

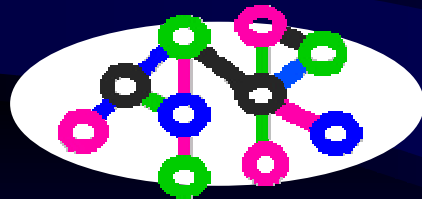
A Comparative Study on Broadband in Asia

Its Deployment and Policy

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Izumi Aizu

<izumi@anr.org>



Asia Network Research

GLOCOM

Why East Asia is leading Broadband?

- **Possible factors behind Internet and Broadband penetration:**
 - **Economic Development**
 - **State ICT Policy**
 - **Social or institutional factors**

Does ICT policy make a difference?

– State ICT Policy

- Target policy
- Liberalization of Telecom market
- Incubation of Entrepreneurs

– Social or institutional factors

- Culture
- Politics, Historical context
- Mentality

Internet Penetration in East Asia (2002)

Country	Users (1000)	Penetration Per Population (%)
Hong Kong	4,310	59.0
USA	161,140	58.5
Korea	24,380	56.6
Singapore	2,260	50.8
Japan	49,720	39.2
Taiwan	7,820	35.1

Source: NUA Internet Survey (www.nua.com)

Internet Penetration in Nordic Countries (2002)

Country	Users (1000)	Penetration Per Population (%)	Date
Sweden	5,740	64.5	Feb. 02
Denmark	3,230	60.4	Feb. 02
Iceland	168	60.8	Dec. 00
Norway	2,450	54.4	Jul. 01

Source: NUA Internet Survey (www.nua.com)

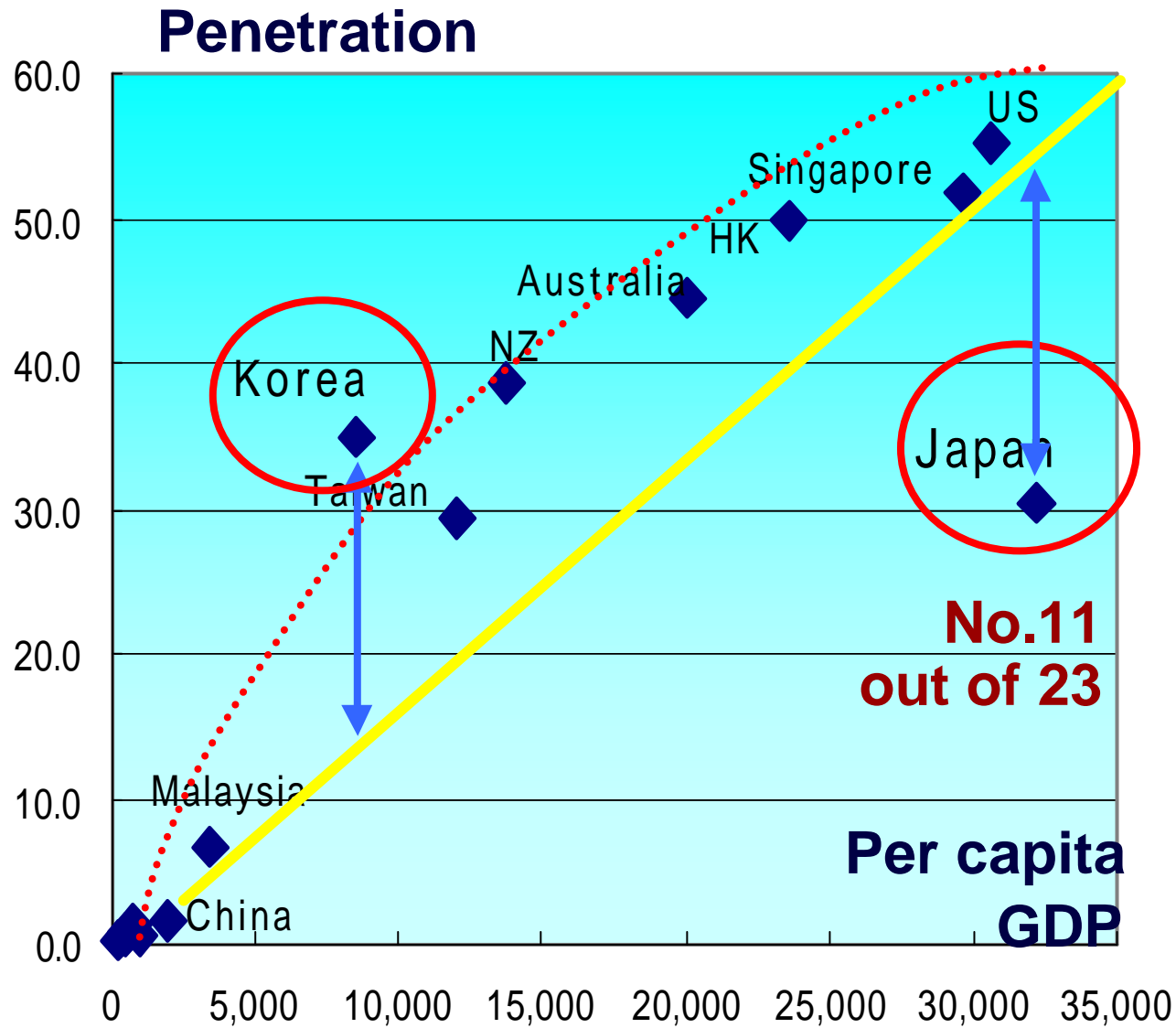
Net Penetration in Asia (2000)

