The Compilation and Analysis of Chinese Government Balance Sheet[1]

Abstract

To maintain economical and financial stability, it is of great importance for the government to compile balance sheet, provide accurate data and detailed accounting information, and assess government operational risk. Firstly, this paper discussed both theoretical and practical problems while compiling government balance sheet. Secondly, based on China's current situation and international accounting rules, this paper drew up the government balance sheet in 2010-2014. Finally, this paper analysed the situation of Chinese government assets and liabilities.

Keywords: government balance sheet, compilation, analysis

[1] This research is finished by the research team of "Theoretical Issue and Policy Implications of Accounting for Assets and Liabilities of the Government".

The corresponding author: Yue Dan, Department of Statistics and Analysis, The People's Bank of China, Beijing 100800, China. Email: ydan@pbc.gov.cn

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Contents

1. Introduction

To maintain economical and financial stability, it is of great importance for the government to compile balance sheet, provide accurate data and complete information, and assess government operational risk. From the current situation, there have been many researches on Chinese government balance sheet, but the theoretical basis and accounting system of the government balance sheet are incomplete. It is of practical significance to form a standardized balance-sheet accounting system that conforms to both international standards and China's statistic accounting status, and will be able to provide theoretical guidance for compiling government balance sheets.

The compilation of government balance sheet is a huge and complicated project, which requires thorough studies on accounting principles. Also, the particularity and complexity of China's national conditions greatly increase the difficulty.

Firstly, the paper discussed and analysed both theoretical and practical problems, including definition of government sector, classification of assets and liabilities, verification of accounting principles, connection of accounting theory system and SNA, etc. Secondly, after studying accounting principle of Chinese government balance sheet, it used accounting and statistic statement data to compile for Chinese government balance sheet in 2010-2014, which followed both international standards and China's statistic accounting status. Finally, it analysed Chinese government assets and liabilities based on time series data over the five years.

Compared with other relative domestic researches, the table compiled by the research group shows the following advantages: it follows international standards, and it uses more detailed statement data and performs rigorous accounting on theoretical basis. At the same time, there are still some gaps with international accounting standards: not all accounting statements are using accrual basis, resulting in a relatively weak database; and it lacks detailed survey data of non-financial assets.

2. The compilation and application situation of government balance sheet in domestic and overseas

From the current situation, the official statistics sector of some developed countries regularly publish their government balance sheet, such as Canada, the United States, the United Kingdom, Japan, Australia and New Zealand. These countries establish a complete system of national economic accounting according to the SNA guidelines, and regularly calculate the government assets and liabilities in broad sense. It helps to comprehensively understand the situations, such as government's fiscal health, government debt ratio, financing capability, financing costs, government debt risk and currency risk, and national debt sustainability problems. Eurostat combines SNA system with actual situation of EU countries to design the European System of Accounts (ESA). UK, France, Germany and other EU countries develop accounting system of government assets and liabilities under SNA. It aims to understand the situation of government assets and liabilities, and control government operational risk by keeping track of the member countries' deficits and liabilities. It also helps to analyse monetary policies in different member countries.

There are also several domestic researches about government balance sheets: the World Bank and China Ministry of Finance once studied the problem of government potential pension liability; Statistics and Analysis Department of PBoC, Chinese Academy of Fiscal Sciences, and National Bureau of Statistics have also conducted related topics; many scholars have conducted researches on that, including theoretical basis, statement compilation and application. In particular, research groups led by Jun Ma, Yuanzheng Cao and Yang Li respectively, have conducted a series of important studies about government balance sheet, and announced the results in 2012. It is the first time to publish Chinese government balance sheet and apply it in policy analysis in domestic.

The above researches make an aggressive exploration on Chinese government balance sheet, and major breakthroughs are achieved in compilation and application. But the theoretical basis and accounting system of the government balance sheet are incomplete. It is mainly manifested in the lack of unified accounting principles. Also, the definitions of institutions, assets, instruments and valuation are not unified and clear. Especially the government balance sheet is unable to reflect all of the assets, hidden liabilities and contingent liabilities, and it lacks foresight. For example, it's worth thinking about how to classify the assets under SNA standards and define government sector with Chinese characteristics.

Therefore, the previous researches are calculation and estimation based on existing statements, rather than theoretical accounting. Accounting should be based on strict accounting principles, involving data structure and classification. And accounting results are related which should be real, accurate and comparable. But calculation and estimation are different from accounting. They are mainly based on mathematical calculation methods, and involve a lot of subjective judgments. Due to the lack of theoretical basis, different calculation methods will lead to great differences in results. In addition, there is a problem that calculating basis and data structure do not match the SNA account system.

