Chapter 3

China's Fiscal Policy and Fiscal Sustainability

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March 2011

This chapter should be cited as
Lin, S. (2011), 'China's Fiscal Policy and Fiscal Sustainability', in Ito, T. and F. Parulian (eds.), *Assessment on the Impact of Stimulus, Fiscal Transparency and Fiscal Risk*. ERIA Research Project Report 2010-01, pp.77-116. ERIA [online]. Available at: www.eria.org/publications/research_project_reports/images/pdf/y2010/no1/ch3China_Fiscal_Sustainability_Shuanglin_Lin.pdf

CHAPTER 3

China's Fiscal Policy and Fiscal Sustainability

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This paper provides an overview of China's public finances, evaluates China's new round of expansionary fiscal policy and its impacts, examines the central government debt and local government debt and China's fiscal sustainability, and provides policy suggestions. China's total government revenue has increased at an extraordinary rate since the 1994 tax reform. However, local government revenue increases are much slower than their expenditure increases, resulting in a severe shortage of revenue. Also, China's pay-as-you go social security system will have fund a shortage problem in the future. The 2008 expansionary fiscal policy greatly stimulated China's economic growth through investment, but left the local governments with record high debt due to excessive borrowing from the banks. Although the size of China's government debt is smaller than that in the early 2000's and fiscal risk is limited in the short run, reforms are needed to increase local government revenue and reduce their debt, to increase fiscal transparency, to reduce government deficits and debt in the long run, and to reform the pay-as-you-go social security system for fiscal sustainability.

The author thanks the Economic Research Institute for ASEAN and East Asia (ERIA) for financial support and appreciates Professor Takatoshi Ito and the other workshop participants for invaluable suggestions. Any remaining errors are the author's responsibility.

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1. Introduction

The recent financial crisis and subsequent fiscal crises in Greece, Ireland, and Portugal, and the high government debt in other EU countries, the United States, and Japan have drawn much attention to the issue of fiscal riskiness and sustainability. This paper evaluates China's new round of expansionary fiscal policy and examines China's fiscal sustainability.

For a long time after the People's Republic of China was established, the government had adopted a balanced-budget fiscal policy. Before the economic reforms started in 1978, China was very poor, but the government had neither foreign nor domestic debt. After the economic reforms, the government began to run budget deficits and to issue a limited amount of foreign and domestic debt. In 1993, the government passed a law forcing the Ministry of Finance to finance all its budget deficits by issuing bonds instead of taking money from the People's Bank of China. Government debt started to increase. After the Asian financial crisis in 1997, China adopted an expansionary fiscal policy for the first time, and as a result, budget deficits and government debt increased quickly. In 2008, the financial crisis that started in the United States spread to the rest of the world. To stimulate the economy, China adopted an expansionary fiscal policy again. As a result, economic growth quickly picked up, but central and local government debt rapidly increased, raising concerns among academics and business firms over China's fiscal riskiness and economic future.

Although the Chinese government has a strong influence on the economy, studies on China's public finances are still limited. In the early 1990s, policymakers and economists were concerned with the decline of China's government revenue due to a series of decentralizing reforms. Bahl and Wallich (1992, p. 20) argued that the overall government revenue in China was inadequate and public service levels were deficient throughout China. Stiglitz (1998) believed that the size of Chinese government revenue was too small to fulfill China's ambitious development plan. Brean (1998) warned that low government revenue could threaten macroeconomic stability and jeopardize economic transition. Lin (2000a) explained the reasons and consequences of the decline in China's government revenue and provided policy suggestions. Without adequate

budgetary revenue, governments at every level, particularly at the local level, heavily relied on fee collections and arbitrary charges to finance their expenditures. Most economists are critical of large, arbitrary, and unlawful fee collections (Wu, 1997; Wu, 1997; Gao, 1999; Jia, 2000; Liu, 2000, Lin, 2000b; Lin, 2005.) The problem was solved around 2005 through eliminating some fees and converting some fees into taxes (tax-for fee or *fei gai shui*).

Studies on China's fiscal debt emerged after China adopted an expansionary fiscal policy in 1998. By including state banks' non-performing loans and social security pension debt, some have concluded that China's government debt is as high as 150% of the GDP! [1] Predictions of an inevitable "collapse" of the Chinese economy due to high government debt and other problems also came out. Lin (2003) analyzes China's domestic debt as well as foreign debt up to the year of 2001. He showed that in 2001 the ratio of government debt to GDP was about 70-80%, including explicit fiscal debt 16%, local government debt 2%, and state banks' non-performing loans 41%. He argued that the emergence of state banks' non-performing loans was a result of state-owned enterprise reforms, and concluded that China's government debt was high but manageable.

Over the years, state banks' bad loans have greatly declined. Meanwhile, local government debt has increased dramatically, particularly after the 2008 financial crisis. Mingkang Liu, the Chairman of China Banking Regulatory Commission (CBRC), said that by the end of 2009, the loans of local government financing vehicles (local government-owned investment companies) was 7.38 trillion yuan, increased by 70.4% over 2008, accounting for 25% of GDP.[2] Some research claimed that China's local government financing vehicles have outstanding debt of 11.4 trillion yuan ($1.7 trillion, or 33.5% of GDP) and commitments for a further 12.7 trillion yuan.[3] The alarming estimates have caused concerns over China fiscal riskiness and the possible bad loans of Chinese banks.

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[1] See Business Week, B*usinessweek.com*, May 6, 2002.

[2] See Information Website of Development Research Center of the State Council, November 4, 2010.
http://www.drcnet.com.cn/drcnet.common.web/DocViewSummary.aspx?docid=2386391&chnid=4356&leafid=16658&gourl=/drcnet.common.web/DocView.aspx.

[3] "Shell Game: Beijing Signals A Crackdown on Borrowing by Local Governments", *The Economists*, March 11, 2010.

Also, China has a mixed social security system which combines the social pooling account (based on a pay-as-you-go (PAYG) system) and individual accounts (forced personal saving system), with the social pooling account being the major part of the system. The social security system is run by local governments, provincial governments or prefectural governments or city governments. Right now, personal accounts are largely empty, with money being transferred to the social pooling account to pay for the current retirees. As the population ages, China will face severe social security payment problems in the future.

This paper provides an overview of China's public finances and discusses the challenges China faces, evaluate China's new round of expansionary fiscal policies and their impacts on the economy, analyze central government debt and local government debt, examine China's fiscal sustainability, and provide policy suggestions for further fiscal reforms.

The organization of the paper is as follows. Section 2 presents an overview of China's public finance. Section 3 analyzes China's expansionary fiscal policy and its consequences. Section 4 estimates the size of total government debt and discusses fiscal sustainability. Section 5 provides policy suggestions.

2. An Overview of China's Public Finance

In this section, we will discuss China's fiscal philosophy and provide an overview of China's public finances, including fiscal revenue and expenditure, extra-budgetary revenue and expenditure, local government finance, as well as social security.

2.1. China's Budgetary Policy and Government Budget

China's budget policy evolved through four periods.[4] In the first period (1949-1957), the government financed deficits through both domestic and foreign borrowing. In the second period (1958-1978), China issued neither foreign nor domestic debt. The third period (1979-1993) was characterized by limited foreign and domestic borrowing.

[4] See Lin (2000a).

Until the 1990s, the government had kept its debt at a low level and the Ministry of Finance was allowed to taking money from the People's Bank of China to finance its deficits. The fourth period started in 1994 and featured a large increase in domestic borrowing. In 1993 the government passed a law, prohibiting the Ministry of Finance from overdrawing money from the People's Bank. Since then the Ministry of Finance has to finance all its budget deficits by issuing bonds. After the Asian financial crisis occurred in 1997, China adopted an expansionary fiscal policy and budget deficits increased dramatically.

Table 1 shows China's fiscal revenue, expenditure, deficit, and outstanding debt from 1978 to 2010. The government has run budget deficits every year since 1985. Deficits started to increase after the Asian financial crisis in 1997, reached 2.6% of GDP in 2002, and have since declined. In 2007, the economic booms before the Beijing Olympic Games resulted in a large increase in government revenue and a budget surplus. However, the global financial crisis in 2008 forced the Chinese government to run budget deficits again. The ratio of government budget deficit to GDP was 0.4% in 2008, 2.3% in 2009 and 1.6% in 2010.

Table 1. Government Revenue, Expenditure, and Deficit 1978-2010

Year	Revenue (100 million yuan)	Expenditure (100 m yuan)	Surplus (100 m yuan)	GDP (100 m yuan)	Revenue /GDP	Budget Surplus /GDP
1978	1132.26	1122.09	10.17	3645.2	0.31	0.003
1979	1146.38	1281.79	-135.41	4062.6	0.28	-0.033
1980	1159.93	1228.83	-68.90	4545.6	0.26	-0.015
1981	1175.79	1138.41	37.38	4891.6	0.24	0.008
1982	1212.33	1229.98	-17.65	5323.4	0.23	-0.003
1983	1366.95	1409.52	-42.57	5962.7	0.23	-0.007
1984	1642.86	1701.52	-58.66	7208.1	0.23	-0.008
1985	2004.82	2004.25	0.57	9016.0	0.22	0.000
1986	2122.01	2204.91	-82.90	10275.2	0.21	-0.008
1987	2199.35	2262.18	-62.83	12058.6	0.18	-0.005
1988	2357.24	2491.21	-133.97	15042.8	0.16	-0.009
1989	2664.90	2823.78	-158.88	16992.3	0.16	-0.009
1990	2937.10	3083.59	-146.49	18667.8	0.16	-0.008
1991	3149.48	3386.62	-237.14	21781.5	0.14	-0.011
1992	3483.37	3742.20	-258.83	26923.5	0.13	-0.010
1993	4348.95	4642.30	-293.35	35333.9	0.12	-0.008
1994	5218.10	5792.62	-574.52	48197.9	0.11	-0.012
1995	6242.20	6823.72	-581.52	60793.7	0.10	-0.010
1996	7407.99	7937.55	-529.56	71176.6	0.10	-0.007
1997	8651.14	9233.56	-582.42	78973.0	0.11	-0.007
1998	9875.95	10798.18	-922.23	84402.3	0.12	-0.011
1999	11444.08	13187.67	-1743.59	89677.1	0.13	-0.019

Table 1. ***(continued)***

Year	Revenue (100 million yuan)	Expenditure (100 m yuan)	Surplus (100 m yuan)	GDP (100 m yuan)	Revenue /GDP	Budget Surplus /GDP
2000	13395.23	15886.50	-2491.27	99214.6	0.14	-0.025
2001	16386.04	18902.58	-2516.54	109655.2	0.15	-0.023
2002	18903.64	22053.15	-3149.51	120332.7	0.16	-0.026
2003	21715.25	24649.95	-2934.70	135822.8	0.16	-0.022
2004	26396.47	28486.89	-2090.42	159878.3	0.17	-0.013
2005	31649.29	33930.28	-2280.99	184937.4	0.17	-0.012
2006	38760.20	40422.73	-2162.53	216314.4	0.18	-0.010
2007	51321.78	49781.35	1540.43	265810.3	0.21	0.006
2008	61330.35	62592.66	-1262.31	314045.4	0.20	-0.004
2009	68518.30	76299.93	-7781.63	340506.9	0.20	-0.023
2010	83080.00	89575.00	-6495.00	397983.0	0.21	-0.016

Sources: Data for 1978-2009: China National Bureau of Statistics, *Statistical Yearbook of China, 2010;* Data for 2010: http://www.cei.gov.cn/loadpage.aspx?Page=ShowDoc&CategoryAlias=zonghe/ggmflm_zh&BlockAlias=YBQ H1&filename=/doc/YBQH1/201101210152.xml
GDP data for 2010: http://www.stats.gov.cn/tjfx/jdfx/t20110120_402699441.htm

China's government revenue has changed as fiscal reforms proceed. Fiscal reforms at the beginning aimed at providing state enterprise production incentives, cutting off fiscal dependence of state-enterprises on government, equalizing tax burdens among enterprises, and promoting fair competition. As a result of these reforms, government revenues in GDP declined from 31% in 1978 to 12% in 1993, and central government revenue share in total revenues decreased to only 22% in 1993! In 1994, a new tax system – tax sharing system – was established, which divided taxes into three categories, central government taxes, local government taxes, and joint taxes. The 1994 reform has greatly changed the landscape of China's public finances. Central government's share in total revenue increased to 55.7% in 1994. In 2006, the government abolished the agricultural tax. In 2008, the corporate income tax rates for domestic enterprises and for foreign-invested enterprises were merged. In 2009, investment was excluded from the tax base of valued-added tax (VAT). In 2010, government revenue share in GDP reached 22% of GDP.

