

Analysis of Deployment of Broadband Services: From the Viewpoints of Policy and Competition

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1. Japan's case

2. International Comparison

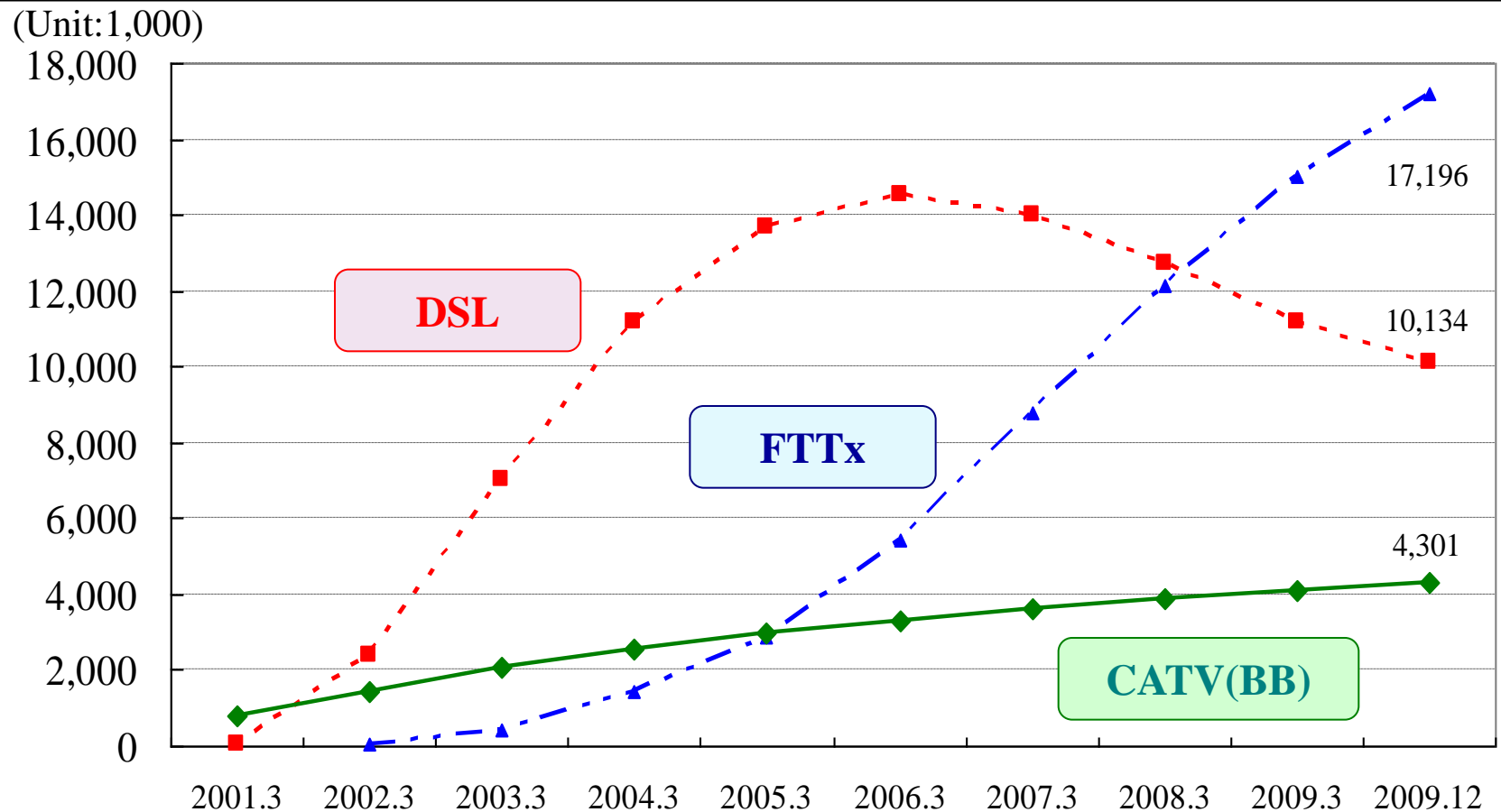
a - Classification

b - CATV(BB) diffusion type

c - FTTx diffusion type

3. Summary

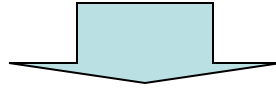
The number of subscribers of broadband services in Japan



Source: Ministry of Internal Affairs and Communication and operators' publications

Factors of Japanese CATV(BB) deployment

CATV(BB) could NOT become major. Why?



At the dawning of the broadband age around the year 2000

1 Customer basis ➡ *See International comparison (later)*

CATV(Broadcast) household diffusion rate was low (40%).

