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The size and structure of China's full-covered fiscal expenditure

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Abstract

Background: Many Chinese literatures compared the size and structure of fiscal expenditure between China and the developed countries. However, due to the statistic differentiation, this kind of comparison may not be accurate.

Methods: Referring to the standard of the International Monetary Fund (IMF) (2001), I measured the size from 2003 to 2012 and the structure in 2012 of China's full-covered fiscal expenditure. Furthermore, I compared the size of China's fiscal expenditure with OECD countries.

Results: I find - as China is going through the 'dual-peak' period, the peak of infrastructure development and social welfare expansion the overall fiscal expenditure share of GDP has risen from around 31% in 2003 to around 37% in 2012.

Conclusions: The ratio of infrastructure expenditure to the whole fiscal expenditure is about 39%, while spending on social welfare is only about 41%.

Keywords: Fiscal expenditure; Full-covered; Dual-peak

Background

Fiscal expenditure is the foundation and direct reflection of a government to fulfill its functions, its size and structure reflect the scope and focus of a government (Richard and Tommasi 2001). From the history of developed countries, its government functions and the focus of fiscal expenditure vary in different historical periods and gradually stabilized after 1980. Today, developed countries mainly focused their expenditure on public welfares, such as education, health care, and social security (Tanzi and Schuknecht 2005). Many Chinese literatures compared the size and structure of fiscal expenditure between China and the developed countries and then discuss the pitfalls of China's fiscal policy and government functions. However, due to the statistic differentiation, this kind of comparison may not be accurate. Referring to the standard of the International Monetary Fund (IMF) (2001), Organisation for Economic Co-operation and Development (OECD), and other international organizations, there are two problems with the current statistics: first, the fiscal expenditure only limited to public finance expenditure,^a it failed to cover all the expenditures; second, there are differences in financial statistical classification standards. The new 'Government Revenue and Expenditure Classification Standards', which was published in 2007, was an effort of China to fit in the international standard, but the range and specific classification standards are still quite different from the IMF (2001). Based on this, this paper will attempt to combine all the available statistical

information in accordance with the standard of IMF (2001), the OECD, and other international organizations to get a full-covered size of China's fiscal expenditure in 2003 to 2012, analyze its structure and make comparison with the OECD countries, then analyze the problems in China's fiscal expenditure.

Methods

To get the international comparable fiscal expenditure, we first need to establish China's full-covered fiscal expenditure caliber in accordance with international standards. According to IMF (2001) 'Government Finance Statistics Manual,' the full-covered China's fiscal expenditure should at least contain public expenditure, expenditure of government funds, off-budget expenditure, and the social security fund expenditures. Among these, since 2011, the off-budget spending has all been incorporated into the public expenditure; government funds expenditure includes land-leasing expenditure; social security fund expenditures for enterprise workers should only contain 'the five social insurance funds'; and social insurance for residents have already been accounted within the scope of public expenditure. In addition, the government can also obtain funds by debt. In this regard, treasuries and municipal bonds have been included in the fiscal expenditure of public finances, but an increasingly huge and important debt: the local government debt (local financing platform), is not included in the above caliber. Although the general local financing platform exists in the form of state-owned enterprises, its essence is government rather than corporate behavior, and therefore its annual expenditure should be included in China's overall fiscal expenditure. The state-owned enterprise (SOE) profits, which are discussed widely, according to the definition of IMF (2001), are the source of funds in the public sector rather than the general government sector. The current SOE profits are the retained earnings of the SOEs but has not paid dividends to the government, thus, this paper did not consider it as a part of the overall fiscal expenditure, which is in consistent with Wang (2011).

