

# Catching-up in broadband – what will it take?

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Exploring why broadband penetration rates differ across the OECD

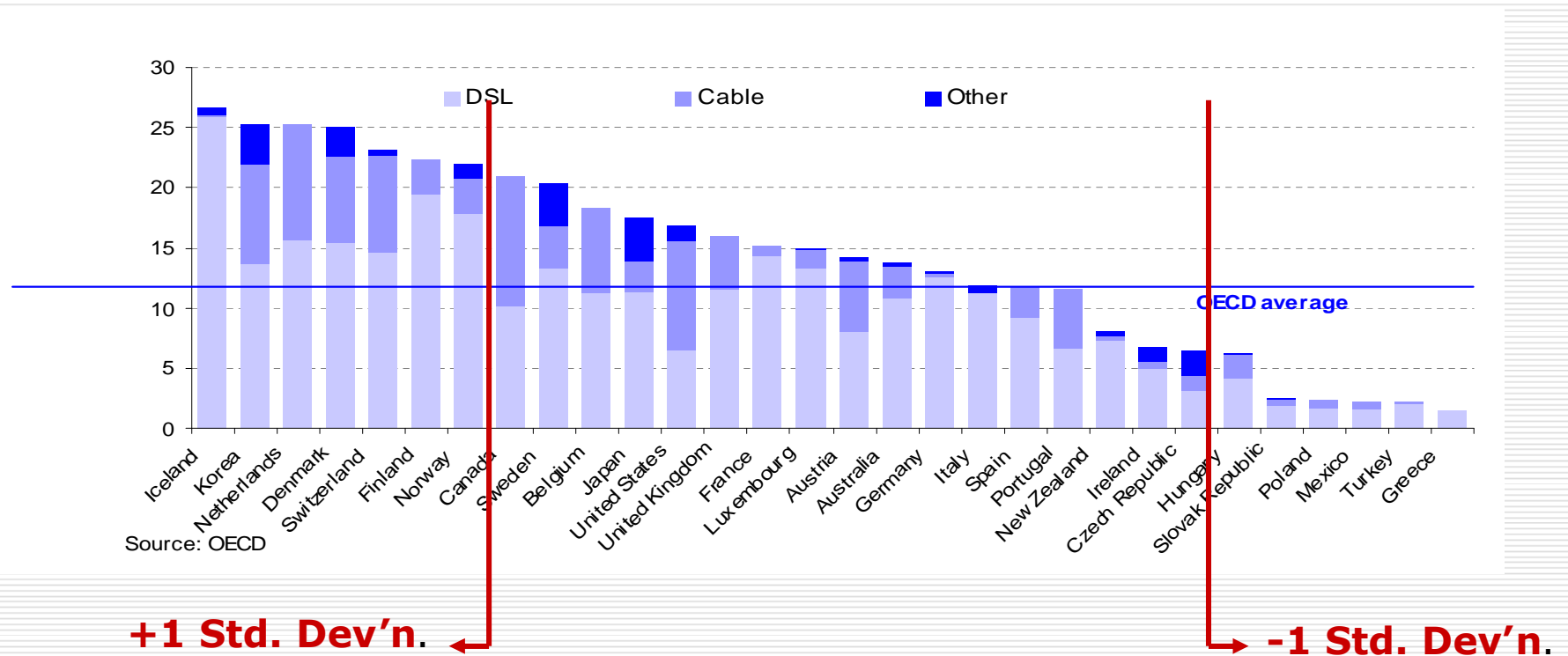
**This presentation is based on a report to the OECD at  
<http://www.oecd.org/dataoecd/34/34/39360525.pdf>**

# Outline of talk

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1. The task
2. The model
3. Deviations & update
4. Comparisons with other studies
5. Wrap-up and questions

# 1. Rankings at December 2005



# 1. The ones to explain

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+1 standard dev'n

- Iceland (ISL)
- Korea (KOR)
- Netherlands (NLD)
- Denmark (DNK)
- Switzerland (CHE)
- Finland (FIN)
- Norway (NOR)

-1 standard dev'n

- Greece (GRC)
- Turkey (TUR)
- Mexico (MEX)
- Poland (POL)
- Slovak Rep.(SVK)
- Hungary (HUN)

# 2.The model

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Demand= f (Income, Price, Education, Saturation, Weather)

Income = GDP per capita (USA=100)

Price = LN price of broadband

Education = % population with tertiary education

Market = Internet penetration

Weather = Average sunlight hours

**To make linear – see next Slide. Other variables linear**

Supply = f (Price, Urbanisation, Competition, Policy)