The factors that contributed to the decline in government budgetary revenues in the 1980s and early 1990s, include lowered corporate income tax rates (corporate submitted all their profits to the government before the reform), limited tax coverage (many economic activities are not taxed), and tax evasions [Lin (2000a)]. However, since

1994 government revenue has grown rapidly, with the growth rate being 32.4% in 2007 and 21.3% in 2010. The real growth rate is still high if the inflation factor is excluded. The reason for the rapid growth of fiscal revenue include: fast economic growth, tax-for-fee reforms, reinforcement of tax laws, strengthened collection of tax and non-tax revenue.

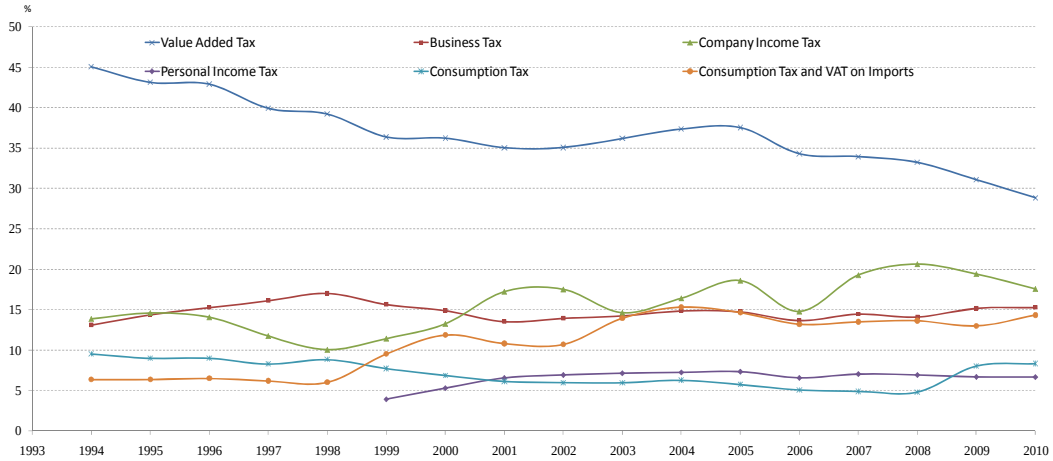
Figure 1 shows graphically the revenue shares of major taxes in China, including VAT, consumption tax, business tax, company (corporate) income tax, value-added tax on imports, and personal income tax. From 1994 to 2009, the revenue share of VAT in total tax revenue declined from 45% to 31.28%. The revenue share of business tax increased from 13.07% to 13.31%, and the revenue share of consumption tax decreased from 9.51% to 4.46%. Meanwhile, the revenue share of corporate income tax increased from 13.82% to 17.73%, and the revenue share of personal income tax was only 6.44% in 2009, lower than the 7.28% in 2005. It can be seen that China heavily relies on VAT and corporate income tax, business tax and consumption tax and VAT on imports; the share of personal income tax in total tax revenue is still small; and property tax has not been established.

Figure 2 shows the shares of major expenditures in total government expenditure from 1994 to 2006. Over the years, the shares of expenditures on education, healthcare and social welfare, as well as capital construction and national defense, in total expenditure have declined, while the shares of expenditures on government administration and social security have increased significantly. In 2006, the share of expenditures on education, healthcare, culture, and science was 18.4% of total expenditures; the share of expenditures on government administration was 14%; the share of capital construction was 10.9%, the share of social welfare was 10.8%, and the share of national defense was 7.4%.

The government changed classification of its expenditures in 2006. In 2010, total government expenditure was 8957.5 billion yuan. The major expenditure items are as follows: education 1245 billion yuan (accounted for 13.9% of total government expenditure), healthcare 474.5 billion yuan (5.3%), social security and employment 908.1 billion yuan (10.14%), housing for low income families 235.8 billion yuan (2.63%), agriculture, forester, and irrigation 805.2 billion yuan (2.71%), urban and rural community affairs 598 billion yuan (6.68%), resource exploration, electric power, and

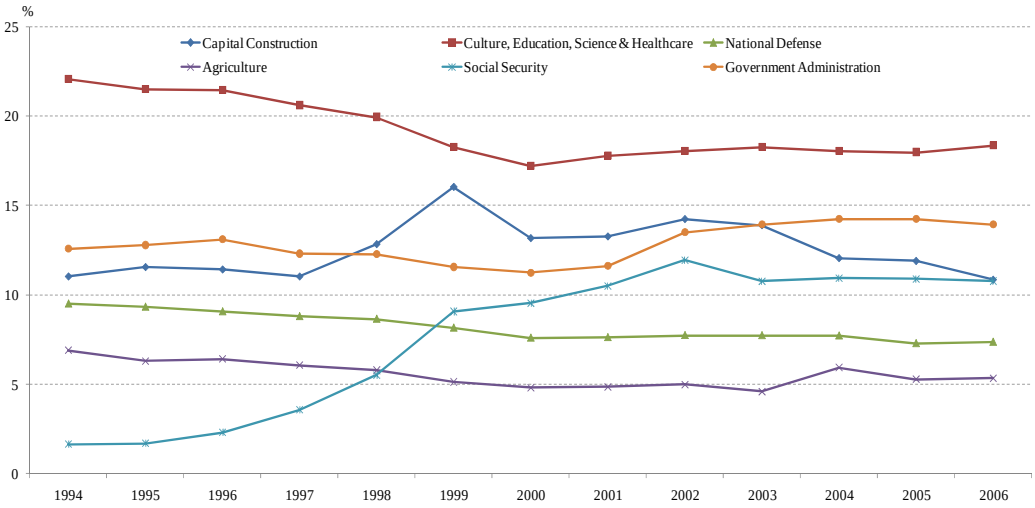
information 349.7 billion yuan (3.9%), public security 548.6 billion yuan (6.12%), science and technology 322.7 billion yuan (3.6%), general public services 935.3 billion yuan (10.44%), and interest payment on national debt 184.5 billion yuan (2.06%).[5]

Figure 1. Revenue Shares of Major Taxes in China (%)



Sources: Data for 1994-2009 are from China National Bureau of Statistics, *Statistical Yearbook of China*, 2008, 2009, 2010; Data for 2010 are from the official website of China Ministry of Finance, http://gks.mof.gov.cn/zhengfuxinxi/tongjishuju/201101/t20110120_421479.html

Figure 2. Shares of Major Expenditures in Total Government Expenditure in China (%)



Sources: China National Bureau of Statistics, *Statistical Yearbook of China, 2007.*

[5] See China Ministry of Finance, website, January 20, 2011, or http://www.sina.com.cn

2.2. Extra-budgetary Revenue and Off-budget Revenue

The Chinese government not only has budgetary revenue and expenditure, but also has large extra-budgetary revenue and expenditure. Extra-budgetary revenue includes the non-tax revenues collected by local governments, government agencies and institutions, and state-owned enterprises (SOEs). Extra-budget revenue includes user-charges for the services provided by government agencies and institutions, administrative fees (license fee, etc.), and revenues from businesses run by colleges and high schools. Extra-budgetary revenues are used for investment in fixed assets, city maintenance, welfare, bonuses and awards, administrative and business activities, etc. [Lin (2005)]. Extra-budgetary revenues were quite large in the late 1980s and early 1990s. The ratio of extra-budgetary revenue to budgetary revenue was 76% in 1985 and reached 111% of budgetary revenues in 1992. In the 1980s, the largest component of extra-budgetary revenue was the extra-budgetary revenue of the SOEs and their supervisory ministries, followed by that of administrative and institutional units, and local governments. The coverage of the extra-budgetary revenue and expenditures has been adjusted since 1993 by excluding the extra-budgetary revenue of the SOEs and their supervisory ministries [Lin (2000b, 2005)].

After the 1994 tax reform, central government no longer relied on extra-budgetary revenues, and the share of central government in extra-budgetary revenue has significantly decreased. The central government share of extra-budgetary revenue was 43.6% in 1992, down to only 8.7% in 2005 and 7.4% in 2008.[6] Thus, extra-budgetary revenue is important for local governments.

Fiscal reforms have aimed at reducing the size of extra-budgetary revenue and expenditure. The purpose of the reform is to improve fiscal transparency, facilitate the central government's supervision, prevent misuse of the fiscal revenue, and reduce corruption. Although extra-budgetary revenue is increasing in absolute value, the ratio of extra-budgetary revenue to budgetary revenue and the ratio of extra-budgetary revenue to GDP have declined due to various fiscal reforms. Extra-budgetary revenue accounted for 38.55% of budgetary revenue in 1995, 28.57% in 2000, and 17.52% in

[6] See China National Bureau of Statistics, *Statistical Yearbook of China*, 2010.

2005. Extra-budgetary revenue accounted for 4.12% of GDP in 1995, 3.43% in 2000, 3.02% in 2005, and 2.1% in 2008.

Besides extra-budgetary revenue, local governments in China also have off-budget revenue (called "the Little Golden Box"). Off-budgetary revenue is from fee collections and sales of urban land and other government properties. It is out of the central government's control and monitoring. Off-budget revenue is illegal and the central government occasionally calls for the elimination of the off-budget revenue. However, it still exists everywhere. The off-budgetary revenue is used for specific local infrastructure development, for entertaining higher-level officials and other visitors, for travelling expenses of local government officials, for purchasing gifts for people who can benefit the local government or local economy, etc. The use of the off-budget revenue is monitored internally within the local government. For this reason, the central government does not really want to eliminate the off-budget revenue, leaving local governments with some fiscal freedom. At the moment, the size of the off-budget revenue is about 30% of local government revenue and about 3-4% of GDP.

