# ECON4033 Money and Finance in China

## Week 6: Fiscal Policy and Macroeconomic Cycles[1]

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[1] These lecture notes are largely based on the materials prepared by Prof. Siu Kee Wong for the same topic.

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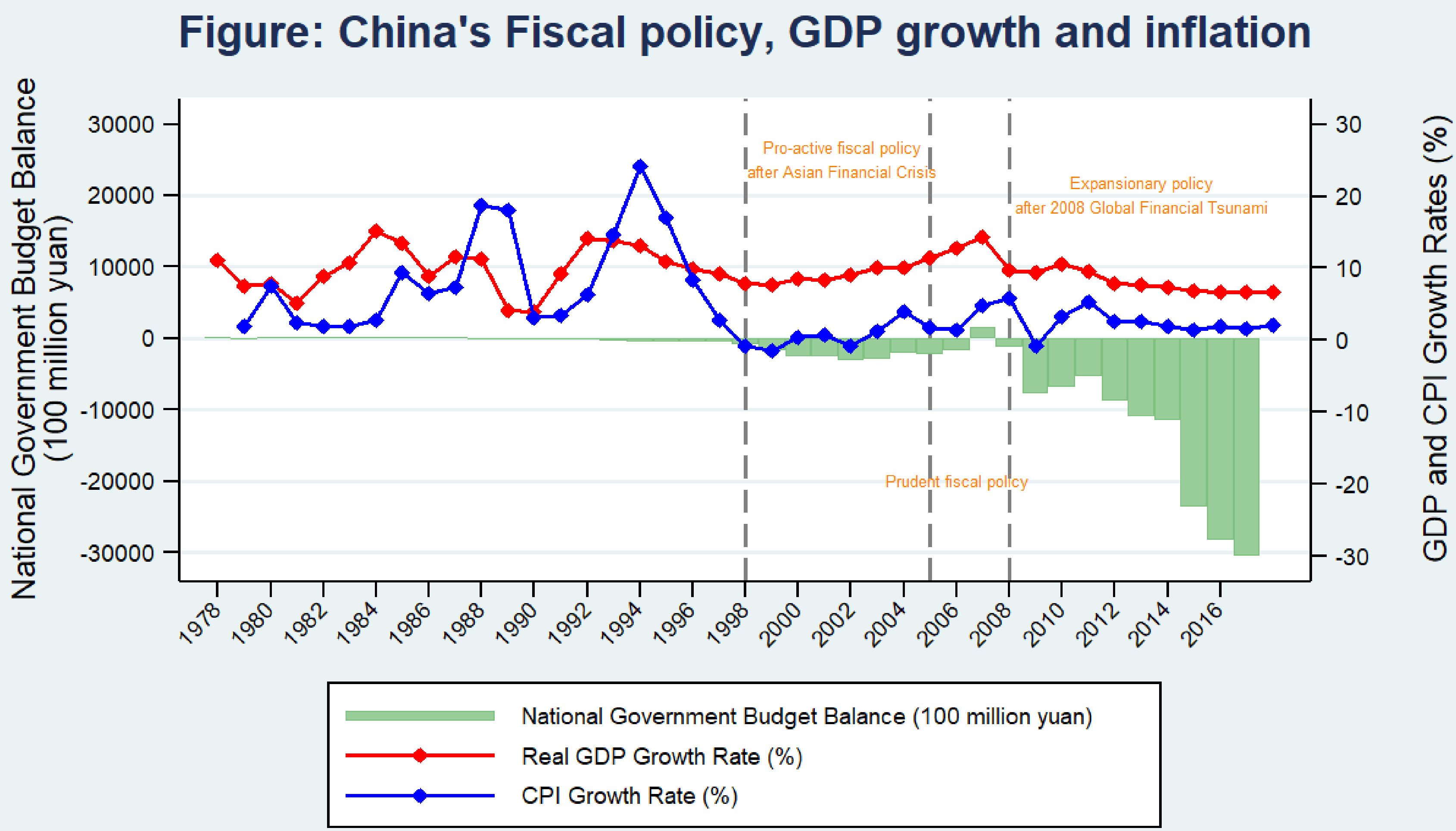
It is widely held that macroeconomic cycles in China are mainly generated by government-directed investment in state-owned enterprises.

