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Broadband Regulation – International Perspectives

PIU – ELECTRONIC NETWORKS SEMINAR

18 January 2002

Broadband penetration – selected countries

	Broadband launch	Internet penetration at time of broadband launch % of households	Broadband penetration 2001* % of households
Denmark	1999	50	6
Sweden	1999	43	9
U.S.	1998	34	9
U.K.	**2000**	**24**	**1**
South Korea	1999	20	49
Germany	1999	15	4
France	1998	12	3
Spain	1999	8	1
Italy	1999	7	1

* June 2001

Source: MSDW; Broadband Media, Korean Ministry of Information ; OECD; ECTA; IDATE

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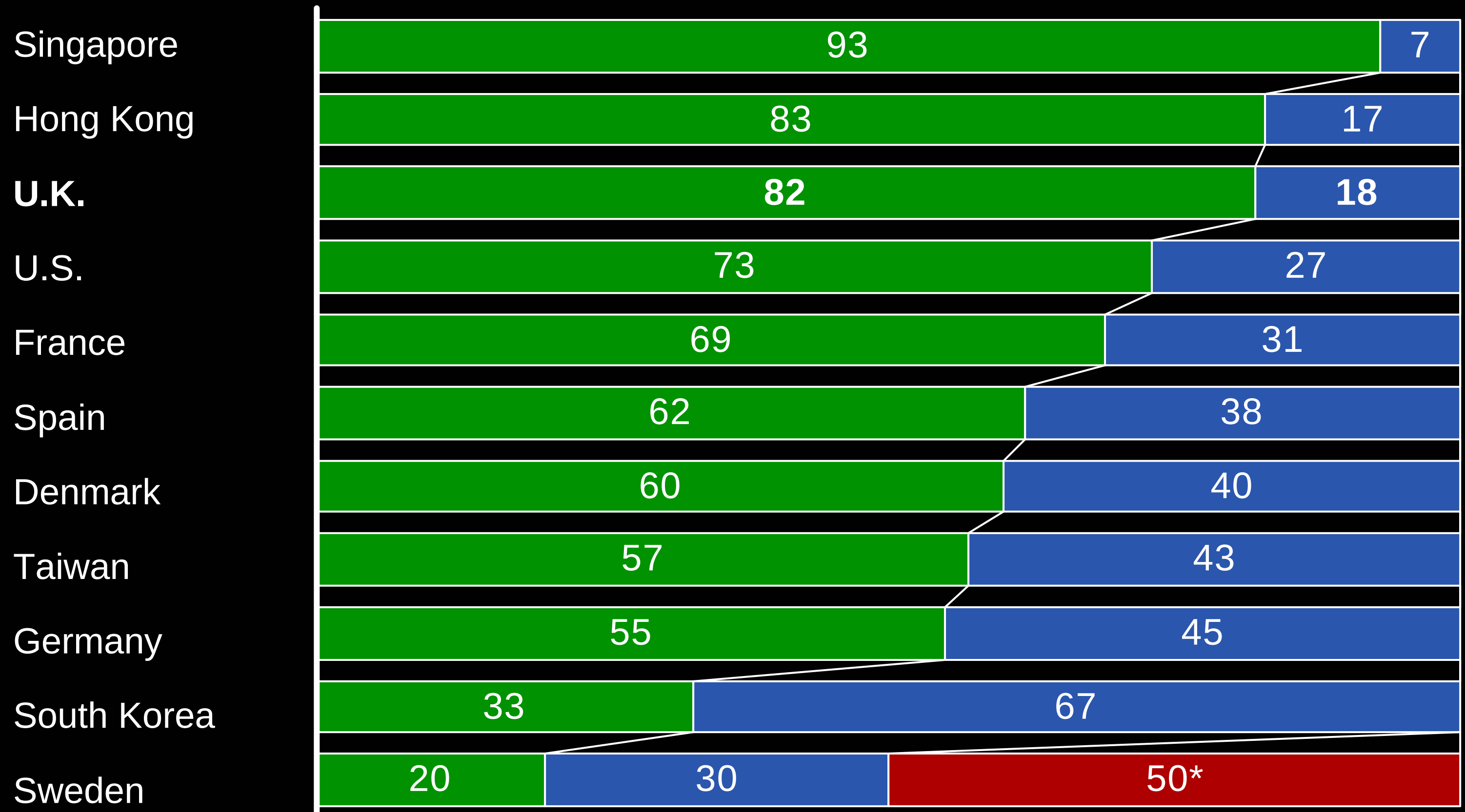
Relative importance of alternative access in early years

Broadband access

% on online households, 2001



* Fibre to the home (FTTH)

Source: Net value; MSDW; Broadband Media

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Potential policy objectives

Stimulating supply

- Should the government take steps to accelerate the rollout of broadband?
- What action, if any, should the government pursue to deliver funding for wide broadband deployment?

