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Korea
Information
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The Role of Trade and Innovation in the Korean ICT Sector

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KISDI



KOREA INFORMATION SOCIETY
DEVELOPMENT INSTITUTE

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I. Brief on Korean Economy (2006)

- Population: 48.4 million
(about 0.74% of world total, 5th highest density)

- GNI: 856.6 billion dollar
(about 1.77% of world total, 11th in the World)

- Per capita GNI: 17,690 dollar
(49th in the world, 110 dollar in 1962)

- Value added as % of GDP: 3.2 (agriculture)
39.6 (industry)
57.2 (services)

- GDP growth rate: 4.6%
(annual average, 2001-2006)

- Changes in GDP deflator: 1.9%
(annual average, 2001-2006)

- Gross savings ratio: 31.4% of GDP

- Current account balance: 1.9% of GDP
(annual average, 2001-2006)

- **Exports of goods & services: 43.2% of GDP**
- **Imports of goods & services: 42.1% of GDP**
- **High technology exports: 32.3% of manufactured exports (in 2005)***

* World Bank, World Development Indicators, <http://www.worldbank.org>.

II. Economy Development Policies

- **Inward-looking import substitution policy in the 1950s**
 - **Not having significant natural resources
Or an industrial base when WW II ended**
 - **Followed by political instability and devastating Korean War (1950-1953)**
 - **Import substitution policy in the 1950s
to control post-war hyperinflation
and to resolve the shortage of daily necessities.**

- **Export-oriented industrialization since 1962**
 - The rise of the Korean economy has begun since the 1st Five Year Economic Development Plan
 - Shift in industrialization strategy from import substitution in the 1950s
 - Export became an engine of industrial growth beginning around the mid-1960s

□ **Three periods of Korean economic development**

- 1962-1979

- 1980-1996

- 1997-current

- **The first period:
export-oriented industrialization**

- **Selective industrial policy: shifted its focus**

- * **From labor-intensive industries:
textiles and apparel, plywood, wig in the 1960s**

- * **Toward heavy and chemical industries:
iron and steel, non-ferrous metal, machinery, electronics,
and chemicals by the 1970s**

- **The second period:
import liberalization and structural
adjustment**
 - Structural adjustment programs to remove the after effects of the growth maximization policy
 - Import liberalization gained momentum in 1984 when the external imbalance nearly corrected
 - However, with an import surveillance system and an import-source diversification program
- * Attained growth with price stability

- **The third period:
acceleration of liberalization and deregulation
policies**
 - To overcome the financial crisis in the late 1990s
 - Put much emphasis on attracting foreign direct investment (FDI)
 - Keep restructuring domestic economy to be competitive and consistent with global standards

- **Trade policy directions: multilateral trade liberalization, complementary with regional cooperation**
 - Trade policy based on the GATT and WTO, with its non-discrimination principles and comprehensive coverage
 - Begins to pursue RTAs/FTAs as complementary means around 1998, especially since the launch of the EU (1992) and NAFTA (1994)

□ **Regional cooperation: APEC**

- Emphasis on APEC covering about 2/3 of its international trade and FDI

□ **Belief: importance of building free and open economy**

- In increasing consumer welfare as well as enhancing the competitiveness of domestic industries

□ Trade by destination/origin

- Major trading partners: US, China, EU, and Japan
- Export to China increasing rapidly:
China has become the largest Korea's export market since 2003
- Share of imports from Japan: the largest
- Total trade with Asian countries: increasing fast

□ Trade by major products

- major exports:

automobiles, ICT equipments such as semiconductors, computers, and mobile phones (increasing share)

- major imports:

raw materials such as crude oil (18.1% of total imports in 2006) and natural gas, and semiconductors

III. ICT Sector in Korea

- **Korea: one of the leading ICT countries**
 - **Over 14.0 million households use broadband internet (88% of total households, 2006)**
 - **E-government readiness index (2004): 0.857 second to US (0.913) followed by Australia, Germany, Japan, France**
 - * UN Global E-government Survey 2004
 - **Share of e-commerce: 19.0% (35.8 billion Won, 2006)**

□ World market share in ICT products

- PDP (55%, 2006 1Q)

 - D-RAM (48.5%, 2005)

 - Online game (31.4%, 2004)

 - Digital TV (20%, 2005)

 - Mobile handset (Samsung 14.2%, LG 6.8%)

- However, not much market presence in highly profitable items such as software, non-memory chips, and computer system