When the government wants to stimulate the economy, it transfers funds or directs bank credit for SOE investment, and when it wants to cool down the economy, it reverses these measures.

Unlike the western countries, the monetary policy goes hand-in-hand with the fiscal policy in China.

## I. Salient Features of China's Business Cycles and Counter-cyclical Policies

- Some fundamental factors distinguish China from the western economies in terms of the causes of business cycles and the resulting counter-cyclical policies.
  - First, China remains well below its steady-state per capita income compared to, say, the United States, which is arguably at its steady state. Unemployment has not been an issue.
  - Second, China's sources of demand are weighted more toward exports and investment. This contrasts with the western countries, where consumption is a principal source of demand.
  - Third, as we have discussed, China's government has great direct control over economic activity than does the U.S. government.




Data source: http://data.stats.gov.cn/english/easyquery.htm?cn=C01.

## II. Fiscal Policy since Mid-90s

- China had structural (modest) budgetary deficits before 1994 and had high inflation in 1993-1994.
- In 1995, Chinese policy-makers declared their intention to achieve a “soft landing” and to reduce the deficit gradually in the next few years with a balanced budget in 2000.
- However, due to the Asian Financial crisis in 1997 – 98, China decided to adopt an “pro-active fiscal policy” (i.e. expansionary policy with large deficit 積極的財政政策) in 1998.
- The government showed strong intention to maintain economic growth and high employment level in the early 2000s, even though the financial crisis had already faded away.
- In 2005 the government announced a new fiscal stance – called “prudent fiscal policy” (i.e. neither expansionary or contractionary, 穩健的財政政策). As a result, China registered a budgetary surplus in 2007.
- After the outbreak of the global financial tsunami in 2008, China adopted an expansionary policy again.

## A. Positive Impacts of Fiscal Policy During 1998 – 2005

1. High economic growth was maintained

    - With the massive amount of government spending, high economic growth was maintained throughout this period. Drop in the growth rate has been avoided.

    - The fiscal policy has helped smoothing out economic fluctuation. Employment opportunities were created continuously.

2. Investment

    - Major infrastructural projects were built.

    - Great help to the central and western regions – lack of infrastructural facilities had been a major bottle neck hindering economic development

    - Good to rural development, particularly after 2003.

## B. Negative Impacts of The Expansionary Policy During 1998 – 2005

1. Investments by the government concentrated in physical infrastructure:

    - Investment in medical and health system, education, and social security, has been insufficient, leading to a high saving rate and a low consumption rate.

2. Excessive Investment by the government crowded out private investment.

    - The government has monopolized the railway, telecommunication and water and electricity supply. Private capital is not allowed to enter these sectors. The expansionary policy reduced the investment opportunities of the private sector.

