

The Comparative Study on Government Expenditure between China and EU

—from the perspective of growth impact

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Abstract: This paper makes a comparison of government expenditure between China and EU. It shows that China and EU have quite different size and composition of government expenditure because China and EU are in different development phrases and adopt the different strategies. And the difference will keep going on albeit it is gradually reduced. The two players' government expenditure have their own competitiveness, but China achieved more positive changes in the past decade. In fact both of China and EU do not have a perfect government expenditure and need further modification. China should strengthen the growth-enhancing government expenditure meanwhile appropriately increasing the size of government expenditure and balancing it. EU should focus on the transition to growth-enhancing expenditure policy. China and EU should find their own size and structure of government expenditure and spend it in an effective and efficient way.

Key Words: China EU government expenditure comparison quality

1. Introduction

In recent years the quality of public expenditure has received increased attention in China and EU. Why do China and EU care about this issue? The common reason is that the government expenditure has a potential impact on the long-term economic growth. The European Central Bank (2001) summarized most of the research papers on this issue and concluded it is true for European countries. He Jishan and Wang Donghua(2006) and Wang Li(2007) also found China's government expenditure has an impact on the long-term economy growth. Given the scarcity of public resources, it is essential that expenditure programmes should be pursued in an efficient and effective manner in order to improve long-term growth prospects while ensuring the

sustainability of public finances.^①China and EU should optimize the policy of public expenditure to increase the competitive power. But China and EU also have different reasons to concern this issue. There is a hot debate in China. The government should increase the size of government expenditure on redistribution in order to build the national-covered social security system. Many Chinese also argue that government should spend more money on health and education. In the meantime more and more people criticise the inefficiency of government expenditure. EU is facing the serious budgetary challenge in the limitation of Stable and Growth Pact (SGP) because of the aging society and globalisation. The increased number of old people is a big burden for EU governments. EU wants to control the expenditure on social security and invest more on education and R&D. Efficient public spending should help to reduce total expenditure while reinforcing its positive leverage effects on productivity and growth. Improving the efficiency and effectiveness of public spending will help to combine the fiscal discipline demanded by the Stability and Growth Pact with the structural reform agenda of the EU's Lisbon strategy.^②So China and EU have concerns of public expenditure. It makes sense to make a comparison of government expenditure between China and EU because China and EU could learn from each other's experience on dealing with this issue and get inspiration. To some extent it is more important for China to watch how EU improves the quality of public expenditure because China is still a developing country and will probably face the similar problems in the future as EU currently faces. Furthermore it is a key phrase for China to build the social security system. EU's experience is very helpful. China could learn from EU and avoid some policy mistakes which could be avoidable. However, few research papers could be found on this issue.

This paper makes a comparison of government expenditure between China and EU by using the "Classification of the Functions of Government". This classification was developed by the OECD and was published by the United Nations Statistics Division. The COFOG classification divides government expenditure into ten categories including general public services, defense, public order and safety, economic affairs, environmental protection, housing and community amenities, health, recreation, culture and religion, education

^① ECB, 2009, the functional composition of government spending in the European Union, ECB monthly bulletin, p. 99.

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and social protection.^① (see table 1) This classification is very helpful to identify the different types of governmental expenditure. It should be addressed that this approach has some abuses. China does not introduce COFOG, but the current statistics system in China is similar to COFOG. China's data could be used after technical adjustment. The other is that the expenditure on R&D can not be compared by using the COFOG. In spite of these flaws it is still helpful to make a comparison by some technical adjustments.

This paper is organized as follows: the second part makes a static comparison of functional government expenditure between China and EU and analyze why there is a big difference; the third part looks at the development of functional government expenditure between China and EU and gives some trends in the future; the fourth part reviews the quality of functional government expenditure and the approaches to the better quality; the fifth part concludes.

Table 1 Aggregated Functional Breakdown of Expenditure

Main functions of government	COFOG categories
Redistribution	Social protection
Pure public goods	Defense
	Public order and safety
Health and education	Health
	Education
General public services	General public services
Private activities	Economic affairs
	Environmental protection
	Housing and community amenities
	Recreation, culture and religion

Source: ECB, "The Functional Composition of Government Spending in the European Union", ECB Monthly Bulletin, 2009, p. 97.

II. "Small Government" in China and "Big Government" in EU—the Static Comparison of Functional Government Expenditure Between China and EU

EU's ratio of government expenditure to GDP is much higher than China's. In the table 2, EU's government expenditure averaged 46.7% of GDP in 2006.

^① ECB, 2009, the functional composition of government spending in the European Union, ECB monthly bulletin, p. 92.

Compared with China's 19.2%, EU's number is more than twice as high as China's. Some EU countries have extremely high government expenditure, the ratios of France and Italy are respectively 52.7% and 48.9%. Even the lower ratio countries in EU have much higher ratios than China, e.g. Spain's ratio is 38.5%. And EU has a higher ratio of expenditure on each sub-category to GDP than China according to the COFOG standard(table 3). The biggest difference is in the redistribution. EU's ratio is 18.3%, but China's is only 2.17%. The gap is very large. Another difference is in health expenditure. EU's ratio of this item to GDP is 6.6% and China's ratio is only 0.79%. EU's ratio is 10 times higher than China's. The smallest difference is in private activities. EU only has 0.34 percents higher than China.

