Mapping China’s Debt Problem

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Part I: China’s Debt Metrics

Part II: China’s Debt Profile

Part III: China’s Debt Burden
China’s total debt has climbed to 243% of GDP.

• The share of debt to GDP has risen in China from 148% of GDP in December 2008 to 243% of GDP in June 2015.

• The total credit breaks down by borrowing sectors, including non-financial corporations (both private-owned and public-owned), households, and general government (central, state and local governments and social security funds).

• Private debt (private non-financial corporations and households) has accounted for most of the increase in total credit during this period.

Sources: BIS, National Bureau of Statistics, CEIC
The pace of private debt growth poses the greatest risk of an economic crisis.

- Private debt increased from 123% of GDP in December 2008 to 206% of GDP in June 2015—far exceeding the pace of normal credit expansion.
- In the 5-year period from January 1, 2009 to December 31, 2013, the private debt-to-GDP ratio increased by 75 percentage points.
- In the 5-year period from January 1, 2010 to December 31, 2014, the private debt-to-GDP ratio increased by 52 percentage points.

Note: Some of China’s private sector credit was used by state and local governments and therefore may be overstated. BIS data on China’s foreign bank loans and foreign securities were not available prior to June 2007 and June 2005, respectively. Their amounts are small and should have a meaningful impact on debt-to-GDP.
Debt has significantly outpaced GDP since 2008.

• Since 2009, debt growth has outpaced GDP growth, signaling wasted investment and the risk of a future crisis.
• Credit growth has averaged 20% per year since 2009, nearly twice the pace of GDP growth.
• But credit growth has slowed down in the past two years, from 21% in March 2014 to 11% in June 2015, reflecting in part the fact that companies are more reluctant to take on more debt and in part that the government has taken steps to rein in credit expansion.
China’s dependence on credit has increased from 2007 to 2015.

- China’s credit intensity—the amount of debt required to produce a unit of GDP—increased from 1.1 in 2007 to nearly 3 in 2015.
- China’s credit intensity is much higher than that of other comparable emerging economies.
- By comparison, Thailand’s credit intensity is 1.7, Malaysia’s is 1.6, and India’s is 0.4.

### Credit Intensity of Growth

<table>
<thead>
<tr>
<th>Country</th>
<th>2005-07</th>
<th>2Q15</th>
</tr>
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<tbody>
<tr>
<td>China</td>
<td>2.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td>India</td>
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<td>0.4</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Source: BIS, CEIC, HSBC, OECD
China’s debt-buildup exceeds that of other economies that experienced crises.

- China’s private debt has increased by 52 percentage points since 2009 and hit 203% of GDP in 2014, before further expanding to 206% in June 2015.

- China’s private debt-to-GDP rate in 2014 was higher than the US’s in 2007 (171%), South Korea’s in 1998 (169%), and almost as high as Japan’s in 1991 (213%).

- China’s private debt-to-GDP ratio increased faster in the last 5 years than did Japan’s (1986-1991, 39 percentage points), US’s (2002-2007, 28 percentage points), and Korea’s (1993-1998, 32 percentage points) in the five years prior to their crises.

*Sources: UN, BIS, CEIC*
RMB bank loans account for the largest share of credit.

- Bank loans consist of about 66% of the total credit in China. Of these, 42% are short-term loans, while 58% are medium-to-long term loans.
- As of 2Q15, bank loans in RMB totaled an equivalent of 138% of GDP, which is less than 2% of China’s total credit.

Source: PBoC, MOF, BIS, CEIC, New America Foundation
Banks provide most credit, but non-bank financing is increasing its share.

• Non-bank lending increased as a share of total credit from 22% in 2008 to 32% in June 2015.
• During the same period, bank loans as a share of total credit declined from 78% to 66%.
• This reflects in part the efforts of the central government to tighten lending in the official banking sector and in part the deepening of China’s financial sector.

Non-bank or “shadow” bank lending has grown.