In conclusion, China's overall fiscal expenditure should contain the following five parts: public fiscal expenditure, off-budget expenditures, government funds expenditure, social security expenditure, and the incremental local government debt, which mostly are local financing platform. Taking into account the huge size of government land-leasing expenditure, and the complex nature of land-leasing expenditure, we will put it independently. Apart from the caliber problems, we also need to pay attention to the problem of double counting between different types of expenditure: first, in the 'five social security fund,' there are high subsidies from the public fiscal expenditure, we will deduct the subsidies from the social security fund; second, part of land-leasing expenditure are state-owned land-leasing expenditure, new construction land-use fee, water conservancy construction funds, and other government funds which should also be deducted. Meanwhile, part of land-leasing expenditure is used to compensate for the relocatees; these funds should not be regarded as fiscal expenditure. However, how much expenditures are used in the above categories is a mystery, this paper will follow the method of Duochang and Danping (2012); to get the simplified approach: from 2003 to 2006, 65% of land leasing expenditure will be regarded as fiscal expenditure; from 2007 to 2008 60%, and from 2009 to 2012 55%.

The incremental debt of local financing platform is a part of the full-covered fiscal expenditure, but there is no government agency to publish this data. In 2011, the *China Audit Office Bulletin* No. 35 issued the balance of the national local government debt of 2010, and Bulletin No. 32 in 2013 published the balance of national local government debt of 2012. This paper will use these two audit reports to estimate the annual incremental debt.

According to IMF (2001), the OECD countries' fiscal expenditure can be classified into ten categories, namely general public services, national defense, public policing, economic affairs, environmental protection, housing and community facilities, health care, recreation, culture and religion, education, and social security. And according to the 2012 national fiscal expenditure accounts data released by China, public expenditure are classified into 23 categories. Some of which can add up in accordance with the IMF (2001) standards. But there are three categories, science and technology, earthquake recovery, and reconstruction expenditure, and other expenditures, which are not directly corresponding to the OECD. It is necessary to spin these three categories off, and some categories of specific items also need to be adjusted to the IMF (2001) classification criteria. Referring to the IMF's classification criteria and Chinese public expenditure classification standards, the corresponding relationship between the two are as follows:

Category 'diplomacy' in Chinese fiscal expenditure should be classified in the OECD 'general public services'; 'debt interest expenditure' together with 'public debt transactions' should be classified in the OECD 'general public services'; 'financial regulation and other expenditure' should also be classified in OECD 'general public services.' China's classification of the following five categories: 'agriculture, forestry and watery affairs,' 'transportation,' 'resource exploration,' 'business services and other matters,' 'grain and oil stockpiles affairs,' should all be classified in OECD 'economic affairs.' China's classification of 'social security and employment' was placed on the OECD 'social security'; 'urban community affairs' and 'housing security affairs' should be classified in the OECD 'housing and social welfare.'

'Business affairs' in China should be classified in OECD 'general public service' and 'economic affairs.' The 'science and technology' is absent but each of the categories has a technology spending in the OECD classification. To this end, we will divide 'basic research' in 'science and technology' to OECD 'general public services,' and the remaining part of the 'science and technology' will be equally assigned to each OECD categories. 'Land resources and meteorological affairs' in China refers to the expenditure on land and resources, marine, mapping, seismic, meteorological, and other public service. This corresponds with OECD's three categories: 'economic affairs,' 'public policing,' and 'environmental protection.' For simplicity and for meeting OECD standard, we will divide 'land resources and meteorological affairs' into these three categories. The 'other expenditures' will be allocated into the ten categories equally. The 'earthquake recovery and reconstruction expenditure' cannot directly meet the OECD standards. However, we can follow the specific purpose of 'earthquake recovery and reconstruction expenditure' and assign it into OECD classifications. For example, the 'houses reconstruction' can be classified in OECD 'housing and community facilities'; 'highway, railway network, water conservancy, municipal roads, bridges reconstruction' can be classified in OECD 'economic affairs.'

The above method only adjusts public fiscal expenditure to meet with international standards. Expenditure of government funds, social security, and incremental local government debt lacked detailed breakdown of public fiscal expenditure and cannot be handled in accordance with the method described above. To this end, the following part will only compare China with OECD countries on public fiscal expenditure. When conducting comparative analysis of the full-covered fiscal expenditure structure, we will take a further merge of these ten categories, so as to solve the problem of missing data. Specifically, all the fiscal spending in China and OECD countries will be grouped into three categories: first, the basic government expenditure, including general public services, defense, public policing, and environmental protection; second, economic development expenditure, including economic affairs, housing and community facilities; and third, social welfare expenditure, including health care, culture, sports and media, education, social security, and employment.

