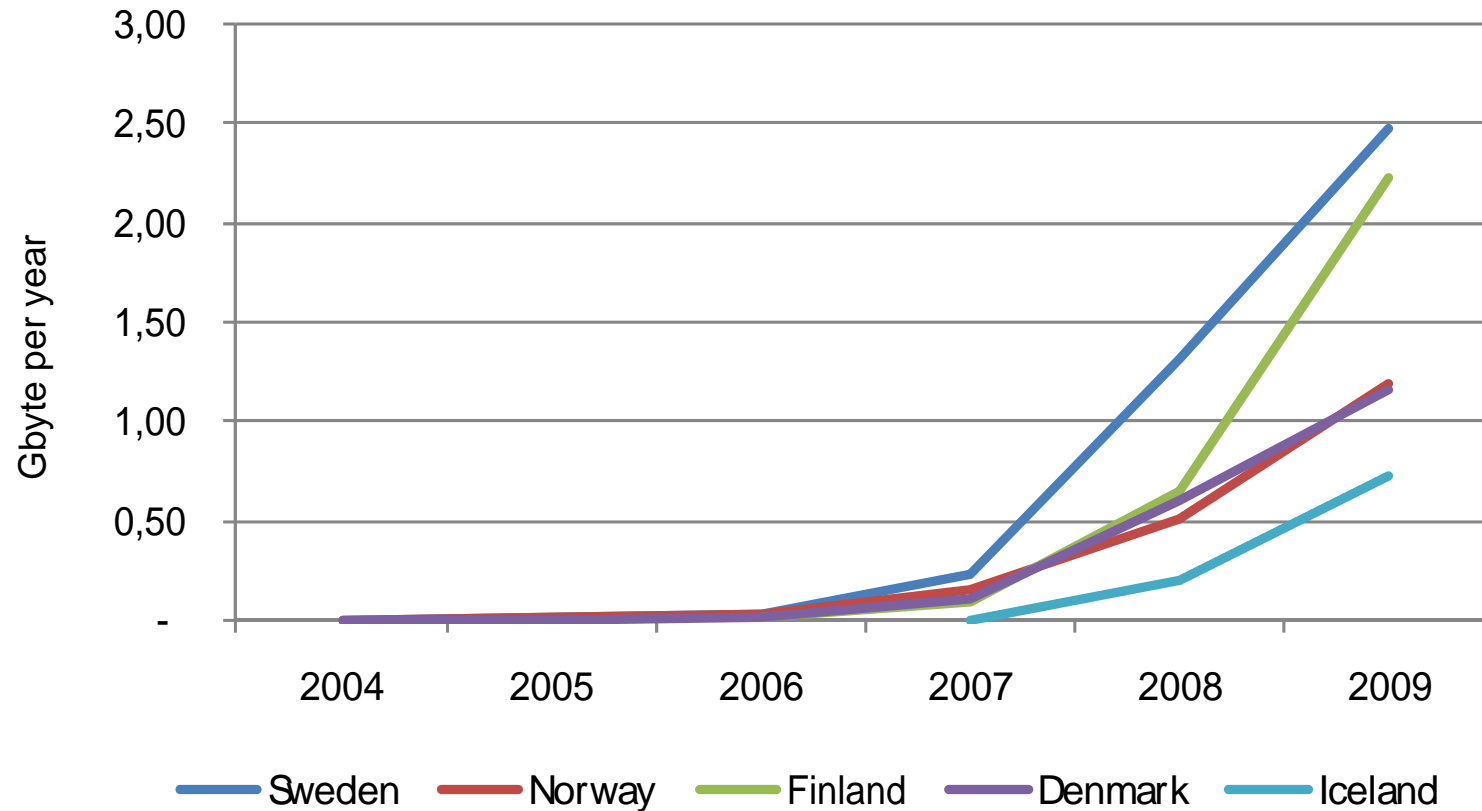
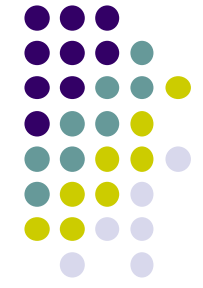
<sup>1</sup> Subscriptions is the average of the number of subscriptions at the beginning and end of each year. Exclusive mobile broadband subscriptions

# The average length of a mobile call



The average length of a mobile calls are getting more and more closer to the average length of a fixed telephone calls in the Nordic countries.

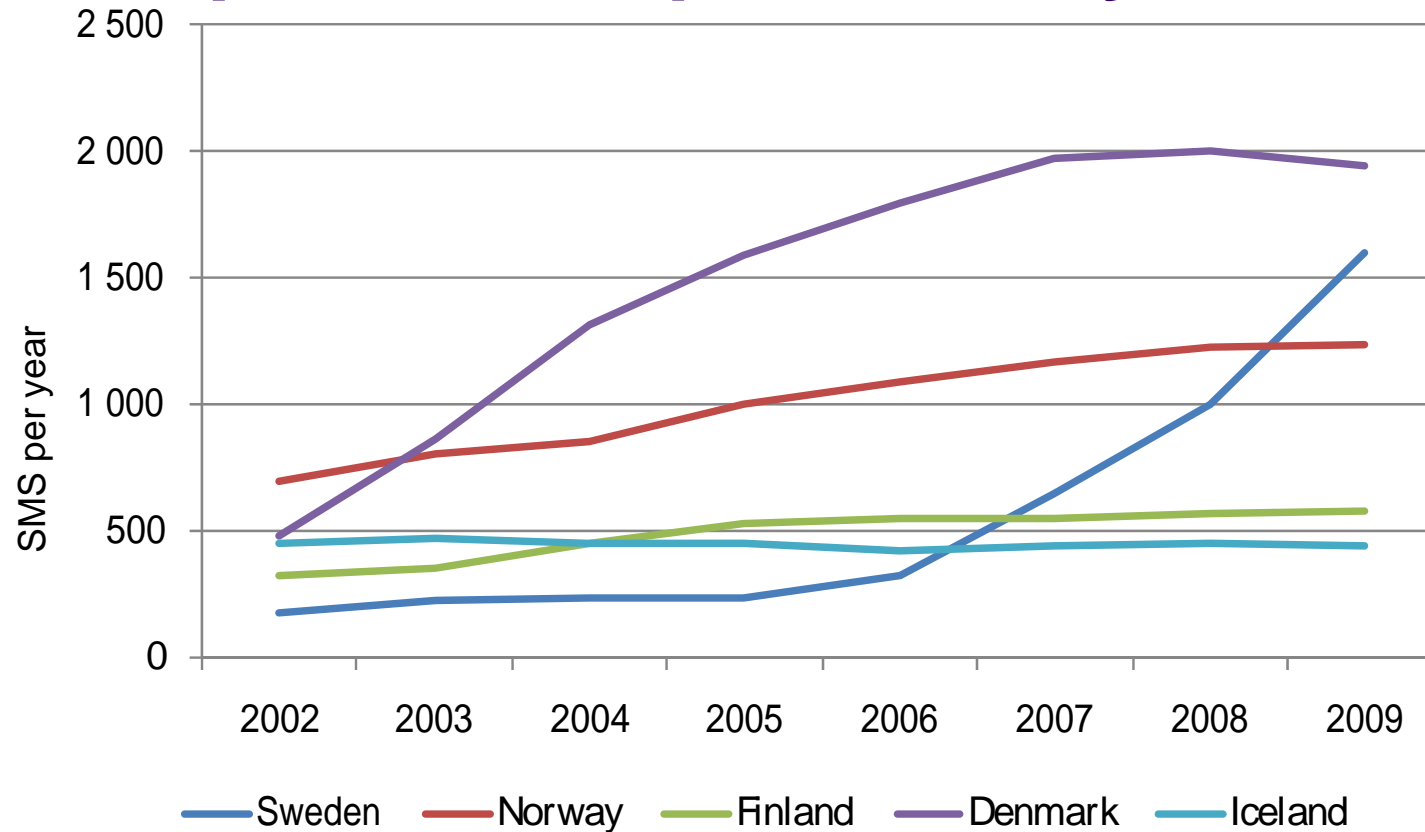
# Data volume transferred over mobile networks, average Gbyte per subscription<sup>1</sup>