China does have a much lower ratio of government expenditure to GDP than EU, but it is the normal phenomenon between developed countries and developing countries. The average ratio of developing countries is about 25%, which is much lower than the developed countries' average level. There are two main explanations of this issue in economic theory. One is of a political economy nature, the other one is Wagner's Law. Chinese government does not intend to keep a relatively small size of government expenditure, so the political decision is not the suitable reason. Wagner's Law could explain the difference quite well. It says that as nations get wealthier, the demand for public goods expands while at the same time the ability to raise revenues rises. Examples for the driving forces behind a greater demand for public goods are a greater urbanization of countries and ageing of populations. A supply side explanation has been added known as 'Baumol disease'. It argues that the government share rises because public sector wages increase more strongly than public sector productivity while the demand for public services is relatively price-inelastic.^① It is true for China. With the urbanization and economy development, the demand for public goods, e.g. social security and health care, is expanding and the government expenditure on these items increased significantly in the last several years. From the supply side, the big boosts of the salary of public employees appeared since 2000.

^① Baumol's,1967, the macroeconomics of unbalanced growth: the anatomy of urban crisis, American Economic Review, 57(3), pp.415-426.

Table 2 China and EU Government Expenditure (as a percentage to GDP)

Year	China	Germany	France	Italy	Spain	UK	Poland	Euroarea	EU
1998	12.8	48.0	52.7	49.2	41.5	39.0	44.3	48.6	47.3
2006	19.2	45.3	52.7	48.9	38.5	43.9	43.8	46.7	46.3

Source: China Statistical Yearbook 1999 and 2007, Eurostat, National Data and ECB Calculations

Table 3 Aggregated Functional Breakdown of Government Expenditure to GDP of China and EU^①

	Social Protection	Pure Public Goods	Health ^②	Education	General Public Services	Private Activities	Total
China	2.17	2.8	0.79	2.83	3.47	6.56	18.62
EU	18.3	3.1	6.6	5.2	6.2	6.9	46.3

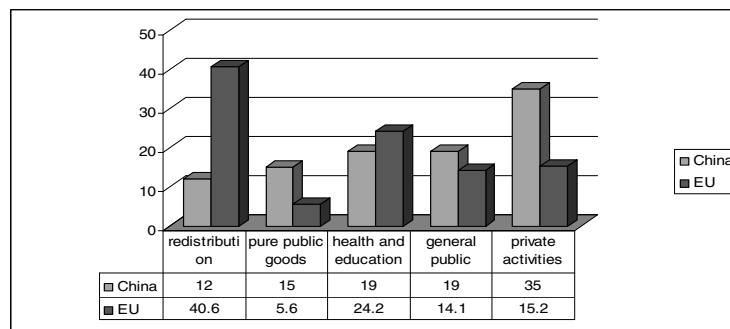
Source: China Statistical Yearbook 2007, Eurostat, National data and ECB Calculations

^① China's data in 2007 and EU's data in 2006 are used in this table because China's data in 2007 can easily be applied. China modified its government expenditure in 2007. So it is easy to make a comparison. Although the year is different, it still makes sense to make a comparison because there is not big difference considering 2006 is a close year to 2007.

^② China's expenditure of social security does not include the expense of sickness. This item is included in the health expenditure. But this item's share of total expenditure is very small, so it only has a less influence on the comparison results.

From the point of government expenditure structure, China and EU have a quite different structure of government expenditure (Figure 1). Private activities expense has a highest share in China's total government expenditure and the rests have almost the same share. EU's government expenditure is focused on redistribution, health and education. China's biggest part is private activities, then general public services, health and education, pure public goods and redistribution. EU's biggest part is redistribution, then health and education, private activities, general public services and pure public goods. The most significant difference on the structure is that EU spent 40.6% of government expenditure on redistribution, but China spent the least money on this item, which only has 12% share. The other big difference is on the input of private activities. China spent most of the expenditure on private activities, which has 35% share. Although this item of EU does not have a small share in its own structure, it is quite small compared with China's. EU and China have the almost same shares of health and education and general public services. China's share of general public service is a bit higher than EU's. EU's share of health and education is a bit higher than China's. It should be noted why EU's share of health and education is higher than China's. The reason is that China's health expense share of the total expenditure is only 4%. Compared with EU's 14%, China's share is much lower than EU's. But China's education share of total expenditure is 15%, which is higher than EU's. The commonality between China and EU is that this item, pure public goods, does not have a high share in the government expenditure.

Figure 1 Comparison of Aggregated Functional Breakdown of Government Expenditure between China and EU (%)



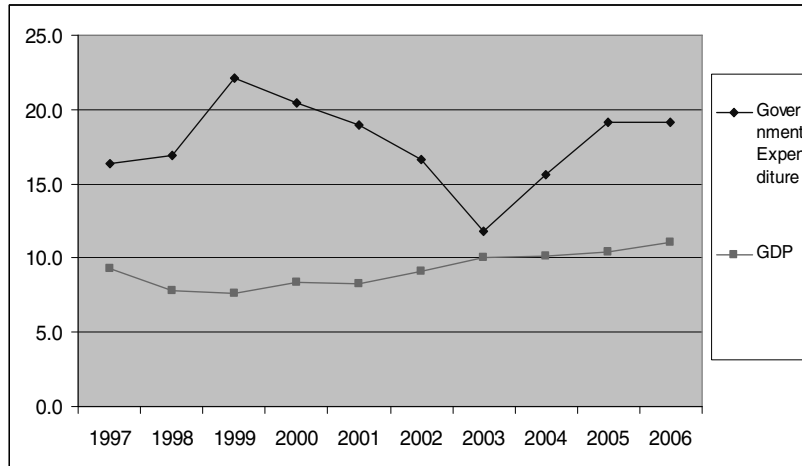
Source: China Statistical Yearbook 2007, Eurostat, National Data and ECB Calculations.

