Sovereign Risk Management in Recession: The Cases of Sweden and China

Zhang, Yuewen

Chinese Academy of Social Sciences, Stockholm School of Economics

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Yuewen, Zhang[1]

Institute of Finance and Banking,

Chinese Academy of Social Sciences.

China Economic Research Center,

Stockholm School of Economics.

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[1] Yuewen Zhang is associate professor of finance and banking institute, Chinese Academy of Social Science; guest researcher of China Economic Research Center, Stockholm School of Economics (March-May, 2010). E-mail address: zywifb@cass.org.cn, zywifb@gmail.com.

Abstract

Sovereign risk became a common issue after 2007 financial crisis happened. However, the crisis was only an incentive. Some high sovereign risk countries had lacked reliable sovereign risk management framework and lend overmuch debt before the crisis came. High cost of crisis and succeeding recession gave the world a critical strike. Using the cases of Sweden and China, I argue that fiscal expenditure constraints, debt control, and surplus accumulation in common time are most important measures to manage sovereign risk. A stable and efficient sovereign risk management regime framework is beneficial. A medium-term fiscal stability target should be included. Early intention, temporary stimulus policy and other budget measures could decrease cost of crisis and recession. A development domestic debt market could help relief refinancing pressure of government when some external shock happened. Perfect framework of statistics, specific accounting standard, high transparency will help the government, creditors, and investors reach some debt restructure agreement.

Ⅰ. Introduction

The financial crisis which began at the second half of 2007 shocked the world economy strongly. Although many measures have been taken, the crisis's impacts continue. And at the same time, sovereign risks emerge (IMF, 2010a).

In this paper, Sovereign risk is defined in default probability of a sovereign's public debt. It is more indicative for foreign investors who loan debt priced in foreign currency to the sovereign. Higher Sovereign risk makes a country have to pay higher risk premium. In some extreme cases, the debt cost is so high that a country' government is unable to bear up, it have to choose default and go to bankruptcy or pursuit international rescue, such as Iceland and Greece nowdays. During a recession, sovereign risk usually exposes to two directly reasons. First, a sovereign had accumulated so much public debt before the recession's coming, and it can't borrow money at former interest rate in the distress market. Second, operation of automatic stabilizers and some stimulating measures add fiscal deficit and intensify the government's repayment ability (IMF, 2009). Above all, fundamental reasons are: lacking government expenditure constraints, inefficiency of public debt management, inaccuracy of revenue and expenditure forecast, great volatility of debt market, and so on.

To reduce the high sovereign risk and avoid bankruptcy, a central government has to find some new refinancing resources. One critical method is inflation tax. High inflation can erode the real value of debt contract that are set in nominal terms, or at least imperfectly indexed to the price level (Michael and Roberto, 1997). In 1980s of Latin America, inflation tax was usually used by governments to deal with fiscal crisis. Its obvious shortage is that public distrust will make government's financing more difficult in future. And it can't influence the value of debt denominated in foreign currency. The second method is to borrow money from domestic debt market. The result is decided by the development and condition of the market at that time. The third one is to sell state-owned assets to collect money. The challenges are from political and social sides. The forth one is to pursuit rescue from abroad. While, this one is hard to be defined as a method. The sovereign would have to follow terms raised by rescuers. These terms often includes deficit cut and tightening policies during recession period, a specified repayment plan as well (Morris, 2001). It means a country's policy decisions will be influenced severely by abroad power. This solution is not favorable to most countries.

This paper focused on sovereign risk management from a recession angle. I use the cases of Sweden and China, and argue that good sovereign risk management should be started at the good time. A regime framework of fiscal constraints is necessary, which should think about additional fiscal pressure during recession period. In Section Ⅱ, I talk about the impacts of this crisis on fiscal stability of the world. The crisis observably aggravated sovereign risks. Section Ⅲ introduce strategy and methods to manage sovereign risks. Section Ⅳ and Ⅴ analysis Sweden and China's sovereign risk management. At end of this paper, I give some remark.

Ⅱ. The Impact of financial crisis on sovereign risks

Sovereign risk could rise in many situations. Unexpected changes in macroeconomic variables often have major consequences for fiscal sustainability, especially in the case of exchange rate depreciations in countries with large foreign currency (IMF, 2008a). IMF use the data of 27 advanced economies for 1995–2007 and 131 emerging/developing countries for 2002–2007, to estimate main variables implying substantial sovereign risks. They find that a one-half standard deviation permanent shock to real growth would increase the debt/GDP ratio five years later by 6.8 percent of GDP on average in a sample of 19 advanced and emerging market countries. A one-half standard deviation shock to the primary deficit would raise the debt/GDP ratio by 5.2 percentage points. In developing countries (based on a limited sample), a decline in economic growth would have an especially notable effect on debt (8.5%). It means a developing country's fiscal solvency more depend on its economic growth.

When a systemic banking crisis happens in a country, it will have to bear more serious fiscal pressure from government intervention and stimulus. During the crisis period, a country usually has to rescue the financial sector through capital injection, bank restructure, liquidity provision, and other measures. It also needs to provide guarantees to depositors and debtors. Unlimited deposit guarantees, open-ended liquidity support, repeated recapitalizations, debtor bail-outs and regulatory forbearance add significantly and sizably to costs (Honohan and Klingebiel, 2000). Laeven and Valencia (2008) find that fiscal costs, net of recoveries, associated with crisis management can be substantial, about 13.3 percent of GDP on average, and can be as high as 55.1 percent of GDP in 40 banking crises. Recovery of fiscal expense is about 2.7 percent of GDP on average, and the highest one is 26.1 percent of GDP.

The present crisis and recession are also very costly. According to IMF (2009), many of G20 countries have provided, or announced the intent to provide, significant support to their financial sectors. The support includes capital injection, purchases of asset and lending by treasury, liquidity provision, and guarantees. The average support scale of G20 is 32.5 percent of GDP. This figure of advanced economies is 50.4 percent; the one of emerging economies is 2.4 percent. It means the crisis threats advanced countries more than emerging countries. Of course, the terminal cost of these supports cannot be so high. Only confirmed lost of purchased asset, loans and guarantees should be account in fiscal lost. IMF (2009) estimated that the terminal cost of G20 for supporting financial sectors is 3.8 percent of GDP on average, including 5.8 percent for advanced economies and 0.2 for emerging economies (Table 1).