Data volume transferred over mobile networks have increased fast in every Nordic country. Also, here we can see that Iceland was adopting mobile broadband later than other Nordic countries and growth of data volumes transferred have not been so fast between 2007 and 2008.

<sup>1</sup>Includes subscriptions and traffic for both mobile and mobile broadband. Sweden and Denmark is measuring both outgoing and incoming packet data

# Average number of SMS messages send per subscription<sup>1</sup> in a year

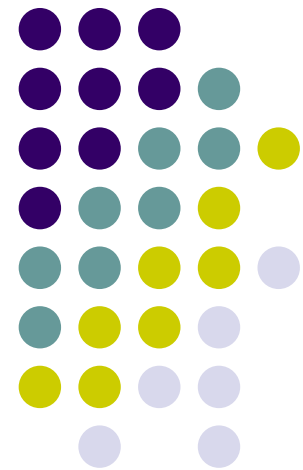


Average number of SMS messages send per subscription in a year are decreasing in Denmark after a strong growth during the beginning of the decade. Number of SMS messages send are increasing fast in Sweden, while in Norway the growth is smooth. In Finland and Iceland the use of SMS messages have been quite modest.

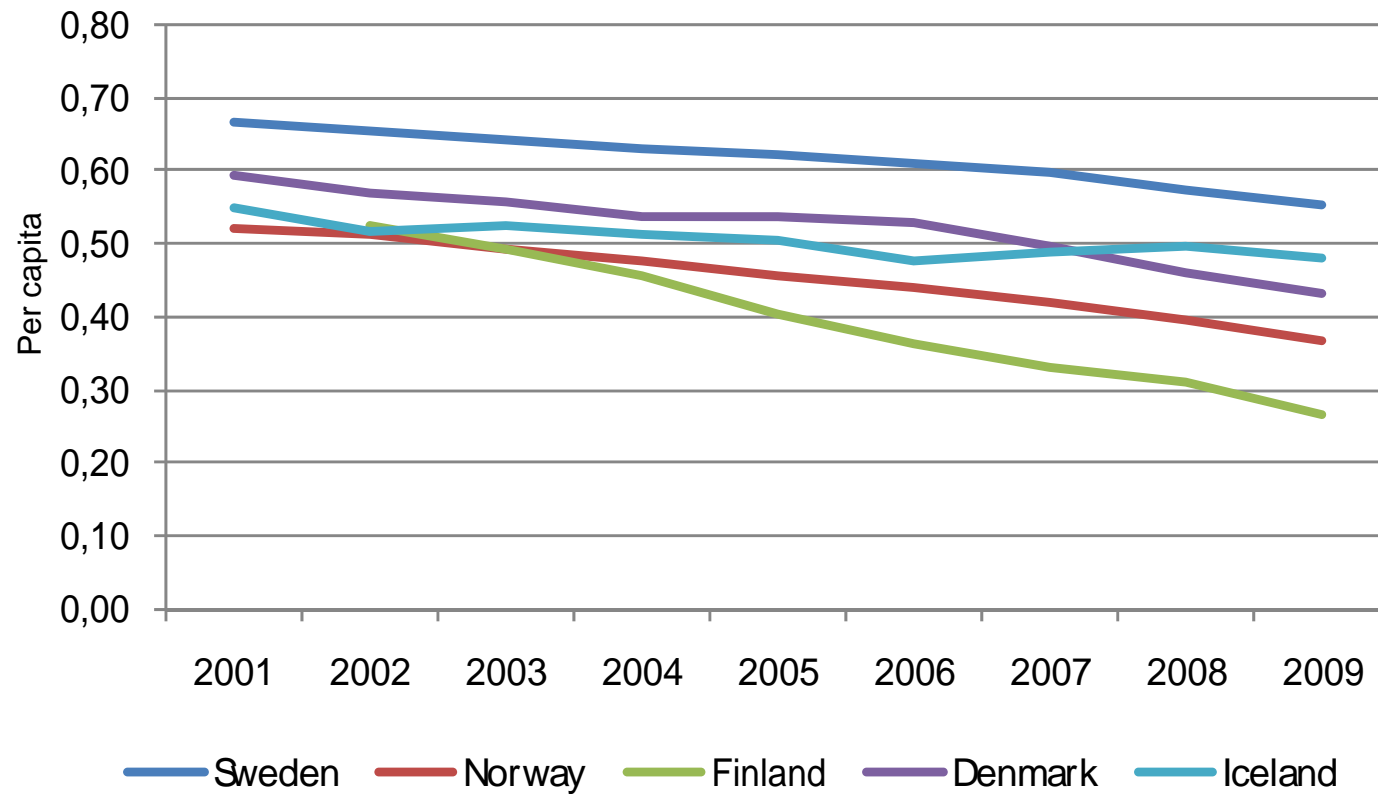
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# Fixed Call Services