The totally different government spending structure between China and EU shows the different strategy and understanding in different development phase. China is a developing country and need much input in the economic activity, so the government invests a lot of money to develop the economy. For example China's infrastructure is not very good and need urgent improvement. "If you want to become rich, the first thing which you should do is to build a good road." This famous slogan is very popular in China. In the last decade China has spend much money on this item to build highway and strengthen communication sector. China is still in a transition period, so there are quite a number of state-owned enterprises in China. And every year China gives some money to these enterprises to expand the production scale and upgrade the technology. These factors lead to a high expenditure in private activities. EU is a mature market economy and a well-developed economic area, so it spends the relative small money on the private activities. EU has established a quite good social security system. EU's citizens enjoy the good social and medical security. EU governments spend huge money on assuring the social welfare. With the society getting older and older, the cost of social protection becomes higher and higher. So the expenditure of redistribution and health&education has around 65% share of total expenditure. As mentioned before, China is still a developing country, so China does not have the capacity to provide the same good social securities and public health as EU did. China only provided the social security to the employees of public sector and some enterprises and spent precious money on the economy development. With the development of economy, China is widening the coverage of social security and improving the social welfare." Both of China and EU have a clear understanding on the role of education. They spent a certain share on education, but China's education share of total expenditure was a bit higher than EU's. The reason is complicated. Firstly, China's tradition is more focused on education; secondly, China thinks the education sector has been lost far behind of the west developed countries, so if China wants to develop faster, China should spend more money on it; thirdly, EU's budgetary burden is big enough and can not spare much money because of the huge social security expenditure. EU has a little lower share of general public service. One reason is that EU's governments perhaps have a higher capacity on saving administrative cost than Chinese government. The other reason is that Chinese government have more public sector's employees. So Chinese government need improve the efficiency and strengthen the monitoring of expenditure on public service.

III The Development of Functional Government Expenditure between China and EU - Based on the Dynamic Comparison

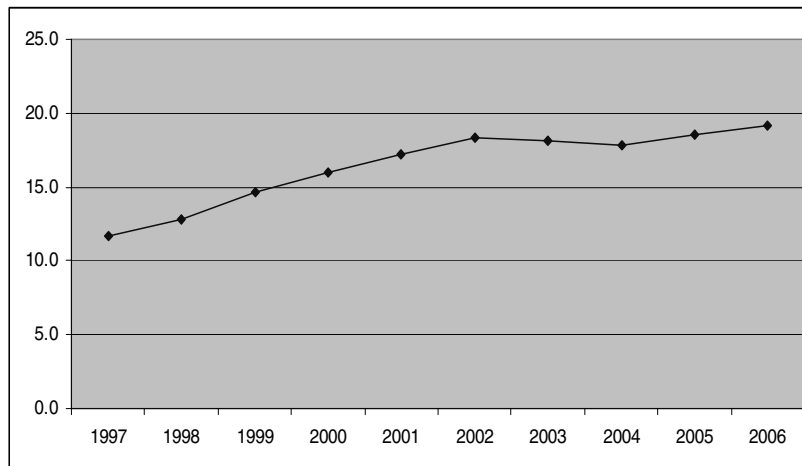
EU's ratio of government expenditure to GDP is much higher than China's, but the gap between EU and China is narrowed with the China's increased ratio and EU's reverse situation. In the past ten years China's government expenditure was significantly increased. Government expenditure's growth rate was much higher than GDP's(Figure 2). So the ratio of government expenditure to GDP was increased from 12.8% in 1998 to 19.2% in 2006(Figure 3). At the same time the ratio of government expenditure to GDP in most of EU countries except France and UK was decreased (table 4). As a result, EU's ratio was reduced from 47.3% to 46.3%. Germany and Spain achieved a lot in reducing the ratio of government expenditure to GDP and nearly reduced by 3 percents, respectively from 48% to 45.3% and from 41.5% to 38.5%. UK's ratio increased sharply from 39% to 43.9%, but it was still lower than EU's average. France still kept the high government expenditure (52.7%) in 2006, same to 1998.

Figure 2 The Growth rate of China's GDP and Government Expenditure(%)



Source: China Statistical Yearbook 1998-2007.

Figure 3 China's Public Expenditure from 1997-2006(as a percentage of GDP)



Source: China Statistical Yearbook 1998-2007.

Table 4 Sub-categories for main Expenditure Items in EU (as a percentage of GDP)