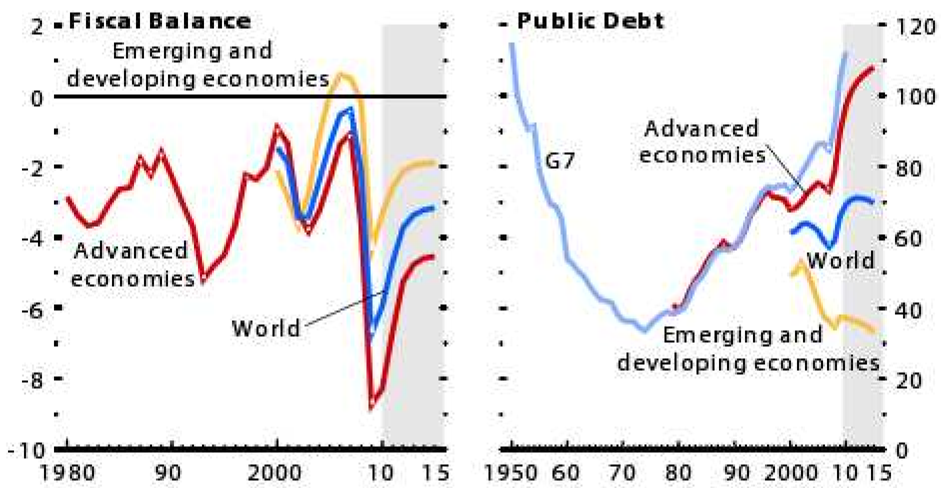
Table 1: Estimated G20' Net Cost from Financial Sector Support Measures

	Net cost of direct support	Guarantees			Liquidity provision by Central Bank and others		Total net cost
		Gross	Expected cost 1/		Gross	Net 2/	
			Point estimate	Range			
	(i)		(ii)			(iii)	(i)+(ii)+(iii)
Average for 3/							
G-20 economies	1.7	14.4	1.0	[0.6, 1.9]	14.3	1.1	3.8
Advanced economies	2.5	22.9	1.6	[1.0, 3.1]	21.7	1.7	5.8
Emerging economies	0.2	0.1	0.0	[0.0, 0.0]	2.0	0.2	0.4

Source: IMF (2009)

The other part of fiscal cost is from succeeding recession. Automatic Stabilizers, lost of funded pensions and stimulate measures will increase fiscal expense or decrease revenue, and intensify deficit. 2009 is a year of recession worldwide. At the end of this year, World fiscal deficit is 6.7 percent of GDP on average, highest since 2000; advanced economies' is 8.7, highest since 1980; emerging economies' is 4.4, highest since 2000. Public debt scale also makes a new record. Advanced economies' public debt is more than 90 percent of GDP on average, highest since 1980; Emerging economies' is 66 percent of GDP (Figure 1).

Figure 1: Fiscal condition of the world



Source: IMF (2010b)

Obviously, a crisis and succeeding recession will increase fiscal expenditure and sovereign risks largely. In this crisis which started in advanced economies, those countries paid more than emerging and developing countries. And they had higher level of deficit and public debt. Does it mean that advanced countries have higher sovereign risks? Reinhart et al (2003) found something different that emerging countries have low “debt intolerance”. Some countries’ "safe" external debt/GNP thresholds are as low as 15 percent in some cases. These thresholds depend on a country's default and inflation history. So it’s difficult to set some common absolute and quantitative “safe” standard of debt level for all countries. But facing the frequent and unexpected crisis and recession, a country should put more efforts on sovereign risk management. It’s important not only for the government, but also for domestic firms and households.

Ⅲ. How to manage sovereign risk in crisis and recession time

Target: Keeping fiscal sustainability in medium-term.

During bad times, public finance often has to suffer greater pressure than normal times. The government receives more political stress to keep original standard of social wealth and make stimulus measures during this period. Total of these expenses is so high that it exceeds the limits of fiscal balance and public debt space. Sovereign risk may rise to the “trigger point” quickly (Like Greece event). To avoid it, we should take a fresh look at the relation between crisis management and sovereign risk management. Both of them have same important status in fiscal policies. Policy makers should think more about fiscal sustainability in different terms levels, unless they would like to see a succeeding sovereign crisis after a financial crisis.

Fiscal sustainability means a country’s public debt should not be more than the present discounted value of its expected future primary surpluses (James and Marjorie, 1986; Blanchard et al, 1990). Real interest rate and growth rate are key factors dominating the appropriate public debt level. Macroeconomic situations are so different among countries that it’s hard to make a single quantitative threshold for all. IMF (2003) concluded that the average level of public debt of emerging countries should not be more than 25 percent of GDP. It’s not clear if all emerging countries would accept this idea. But these countries often have more economic and financial fluctuations than development economies. A short-term and medium-term fiscal balance target including these fluctuations is necessary (Audrey and Sumudu, 2007), if it's hard to forecast accurately impact factors for fiscal situation in long-term. A prudent policy maker should leave enough deficit and debt space for predictable and unpredictable volatilities.

Strategy: Managing crisis and recession directed by a medium-term fiscal sustainability regime framework

In financial crisis and recession times, fiscal expenditure will increase much more than ordinary time, especially faster. Deficit may rise by a big margin in short term. If a country has not a good fiscal condition or confirmed external financing sources, its sovereign risk will rise rapidly to an intolerable level. So policy makers should think about medium-term fiscal sustainability when they make countermeasures. For this kind country, it's usually very difficult keeping short-term stability in recession time. But if its fiscal system keeps running well directed by a medium-term fiscal sustainability regime framework, it will keep opposite strong repayment ability in future years. Some short-term increases of deficit and public debt could be understood and accepted by its creditors and public debt investors. This helps real interest rates keep stable or rise not too high. It means the country could continue to get external financing by acceptable cost. Its influence on debt cost of firm sector and financial sector should be controlled. Thus the economy could operate better and goes out of recession earlier.

It's an easy idea but a hard road for many countries. First, it's very difficult to forecast fiscal cost of crisis and management. During crisis period, key economic variables often change quickly. Fiscal countermeasures have to be adjusted at the same time. So projections of revenue and fiscal expenditure can't be precise. Sometime, the margin will be very large. Deficit and new financing need may quickly exceed the limits of medium-term sustainability framework. If the shock mainly comes from external, the situation will be more complicated. Second, fiscal policies are often procyclical in emerging economies (Reinhart et al, 2004; Ilzetzki and Vegh, 2008). Government often choose to increase spending in bloom time and decrease in recession time. When bad time comes, they would have only limited budget to deal with crisis and recession. But under great external pressure, they have to make some countermeasures which maybe actually hurt fiscal sustainability[2]. Third, it's difficult to keep the balance between discretionary policies and medium-term fiscal sustainability in recession times. For some countries, fiscal authority is in charge of making fiscal countermeasures, and draw up medium-term fiscal sustainability framework. Emergency measures may look more important at the special time. Sustainability problem is put in secondary position.

Methods

Suitable methods could help implement strategy and achieve target. On sovereign risk management, every country has different initial conditions and deep concerns. There is no method could be applied by all countries. But we can survey some sound practices to give useful reference.

- *Establishing and consolidating medium-term fiscal sustainability framework.*

To solve interest conflict of fiscal authority, it's better to choose some independent institution to establish and charge a medium-term fiscal sustainability framework. The parliament may act this role. In most of countries, Parliament holds the power to examine fiscal policies and approve large amounts of expenditure and public investment. It has enough incentive to keep fiscal sustainability in medium-term and long-term.