Eliminating the extra-budget revenue seems unlikely. Extra-budgetary revenue even exists in the United States. Eliminating the off- budget revenue is possible, but it will reduce local governments' incentives for revenue collection, and the central government does not want to hurt the incentives of local governments. The key is to make the extra-budgetary account transparent and place it under local public supervision and along side higher-level authorities. Since extra-budgetary revenue and off-budget revenue are collected from and mainly used for local economic development, more responsibilities should be given to the local people to monitor and supervise the local government.

2.3. Central and Local Fiscal Disparity

Central and local fiscal disparity is an important issue in China. The tax-sharing system established in 1994 put local governments in a very difficult fiscal position. In 1980, local government revenue accounted for 75% of total government revenue and local government spending accounted for 46% of total government spending. In 2010, local governments received 48.9% of total government revenue while covering 82.2% of total government spending.

Table 2 shows central, local, and total government budget deficits. It can be seen that, in all years from 1978 to 1985, local governments had budget surpluses. From 1986 to 1993, local governments had surpluses in some years and deficits in other years. The 1994 tax reform has changed the story completely. Since 1994, each year every province has had a budget deficit. Local governments begged for money from the central government and central government rebated money back to local governments. Out of 31 provinces central government transfers (tax rebates and other transfers) accounted for about 50% of their expenditures. Even the rich provinces needed large transfers to cover their deficits.

Before the early 2000, local governments relied on extensive fees and charges (Lin, 2003). As fee collections became arbitrary and extensive, the general public was outraged, and the government decided to merge some fees and charges into taxes, reduce some fees and charges, and eliminate some fees and charges. Fees and charges are mainly included in extra-budgetary revenue. It can be seen that the ratio of extra-budgetary revenue to budgetary revenue was 110.7% in 1992, 52.6% in 1996, 28.6% in 2000, and only 17.5% in 2005. After the agricultural tax was eliminated in 2006, fees were further reduced since many fees were related to agricultural tax collection.

When the local governments could no longer rely on fees and charges, they found a new way of raising revenue, selling urban land to real estate developers and purchasing farm land from farmers at low prices and selling it to the urban real estate developers at higher prices. According to the Minister Xu Shaoshi, in 2010, the value of land sale was 2.7 trillion yuan, up by 70% over 2009.[7] There is less and less land left to sell now. The central government set a red line for arable land, 1.8 billion mu, and it monitors land development through satellite surveillance. Reliance on land sales is not sustainable. Recently local government established many urban investment companies to borrow money from commercial banks.

To increase local government fiscal capacity, the experiment of residential property tax has started in Shanghai and Chongqing, two of the four municipalities in China. According to the regulation passed by the Shanghai government, starting January 28, 2011, (1) the newly purchased second house (or apartment) of a Shanghai resident, and

[7] See http://news.dichan.sina.com.cn/2011/01/07/261264.html

the newly purchased house of a non-resident should pay the personal housing property tax; (2) the tax base is 70% of the housing price; (3) the tax rate is 0.6%, low value house (priced two times lower than the average price in Shanghai) is subject to 0.4% tax; and (4) a tax exemption will be given, for example, to families with apartment smaller than 60 square meters/person after the purchased of the second house, and families with grownup children. Based on new residential houses sold in Shanghai in 2010, the tax revenue from residential housing property would be around 1 billion yuan.[8] Total fiscal revenue for Shanghai in 2010 was 2,87.36 billion yuan.[9] Thus, the residential housing property tax only accounted for 0.35% of total revenue. Chongqing started taxing the newly purchased independent houses, large apartments (200 square meters or larger), the high priced houses/apartments (priced at least three times more than the average city price), and the tax rate is progressive. Since the tax base is very limited, the residential housing property tax will not solve all local government revenue shortage problems.

2.4. China's Social Security System

Prior to the economic reform in 1978, China's social security pension system for workers in the state-owned enterprises (SOEs) was run by each enterprise separately. Government employees in administrative units and government agencies and state institutions were run by the government. After the economic reform, many SOEs were unable to pay social security benefits. To solve this problem, a mixed social security system which combines a social pooling account (an account through which the government collects social security contributions from the young and pays social security benefits to the old) and an individual account (a mandatory savings account through which an individual saves when young and withdraws savings and interest when old) has been adopted.

[8] The value of a new residential house sold in Shanghai in 2010 is 239,538.7955million yuan (14213 yuan*16.8535million square meters). The tax revenue is 1,006 million yuan (239,538.7955million yuan*70%*0.6%). See http://www.guandian.cn/article/20110220/105800.html for original data.

[9] See *Shanghai 2010 Fiscal Report*, http://www.czj.sh.gov.cn/zwgk/czsj/czyjsqk/szzxqk/201101/t20110121_119196.html

At present, the social pooling account is the major part. Thus, the social security system is largely PAYG in nature [Lin (2008a)].

In December 2005, the State Council promulgated the *Decision on Improving the Basic Social Security System for Workers and Staffs in Enterprises*. According to this decision, beginning January 1, 2006, the contribution to an individual account should be 8% of the employee's taxable wage and the employer no longer contributes to the individual account. The employer contributes 20% of the employee's wage to the social pooling account. Individuals don't contribute anything to the social pooling account. The self-employed contribute around 20% of the previous year's local average wage to the social security accounts, of which 8% goes to the social pooling account. A worker, who had been in the social security program for 15 or more consecutively years before retirement, will receive basic monthly social security benefit, which is the average of the previous year's local average wage and the individual's average wage (based on which the individual made social security contributions over the years). A person in the social security program will receive one percentage more of the average wage for every year after 15 years of participation. For example, a person enrolled in the social security program for 20 years will receive 25% of last year's local wage. The monthly payment to a retiree from the individual account is based on the individual's age, life expectancy at the birth, and total funds accumulated. Regions also provide other benefits to retirees. For example, in Beijing, retirees also enjoy subsidies on haircuts which the current workers also enjoy.

Funds from individual accounts have been used to offset fund shortages in the social pooling accounts, and the individual social security accounts are largely vacant. For example, in Shanghai in 2008, the revenue for the social pooling account was 52.659 billion yuan, while the expenditure was 61.522 billion yuan, with a deficit of 8.863 billion yuan, which accounts for 16.8% of the revenue; in 2009, the revenue for the social pooling account was 61.873 billion yuan, while the expenditure was 71.059 billion yuan, with a deficit of 9.186 billion yuan, which accounts for 14.9% of the revenue.[10] Thus, Shanghai city government has had to use the fiscal revenue of around

[10] See Shanghai Social Security Network
http://www.12333sh.gov.cn/200912333/2009xxgk/ztxx/shbxxx/201006/t20100608_1118299.shtml

10 billion yuan annually to offset the social security deficits in recent years.[11] Thus, the current social system is not sustainable. Also, by the end of 2009, the accumulated fund for Shanghai social security individual accounts was only 10.434 billion yuan. It was estimated that the population aged 65 or over accounted for 7% in 2000, 17% in 2020, and over 30% in 2050.[12] Social security reforms have become necessary.

Many economists have provided policy suggestions on China's social security reforms. The World Bank (1997) suggested that China adopt a unified pension system that combines a defined benefit basic public pillar with funded mandatory individual accounts, and the individual account should be the major part. However, China continues to expand the pension system and at the moment more than 25% of employees are covered by the system. This type of social security system has helped reform the state-owned enterprises (SOEs). With the output share of SOEs declining and the profitability of the SOEs increasing, China faces a rare opportunity to reform the pension system. Lin (2008a) provided reasons for the establishment of a pension system with forced savings, a social safety net, and family support. However, the government is still expanding the current system.

Table 2. Budgetary Revenues and Expenditures of Central and Local Governments

	Central and Local Budgetary Revenue				Central and Local Budgetary Expenditure				Local
	Absolute Amount (100million yuan)			(%)	Absolute Amount (100million yuan)			(%)	Government Self-Sufficiency
Year	National	Central	Local	Central	National	Central	Local	Central	Rate (%)
1978	1132.26	175.77	956.49	15.5	1122.09	532.12	589.97	47.4	162.1
1979	1146.38	231.34	915.04	20.2	1281.79	655.08	626.71	51.1	146.0
1980	1159.93	284.45	875.48	24.5	1228.83	666.81	562.02	54.3	155.8
1981	1175.79	311.07	864.72	26.5	1138.41	625.65	512.76	55.0	168.6
1982	1212.33	346.84	865.49	28.6	1229.98	651.81	578.17	53.0	149.7
1983	1366.95	490.01	876.94	35.8	1409.52	759.60	649.92	53.9	134.9
1984	1642.86	665.47	977.39	40.5	1701.02	893.33	807.69	52.5	121.0
1985	2004.82	769.63	1235.19	38.4	2004.25	795.25	1209.00	39.7	102.2
1986	2122.01	778.42	1343.59	36.7	2204.91	836.36	1368.55	37.9	98.2
1987	2199.35	736.29	1463.06	33.5	2262.18	845.63	1416.55	37.4	103.3
1988	2357.24	774.76	1582.48	32.9	2491.21	845.04	1646.17	33.9	96.1
1989	2664.90	822.52	1842.38	30.9	2823.78	888.77	1935.01	31.5	95.2
1990	2937.10	992.42	1944.68	33.8	3083.59	1004.47	2079.12	32.6	93.5

[11] See Ministry of Labor and Social Security, *China Labor and Social Security Statistics Yearbook*, Beijing: China Labor and Social Security Publishing House, Beijing, 2006; and http://news.xinhuanet.com/comments/2011-02/17/c_121092068.htm

[12] See http://news.xinhuanet.com/society/2006-02/23/content_4218570.htm

Table 2. ***(Continued)***

	Central and Local Budgetary Revenue				Central and Local Budgetary Expenditure				Local
	Absolute Amount (100million yuan)			(%)	Absolute Amount (100million yuan)			(%)	Government Self-Sufficiency
Year	National	Central	Local	Central	National	Central	Local	Central	Rate (%)
1991	3149.48	938.25	2211.23	29.8	3386.62	1090.81	2295.81	32.2	96.3
1992	3483.37	979.51	2503.86	28.1	3742.20	1170.44	2571.76	31.3	97.4
1993	4348.95	957.51	3391.44	22.0	4642.30	1312.06	3330.24	28.3	101.8
1994	5218.10	2906.50	2311.60	55.7	5792.62	1754.43	4038.19	30.3	57.2
1995	6242.20	3256.62	2985.58	52.2	6823.72	1995.39	4828.33	29.2	61.8
1996	7407.99	3661.07	3746.92	49.4	7937.55	2151.27	5786.28	27.1	64.8
1997	8651.14	4226.92	4424.22	48.9	9233.56	2532.50	6701.06	27.4	66.0
1998	9875.95	4892.00	4983.95	49.5	10798.18	3125.60	7672.58	28.9	65.0
1999	11444.08	5849.21	5594.87	51.1	13187.67	4152.33	9035.34	31.5	61.9
2000	13395.23	6989.17	6406.06	52.2	15886.50	5519.85	10366.65	34.7	61.8
2001	16386.04	8582.74	7803.30	52.4	18902.58	5768.02	13134.56	30.5	59.4
2002	18903.64	10388.64	8515.00	55.0	22053.15	6771.70	15281.45	30.7	55.7
2003	21715.25	11865.27	9849.98	54.6	24649.95	7420.10	17229.85	30.1	57.2
2004	26396.47	14503.10	11893.37	54.9	28486.89	7894.08	20592.81	27.7	57.8
2005	31649.29	16548.53	15100.76	52.3	33930.28	8775.97	25154.31	25.9	60.0
2006	38760.20	20456.62	18303.58	52.8	40422.73	9991.40	30431.33	24.7	60.1
2007	51321.78	27749.16	23572.62	54.1	49781.35	11442.06	38339.29	23.0	61.5
2008	61330.35	32680.56	28649.79	53.3	62592.66	13344.17	49248.49	21.3	58.2
2009	68518.30	35915.71	32602.59	52.4	76299.93	15255.79	61044.14	20.0	53.4
2010	83080.00	42470.00	40610.00	51.1	89575.00	15973.00	73602.00	17.8	49.6