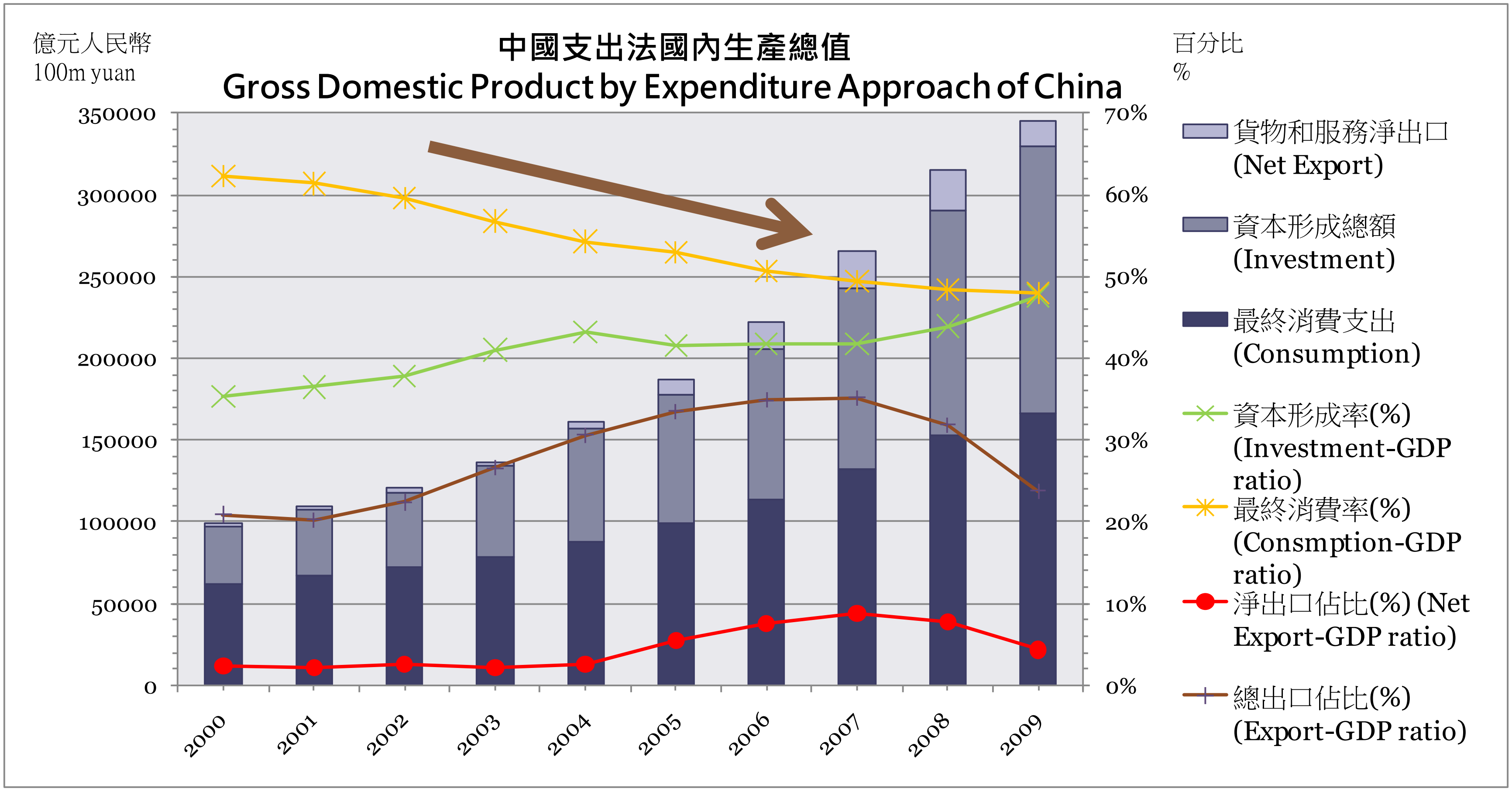
3. The choice of investment projects was not cautious, leading to duplications and inefficiencies in investment projects, e.g. under-utilized highways, ghost towns.

