The Quest for Welfare Spending Equalization in China:

A Fiscal Federalism Perspective

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Abstract

The welfare state is yet withering away in the era of globalization since developed countries have spent more for social services than less-developed countries. China in transition bears some analogy to the case above, i.e., the more developed regions, the more welfare spending. However, the equity issue of welfare spending across regions has to be addressed for building a harmonious society. A compound fiscal system is argued for welfare spending equalization from a fiscal federalism perspective. While regional fiscal diversity is allowed in this study, unlike other studies on central transfer payment, the determinants of two welfare expenditure equalization measurements are explored empirically across regions by means of multiple regression analysis and then factor analysis. The two-factor solutions do separate the market-based approach from the government-based approach. Specifically, market efficiency warrants the linkage of economic development and welfare expenditure, and welfare state does the linkage of fiscal expenditure size and welfare spending equalization. In conclusion, fiscal federalism in association with a market economy makes more sense for reconciling efficiency and equity with respect to a welfare state system.

Keywords: fiscal federalism; welfare spending equalization; China in transition

China has been in transition from a centrally-planned economy towards a market-oriented economy since the late 1970s. As a matter of fact, the transition started in rural areas with the family-based contractual scheme, and then in the mid-1980s extended to urban areas with a Pareto-improvement strategy of reforming the state sector for efficiency gain while letting the non-state sector boomed. Thanks to the logic of market efficiency, enterprise corporations of the state sector as well as the non-state sector have played the engine role with respect to China's economic growth.

Concretely speaking, the gross domestic product (GDP) went up to 21,087.10 billion RMB yuan in 2006 from 364.52 billion RMB yuan in 1978. Meanwhile, per capita GDP rose up to 16,084 RMB yuan in 2006 from 381 RMB yuan in 1978. In other words, from 1978 through 2006 the average growth rate of GDP is 15.60% while the average growth rate of per capita GDP 14.30%, noting that inflation rate is not taken into account. However, according to the data provided by the World Bank, the Gini coefficient measuring the equality of income distribution was increased from about 0.30 in the early 1980s to about 0.47 in 2006, not to mention the income polarization across regions, sectors, and even groups.

In order to balance market efficiency and societal equity, the Hu-Wen Administration of contemporary China is willing to establish a harmonious society, in the sense of the "Great Society" of the United States in the 1960s, by means of equalizing social services such as education, health care, social security (including social welfare and relief), and affordable housing for sustainable development into the 21st century. Conventional wisdom suggests the mixed economy of market and government, which means that the former takes care of economic growth, while the latter does social security.

However, the welfare state is argued to survive economic globalization (Rieger & Leibfried, 1998; Pierson, 2001; Rudra, 2002). To some extent, the core argument of the welfare state lies in its sustainable fiscal capability to meet the public demand of social services including social security. Some scholars call for alternatives for delivering social services (Savas, 1977; Salamon, 1995). And others insist on the certain role the state (government) plays (Stiglitz, 1988; Bailey, 1991). Thus, the significant questions for social policy studies are what role the state plays in the provision of social services, and how?

Based upon the perspective of fiscal federalism, a compound fiscal system is argued for social services delivery in search of the better performance in terms of effectiveness, efficiency, equity, and responsiveness (Oates, 1972; Ostrom, 1991). Moreover, it is assumed that equalizing welfare spending equivalent to equalizing social services in such a fiscal system. And a centralized system of transfer payment may be legitimate to equalize local (regional) fiscal disparity resulted from a

decentralized system of welfare spending (Mikesell, 1995).

This paper focuses on regional fiscal disparity rather than central transfer payment. Specifically, the first section argues that regional fiscal disparity with respect to welfare spending equalization is resulted from a compound fiscal system emerged in China during the transition period. As for the second section, two comparable measurements for welfare spending equalization are chosen, and the significant determinants of them are tested through a multiple regression model. With the diagnosed collinearity, exploratory factor analysis is thus applied in the third section to spell out any structural (association) pattern of all the dependent and independent variables. Finally, regional patterns for equalization are discussed on the basis of the two factor solution, which does separate of the government-based from the market-based equalization.