2 Infrastructures basis ➡ *See International comparison (later)*

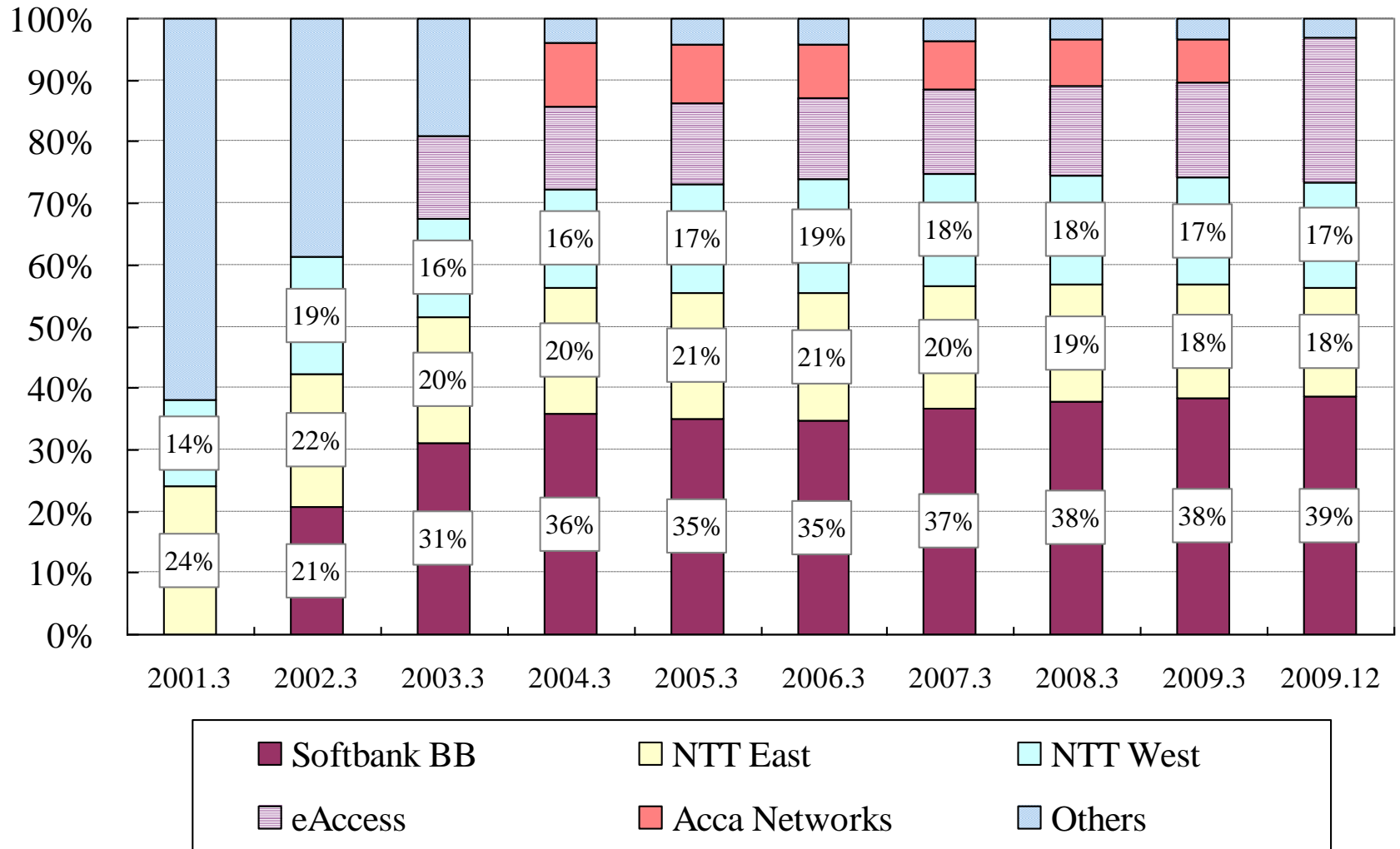
CATV home pass household diffusion rate was low (40%).

3 Availability of investment (Policy)

There had been legal restrictions (Business Area, Shareholders).

CATV Operators were too small to invest broadband service.

DSL market share by operators in Japan



Source: Ministry of Internal Affairs and Communication and operators' publications

Factors of Japanese DSL deployment

*According to former study.

1 Deregulation [Affected most]

Open access obligation upon NTT's copper loop, including unbundling, co-location, access fees, affected DSL deployment.

2 Competition

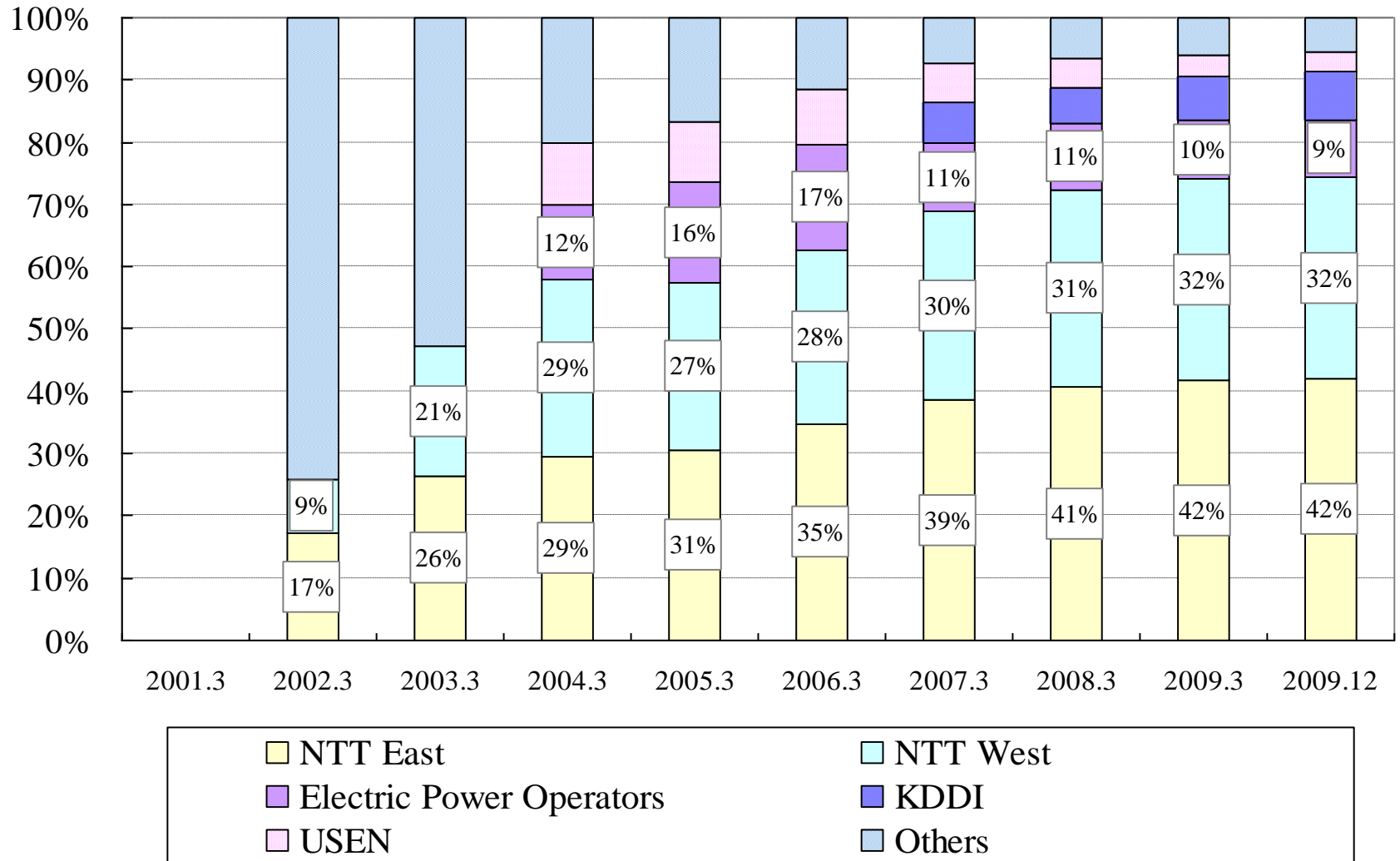
Entry of Softbank Group affected DSL deployment.