- **ICT: main factor of economic growth**
 - Share in GDP: 16.1% (2006 3Q)
9.5% (2000)
 - Contribution to growth: 40.6% (2006 3Q)
32.1% (2000)
 - Current account: 54.4 billion \$ (2006)
-38.3 billion \$ (non-ICT, 2006)
 - Deflationary effect: -3.7% (rate of change in CPI of ICT products, 2001-2006 annual average)

□ **ICT: leading total factor productivity (TFP) growth**

- ICT sector led TFP growth through 1970s, 1980s, and 1990s (up to 1996): 8.6%, 5.0%, and 8.7%, respectively (annual average)

* manufacturing sector as a whole: 0.9%, 1.2%, and 3.4%, respectively

□ **ICT: leading total factor productivity (TFP) growth** (continue)

- Largely explained by consistent increase in investment and material inputs: both K/L and M/L ratio grew over/around 10% annually
- Also explained by the high extent of openness to external trade (correlation coefficient = 0.93)

* Nam, Sang-yirl (1999), "TFP Growth in Korean Industry and Export Growth," *KIEP Working Paper* 99-34, December.

□ **Competitiveness in ICT**

(* IMD World Competitiveness Yearbook 2005)

- **Technological infrastructure: 63.35% (second to US 68.93% followed by Singapore, HK, Taiwan)**
- **Largest broadband subscribers: 233.3 (per 1,000 inhabitant, followed by HK, Canada, Taiwan, Denmark)**
 - * also second lowest broadband cost followed by Japan
- **Ranked top in the Digital Opportunity Index (DOI) in three consecutive years 2005-2007 by ITU**

□ ICT policy of Korea: u-IT839 Strategy

- An initiative for Korea's ICT industry to maintain its competitive in next decade
- Introduce 8 new services in the market
- Invest in 3 infrastructures to provide the services
- **Develop 9 new products as future growth engines**
 - * Revised version of IT839 Strategy in 2006, further emphasis on software and digital contents

□ **u-IT839 Strategy: 8 services**

- **HSDPA/W-CDMA Services**
- **WiBro Services**
- **Broadband Convergences**
- **DMB/DTV Services**
- **u-Home Services**
- **Telematics/Location-based Services**
- **RFID/USN Application**
- **IT Services**

□ **u-IT839 Strategy: 3 infrastructures**

- **Broadband Convergence Network**
- **u-Sensor Network**
- **Software Framework**

□ **u-IT839 Strategy: 9 products**

- **Mobile Telecom/Telematics Devices**
- **Broadband/Home Network Devices**
- **Digital TV/Broadcasting Devices**
- **Next Generation Computing/Peripherals**
- **Intelligent Service Robot**
- **IT System-on Chip/Convergence/Parts**
- **RFID/USN Devices**
- **Embedded SW**
- **Digital Contents/SW Solution**

□ **ICT policy: Korea as ICT hub of Northeast Asia**

- Provide shared services with easy access to foreign market

* R&D, architecture/manufacturing, assembly/test, pilot project, exhibition/conference, consulting services, design support

- Build world-class ICT cluster: R&D, new technology test-bed/ICT business center

* Sangam Nuritkum Square (Digital Multimedia City) and Songdo U-IT Cluster as a RFID Hub

IV. Implications & Policy Directions

- **Policy guide: export-oriented industrialization strategy for growth**
 - However, not neglected the development of import-substitution industries in the 1960s
 - and through the development of heavy and chemical industries in the 1970s

- **Efficient use of human resources**
 - **Consistent with the country's factor endowment condition:
with an increasingly well-educated and trained labor force**
 - **Effective until around the mid-1980s when technology was
not yet a binding constraint**

- **Importance of multilateral trade liberalization**
 - **Free and open trade policy: for more competitive domestic industries and increased consumer welfare**
 - **Need to keep restructuring domestic economic system to be consistent with global standards**
 - **and to share experiences of economic growth**

□ **Other supporting factors**

- **Rapid rise in the rate of capital formation**
- **Delivery of infrastructure**
- **Guiding role of think tanks and advisory groups**

- **New policy issues: concentration of economic power**
 - **Rapid growth with concentration of economic power, a small number of conglomerates**
 - **Resulting from the development strategies generally giving preferences to large firms in promoting industrialization**
 - * political democratization beginning in the late 1980s, led by economic development

□ **Adjust economic policy goal**

- **To accommodate with the expected decline in the economy's growth potential**

- * due to aging and other structural factors

- * emphasize ICT sector as an engine of economic growth

- **More balanced policy between growth and distribution**

- **Competition and cooperation: further liberalization and share experiences**

- * leading role of ICT sector with its high intra-industry trade

Thank You!