A Compound Fiscal System

Since the late 1970s, reforming and opening-up policy has been adopted in socialist China. While market-oriented reforms to great extent have been accounted for the rapidly growing of the Chinese economy, the center of governmental functions has been changed from producing economic welfare to providing social welfare. For example, the consolidated government expenditure in 1978 shows that the share of economic construction in the total expenditure is 64%, while the share of social services 13%. However, the total expenditure structure in 2002 is taken on 29% the share of economic construction while 27% the share of social services. Thus, it seems to be confirmed with respect to welfare economics that government takes care of societal equity while market does economic efficiency.
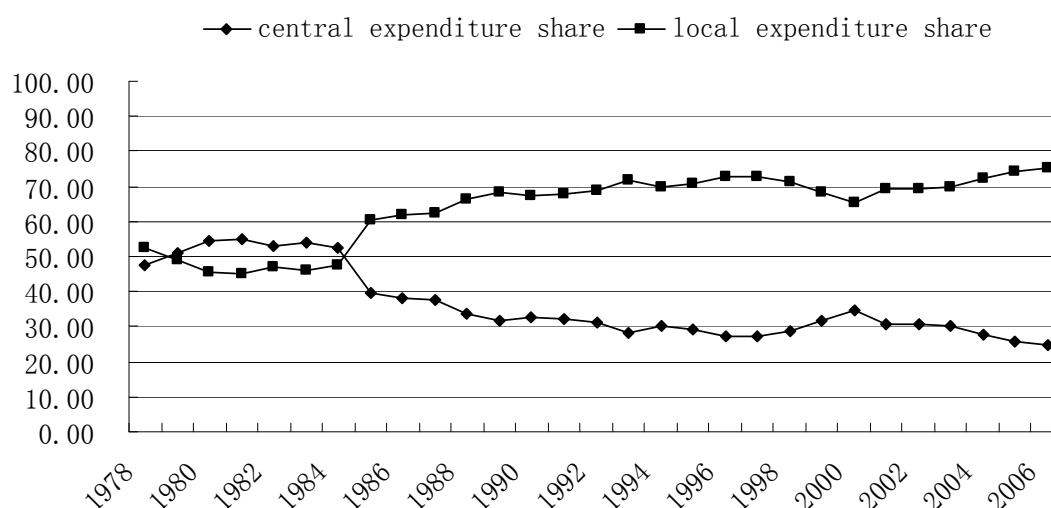

Figure 1 Decentralized fiscal expenditure system in China, 1978-2006
Source: China State Statistical Yearbook (2003 and 2007).

Unlike other fiscal systems of unitary countries, China's fiscal expenditure system has been decentralized since the local (non-central) expenditure share in the total expenditure was increased from about 47% in 1984 to about 75% in 2006 (see Figure 1). On the contrary, the fiscal revenue system has been centralized since the central revenue share in the total revenue was increased from about 22% in 1993 to about 53% in 2006 (see Figure 2). To some extent, it was in 1994 which marks the institutional transition towards a fiscal federalism for the power of taxation is formally divided and shared between central government and local governments.

According to fiscal federalism, fiscal revenue and fiscal expenditure like the two sides of a coin need to be balanced at the local level in terms of fiscal equivalence, and then central transfer payment at the national level is necessary for the sake of fiscal equalization (Musgrave, et al., 1987). Thus, such a compound fiscal system of expenditure decentralization (see local expenditure share in Figure 1) and revenue centralization (see central revenue share in Figure 2) makes more sense since a centralized fiscal revenue system is conducive to effective transfer payment by central government while a decentralized fiscal expenditure system to effective services delivery by local (regional) governments.
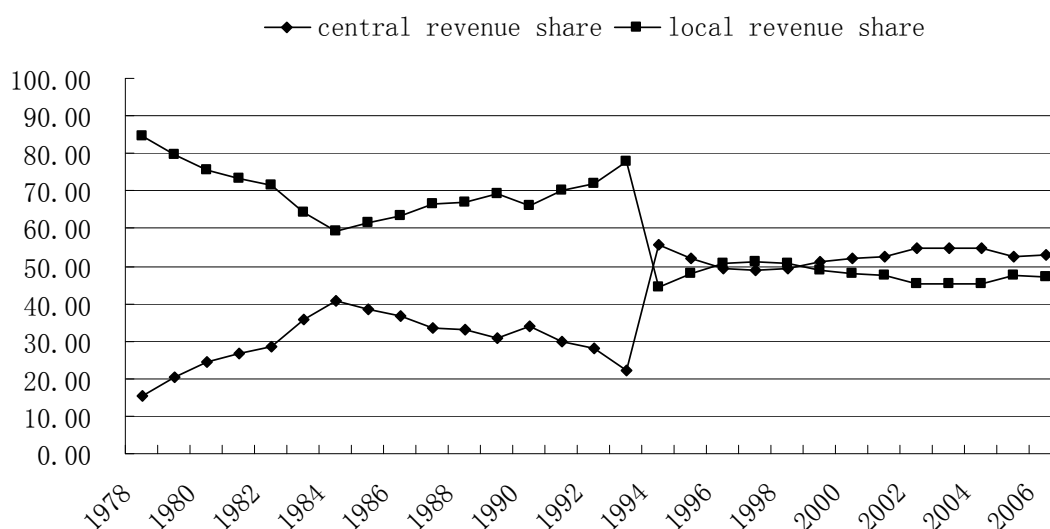