3 Technology (Speed)

Low speed service(12Mbps) affected DSL deployment.

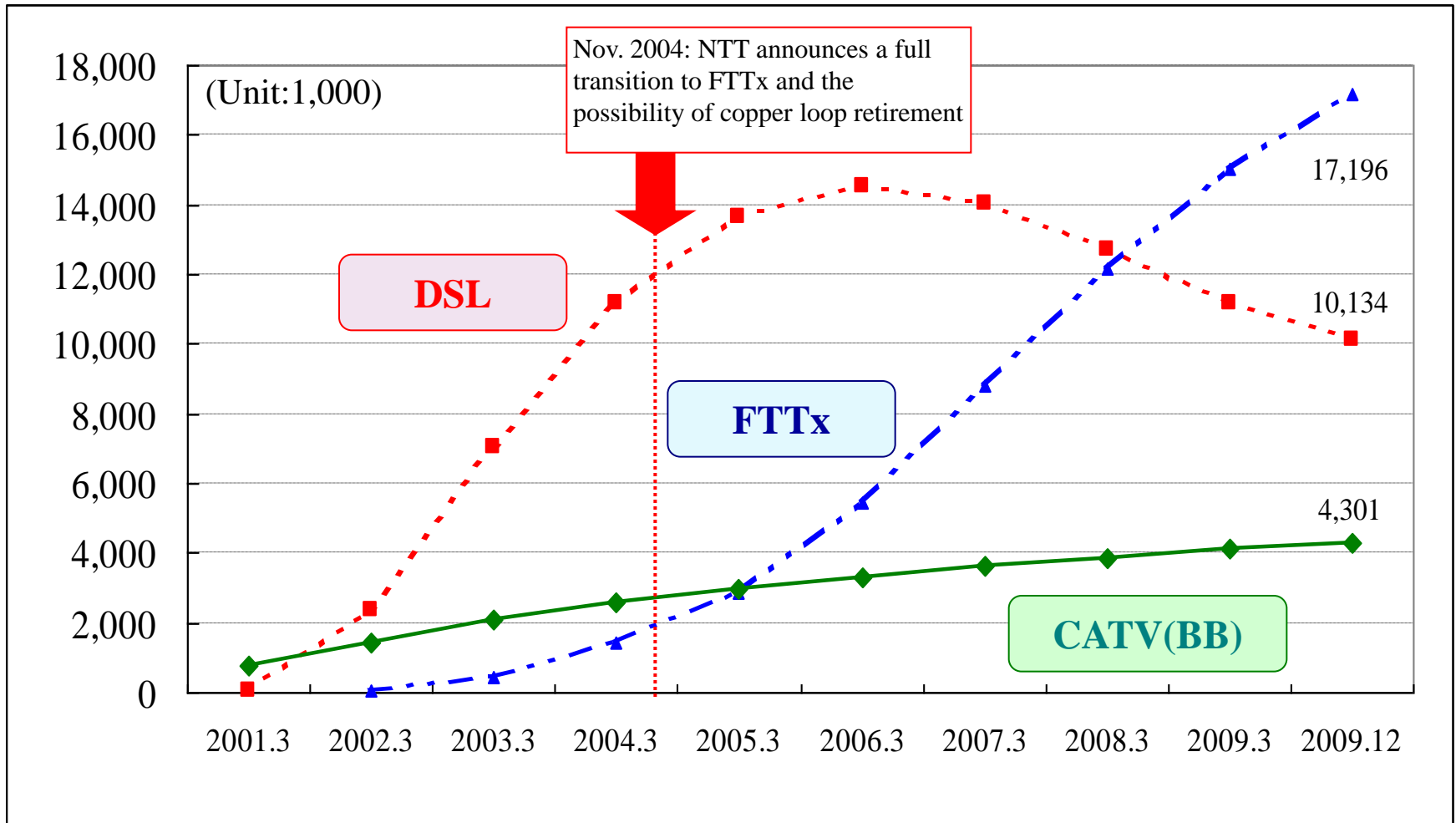
Middle(24Mbps) and high speed(40Mbps) affected little.

