

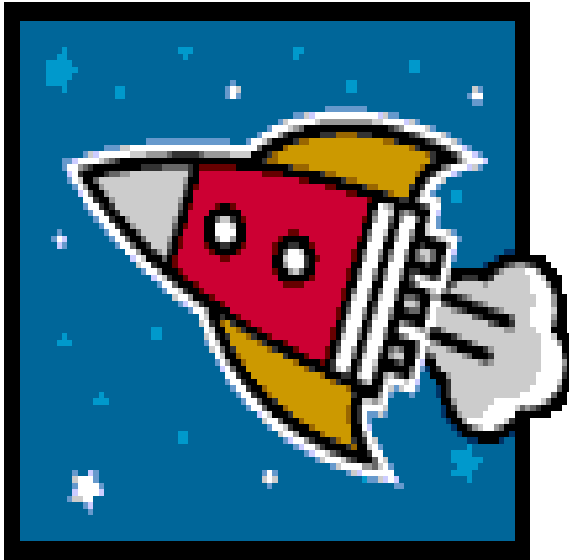
The Open and Close of China ICT Industry Policies

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China – Land of Rapid Growth



Rocketing up

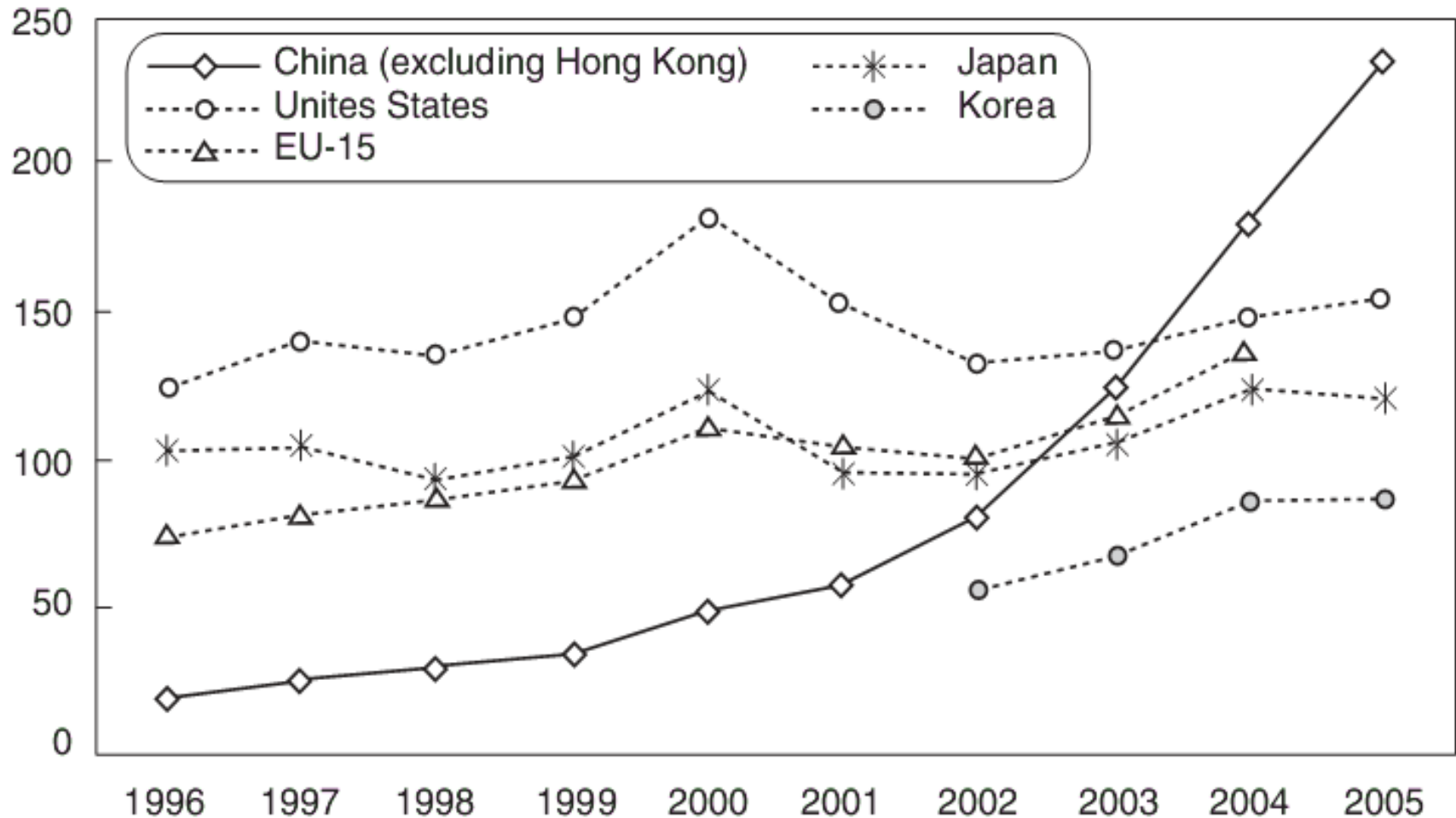
- GDP
- FDI
- Trades
- Trade surplus
- ICT industry
- ICT in Trades
- ICT Patents
- R&D Investment
- National Savings
- Number of Engineering Graduates
-

Trade – Key to ICT Growth

- “Market for Technology” Policy
 - From 1986 – recent
 - Open to imports; encourage FDI & export driven MNCs, ...
 - ICT industry major beneficiary
 - China, the largest ICT export country since 2004
 - ICT 2006 trade \$650T, 37% of total trade
 - Still grow 30+% annually