COFOG categories	General Public Services		Defense and Public order and safety		Economic Affairs		Health		Education		Social Protection		Other Categories		Total	
	1998	2006	1998	2006	1998	2006	1998	2006	1998	2006	1998	2006	1998	2006	1998	2006
Belgium	11	8.5	2.8	2	4.7	5	6.1	6.9	6	5.9	17.6	17.3	2.1	2.8	50.4	48.4
Germany	6.7	5.6	2.9	2	4	3.2	6.1	6.3	4.3	3.9	21.7	21.6	2.3	2.7	48	45.3
Ireland	5.8	3.6	2.5	1	4.6	4.5	5.7	7.8	4.2	4.2	9.8	9.7	1.8	3	34.5	33.8
Greece	13.3	8.1	3.3	4.5	6.3	4.5	4.3	4.7	3.1	2.3	17.9	17.9	1.2	0.1	49.5	42.2
Spain	6.7	4.6	3	2.2	4.8	5	5.2	5.6	4.4	4.3	13.6	12.8	3.3	3.9	41.1	38.5
France	7.9	6.9	3.5	3.7	3.2	2.9	6.6	7.2	6.4	6	21.8	22.3	3.3	3.7	52.7	52.7
Italy	11.4	8.7	3.1	2.7	4	5.9	5.6	7	4.8	4.5	17.7	18.2	2.7	1.8	49.2	48.9
Cyprus	8.8	9.9	4	4.6	4.4	4.4	2.7	3.1	6	7.2	7.7	10.4	3.2	3.7	36.7	43.4
Luxembourg	4.9	4	1.3	0.5	4.4	4.5	4.8	4.6	4.9	4.5	16.9	16.4	3.9	4	41	38.6
Malta	5.5	6.7	2.7	1.6	7.4	5.7	4.6	6.4	5.4	5.5	13.4	14	3.9	3.6	43	43.6
Netherlands	9.5	7.3	3	2.9	4.6	4.7	3.8	5.9	4.8	5.1	17.8	16.5	3.1	3	46.7	45.6
Austria	9	7	2.4	1.7	4.7	4.8	7.7	6.9	5.9	5.9	21.2	20.4	3	2.5	54	49.4
Portugal	6	6.9	3.3	2.6	6.4	3.8	6.2	7.2	6.3	7.1	12.1	16	2.5	2.7	42.8	46.3

Slovenia		6.2		2.9		4.1		6.2		6.4		17.1		1.6	46.3	44.5
Slovakia		5		3.6		4.1		5.3		4.1		12.2		2.8	45.8	37.1
Finland	7.6	6.5	3.2	3	5.2	4.5	5.9	6.8	6.1	5.8	22.4	20.4	2.1	1.7	52.5	48.9
Euro Area	8.3	6.6	2.9	2.6	4.1	4.2	5.9	6.6	5.1	4.8	19.5	19.1	2.8	2.7	48.6	46.7
Bulgaria																36.5
Czech	4	4.9	3.7	2.5	9.5	6.9	5.9	7.2	4	4.9	12.6	12.7	3.4	4.8	43.2	43.8
Denmark	9.1	6	2.7	3.2	4.1	3.5	6.9	7	7.6	7.7	23	21.8	2.2	1.9	55.6	51.2
Estonia	4.6	2.6	4	2.7	4.7	4.2	4.5	4	7.3	6	10.9	9.5	3.5	5.1	39.4	34.2
Latvia	6.7	6.1	3.3	2.9	4.9	6	2.7	2.9	6.6	6.3	13.7	9.6	2.3	4.2	40.2	37.9
Lithuania		4.2		3.3		4		4.7		5.5		10		1.9	40.4	33.6
Hungary		9.6		2.8		6.3		5.5		5.8		17.7		4.3	52.8	51.9
Poland		5.9		2.3		4.4		4.7		6		16.9		3.7	44.3	43.8
Romania															38.5	35.3
Sweden	10.2	7.7	3.7	3.4	4.5	4.8	6.2	6.8	7.4	7.1	23.1	22.7	3.7	1.6	58.8	54.1
UK	5.5	4.3	4.6	5.1	2	2.9	5.4	7.1	4.6	6.1	15.3	15.4	1.6	3	39	43.9
EU	8	6.2	3.5	3.1	4	4	6	6.6	5.3	5.2	19.2	18.3	1.2	2.9	47.3	46.3

Source: ECB, "The Functional Composition of Government Spending in the European Union", ECB Monthly Bulletin, 2009, p.94.

Table 5 Functional Classification of China's Government Expenditure (as a percentages of GDP)

Year	Administrative Expenses	National Defence	Social Security	Culture, Education, Science and Public Health	Economic Construction	other expenditure
1997	1,72	1,03	0,42	2,41	4,62	1,50
1998	1,90	1,11	0,71	2,55	4,95	1,58
1999	2,25	1,20	1,34	2,69	5,64	1,59
2000	2,79	1,22	1,53	2,76	5,79	1,92
2001	3,20	1,32	1,81	3,07	5,90	1,94
2002	3,41	1,42	2,19	3,31	5,55	2,46
2003	3,45	1,40	1,96	3,32	5,09	2,93
2004	3,45	1,38	1,95	3,22	4,96	2,86
2005	3,54	1,35	2,01	3,32	5,07	3,17
2006	3,59	1,41	2,07	3,52	5,09	3,49

Source: China Statistical Yearbook 1998-2007.

From the perspective of the size of sub-categories, Economic construction is by far the largest component of total expenditure in China. The ratio of Economic construction expense to GDP was 5.09% in 2006. It increased a little from 1999 to 2002 because China has implemented an expanding fiscal policy in order to combat the economy depression. After those years it went downward to 5%. But the growth rate of public spending on economic construction is lower than the average growth rate, so its share in the total expenditure decreased from 38% in 1998 to 27% in 2006. It still has the biggest ratio, whatever relative to GDP or total expenditure. The second largest component is administrative expense. Its ratio to GDP was 3.59% and increased very fast compared with 1.9% in 1998, so its position in government expenditure has been changed and became the second largest part. The third largest component is culture, education, science and health. Its ratio was 3.52% in 2006. Compared with 2.55% in 1998, its ratio to GDP increased, but its growth rate is lower than administrative expense. In 1998 it was the second largest expense, but its second position was replaced by administrative expense in 2000. Social security expense has a relative lower share, but its growth rate is the fastest. Its ratio of GDP increased significantly from 0.19% in 1995 to 2.07% in 2006. But after 2002 its ratio became stable around 2%.(see table 5,6) One fact which should not be neglected in Chinese government expenditure is that the ratio of other expenditure to GDP was relatively high. Its ratio was 3.49% in 2006, almost same as administrative expense and the expense of culture, education, science and health. The growth rate of other expenditure was also fast. And its ratio to GDP increased from 1.58% in 1998 to 3.49% in 2006. It is necessary to clarify this important item. China has reformed its budgetary expenditure statistics in 2007. Some important information could be known by the comparison between data of 2006 and 2007. The share of other expenditure in the total government expenditure decreased from 18% in 2006 to 6% in 2007, while the expense on administrative cost and culture, education, science and health increased(see table 7). Deduced by this, both of them should have the higher ratio than the ones which was recorded in the old statistics.

