

**Rhodium
Group**

China's Economy 2022 to 2030

The End of Inevitability

ENERGY FORUM MAY 19, 2022

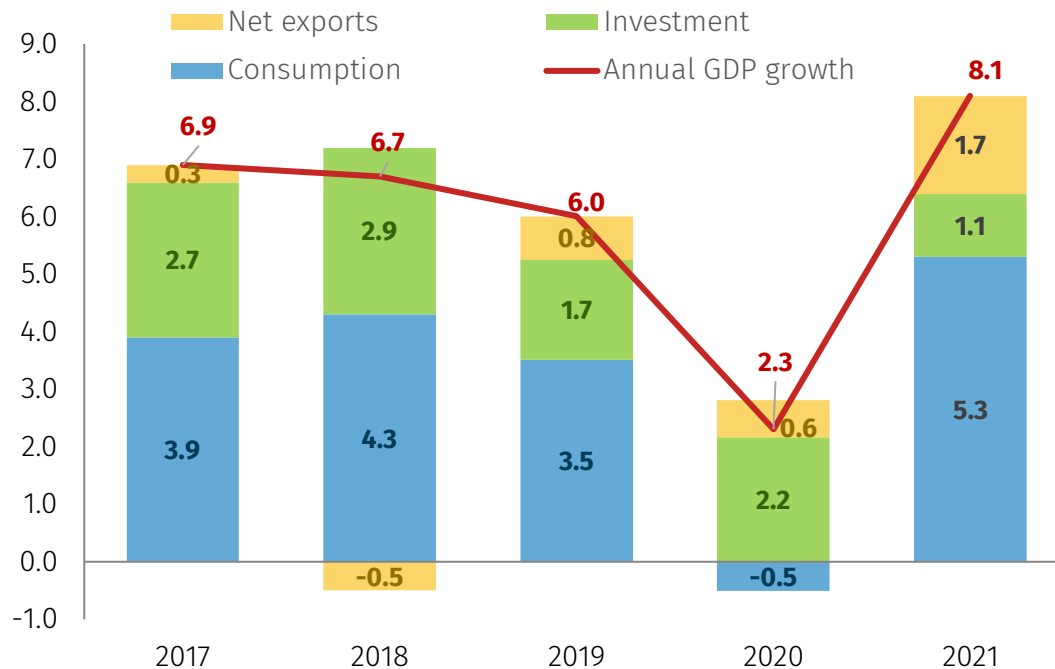
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Growth as We Knew It

All longstanding economic growth drivers under structural slowdown

China's GDP Growth, Broken Down by Expenditure Component

Percent change, year-on-year (constant price)



Sources: IMF, National Bureau of Statistics.

2022 Growth Potential

Investment:

1.7% in 2019

- Property slowdown
 - Pipeline for property sales reduced
 - No other industry to offset
- = 0%-1.5% in 2022 GDP growth

Consumption:

3.5% in 2019

- COVID lockdowns
 - Consumer anxiety and income stagnation
 - Policy hit on private job creation
- = 0%-2.5%

Net Exports:

0.8% in 2019

- Peaking at \$676 billion in 2021
 - Repeat needed in 2022, but unlikely
- = -0.5-0.0%

= -0.5%-4.0% growth range

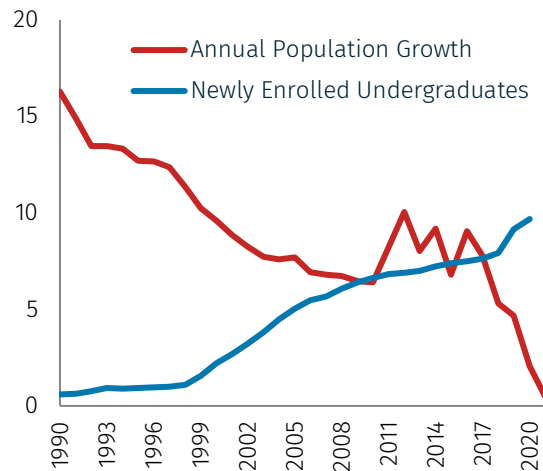
Reaching the official 5.5% target would take levels of infrastructure and property stimulus not in sight or under discussion.

Long Term Constraints Are Increasingly Obvious

Concerns are no longer fringe observations

Demographics: Now a headwind

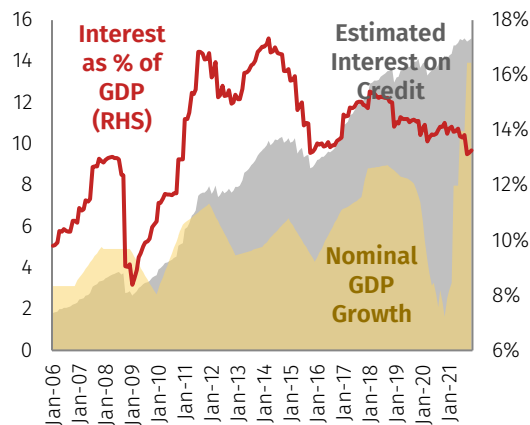
General pop. & student pop. growth,
Million people



Source: National Bureau of Statistics, Ministry of Education, Rhodium Group calculations.