FTTx Market share by operators in Japan



Source: Ministry of Internal Affairs and Communication and operators' publications

The number of subscribers of broadband services in Japan



Source: Ministry of Internal Affairs and Communication and operators' publications

Factors of Japanese FTTx deployment

Business strategies of Dominant Operator(NTT East&West)

1 Lost DSL share *around 35%

Before liberalization of telecom in Japan, NTT served all of domestic telecom services.

2 NTT announced in Nov 2004

a) Full transition to FTTx

Firstly, half of customer will be transferred to FTTx until 2010.

b) Possibility of copper loop retirement

Cost reduction, preventing from double operation.

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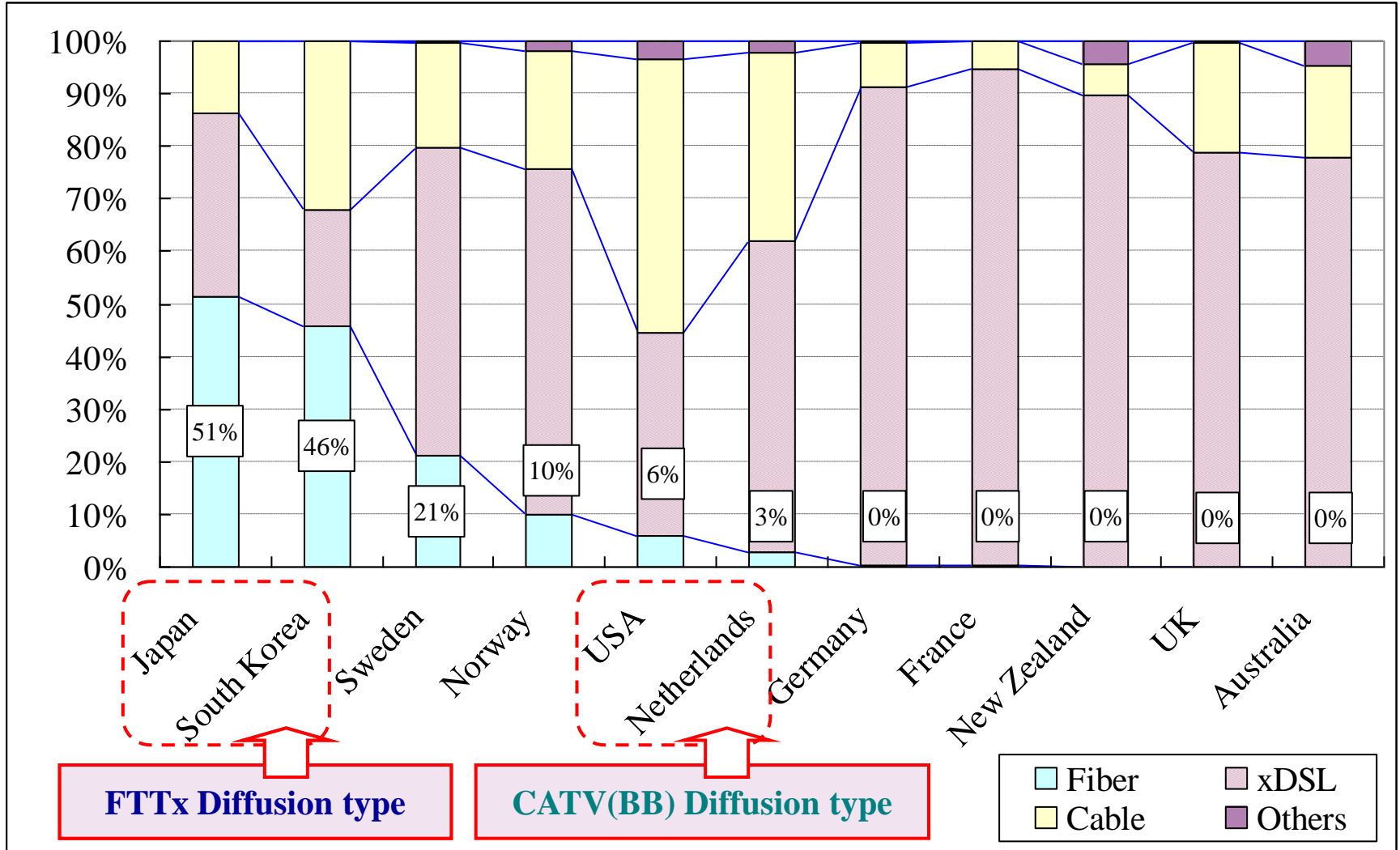
b - CATV(BB) diffusion type

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Broadband ratios by technologies in countries

(as of June, 2009)