- “Shadow” bank lending has increased 6.2x since from the end of 4Q08 to 2Q15.
- Entrusted loans (18% of GDP) are loans made between corporate entities that are registered but not guaranteed by domestic banks.
- Trust loans (8% of GDP) are loans issued by trust companies. Trusts created by securities companies and asset management companies are not included in this figure. Trust loans may be as much as 15% of GDP, according to Fitch ratings.

Source: PBoC, MOF, BIS, CEIC, New America Foundation
Foreign debt is low but has been rising in recent years.

- Foreign debt, which includes borrowing from banks abroad and issuance of debt securities, amounts to only 10.74% of GDP. But it has been increasing.
- Foreign debt grew 28% from June 2014 to June 2015.
- Foreign securities make up 42.5% of China’s foreign debt and foreign loans make up about 57.5%.

Source: BIS
The financial sector accounts for most of the borrowing from foreign banks.

- From 4Q08 to 2Q15, the foreign debt of financial firms increased from 1.6% of GDP to 4.9% of GDP.
- During the same period, nonfinancial firms’ foreign debt levels increased from 2.7% to 5.7% of GDP and government foreign debt increased from 0.7% to 1.1% of GDP.
- China’s financial-sector foreign debt is mostly associated with domestic banks that are involved in trade financing and that extend credit through letters of credit discounting.

![Foreign borrowing is concentrated in the financial sector](image-url)
Foreign borrowing is mostly from Hong Kong banks.

- The Hong Kong Monetary Authority estimates Hong Kong banks to have $590B of exposure to non-banks in mainland China, as of 2Q15.
- This represents 196% of Hong Kong’s GDP and roughly 23% of its banking assets.
- As of 2Q15, 44% of loans made from Hong Kong to mainland China are to state-owned enterprises (non-private entities).

Source: Hong Kong Monetary Authority, New America
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Corporations and local governments account for the great majority of China’s debt.

- As of 2013, corporations and local governments together account for 82% of China’s debt.
- From 2008 to 2013, local government and corporate debt increased by 74 percentage points of GDP. This accounted for 89% of the increase in total debt-to-GDP from 2008 to 2013.
- By contrast, household debt and sovereign central government debt accounted for very little of the increase in total debt.

Source: China National Statistics Bureau, Morgan Stanley, Starfort
Liabilities of state-owned enterprises are RMB 77tn or 117% of GDP as of 3Q15.

- Liabilities of companies in China’s state sector have increased 3.1x since 4Q08.
- During this period, the ratio of liabilities in state-owned firms to GDP has increased from 79% of GDP to 117% of GDP.
- Total liabilities of state-owned enterprises is a proxy for, but may somewhat overstate, debt.

See the chart for more details.

Source: MOF, CEIC, New America Foundation
Trust investments are smaller, but are invested in similar industries as bank loans.

- Trust assets can be invested directly into companies or into financial securities.
- 39% of trust assets are invested directly in industrial & commercial enterprises and basic industry.
- 35% of trust assets are invested in financial institutions or securities markets and 8% is invested in real estate. Other investments account for 18% of trust assets.

Source: China Trustee Association, New America Foundation
Debt financed a boom in fixed asset investment. But the pace of investment has declined in recent years.

- Fixed asset investment grew more than 30% annually from 2008 to 2012, before beginning to decline to less than 10% in 2015.
- Growth in fixed asset investment has fallen from 34% in 2009 to 1% in October 2015 but still accounts for a disproportionate share of China’s economy.
- Growth in fixed asset investment has fallen for private, state-owned, and LLC corporations alike.

Annual change in fixed asset investment, by firm type

Source: National Bureau of Statistics, CEIC
Fixed asset investment is concentrated in manufacturing and real estate.

