

3 Structural Risks of China's Economy

1 As intellectual property balance deficit increases, TFP declines

- China's intellectual property balance maintains chronic deficit.
 - X Intellectual property export to import ratio is lower than 0.2%.
- Also, TFP continues negative growth for seven consecutive years since 2012.

2 Reaching the Limit of Quantitative Growth by Capital Injection

- After global financial crisis saving-investment gap declined, but it has increased since 2014.
 - X The recent rise in the S-I gap is probably due to the faster pace of investment decline than savings.
- With decrease of investment, ICOR is on an upward trend since 2010.

3 As working-age population shrinks, labor productivity grows slowly

- Working-age population to total population ratio has fall since 2010 and labor force participation rate has declined since 2000.
 - Working-age population growth rate(average): 1995~1999 1.5% → 2000~2009 1.5% → 2010~2017 0.2%
- China's labor productivity is improving, but it's still 21.6% of USA.

^{*} Presented at the 14th Jeju Forum for Peace and Prosperity, Jeju, South Korea, May 29-31, 2019, http://www.jejuforum.or.kr/m21_program.php?year=2019



Total Factor Productivity(TFP) Slowdown

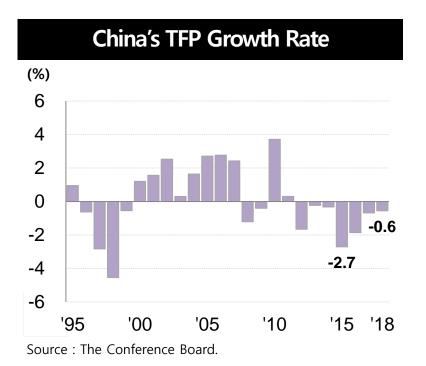


As intellectual property balance deficit increases, TFP declines

- China's intellectual property balance maintains chronic deficit.
 - * Intellectual property export to import ratio is lower than 0.2%.
- Also, TFP continues negative growth for seven consecutive years since 2012.

China's Intellectual Property Export to Import(BoP) Ratio of export to import(left) (ratio) (bn\$) Trade balance(right) 0.20 0.15 -10 0.10 -20 0.05 0.00 -40 '05 '10 '18 '97 '00 '15

Source: State Administration of Foreign Exchange.



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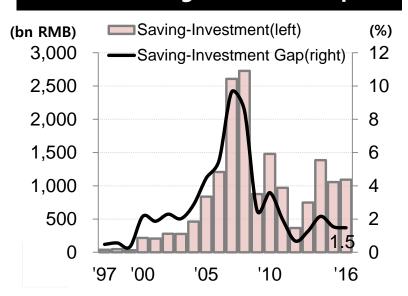
Inefficient Investment



Reaching the Limit of Quantitative Growth by Capital Injection

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China's Saving-Investment Gap*



Source: HRI calculated the data from 'Flow of Funds'. * Saving-Investment Gap = (Saving-Investment)/GDP.

(%) Investment growth rate(left) (ratio) 60 18 **─**ICOR(right) 50 15 12.3 40 12 **8.0**₉ 30 20 10 0 '95 '10 '15 '18 '00

China's Incremental Capital-Output Ratio(ICOR)*

Source: HRI calculated the data provided by National Bureau of Statistics of China.

^{*} ICOR = I/\triangle GDP = It/(GDPt - GDPt-1). Incremental capital output * Presented at the 14th Jeju Forum for Peace and Prosperity, Jeju, South Korea, Maratio 3 means, additional eunit of cappital 1 to reproduce? amadditional unit of output. Higher ICOR indicates the entity's production is inefficient.



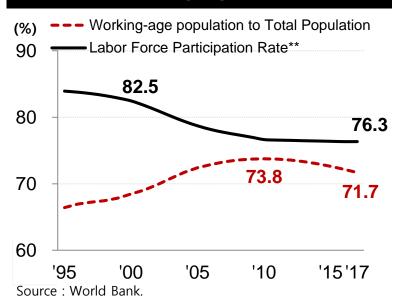
Population structure change



As working-age population shrinks, labor productivity grows slowly

- Working-age population to total population ratio has fall since 2010 and labor force participation rate has declined since 2000.
 - Working-age population growth rate(average): 1995~1999 1.5% → 2000~2009 1.5% → 2010~2017 0.2%
- China's labor productivity is improving, but it's still 21.6% of USA.

China's Working Age Population*



* Working-age population = Population ages 15-64.

** Labor force participation rate is defined as the section of working-age population in the economy currently

China's Labor Productivity Labor Productivity(left) (\$) (USA=100)30,000 Labor Productivity **21.6** 25 Compared to USA(right) 24,000 20 18,000 15 12,000 10 7.4 6,000 6,813 19.193 **28**.400 '00 '05 15 '19 '95 '10

Source: The Conference Board.

working-age population in the economy currently *Presented at the 14th Jeju Forum for Peace and Prosperity, Jeju, South Korea, May 29-31, 2019, http://www.jejuforum.or.kr/m21_program.php?year=2019 employed or seeking employment.