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Hearing on China's Shifting Economic Realities and
Implications for the United States

Caveat

This document contains observations and analyses regarding China's economy as they have been developed in the course of Mars & Co's work with corporate clients. As such, the observations and analyses herein do not constitute a comprehensive understanding of all dynamics at play, but rather a selected and targeted list of key observations that have, for one reason or another, been important topics for our clients to understand. In addition, the accompanying information and analysis is not necessarily current, as it reflects a series of discrete work efforts conducted over the past 12-24 months.

Since we are not economists, either by training or by trade, this document should not be considered as a formal academic/political report reflecting Mars & Co's position on China's economy and its conduct. It should rather be read as an abstract of practical business pointers Mars & Co takes into account when shaping the advice its provides clients as concerns their strategies.

China's Recent Economic Growth: from 2000 to today

After years of double-digit real GDP growth from 2000 through 2007, followed by the global recession and stimulus-driven recovery from 2008-2010, China's economy has seen a steady deceleration in GDP growth since 2011.

When examining the reasons for this deceleration, we've analyzed the published statistics in two distinct ways:

1) The traditional macroeconomic approach looking at the contributions to GDP from consumption, investment, government spending, and net exports
2) An approach which distills GDP growth into 3 factors: labor force growth, capital growth, and productivity growth

Each of these approaches yields key insights about the contribution to and drivers of growth in China's economy.

Using the traditional macroeconomic approach, we see three distinct periods in China's recent (past 15 years) history (*see Figure 1*):

- **Period 1 (2000-2007; 11.6% real annual GDP growth):** A build-up of investment in early years of this period (2000-2004), contributing to a rapid expansion in net exports through 2007 (even as the yuan was strengthening)

- **Period 2 (2007-2011; 9.2% real annual GDP growth)**: Net exports shrinking as a share of GDP driven by global recession and resulting slack demand in the 2007-2009 period, followed by a 2nd surge of investment, offsetting the softness in net exports
- **Period 3 (2011-today; 7.2% real annual GDP growth, and falling)**: A new, fragile "steady-state" reached with investment "stuck" at the surge levels; unlike the 2000-2007 period, the surge in investment has not translated into net export growth; growth in domestic consumption, though accelerating, has not been sufficient to make up for the weakening contribution from exports.

Using the 3-factor approach, we can begin to understand the forces driving the slowdown in the GDP and the characteristics of the different periods of growth.

In each period, we saw the increased participation in the labor force contributing an average of 0.3% per year of growth. The worst year came in 2007 when labor force participation shrank and contributed negatively to GDP by 1.4%. The best year came in 2010 as the economy rebounded from global recession and growth in labor force participation contributed 2.4% to overall GDP growth.

What is especially telling, however, is the contribution of investment and productivity to GDP in the 3 periods outlined above *(see Figure 2)*:

- **Period 1 (2000-2007; 11.6% real annual GDP growth)**: Productivity contributed an average of 5.5 ppts per year of GDP growth and investment contributed an average of 6 ppts. China's economy was experiencing the best of both worlds.
- **Period 2 (2007-2011; 9.2% real annual GDP growth)**: Productivity contributed an average of only 2 ppts per year of GDP growth and investment contributed an average of 6.6 ppts. While investment-driven growth continued and even accelerated, productivity improvements from the labor force and installed assets began to decline, suggesting a diminishing return on incremental investments.
- **Period 3 (2011-today; 7.2% real annual GDP growth, and falling)**: Productivity contributions to GDP growth have disappeared, falling to 0.2% ppts per year, and in fact turned negative by 2014. At the same time, investment continued as a contributor to GDP growth and even accelerated further, contributing 6.8 ppts per year to GDP growth.

Low-Labor-Rate Manufacturer to the World: A Strategy that's Played Out

China's rapid productivity growth of period 1 above (2000-2007) was supported by massive migration of rural migrants into cities. The mass-employment of millions of migrants in factories in the Pearl River Delta and cities like Beijing and Shanghai contributed to a surge in labor productivity and the dominance of China in multiple export-oriented manufacturing sectors requiring significant labor inputs.