Table 6 The Development of Functional Composition of Government expenditure in China (%)

Year	Administrative Expenses	National Defence	Social Security	Culture, Education, Science and Public Health	Economic Construction	Other Expenditure
1998	15	9	6	20	38	12
2006	19	7	11	18	27	18

Source: China Statistical Yearbook 1999, 2007.

Table 7 The Composition of China's Government Expenditure in 2006 and 2007 (%)

Year	Administrative Expenses	National Defence	Social Security	culture, Education, Science and Public Health	Economic Construction	Other Expenditure
2006	19	7	11	18	27	18
2007	25	7	11	24	27	6
change	6	0	0	6	0	-12

Source: China Statistical Yearbook 2007, 2008.

Social protection is the largest sub-category of total expenditure in EU. The ratio of the expenditure on social protection to GDP was 18.3% in 2006. This ratio is much higher than other sub-categories. Some countries, e.g. Germany, France and Nordic countries, have more than 20% ratio. Even the lower ratio countries, e.g. Ireland, Cyprus and Latvia, still have 10% ratio. High social protection expenditure in EU is mainly related to the high payment of old age pensions. In 2006 this budgetary item totalled almost 9% of GDP in Finland, 10% in Germany and 12-13% in Greece and Italy. The aging society is a biggest challenge to EU's budgetary policy. And its share of total expenditure also kept the highest level. The ratio of social protection expenditure to GDP keeps a high level in EU, in spite of a slight declining trend from 19.2% to 18.3% between 1998 and 2006. But its ratio in some countries still increased from 1998 to 2006. Cyprus increased from 7.7% to 10.4% and Portugal increased by 4 percents. Health expenditure by governments increased in the euro area in the period under review, with an increase being observed in the ratio of health spending to GDP in all euro area countries with the exception of Luxembourg and Austria. EU's health expenditure relative to GDP increased from 6% in 1998 to 6.6% in 2006. Between 1998 and 2006 government expenditure on education decreased relative to GDP in the euro area, but it only slightly decreased by 0.1%. The expenditure on health and education is the second biggest part of the total government expenditure. Its ratio to GDP was 11.8% in 2006. General public services also accounted for a sizeable share of total government expenditure in the euro area in 2006, despite having declined since 1998. It declined from 8% to 6.2%. Naturally its share of the total expenditure decreased quite a lot. In the case of Italy, Belgium and Greece, more than half of this expenditure was due to interest paid on these countries' public debt, which are very large in relation to GDP.^① The ratio of economic affairs to GDP keeps stable around 4%. It is a relative small part of government expenditure. If it is combined with other private activities, e.g. culture, medium and religion, its ratio relative to GDP increased and its share of total government expenditure became quite high.(see table 4,8)

^① ECB, 2009, the functional composition of government spending in the European Union, ECB monthly bulletin, p. 96.

Table 8 The Development of Functional Composition of Government Expenditure by COFOG in EU (%)

	Social Protection	Pure Public Goods	Health	Education	General Public Services	Private Activities
1998	41	7	13	11	17	11
2006	40	7	14	11	13	15

Source: This Table is Calculated on the Base of Table 4.

Some indications about the future developing trend of government expenditure in EU and China can be found from above analysis. The first is that the ratio gap of expenditure on private activities relative to GDP between EU and China will be narrowed. The ratio of China's private activities expenditure to GDP will keep stable, but its share in total government expenditure will decrease steady in the long term except it would possibly increase in a short turn when China faces a big crisis, e.g. the current crisis. An interesting thing is that the ratio of this item relative to GDP and its share of total expenditure in EU increased from 1998 to 2006 because EU inputs more money in the culture, medium and religion. In the crisis the expense on this item may be reduced, but in the long run this expense will increase and get more share of the public expenditure because people will change their preference and look for the better entertainment with the better living standard.

Secondly, the ratio gap of general public service expense to GDP between China and EU will be narrowed. From 1998 to 2006, China's expenditure on this item increased fast, especially from 1999 to 2002, which was driven by a sharp increase salary of public sector's employees. Despite Chinese government realized this problem and tried to make its ratio relative to GDP increase more slowly than before, it is difficult to improve the efficiency of this item in a short time. So its ratio relative to GDP will still increase and its share in total expenditure will keep stable or increase a little. EU achieved a lot on reducing its expense of this item. So its share in total expenditure decreased very fast, accordingly its ratio relative to GDP decreased. This trend will keep going because there is more room to reduce this expenditure than other items. In the future China will have the same ratio of this item to GDP as EU.