- Manufacturing and real estate account for 58% of China’s total fixed asset investment, much of which is debt-financed.
- Fixed asset investment in manufacturing and real estate grew by 38% and 31%, respectively from 2010 to 2011, but the pace of growth has since declined.
- From 2013 to 2014, investment growth slowed to 13% for manufacturing and 11% for real estate.
Excess investment has led to overcapacity and falling levels of profitability.

- The high rates of fixed asset investment have resulted in overcapacity, falling levels of utilization, and lower profitability.
- In 2013, China’s State Council identified five sectors as having serious overcapacity—cement, aluminum, sheet glass, shipping, and steel.
- The National Development and Reform Commission announced that 21 of the 39 sectors have more than a quarter of capacity idle.
The return on equity of state-owned firms has fallen since 2007.

- The return on equity (ROE) of state-owned firms dropped from over 12% in 2007 to below 6% in 2012 as overcapacity increased.
- Profit margins—which are a reasonable proxy for ROE--have declined slightly since 2012, falling from an average of 5.1% in 2012 to 4.9% through May 2014.
- In 2007, average profit margins were 8.9%, nearly double what they are today.

State-owned enterprise return on equity

Source: MoF, CEIC
Real estate investment has risen as a share of GDP.

• Real estate investment as measured by the National Bureau of Statistics* has increased from 5.0% of GDP in 2000 to 14.9% of GDP in 2014.
• By comparison, in the United States, investment in non-residential structures and residential real estate peaked in 2005 at 9.4% of GDP.
• Real estate accounts for 20% of fixed asset investment and 19% of bank loans, and is frequently used as collateral by borrowers.

* The figure for China’s real estate investment is not a direct input to GDP.
More real estate is being built than is being sold.

- Across 40 Chinese cities, the ratio of floor space started to floor space sold rose from 1.2x in 2007 to 1.5x in 2014.
- Similarly, the amount of floor space under construction relative to floor space sold increased from 3.4x in 2007 to 6.7x in 2014.
- The ratio of floor space started to floor space sold hit a peak in 2011 of more than 1.8x before declining to 1.5x in 2014.

Source: National Bureau of Statistics
Real estate prices in Tier 2 cities have declined, while prices in Tier 1 cities continue to increase.

- Prices in Tier 2 cities have gone down continuously since 2011. In Wenzhou and Zhejiang, prices have fallen over 20% from the peak in 2011.
- Real estate prices in Tier 1 cities have continued to increase after a modest decline in 2012.
- Declining housing prices affect local governments in two ways. If housing prices decline, local governments receive less revenue from land sales and their access to credit declines because land is used as collateral for borrowing.
Government debt is rising, but is under control for now.

• In June 2013, the National Audit Office conducted a survey and found contingent liabilities for local governments and the national government were 33% and 23% of GDP, respectively.
• This includes total debt and all contingency payments. Debt with direct payment obligation by the local and central government were 20% and 18% of GDP, respectively.
• This is far below government debt levels for many other emerging economies.

Source: National Audit Office, CEIC, New America Foundation
Local government debt has increased and could become a problem in the future.

- China’s National Audit Office has estimated that local government debt was CNY 17.9T in June 2013, or 33% of GDP. This is up from 27% of GDP in December 2010 and 17% in December 2007.
- This includes obligatory debts as well as debt that has been guaranteed and “responsibility for certain relief.”
- The amount of debt the government will ultimately be liable for depends on the health of the economy and whether borrowers are able to repay interest and loans.

![Local government debt as a percent of GDP](source: National Audit Office, CEIC, New America Foundation)
Local governments take on debt because they have lost their other revenue sources.

- Local governments cannot directly issue debt and the central government centralized the largest sources of local government revenue including the value-added tax (VAT), resource tax, personal income tax, and enterprise income tax.
- This has forced local governments to create Local Government Financing Platforms (LGFPs). This in turn has made local governments dependent on debt and the local property market. According to the National Audit Office, LGFP debt was RMB 7T in June 2013.

Source: IMF
Local governments borrow mostly for construction and infrastructure.