3. The theoretical and practical problems of Chinese government assets and liabilities accounting

Accounting principles are the key issues to be studied when compiling government balance sheet, in order to achieve a comprehensive accounting and avoid duplicates. Firstly, determine the definition and connotation of government sector so that the government balance sheet can not only fully reflect the scale of government assets, but also be in line with international standards. Secondly, determine the scopes and classification of assets and liabilities. Thirdly, determine the principles of accounting, valuation and consolidation.

The accounting principles of government balance sheet are based on macroeconomics theories and public finance theories. Concepts such as classification of institutions, accounting scope of assets and liabilities, principle of valuation and data consolidation are all generated under public finance theory. An accounting theory system is internationally formed on the latest edition of *Government Finance Statistics Manual 2014* launched by IMF, which has complete economic theoretical foundation and rigorous accounting method. However, there is something quite different from abroad: definition of Chinese government sector, scopes of the assets and liabilities, their impacts on economic and financial stability.

3.1 Definition of Chinese government sector

First of all, a rigorous scientific definition of the government sector is necessary to accurately control the scale of government liabilities. The definition is based on the national economic accounting framework of the United Nations, and combines international experience with China's national conditions. It also follows the principle that government obligations should match with the resources at its disposal. So the accounting results of government liabilities could not only conform to the actual situation of China, but also be in line with the international standards.

In general, the government sectors are consisted of institutions whose main activity is to perform government function. The key lies in the delineation of government department and economy department. It's worth thinking about the following questions: is it the government in narrow sense or broad sense, or the public sector in more extensive sense or the comprehensive government? What are their subsectors made up of? How are they classified and what are the standards and purposes? In this regard, public institutions and social organizations are of wide ranges. It should be discussed which of them to be included, what the criterion is, and which level of government sector they should be included in. Large state-owned economy is another problem to be consider, whose resources are all at the disposal of the government. It needs to determine whether state-owned enterprises should be included in government sector and what the criterion is.

3.2 Classification of assets and liabilities

In general, assets can be divided into two parts: non-financial assets and financial assets. All of the liabilities are financial liabilities.

For assets, according to China's Constitution, natural resources belong to the state or the collective. Since it is impossible to take all resources into account, a criterion is needed to help determine which resources to be considered as government assets. For liabilities, the scope and classification of liabilities should be based on China's reality. For example, with the rapid development of current financial markets, financial products are innovating and boundaries between financial instruments are increasingly vague. So it's worth thinking about how to classify these innovative instruments.

3.3 Accounting principles

How to determine accounting principles, which include accounting basis, valuation methods and consolidation principles, is the key problem in the process of compiling the balance sheet. It will directly affect the data quality, and is one of the most difficult parts in the research.

The accounting bases of government balance sheet mainly include cash basis and accrual basis. In comparison, accrual basis can be more accurate when measuring the scale of government assets and liabilities. It also reveals the hidden liabilities under cash basis, and clearly shows the operating costs and correspondences of the government. However, Chinese government use cash-basis for budget accounting all along. So there are some difficulties in converting cash basis to accrual basis. Therefore, both accounting principles and data availability should be taken into account when compiling government balance sheet. For some institutions with small

asset scales, weak influences and high adjustment costs, an overall cost-benefit analysis is needed when deciding whether to change accounting basis simultaneously or adjust it in the consolidated statements.

The valuation methods include historical cost, replacement cost, net realizable value, present value, fair value and other techniques. There are a great number of difficult problems to be studied in the evaluation determination. For cultural heritages, tourism assets, intangible assets, and contingent liabilities, simple valuation method may lead to distortions in the value and advanced valuation methods need to be introduced, due to the lack of an active trading market and the difficulty in assessing historical and cultural value.

The number of China's government sector is huge, and the functions and transactions are complex. So the following problems need to be solved when determining the consolidation principles. The first is how to determine the levels of consolidation. For example, state-owned enterprises possess huge state-owned assets, but how can they reflect in the consolidated statements of government balance sheet. The second is how to ensure the consistency of accounting and accounts.