Thirdly, the ratio gap of redistribution, health and education expense to GDP between China and EU will be narrowed, but it is difficult to predict the changes of these items' shares in total expenditure in China and EU. In the last

several years China's expense on social security and education increased significantly attribute to the establishing social insurance and the input to the famous universities(985 and 211 programme), the growth rate of input on health was less than others because of the medical privatization reform. So the shares of expenditure on social security and education in the total expenditure increased, on the contrary, the share of health decreased. Now China intends to increase the input to the social security, public health and education. For example, China is establishing the widen coverage medical insurance including farmers, preparing to establish the social securities including farmers step by step, strengthening 9-year compulsory education and continuing to input in the famous universities. In the future their ratios relative to GDP will definitely increase, but it is difficult to judge the changes of these items' share in total expenditure considering the different growth rate. EU intends to reduce the cost of social security by many ways, e.g. extending the retired age and decreasing social security standard, and achieves a little. This item's ratios relative to GDP decreased a bit. But with the development of the aging society, it is quite difficult to largely reduce it. The public health expense maybe has the same situation as social security expense in the future. So it is difficult to foresee the trend because these items are real big challenges. EU governments always focus on the education, so its share in total expenditure will keep the current statu or increased a little.

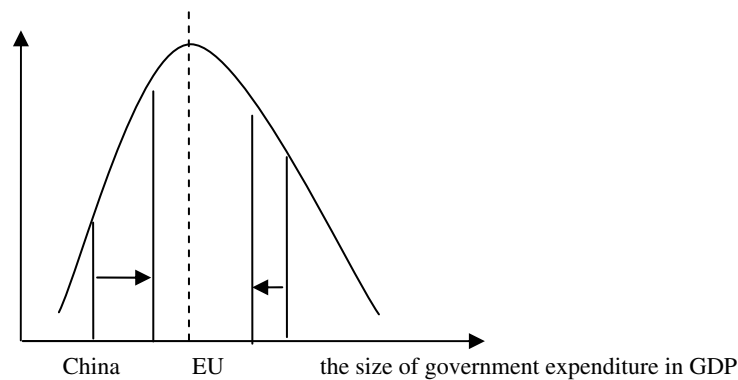
Overall the ratio gap of government expenditure to GDP between China and EU will be narrowed. The ratio of China's government expenditure to GDP will definitely be increased, especially on the social security, health and education. Although EU is trying to reduce the government expenditure to keep the sustainability of public finance, it is not easy to tackle these problems of redistribution and health considering the political influence and the aging society. The ratio of EU's government expenditure to GDP will increase a little or keep stable. From the perspective of structure of government expenditure, EU and China will have some closer shares in some sub-categories, e.g. the general public service and education, but the significant different structure between EU and China will still maintain in a long time.

IV. The Review of the Quality of Government Expenditure between China and EU and the Approaches to the Better Quality of Government Expenditure

The above shows that there is a significant difference of government expenditure between China and EU. Does it mean that one's performance of

government expenditure is worse than the other's? It is difficult to give a clear answer. The quality of government expenditure could be introduced to access it. One key problem in the whole debate, however, is that the issue of "quality" is very difficult to capture. Moreover, theoretical limitations (economic theory, econometric studies) and data and methodological problems (construction of indicators) prevent exact quantifications handoff the impact of fiscal policies on growth.^① Academics and international organisations have made some progress in this regard by shifting the focus of the analysis from the amount of resources used by a ministry or a programme (inputs) to the services delivered or outcomes achieved. There are some tentative indicators and models to evaluate some sub-category expenditure, e.g. education and health, however, there are no scientific indicators and evaluating models on the whole expenditure. In spite of these difficulties, some assessments could still be taken by using the qualitative methods, but it should be cautious.

Figure 4 The Contribution of the Size Changes of Government Expenditure to Economic Growth Economic Growth



It is worthy to compare the contribution of the size of government expenditure to economic growth. From the perspective of economy growth impact, the theoretical literature argues that the long term link between the size of government and economic growth is hump-shaped. When the government sector is very small, long-term growth could be increased by raising productivity of capital and labour through the provision of public goods. The marginal increase is positive but decreasing with the size of the public sector and becomes negative when the distortion that additional taxes create turn the

^① Afonso, A., L. Schuknecht and M. Thone ,2005, quality of public finances and growth, *ECB working paper* No.438, p. 31.

productivity gains for the economy around. Where the turning point lies, remains a key question and depends on structural factors, such as the development stage of the economy, the composition of expenditure and tax structures chosen to fund public spending. Many empirical findings support this theory. This finding is robust true for the three decade since 1980 as well as the entire sample period. But it is difficult to decide the turning point. Most of European papers found EU lies in the right side.^① It seems that China locates in the left side of the turning point because many items, e.g. education, health and infrastructure sector are still less developed and China still gain the positive marginal benefit of the input.^② (see graph 4) It is difficult to judge which player is closer to the turning point, so it is not clear which player achieve a higher growth impact. If China is closer to the turning point, China perhaps achieve a higher growth impact. However, graph 4 shows that the increased size of government expenditure in China has a positive implication to economy growth, on the contrary, EU should reduce the size. From 1998 to 2007, the ratio of government expenditure to GDP increased by 50 percent while EU's ratio kept stable. From this side, China has achieved more than EU. However there is a different argue. Larger public sectors do not necessarily have to impinge on the growth potential even in a high development stage, if distortions are kept low through, for example efficient expenditure and tax structures or flexible market structures. So the effectiveness and efficiency of expenditure should be considered.