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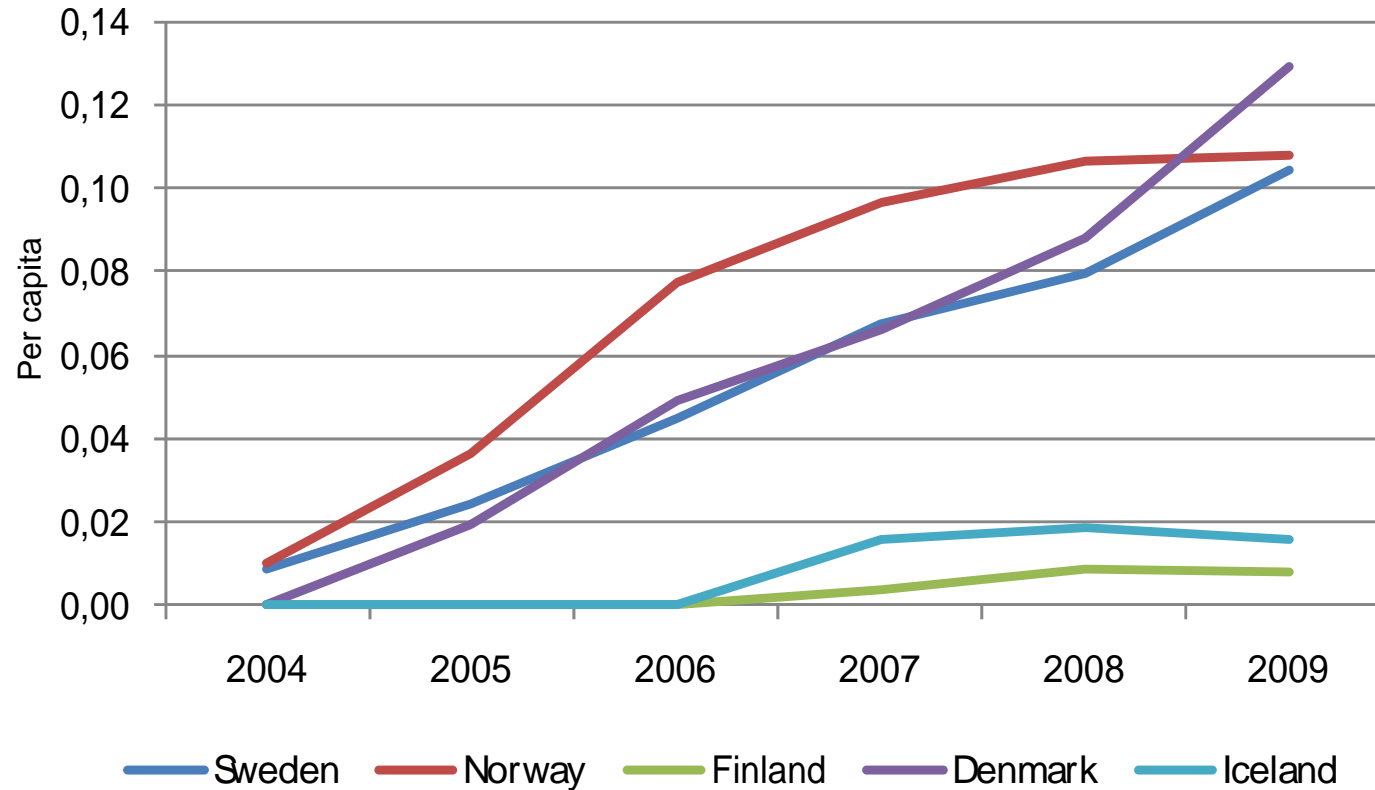
# Fixed telephone subscriptions<sup>1</sup> per capita



The number of fixed telephone subscriptions per capita is decreasing in every Nordic country. The decrease is less apparent in Iceland, but very fast in Finland.

<sup>1</sup>Includes both private and business subscriptions. Includes PSTN, ISDN and broadband telephony (VoIP)

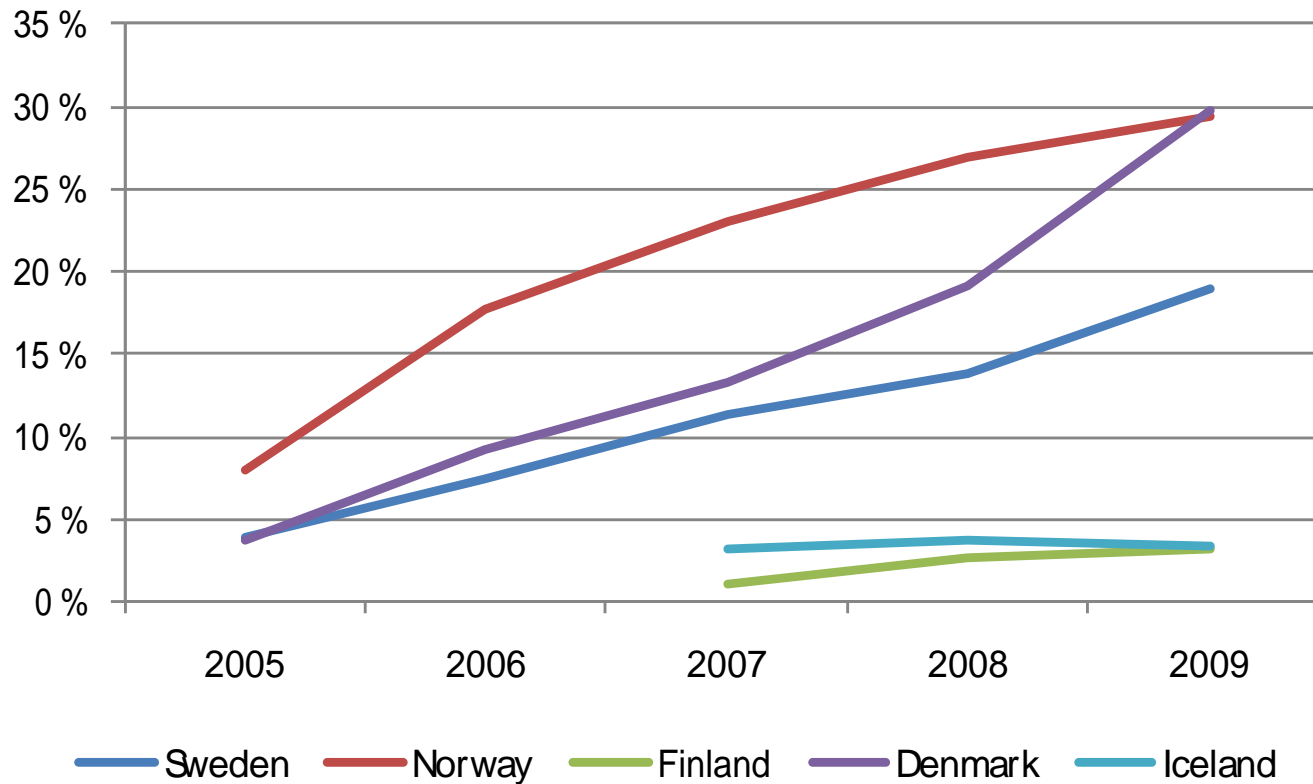
# Broadband telephony (VoIP) subscriptions<sup>1</sup> per capita



The number of broadband telephony subscriptions per capita has been increasing fast in Norway, Denmark and Sweden. Although, in Norway the growth has stopped. In Finland and Iceland the number of broadband telephony are relatively modest.

<sup>1</sup>Includes both private and business subscriptions.