4. The long period of fiscal expansion raised the risks of the central and local budgetary problems:

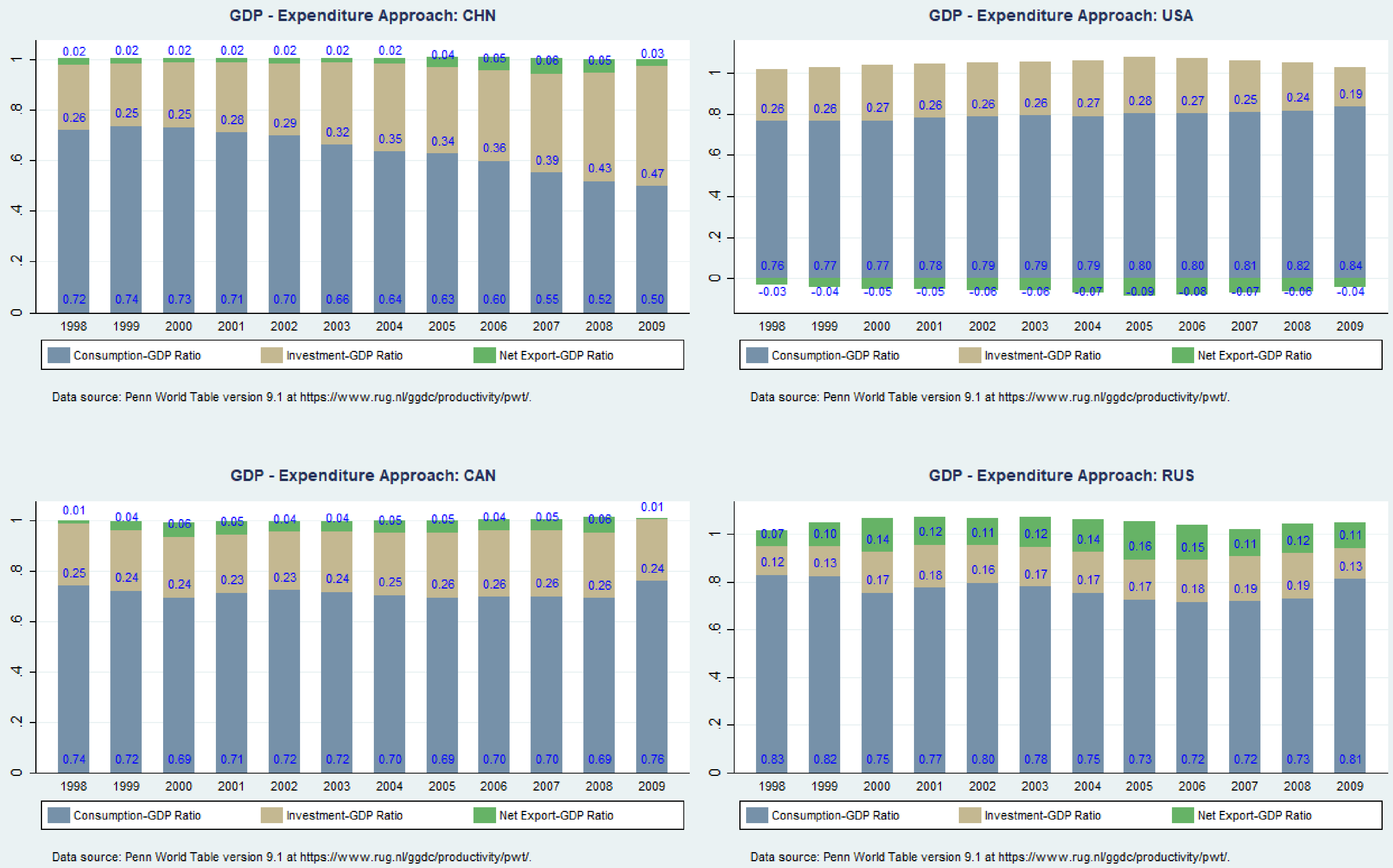
    - By 2002, budgetary deficit as % of GDP reached 3%, which is the limit set by the EU.

    - In 2005, debts of local governments exceeded 4 trillion RMB, equaling to 16.5% of GDP (EU limit: 60%) and 175% of local revenues.

**Figure: Low and Decreasing Consumption Rate in GDP as A Consequence of the Expansionary Policy during 1998 – 2005**



## Figure: China's Consumption Rate – International Comparison

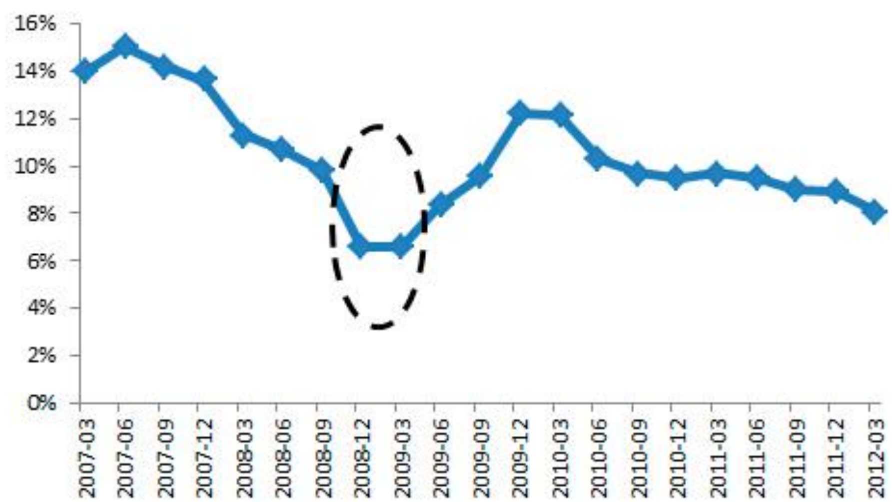



Data source: Penn World Table version 9.1 at https://www.rug.nl/ggdc/productivity/pwt/.