In terms of the expenditure structure, it seemed as if China has a more growth-enhancing type of expenditure. In theory, public expenditure that provides public goods and addresses market failures and externalities without creating greater distortions can be growth-enhancing. While theory offers a framework to identify 'growth-enhancing' types of expenditure, in practice this assessment is difficult to make. Against the backdrop of such methodological difficulties, empirical studies have nevertheless identified certain types of expenditure that have been associated with higher growth. Using a functional classification, the types of public expenditure that have been found to raise growth vary strongly with the data sample. Some studies find only education, R&D and public infrastructure spending to be growth enhancing, others also include spending on health, public order and safety, and environment protection.^③ Redistributive

^① European Commission, Public finances in EMU 2008, pp.135-136.

^② Liu Lun-wu, 2005, Dynamic Econometrical Model and Analysis on Promoting Effect of Infrastructure Investment on Economic Growth, Application of Statistics and Management, Vol(25), No.2, pp. 60-66.

^③ European Commission, Public Finance in EMU 2003 and 2004.

spending by contrast can undermine growth by reducing incentives to work, invest in human capital or exercise entrepreneurial talents. Early retirement incentives or generous social assistance reduce labour supply and the incentive to maintain one's human capital.^① According to this, China has a much higher share of these items in public expenditure than EU, especially on education and public infrastructure. In the meantime China has a much lower share on social security than EU has. But EU has a better expenditure on health and general government service, e.g. its share of health expense in government expenditure is much higher than China. All in all it seemed as if China has a better expenditure structure.

From the above, it seemed as if China has better quality of government expenditure than EU. It is not quite right. The above analysis only shows that China has more positive changes on government expenditure than EU. EU has a much higher ratio of government expenditure to GDP. Moreover every component of EU's public expenditure has a higher ratio to GDP. From this perspective, EU's quality of government expenditure is absolutely better than China's. However, the above assessments are imperfect. The efficiency comparison has not been made because the lack of comprehensive indicators. And the assessments are one-sided. Only economic impact is considered and the social impact is neglected.

In fact both of China and EU do not have a very good quality of public finance. China and EU have the same big problem on the redistribution expenditure, but different position. China pays too less on this item, on the contrary, EU pays too much. Some argue that spending on basic social safety nets reduces the need for precautionary savings and enhances the ability for risk taking and insofar could serve as a growth-promoting institutional factor, only the increased spending beyond basic safety nets can be assumed to retard growth.^②

China and EU should modify their government expenditure because of the imperfect situation, however, the room to maneuver is different for China and EU. EU's government expenditure will become worse because of the current crisis. It is a bit easier to increase the expense than control or reduce it. And China can learn from EU and avoid the policy mistakes. However, one of the EU's comparative advantages is that member states can exchange good

^① Afonso, A., L. Schuknecht and M. Thone ,2005, "quality of public finances and growth", *ECB working paper* No.438, p. 11

^② Afonso, A., L. Schuknecht and M. Thone ,2005, "quality of public finances and growth", *ECB working paper* No.438, p. 11.

experience effectively. Member states are in charge of the fiscal policy, so they have incentives to modify it. Member states care about each other's fiscal policy and can give pressure to each other because the fiscal policy has a spill over effect on other member states, especially in one union. It is good to achieve policy innovation by discussing and exchanging experience with each other. EU can quickly spread the best experience inside. Although China has a bigger maneuvering room than EU, EU has an institutional comparative advantage if EU adopts its government expenditure in a coordinated way. So China and EU have their own competitiveness to improve the quality of government expenditure in the future.

China and EU should adopt different approaches because they face different situations. China faces the challenge how to take more responsibilities and strengthen the growth-enhancing expenditure structure meanwhile increasing the expenditure size according to its developing period. The key issue for China is how much and how fast it should be increased and how to spend it effectively and efficiently given the scarcity of government expenditure. China must balance different inputs. It appears that China should urgently expend more money on social security. Despite it is not very clear that increasing social security has a positive impact on the domestic private consumption in theory and empirical studies, it is good for China to build the social security to boom the domestic private consumption to achieve the better economy development in the current situation. China also needs a stable input to education and health sectors and the private affairs including the economic affairs, culture, entertainment and sports sectors. EU has a big budgetary burden and needs to control the size of government expenditure, furthermore EU should reallocate its budgetary resources to achieve a better growth-enhancing expenditure structure.

A reallocation of public resources alone cannot be a sufficient strategy to improve the quality of public expenditure but it needs to be supplemented by a more efficient use of public resources, which would also allow lowering the size of the public sector and create fiscal space for new demands.^① It is true that larger public sectors do not necessarily have to impinge on the growth potential even in a high development stage, if distortions are kept low. Some Nordic countries do it very well. But it is better for a big economy pole to control the budget. Small economy units can be bailed by other economy units. It is not easy for the government of a big economy unit to borrow enough money

^① European Commission, Public finances in EMU 2008, p. 140.

from the market when it has a high expenditure because market investors would doubt whether the government can pay back. No one has the capacity to bail a big economy unit. This will hurt the sustainability of public finance and perhaps lead to inflation. A range of indicators suggest that better public sector performance is largely uncorrelated with increased public spending (Figure 5). This indicates declining marginal returns for public spending and suggests that it is possible to obtain favorable outcomes for key policy objectives with levels of public spending that are lower than those observed today in many countries.^① When China and EU try to build the growth-enhancing structure of government expenditure, China and EU should have a cautious attitude to spend in economy affairs. In the current crisis the governments implemented many programmes to stimulate economy, e.g. bail-out to banking sector and car industry. It is understandable in a crisis. But excess intervention will hurt the long term growth because public investment perhaps crowd out private investment. Normally private investment is more efficient than public investment. For example we should be more smart to spend money on R&D. As only a slight majority of econometric research supports the notion of complementarities,^② public R&D maybe substitutes the private R&D. So it is necessary to find ways to link public investment to private investment to increase the efficiency.

