South Korea
“Reviving the Miracle of the Han river”

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Executive Summary

History

- South Korea’s economic history has been achieved steep growth over the last half century. This progress has been fueled by strong TFP growth and increased capital deepening.
- Adopting the adequate policies has enabled Korea to successfully exit all crisis situations the country has faced.

Current Situation

- Even if Korea is currently 15th in the world by Nominal GDP and a very developed economy, some issues need to be addressed to ensure long-term growth: high cost of debt, low fertility levels, household cash-flow constraints, low productivity in SMEs, and lagging services sector to name a few.

Proposed measures

- We believe that a new growth model needs to be defined focusing on achieving financial health for middle income families. Suggested measures include:
  - Banking reform focused on reducing cost of debt for families
  - Increase social investment to boost fertility and access of women to workforce (with the required tax reform)
  - Policies promoting SMEs to allow them to grow and become more productive in their support of the middle class.
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- Reviewing the miracle: Why did Korea grow?
  - Current economic situation and deep dive on main problems
  - A new growth model: Proposal for long term sustainable growth
South Korean Output Per Worker has increased at an incredible pace over the last half century; fueled by a series of measures

Y/L evolution over time

1953-1961: Post-Korean War
“Miracle on the Han River”
- Firm leadership allowed Korea to stabilize
- Land reform and redistribution

1960-80: General Park Chung-hee seizes power
- First 5-year Economic Development Plan
- Highly authoritarian regime: “Democracy cannot be realized without an economic revolution.”

Asian Financial Crisis – 1997

2000’s
- Dip in early 2000’s due to global economic slowdown
- Shift toward more open market economy – maintained growth

2008 - Present
- Slight dip in growth, but avoided recession

SOURCE: Team Analysis; World Bank; Wikipedia
Growth decomposition shows an important contribution from TFP and capital per worker to the overall growth in all the periods analyzed.

<table>
<thead>
<tr>
<th>Period</th>
<th>Source Country</th>
<th>TFP Contribution</th>
<th>Capital per Worker</th>
<th>Overall Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-1985</td>
<td>Korea</td>
<td>4.1%</td>
<td>1.1%</td>
<td>7.0%</td>
</tr>
<tr>
<td>1985-2011</td>
<td>United States</td>
<td>2.3%</td>
<td>0.8%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Whole period</td>
<td></td>
<td>3.2%</td>
<td>1.2%</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Main growth contributors:

- \( \alpha Y_{K/L} \) + \( \alpha Y_{L/N} \) + \( Y_{TFP} \) = \( Y_{Y/N} \)
TFP and Capital per worker growth was fueled by a series of policies that enabled the country to sustain high levels of growth

<table>
<thead>
<tr>
<th>Key policies</th>
<th>Effect on variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Government intervention (early 1980s)</td>
<td>Promote competition: innovation and productivity</td>
</tr>
<tr>
<td>Liberalized foreign investment</td>
<td>- GDP/hour-worked x3 in around 20 years</td>
</tr>
<tr>
<td>Expand investments in public projects (early 1980s)</td>
<td>Reduce imbalance between rural and urban sectors (previously caused by industrialization)</td>
</tr>
<tr>
<td>Post 1997 labor adjustments</td>
<td>Contain financial problems and move towards recovery through a dynamic and productive labor market</td>
</tr>
<tr>
<td>Bank privatization, restructuring of conglomerates and a more liberalized economy (2002)</td>
<td></td>
</tr>
<tr>
<td>Outward looking strategy emphasizing industrial sector (1960s)</td>
<td>Great inflow of foreign capital investments</td>
</tr>
<tr>
<td>- Labor intensive manufactured exports (competitive advantage)</td>
<td>- Allow facing poor natural resources, low saving rates and small domestic market</td>
</tr>
<tr>
<td>Future production plans shifted toward high-tech industries (1990)</td>
<td>- Pushed industrial sector revolution</td>
</tr>
<tr>
<td>Inclusive economic strategy</td>
<td>Development of advanced industries to sustain exports</td>
</tr>
<tr>
<td></td>
<td>Allowed to benefit from significant improvements in the world economy and globalization</td>
</tr>
<tr>
<td></td>
<td>Communication technology</td>
</tr>
</tbody>
</table>
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Korea currently needs to address a series of challenges: an increasingly stressed society directly linked to a stressed economic situation

### Good policies

- Good levels of **government debt and foreign exchange** levels
- Spend 2.75% of GDP in **R&D** (e.g. Nationwide high-capacity broadband network - 94% of population has high speed internet connection vs. 65% in USA)
- **School System focused in results** and publicly available information
- Ranked 7th in the **Economic Complexity Atlas**
- **KAFTA** (Korea-Australia Free Trade Agreement)