3.4 Connection of Government-balance-sheet accounting system and SNA

The compilation of China government balance sheet is based on the basic framework of national economic accounting. It's worth thinking about how to link with SNA in aspects such as accounting principles, accounting methods, data sources and accounting results. Following technical issues should be focused on:

1. Standards matching. There are some differences between the government financial statement rules which are defined in GFSM and the SNA.

2. Data matching. Information in statistics, accounting, and business field should be treated under the principles of national economic accounting and relative accounting rules, in order to ensure the data sources in government balance sheet and national economic accounting are consistent.

3. Accounting results matching. The accounting results and existing data of national economic accounting should be consistent, so that the flow and stock accounting of national economic accounting are unified.

4. The framework of Chinese government balance sheet

4.1 Bases and standards

It combines international standards with China's actual situation, also refers to the practices of other countries.

The internationally recognized standards for government balance sheet are *System of National Accounts 2008* (SNA2008) formulated by the United Nations and other organizations, and *Government Finance Statistics Manual 2014* published by International Monetary Fund (IMF). In the aspect of government balance sheet compilation, the main contents of these two international standards are the

followings: definition and classification of government sector and instruments, accounting methods for stock and flow, and sample tables that clearly reflect the accounting results.

Internationally accepted tables are adopted. The main line on the main table shows the agents, which are government sector; the column shows the subjects: government assets, liabilities and balancing items. Among them, assets are divided into non-financial assets and financial assets. According to the international prevailing guidelines, only financial liabilities are listed in liability items. Balance items include net assets and net financial assets.

4.2 Accounting scope and classification of government sector

The compilation of the government balance sheet requires clear definition of the government sector scope. It is generally divided into three levels: government sector in narrow sense, in broad sense and public sector.

Government sector in narrow sense, namely, the administrative sector, include the central government sector, local government sector, national social security fund, and national social insurance fund.

Government sector in broad sense consist of the above sector and government-controlled non-profit organizations. The non-profit organizations in China mainly include the government-controlled public institutions and associations.

Public sector is composed of the government sector in broad sense and public companies. Public companies generally refer to the government-controlled enterprises, including public non-financial institutions (state-owned enterprises) and public financial institutions (including the central bank, state-owned policy and commercial finance companies).

4.3 Accounting scope and classification of assets and liabilities

Assets are generally divided into two parts: non-financial assets and financial assets. Non-financial assets consist of fixed assets, inventory, valuables and non-produced assets. The classifications are in line with international standards. Considering the specialty of the accounting system of administrative institutions and characteristics of the government assets in China, two sub-items – "public infrastructure and public infrastructure construction in progress" are added in the "fixed assets".

Financial assets include reserve assets, currency and deposits, debt securities, loans and loans of financial products, shares and other equity, insurance technical reserves, financial derivatives and employee stock options, other receivables / payables, other financial assets. The classification of financial liabilities is the same as financial assets.

5. The compilation of the Chinese government balance sheet

5.1 Data source

Data of the government balance sheet is mainly from accounting and statistical statements, except for some non-financial assets. A number of surveys are carried out in order to supplement the information of the basic stock data.

5.2 Valuation of non-financial assets

For non-financial assets, house, public infrastructure, public infrastructure construction in progress, land resources are revaluated respectively by different methods. Other non-financial assets, such as machinery and equipment, are evaluated by their net book values using accounting and statistic statements.

5.3 Compilation of balance sheet

After supplements of basic data using survey data or estimation, tables are drawn out in different levels through decomposition, classification, consolidation and netting method. Then assets and liabilities of different government levels are showed in international statement form. The results are present in graph 1.

First is to coordinate different accounting systems. The accounting systems are different in different institutions of the Chinese government. The administrative institutions use cash-basis accounting while some of the state-owned enterprises and non-profit organizations use accrual-basis accounting. The differences in accounting standards lead to inconsistency of initial data, so adjustments are required.

Second is to coordinate different classifications of assets and liabilities. The initial data of the balance sheet comes from statements based on accounting standards. And its assets and liabilities items are classified according to the liquidity, such as current assets, long-term investments, fixed assets, intangible assets and deferred assets. But the government balance sheet is compiled under the accounting principles of the new national economic accounting system. The main line on the main table shows the agents, which are government subsectors; the column shows the subjects of assets and liabilities, which are divided by function. So the former items need to be reclassified under the standards of national economic accounting system.