Overall, China and EU should find their own suitable size and structure of government expenditure and spend it in an efficient way to improve the quality of government expenditure. The survey of different empirical studies shows that an objective and unambiguous overall catalogue of "high quality"-expenditure items is not feasible. There is no cook book for growth.^③ In spite that China and EU should find their own suitable size and structure of government expenditure, the government expenditure policies of China and EU have spill over effect to each other. Although many factors have the impact on competitiveness, labor cost is one of the important factors. Globalization is one of the reasons why EU wants to reduce the expenditure on social security. EU intends to improve the competitiveness by reducing labor cost. It can be partly achieved by controlling expenditure on social security. EU's welfare model also has the impact on China's social policy. Chinese will argue that Chinese should

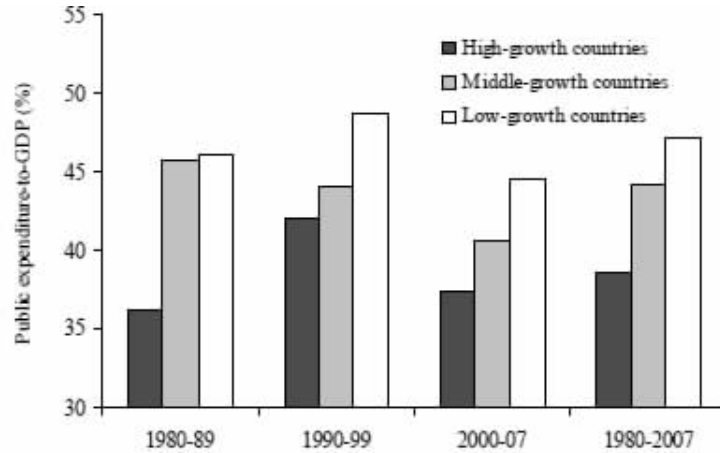
^① ECB, 2009, the functional composition of government spending in the European Union, ECB monthly bulletin, p. 99.

^② David, Hall and Toole, 2000, survey 30 empirical studies and come to a comparable conclusion. David, P.; Hall, B. and Toole, A. ,2000, "Is Public R&D a Complement or Substitute for Private R&D? A Review of the Econometric Evidence," *Research Policy*, Vol. 29, pp. 497-529.

^③ Afonso, A., L, Schuknecht and M. Thone, 2005, "quality of public finances and growth", *ECB working paper* No.438, p. 32.

have good social welfare as European have with the economy development. To some extent the future development of government expenditure between China and EU is interlinked.

Figure5 Government Size and Economic Growth 1980-2007



Source: Public Finances in EMU 2008, p.136.

V. Conclusions

China has a much lower ratio of government expenditure to GDP than EU. Their government expenditure structure is also quite different. And this difference shows the different strategy and understanding in different development phase. Chinese government expenditure focuses on economy affairs and EU spends much on redistribution. In spite that China and EU have different focuses, the ratios of government expenditure on each sub-items to GDP of EU are higher than the ones of China because EU's size of total government expenditure is much higher than China's. In the long run, the ratio of China's government expenditure to GDP will definitely be increased. And EU is trying to reduce the government expenditure to keep the sustainability of public finance, especially on redistribution. So the ratio gap of government expenditure to GDP between China and EU will be narrowed. From the structure of government expenditure, EU and China will have some closer shares in some sectors, e.g. the general public service and education, but the big different structure between EU and China will still maintain in a long time.

It is difficult to judge which side has a better quality of government expenditure because scientific indicators to assess the whole expenditure are not easily found. It is an urgent issue to build a set of indicators to assess the quality of the government expenditure. From the perspective of expense structure, China has better quality of government expenditure than EU because China has a growth-enhancing structure. From the perspective of expense amount, EU has better quality of government expenditure than China because EU has a higher ratio of expenditure on each sub-category to GDP. However, the assessments are imperfect. The efficiency comparison has not been made because the lack of quantitative methods. And the assessments are one-sided. Only economic impact is considered and the social impact is neglected. It seems as if China has more positive changes on government expenditure than EU in the past decade. In fact both of China and EU do not have a very good quality of public finance, but the room to maneuver is different for China and EU. It is a bit easier to increase the expense than control or reduce it. And China can learn from EU and avoid the policy mistakes. Although China has a bigger maneuvering room than EU, EU has an institutional comparative advantage if EU adopts its government expenditure in a coordinated way.

China and EU should adopt different ways because they face different situation. China faces the challenge how to take more responsibilities and strengthen the growth-enhancing expenditure structure meanwhile increasing the expenditure size according to its developing period because China still gains positive marginal benefit of government expenditure. It appears that China should urgently expend more money on social security and need a stable input to education and health sector and the private affairs including the economic affairs, culture, entertainment and sports sectors. EU has a big budgetary burden and need control the size of government expenditure, furthermore EU should reallocate its budgetary resource to achieve a better growth-enhancing expenditure structure. A reallocation of public resources alone cannot be a sufficient strategy to improve the quality of public expenditure but it needs to be supplemented by a more efficient use of public resources, which would also allow lowering the size of the public sector and create fiscal space for new demands.^①

Overall, China and EU should find their own suitable size and structure of government expenditure and try to spend it in an efficient way, however, the government expenditure policies of China and EU have spill over effect to each

^① European Commission, Public finances in EMU 2008, p. 140.

other. To some extent the future development of government expenditure between China and EU is interlinked.

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