Encouraging demand

- What role should government play in stimulating demand for broadband?
- What steps should the government take to ensure universal access to broadband services?

Increasing competition

- What role should the government play in encouraging competition?
- How can the government create conditions for competitive entry?

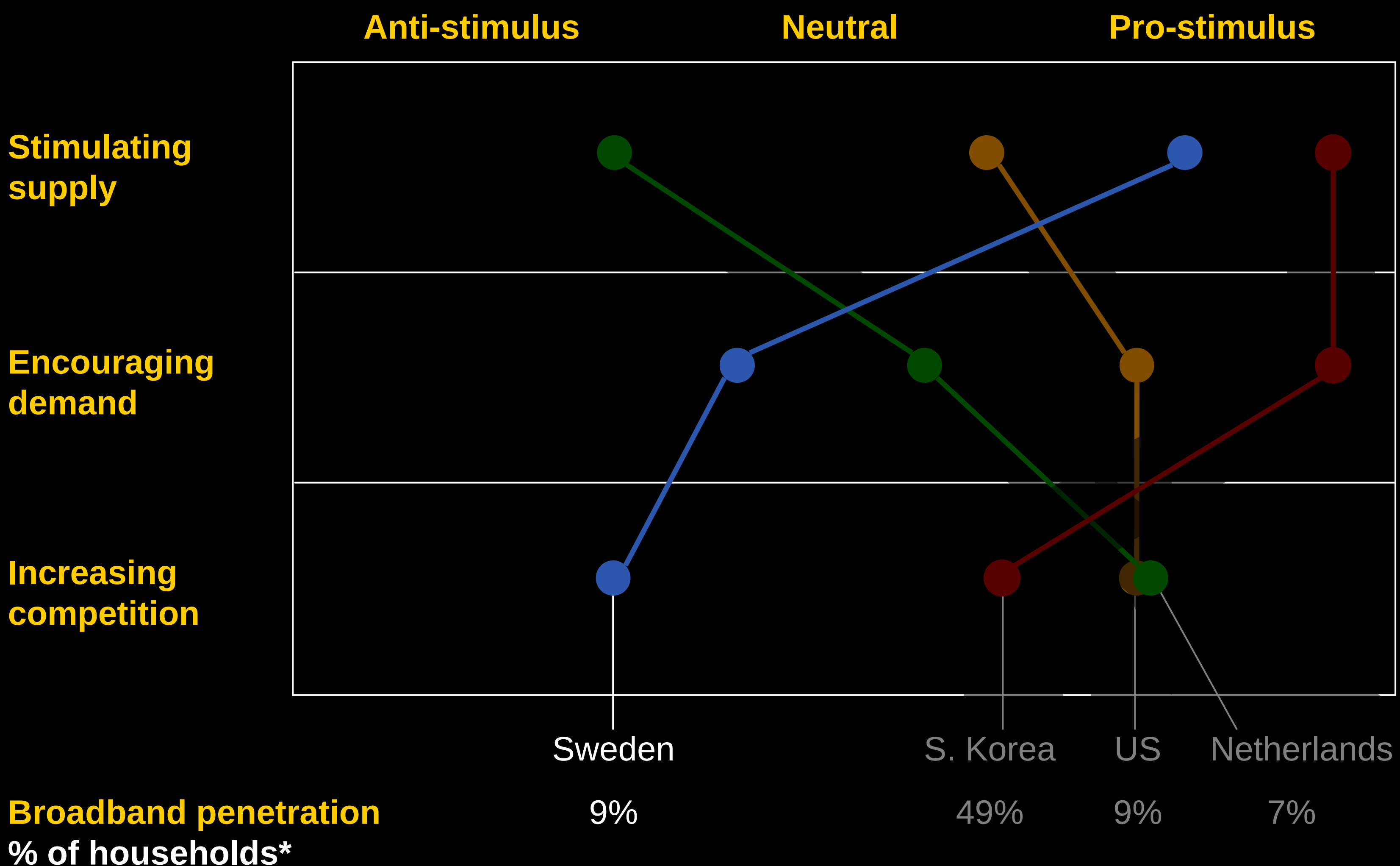
Multiple policy tools to support each issue