- *Adjusting Strategy of crisis management.*

Different strategy and method of crisis management generate different fiscal cost. And some expensive measures appear no better than others (Honohan and Klingebiel, 2000). When public debt reaches extreme level, some stimulus even have negative effect (Alan, 1997).To keep fiscal stability and solvency, "cheap" strategies and measures should be thought. Some temporary expansionary fiscal policies are better than permanent ones (IMF, 2008b), such as temporary tax cut or expense increasing. Some early interventions can weaken succeeding shocks, although they often raise moral hazard problem (i.e. bank's asset restructuring).

- *Moderating domestic impulse on expansionary policies.*

[2] In many developing and transition countries, political instability will press the government to make some myopic policies which induce higher debt levels (Frank, 2002).

Not every stimulus can result in satisfied effect on economic recovery. But in recession time, the public often hope government to make stimulus as much as possible to help the economy recover as early as possible, no matter the effects and costs of these measures. So public sentiment should be lead to rational channel. That is more like a political issue.

- *Improving fiscal transparency.*

In recession time, making an agreement among different social classes including investor groups on fiscal policies is very important. Good fiscal transparency and communication will help them know more about the country's fiscal condition and reach the agreement. A stable fiscal transparency regime framework is necessary. Public should get enough national and local fiscal information to understand policies and make their own conclusion. Transparency will facilitate social reconciliation and stability in difficult time.

- *Consolidating good investor relationships.*

External financing is unavoidable for a country during recession. But financial markets are usually frail at that time. The country has to pay more cost than ordinary time for same debt. Sometimes, it needs to talk about renewal of debt contracts with creditors or main institutional investors. Good investor relationships will lighten this pressure. Like shareholders of firms, creditors of government debt also should be treated well. They need to know safety situation of their investment. They hope the country give them some promise on repayment or schedule of solvency ability rebuilding. All of these matters must be discussed in mutual trustful and friendly atmosphere. Rehabbing and consolidating investor relationships are very important.

Sovereign risk management should be done not only in high risk period, but also in peaceful period. Most of methods need long time accumulation of basic work, such as preparation of crisis management scenario, good investor relationship, trust and support from the public, and so on. Sovereign risk management should become a central government's daily responsibility.

Ⅳ. Sweden

After the banking crisis which began in 1991, Sweden built a creditable fiscal policy framework step by step to keep fiscal sustainability. The fiscal policy framework aims at both long-term sustainability and the avoidance of a fiscal policy which results in short-term destabilizing effects (ministry of finance, 2009). The framework helps Sweden control the trend of public debt increasing and keep fiscal balance. When the financial crisis of 2007 happened, Sweden had a better fiscal condition to deal with the crisis. And the framework worked well on sovereign risk management during the bad time.

Regime framework

The banking crisis of 1990s influenced Sweden fiscal stability deeply. Public debt reached 71.9 percent of GDP on average during 1993-1996. And the trend appeared no signal of reversal. In 1995, Sweden became a member of European Union. According to Maastricht Criteria, a member state of EU should match at least 2 requirements on public finance. First, the annual government deficit should not exceed 3 percent of GDP. Second, the gross government debt must not exceed 60 percent of GDP. These two figures of Sweden are 2.0% and 72.2% respectively. The country had to do something to change the situation.

An expenditure ceiling with a three-year period was introduced in the central government's budget bill by the parliament since 1997. All expenditure financed by central government revenue should be included under the ceiling, excluding Interest of public debt and expenditure in the old-age pension system. The ceiling is decided by the parliament three years in advance. Before that, a proposal of the government will be thought over. Following the set ceiling, the government has to cut its extra expenditure to avoid exceeding the ceiling. At the same time, the government was required to improve transparency of fiscal policies.

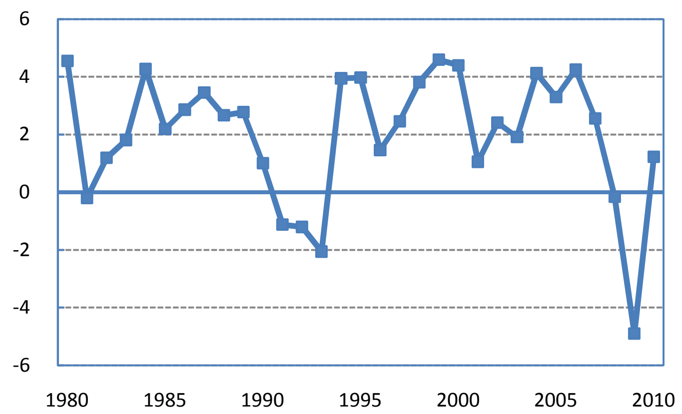
In 2000, a surplus target was implemented by general government sector. It is that the general government sector's accumulative surplus should reach to 1 per cent of GDP over a business cycle. A business cycle usually is a period of 7 years. This is a medium-term target. It limits general government sector to cause regular deficits by making expansive policies. In the same year, local governments began to be required keeping annual fiscal balance. If a local government made a deficit, it needs to fill the gap in next three years.

New sustainability framework draws clear policy border and process for central government and its fiscal authority. Policy makers have to think about fiscal sustainability targets when they do expenditure decisions. Ratio of Sweden public debt to GDP began to fell down after 1997. Annual surplus was achieved after 1996 (Figure 5). Before crisis 2007, Sweden public debt equaled about 40 percent of GDP, largely under the Maastricht limition. It's difficult to conclude the fiscal sustainability framework caused this result. 1996-2007 is Sweden's blooming period. "Growth dividend" (Bohn, 2005)may help to improve its fiscal conditions. Figure 6 indicates that quantity of central government debt increased year by year in this period. But higher economic growth made a lower ratio of debt to GDP. From a policy angle, a sustainability framework could constraint the government's pro-cyclical activities, and support to save for recession time.

Fiscal implication of the global financial crisis

As a little development open economy largely depending on export, Sweden was shocked seriously by this global financial crisis. Its growth fell down since 2008 like other European countries. In 2009, its annual GDP contracted by 4.9 percent than last year. This is a worst record since 1980. It's even lower than Sweden's banking crisis period in 1990s (Figure 2). Export sector failed to push the economy up as past years. It performed unsatisfactory and decreased 12.1 percent (Figure 3). Unemployment rate rose almost 2 percent to 8.3 percent. This is the worst record since 1998. The employment conditions will not change better before 2011, European Commission estimated in April, 2010 (Figure 4).