Success fed on itself with entire sectors like plastics, consumer electronics and apparel building self-contained design-to-manufacture value-chains in China. This in turn contributed to further increases in productivity and double-digit GDP growth rates.

In recent years, however, migration into the cities has slowed, leading to labor shortages in manufacturing and the bidding up of manufacturing wages. Double-digit labor inflation has enabled lower cost SE Asian countries (Vietnam, Bangladesh, Philippines, ..) to become more attractive than

China as Industrial bases. This has induced sharp changes in the make-up of the Chinese industrial supply chain: the outsourcing of labor-intensive parts of the supply chain to a slew of SE Asian countries as well as a drive to productivity enhancement through technology and automation.

The consequences of these major shifts have been anything but innocuous: first, the increased outsourcing has contributed to a deterioration in the Chinese current account surplus (which has even become negative in certain months) and, second, the importance of investment has been reinforced as the primary engine of growth, thus further delaying a rebalancing towards a more consumption-driven economy.

The Current Situation: An Investment Engine Increasingly Debt-Fueled

Indeed, China hasn't yet made great strides toward rebalancing to a more consumption-driven economy. With over $15T in new investment over the past 5 years, Investment not only remains the primary contributor to growth, but it has also been increasingly debt-driven.

As shown in Figure 3, total debt in China grew from ~158% of GDP in 2007 to >280% of GDP by 2014. Private debt held by households and corporations has grown to >200% of GDP in the same time frame.

By comparison to the US and Japan prior to their respective crises, the debt build-up by Chinese corporations is even more extreme *(see Figure 4).*

Local governments have also faced an explosion in debt with over $3T believed to be owed by these entities in 2014 [1]. Given that local governments often have ownership stakes in companies, it is unclear how much of this debt is tied to corporate investments or to "vanity" infrastructure projects. Due to growing concerns on local government solvency, the central government imposed an upper limit of $2.5T on local government debt in 2015 and also created a new class of "bail-out" bonds to enable provinces to "swap out" high-interest debt [2].

The Imbalances in the Economy

In 2015, the underlying imbalances created by debt-fueled investment began to surface, though 2 events in particular appeared to catalyze a loss of confidence among consumers and investors:

- The stock market crash in June and subsequent volatility contributed to a fall in consumer confidence.
- The overnight devaluation in August signaled real concerns about the ability to maintain growth.

These events, however, were just the external manifestations of the 4 critical imbalances that are growing beneath the surface:

1) *Excess capacity in many industries*

Through our work with clients in nearly every sector, we have seen a rapid rise in excess capacity. We have seen this dynamic in global sectors such as steel and automobiles, but also in more localized sectors. *Figure 5* shows a range of utilization rates across various industries.

Importantly, we have seen this phenomenon accelerate since ~2011 and we even see continued announcements for capacity expansion in sectors already burdened with 30-40% excess capacity.

The implications for our clients are twofold: 1) depending on the industry, the excess capacity tends to find a home in serving export markets – primarily the U.S. and Europe; and 2) where our clients have invested in assets to serve the local China market, price pressures are leading to "existential" questions about whether to continue to play in that market.

2) *A real estate bubble?*

Real estate construction contributes up to a quarter of China's total GDP. Development has been outpacing sales, vacancies are on the rise, and an estimated 50M apartments were unoccupied as of 2014 [3]. The overhang has contributed to home price declines beginning in mid-2014.

3) *A banking crisis in the making?*

With the debt-fueled overbuilding in real estate and industrial capacity, the signs of a debt crisis are looming large, with non-performing loans (NPL's) growing 35% year-on-year in the first half of 2015, after already increasing 22% year-on year in the first half of 2014 [4].

Shadow-banking activity in China is significant, with unlisted banks accounting for ~$8T of assets (as compared to total banking assets in the U.S. of $15.5T) [5]. Thus, the official NPL figures from listed banks likely understate the extent of the problem.

4) *A depletion of the "bursting at the seams" vault*

After peaking in the spring of 2014 at ~$4T, China's dollar reserves have been on a steady decline, with capital outflows of ~$1T in 2015, reaching a high of $158B in December 2015 [6].