Results and discussion

Measurement results of the full-covered size of fiscal expenditure

According to the above statistical and measurement methods, Table 1 lists China's full-covered fiscal expenditure from 2003 to 2012 together with the constituent items and its proportion of GDP. As can be seen from the table, the full-covered expenditure in 2003 was about 4.2 trillion, and has increased ever since to nearly 19 trillion in 2012, increased more than four times in 10 years. In general, the appropriate measure of the size of fiscal expenditure is expenditure share of GDP. According to this indicator, the size of fiscal spending in China over the past decade is more than 30%, and maintained at above 36% in recent years, which is closer to the level of developed countries and the size of the lower expenditure countries (such as South Korea, the United States). Another thing to note is that the full-covered expenditure fluctuates sharply, mainly because of the 'four trillion' stimulating policies, the full-covered fiscal expenditure jumped from the 2008s at about 32% to about 41% in 2009, which then gradually declined to 36% to 37% level.

From Table 1, we can also observe that the official data of fiscal expenditure of the Chinese government published is just a part of the full-covered expenditure; social security fund expenditures, land-leasing expenditures, and government funds expenditure are the main part of the full-covered expenditure. Particularly noteworthy is the incremental local government debt, its fluctuations strongly influence the overall expenditure, reflecting China's conventional financial management system cannot effectively monitor this kind of expenditure. Seen from the constituent items, the public fiscal expenditure, five social security fund expenditures, and land-leasing expenditure has been growing steadily, incremental local financing platform debt expenditure varies greatly around 2009, and these four items constitute the main part of the full-covered fiscal expenditure. The proportion of public fiscal expenditure of full-covered expenditure also increased steadily, from 58% in 2003 up to 66% in 2012.

Fiscal expenditure structure

According to the measurement method in the 'Measurement results of the full-covered size of fiscal expenditure' subsection, Table 2 lists the structure of Chinese fiscal

Table 1 China's full-covered fiscal expenditure from 2003 to 2012 (unit: 100 million yuan)

Year	Public fiscal expenditure	Off-budget expenditure	Government fund expenditure	Five social security expenditure	Land-leasing expenditure	Incremental local government debt	Full-covered fiscal expenditure	Full-covered fiscal expenditure/GDP (%)
2003	24,649.95	4,156.36	2,138.62	3,446.40	3,523.85	4,424.72	42,339.90	31.17
2004	28,486.89	4,351.73	2,511.98	4,036.87	4,167.91	4,661.84	48,217.23	30.16
2005	33,930.28	5,242.48	2,936.23	4,732.70	3,824.48	5,888.84	56,555.00	30.58
2006	40,422.73	5,866.95	3,496.13	5,516.99	4,606.13	7,438.78	67,347.72	31.13
2007	49,781.35	6,112.42	3,681.41	6,776.83	7,290.00	9,396.67	83,038.68	31.24
2008	62,592.66	6,346.36	5,261.07	8,481.10	6,225.00	10,589.08	99,495.27	31.68
2009	76,299.93	6,228.29	4,371.65	10,525.87	7,680.20	34,481.64	139,587.6	40.95
2010	89,874.16	5,754.69	7,675.08	12,843.58	16,010.47	17,005.88	149,163.9	37.15
2011	109,247.79	-	10,222.71	15,720.52	17,127.23	24,307	176,625	37.33
2012	125,952.97	-	7,650.85	17,086.69	14,680.34	24,307	189,677	36.51

Source: author's estimation. The data of public fiscal expenditure, land-leasing expenditure, and government funds expenditures are from the *China Financial Yearbook* or the NPC budget reports. Five social security expenditures are deducted from the expenditure in *Human Resources and Social Security Yearbook* by public fiscal subsidies. The data of incremental local government debt was calculated from the *China Audit Office Bulletin* No. 35 of 2011 and *China Audit Office Bulletin* No. 32 of 2013, where debt growth in 2003 to 2010 was from Bulletin No. 35 of 2011, assumed the growth rate in 2011 and 2012 was the same.