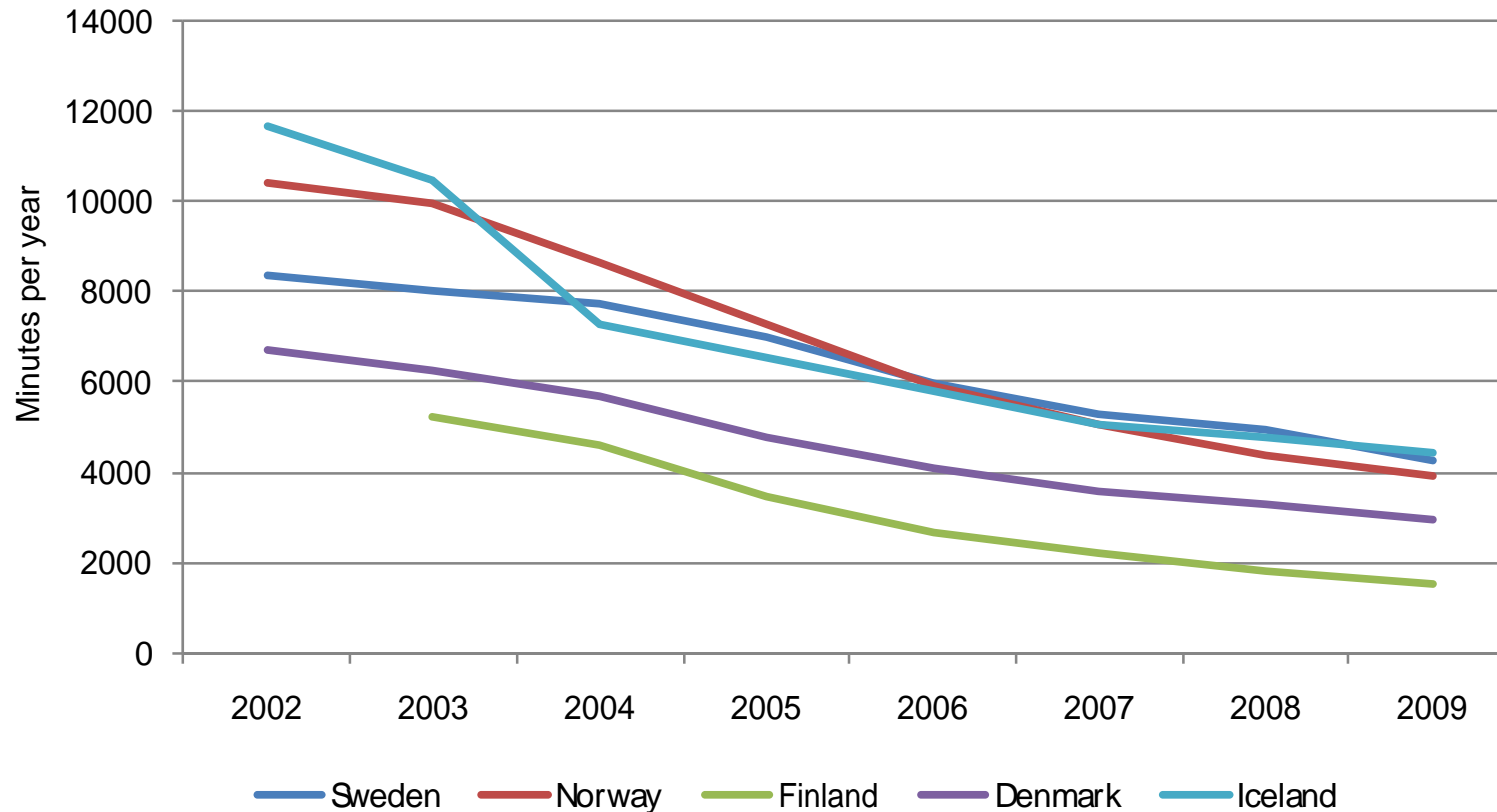
# Share of broadband telephony (VoIP) of all fixed telephony subscriptions<sup>1</sup>



The share of broadband telephony of all fixed telephony subscriptions in the end of the year where almost 30 percent in Denmark and Norway and in Sweden it was almost 20 percent.

<sup>1</sup>All fixed telephony subscriptions is PSTN+ISDN+broadband telephony

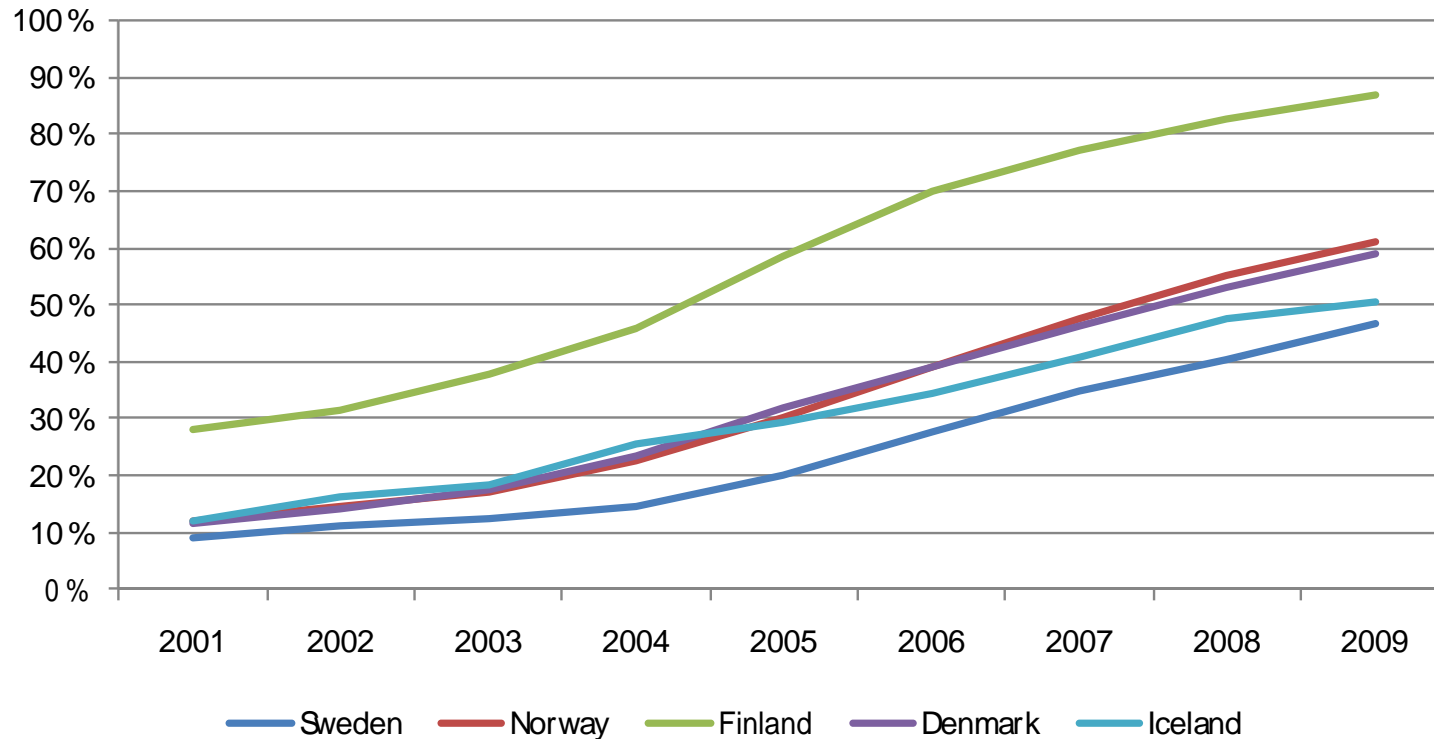
# Number of fixed call minutes per subscriptions<sup>1</sup> in a year



The usage is declining in all countries. Finland has the lowest usage, but has the highest usage of mobile telephony

<sup>1</sup> Subscriptions is the average of the number of subscriptions at the beginning and end of each year.