Such depletion has 4 contributing causes:

- <u>Major changes in the industrial supply chain</u> (as mentioned above)
- <u>Investor skittishness</u>: Economic uncertainty and the surfacing of imbalances are driving investors seeking quick returns out of the market.
- <u>Businesses seeking globalization</u>: Desire to expand globally coupled with relaxation of capital controls is leading to increased demand for foreign currency. This dynamic is somewhat mitigated by the ability of Chinese companies to raise funds directly on foreign exchanges.
- <u>The major crackdown on corruption</u>: President Xi Jinping's heavily and constantly publicized linchpin platform of ruthless crackdown has induced wealthy families to move funds offshore to avoid seizure. With the top 1% controlling 30% + of China's wealth, any flight could quickly accelerate capital outflows [7].

The Yuan Under Pressure

For many years, China was relatively immune to currency volatility with the yuan pegged to the dollar. Since this peg was underpinned by massive current account surpluses as well as investment in-flows, the strength of the peg was never really in doubt. In fact, many US participants have repeatedly complained of an artificially weak yuan which in turn potentially served to boost the competitiveness of Chinese exports.

Multiple recent events have contributed to pressures on the Dollar-Yuan peg:

1) The recent strengthening of the US dollar resulted in the yuan drifting upwards relative to other currencies. This upward currency drift combined with labor inflation in China and the economic slowdown in Europe contributed to a fall in Chinese exports.
2) In this backdrop, the Chinese government embarked on a series of cuts both in interest rates and in banks' capital reserve ratios.
3) The slowing growth rate in China combined with the relative yield attractiveness of other currencies exacerbated capital outflows from China. Capital exiting China has taken many forms - most notably the acquisition of Western companies, technology and assets by Chinese companies and the personal investments in world real estate by the affluent class in China.
4) The consequent large outflows of capital from China resulted in the yuan trading overseas at a discount to its official peg. The Chinese government, acknowledging this imbalance and, at the same time, seeking to qualify for IMF reserve currency status, shocked the markets with a surprise devaluation of the yuan in August of 2015.
5) The devaluation of the yuan appeared to have the opposite of the intended impact, as markets interpreted the move as a sign that China's problems are worse than were believed, and that China was attempting to re-stimulate growth through exports.

It is likely that a cheaper Chinese currency will, at the margin, help exports, but will not solve China's larger debt and over-investment problems. Indeed, the most recent announcement of the PBOC has to been to signal a strengthening of the yuan vs the dollar. This announcement is also unlikely to lessen the pressure on the yuan and may in fact accelerate the decline in China's forex reserves as it spends dollars to "defend" the yuan.

Future Expectations

As we contemplate the future for China's economy, we can envision three potential pathways *(see Figure 6)*:

- Scenario 1 – "Keep the Music Going": Under this scenario, the Chinese government will continue to "manufacture" growth through the continued use of debt, induced by further cuts in interest rates and banks' capital reserve ratios. While this could temporarily keep growth rates high, it will result in bigger problems down the road.

- Scenario 2 – The Restructuring Scenario: Under this scenario, the Chinese government would acknowledge the imbalances in the economy and take concerted actions to achieve mammoth restructuring both in the supply-side and the financial sectors. This scenario will inevitably lead to a sharper slow-down in the short-term, but will better position China to get back on the pathway to sustainable growth.

- <u>Scenario 3 – "The Lost Decade"</u>: Under this scenario, the government is unsuccessful in taking on the hard restructuring actions. The massive over-capacity in multiple sectors will force heavily indebted companies into financial distress. The resulting problems with non-performing debt will cause banks to freeze lending and force the economy into a long period of sub-par growth.