Table 2 The comparison of fiscal expenditure between China and OECD countries (unit: %)

Expenditures	China1	China 2	US	France	Germany	UK	Japan	Three Nordic countries	Three transition countries
General public service	13.49	11.48	11.7	12.21	12.84	10.56	11.5	12.19	14.14
National defense	5.85	4.98	11.94	3.72	2.32	5.37	2.2	2.93	2.59
Policing	6.63	5.64	5.39	3	3.36	5.18	3.2	2.26	4.19
Economic affairs	22.82	19.41	9.6	6.02	9.89	6.18	9.6	8.13	13.03
Environmental protection	3.33	2.84	-	1.77	1.47	1.99	2.9	0.99	1.68
Housing and community facilities	11.31	9.62	2.34	3.36	1.47	2.58	1.96	1.19	1.69
Healthcare	6.29	9.10	20.84	14.16	14.95	16.33	16.95	14.89	13.10
Culture, sports, and media	2.34	1.99	0.7	2.65	1.68	2.19	0.98	2.64	3.23
Education	17.41	14.81	15.69	10.62	9.05	13.74	8.84	13.42	11.53
Social security and employment	10.53	20.15	21.55	42.65	43.16	35.66	42.26	41.41	34.87

Source: author's estimation. Data of OECD countries are from OECD (2012). Three Nordic countries were Sweden, Denmark, and Norway. Three transition countries are Hungary, the Czech Republic, and Poland. The merge data were the simple average of the ratio of fiscal expenditure on GDP.

expenditure in 2012 and compared it with OECD countries in 2010, which China1 is public fiscal expenditure, China2 adds social security fund expenditure in China1.^b As we can see, fiscal expenditure structure of different countries varies, but they also share some common features. The proportion of expenditure on economic affairs does not exceed 10%; infrastructure proportion of total expenditure is about 2% to 3%, while in Germany and the Nordic countries, infrastructure is about 1%; environmental protection and culture, sports and media has been an important function of government, but financial input is not high; government spending mainly focused on social affairs, such as health, education, social security, and employment. European countries and Japan spent about 70% on social affairs, while in United States, it is close to 60%, of which the proportion of expenditure on health and education is higher than other developed countries, but a lower proportion of expenditure on social security and employment. The reason is that in United States, pension system is more dependent on enterprises, while its health-care costs far more than other developed countries.

Compared with the OECD countries, the current Chinese public expenditure obviously emphasizes more on economic development rather than social welfare. Judging from the data in Table 2, among social security and employment, general public services, and health care, education is the major expenditure of OECD member countries. But in China, economic affairs (including agriculture, forestry, water, transportation, and industrial and commercial finance) are abnormally high, far more than OECD countries. If we only consider the public expenditure, China's spending on economic affairs is 23%, even when compared with transition countries, such as Hungary, the Czech Republic, and Poland, this proportion is only 13%. Meanwhile, in expenditure on housing and community facilities, which are mostly infrastructures, China is about three times more than other countries. On these two points, even just considering the public fiscal expenditure, China's spending on economic construction is far more than the OECD countries, reaching more

than 30%. Besides, China's spending on health care was significantly lower than that of other countries.

Of course, it is unreasonable to compare China with OECD countries only by the structure of public fiscal expenditure; for example, in OECD system, the social insurance contributions are included in the expenditures on social security, but in China, this kind of expenditure was listed alone. In Table 2, we add the 'five social insurance fund' on the public fiscal expenditure, get 'China2', even after the adjustment, China's expenditure on the economic affairs and housing and community facilities is still far more than the OECD countries, while spending on health care was significantly lower than the OECD countries, only half of the OECD countries. The expenditure on social security and employment was close to the United States but lower than other countries; even when compared with three transition countries, China's expenditure on social security and employment was lower by 15%.