## C. The Post-2008 Expansionary Policy

- In the first half of 2008, the Chinese government was still adopting a mildly contractionary policy.

- After the downfall of the Lehman Brothers, the government decided to introduce a huge stimulus package in Q4.




资料来源：Wind 资讯。

- The “Four Trillion Package”

  - Announced in Nov 2008, the stimulation package intended to improve the composition of government spending (less crowding out effect, more spending in social welfare and for improvement of the livelihood of the people).

  - Starting from 2009, China decided to change the monetary policy from “contractionary” to “appropriately loose”, and fiscal policy from “stable” to “active”.

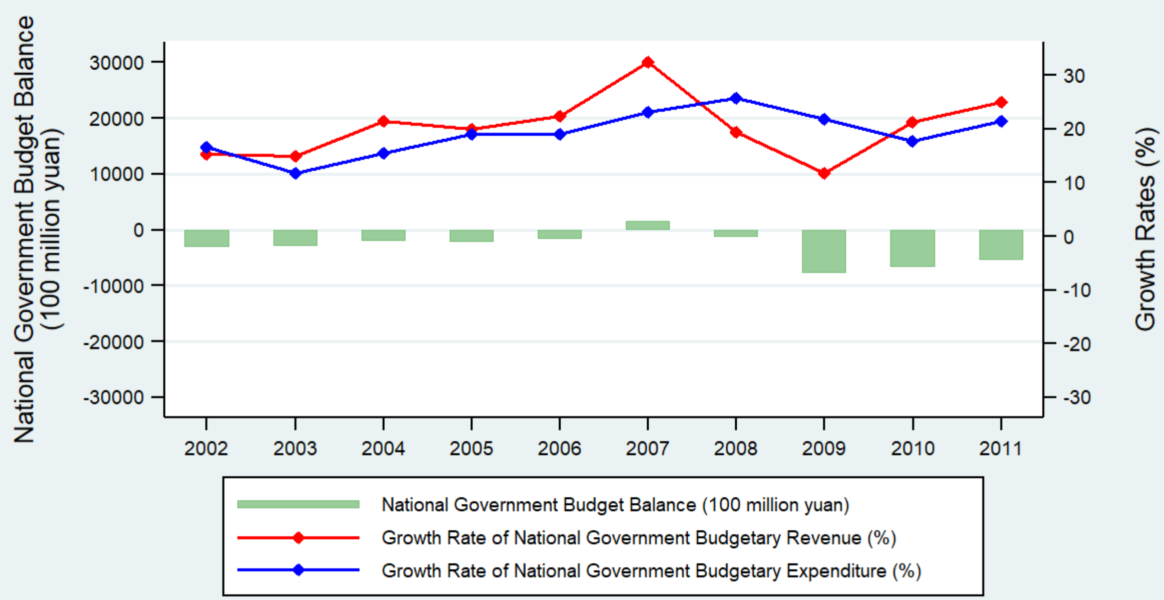
**Table: The Decomposition of “Four Trillion package”**

四万亿投资结构

| （单位：亿元） | 2008 年<br>公布结构 | 2009 年 3 月<br>调整后结构 |
|---|---|---|
| 公路、铁路、机场和水利等重大基础设施和城市电网改造 | 18000 | 15000 |
| 灾后恢复重建 | 10000 | 10000 |
| 结构调整与自主创新 | 1600 | 3700 |
| 医疗卫生和教育文化事业 | 400 | 1500 |
| 节能减排和生态工程建设 | 3500 | 2100 |
| 廉租住房、棚户区改造等保障性住房 | 2800 | 4000 |
| 农村水电路气房等民生工程和基础设施 | 3700 | 3700 |

- Allocations of funds
  - The “Four Trillion Package” refers to the totally spending of the 10 major projects to be completed by the end of 2010.
  - RMB 1.18 trillion comes from the increase of the central government’s budget; with the rest coming from local government revenues, local government debts, policy loans (subsidized interests), bonds and notes issued by companies, bank loans and private investment.