The Chinese government's statements and actions give us the best picture of where the economy is headed. In September 2015, Premier Li Keqiang acknowledged that the Chinese economy had "entered a state of new normal." Further, he emphasized that the situation "has made it all the more necessary for us to press ahead with structural reform." [8] In December, the government followed up these pronouncements with a multi-point plan of action to revive the economy *(see figure 7)*, including the important elements of supply side and financial restructuring necessary to reposition the economy for sustainable growth. Equally importantly, a Chinese government spokesman characterized the prospects of the economy with the statement that "The economy will follow an L-shaped path, and it won't be a V-shaped path going forward." This seems to indicate that the Chinese government is unlikely to use aggressive fiscal stimulus as the means to re-stoke growth. [9]

What is unclear at this point is the ability of the government to successfully deliver on the stated plan. The historical track record on supply-side restructuring is spotty, and restructuring the financial sector is a new problem for the government to solve.

While the necessary policy actions have yet to bear fruit, there remain multiple reasons to be hopeful for China:

1) The Chinese consumer: While the manufacturing & real estate economy continue to falter, the Chinese consumer appears resilient; China's "millennial" consumer, having experienced one of the greatest booms in history, continues to behave aspirationally.
2) Tier 3 & 4 cities: We see a maturing of the economies in tier 1&2 cities, with growth in bellwether sectors such as automotive resembling that of the U.S. and Europe; Tier 3 and 4 cities, however, are at much earlier stages of development and are continuing to see healthy growth.
3) Availability of policy levers: The Chinese government has some untapped policy levers available to it; for example, bank reserve requirements in China are still close to 2X the reserve requirements in the U.S.
4) Limited Dollar Debt – While China's overall debt burden is high at $28T, only ~$1T of this is denominated in foreign exchange.
5) Declining Oil Prices – As a large net importer of oil, China is a big beneficiary of declining oil prices.

China's economy faces serious systemic threats in the short term, and structural reforms are necessary. If such actions are undertaken, the intrinsic strengths outlined above will enable a "re-basing" of the economy and a return to sustainable growth, saving it from a "Japan-like" lost decade.

A Few Pointers for the Western Businessperson

- China remains a debt-fueled investment-driven economy

- Excess capacity is becoming a fact of life in an increasingly large number of sectors

- Remain "on your toes" about possible mammoth restructurings of state-owned entities in sectors you're participating in

- Pay specific attention to the choice of possible partners and to the details of partnership agreements

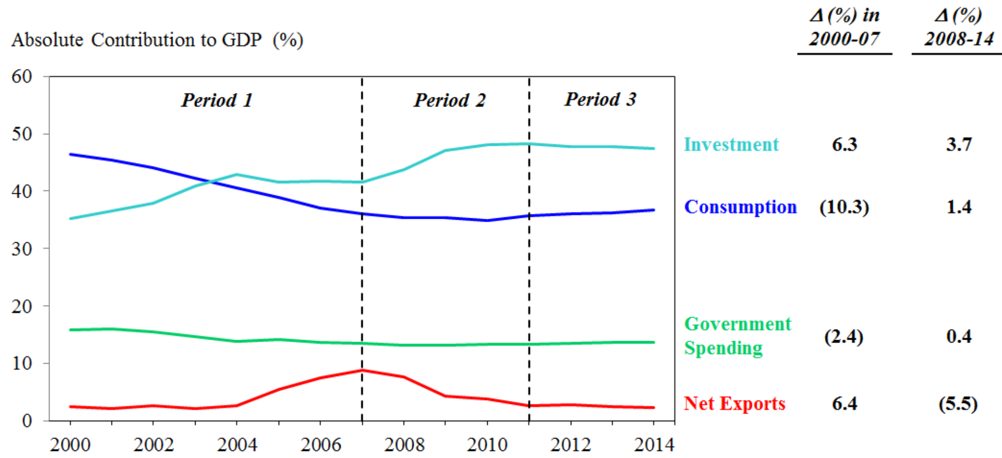
- Major destabilizing "events" (real estate bubble popping, emerging banking system crisis, capital control tightening, competitive devaluations and contagion, etc.) carry various degrees of probability of happening, but must be incorporated into forward thinking plans

- The Chinese government keeps honing its plans and it's important to stay abreast of them; as with the Fed, "one can't afford to bet against the Party"

Appendix

FIGURE 1: PERCENTAGE OF GDP BY COMPONENT
CHINA

Investment continues to be the primary driver of GDP growth in China.