Urban = % population that is urbanised

Competition = % broadband that is non-ADSL

Policy = No. years that ULL was available

Demand = Supply

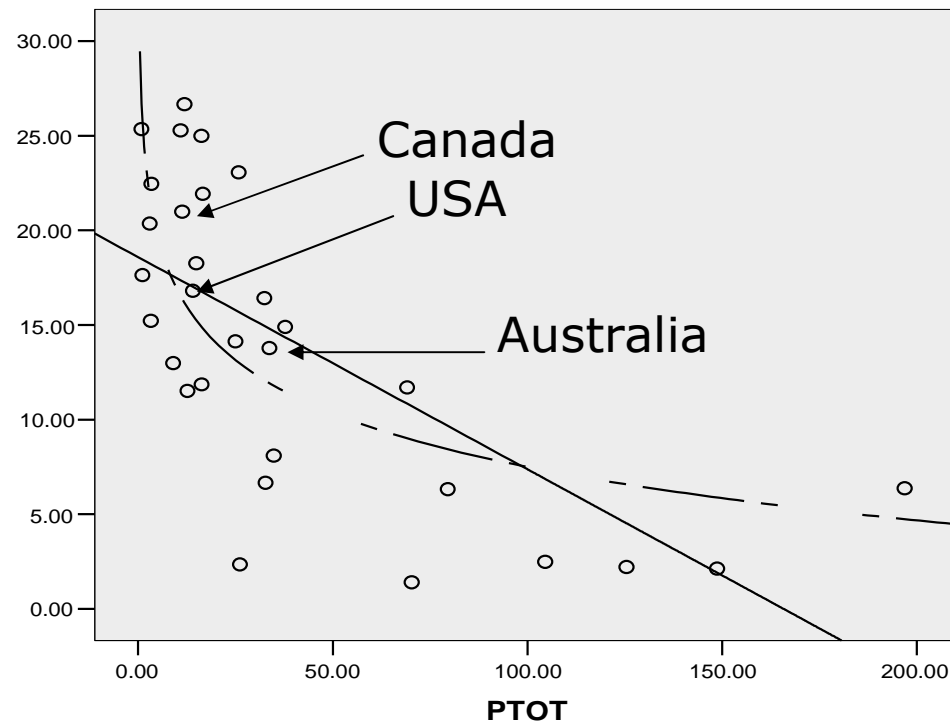
Demand and supply estimated separately and as “composite”

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# 2. Where are supply & demand?

Broadband penetration  
Dec.2005

QTOT



Price per  
Mbit/s  
Sept.2005

## 2. The data

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- December 2005
- Panel data (2005 + 2003)
- Differenced data (2005 - 2003)
  
- Unique OECD pricing data
- Different measures of each variable

# 3.Deviations by variable - Best

	ISL	KOR	NLD	DNK	CHE	FIN	NOR
Income							★
Price		★				★	
Educate				★		★	★
Market			★	★	★		★
Weather	★	☠	★				
Urban	★			★		☠	
Compete	☠	★					
Policy			★	★		★	

★ +1 standard deviation aiding performance  
☠ - 1 standard deviation hindering performance



Only in Greece do dial-up > broadband customers

In all but Poland, DSL price relative to dial-up > 2

### 3. Deviations by variable - Worst

	RC	TUR	MEX	POL	SVK	HUN
Income						
Price						
Educate						
Market						
Weather						
Urban						
Compete						
Policy						