Country	Users (000)	(%)
USA	153,840	55.27
Singapore	1,850	51.86
Hong Kong	3,460	49.95
Australia	8,420	44.58
New Zealand	1,490	38.58
Korea	16,400	35.01
Japan	38,640	30.49
Taiwan	6,400	29.38
Malaysia	1,500	6.74
Thailand	1,000	1.63
China	16,900	1.32

Brunei	4	1.22
Pakistan	1,200	0.77
Philippines	500	0.66
India	4,500	0.44
Sri Lanka	65	0.35
Indonesia	400	0.19
Nepal	35	0.15
Vietnam	100	0.13
Mongolia	3	0.11
Lao Rep.	2	0.04
Bangladesh	30	0.02
Bhutan	0.5	0.02

Source: NUA Internet Survey

Net Penetration and GDP (2000)



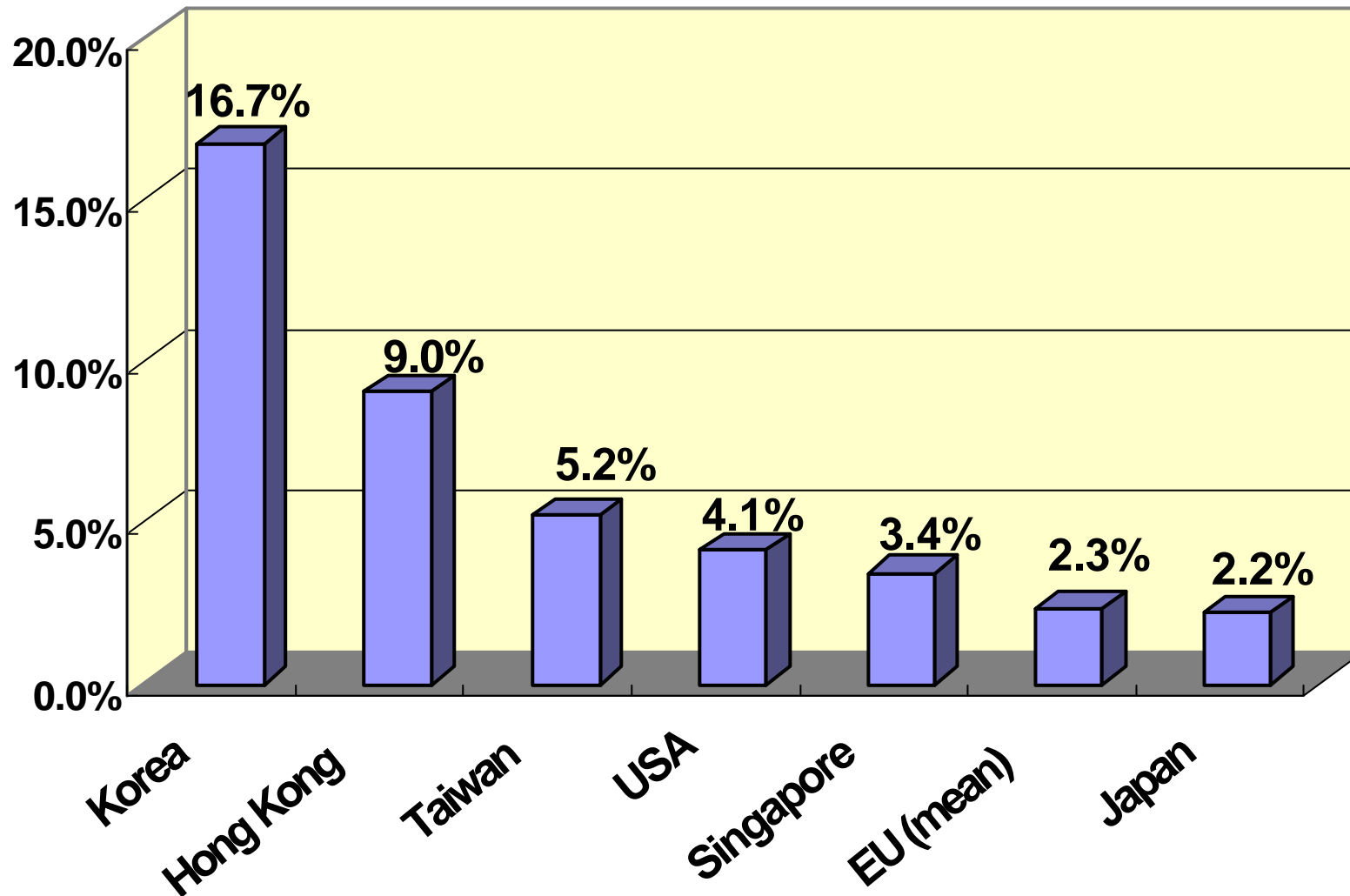
Internet penetration and Economic Development

- Yes, there is a positive correlation between the two
- How about Broadband?

Broadband Penetration and Economic Development

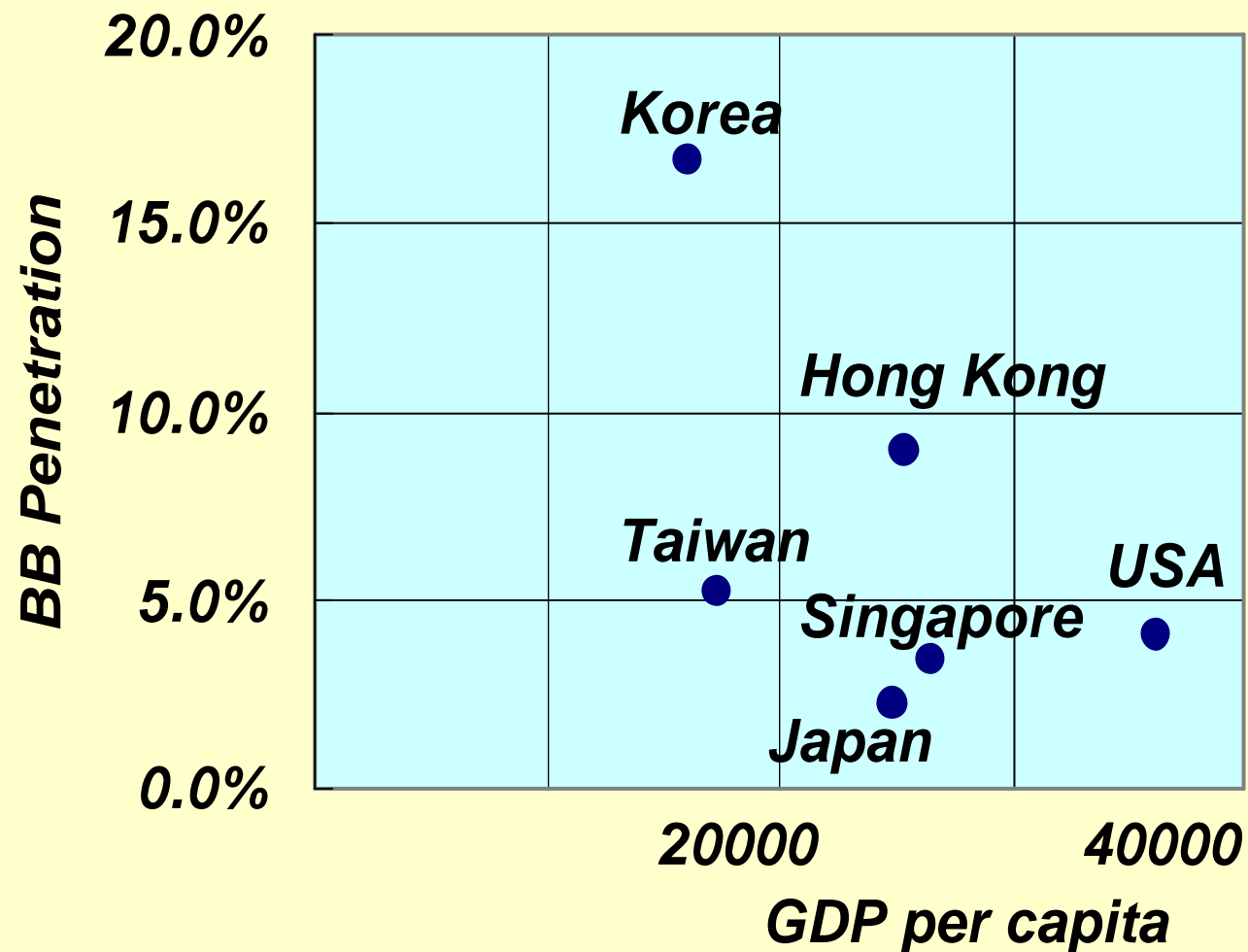
- **Why Broadband exploded in Korea but not in Singapore or Japan?**
- **There seems to be less correlation between broadband penetration and level of economy**
- **Did state policy play a major role?**