Sources: Euromonitor; Mars & Co Analysis

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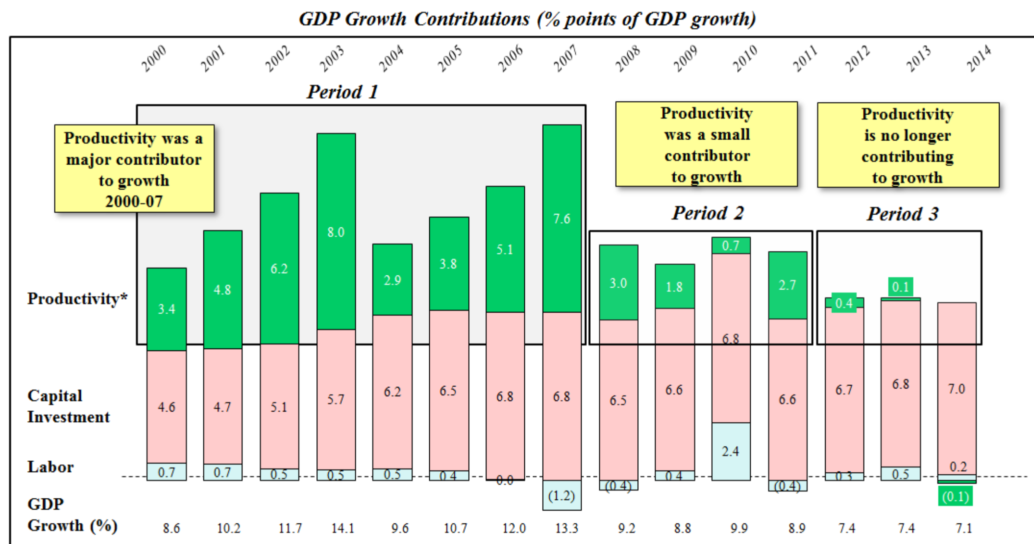
FIGURE 2: PRODUCTIVITY CONTRIBUTION TO CHINA'S GDP GROWTH

Over the last few years, China's GDP growth has been fueled principally by capital investment.



* Total factor productivity independent of capital inputs
** Real GDP (based on 2000 prices)