# Share of mobile minutes of all originated minutes (incl. dial-up<sup>1</sup>)

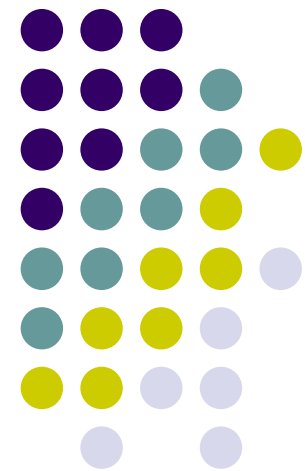


Shows that the usage of mobile telephony is becoming more and more dominant in terms of minutes of speech. The share of mobile minutes of all originated minutes is 87 percent in Finland. The share of mobile minutes of all originated minutes in Denmark and Norway where approximately 60 percent and in Sweden and Iceland approximately 50 percent.

<sup>1</sup>All originated minutes are the sum of all fixed minutes including dial-up internet and all mobile minutes

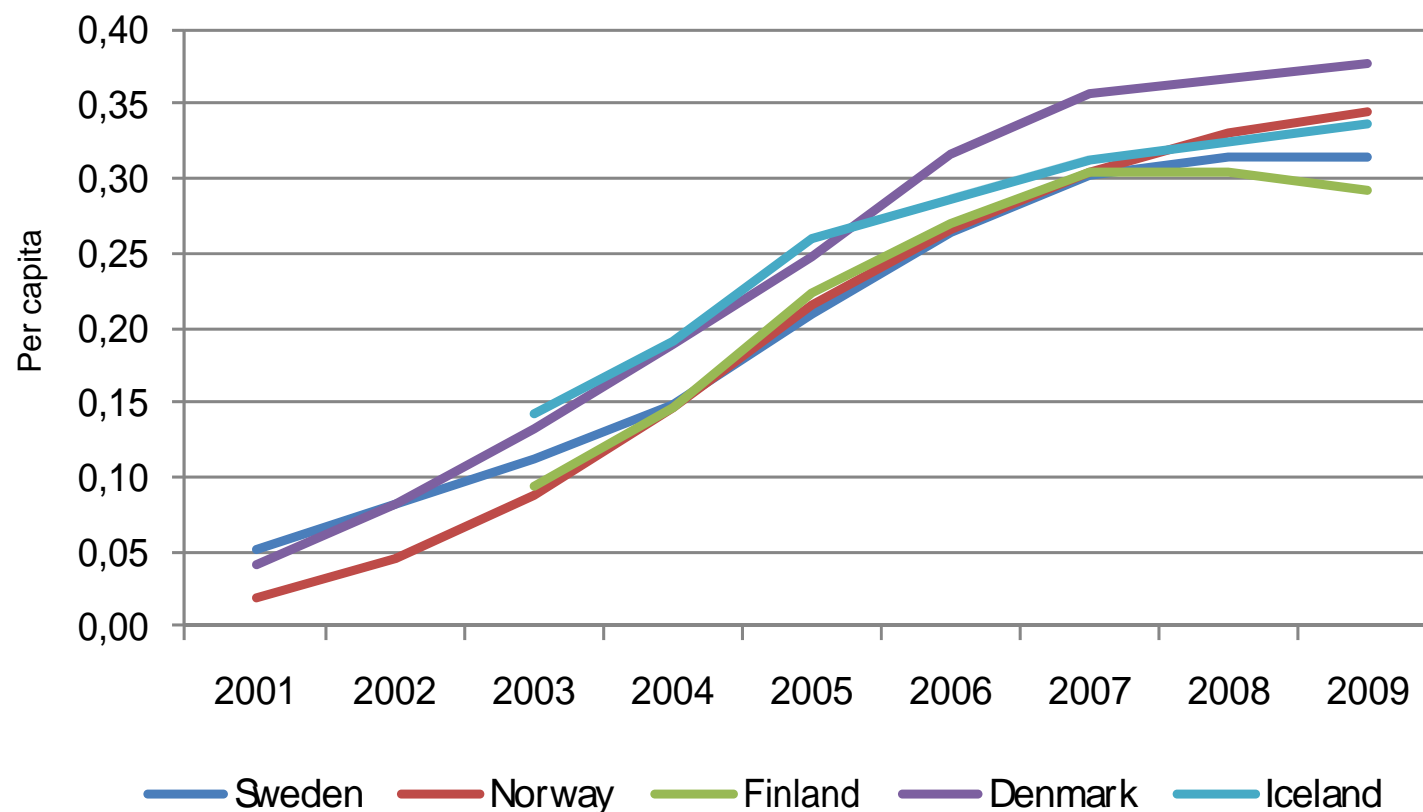
# Internet Services

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# Number of fixed broadband subscriptions<sup>1</sup> per capita