SIMPLIFIED

	Anti-stimulus	Neutral	Pro-stimulus
Stimulating supply	• Heavily regulated low retail access prices	**Pricing**	• Flexible retail access pricing to capture customer value
	• Low local interconnection fees	**Interconnection**	• Fee structure that benefits providers of local access infrastructure
	• Taxes or other government policies that remove funding from industry	**Direct funding**	• Direct subsidies/tax incentives to deploy infrastructure upgrades
Encouraging demand	• Taxation of end user services and applications	**Financial incentives**	• Consumer subsidies/tax incentives
	• Late adopter	**Direct government role**	• Early adopter
Increasing competition	• No local loop unbundling	**Local loop unbundling**	• Extensive unbundling and resolution of issues on ancillary services
	• Monopoly/duopoly policies	**Licensing**	• Licenses issued for multiple platforms (e.g. fixed wireless)
	• No resale policies	**Resale provisioning**	• Provisions to support entry by wholesale service providers

Regulatory approach

ILLUSTRATIVE
SIMPLIFIED



* As % of households, June 2001

Source: OECD; IDATE; ECTA

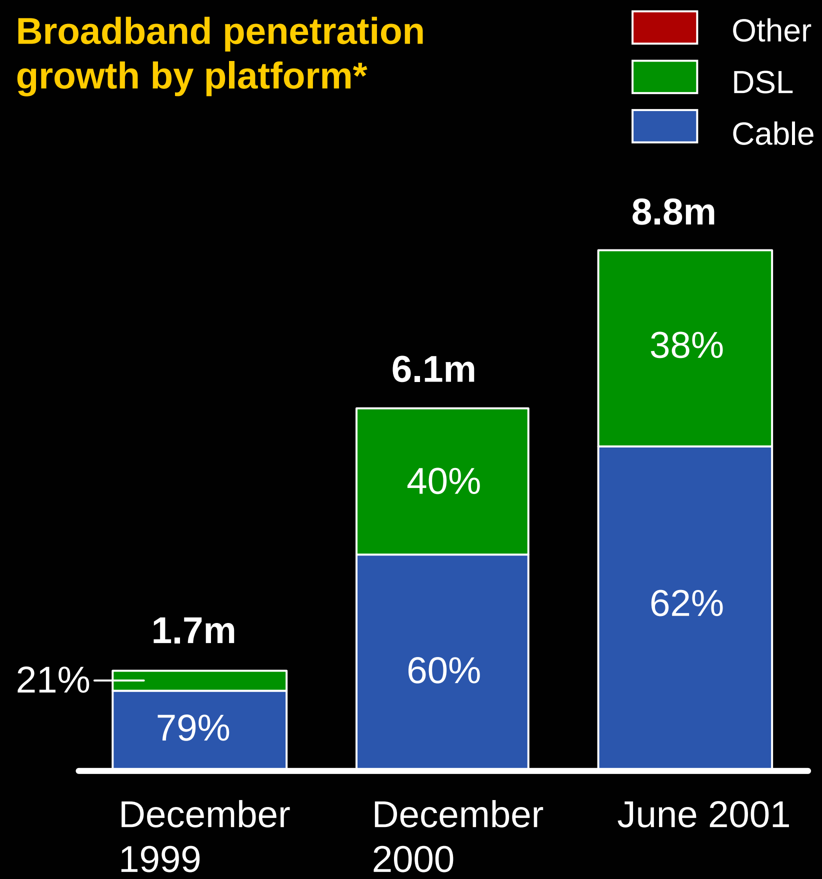
Broadband regulation – U.S.

Supply
- Allowed pricing flexibility for core services of cable TV
- Provided tax incentives to providers of internet services in sparsely populated areas

Demand
- Encouraged Internet take up and usage by schools and governments
- Subsidised narrowband internet through flat rate pricing

Competition
- Required incumbents to offer low priced wholesale services
- Mandated aggressive local loop unbundling in 1996