Broadband Penetration in East Asia (Feb '02)

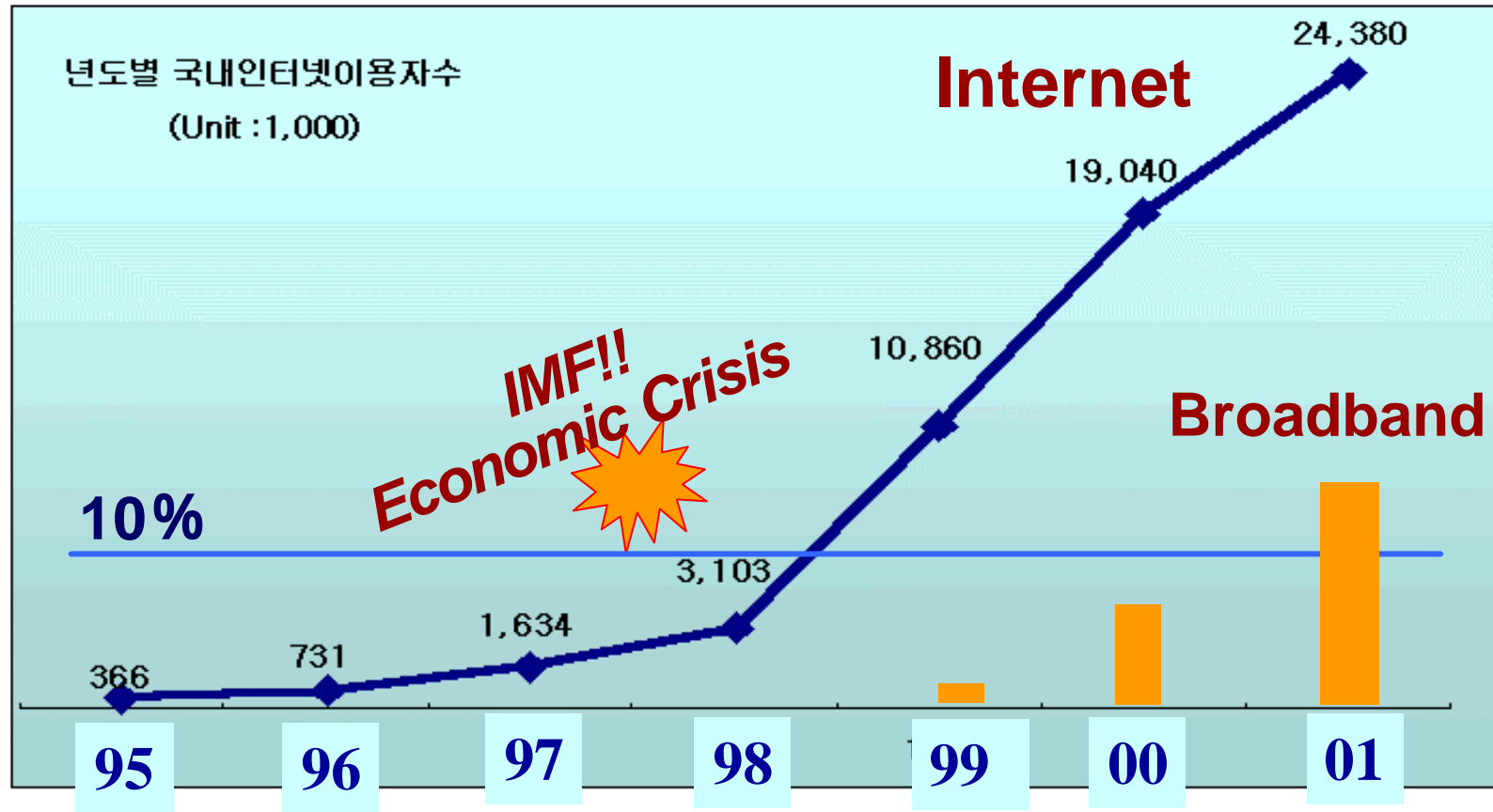


Source: Government agencies in each country

Little correlation between Broadband and Economy

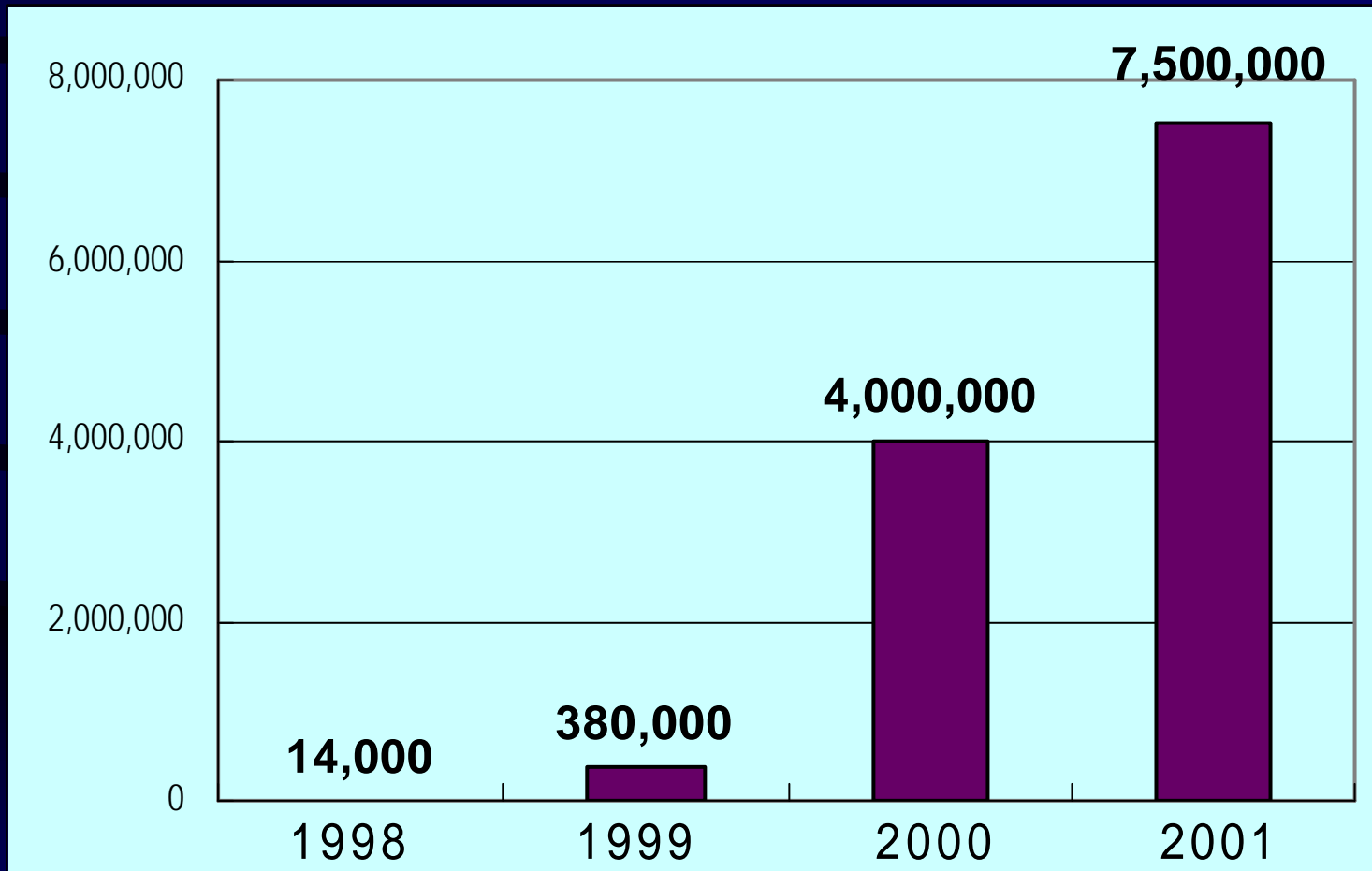


Korea: Internet Explosion in '98, Broadband in '00



Year	1994	1995	1996	1997	1998	1999	2000	2001
Users	138	366	731	1,634	3,103	10,860	19,040	24,380

Broadband Users in Korea (‘98 – ‘01)



Source: Ministry of Information and Communication, Korea

PC Bang, a great boom

97 :0 98 :4K 99:12K 00 :20K (40K?)

IMF unemployed workers started

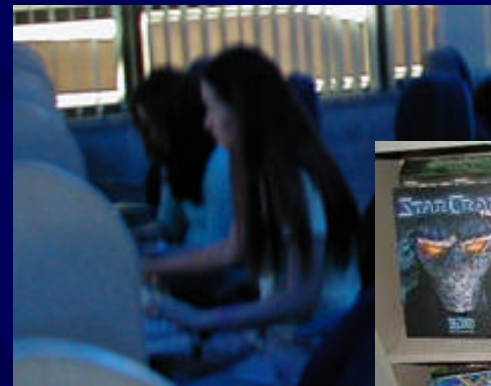
Others followed

From Game Center to house-wives and
businessmen

Functioned as the Broadband showroom



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Broadband in Asia



Online Game triggered

- LINAGE: 4Million Subscribers, 100,000 simultaneous users
- Nintendo, PS2 – **restricted to** import
- Cultural difference – MUD was very popular in '80s