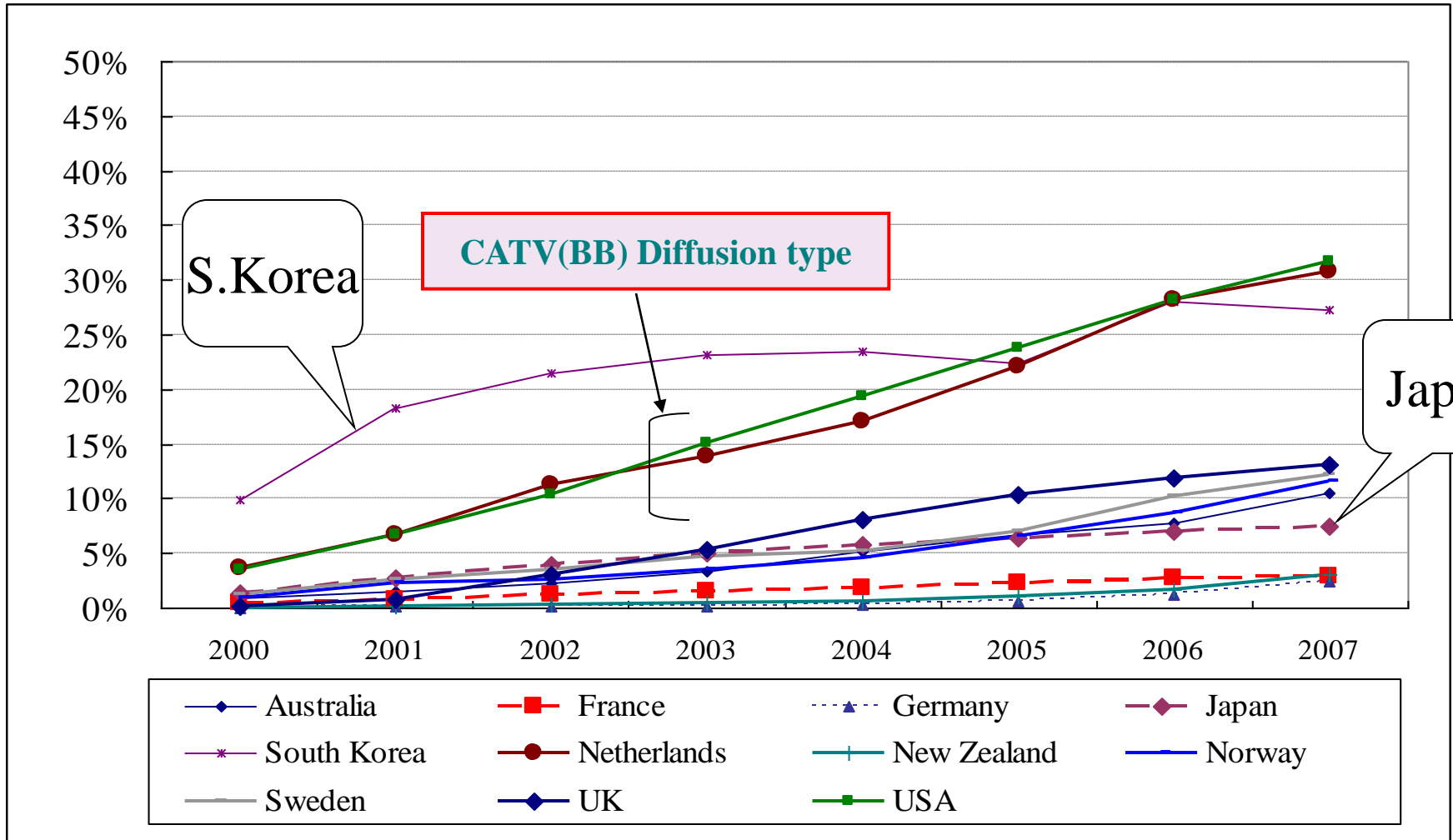


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CATV (BB) household diffusion rates

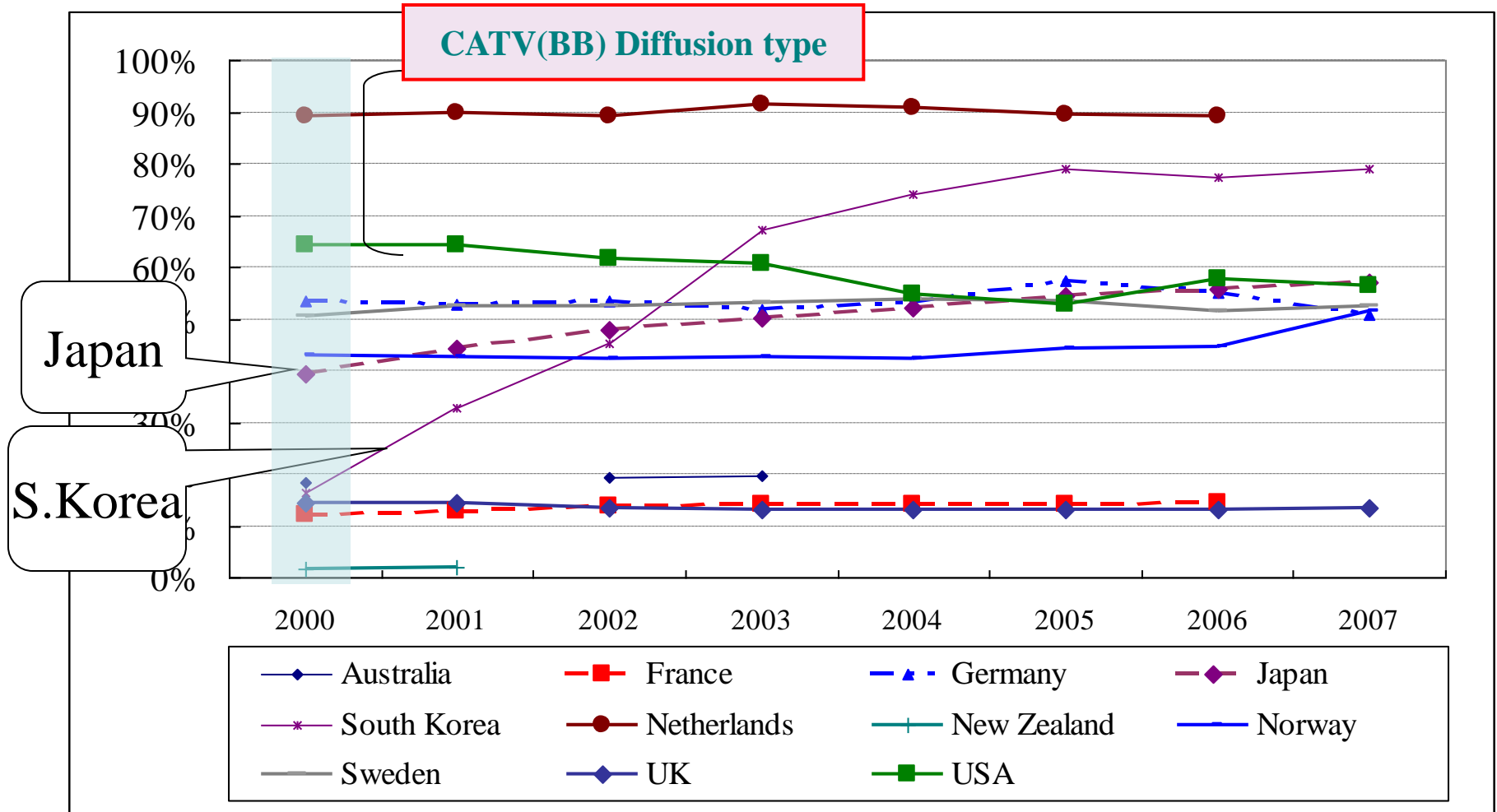
(the ratio of subscribers to households)