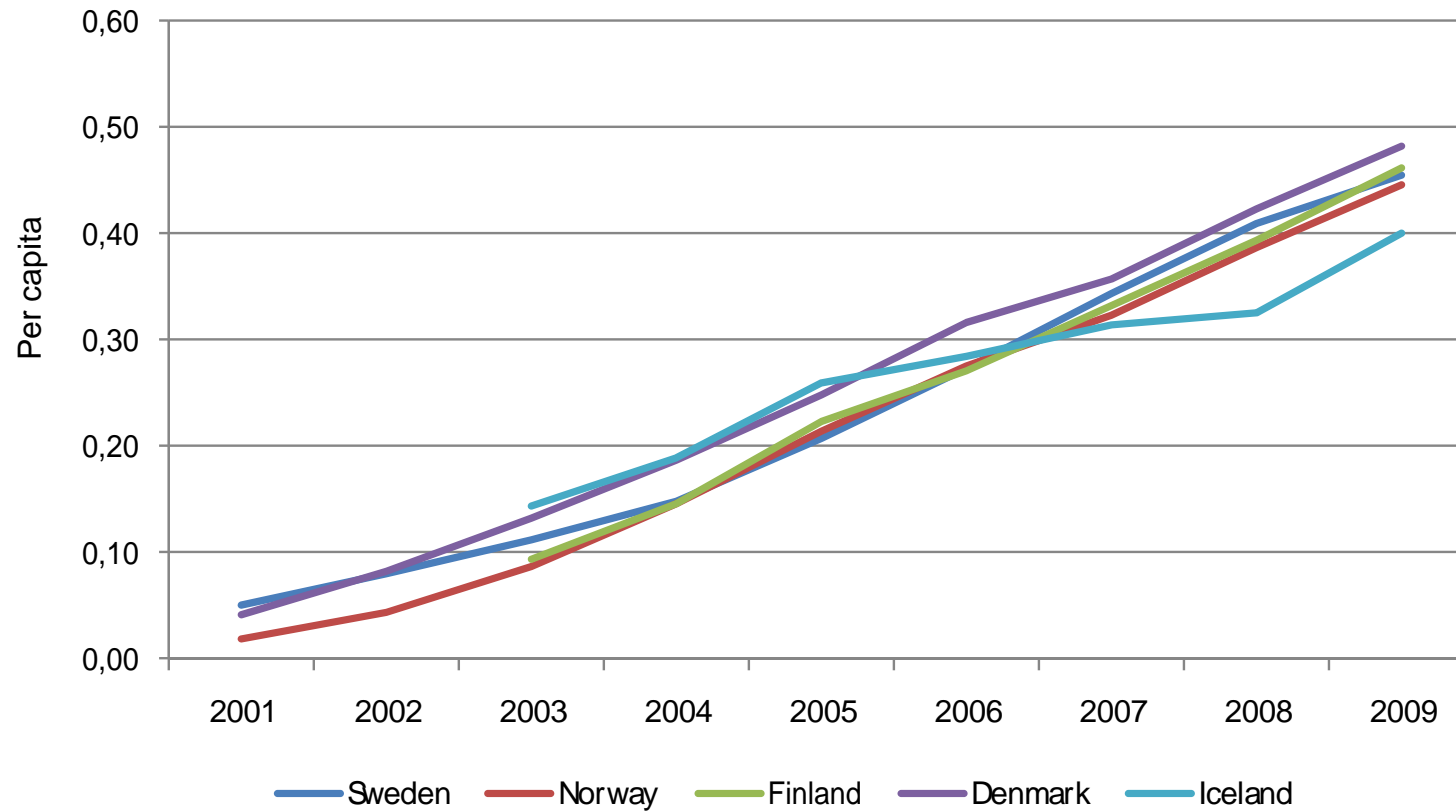


The growth has stagnated in all countries. There is even a decline in Finland. This could partly be explained by substitution to mobile broadband. All Nordic countries are within the OECD top 10 on broadband penetration.

<sup>1</sup>Including both private and business subscriptions



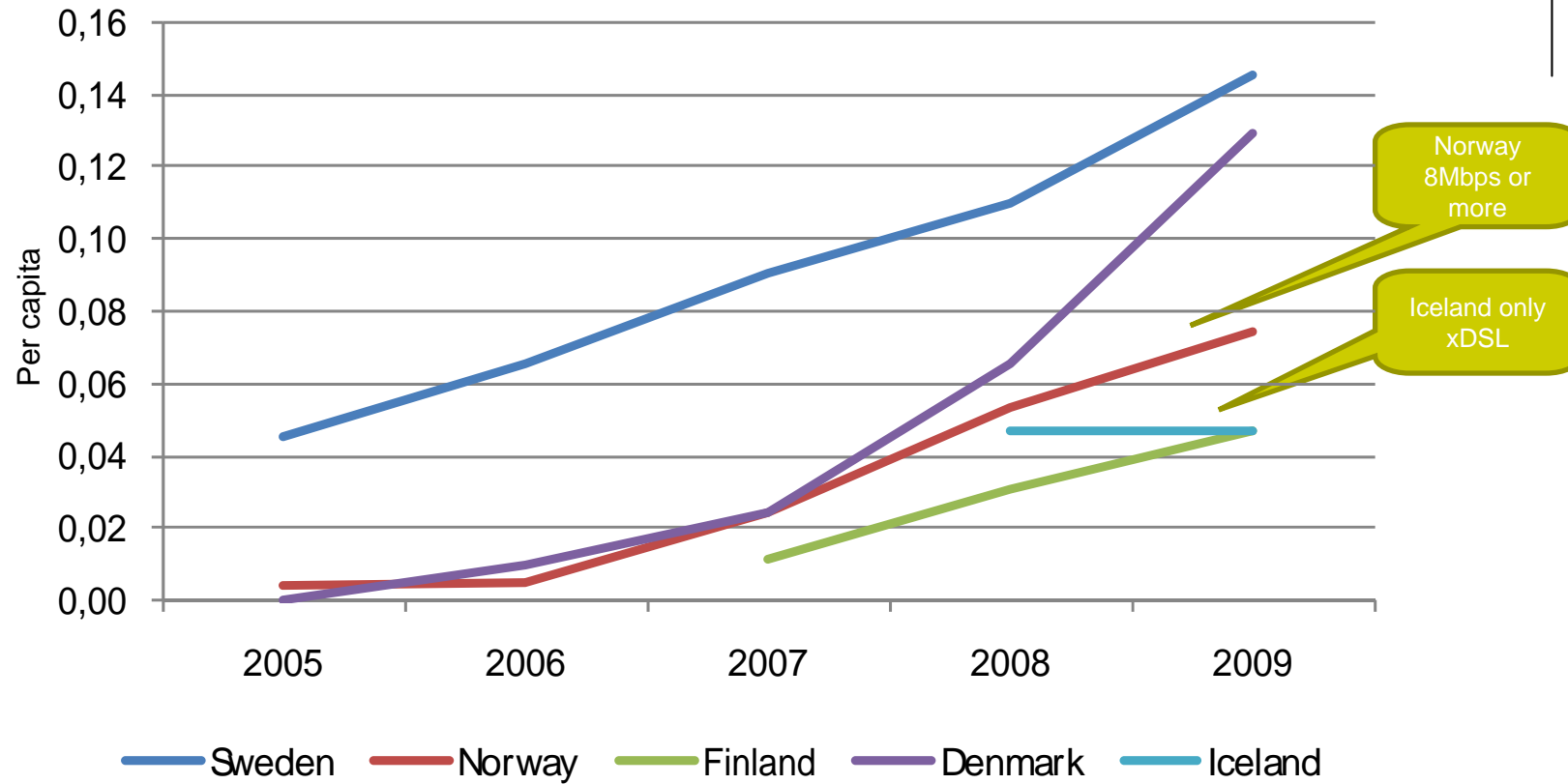
# Number of broadband subscriptions<sup>1</sup> per capita (incl. mobile broadband)



When adding the growth in mobile broadband to fixed broadband the graph shows that the Nordic countries are clustered (except Iceland) between 0,4 and 0,5 per capita