Sources: Data for1978-2009 are from China National Bureau of Statistics, *Statistical Yearbook of China*, 2010; Data for 2010 are from the website http://gks.mof.gov.cn/zhengfuxinxi/tongjishuju/201101/t20110120_421479.html

Note: a) The central and local revenue in this table represents the income from the central and local level government themselves.
b) The figure here excludes debt revenue.

3. The 2008-2010 Expansionary Fiscal Policy and China's Economic Growth

The global financial crisis that occurred in 2008, resulted in a decrease in China's exports and GDP growth, and a rise in unemployment. GDP growth was 14.2% in 2007, down to 10.6% in the first quarter of 2008, 10.1% in the second quarter of 2008, and 9.0% in the third quarter of 2008. Unemployment was increasing, with the urban registered unemployment rate hitting 4% (excluding the hidden unemployment in the rural areas), the highest since 1980. Urban employment was around 10 million and 1 million college graduates were unemployed at end of 2008. Foreign direct investment

(FDI) actually used declined by -0.86% in October 2008 and by -36.52% in November 2008. From January to September 2008, total trade was US$2 billion, an increase of 25.2%. However, in November 2008, exports declined by -2.2%, the first time in seven year, and imports declined by 17.9%.

On November 5, 2008, the State Council announced that China would adopt expansionary (proactive) fiscal policy by increasing investment by 4 trillion yuan to stimulate domestic demand and economic growth.

3.1. The Four-trillion-yuan Stimulus Package

Areas of expenditures and planned investments are as follows: (1) Housing for low income groups (low-rent houses, endangered houses for low-income groups, etc.), 280 billion yuan; (2) Rural social safety net and rural infrastructures (including water safety projects, electricity network remolding projects, road construction projects, biogas projects, endangered housing remodeling projects and moving herdsmen settling projects), 370 billion yuan; (3) Construction of railroads, highways, airports, bridges, urban electricity network, and other large infrastructures, 1800 billion yuan; (4) Healthcare, culture and education (healthcare facilities, new hospitals, rural high school remodeling, rural cultural activity centers), 40 billion yuan; (5) Ecological and environmental projects (afforestation, sewage treatment, recycling, etc.), 350 billion yuan; (6) Innovation and industrial structure changes (high-tech projects, information technologies, etc.), 160 billion yuan; and (7) Sichuan earthquake reconstruction, 1000 billion yuan. These expenditures add up to 4 trillion yuan.

In March 2009, the State Council adjusted the investment plan: (1) Housing for low income groups, increased from 280 billion yuan to 400 billion yuan; (2) Rural social safety net and rural infrastructures (including water safety projects, electricity network remolding projects, road construction projects, biogas projects, endangered housing remodeling projects and moving herdsmen settling projects), remained at 370 billion yuan; (3) Construction of railroads, highways, airports, bridges and other large infrastructures, reduced from 1800 billion yuan to 1500 billion yuan; (4) Healthcare, culture and education, increased from 40 billion yuan to 150 billion yuan; (5) Ecological and environmental projects, reduced from 350 billion yuan to 210 billion yuan;

(6) Innovation and industrial structure changes, increased from 160 billion yuan to 370 billion yuan; and (7) Sichuan earthquake reconstruction remained unchanged at 1000 billion yuan.

The investments were planned to be made from the fourth quarter of 2008 to the end of 2010. The sources of the funds are as follows: central government should provide 1.18 trillion yuan; local governments should provide 1.25 trillion yuan; and banks and individuals or firms provide the remaining 1.57 billion yuan. The National Commission on Development and Reforms, The Ministry of Finance, and The People's Bank of China together made decisions to provide long-term low-rate loans to finance some of the projects. Firms undertaking the projects were encouraged to issue corporate bonds to solve their fund shortage problem.

The funding sources of the local government include (1) local government revenue, (2) bonds issued by the central government on behalf of the local governments, (3) urban land rents or revenue from land sales (renting for 70 years), and (4) borrowing, through government-run investment companies, from commercial banks and policy banks. For example, in 2009, the amount of the bonds issued by the central government on behalf of the local governments was 200 billion yuan. Revenue from land sales and borrowing from banks by local governments are substantial and not transparent in China. It is clear that the stimulus package is not only a fiscal policy, but also a monetary policy. In fact, the actual government budget deficits were 126.231 billion yuan in 2008, 778.163 billion yuan in 2009 and 649.5 billion yuan in 2010 (see Table 1). The total fiscal stimulus was about 1,553.9 billion yuan, compared to the package of 4 trillion yuan. Thus, it's safe to say that most of the stimulus came from monetary expansion.

3.2. Value-added Tax Reduction and Export Tax Rebate

As another important stimulus for the economy, the Chinese government cut the value-added tax (VAT) by excluding investment from the tax base. The measure aims at reducing business tax burden and increasing investment.

China's VAT was production-type with the tax base being the total value added. Economists have suggested reforming the VAT system by excluding investment from

the tax base [Lin (2008b)], as in many European countries. However, for years the Chinese government had used the VAT reduction as a policy tool to help targeted regions. On July 1, 2004, an experiment of the VAT reform started in three northeast provinces (Jilin, Liaoning, and Heilongjiang), where state-owned enterprises in heavy industries are concentrated. The reform was extended to eight industries in 26 old industrial cities in the central region on July 1, 2007. The central region of China is a less developed region. Since the start of the economic reforms, the government established special economic zones in the east coast, providing favorable economic policies; the government also initiated a west development program in 2000, providing subsidies to the west region. The central region was left behind, with low per capita GDP and low per capita government spending. The VAT reform was designed to help this region.

The financial crisis in 2008 provided an opportunity for the government to extend the VAT reform to the whole country. Beginning January 1, 2009, investment was excluded from the VAT base for all areas and all industries in China.

Meanwhile, the government increased tax rebates for some export goods. For example, on November 11, 2008, the government increased tax rebates for textile, clothing, toys, and other goods. The rebate rates for textile and clothing increased from 14% to 15% on February 1, 2009, and to 16% on April 1, 2009. On June 1, 2009, the government increased the tax rebates for some steel products, sewing machines, scissors, equipment for TV broadcasting, etc. On July 1, 2010, the government eliminated tax rebates for some products, including steel and non-ferrous metals. [13]

3.3. Growth of GDP, Investment in Various Sectors, and Inflation

3.3.1. GDP Growth

The expansionary fiscal policy, along with the easing of monetary policy, has greatly stimulated China's economic growth. China's GDP growth was 14.2% in 2007, 9.8% in 2008, and 9.2% in 2009, the lowest growth rate in recent years. With the large fiscal stimulus, China's GDP growth quickly bounced back to 10.3% in 2010. It is

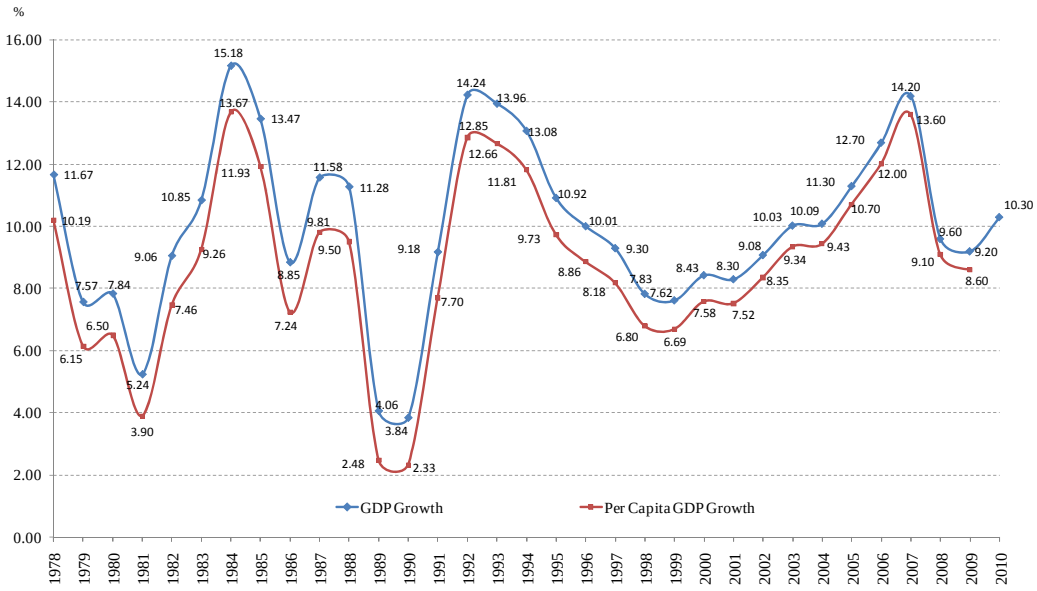
[13] See http://finance.eastmoney.com/news/1350,2010062279765785.html

expected that China's GDP growth will be around 10% in 2011. In fact, the Chinese economy performed better in this global financial crisis than the Asian financial crisis.

Figure 3 illustrates China's annual GDP growth rate and per capita GDP growth rate from 1978 to 2010. China's economic growth rate has been high since the early 1980s, with the exception of 1989 and 1990 when political instability occurred in China. China's GDP growth reached 14.24% in 1993 after Deng Xiaoping's south tour speech in 1992, which called for more market-oriented reforms and opening up. After the Asian financial crisis, China adopted expansionary fiscal policy for the first time, and GDP growth rate was 9.3% in 1997, 7.83% in 1998, 7.62% in 1999, 8.43% in 2000, 8.3% in 2001, and 9.08% in 2002. It took five years for China's GDP growth to bounce back. It only took two years for China's GDP growth to return to double digits and the reason is clear. In the Asian financial crisis, the Chinese government's stimulus package was much smaller. Government budget deficits were 92.2 billion yuan in 1998, 174.3 billion yuan in 1999, and 249.1 billion yuan in 2000. Government budget deficits were 111.1 billion yuan in 2008, 739.7 billion yuan in 2009, and 649.5 billion yuan in 2010. It can be seen that the Chinese government was much more aggressive in using the fiscal tool to stimulate the economy in 2008 than in 1998.