### Bad policies

1. **Low social investment:**
   - Tax revenue equals 16% of GDP (world bank data)
   - Only 11% of total expenditure goes to Social Expending

- Around **4% of GDP spent in education** (Vs. more than 6% average for OECD countries) and **less than 1% of its educational budget in training programs**
- **Bankruptcy Law** poses a barrier for creative destruction
- **Rigid labor market**: ranks 94th among 140 countries, in ease to employ workers. One of the least flexible labor markets among industrialized economies

2. **Fragile Savings Bank System** and weak mortgage and loan market. Short Tenor and 94% of loans have floating rates

- **Manufacturing sectors are leading current GDP growth** but employment is led by the services sector

### SOURCE:
Team Analysis; Mckinsey reports; OECD; World Bank
Low social investment generates a weak welfare network to support women to have kids and work at the same time (1/2)

- **Fertility Rate** in south Korea is currently 1.2; the lowest in OECD countries
- Fertility rate has fallen by two-thirds since the 1970s
- Low fertility is starting to cause a problem with aging population and a reduction in the working age population group
- At this pace, Korea faces a big rise in dependency rates from aging population

**Current Situation**

<table>
<thead>
<tr>
<th>Total fertility rate (%)</th>
<th>Growth in contribution of working-age population to GDP per capita (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>France</td>
<td>United States</td>
</tr>
<tr>
<td>United States</td>
<td>EU-15</td>
</tr>
<tr>
<td>OECD</td>
<td>Germany</td>
</tr>
<tr>
<td>Japan</td>
<td>South Korea</td>
</tr>
</tbody>
</table>

**SOURCE:** Mckinsey reports; OECD; World Bank
Low social investment generates a weak welfare network to support women to have kids and work at the same time (2/2)

- **Low Women Work Force Participation**, 62%. (4th Lowest in OECD countries) even if they are usually better educated than men
- The number of **women leaving work to raise children is high**
- Women over 40 and mothers returning to labor force are more likely to take temporary or day work

**Participation rate of women in Korea and OECD countries, 2010, %**
Current policies in the South Korean banking sector are generating a huge household debt burden.

- More and more households are relying on loans and mortgages from non-banking institutions, which imply a higher cost of debt for families.
- High cost of debt together with short maturities and floating interests are generating cash flow constraints for middle income families.
- The premium that South Koreans pay for high LTV (loan-to-value) loans is higher than in most OECD countries.

SOURCE: Team Analysis; Mckinsey reports; OECD; World Bank
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We believe that Korea needs to focus on a growth model that ensures the improvement of middle income families’ financial health.

Middle income families face important social and economic stresses mainly due to…

**High debt and low saving rates**
- High housing prices (7.7 house price to income ratio in 2010 compared to 3.5 in the U.S.)
- High financing costs: short mortgage maturity, floating interest, tight loan to value policy (LTV)

**Slowing income growth**
- Source of income is shifting from large companies to SMEs that are not creating high paying jobs
- Unique source of income: 54% of households depend on just the male’s income
- Women with children cannot sustain an equilibrated work-life balance, being unable to get a full-time job

**High education expenses**
- Higher private education expense than most societies in the world
- Public education does not adequately prepare students for university entrance exams
- Government investment in education is lower than in the rest of OECD countries

For those reasons, we suggest…

- Banking reform including a loose LTV policy
  - protect from real estate bubble
  - allow middle class to have loans from 1st tier banks

- Increased efforts to build up a high value services sector:
  - Promote entrepreneurship
  - Reduce barriers for SMEs (e.g. less rigid labor mkt.)

- Higher social investment to allow women to access employment. This would require a tax reform possibly focused on slightly increasing taxes for corporates over 20 billion won

1 Measure to be analyzed in greater detail due to its complexity

SOURCE: Team Analysis; Mckinsey reports; OECD; World Bank
The proposed reforms and policies have been modeled as different scenarios that reflect the potential evolution of GDP per capita under different circumstances.

- **Base Case Scenario**: Assumes growth in a “Status Quo” situation, following currently expected trends.
- **Banking reform**: Scenario under a banking reform influencing saving levels and TFP growth.
- **SME**: SME contemplates a scenario where SMEs are developed to narrow the productivity gap between SMEs and large corporates.
- **Women empowered**: Women at work involves the creation of better conditions for women, boosting fertility and making it easier for women to access jobs.
- **Combined "best case" scenario**: Combined best case scenario is the addition of all the mentioned reforms.

SOURCE: Team Analysis; World Bank data