China – Leading Exporter of ICT



In billion USD. Source: OECD

MNC Operations under Market for Technology

- Mainly trade & manufacturing
- Lengthy approvals/reviews
 - JVs were favored, mostly arranged/assigned partners
 - First WOFE in 1992
- Quotas: import, production, sales, export, ...
- MNC incentives: subsidies of land/buildings, taxes, and remedies of China environments. Fit needs of manufacturing.
- Significant changes with China WTO entry



Good & Bad of Market for Technology

- Good: tremendous growths in ...
- Bad:
 - Low value added in China
 - Environment impact
 - Dependency on foreign technology
- Not sure:
 - Accumulation of FEX
- Sure, but ... :
 - MNCs/Foreigners control China
- You see what you want see



Indigenous Innovation

- Central to 2006 *Medium – to Long - Term Strategy Plan for the Development of Science and Technology*
 - Comprehensive goals and tasks
- What is “indigenous”?
 - Created by China/Chinese entirely?
 - Who is China/Chinese?
- Can any ICT technology owned entirely by one firm/industry/country?



A Change from Open to Close?

- “Market for Technology” is open?
 - Definitely, although ...



- “Indigenous Innovation” is closed?
 - Certainly not, but ...

MNC R&D in China

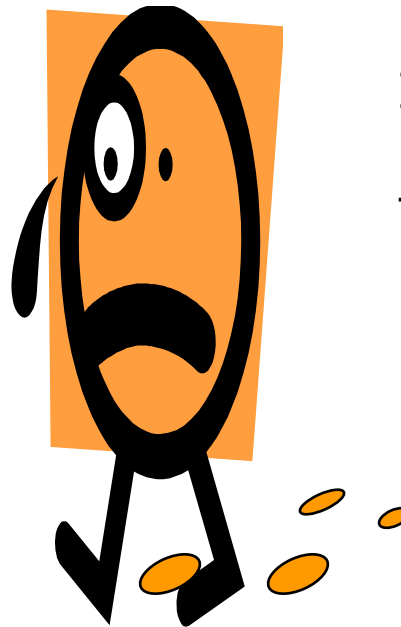
- Tremendous growth since 2002
 - Noticed by China and others
- In the 2006 Strategy Plan
 - Encourage MNC R&D Centers in China was mentioned under Building Innovation Culture
- Still very small overall
 - What is the % of China R&D for major MNCs?
 - What is next?



R&D Incentive Policies

“... This certification does not have a big impact on multinational R&D operations ... The majority of them do not participate ...”

— *The Development of Multinational R&D in ZhongGuanCun Science Park. Sept. 2003*



R&D policies by various central government entities

Incentive policies for specific technology areas

R&D policies by various provincial and local entities

R&D policies by various development zone entities

Not Quite Open Yet



- **No need to apply for government initiative funding**
 - Innovations vs. innovations
- **Onlookers of technical standards process**
 - Open, participative process, yes. But ...
- **Strangers outside technology spotlights**
 - Limited statistics
 - Limited exposures

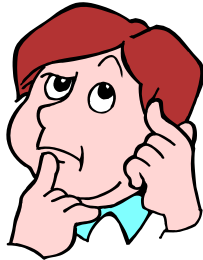
Examples of China ICT Standards

- WAPI (WLAN Authentication and Privacy Infrastructure)
- AVS (Audio Video coding Standard)
- TDS-CDMA
- IGRS (Intelligent Grouping and Resource Sharing)
- EVD (Enhanced Versatile Disk)
- CMMB (China Mobile Multimedia Broadcasting)
- DMB-T/ADTB-T (Terrestrial Digital Multimedia Television Broadcasting)

No success story, yet.

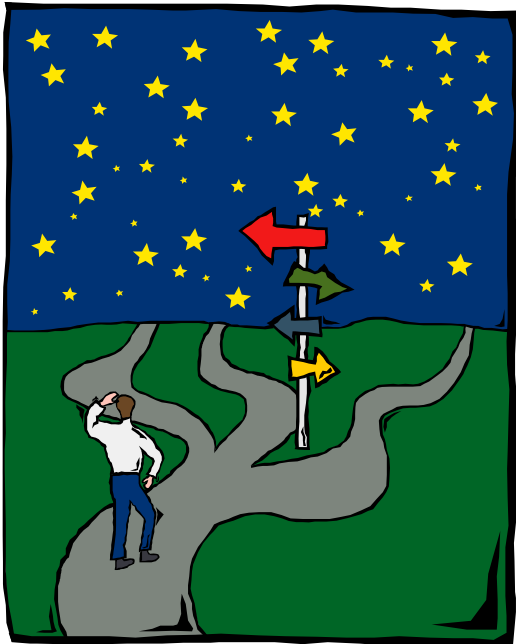
China Technical Standards

- **“The so-called China technical standards is nothing but fights for gains among research institutes”. Mr. GUO Ke, Chairman of China Digital TV Industry Alliance, July 2006.**
- **Extremely political. Anyone who has a chance to step in will. Everyone has a string to pull, and always refers to “independent IPR” and patriotism. Various governments involved in funding their favorite “standards”.**



China – an Innovation Nation

- Not an issue of When and Degree, rather How
- Reasonable rules of games
- Open and transparent processes
- Broader (inclusive of international) participations
- Integrating into global technology eco system



Thank You