The above analysis does not yet contain full-covered expenditure; a large number of government funds (including land-leasing expenditure) and expenditure of local government debt are excluded. Table 3 presents China's full-covered expenditure and structure in 2012. Since the detailed data of government fund and incremental local government debt cannot be obtained, as we have discussed in the 'Background' section, we merged the ten IMF categories into three items: basic government expenditure, economic development expenditure, and social welfare expenditures. According to the specific nature of the expenditure, for example, expenditure on local education, lottery in government fund will be classified as expenditure on social welfare and others go to economic development expenditure; 10% of land-leasing expenditure and local government debt expenditure will be included in social welfare expenditures and other expenses included in economic development expenditures. As shown in Table 3, according to the full-covered expenditure, the economic development expenditure (economic affairs and housing and community facilities) was 38.67% of the full-covered expenditure, much higher than other countries, with OECD countries 10% and transition countries 14.72%. The proportion of social welfare expenditure, including health care, social security and employment, and education, was 40.51%, while OECD countries are 60% to 70%. It should be noted that the above conclusion is based on full-covered expenditure of 2012. If we analyze with the data in 2009 or 2010, when local government debt was much more huge, the proportion of economic development expenditure will be much higher. The basic government expenditure was closer, no significant difference between China and OECD countries.

Table 3 Comparison of fiscal expenditure between China and OECD countries (unit:%)

Expenditure	China	US	France	Germany	UK	Japan	Three Nordic countries	Three transition countries
Basic government expenditure	20.81	29.03	20.7	19.99	23.1	19.8	18.37	22.6
Economic development expenditure	38.67	11.94	9.38	11.36	8.76	11.56	9.32	14.72
Social welfare expenditures	40.51	58.78	70.08	68.84	67.92	69.03	72.36	62.73

Source: author's calculation.

Conclusions

This paper constructs the full-covered fiscal expenditure in China in 2003 to 2012 and the structure of expenditure in 2012 in consistent with IMF and OECD standards and makes comparison with OECD countries. The results are as follow: the full-covered fiscal expenditure share of GDP in China has risen from around 31% in 2003 to around 37% in 2012. For the public fiscal expenditure, the proportion of China's economic development expenditure has dropped significantly, the proportion of social welfare spending rose rapidly. However, for the full-covered expenditure, the proportion of economic development expenditure was about 39%, much higher than the OECD countries which are around 10%, while spending on social welfare is only about 41%, far lower than developed countries' 60% to 70%.

Overall, China's current full-covered expenditure has already reached a very high level, and compared with developed countries, the proportion of economic development expenditure was too high while expenditure on social welfare was too low. As Dehua W (2011) analyzed, China is going through the 'dual-peak' period: the peak of infrastructure development and social welfare expansion. But in the developed countries, their infrastructure system has been basically completed before World War II, after that, what they need to do is maintenance and renovation; the sharp rise in social welfare spending mostly occurs after World War II. However, as China is going through the catch-up stage, infrastructure system was forced to be completed within a few decades, the next 10 years is still at its peak; according to the government's goals to improve people's livelihood, China also need to vigorously invest into the construction of social welfare system. In short, social welfare system and infrastructure development, these two historic tasks, determine the current expenditure structure. In front of these two tasks, in China's current stage of development, China needs to maintain a high level of fiscal spending and of which high proportion of economic development expenditure. Looking ahead, the overall direction of reform in the area of fiscal expenditure should be as follows: moderate control of the overall size, reduce administrative costs and optimize government administrative expenditure, gradually reduce the economic development expenditure, and increase expenditure on social welfare and improve the performance of social welfare spending.

Endnotes

^a'Public fiscal revenue/expenditure,' was originally called 'general budget revenue/expenditure,' is a part of the whole fiscal revenue/expenditure.

^bChongen et al. (2010) have made similar calculation on the Chinese expenditure in 2008 and compared it with OECD countries in 2007; the conclusion is the same.

Competing interests

The author declares that he has no competing interests.

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