6. The analysis of Chinese government balance sheet

6.1 Ever-increasing scales VS Slowdown growth rates

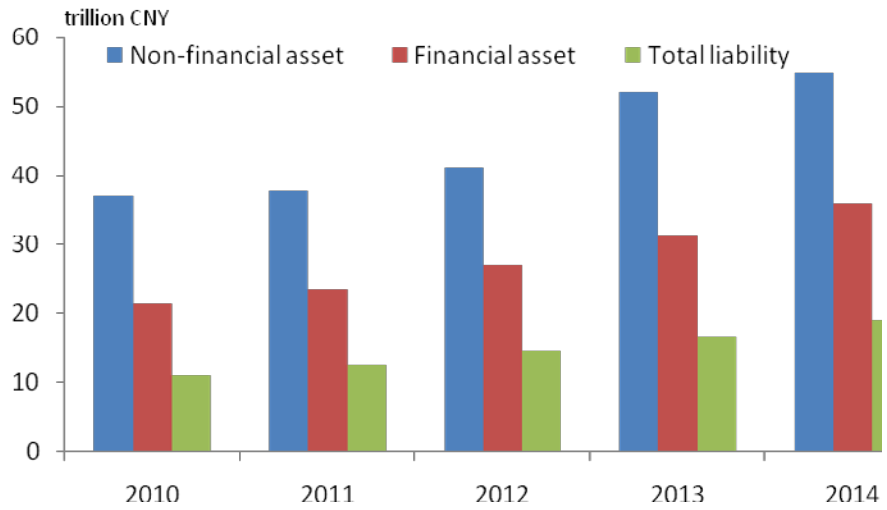
Rapid growth of total asset scale: Over the past five years, the expansion of government sector assets and liabilities has played an active role in supporting the steady growth of economy. While China's economy is growing at a high speed, the scale of government assets continues to expand. At the end of 2014, the total assets of China's public sector reached 347.3 trillion RMB, with an average annual growth

rate of 14.6% (in 2010-2014) which is larger than the economic growth rate at the same period, and the ratio to GDP increased from 4.9 to 5.5. For the government in broad sense, its total assets reached 131.4 trillion RMB with an average annual growth rate of 9.3% for the past 5 years; for the government in narrow sense, its total assets reached 91.0 trillion RMB, with an average annual growth rate of 11.7%.

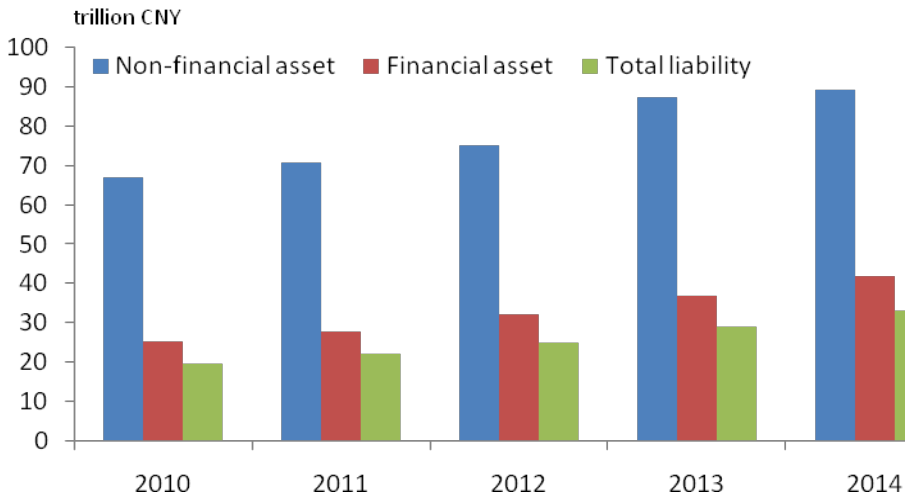
Declining growth rate of total liabilities: The growth trend of total liabilities is basically in line with the assets, and the growth rate of total liabilities is larger than that of the assets. At the end of 2014, the total liabilities of China's public sector reached 233.5 trillion RMB. The growth rate dropped from 26.6% in 2011 to 13.2% in 2014, with an average annual growth rate of 18.3% which is larger than that of the assets. In China, public companies are responsible for most of the government liabilities, while the liabilities from administrative institutions are limited. For the government in broad sense, its total liabilities reached 33.1 trillion RMB with an average annual growth rate of 14.2% for the past 5 years; for the government in narrow sense, its total liabilities reached 19.1 trillion RMB, with an average annual growth rate of 15.1%.