Investment: bad returns, debt increasing

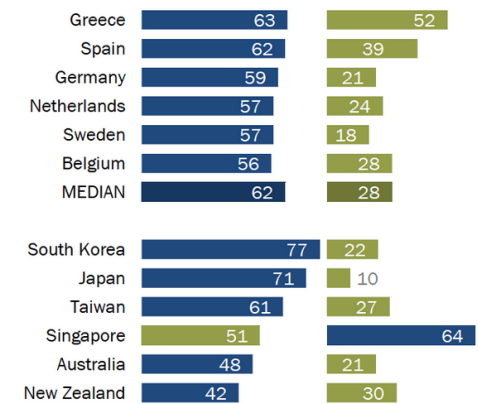
Nominal GDP growth vs. interest on credit
RMB trillions (L) and percent (R)



Source: National Bureau of Statistics, Rhodium Group calculations.

External conditions: more hostile

Pct. with favorable views of US (L) & China (R)



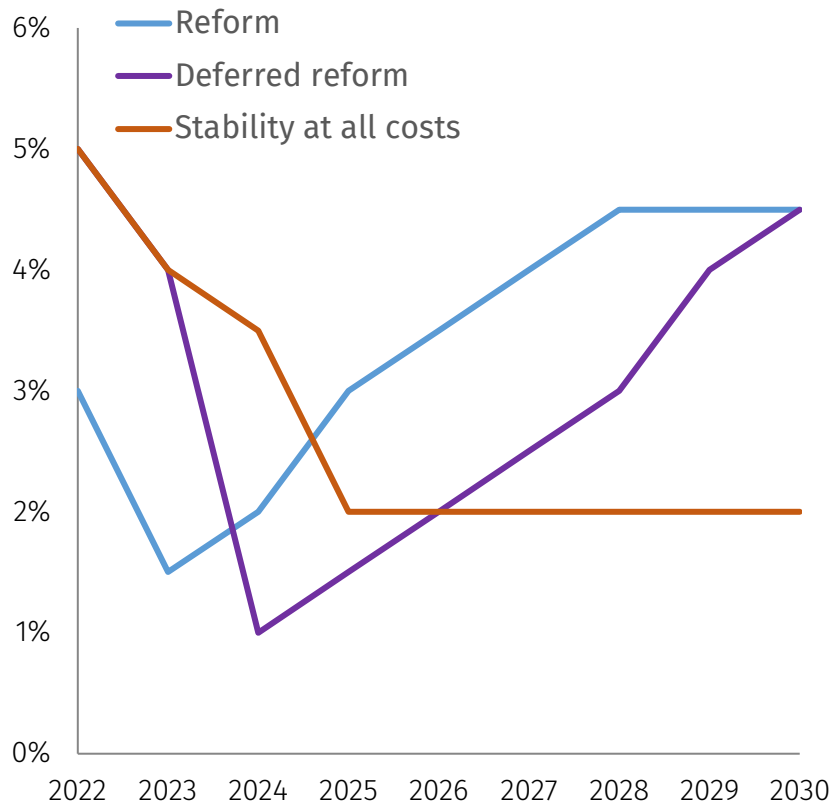
Source: Pew Research.

- Failed reforms since 2013 have not led to productivity growth needed to beat these headwinds.
- The collapse of the property market in 2021 and 2022 makes all these headwinds worse.
- In a de-coupled world, **systemic rivalry** drags on everything needed to overcome these headwinds: direct investment, portfolio flows, technology transfers, talent access, economies of scale and scope, and trade.