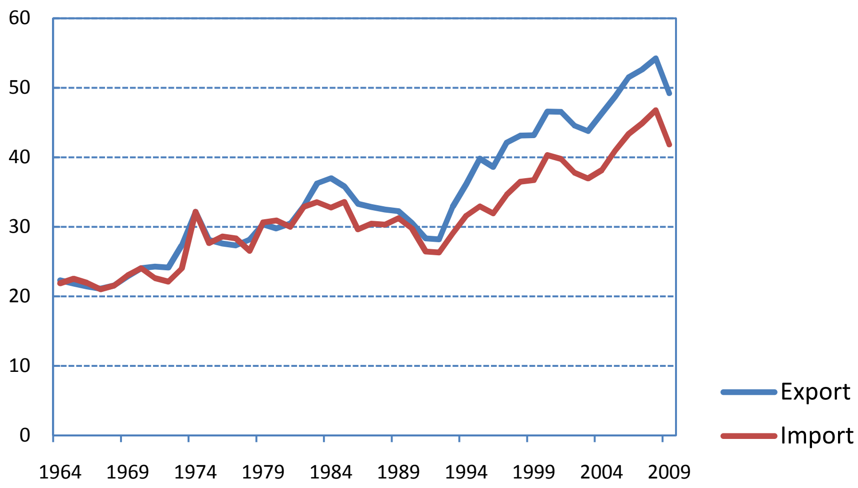
Figure 2: Sweden Annual growth of GDP



Source: *WEO database*, *Statistics Sweden*. Numbers after 2009 are estimated by IMF staff.

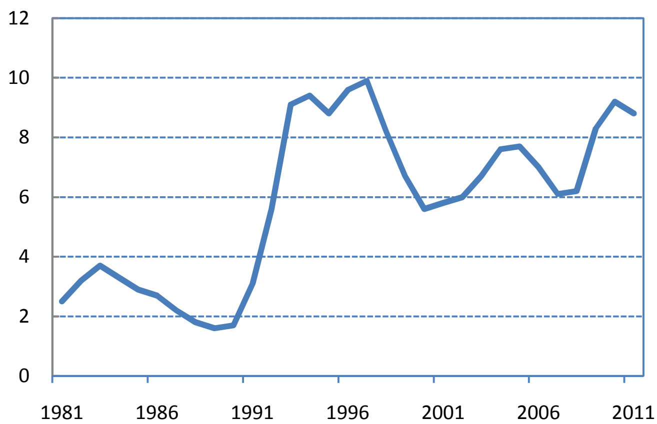
Figure 3: Exports and imports of goods and services in Sweden

In percent of GDP



Source: *World Development Indicators database*; *Statistics Sweden.*

Figure 4: Unemployment rate of Sweden



Source: European Commission, *Statistical Annex of European Economy,* spring 2010. Figures for 2010 and 2011 are estimated by commission staff.

The crisis fluctuated Sweden's financial stability. Sweden's major banks didn't hold much securitized asset. Most of their losses came from loans, especially loans to Baltic countries. Riksbank (central bank of Sweden) estimated these banks' loan losses would be SEK 155 billion (about 19.8 billion U.S. dollars.) during 2009-2011, equal to 2.3 percent of total loans. If recession continues longer, the banks' losses would increase.

Table 2: Loan losses of Sweden's major banks.

	Loan losses					Lending to the public and credit institutions excl. repos, end of Q3, 2009
	2009	(Of which Q4 2009)	2010	2011	Total	
	60	(16)	65	30	155	6 870
Of which Estonia	*4.4*	*(1.4)*	*5.3*	*3.8*	*13.5*	*142*
Latvia	*12.2*	*(2.6)*	*13.5*	*5.5*	*31.2*	*122*
Lithuania	*10.4*	*(3.4)*	*14.3*	*4.5*	*29.2*	*136*

Source: Riksbank, 2009, "financial Stability Report 2009 2".

To consolidate financial and economic stability, the government made some measures since 2008. It raised deposit guarantee from SEK 250000 ($ 32000) to SEK500000 ($64000). a voluntary guarantee program valued SEK1500 billion ($192.2 billion) and a voluntary capital injection program valued SEK 50 billion ($ 6.4 billion) were introduced. Of course, financial institutions which want to join these two programs should pay charges. A special stability fund valued 15 billion ($1.9 billion) was set up to support these programs. At the same time, Riksbanks and the National Debt Office also made some measures to stabilize the financial markets.

The government made some measures to cope with the recession. A SEK 32 billion ($4.1 billion) stimulus plan was introduced in 2008, which included tax cut and investments infrastructure, health care, research and education. Other measures to support local government and unemployment groups were followed. The government estimated that the total cost of its countermeasures will reach SEK 83 billion ($ 10.6 billion) at the end of 2010, equal to 2.7 percent of GDP. The number doesn't include local governments' part.

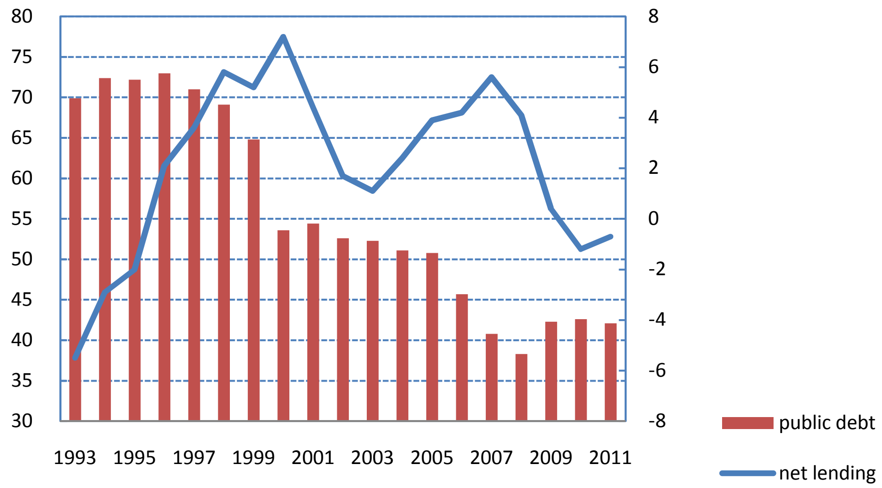
Table 3: Support measures aimed at the financial sector

Support measures	Amount	Forecast	Outcome	Net lending	Central government budget balance
Stable banks and other credit institutions					
Raised deposit guarantee	250[1]	-	-	No effect[1]	No effect[1]
Guarantee programme	1 500[2]	-	353[2]	No effect[2]	No effect[2]
- honouring of guarantee	-	-	-	Weakened	Weakened
Stability fund	15[3]	-	-	No effect	No effect
Takeover of Carnegie	2.4	2.4	2.4	No effect	Weakened
Sale of Carnegie	-2.3	-2.3	-2.3	No effect	Improved
Capital injection programme	50[4]	5.6[4]	5.6[4]	No effect	Weakened
Increase companies' access to credit					
Swedish Export Credit Corporation (SEK)					
- capital injection	3	-	3	No effect	Weakened
- loan framework	100	-	-	No effect	Weakened
- credit guarantee	250[5]	-	-	No effect	No effect
- honouring of credit guarantee	-	-	-	Weakened	Weakened
Capital injection to Almi	2	-	2	No effect	Weakened
Transfer of shares in Venantius AB to SEK	2.8	-	-	No effect	No effect
Swedish Export Credits Guarantee Board (EKN)	300[6]	330	252[7]	No effect	No effect
- honouring of export credit guarantee	-	0.5[8]	-	Weakened	Weakened[8]
Tax payment respite	-	0.5	-	Weakened	Weakened
Extended Articles of Association for SBAB	-	-	-	No effect	No effect
Strengthening of the Riksbank's currency reserves	100	100	96	No effect	Weakened
Measures aimed at the automotive industry					
Government-owned research and development companies	3	-	3	No effect	Weakened
Rescue loan	5	-	-	No effect	Weakened
credit guarantee	20	2.2[9]	-	No effect	No effect
- honouring of credit guarantee	-	-	-	Weakened	Weakened
Loans to other countries					
Loans to Iceland	EUR 0.5 bn	5.2	-	No effect	Weakened
Loans to Latvia	EUR 0.72 bn	7.3	-	No effect	Weakened
Other measures					
Extra issues by the National Debt Office	200	-	-	No effect	No effect[10]
Shareholder's contribution to SAS	1.3	1.3	1.3	No effect	Weakened
Increased guarantee capital in the European Investment Bank	EUR 1.9 bn	-	-	No effect	No effect
Capital injection to Swedfund	0.4	0.4	0.4	No effect	No effect