Figure 2 Centralized fiscal revenue system in China, 1978-2006
Source: China State Statistical Yearbook (2003 and 2007).

By the same token, the fiscal expenditure system for social services delivery is also compounded by central and local governments (see Table 1). Social services here refer to education, health care, and social security (including social insurance and social welfare), and the consolidated expenditure for social services is thus composed of such three parts as (1) the expenditure on education; (2) the expenditure on health care; and (3) the expenditure on social security. With respect to the fiscal case of China in transition, the expenditure on social security is decomposed into three parts such as pensions and relief funds for social welfare; subsidies to social security

programs; and pensions for retired civil servants.

Table 1 Welfare spending compound, 2002 & 2006 (in billions RMB)

	2002			2006		
	Subtotal	Central	Local	Subtotal	Central	Local
Education	264.498	21.025	243.473	478.041	29.523	448.518
	(48.45%)	(7.95%)	(92.05%)	(45.69%)	(6.18%)	(93.82%)
Health care	63.504	1.725	61.779	132.023	2.423	129.600
	(11.63%)	(2.72%)	(97.28%)	(12.62%)	(1.84%)	(98.16%)
Social security	217.904	14.176	203.728	436.178	35.621	400.557
	(39.92%)	(6.51%)	(93.49%)	(41.69%)	(8.17%)	(91.83%)
Total	545.906	36.926	508.980	1,046.242	67.567	978.675
	(100%)	(6.76%)	(93.24%)	(100%)	(6.46%)	(93.54%)

Source: China State Statistical Yearbook (2003 & 2007).

Note: Welfare spending is vertically classified by service types, while horizontally by government level. Percentages in parentheses refer mainly to the central and local expenditure shares in subtotal welfare spending.

Obviously, Table 1 shows that the welfare spending system in China is extremely decentralized in terms of 90% above all the local expenditure shares in the subtotals and the total. To put it further, the expenditure priority for social services seems to be derived from as follows: education comes first, social security the second, and health care the third (see the subtotal column in Table 1). However, the education expenditure share in the total is slowly decreased from 2002 through 2006, in contrast with social security and health care shares. More precisely, it is 15.95% growth rate per year of education expenditure from 2002 through 2006, less than 20.08% for social security and 18.95% health care, which accounts for the decreasing education share in the total.

A compound fiscal system works for equalizing social services according to fiscal federalism. On the one hand, fiscal decentralization is good at responding to local preferences of public goods and services. And the efficiency principle of fiscal equivalence can be carried out at the local level through "voting with feet". On the other hand, fiscal centralization is conducive to redistribution for the sake of societal equity through central transfer payment. And a centralized fiscal system is good at fiscal integration of costs and benefits in terms of the economy of scale. It is no doubt that fiscal decentralization and fiscal centralization just like the two sides of a coin are complementary to each other within a compound fiscal system.

However, a fiscal federalism perspective also spells out fiscal disparity across regions. In fact, a compound fiscal system in China shows the emerging regional disparity of fiscal capability (see Figure 3), which is here indicated by the percentage of its negative deficit (expenditure minus revenue) over its revenue with respect to a region. It says for regional government that the less the percentage, the more fiscal