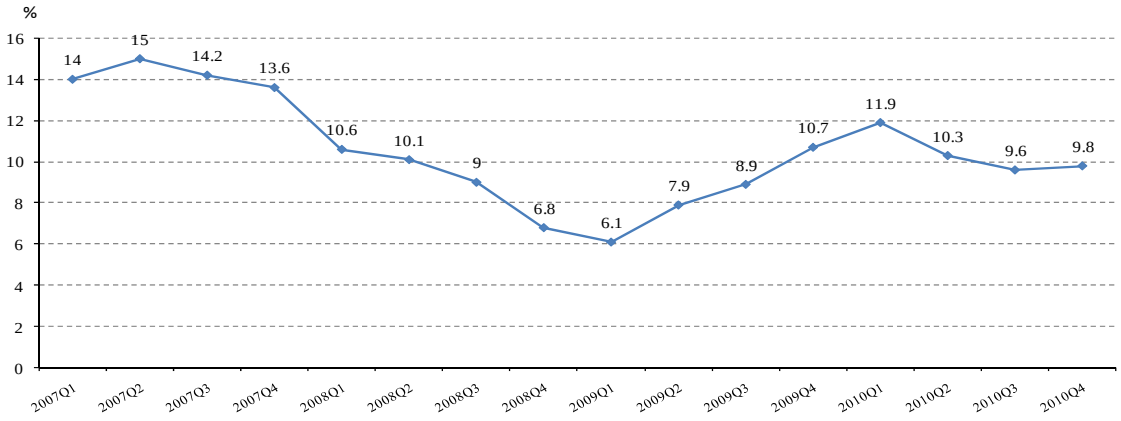
Figure 4 shows China's quarterly GDP growth from the second quarter of 2007 to the fourth quarter of 2010. China's GDP growth was 10.6% in the first quarter of 2008, 10.1% in the second quarter, 9.0% in the third quarter, and down to only 6.8% in the fourth quarter. GDP growth reached a minimum level in the first quarter of 2009, with a quarterly growth rate of merely 6.1%. Under the stimulus plan, GDP growth increased to 7.9% in the second quarter of 2009, 8.9% in the third quarter, and 10.7% in the fourth quarter of 2009. China's GDP growth reached 11.9% in the first quarter of 2010, 10.3% in the second quarter, 9.6% in the third quarter, and 9.8% in fourth quarter. The decline in the quarterly GDP growth was caused by tight monetary policy and tighter control of local government borrowing.

Figure 3. China's GDP Growth and Per Capita GDP Growth 1978-2010



Sources: Data for 1978-2009 are from China National Bureau of Statistics, *Statistical Yearbook of China*, 2010; Data on GDP growth for 2009 are from the website of the China National Bureau of Statistics, http://www.stats.gov.cn/tjdt/zygg/gjtjjgg/t20110111_402697636.htm; Data for 2010 are from the website http://www.stats.gov.cn/tjfx/jdfx/t20110120_402699441.htm

Figure 4. Quarterly GDP Growth 2007-2010



Sources: Data for 2007 from http://219.235.129.58/report QuarterQuery.do; Data for 2008-2010：http://www.stockest.cn/GDP.htm

China's recent growth was basically driven by investment. Total investment increased dramatically after the adoption of the expansionary fiscal policy. Investment

in fixed assets was 17,282.8 billion yuan in 2008, up by 25.85% from 2007; 22,459.9 billion yuan in 2009, up by 29.95%, and 27,814 billion yuan in 2010, up by 23.8%.

Figure 5 shows the share of consumption, investment (capital formation), and net exports in GDP from 1978 to 2009. Consumption was much larger than investment from 1978 to 2000. In fact, from 1995 to 2000, consumption share in GDP increased from 58.1% to 62.3% while investment share in GDP decreased from 40.3% to 35.3%. However, investment share in GDP increased while consumption share decreased after 2000, with investment increasing to 47.5% and consumption share down to 48.7% in 2009. After the financial crisis in 2008, consumption share in GDP remained stable, net exports share in GDP declined significantly, while investment share in GDP increased dramatically, keeping Chinese economic growth on a fast pace.

Figure 5. Share of Consumption, Capital Formation, and Net Exports in GDP (1978 to 2009)

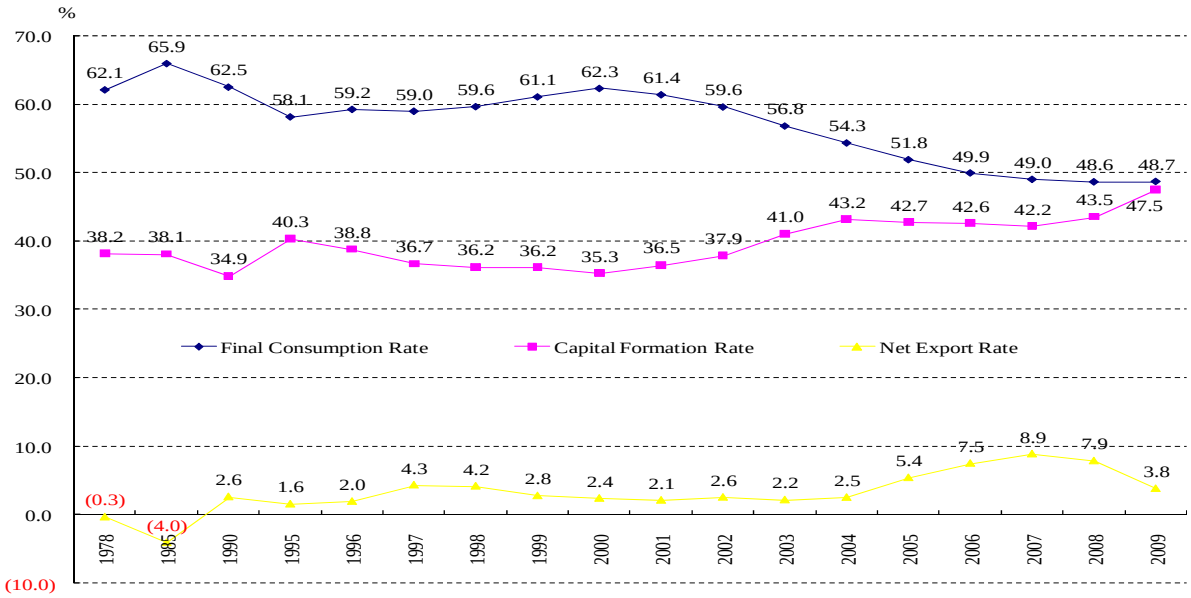


Table 3 shows the contribution of consumption, investment, and net exports to GDP from 1996 to 2009. In 1999, 80% of GDP growth was caused by consumption growth, 34% by investment, and -14% by net exports. In 2007, 41% of GDP growth was caused by consumption growth, 38% by investment, and 21% by net exports; In 2008, 44.5% of GDP growth was caused by consumption growth, 57.5% by investment, and -2% by net exports; In 2009, 44% of GDP growth was caused by consumption growth, 75.6%

by investment, and -19.7% by net exports. Clearly, the government stimulus package was essential for economic growth.

Table 3. Contribution to GDP Growth by Consumption, Investment and Net Exports (%)

Year	Consumption	Investment (capital formation)	Net Exports	*Year*	Consumption	Investment (capital formation)	Net Exports
1996	72.2	20.4	7.4	2003	32.1	68.8	-0.9
1997	45.0	5.6	49.5	2004	34.2	60.2	5.6
1998	69.7	28.4	1.9	2005	31.4	35.5	33.1
1999	79.9	34.4	-14.3	2006	35.6	40.3	24.1
2000	78.3	23.8	-2.0	2007	41.0	38.3	20.8
2001	51.1	49.7	-0.8	2008	44.5	57.6	-2.1
2002	42.6	50.4	7.0	2009	44.2	75.5	-19.7

Note: Calculated by the author based on data on real GDP, consumption, capital formation and net exports from China National Bureau of Statistics, *Statistical Yearbook of China*, 2010.

3.3.2. Investment in Various Sectors

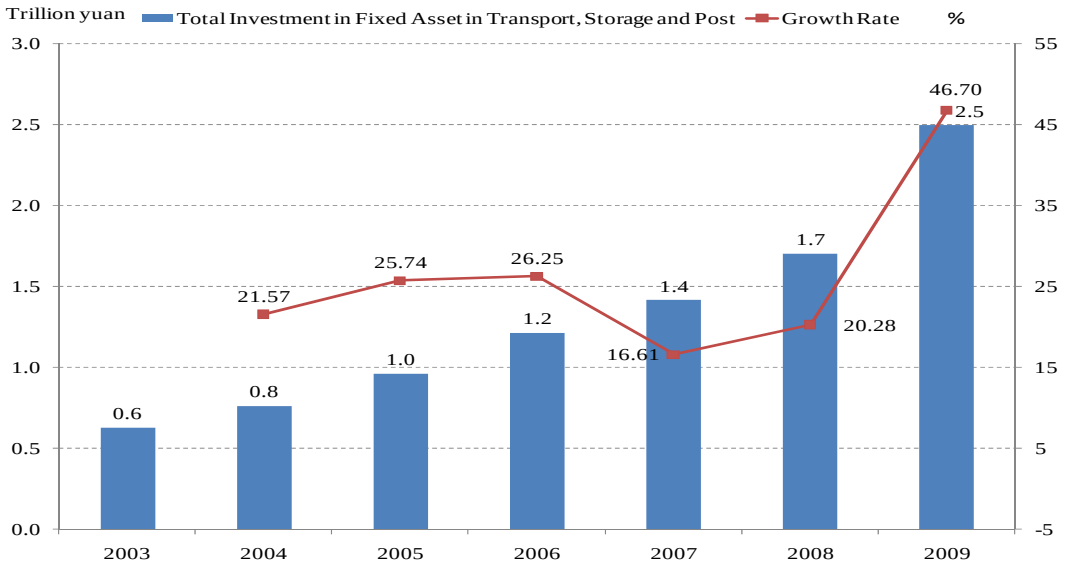
The impact of the fiscal policy on the output of the secondary industry was very strong. In 2010, the valued added of primary industry was 4,049.7 billion yuan, increased by 4.3%; the value added of secondary industry was 18,648.1 yuan, increased by 12.2%; while the value added of tertiary industry was 17,100.5 yuan, increased by 9.5%.[14] We now analyze some specific industries that are largely stimulated by the fiscal policy.

The first one is the transportation industry. Figure 6 shows investment in fixed asset in transportation, storage, and post. The growth rate of investment in fixed assets in the areas of transportation, storage, and post declined by nearly ten percentage points, from 26.5% in 2006 to 16.6% in 2007; it increased by nearly four percentage points in 2008. In 2009, the growth rate of investment reached 46.7%, an increase of 26 percentage points from 2008.

