Employment Impacts of Disruptive Technologies and Policy Responses in Korea

2nd Global Trade and Innovation Policy Alliance
May 17, 2018, Milano

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Declining Potential Growth

Source: The Bank of Korea, July 2017
## Fertility and Aging

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<tr>
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<th>OECD average</th>
<th>Korea (2017)</th>
<th>Japan</th>
<th>US</th>
<th>UK</th>
<th>Sweden</th>
<th>Germany</th>
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<tbody>
<tr>
<td><strong>Fertility</strong></td>
<td>1.7</td>
<td>1.05</td>
<td>1.42</td>
<td>1.86</td>
<td>1.81</td>
<td>1.88</td>
<td>1.47</td>
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<td>(2015)</td>
<td></td>
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<td><strong>Elderly</strong></td>
<td>15.9</td>
<td>14.0</td>
<td>26.0</td>
<td>14.5</td>
<td>17.5</td>
<td>19.4</td>
<td>21.4</td>
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<td>(2014)</td>
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Source: OECD Data 2018, Korea National Statistical Office 2018
Labor Productivity (%)

Source: The Conference Board Total Economy Database (adjusted version) March 2018
Korea’s Growth Strategy

• “Income-led Growth”

• Innovative Growth

• Inclusive and Sustainable Growth
“Income-led Growth”

Wage hikes, More social expenditures → Boost domestic consumption → More investment, More jobs

Effectiveness & Sustainability?
## Labor Productivity and Wages (% point)

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<tr>
<td><strong>Nominal wage/Hour</strong></td>
<td>100</td>
<td>101.7</td>
<td>107.2</td>
<td>112.5</td>
<td>116.2</td>
<td>120.2</td>
<td>125.7</td>
</tr>
<tr>
<td><strong>Labor productivity</strong></td>
<td>100</td>
<td>100.2</td>
<td>97.6</td>
<td>98.7</td>
<td>97.3</td>
<td>84.5</td>
<td>87.1</td>
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</table>

1. 2010 = base year
2. Labor productivity index excluding agricultural workers

Source: The Bank of Korea and Government statistics
Innovative Growth

• To increase productivity and long-term economic growth potential

• Particularly through innovations in technology, industry, human resources, institutions

• Fiscal policy and regulatory reform to facilitate private sector investment
Focus Areas

• Startups & venture investment

• Effectiveness of R&D investment

• Regulatory reform
Startups & Venture Investment

• Between 2012 and 2017
  - new startups (annual average): 74,162 → 98,330
  - venture companies (annual average): 28,193 → 35,282
• Survival: 25% only. 75% disappeared in 5 yrs (death valley)
• Difficulty in financing
Types of Business Startups

Source: OECD Entrepreneurship at a Glance 2014
R&D Investment

- R&D investment as percentage of GDP: Korea (4.23%), Israel (4.25%), Japan (3.29%), Germany (2.93%), US (2.79%)
- Government R&D budget (as % of GDP): 1.21%, world’s highest since 2011
- Technology trade balance: in deficit
- Technological readiness index: 29th (WEF)
- Public R&D to focus on basic & source technology research
- Efficiency of R&D investment to enhance
- More open and collaborative approach (co-authorship, co-patenting)
Regulatory Reform

• Regulation: No.1 barrier to global competition
• Comprehensive negative regulation
• Regulatory Sandbox to apply to new industries and new technologies, except in such areas as security, protection of micro self-employed, life & medical ethics, and protection of privacy
• Sectors most affected by heavy regulation coincide with new growth industries to promote: fintech (70.5%), new renewable energy (64.7%), driverless cars (50.0%), bio & health (43.8%) [survey result, June 2017]
Create an Ecosystem for Innovation

• Leave for building a startup
• TIPS: US$2 mil financial support for 3 yrs (esp. for high value added tech areas, incl. bio/healthcare)
• Encourage in-house startup incubation in universities, govt sponsored research institutes, public corporations
• Entrepreneurship to be added to high school curriculum
Reduce Barriers to Innovation

- Do away with Guarantee system
- Prevent technology extortion by large corporations (Fair Trade Commission)
- Establish more “Makers Space” – open source, mentoring, office space, etc. (350 makers spaces by 2022)
- Strengthen social safety nets (training for job transfer, etc.)
Education Reform

• Skills mismatch
• Around 63% of Korean workers not well-matched to their jobs (PIAAC 2015)
• Young and aging workers skills gap, esp digital skills
• Expectations mismatch
• Less investment efficiency
• Facilitate school-to-work transition
• Lifelong learning – adult learning particularly low among poorer workers
Labor Market Flexibility and SSN

• Duality and rigidity of labor market – regular vs non-regular workers

• Less conducive to more productive use of human capital and adjusting to disruptive technologies

• Strengthen SSN
Women Labor Force Participation

• Low participation rate

• Aging population

• Childcare facilities

• Flexible work hours