Source: OECD

CATV (broadcast) household diffusion rates

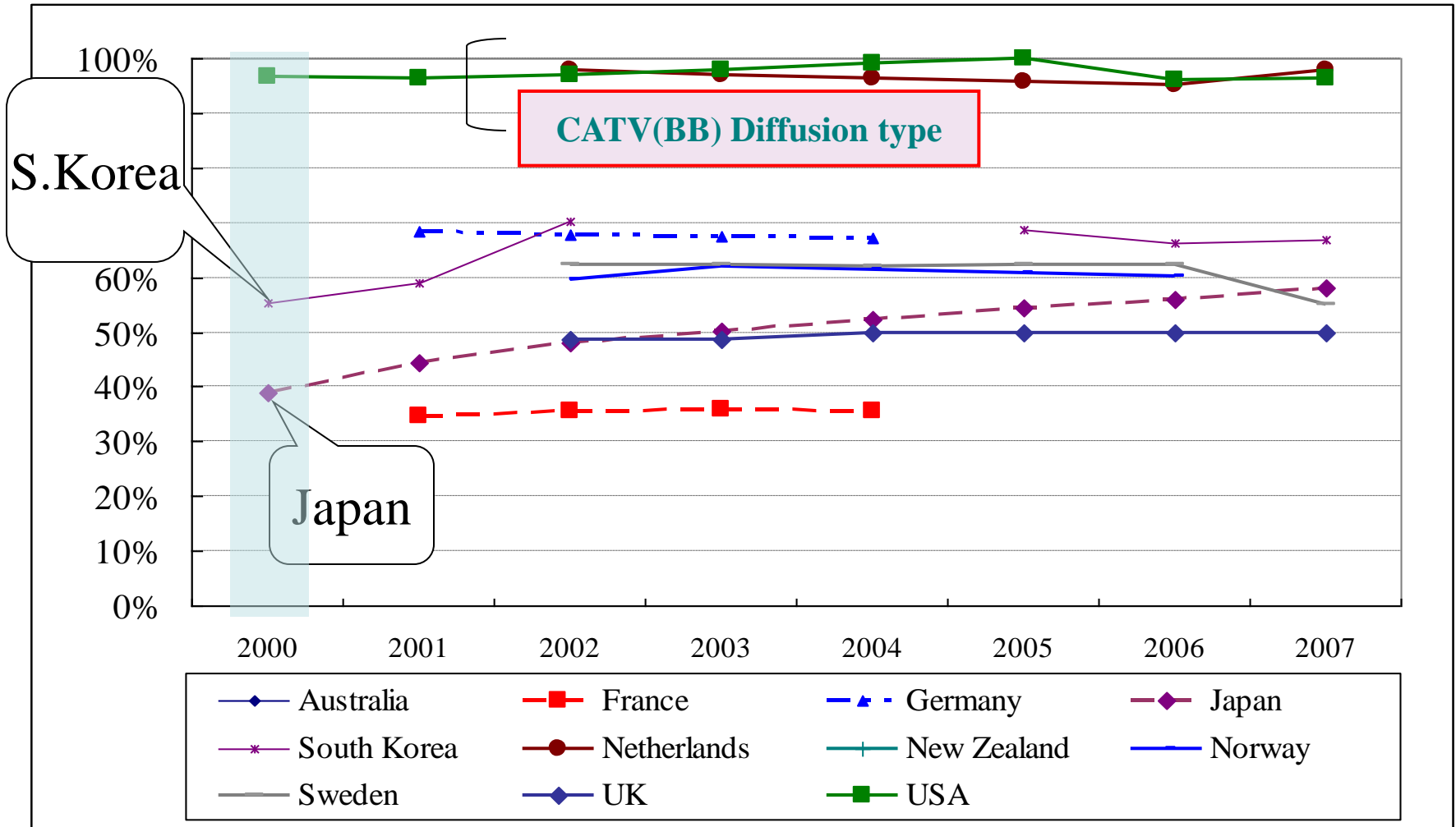
(the ratio of subscribers to households)



Source: OECD

CATV home passed household diffusion rates

(the ratio of home passed to all households)