Investment in fixed assets in the areas of electric power, gas, and water system has also increased. Figure 7 shows investment in fixed asset in electric power, gas, and water. The investment growth in these areas had been going down since 2004, to about 10% in 2007. The growth rate accelerated to 16% in 2008 and 31% in 2009.

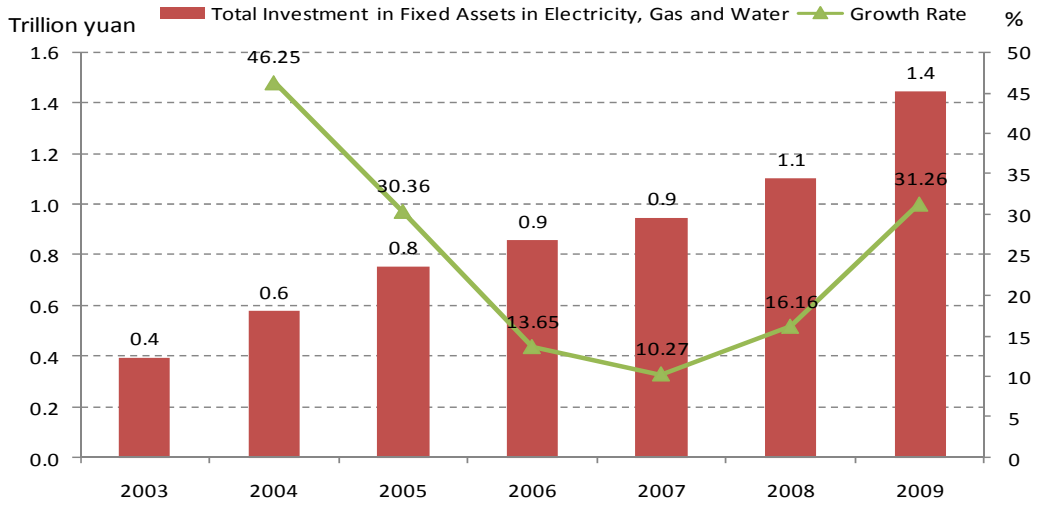
[14] See http://www.sina.com.cn.

Figure 6. Investment in Fixed Asset in Field of Transport, Storage and Post (2003-2009)



Sources: China National Bureau of Statistics, *Statistical Yearbook of China*, 2010

Figure 7. Investment in Fixed Assets in Electricity, Gas and Water (2003-2009)

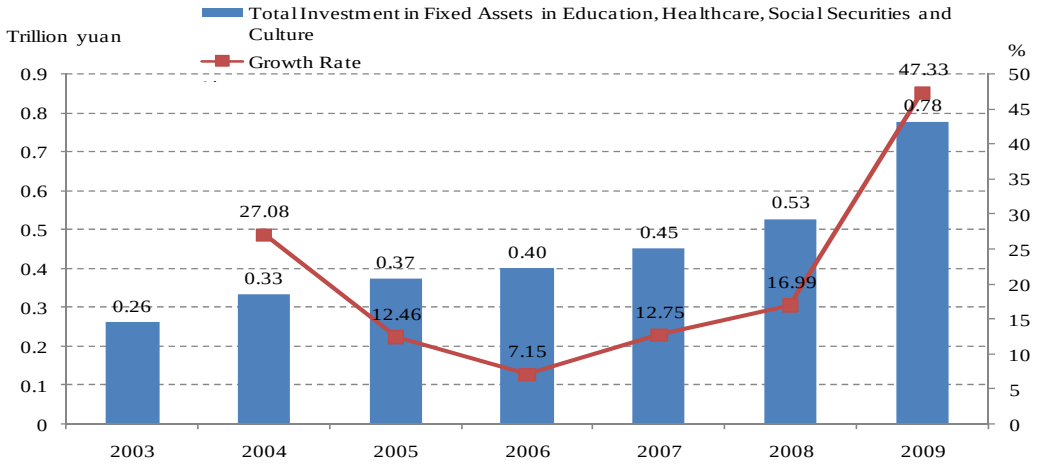


Sources: China National Bureau of Statistics, *Statistical Yearbook of China*, 2010

The planned investment in education, healthcare, and cultural development was 150 billion yuan under the 4 trillion yuan stimulus plan. The growth rate of investment in these areas was about 17% in 2008 and jumped to 47.33% in 2009. Figure 8 shows the

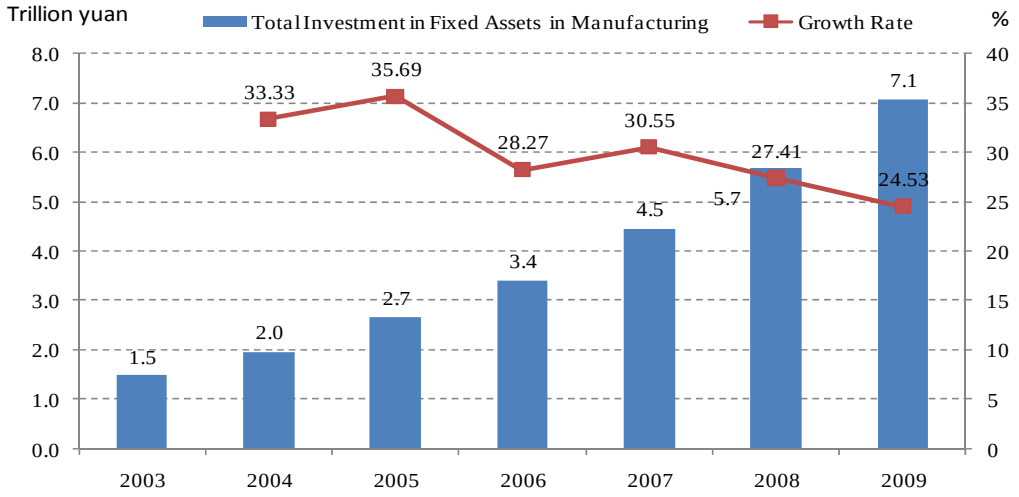
level and growth rate of investment in fixed assets in education, healthcare, and cultural development.

Figure 8. Investment in Fixed Assets in Education, Healthcare, Social Securities and Culture (2003-2009)



Sources: China National Bureau of Statistics, *Statistical Yearbook of China*, 2010

Figure 9. Investment in Fixed Assets in Manufacturing (2003-2009)



Sources: China National Bureau of Statistics, *Statistical Yearbook of China*, 2010

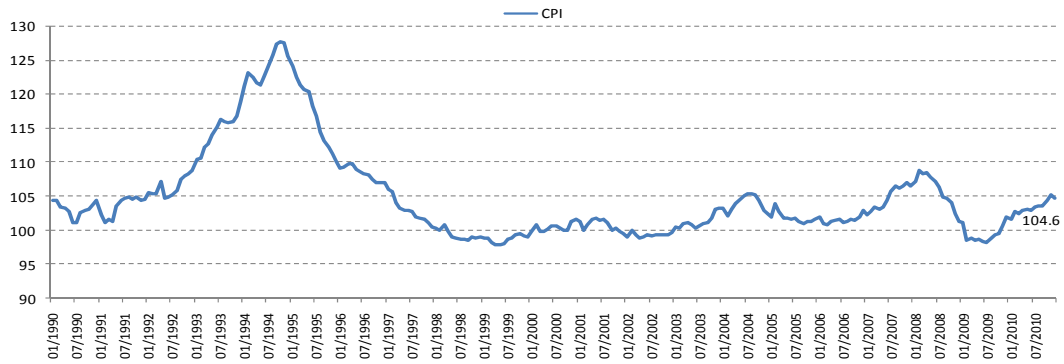
Meanwhile, the growth rate of investment in fixed assets in manufacturing industries has been declining, although the level of investment has been growing.

Figure 9 shows investment in fixed assets in manufacturing from 2003 to 2009. The growth rate of investment was 30.55% in 2007, 27.41% in 2008, and 24.53% in 2009.

4.3. Impact on Inflation

As mentioned earlier, a large part of the stimulus package was financed by bank loans. Thus, money supply and aggregate demand increased, resulting in a rise in the price level. Figure 10 shows the Consumer Price Index (CPI) in China from 1990 to 2010. It can be seen that the CPI had decreased from early 2008 to the middle of 2009, and then started to increase. The growth rate of China's CPI was 8.7% in February 2008, down to 1.2% in December 2008, and to -1.8% in July 2009. The CPI then started to increase, with the growth rate being 1.9% in December 2009, 5.1% in November 2010, and 4.6% in December 2010. In January 2011, the CPI increased by 4.9%, compared to the same month last year. These are official statistics and the actual inflation rate could be much higher. Inflation has become a serious concern in China now and controlled inflation is the prime target of the government this year.

Figure 10. The Consumer Price Index (CPI) in China (1990-2010)



Sources: China National Bureau of Statistics website. Data for 1994-2010 are from http://219.235.129.58/reportMonthQuery.do

4. China's Government Debt and Fiscal Sustainability

The expansionary fiscal policy has resulted in a large increase in government debt, particularly at the local level. We now discuss China's fiscal debt, foreign debt, state-banks non-performing loans and local government debt, as well as China's fiscal sustainability.

4.1. Fiscal Debt

China's fiscal debt has been rising, but still low, when compared to many other nations. Table 6 shows China's government debt, including domestic debt and foreign debt. The debt-GDP ratio was 1% in 1981, 4.77% in 1990, 6.98% in 1997, 9.2% in 1998, 11.76% in 1999, 13.12% in 2000, 16.38% in 2005, and 17% in 2007, and 22% in 2007. The Debt-GDP ratio declined to 17.56% in 2008, and increased slightly to 17.81% in 2009.

4.2. Foreign Debt

The size of foreign debt is an important indicator of a country's fiscal risk. Debt crises have often erupted in recent centuries. Many financial and fiscal crises in recent decades were caused by high foreign debt. In the early 1990s, Mexico increased its foreign borrowing to fulfill its ambitious development plan and foreign debt reached three times as high as foreign exchange reserves. In 1994, a financial crisis occurred in Mexico, and their economic development was heavily obstructed. In 1997, foreign debt-GDP ratio climbed to 62.6% in Thailand, 70% in Philippines, 65.3% in Indonesia, and 32.8% in South Korea, resulting in the 1997 Asian Financial Crisis.[15] It took many years for these Asian economies to recover. The recent fiscal crisis in Greece is also caused by large foreign debt. By the end of 2009, Greece's foreign debt reached 214.7 billion euro, accounting for 90% of GDP! [16] Debt crisis inevitably occurred in Greece in 2010, forcing Greece to borrow new debt at high interest rates to pay the old debt.