Source: Ministry of Finance, 2009, *Update of Sweden's convergence programme 2009.*

Recession increased Sweden’s fiscal pressure. Because of financial sector rescue, autostabilizer and stimulus, net lending of general government largely fell to 0.4 percent in 2009, compared with last year’s 4.1 percent. Public debt aggregated sharply from 38.3 percent of GDP in 2008 to 42.3 in 2009. It's a biggest jump since 1993 (Figure 5 and figure 6). The government estimated that the fiscal situation won't change better until the economy begins to recover. And as an export depending country, Sweden's recovery may come later than the rest of the world. Fiscal sustainability faces greater and longer challenge than other European development countries.

Figure 5: General government net lending and consolidated gross debt of Sweden

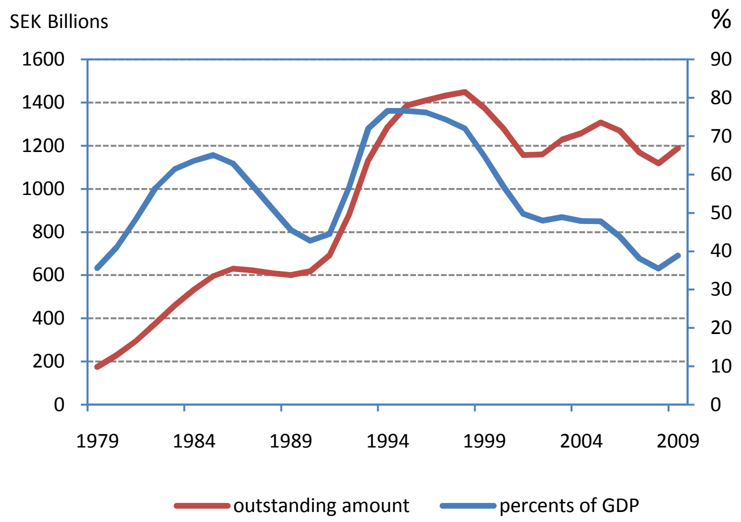


Source: European Commission, *Statistical Annex of European Economy,* spring 2010. Net lending excludes interest of debt. Figures for 2010 and 2011 are estimated by commission staff.

Sovereign risk management

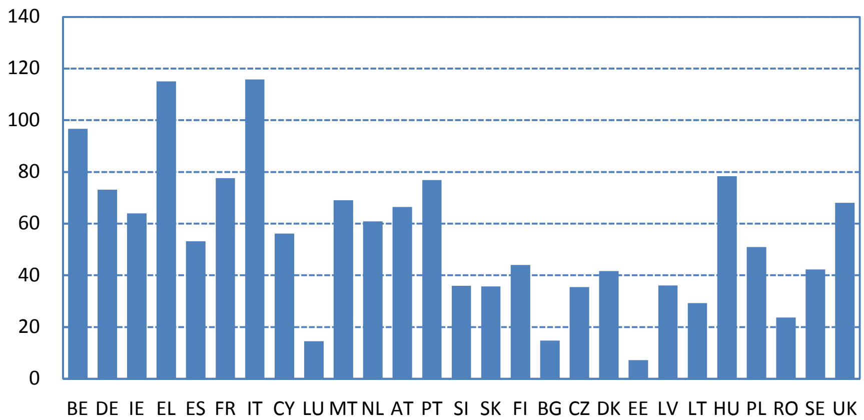
The special character of Sweden's sovereign risk management is the fiscal framework. This framework helps to keep short-term and medium-term fiscal sustainability. So the sovereign risk management had begun before the recession came. Mainly supported by early growth years, Sweden keeps excellent trend of fiscal development before recession. Annual surplus was achieved since 1996. Although the debt quantity increased, the ratio of public debt to GDP declined quickly (Figure 6 and 7). Partly because of that, Sweden posed a strong figure to face the recession when it came. The fiscal framework ran well in recession time. Past surplus years permitted the government make expansionary polices. One or two year deficit were tolerated too. The rule of expenditure ceiling was treated well. The public debt kept an appropriate level among European countries (Figure 7). It is too early to say that Sweden can pass through the recession smoothly. But the country really did good preparation and got dominant position.

Figure 6: Sweden central government debt



Source: *Statistics Sweden.*

Figure 7: public debt of 27 members of EU



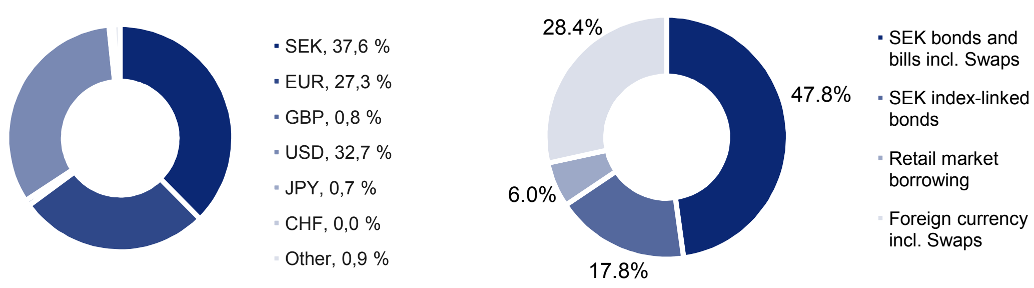
Source: European Commission, *Statistical Annex of European Economy,* spring 2010. Figures for 2010 and 2011 are estimated by commission staff

Taking measures at early stage of the recession also decreased possible fiscal cost in future. The scales of credit grantee, loans grantee, and capital injection are large enough to cover present and potential risks in financial sector. Creditability of main banks was strengthened. Most of banks increased their core capital enough. Investors' confidence was also stable. So the terminal fiscal cost on financial sector rescue will be controlled.

It seemed that good communication and cooperation between the parliament and the government went on during the difficult period. The budget bill of next year will be presented in detail to the parliament at the end of last year, and disclosed to the public at the same time. The division of expenditure ceilings of 2009-2011 has thought about uncertainty of economic growth and expenditure trend. The government believes the ceilings are adequate. The achievement of surplus target will be a little difficult for next few years deficit. But it could not influence medium-term fiscal stability. The fiscal framework is more like some political commitment rather a law, and there are no predetermined sanctions for exceeding the ceiling, as commented by Ljungman (2008). The government could arrange fiscal expenditure with more flexibility to deal with the recession. But exceeding the framework means more political cost.