Bro

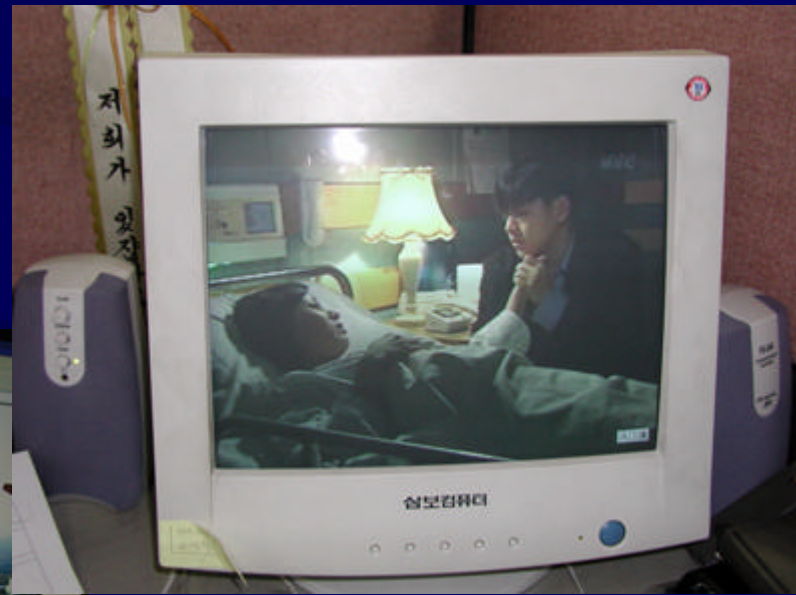
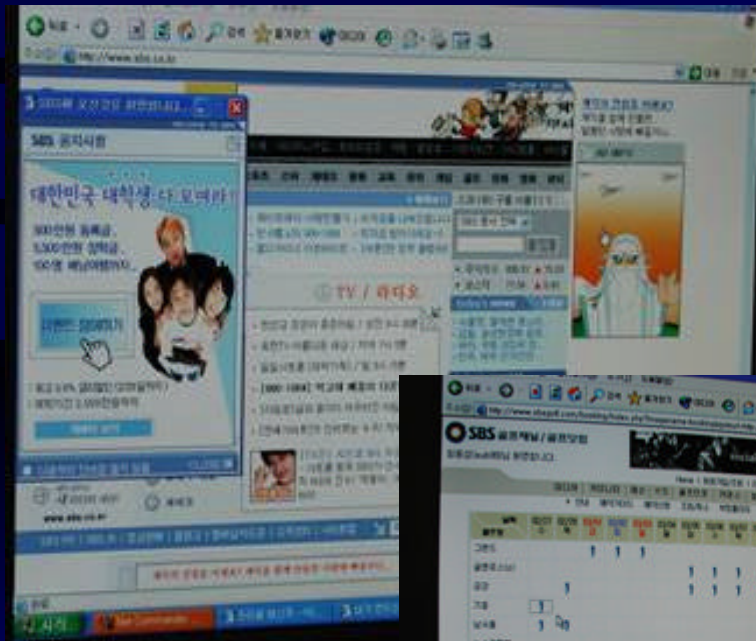
Web Lifestyle in place

Net anywhere: 20,000 or more, just like 7/11,
changing people's lifestyles



Is Content the King?

Internet Broadcasting starting to charge: \$0.5 per program for popular TV dramas



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Source : MIC 17

Positive Spiral in Korea

1. Government: promoted Infrastructure building
2. Fierce competition, over-supply, lower price
3. PC Bang started by IMF unemployed, explored new broadband market, reaching Home
4. NCCs chose high-speed Net as first service
5. 40% of people live in high-rise apartments that made ADSL easy to deploy
6. Applications took advantage of BB:
Game, Chat, NetPhone, Stock trading, Net-TV...

➤ **No one planned these!!**

Singapore: Learning from Singapore ONE

- **SingaporeONE: First National Broadband service to home in the world in '97**
- **Faced early challenges**
 - Multimedia or Internet?
 - What is the killer-ap?

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Broadband in Asia



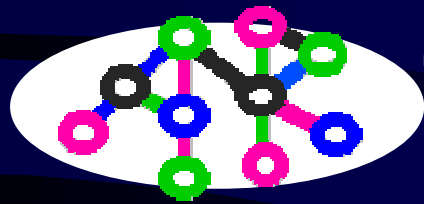
Singapore Lessons

- **Slow market liberalization**
 - Strong monopoly of SingTel
 - State-owned “managed competition”
- **Users are regarded as “passive” consumers, unlike Korean netizens**
- **Government dictates**
 - “ONE Net for everyone” : not many networks of networks
 - Tight control on media and contents
- **Private sector tends to wait**

Conclusion: Lessons learned

	Korea	Singapore	Japan
Lead role	Netizens	Government	Not clear (market?)
Market Leader	Entrepreneurs	State-owned companies	Large Companies (NTT, Sony, Fujitsu, NEC...)
Policies	Follower	Top-down	Late, in-between
Politics	Active citizens, Responsive Govn't	Strong Govn't, Weak Citizens	Weak citizens, Weak Govn't

**Thank you
&
See you online!**



Izumi Aizu
<izumi@anr.org>
www.anr.org



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