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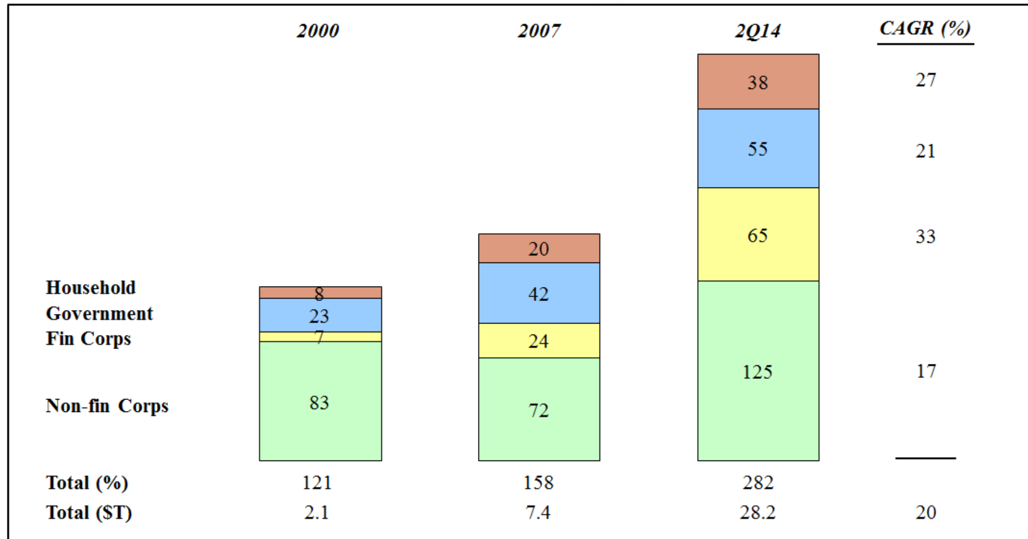
FIGURE 3: DEBT CRISIS
Overall debt levels in China have grown 10-fold over the last 15 years, with corporate debt contributing to the bulk of the increase.
Debt-to-GDP China (%)
2000
2007
2Q14
CAGR (%)
Household
Government
Fin Corps
Non-fin Corps
8
23
7
83
20
42
24
72
38
55
65
125
27
21
33
17
Total (%)
121
158
282
Total ($T)
2.1
7.4
28.2
20
Sources: MGI Country Debt database; World Bank; S&P; Credit Suisse; The Atlantic; Mars & Co Analysis
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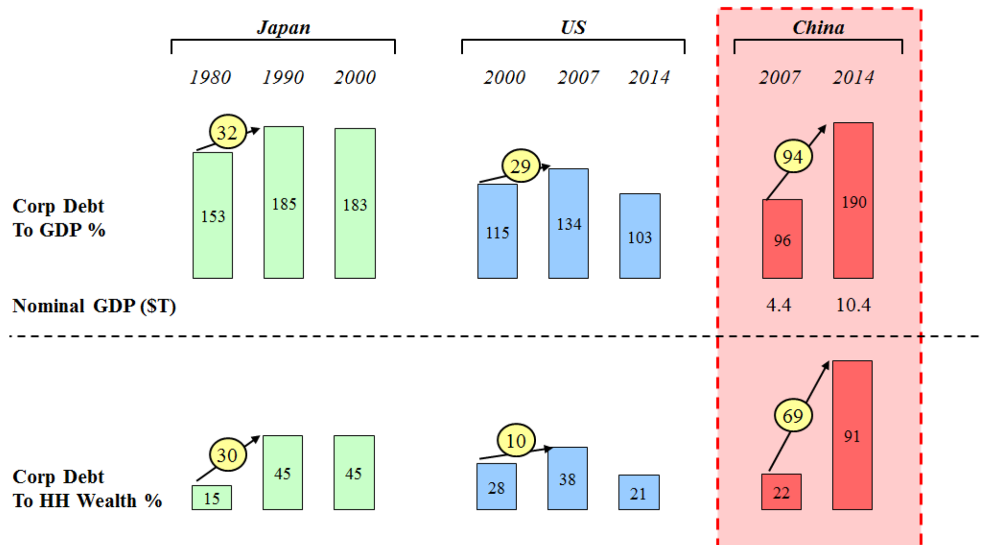
FIGURE 4: CORPORATE DEBT BUILD UP
Corporate debt build-up in China has been even more aggressive than Japan and the US prior to their respective financial crises.
Japan
US
China
1980
1990
2000
2000
2007
2014
2007
2014
Corp Debt To GDP %
153
185
183
32
115
134
103
29
96
190
94
Nominal GDP ($T)
4.4
10.4
Corp Debt To HH Wealth %
15
45
45
30
28
38
21
10
22
91
69
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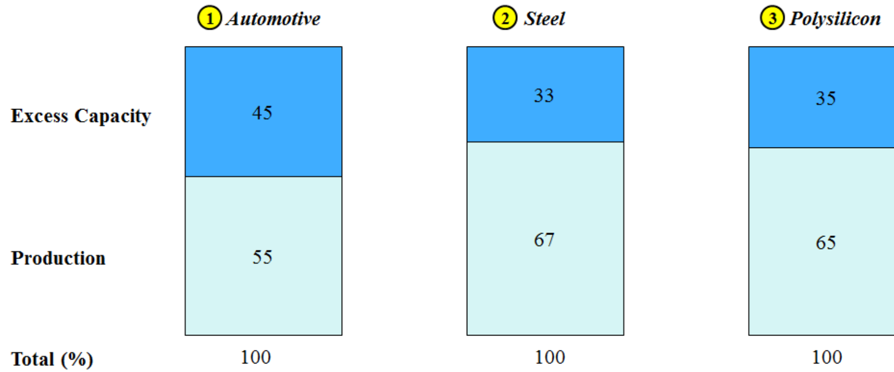
FIGURE 5: EXCESS CAPACITY IN MULTIPLE INDUSTRIES 2014 / 15

Multiple industries where China has significant excess capacity.