Steady increase in net-asset scale: At the end of 2014, the total net assets of China's public sector reached 113.8 trillion RMB, with an average annual growth rate of 8.6% (in 2010-2014) which is 0.6 percentage points larger than the economic growth rate at the same period. For the government in broad sense, its net assets reached 98.3 trillion RMB with an average annual growth rate of 7.9% for the past 5 years; for the government in narrow sense, its net assets reached 71.9 trillion RMB, with an average annual growth rate of 10.9%.

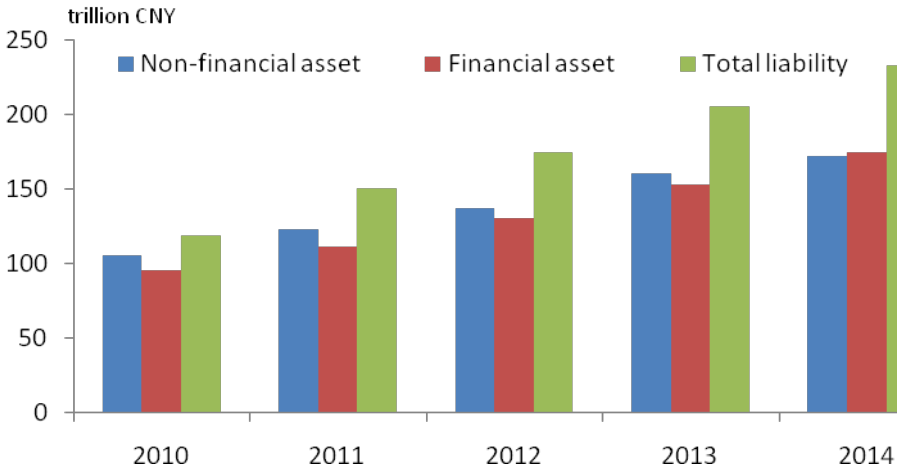
Graph 1 Government asset and liability scale in narrow sense



Graph 2 Government asset and liability scale in broad sense



Graph 3 Asset and liability scale in public sector



6.2 Broad categories of assets & increasing financial assets ratio

Affected by their functions, different sector have great differences in asset class.

The proportion of financial assets in public sector is larger than that of non-financial assets. For public sector, the proportion of non-financial assets in total assets of the public sector dropped from 52.5% to 49.7% in 2010-2014, while the proportion of financial assets increased steadily from 47.5% to 50.3%. Non-financial assets in public sector are mainly fixed assets (such as buildings and structures) and non-productive assets (mainly land resource). For public sector, the proportion of fixed assets, non-productive assets and inventory in non-financial assets reached 57.9%, 25.1% and 10.1% respectively at the end of 2014. Financial assets are mainly loans from public finance companies. At the end of 2014, the proportions of loans, other receivables and central bank reserve assets in financial assets were 38%, 17.9% and 15.6%, respectively.

The government assets in broad sense are mainly non-financial assets, but its proportion has declined. For government assets in broad sense, the proportion

of non-financial assets and financial assets in total assets were 68.2% and 31.8% respectively at the end of 2014, with a 4.4 percentage points decline in the proportion of non-financial assets from the end of 2010. The proportions of fixed assets and non-productive assets in non-financial assets were 60.9% and 38.4% respectively, which were larger than that of public sector. Financial assets are mainly state-owned enterprises' rights and interests. At the end of 2014, the proportions of shares and other equity, currency and deposits, other receivables in financial assets were 60.8%, 25.8% and 10.6%, respectively.

The local governments control most of the non-financial assets. In China, most of the non-financial assets are controlled by the local governments, which consist of some fixed assets, such as public infrastructure and land resources. The land system in China is special, which cuts apart in urban and rural areas, and separates ownership rights from use rights. Besides the farmlands, such as state-own farms, forest farms and pastures, construction lands are also important parts of non-financial assets of local governments. At the end of 2014, the total assets of local governments and non-market non-profit organizations they control reached 99.4 trillion RMB, with a proportion of 75.6% in government assets in broad sense. While its non-financial assets reached 82.0 trillion RMB, and its proportion was 91.6%.

The structure of government assets in narrow sense is similar to the government in broad sense. For government in narrow sense, the proportions of non-financial assets and financial assets in total assets were 60.5% and 39.5% respectively at the end of 2014. Among them, the proportions of fixed assets and non-productive assets in non-financial assets were 37.8% and 62.2%, respectively. While the proportions of shares and other equity, currency and deposits, and other receivables in financial assets were 69.7%, 23.6% and 4.0%, respectively.