Since the early 1980s, China has started to borrow from the international capital markets. Foreign debt can be classified as three major types by source: foreign government loans, loans from international financial institutions, and commercial bank loans. Foreign debt can be classified by the maturity time as short-term debt (matures within one year) and long-term debt. Foreign debt can also be classified as government

[15] See The World Bank, *Global Development Finance*, 1999.
[16] See Bank of Greece, http://www.bankofgreece.gr/Pages/en/Statistics/externalsector/debit.aspx

loans, government guaranteed loans (borrowed by private agents but guaranteed by government to be repaid), and private non-guaranteed loans. In 2006, 8.6% of China's foreign debt was from foreign governments, 8.6% from international financial institutions, 50.6% from international commercial banks, and 32.2% from trade loans. Long-term debt accounted for 43.1% and short-term debt 56.9%, compared to 91% and 9%, respectively, in 2000.

In addition to the debt-GNP ratio, safety indicators of foreign debt also include the ratio of debt to exports of goods and services (XGS), the ratio of total debt service to exports of goods and services, and the ratio of foreign debt to foreign exchange reserves [see Lin (2003)]. The lower each of these measures is, the smaller the burden of the country's foreign debt is. As can be seen, the ratio of debt to exports of goods and services (XGS) was 96.5% in 1993 (highest for China) and down to 32.2% in 2009; the debt-GNP ratio was 17.1% in 1994 (highest) and down to 8.7% in 2009; and the ratio of total debt service to exports was 15.4% (highest) in 1986, 1.8% in 2008, and 2.9% in 2009.[17]

The reasons for low foreign debt in China include sufficient domestic savings, the painful lessons learned from borrowing from the Soviet Union, and the lessons learned from the other heavily indebted developing nations.[18] China's savings rate has been extraordinarily high (more than 50% of GDP now) and China does not really need foreign savings to fill the savings and investment gap. In fact, China is a capital exporting country. China is now the largest holder of US treasury bonds, with $895.6 billion by the end of November 2010, higher than the $877.2 billions held by Japan and $511.8 billions held by Great Britain. Thus, foreign debt is not currently a serious problem for China.

[17] See China's National Bureau of Statistics, 2001, 2002, 2009, *Statistical Yearbook of China*, China's Statistical Press, 2009 data from China's National Bureau of Statistics, 2010, *China Statistical Abstract*, China's Statistical Press, p. 90.
[18] See Lin (2003) for a detailed discussion.

Table 6. Domestic and Foreign Debt Outstanding (billion yuan)

Year	Domestic Debt Outstanding	Foreign Debt Outstanding	Domestic Debt Outstanding/GDP (%)	Foreign Debt Outstanding/GDP (%)	Public and Publicly Guaranteed Long-Term Foreign Debt/Long-Term Foreign Debt (%)
1981	4.87		1.00		
1982	9.28		1.74		
1983	13.45		2.26		
1984	17.67		2.45		
1985	23.80	46.48	2.64	5.16	
1986	29.36	74.18	2.86	7.22	
1987	39.18	112.43	3.25	9.32	
1988	55.85	148.90	3.71	9.90	
1989	77.14	155.49	4.54	9.15	
1990	89.03	251.33	4.77	13.46	
1991	106.00	322.38	4.87	14.80	
1992	128.27	382.28	4.76	14.20	
1993	154.07	481.55	4.36	13.63	
1994	228.64	799.87	4.74	16.60	
1995	330.03	890.13	5.43	14.64	
1996	436.14	966.73	6.13	13.58	
1997	550.89	1,085.63	6.98	13.75	
1998	776.57	1,209.10	9.20	14.33	
1999	1,054.20	1,256.89	11.76	14.02	
2000	1,302.00	1,206.41	13.12	12.16	78.90
2001	1,561.80	1,408.00	14.24	12.84	72.66
2002	1,933.61	1,418.35	16.07	11.79	73.55
2003	2,260.36	1,602.68	16.64	11.80	70.95
2004	2,577.76	1,892.08	16.12	11.83	69.14
2005	3,184.86	2,302.28	17.38	12.57	62.29
2006	3,438.02	2,574.81	16.22	12.15	57.40
2007	5,146.74	2,841.01	20.00	11.04	51.58
2008	5,279.93	2,602.05	17.56	8.65	
2009	5,973.70	2,928.11	17.81	8.73	

Sources: Domestic debt outstanding data for 1981-1999 from Jia and Zhao (2001); for 2000-2004 from The People's Bank of China, *The Balance of T-Bond*; for 2005-2006 data from China National Bureau of Statistics, 2007, *Statistical Yearbook of China*, China's Statistical Press, p. 283; 2007-2009 data from China's National Bureau of Statistics, 2009, 2010, *China Statistical Abstract*, China's Statistical Press. Foreign Debt Outstanding in the terms of Chinese yuan is obtained by using the average exchange rate of yuan against US dollars in each year from 1981 to 2008 and foreign debt outstanding in terms of the US dollars, both are from China's National Bureau of Statistics, 1987-2009, *Statistical Yearbook of China*, China's Statistical Press. Public and publicly guaranteed long-term foreign debt to long-term foreign debt ratio is calculated based on China's National Bureau of Statistics, 2002-2010, *International Statistical Yearbook*, China financial & economic publishing house.

4.3. State Banks' Non-performing Loans

State banks' non-performing loans (NPLs) were an alarming problem in China in the early 2000. The ratio of the NPLs to GDP was 41-50% at the end of 2001, which was the largest part of China's government debt [see Lin (2003)]. The NPLs of main commercial banks have declined dramatically in the past decade. The NPLs were 2,279 billion yuan in 2002 (18.9% of GDP), 2,104 billion yuan in 2003 (15.5% of GDP), 1,718 billion yuan in 2004 (10.7% of GDP), 1,220 billion yuan in 2005 (6.7% of GDP), 1,170 billion yuan in 2006 (5.5% of GDP), 1,201 billion yuan in 2007 (4.7% of GDP), and 487 billion yuan in 2008 (1.62% of GDP).[19] According to the China Banking Regulatory Commission (CBRC), at the end of December 2009, the NPLs of the commercial banks (including state-owned commercial banks, joint-stock commercial banks, city commercial banks, rural commercial banks and foreign banks) were 497.33 billion yuan (1.46% of GDP). Thus, the NPLs are no longer a problem for China.[20]

The problem of NPLs emerged as a result of the SOE reforms. Under the centrally-planned economic system, government policy towards the SOEs was "covering all expenditures and receiving all the revenues (*tongshou tongzhi*)," i.e., the government collected all the profits from or covered all the losses of the SOEs. In the beginning of economic reforms, the government still subsidized SOEs to prevent large unemployment. As the economic reforms went on, the government decided to establish market economy in 1993, and thus, it forced the SOEs to compete with private enterprises and with each other, and no longer covered their total expenditures. Many SOEs had to borrow from the banks. Due to poor performance, many SOEs were unable to pay back the loans, resulting in NPLs in the state-owned banks. The large-scale bankruptcy of SOEs would result in large unemployment and the government was very reluctant to let it happen. In the late 1990s, the NPLs became so high, that the confidence of foreign investors in the Chinese economy was threatened. The Chinese

[19] People's Bank of China, *Almanac of China's Finance and Banking*, Almanac of China's Finance and Banking Editor Board, 2002-2009. Main commercial banks include state-owned commercial banks, joint-stock commercial banks. NPL coverage ratio refers to the ratio of allowance for probable losses on non-performing loans (NPL) to total NPL.

[20] However, if the 23% loans to local government financing vehicles do go bad (1.76 trillion yuan), NPLs ratio will dramatically increase. Since loans to local government financing vehicles have already been accounted for in the local government debt session, we don't count bad loans from local government financing vehicles in this section.

government realized the severity of the NPLs problem and took a series of measures to reduce the NPLs, including direct capital injection, the establishment of asset management companies (AMCs), the reduction of business taxes, and tougher restrictions on bank lending.

In 1998, the Ministry of Finance issued 270 billion long-term special treasury bonds (30 years) to increase capital of the big-four state banks (Bank of China, China Construction Bank, Industrial & Commercial Bank of China, and Agricultural Bank of China).[21] In 1999, the government established four asset management companies (AMCs), one for each state-owned commercial bank, to acquire the banks' NPLs at book value, i.e., detaching the NPLs from the big four commercial banks. The four AMCs acquired the NPLs from the four state-owned commercial banks several times. In 2000, the government announced that the business tax rate for the banking industry would be cut from 8% to 7% in 2001, 6% in 2002, and 5% in 2003.[22] The tax cut decreased the tax burden and increased the profitability of the banking industry. In 2003, the government utilized China's foreign exchange reserves to establish the Central Huijin Investment Ltd (Huijin) to invest in major state-owned financial enterprises on behalf of the State. Meanwhile, the government toughened the state bank lending requirements and bank officers were lifetime responsible for the repayment of the loans they made.

All these efforts have contributed to the decrease in the NPLs of the big four commercial banks and the increase of their profitability. Unlike many other governments in the world, the Chinese government has strong administrative power and ability to solve some economic problems, such as the one we discussed.

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[21] Ma, Qingquan, 2003, *The History of China's Securities*, CITIC Press Corporation, p. 383.

[22] China State Administration of Taxation, "Circular of the Ministry of Finance and the State Administration of Taxation on Reducing the Business Tax Rate of Finance and Insurance", from State Administration of Taxation website, http://202.108.90.130/n480462/n480513/n480979/n554109/996587.html. In 1997, Chinese government revised "Provisional Regulations of The People's Republic Of China On Business Tax", which was released in 1993, to increase business tax for finance and insurance industries from 5% to 8%. See State Administration of Taxation website: http://www.chinatax.gov.cn/n480462/n480513/n480979/n554109/999929.html.

4.4. Local Government Debt

The biggest concern over China's fiscal risk and sustainability is the local government debt in China. Lin (2003) shows that the unreported township-level government debt was around 200 billion yuan or only 2.3% of GDP in 2001. For many years, demand for local infrastructures and a shortage of fiscal revenue have put local governments in severe fiscal difficulty. Although they don't have the right to issue bonds, local governments have accumulated debt through borrowing of local government investment companies, through central government bond issuance, through delaying project payments to local private companies, and through the delay of wage payments to government employees. Local government debt has increased drastically after the recent financial crisis since the central government asked the local government to match the central government's huge investment.

The China Banking Regulatory Commission (CBRC) found that local governments of all levels have set up 8,221 financing vehicles nationwide, with 4,907 financing vehicles for county governments, and borrowed heavily from the banks for investment.[23]

How large is the local government debt? The Third Conference of Economic and Financial Situation held by the CBRC on July 20, 2010, indicated that the loans of local government financing vehicles were about 7.66 trillion yuan ($ 1.14 trillion) at the end of June 2010, and that as much as 23% of those loans could go bad.[24] Total amount of urban investment bonds, including medium-term bonds and short-term financing bonds, amounted to 488 billion yuan. The amount of bonds issued by the Ministry of Finance on behalf of local governments was 267 billion yuan. Together, total local government debt exceeded 8.42 trillion yuan by the end of June 2010, accounting for 24.7% of GDP.[25] After June 2010, the Ministry of Finance issued a 133 billion yuan bond on

[23] There are currently 2,862 counties and county-level cities or districts in China.