Broadband penetration growth by platform*



	December 1999	December 2000	June 2001
Household penetration	2%	6%	9%

* Total U.S. households – 101m

Source: EU Commissioned BDRC Broadband Report 06/01; OECD; IDATE

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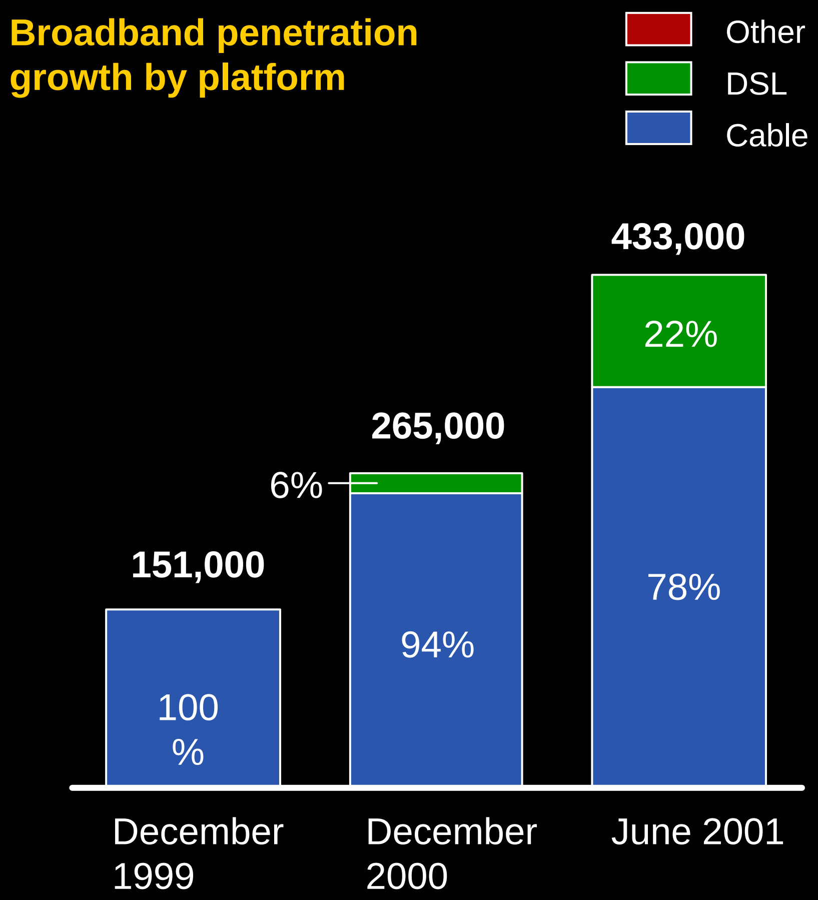
Broadband regulation – Netherlands

Supply
- Limited funding of cable due to tight regulation of cable tariffs on core basic TV services (despite 94% penetration and ubiquitous coverage)

Demand
- Took no substantial actions to stimulate demand beyond goal setting

Competition
- Imposed local loop unbundling from 1996
- Forced incumbent telco to divest cable network, which resulted in:
  - Limited incumbent interest in DSL roll-out due to commitment to ISDN
  - Later race to upgrade network between cable and incumbent



Household penetration	3%	4%	7%

Source: EU Commissioned BDRC Broadband Report 06/01; IDATE; OECD

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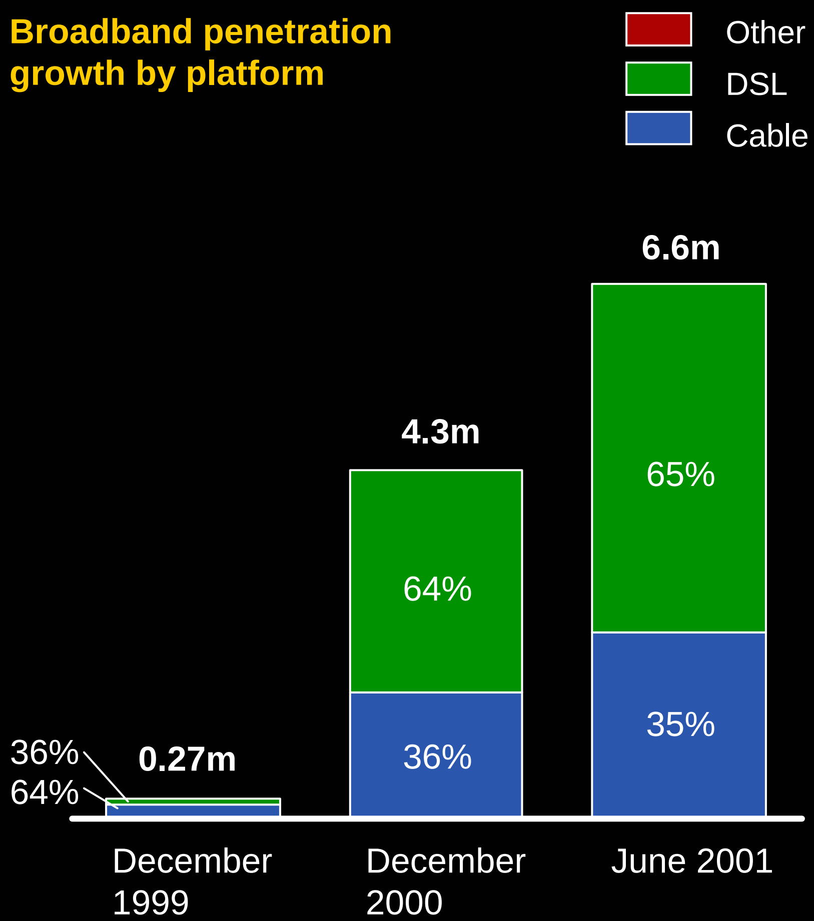
Broadband regulation – South Korea