**Figure: China's “Four Trillion Package” Excessive Fiscal Expansion**



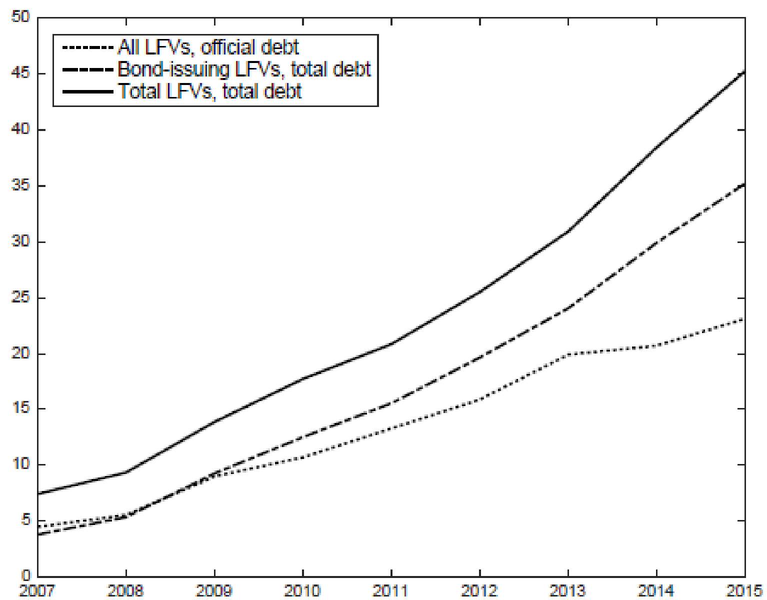

Data source: http://data.stats.gov.cn/english/easyquery.htm?cn=C01.

- Consequences of the Four-Trillion Stimulus Package: Difficulties and Potential Issues

  1. Accumulation of Local Debt

     - Huge deficits of the local governments

       - The local governments were already running short of funds in the Q4 of 2008. As the economy went down, the financial pressure on local governments escalated in 2009.




Note:

– LFVs: Local Financing Vehicles

– Data of "all LFVs, official debt" are from China's National Audit Office Reports (2011 and 2013) and public statements in 2016 by the Minister of Finance. Data of "bond-issuing LFVs, total debt" are from WIND database.

– Data of "all LFV, total debt", i.e., Total Debt of Local Financing Vehicles (Trillion Yuan) are estimated by Bai, Hsieh and Song in the following NBER paper: "The Long Shadow of a Fiscal Expansion" NBER working paper 22801, Bai, Hsieh and Song (2016).

- Local government in China are generally barred from borrowing money directly. Some set up financing vehicles (融资平台) to provide funding for costly infrastructure and real-estate projects.

- The total outstanding loans to these financing vehicles, created by local governments to undertake costly infrastructure and real estate development projects, rose to 9.59 trillion yuan ($1.56 trillion) in the Q1 of 2013.

- Many investment projects, some of which are potentially loss-making, often take years to generate investment returns, raising the risk of default.

- The risks in budgetary difficulties increased tremendously. In particular, the direct and indirectly debts borne by the local governments rose significantly.
    - By the end of 2010, the total explicit debts of local governments amounted to over 10 trillion, over 40% of which would be due in two years; resulting in high default risk and maturity mismatch problem, given that it takes relatively long time for investment projects to pay off.

- Why this happened?
  a) The expansion of borrowing mechanism of local governments
     - The local governments always have expansion motives. They have been constrained by the availability of funds, land and approval of development plans by relevant departments.
     - After the announcement of the "Four Trillion Package", the central government encouraged the banks to extend credits (at lowered interest rates) and planning authorities to relax the constraints in land uses and the approval requirements for development plans.
  b) Expansionary behavior of banks
     - Under China's system, the banks also have expansionary tendency – with regulated interest rates (and thus interest spreads), the larger the credit volume, the higher profits the banks will have.
     - The top management of the banks are semi-bankers and semi-politicians. They may be promoted if they perform well in the implementation of the government's policy.
     - Thus, the "Four Trillion Package" in fact gave a golden opportunity to expand its assets.