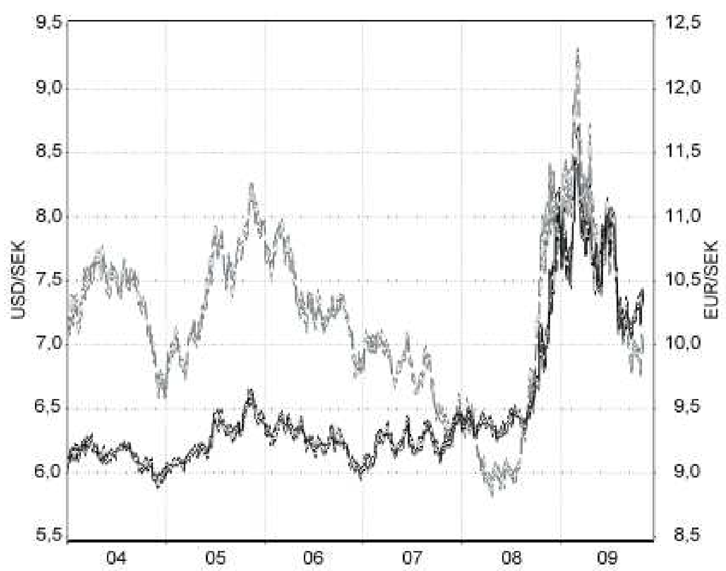
Some problem exists in Sweden's financing sources. Because of its choice of keeping Krona, and absent of a development domestic debt market, it has to issue public debt in foreign currency. At the end of April 2010, 62.4 percent of its public debt is priced in foreign currency, including euro (27.3%), U.S dollars (32.7%), and other currency (Figure 8). The high share of foreign currency debt made Sweden's cost of public debt was easier to be influenced by exchange rate volatility. Its float exchange rate regime can't help it control the risks. Sweden Krona is more fluctuant in crisis time like other small currency (figure 9). For addressing this problem, Sweden used some hedge instruments, like swaps, index-link bonds. These instruments decrease uncertainty of existing debt cost. But they can't cover all market risks during recession time. And it may be more difficult to issue new debt in international markets in such times.

Figure 8: Currency structure of Sweden's public debt (April, 2010)



. Source: Sweden National Debt Office.

Figure 9: Exchange rates of Sweden Krona



Source: Sweden National Debt Office, "Guidelines for central government debt management 2010".

Ⅴ. China

China's fiscal stability experienced shocks from earth quakes and global financial crisis in these two years. The events influenced its fiscal operation largely in current year and next years. High economic growth help china pass through difficult times. But its incomplete fiscal framework has appeared some inadaptation to deal with today's sovereign risk management issue. Future continuous growth and stable domestic financing source could consolidate its fiscal sustainability. And some reform measures are on road.

Fiscal framework

National People's Congress (NPC, parliament of China) approved Budget Act in 1994. This is first fiscal budget law of China since its announcement of transformation to socialism market economy in 1992. The Act requires central government and local governments should build their own annual fiscal budgets. The principle is "To keep the balance of revenue and expenditure". It emphasizes reasonable scale and structure of public debt, but doesn't give clearly quantitative limits of deficit and debt on short-term or medium-term level like Sweden. And it doesn't emphasize countercyclical fiscal policies. It clearly forbids local government to finance from external sources.

The central government reports its implement of last annual budget and new budget draft to NPC in every March. Congresses will deliberate and decide to approve the report or not, and approve the scale of new issuing public debt. The process indicates that China's sovereign risk management is mainly directed by a short-term idea. A local government also needs to report to its corresponding people congress. From 2009, Central government increased the content of its report, disclosed more details, and improved understandability.

As a big developing economy, China manages to keep the balance of growth and area equalization. That means central government should control enough payment capacity. After a tax regime reform, a tax-distribution framework was found in 1994. According to the framework, central government and local governments would share all tax revenues and arrange respective expenditure. A part of central government's increasing revenues was used to support local governments by tax rebate and transfer payment. Actually, this reform strengthened central government expenditure capacity. It got more space to make expansionary fiscal policies to facilitate economic growth and adjust development unbalance among different areas through transfer payment. Tax rebates and transfer payments shared 65.2 percent of central government total expenditure in 2009.

Reform of 1994 didn't cover all fiscal revenues. Some non-tax revenues are excluded, such as profits of state-owned enterprises, one-time charge for state-owned land user, some government funds and special charges with a tax nature. These revenues exist out of the fiscal budget. Because of these revenues, local governments got complement and flexibility which they can't get in formal framework. Before 2007 global financial crisis, the scale of revenue out of budget had touched 90 billion dollars, about 13.2% of that in budget (Table 4). The net lending out of budget kept being positive since 1986. Even the published numbers out of budget can't present operation of this informal fiscal system. The amount of charges for land user was not included until 2009. In China, these charges are part of municipality and county governments' non-tax revenue. The total amount of these charges is 208.8 billion dollars[3], about 4.2 percent of GDP. Contingent liabilities are excluded too. China central government has many potential guarantees on liabilities of financial sector, local governments, state-owned enterprises and government background institutions. These contingent liabilities should be evaluated and calculated in fiscal budget.

China government is trying to build a consolidated budget including revenues and expenditures in budget and out of budget. It has begun to made independent state-owned property budget, government fund budget, and pension budget as preparation for a consolidated budget since 2009. But a budget reform may shake the original tax-distribution framework, and influence tax shares of central government and local governments. So central government appeared very prudent on this issue.

[3] Source: China Ministry of Finance.

Table 4: Fiscal conditions of China in 2007

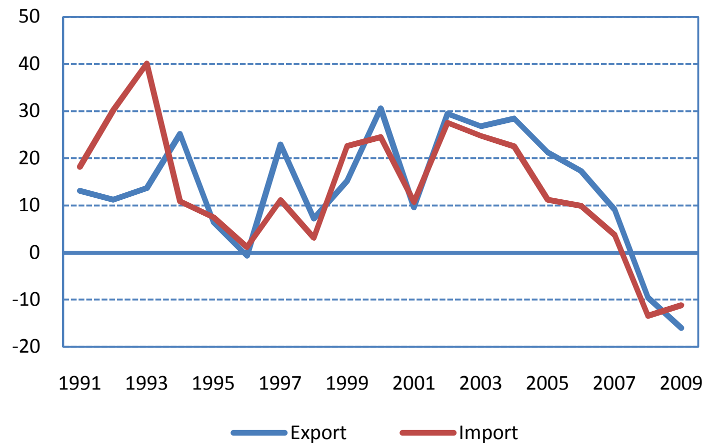
Items	Amount (billion dollars)			Percentage of GDP		
	Central Governemnt	Local Governments	total	Central Governemnt	Local Governments	total
In budget						
Revenue	380.1	322.9	703.0	10.8	9.2	19.9
Expenditure	405.2	276.7	681.9	11.5	7.9	19.3
Net lending	-25.1	46.2	21.1	-0.7	1.3	0.6
Out of budget						
Revenue	7.3	86.2	93.4	0.2	2.4	2.7
Expenditure	6.2	77.5	83.7	0.2	2.2	2.4
Net Lending	1.1	8.6	9.7	0.0	0.2	0.3

Source: China National Bureau of Statistics.