“Turn Down to Go Up” Would Boost Outlook, But Unlikely

Three China Growth Paths to 2030

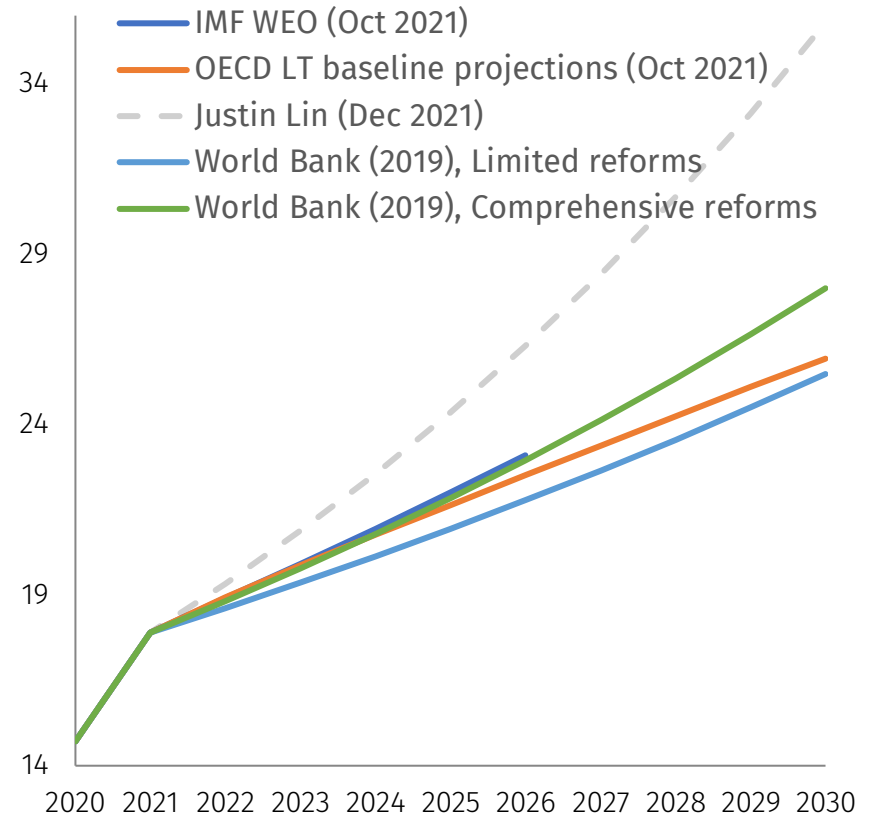
Stylized Rhodium scenarios, percent



Source: Rhodium Group.

A \$10 Trillion Range of Outcomes

China 2030 GDP projections, USD trillion

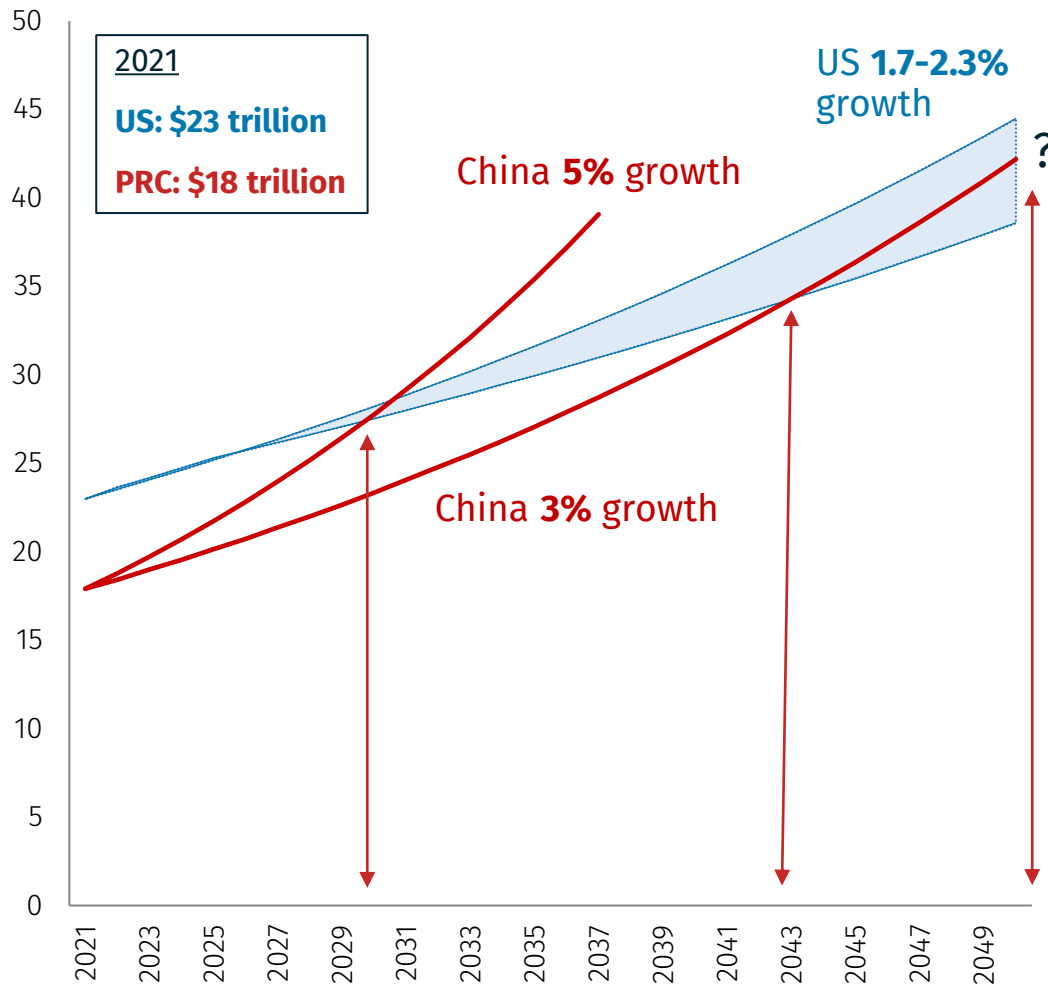


Source: Diverse estimates.

Will China Pass US? Far from Inevitable

US and China GDP under different growth scenarios

USD trillions



And if 2% China and 1.7% US, passing is 2106

Sources: IMF, US Congressional Budget Office, US Bureau of Labor Statistics