[24] Of these 7.66 trillion yuan LGFV loans, 27% were found to have funded projects with sufficient cash flow to repay the loans. 50% must rely on "alternative sources" for loan repayment, either seizing collateral or invoking the public guarantee. 23% are categorized as "facing high credit risks", i.e., invalid qualification of borrowers, invalid guarantee by local governments, or loans misappropriated. See Chovanec, Patrick, "The Chinese Banking System is Seriously at Risk", *Business Insider*, July 27, 2010.

[25] See Ba (2010). Urban investment bond is a special kind of enterprise bond backed by local governments. Its main issuers are local government financing vehicles and the funds raised are

behalf of local governments.[26] Thus, the total local government debt has exceeded 8.55 trillion yuan, accounting for 25% of GDP. It was estimated that the average ratio of financing vehicle loans to local government revenue was 97.8% and in some cities this ratio exceeded 200%. [27]

According to a study conducted by the Chinese Academy of Social Sciences, local government debt will reach 9 to 10 trillion yuan by the end of 2010 and will keep rising to 11 trillion in 2011. The calculation was based on the following consideration: Out of the 3.05 trillion yuan new loans to local government vehicles in 2009, 1.56 trillion yuan went to new projects. These new projects usually last about three to five years and in order to keep normal operation of these new projects, at least 1.17 trillion yuan in new loans is needed every year.[28]

Zhejiang province was the first in China to disclose its local government debt. Zhejiang government debt was 457.9 billion yuan at the end of 2009, 178.7 billion yuan higher than 2008. The ratio of local government debt to local GDP was 20.15%, 10.15% higher than the safety line set by Zhejiang province itself. [29] Zhejiang government revenue was only 214 billion yuan, accounting for 9.3% of regional GDP in 2009.[30] Clearly, Zhejiang government debt exceeded its government revenue. If we assume the ratios of local government debt to local GDP in the other provinces are the same as that of Zhejiang, we can estimate local government debt in China. Since the sum of regional GDP in 2009 was 36.53 trillion yuan, the sum of local government debt would be 7.36 trillion, not far away from 8.55 trillion yuan estimated by the CBRC.[31]

The central government has taken tough measures to reduce local government debt. In June 2010, State Council announced a regulation on local government financing platforms, aiming at curtailing local government debt growth financing platforms unless they have sufficient capital and public schools, hospitals, parks cannot be used as their

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mainly used for infrastructure construction. In November 2010, urban investment bond was renamed as Municipal Project Construction Bond.

[26] Wind Database. See http://www.wind.com.cn/

[27] "Local Government Debt Crisis", *China Business Times*, June 3, 2010.

[28] "Local Government Debt May Reach Nine to Ten Trillion Yuan", *Cai Jing*, November 1, 2010.

[29] "Zhejiang Disclosed Its Government Debt", China Daily, September, 29, 2010.

[30] Zhengjiang Provincial Department of Finance website, *Report on the Implementation of Zhejiang Province Budgets for 2009 and on the Draft of Zhejiang Province Budgets for 2010*.http://www.zjczt.gov.cn/zwgk/czzl/czysbg/8398.htm

[31] The sum of regional GDP is calculated based on the data from China National Bureau of Statistics, *China Statistical Yearbook*, Beijing, China Statistics Press, 2010.

initial capital. Local governments must sort out and reduce the loans of the financing platforms. MOF, DRC, and CBRC jointly issued a document, demanding local governments follow the regulation of the State Council. There is no doubt that the central government can do whatever it wants to reduce local government debt. However, facing increasing demand for local infrastructures, where are the sources of local government revenue?

4.5. Total Government Debt and the Assets of the SOEs

With domestic debt being 17.8% and foreign debt being 8.7% of GDP, the central government explicit debt was about 26.5% of GDP in 2009. State banks' NPLs were about 1.5% of GDP in 2009, and local government debt was about 25% of GDP in 2009. The total government debt would be around 53% of GDP. Given that nearly half of the foreign debt is not government guaranteed, the total reliability to the government should be less than 50%.

Unlike other countries, China still has many SOEs despite privatization of small SOEs over the years. The assets of SOEs are still huge. In 1990, the assets of SOEs were 1639.30 billion yuan, accounting for 88% of GDP; in 2000, the assets of SOEs were 5755.44 billion yuan, accounting for 58% of GDP; and in 2008 the assets of SOEs were 13436.55 billion yuan, accounting for 45% of GDP.[32] These assets may be used to pay existing government debt when necessary.

It might be misleading to compare the size of China's debt with other countries, such as Japan and the United States since they are in different stages of economic development. During the period of rapid economic growth, the debt-GDP ratio was low in these countries. Japan's government debt-GDP ratio was only 9.6% in 1970, increased to 21.1% in 1975, 48% in 1980, 62.6% in 1985, 59.1% in 1990, 82.6% in 1995, 128.1% in 2000, 150.7% in 2005, and 157.5% in 2009.[33] Government debt-GDP ratio in the US was 94.1% in 1950, 56.1% in 1960, 37.6% in 1970, 33.3% in 1980, 55.9% in 1990, 58% in 2000, and 94.27% in 2010.[34] Thus, compared to the size of government debt in Japan and the US in 1970, China's government debt now is not low.

[32] See China Ministry of Finance, *Finance Yearbook of China*, China's Fiscal Press, 1996, 2009.
[33] See http://www.mof.go.jp/zaisei/con_07.html. The figure for 2009 is estimated by the author.
[34] See http://www.usgovernmentspending.com/federal_debt_chart.html.

4.6. Housing Market "Bubbles" and Potential State Banks' NPLs

The rapid increase in housing prices in China has caused increasing concern over China's housing market bubble. Many compared the housing market in China now with that in Japan in the late 1980s. Some predicted that the bubble will inevitably burst, resulting in a collapse of the housing market and an economic recession in China. Housing prices are particularly high in some big cities, such as Beijing, Shanghai, Guangzhou and Shenzhen. In small cities, housing prices are still not high but are increasing.

The government has taken serious measures to control housing prices. On January 26, 2011, the State Council issued a regulation aimed at housing price adjustment and control. The document requires local governments: (1) announce its target housing price in the first quarter of 2011; (2) increase the construction of housing for low income families; (3) audit the land value-added tax payment of the developers who charge a substantially higher price than others, and collect sales tax on the houses sold within five years; (4) increase the down payment requirement to 60% and the interest rate (no less than 1.1 times the basic interest rate) for a family purchasing its second house; (5) increase land supply for houses for the low income families; (6) forbid the purchase of more houses by a family with two or more houses; (7) punish local officials for not reaching the goal of housing price control; and (8) stop spreading misleading news and information on housing prices. Many cities issued their own regulations on housing price control, following the State Council's regulation.

All these economic and administrative measures will reduce the investment demand for houses and stabilize the housing prices in the short run. The introduction of personal property tax will reduce the investment demand for housing. Meanwhile, China has been experiencing high inflation, and prices and wages are increasing, which will reduce the relative price of housing. With a large proportion of houses purchased with cash and with a high down payment for bank loans, it is unlikely that massive NPLs will emerge even if housing prices start to decrease.

5. Current Fiscal Policy and Policy Suggestions

In 2011, the Chinese government planned to continue the expansionary fiscal policy. Based on the speech delivered by the Finance Minister Xie Xuren, government budget deficit would be 900 billion yuan, 700 billion yuan for the central government and 200 billion yuan for the local governments. The total deficit is 105 billion yuan less than that in 2010.[35] The target growth rate of government revenue is 8%. The government planned (1) to increase the investment in the areas of agricultural irrigation systems, education, healthcare, housing for low-income groups, and employment promotion; (2) to adjust taxes to promote income equality and promote consumption; to optimize the expenditure structure; and (3) to support regional balanced growth, technological innovation, industrial structure upgrading, energy saving, pollution reduction, and resource conservation and environmental protection. Clearly, China's government debt will continue to increase.

The mismatch of local government revenue and expenditure and the severe shortage of local government revenue is a crucial problem in China's public finance. As mentioned earlier, local governments received 49% of total government revenue while covering 82% of total government expenditure. In the past, they relied on fee collection, urban land sales, and borrowing through their investment companies. Local public finance is not sustainable. Also, China now faces problems of growing income inequality, environmental deterioration, and shortage of natural resources, and thus, reforming China's tax system is necessary. In addition, China has a PAYG social security system which is not sustainable with the rapidly aging population. A new round of fiscal reforms is imperative for fiscal sustainability.

First, allow local governments to establish new taxes, such as a personal property tax. At the moment, provincial governments have the right to pass limited tax laws. But they have seldom used that right. Prefecture, county, and township governments have no right to enact their own tax laws. China is a large country and areas within it are quite different, such as different stages of economic development and different resources. The central government should give local governments the right to establish

[35] See http://www.zaobao.com/cninvest/pages4/cninvest_zong101228.shtml

their own taxes based on specific local situations. In the U.S., many state governments depend on sales tax for revenues, while many local governments rely on property tax. As the Chinese economy advances, collecting property tax in China will be inevitable.

Second, allow local governments to issue bonds. Normally it is not a good idea to transfer the current generation's tax burden to the future generations by issuing bonds. However, since infrastructures will usually benefit future generations, it would be appropriate to let the future beneficiaries share the burden of finance. For a long time in U.S. history, state and local governments were the main issuers of public debt, and only after the 1930s did the federal government begin to play a main role in debt issuing. Giving local governments the right to collect their own taxes and to issue bonds may cause overexpansion of local governments and corruption with limited accountability of local officials to the public. Thus, appropriate laws should be established.

Third, reform the tax system. To achieve equitable economic growth, China should increase direct taxes, such as personal income tax and personal property tax, while reducing indirect taxes, such as VAT, business tax, and consumption tax. China's tax rates are very high (e.g., the highest marginal tax rate for personal income is 45%). Based on Forbes, China's overall tax rate was the second highest in the world in 2009. Indeed, China's government revenue has increased at an extraordinary rate (32% in 2007), much higher than the GDP growth. Tax evasion is widespread in China. The direction of tax reforms should be to lower the tax rates, expand the tax base, and reduce tax evasion.

Fourth, establish a new social security system with a large personal savings account. China's social security system only covers a quarter of the labor force and the social security debt is not too large. The Chinese government still owns a large amount of assets, which can be used to pay the social security pension debt. Moreover, China's tax revenue has been increasing rapidly in recent years. The increased revenue can be used to repay the pension debt. In addition, the government owns all the land in urban areas and the revenue from land sale can also be used for social security reforms.

Fifth, reduce government budget deficit. The Chinese economy is growing around 10% annually, and inflation has become a concern to the policy-makers and the general public. Yet the government decides to continue adopting expansionary fiscal policy by largely increasing government spending. The government should follow the balanced

budget principle in the long run. At the moment, the government should cut its deficits and reduce the size of its debt, leaving room for future expansionary fiscal policy.

Sixth, increase fiscal transparency. Fiscal transparency is very important. The recent Greece fiscal crisis could have been prevented if its fiscal system was transparent and if it had not misreported its fiscal deficits over the years. China's fiscal system is far from transparent, particularly on the local level. If local governments obtain the right to establish new taxes and to issue bonds, they must be supervised by the local people.

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