-1 standard deviation hindering performance

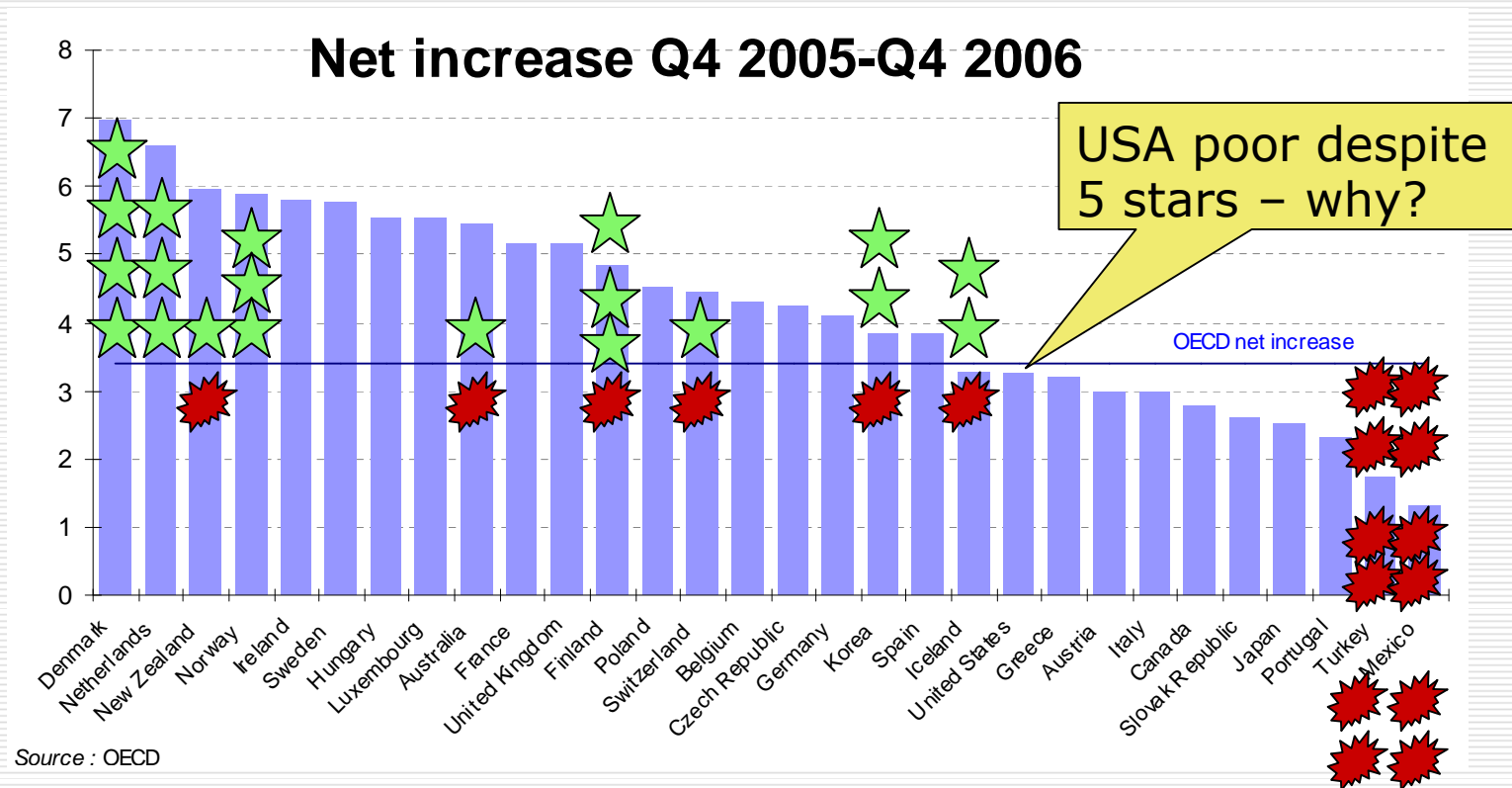
**USA – most stars and no splats!**

### 3. Deviations by variable +USA

	ISL	KOR	NLD	DNK	CHE	FIN	NOR
<b>Income</b>	★						★
<b>Price</b>		★				★	
<b>Educate</b>	★			★		★	★
<b>Market</b>			★	★	★		★
<b>Weather</b>	★	★	★				
<b>Urban</b>		★		★		★	
<b>Compete</b>	★	★					
<b>Policy</b>	★		★	★		★	

★ +1 standard deviation aiding performance  
★ -1 standard deviation hindering performance

# 3.Update – A year later












































## 4. Other studies of OECD

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- ❑ Lee, S. & Marcu, M. (2007).
- ❑ Bauer, J. Kim, J.H. & Wildman S. (2003)
- ❑ Cava-Ferreruela, I & Alabau-Munoz, A. (2006)
- ❑ Wallsten, S. (2006)
- ❑ Grosso, M. (2006)
- ❑ Garcia-Murillo, M. & Gabel, D. (2003)
- ❑ Turner, S. D. (2006)

# 4. Significance comparisons

	de Ridder	Lee	Bauer	Cava	Wallsten	Grosso	Garcia	Turner
<b>Income</b>								
<b>Price</b>								
<b>Educate</b>								
<b>Market</b>								
<b>Weather</b>								
<b>Urban</b>								
<b>Compete</b>		 (1)		 (1)				
<b>Policy</b>		 (1)			 (1)	 (1)	 (1)	

(1) Dummy used

## 5. Wrap-up

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- ❑ The good news is that over 80% of differences can be explained
- ❑ The bad news is that there is not much for governments to work on
- ❑ Platform competition hard to detect
- ❑ Unbundling maybe an option to increase broadband take-up

# 5. Questions?

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