capability. Obviously, the less fiscal capability by regional government means the more fiscal dependence upon central transfer payment. Based upon the 2006 data of budgetary expenditure and revenue by region, regional disparity of fiscal capability is mapped out in Figure 3. Specifically, eastern coastal regions such as Shanghai, Zhejiang, Jiangsu, Tianjin, Shandong, and Fujian show the more fiscal capability while western peripheral regions such as Tibet, Qinghai, Gansu, Ningxia, and Xinjiang the more fiscal dependence.
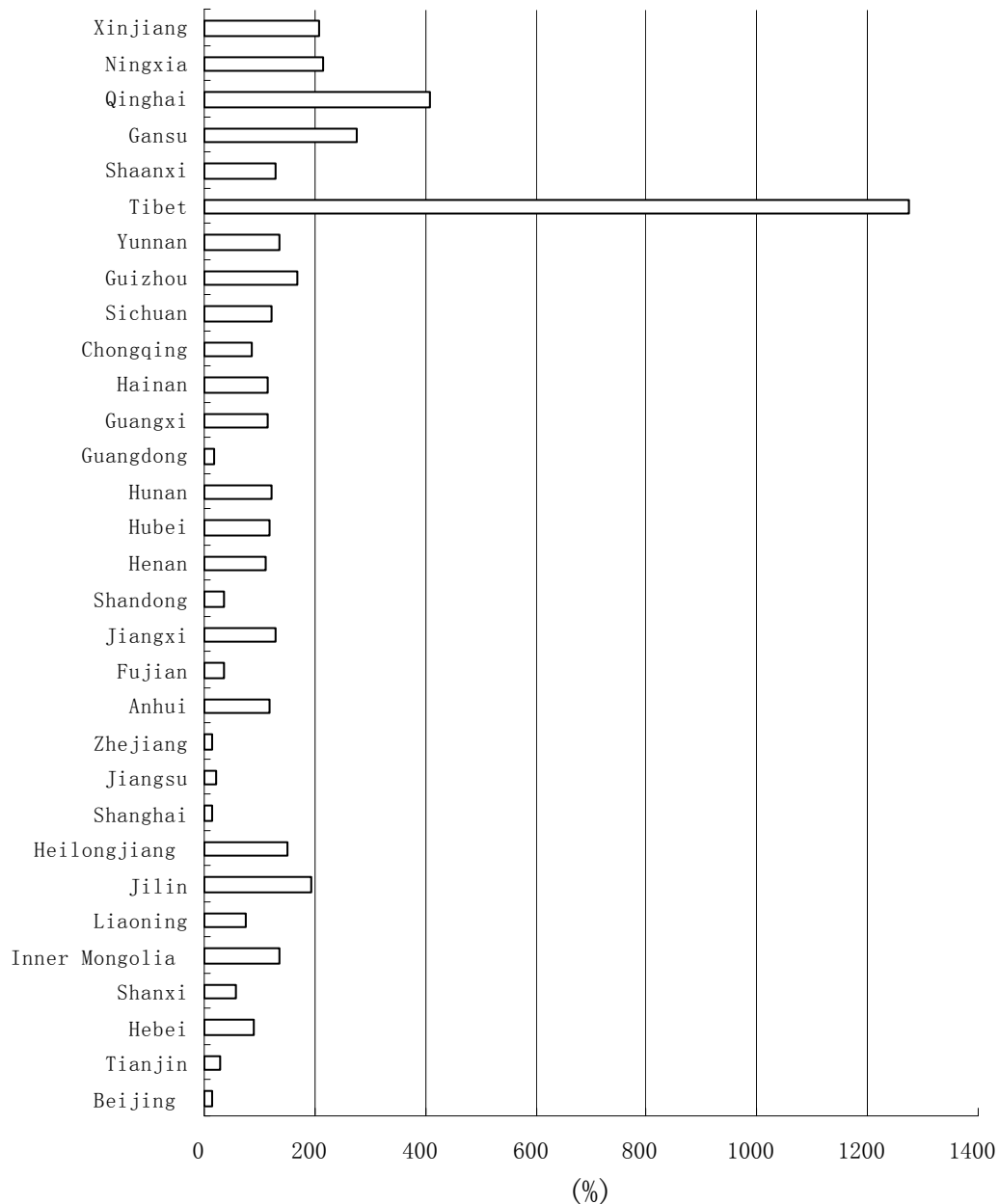

Figure 3 Regional disparity of fiscal capability, 2006
Source: China State Statistical Yearbook (2007).