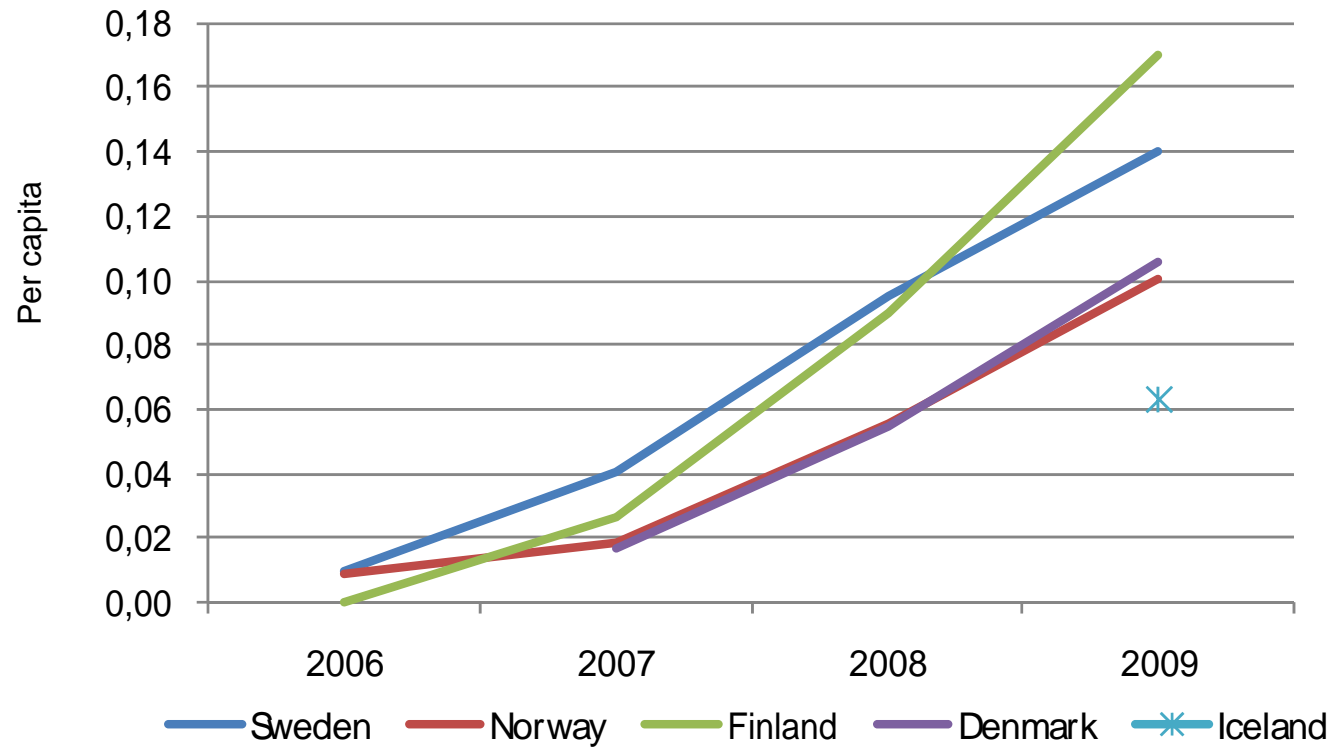
<sup>1</sup>Includes both private and business subscriptions

# Number of fixed broadband subscription with capacity of 10 Mbps or more per capita

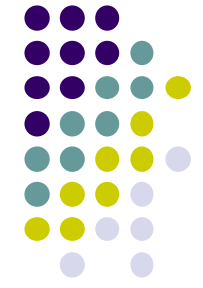


The figure shows broadband penetration for subscriptions with 10 Mbps or more downstream. Sweden has a higher share of fibre than Denmark and Norway. Figures for Iceland includes only xDSL.

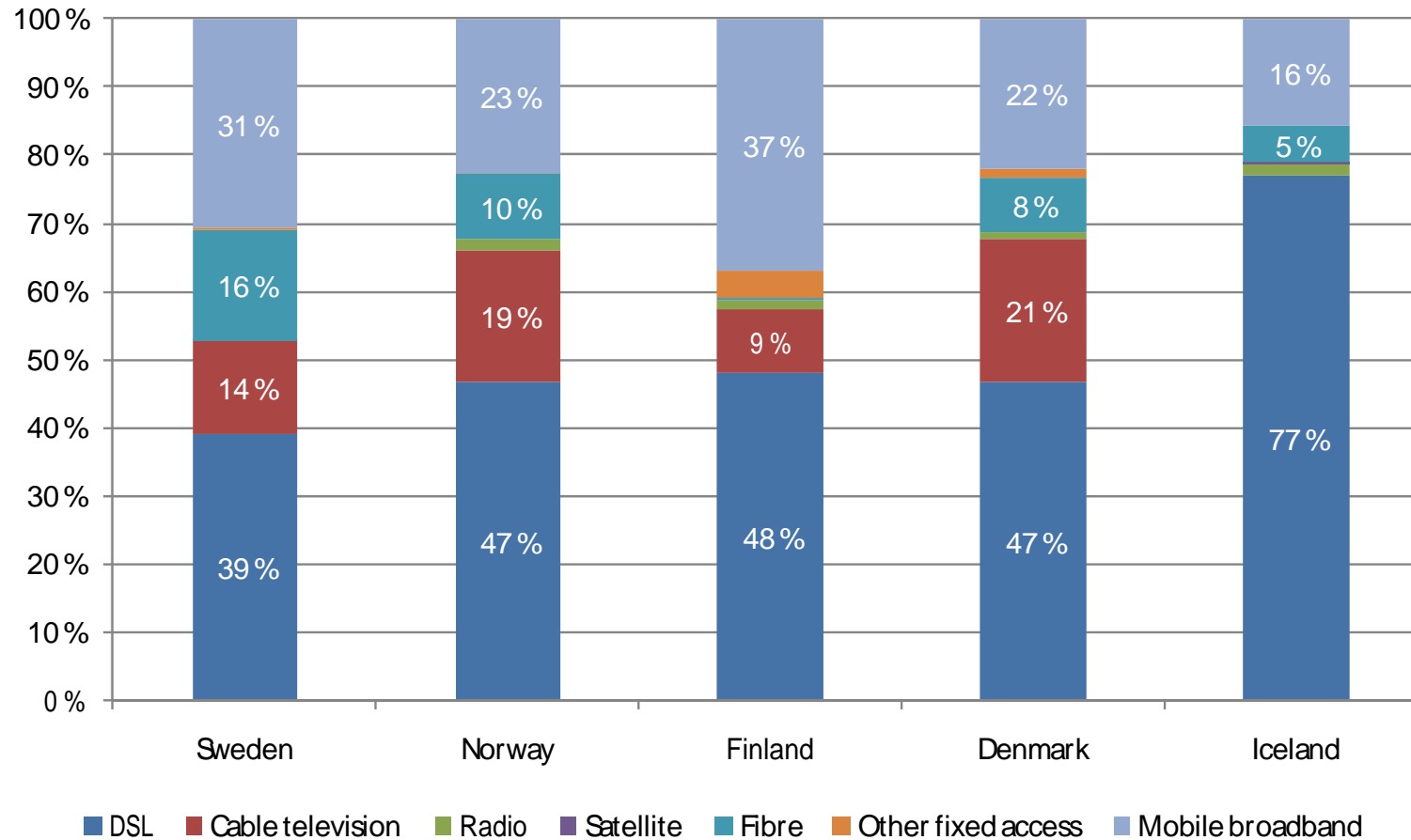
# Number of mobile broadband subscriptions per capita



The graph is showing the number of dedicated mobile broadband subscriptions in relation to the total population. This corresponds to 17 out of a 100 inhabitants has a mobile broadband subscription in Finland, 14 in Sweden, 11 in Denmark, 10 in Norway and 6 in Iceland. The growth rate is very high in all countries.