## 2. Slower Growth and Smaller Trade Surplus

- The increase in investment rate in the post-2008 period contributed to the decline in the growth rate. It crowded out the investment of the more productive firms which lack the connection to assess the financial resources.

- It also lowered balance of trade surplus. Recall Trade Balance = Saving – Investment.

| Year | Trade Balance | GDP | Trade Balance/GDP | GDP growth rate |
|---|---|---|---|---|
| **2000** | 2383.000 | 99799.000 | 0.024 | 8.500 |
| **2001** | 2324.700 | 110388.400 | 0.021 | 8.300 |
| **2002** | 3094.200 | 121326.700 | 0.026 | 9.100 |
| **2003** | 2964.900 | 137146.700 | 0.022 | 10.000 |
| **2004** | 4235.600 | 161355.600 | 0.026 | 10.100 |
| **2005** | 10209.100 | 187657.500 | 0.054 | 11.400 |
| **2006** | 16654.600 | 219597.500 | 0.076 | 12.700 |
| **2007** | 23423.100 | 270499.400 | 0.087 | 14.200 |
| **2008** | 24226.800 | 318067.600 | 0.076 | 9.700 |
| **2009** | 15037.100 | 347650.300 | 0.043 | 9.400 |
| **2010** | 15057.100 | 408505.400 | 0.037 | 10.600 |
| **2011** | 11688.500 | 484109.300 | 0.024 | 9.600 |
| **2012** | 14636.000 | 539039.900 | 0.027 | 7.900 |
| **2013** | 14552.100 | 596344.500 | 0.024 | 7.800 |
| **2014** | 13610.800 | 646548.000 | 0.021 | 7.400 |
| **2015** | 22346.500 | 692093.700 | 0.032 | 7.000 |
| **2016** | 16975.600 | 745980.500 | 0.023 | 6.800 |
| **2017** | 14578.400 | 828982.800 | 0.018 | 6.900 |
| **2018** | 7054.200 | 915774.300 | 0.008 | 6.700 |
| **2019** | 14805.000 | 994927.400 | 0.015 | 6.100 |

Source: National Bureau of Statistics of China website.

3. Questions to be Asked before a Fiscal Expansion

- Will the local governments be able to repay all the debts?
- Will the loan quality of the banks deteriorate?
- Will the banks need recapitalization?

## D. Comparing the Post-Crisis Fiscal Expansion in China and the U.S.

- In China, most fiscal stimulus was in the form of investment, with only 10 percent representing transfer payments. In the United States, close to 70 percent of the stimulus came in the form of tax relief or unemployment benefits and other transfer payments. Only a small share of the U.S. stimulus package was in the form of investment.

- The stimulus programs present problems in terms of China's long-run policy goals of reducing the investment share of GDP and enhancing the social safety net.

- In China, personal taxes are an insignificant part of personal income, and personal income represents a small share of GDP. Stimulating the economy through lower taxes would have a small effect.

- Besides, establishing a system for transfer payments related to retirement or health benefits are complex structural reforms. In the U.S., however, consumption represents a large component of demand. Changes in tax rates that impact consumption can have a substantial impact on demand.

## E. Tax Multiplier: A Recap on the Effectiveness of Fiscal Policy

To see how aggregate output $Y$ is affected by tax $t$, consider in the Keynesian model:

$$C = a + c(1 - t)Y$$

where $c =$ marginal propensity to consume and $t$ is the tax rate. Together with GDP accounting formula gives:

$$\begin{aligned} Y &= C + I + G + (X - M) \\ &= a + c(1 - t)Y + I + G + (X - M) \end{aligned}$$

$$\therefore Y = \frac{A}{[1 - c(1 - t)]}$$

where $A = a + I + G + (X - M)$. The simple multiplier $TM = \frac{1}{[1-c(1-t)]}$.

Take differentiation with respect to $t$, we have

$$\frac{dY}{dt} = \frac{-cA}{[1 - c(1 - t)]^2}$$

The absolute value of $dY/dt$ is small when $c$ is small.

**Reference:**

Ronald M. Schramm (2015), *The Chinese Macroeconomy and Financial System: A U.S. Perspective*, Taylor and Francis, London.