- According to the National Audit Office, 59% of local government borrowing is for construction and transportation.
- Just 6% of local government spending is devoted to education, culture, and health.
- Land purchasing makes up 11% of spending and represents about a third of revenues. Land sales are still a net source of local government funding, but they are finite and may be finished by 2021.

Source: National Audit Office, CEIC, New America Foundation
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The interest rate on China’s debt has been low but real rates are increasing as inflation declines.

• The weighted average interest rate is 6.0% as of 2Q15. Many firms, however, borrow for less.

• If total debt-to-GDP is 243%, the interest expense would be 14.7% of GDP, a sizeable burden by international standards. But the interest burden for many sectors of the Chinese economy is believed to be less.

• Lending rates by commercial banks reported by the central bank may overstate the interest burden. For the past decade, industrial firms have reported an average interest expense to liability ratio of 2% to 3%.

Source: People’s Bank of China, New America Foundation
The debt service burden, nonetheless, has increased significantly.

- Interest payments as a share of GDP have increased from 8% in December 2008 to 12% in June 2015, with the peak at 14% in the mid 2014.
- A Bank of International Settlements Study found that a debt service ratio, which includes interest and principal repayment, of 20-25% often precedes a financial crisis.
- Without considering any principal repayment, the interest portion of the debt servicing burden is already 12%. Much of the debt, however, is rolled over.

Source: CEIC, Moody’s
To-date, industrial firms have had a manageable debt burden.

• As of 3Q15, the ratio decreased to 2.6%, falling to the 2011 levels, because of lower interest rates.
• Interest payments as a share of total liabilities in industrial firms are less than 3%.
• The low rate of interest for industrial firms means that the cost of debt financing for many companies is manageable. But this has encouraged overcapacity and continued lending.

![Interest expense as a share of total liabilities (industrial enterprises)](image-url)
Non-performing loans (NPLs) have increased since 2011.

- NPLs at China’s commercial banks have increased since 2011. The NPL ratio increased from 0.90% in September 2011 to 1.59% in September 2015.

- Substandard loan make up 47% of total NPLs, doubtful loan account for 41%, and loss loan are 12% of the total.

- But NPLs may greatly understate the number of bad loans and the overall credit problem in part because banks are slow to acknowledge problem loans.
Some local government debt has been restructured.

- In 2015, China carried out a RMB 3.2 trillion debt swap plan for local government to refinance their high-interest debt.

- This debt restructuring plan will help decrease local government debt repayment in the next few years.

- However, with more than RMB 17 trillion total local government debt, this debt-to-bond swap plan can only help in the short term.

Source: CEIC, National Audit Office, China Central Depository & Clearing Co., Ltd
For now, the central government has the capacity to recapitalize the banking system.

- China’s central government debt is only 14.92% of GDP as of June 2015. Moreover, the People’s Bank of China has a healthy balance sheet. And despite some recent drawdown, China has $3.51 trillion in foreign exchange reserves as of September 2015.

- China also has the ability to print money if necessary because of low inflation, excess capacity, and low oil prices.

- At the same time, China has a much enlarged banking system with mounting bad debt, which at some point will become unsustainable.

Source: People's Bank of China, CEIC, New America
A Serious but Still Manageable Debt Crisis

• At its current level, China’s debt burden is manageable and does not pose a risk of an imminent financial crisis. The pace of China’s debt buildup has slowed somewhat in recent years, suggesting that government efforts to bring the credit boom under control without a major crisis has succeeded to some degree in spite the ongoing build-up of debt.

• For now, the central government has the resources to recapitalize the banking system. It also has the ability to print money if that becomes necessary. Nonetheless, China has a greatly enlarged banking system with mounting bad debts, which will at some point pose a much greater risk of a financial crisis.

• Even if a banking crisis is avoided, the debt build-up has created massive overcapacity in many sectors of the economy, and this along with the debt overhang, will be a major drag on economic growth for years to come.
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