6.3 Sector differences in debt structure

The proportion of currency and deposits is the largest in public sector. For public sector, the proportions of currency and deposits, and other payable receivable in total liabilities were 42.3% and 18.6% respectively at the end of 2014, reduced by 9.2 and 0.3 percentage points compared to the end of 2010; the proportion of shares and other equity in total liabilities was 11.7%, increased by 0.1 percentage points than that of 2010.

Loan and shares are included in government debt instruments of broad sense, but excluded in that of narrow sense. For government in broad sense, the proportions of debt securities, shares and other equity, insurance technical reserves, and other payables in total liabilities were 31.2%, 27.8%, 20.3% and 15.1% respectively at the end of 2014.

Government liabilities instruments in narrow sense are mainly bond and insurance technical reserves. For government in narrow sense, the proportions of debt securities, insurance technical reserves, and other payables in total liabilities were 54.1%, 35.2% and 10.4% respectively at the end of 2014.

The liabilities structure needs further optimization. Loans and other traditional indirect financing instruments play an important role in the China's government financing process, while the impacts of national debt and local government debt are relatively limited. For China’s government liabilities in broad sense, the proportions of debt securities and loans were 31.2% and 5.3% respectively at the end of 2014. But for the U.S. government liabilities in broad sense, debt

securities and loans reached 15.3 trillion USD and 157 billion USD respectively at the end of 2012, with proportions of 76.8% and 0.1% in total liabilities.

6.4 Fluctuation in asset price has a great impact on the value of non-financial assets

In recent years, the growth of China's economic is under pressure, and GDP growth rate gradually declined from 10.6% in 2010 to 7.3% in 2014. The asset price fluctuation increases, especially the average sales price of office building, whose decline greatly affects the value of non-financial assets, such as land resources and buildings. And then the growth rate of government assets appears to be falling. For government in broad sense, the value of buildings and structures was 0.7% below year-ago levels by the end of 2014, while it was 9.9% above of 2013; the value of land resources was 4.9% above year-ago levels, while it was 37.3% above of 2013. Since cash basis is mainly used in China as the basis of budget accounting standard system, it is difficult to be objective and comprehensive while considering the impacts of asset price fluctuation on the fiscal balance. And non-financial assets account for a large percentage of the whole assets, the impacts of asset price fluctuation on robustness of the government liabilities are worthy of attention.

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Stock (Trillion Yuan)		Government in narrow sense					Government in broad sense					Public sector				
		2010	2011	2012	2013	2014	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
1	**Total asset**	**58.4**	**61.2**	**68.4**	**83.5**	**91.0**	**92.1**	**98.4**	**107.1**	**124.2**	**131.4**	**201.1**	**235.2**	**268.0**	**314.7**	**347.3**
11	Non-financial asset	37.0	37.8	41.3	52.1	55.1	66.9	70.8	75.2	87.4	89.6	105.5	123.3	137.2	161.1	172.6
111	Fixed asset	14.2	15.9	17.5	19.5	20.8	43.4	48.3	50.5	54.0	54.5	69.5	79.0	86.1	94.3	99.9
112	inventory	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.4	0.4	7.6	10.4	12.6	15.5	17.5
113	Non-productive asset	22.9	21.8	23.8	32.7	34.3	22.9	21.9	23.9	32.8	34.4	27.0	27.2	30.4	40.6	43.3
12	Financial asset	21.4	23.4	27.1	31.4	35.9	25.2	27.6	31.9	36.8	41.8	95.6	111.9	130.8	153.6	174.7
2	**Total liability**	**10.9**	**12.5**	**14.5**	**16.5**	**19.1**	**19.4**	**21.9**	**24.8**	**28.9**	**33.1**	**119.2**	**150.9**	**174.9**	**206.2**	**233.5**
21	Financial liability	10.9	12.5	14.5	16.5	19.1	19.4	21.9	24.8	28.9	33.1	119.2	150.9	174.9	206.2	233.5
3	**Net asset**	**47.5**	**48.7**	**53.9**	**67.0**	**71.9**	**72.7**	**76.5**	**82.3**	**95.3**	**98.3**	**81.9**	**84.3**	**93.1**	**108.5**	**113.8**
31	Net financial asset	10.5	11.0	12.6	14.9	16.8	5.8	5.8	7.1	7.9	8.7	-23.6	-39.0	-44.1	-52.6	-58.8