Supply
- Invested £21b (since 1995) in deployment of fibre optic networks
- Made DSL wiring mandatory in new apartments
- Provided tax breaks for access in remote areas

Demand
- Rolled-out e-Government
- Used public sector as early adopter
- Promoted internet adoption in schools
- Set up public broadband kiosks

Competition
- Licensed multiple carriers on multiple platforms
- Did not unbundle local loop in early investment stage enabling incumbent to quickly gain customers
- Encouraged broadband take up through competition on IP telephony service



Household penetration	2%	34%	49%

Source: OECD Report; BDRC

Broadband regulation – Sweden

Supply

- Encouraged development of high speed networks
- Promoted wholesale networks
- Funded fibre optic deployment (intra-urban and municipalities) – £330m

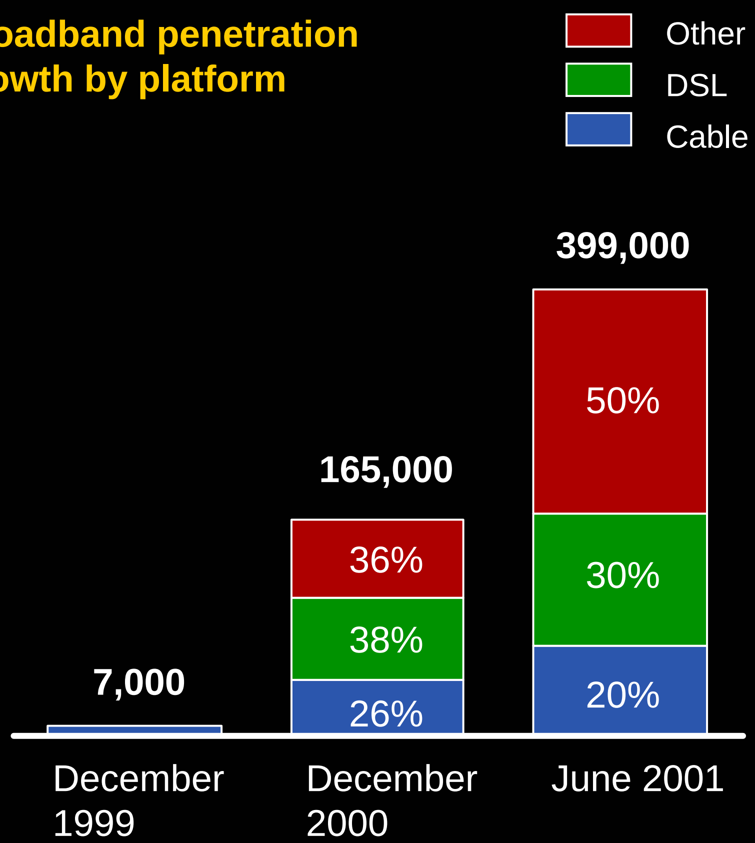
Demand

- Stimulated demand mainly through tax incentives (equipment) and customer subsidies (tax deduction for broadband access in low penetration regions)

Competition

- Did not accelerate local loop unbundling by incumbent
- Did not address constraints due to MDU demographics (exclusivity deals between real estate owners and incumbent telco)
- Permitted Telia to retain control of 50% of cable and most of DSL offer

Broadband penetration growth by platform



Household penetration	<1%	4%	9%

Source: OECD Report; BDRC

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