Fiscal implication of the global financial crisis

China also suffered a lot from this crisis like Sweden. Export sector was shocked strongly by external recession. In 2008, it declined by 9.6 percent after 11 years growth. In 2009, level of declining reached 16%, import fell down largely as well (Figure 10, 11). The first monthly trade deficit of last 6 years appeared in March, 2010. Because of the situation of global recession and recovery, China export conditions may change better slowly, but it's hard to return high growth as before. Because Export sector holds important position in China economic growth, its slump lagged GDP growth. After 2007, China economic growth slowed down and unemployment rate rised (Figure 12).But not like Sweden, domestic demand could still expand growth space for this large developing economy.

Figure 10: Export and Import Annual growth of China(%)



Source: World Development Indicators database, data of 2009 from China National Bureau of Statistics

Figure 11: Ratios of Export and Import to GDP of China

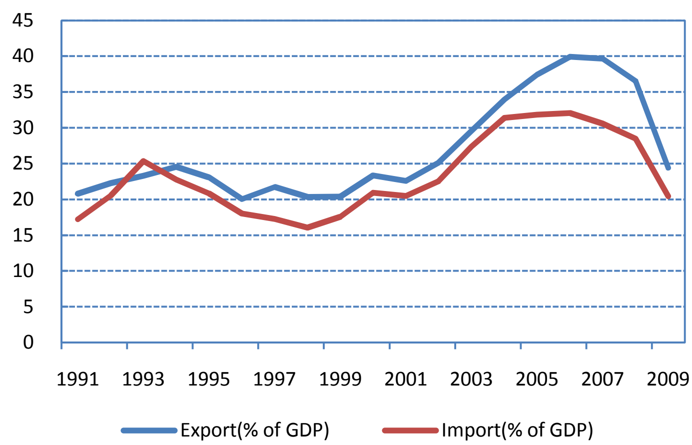
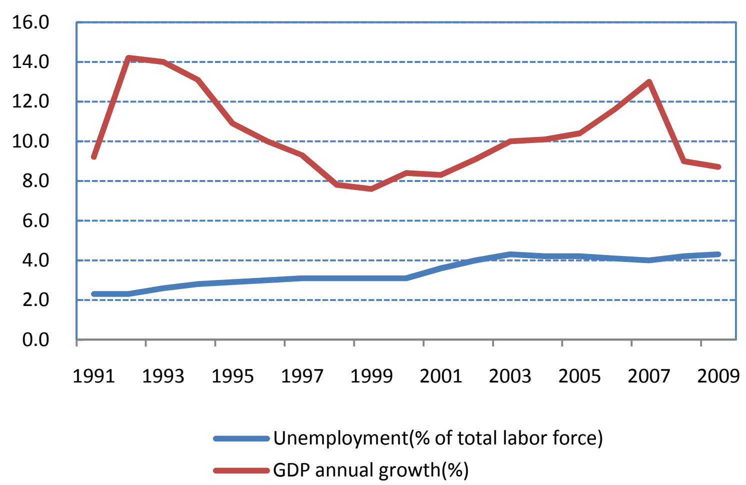


Figure12: GDP Growth and Unemployment of China

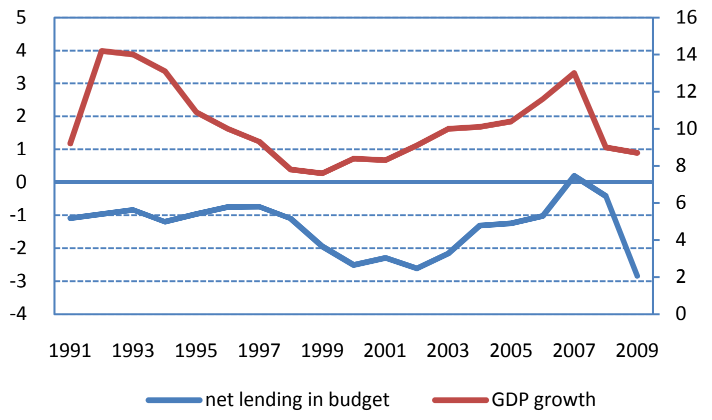


Source: World Development Indicators database, data of 2009 from China National Bureau of Statistics

In order to deal with the negative impacts of global recession and stimulate domestic demand, China government released a large stimulating plan valued Rmb4, 000 billion ($586 billion) for next 2 years, at the end of 2008. The plan included infrastructure investment, industrial investment, expenditure for science and technology, tax reduction, reform of medicine regime, education development, and increased complement for peasants and city poor groups. The plan works well so far. The industrial production stopped falling, and the Stock market warm up slowly. Because China financial sector had not much position on foreign debt derivatives and loans in foreign countries, its directly lost for the crisis was little, according to public information. Credit contraction didn't appeared. On the contrary, partly because of stimulus made by government, bank loans to non-financial sectors increased largely by 33% in 2009. Worries for recession and credit contraction became less. So China government doesn't have to make similar measures to rescue financial institutions and expand credit scale in short term like western countries. But the great earthquake in 2008 and other natural disasters happened in these two years observably increased public expenditure on relief and rebuilding. These expenditure and stimulus against recession increased fiscal pressure together. China made a fiscal deficit in budget by -2.83 percent to GDP, equal to Rmb 950 billion (140 billion dollars), which is the largest one since 1986 (Figure 12). At the same time, Public debt increased 23.8% to 1434 billion dollars in 2008, equal to 33.1 percent to GDP (Fingure 13). It became a new record since 1993.The number was similar in September, 2009, and percentage to GDP even declined because of rapid GDP growth. But it will increase again in 2010, according to the large deficit.

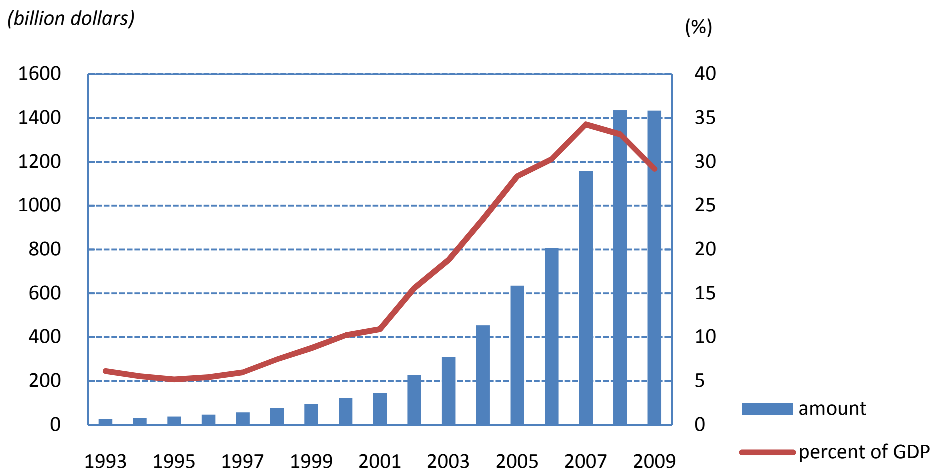
Figure 12: Net lending in budget (China)

Percent of GDP



Source: World Development Indicators database, National Bureau of Statistics.