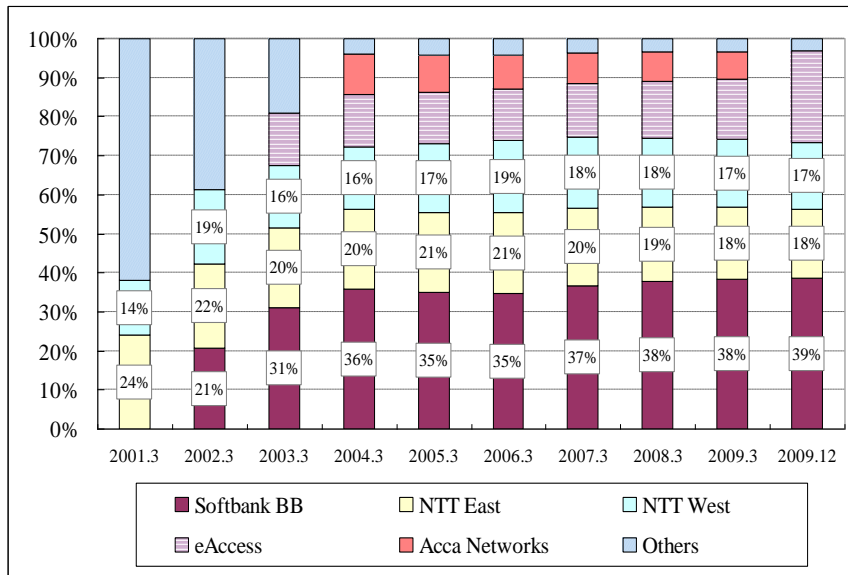
Source: OECD

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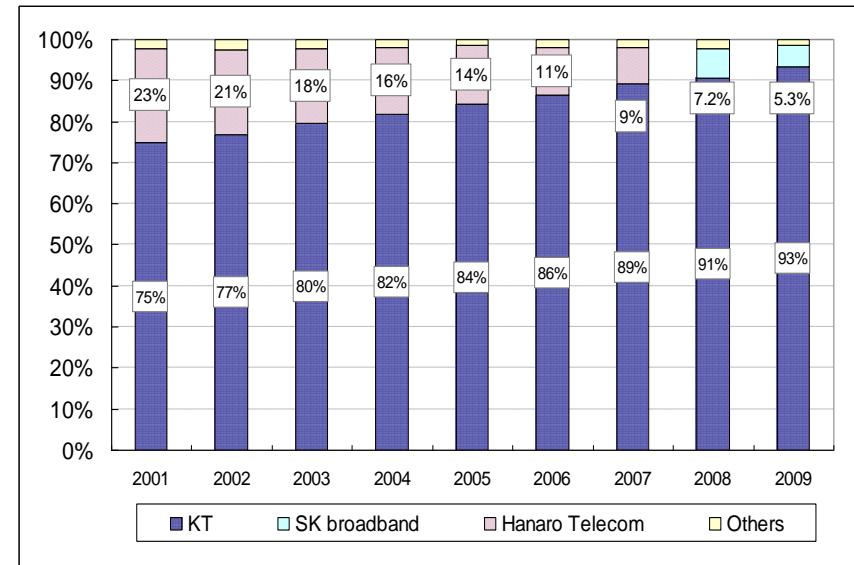
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Comparison of DSL market share by operators in Japan with South Korea