1. *Largest auto market in the world, but* ***excess capacity of ~20 M vehicles***
2. *33% excess capacity in steel plus* ***anti-dumping complaints*** *world over*
3. *35%* ***excess polysilicon capacity even after government restructuring*** *announcements*

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Sources: CAAM; IHS; World Steel; OECD; MIIT; IEA; Mars & Co Analysis

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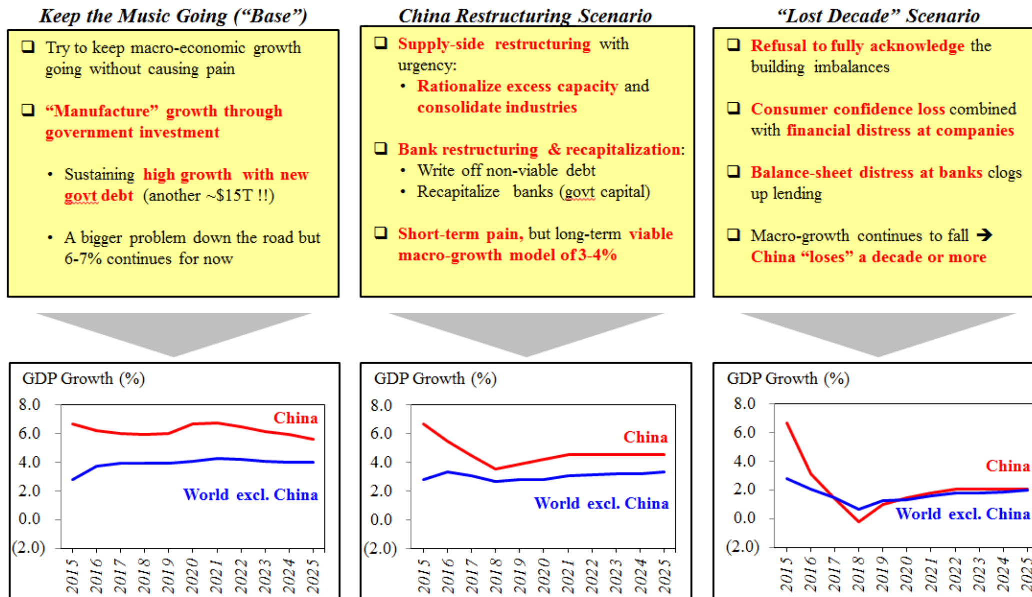
FIGURE 6: CHINA MACRO GDP GROWTH SCENARIOS

There are three scenarios to consider for China's macro growth trajectory, which will impact global growth rates.



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Sources: World Bank; IMF; Mars & Co Analysis

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FIGURE 7: ANNOUNCED ECONOMIC REFORMS IN CHINA
SUMMARY

In December 2015, Chinese leaders approved an economic plan that calls for several reforms intended to improve a slowing economy.

Announced Reform	*Summary*
Rationalize industrial oversupply	• **Rationalize manufacturing capacity**, particularly in industries like steel and glass • Support **M&A activity** rather than bankruptcy when possible
Reduce property inventories	• Use **"Hukou" reform** as means **to enable migrant workers to buy property** • Encourage **consolidation amongst real estate developers**
Deleverage local governments	• Reduce debt burden on local governments through **government debt swaps** • Increase **oversight and risk monitoring** across the financial system
Lower corporate costs	• **Reduce taxes** and social security contribution rates + **streamline administrative procedures** • Lower financing costs and create a more stable interest rate environment
Improve technological efficiency and innovation	• Provide support to enterprises to **invest in hardware / software infrastructure** • Cultivate the development of **new industries and accelerate commercial innovation**
"More forceful" fiscal policy	• Gradually **raise fiscal deficit** ratio • Reduce tax rates + increase spending on welfare and job training
"More flexible" monetary policy	• **Likely continued easing** • Replace benchmark deposit and lending rates with an **interest-rate corridor**

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