Figure 13: Public debt of China in budget



Source: World Development Indicators, BIS, and Author's calculation. Data of 2009 is for September. Public debt equal to outstanding of international and domestic debt securities adds claims of foreign banks in non-local currencies.

Sovereign risk management

China still has not a clear sovereign risk management framework. But partly because of Chinese prudential culture, the rule of keeping budget balance has been implemented in practice before 2000. Although deficit appeared in most years after 1991, the level was controlled less than 3 percent of GDP (if the net lending out of budget was calculated, the level would be lower). This is fundamental and necessary for sovereign risk management.

But the fiscal situation changed a lot after 2000. Expenditure on Pension reform, infrastructure investment, and allowance of developing areas increased largely. Scale of public debt expended rapidly on absolute level and relative level, although it still far from warning line. The trend is sustained and should be noticed. After global financial crisis and nature disasters happened, the government make some measures to reduce government own expense. The result is still unobservable. China social wealth expenditure will increase continuously in future. It will intensify fiscal pressure. Continuous economic growth supplied “growth dividend”. These dividends expanded the space of fiscal budget and public deficit. But growth dividend may be uncertain and not enough. A regime framework for fiscal constraints is necessary.

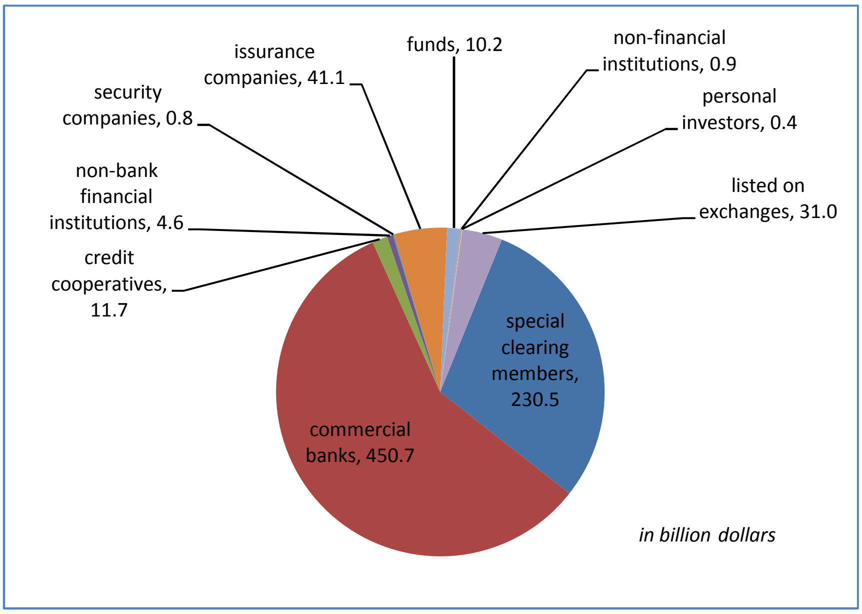
China government financed mainly from domestic debt market. Its external debt only was 17 billion dollars in its total 1400 billion dollars debt at the end of September, 2009 (Figure 13). That means the government don’t have to worry about volatilities of exchange rate and international debt markets like other developing countries. A domestic development debt market can help to facilitate economic growth (Ali and Jakob, 2007) and financial stability (CGFS, 2007). Of course, it will supply finance facility for its central government. China government has benefitted from its debt market, although the market still far from well developped. The main investors of government debt are commercial banks and special clearing members[4]. Other financial and non-financial institutions and personal investors only hold small share (Fingure 14). It is potential threat for stability of financing sources. If some banking crisis happens, the government will feel difficult to refinance for its mature debt. According to Reinhart et al(2003) and (Frank, 2002), government debt default is relative with inflation and political stability. China remains vigilant on these two issues. Weak transparency seems not influence domestic investors’ confidence on public debt. But complexity of debt structure and external pressure have made central government recognized its importance. Improving transparency will help the government to built long=term fiscal sustainability. Even the transparency will be able only on a small scale.

To keep financial stability and control contingent liabilities, the government began to reform state-owned banks since 1998 through capital injection, non-performance loans stripping, issuing

[4] Special clearing members usually include central bank and some state background institutions in China.

new shares and going to list. These early interventions improve banks' capital adequacy ratio and competitiveness, although they raised moral risk problem. Fiscal risk exposed in financial sector was under control before recession came. Some temporary measures were introduced in this recession, such as tax reduction on cars and houses purchase. These temporary measures were planned to implement for 1 or 2 years. They stimulated domestic consumption without decreasing revenue in medium-term.

Figure 14: Structure of China public debt investors (December, 2009)



Source: China Government Securities Depository Trust &Clearing Co.

Ⅵ. Conclusion

Sovereign risk became a common issue after 2007 financial crisis happened. But the crisis was only an incentive. Some high sovereign risk countries had lacked reliable sovereign risk management framework and lend overmuch debt before the crisis came. High cost of crisis and succeeding recession shoot the critical strike. Taking the cases of Sweden and China, I find Sweden as a small development open economy and China as a large developing transition economy passed through the worst time without sovereign risk worry. I don't want to emphasize both of these two countries have managed their sovereign risk perfectly. But both of them have similar characters of fiscal conditions. Their deficits were controlled well before the crisis. They both have low debt levels in respective similar countries. And they both experienced long bloom time before the crisis. These characters means that fiscal expenditure constraints, debt control, and surplus accumulation in common time are most important measures to manage sovereign risk. It's difficult to set unified standard for all countries, but a stable and efficient sovereign risk management regime framework should be found. It could ensure that identification, forecast, management and supervision of sovereign risk are implemented efficiently. A medium-term fiscal stability target should be included. The target should think about impacts of business cycle and possible external shocks. It's better for some institution independent from government, such as parliament, to build and maintain the framework. Managing sovereign risk of itself should be a necessary part of a government's daily fiscal work. Early intention, temporary stimulus policy and other budget measures could decrease cost of crisis and recession. When the crisis management machine begins to work, the sovereign risk management framework can't be paused. If the framework has thought enough about fiscal cost of suddenly shocks, it could help address the crisis, instead of aggravating it. A development domestic debt market could help relief refinancing pressure of government when some external shock happened. Perfect framework of statistics, specific accounting standard, high transparency will help the public and investors make decisions better. It will make easier for government, creditors, and investors to reach some debt restructure agreement.

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