Japan



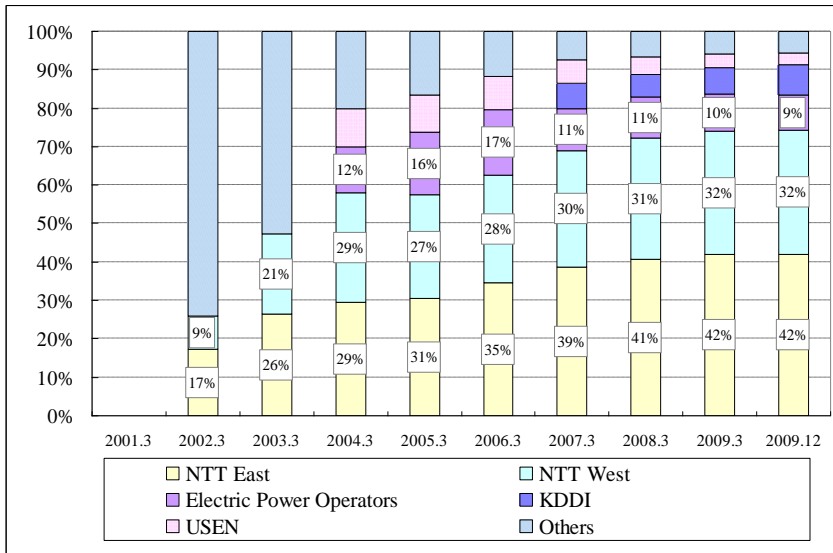
South Korea



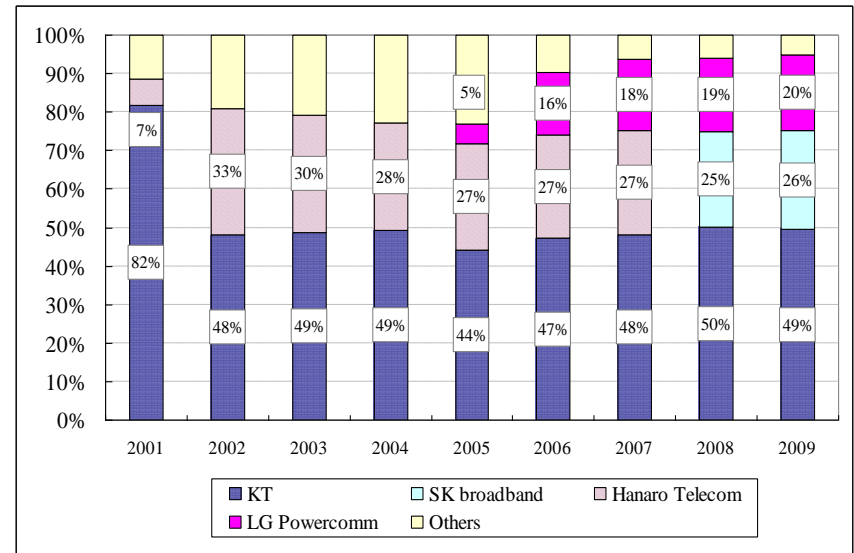
Source: Ministry of Internal Affairs and Communication, operators' publications, Korean Communication Commission, and OECD

Comparison of FTTx market share by operators in Japan with South Korea

Japan

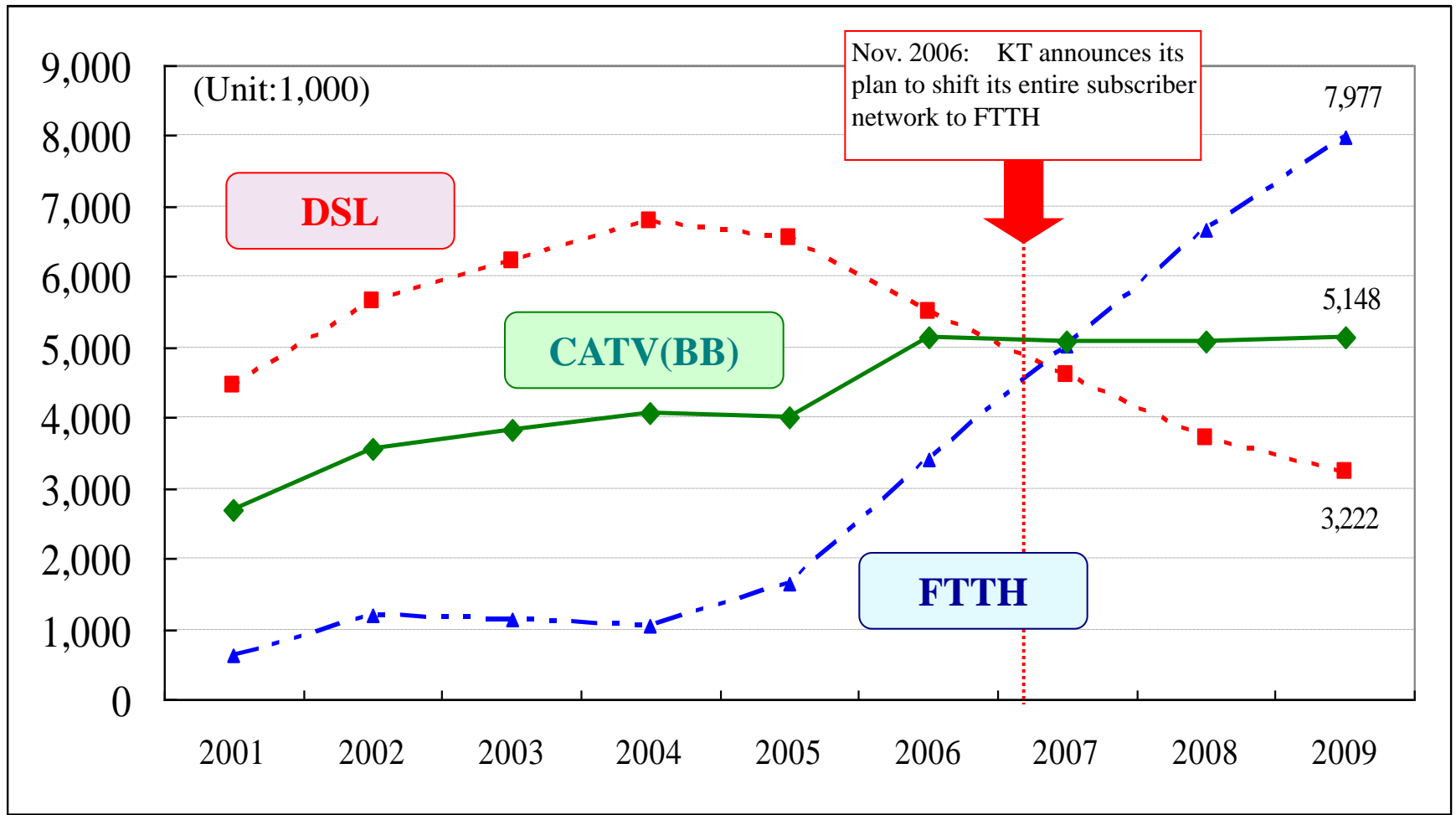


South Korea



Source: Ministry of Internal Affairs and Communication, operators' publications, Korean Communication Commission, and OECD

The number of subscribers of broadband services in South Korea



Source: Korean Communication Commission

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Summary (1/2)

1 Classification

- CATV(BB) diffusion type
- DSL dependent type
- FTTx diffusion type

2 Factors of deployment of CATV(BB)

At the dawning of the broadband age around the year 2000,

- customer basis
- infrastructures basis
- legal restrictions / availability of investment

Summary (2/2)

3 Factors of deployment of DSL

Deregulation [former study]

*Japan's case

4 Factors of deployment of FTTx

Business strategy.

*It costs high to install fiber local loop.

5 Other features *Japan & South Korea

Even if classified into same type, there may be different features in each country.