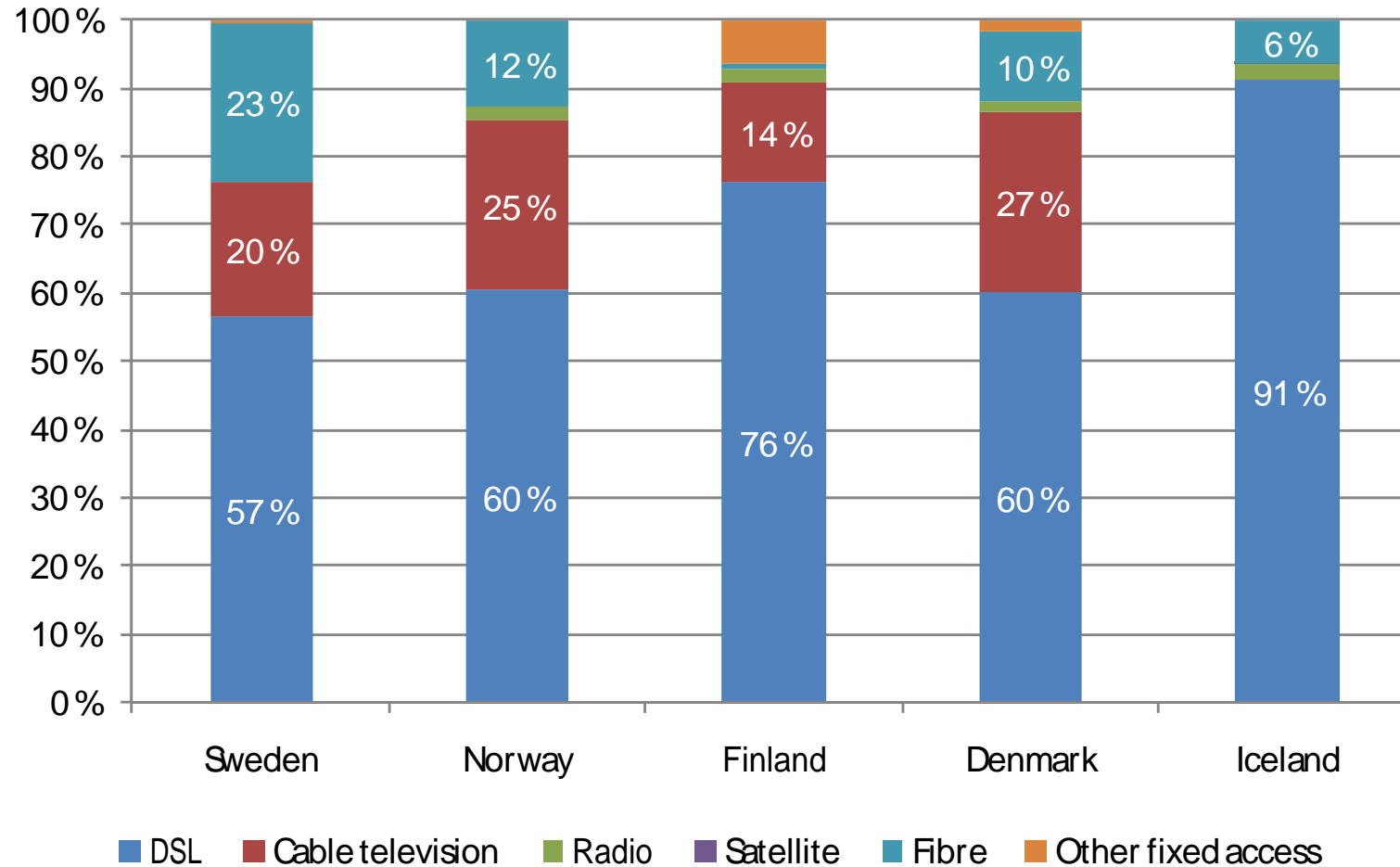
# Share of broadband technologies in 2009 (all technologies incl. mobile broadband)



Fibre incl. "fibre + LAN" and "Ethernet + LAN"

Sweden has the highest share of fibre. The number of xDSL subscriptions has fallen in Sweden, Norway and Finland from 2008 until 2009. In Denmark and Iceland the number is almost unchanged.

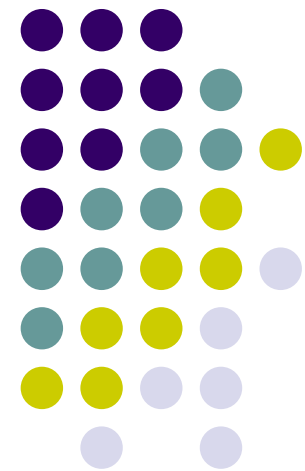
# Share of broadband technologies in 2009 (fixed broadbands)



Fibre incl. "fibre + LAN" and "Ethernet + LAN"

# Market Shares

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# Market shares of mobile subscriptions<sup>1</sup>, two largest operators



Sweden		Norway		Finland		Denmark		Iceland	
TeliaSonera	41,5 %	Telenor	53,2 %	Elisa	38,0 %	TDC	43,3 %	Síminn	45,6 %
Tele2 (incl Optimal)	32,3 %	NetCom & Chess	26,7 %	TeliaSonera	36,0 %	Telenor	27,4 %	Vodafone	31,5 %
<b>Sum</b>	<b>73,7 %</b>		<b>79,9 %</b>		<b>74 %</b>		<b>70,7 %</b>		<b>77,1 %</b>

<sup>1</sup>Includes both private and business subscriptions and mobile broadband subscriptions. Includes subsidiaries.

# Market shares of fixed broadband subscriptions<sup>1</sup>, two largest operators



	Sweden	Norway	Finland	Denmark	Iceland				
TeliaSonera AB	38,4 %	Telenor	49,90 %	TeliaSonera	32 %	TDC (incl subsidiaries)	63,2 %	Síminn	51,8 %
Telenor (incl Glocalnet, B2 Bredband)	19,5 %	NextGenTel	13,30 %	Elisa	31 %	Telenor (incl subsidiaries)	13,5 %	Vodafone	29,2 %
<b>Sum</b>	<b>57,9 %</b>		<b>63,2 %</b>		<b>63 %</b>		<b>76,7 %</b>		<b>81,0 %</b>

<sup>1</sup>Includes both private and business subscriptions