Welfare Spending Equalization Determinants

Just as fiscal capability shows regional disparity, so does welfare spending. Based on the per capita welfare spending data by region, Table 2 shows generally larger per capita expenditure disparities in 1998 than in 2006 indicated by coefficient of variation. In other words, regional disparities of per capita welfare spending are significantly reduced from 1998 through 2006 (see coefficients of variations in Table 2). Moreover, per capita health care expenditure shows more regional disparity than per capita expenditures for education and social security (see coefficients of variations in Table 2). Thus, according to the mean values of Table 2, the average growth rates of per capita welfare spending from 1998 through 2006 can be calculated, which are 19.36% for total expenditure, 16.50% for education, 14.50% for health care, and 26.41% for social security.

Table2 Per capita welfare spending disparities, 1998 through 2006

		Per capita total welfare spending (RMB yuan)	Per capita education expenditure (RMB yuan)	Per capita health care expenditure (RMB yuan)	Per capita social security expenditure (RMB yuan)
1998	National	..	..	..	..
	Mean	224.45	121.97	44.08	58.40
	S.D.	145.98	85.29	38.00	35.04
	C.V.	0.65	0.70	0.86	0.60
2002	National	424.99	205.91	49.44	169.64
	Mean	499.15	230.48	65.41	203.26
	S.D.	253.92	138.90	54.61	108.63
	C.V.	0.51	0.60	0.83	0.53
2006	National	795.94	363.67	100.44	331.83
	Mean	924.68	413.86	130.16	380.66
	S.D.	477.62	226.19	102.40	195.71
	C.V.	0.52	0.55	0.79	0.51

Source: China State Statistical Yearbook (1999 & 2007).

Note: S.D. denotes standard deviation while C.V. does coefficient of variation.

By the same token, Table 3 shows the welfare spending size disparities from 1998 through 2006. Generally, the welfare spending size with respect to GDP is less diverse across region but more equalized through time than the per capita welfare spending (see coefficients of variations in Table 2 and Table 3). Specifically, the education and health care expenditure sizes are less diverse across region but more equalized through time than the per capita education and per capita health care expenditures (see coefficients of variations in Table 2 and Table 3). However, the social security expenditure size is more diverse across region but more equalized through time than the per capita social security expenditure (see coefficients of variations in Table 2 and Table 3). Overall, just as the welfare spending across region is more equalized through time, both the size and per capita term of welfare spending are jointly

increased from 1998 through 2006.

Table3 Welfare spending size disparities, 1998 through 2006

		Share of total welfare spending in GDP (%)	Share of education expenditure in GDP (%)	Share of health care expenditure in GDP (%)	Share of social security expenditure in GDP (%)
1998	National	..	..	..	..
	Mean	3.47	1.84	0.65	0.98
	S.D.	1.84	0.87	0.44	0.70
	C.V.	0.53	0.48	0.67	0.71
2002	National	4.54	2.20	0.53	1.81
	Mean	5.95	2.62	0.73	2.60
	S.D.	2.94	1.19	0.52	1.65
	C.V.	0.49	0.46	0.71	0.63
2006	National	4.96	2.27	0.63	2.07
	Mean	5.75	2.54	0.78	2.43
	S.D.	2.57	1.18	0.50	1.24
	C.V.	0.45	0.46	0.64	0.51

Source: China State Statistical Yearbook (1999 & 2007).

Note: S.D. denotes standard deviation while C.V. does coefficient of variation.

Thus, it is argued for fiscal equalization of welfare spending to reduce regional disparity. Unlike most public finance studies, in which fiscal equalization means to establish a federal grant system, this paper goes beyond to address the equalization issue in the broader sense of public policy and management. Social goods and services such as education, health care, social security, and affordable housing are in nature characterized with the mixture of both private and public goods and services (Savas, 1977). As a matter of fact, publicly financing (the government-based approach) is complementary to privately financing (the market-based approach) with respect to the delivery of social goods and services. Therefore, financing social security may rely more upon individual and collective contributions, while financing education and health care more upon fiscal expenditure.

As far as the role government played is concerned, equalizing social services to some extent means equalizing welfare spending. Two evaluative measurements are chosen as dependent variables in this study; one is per capita welfare spending (PERSOEX), and the other is the welfare spending share in GDP (SOEXGDP). However, as far as societal equity is concerned, per capita welfare spending is argued to be compatible with the welfare spending share in GDP. Moreover, independent variables are per capita GDP (PERGDP) as the indicator of economic development level, the total fiscal expenditure share in GDP (TOEXGDP) as the indicator of public sector size, and the welfare spending share in the total fiscal expenditure (SOEXTOT) as the indicator of social protection priority. Accordingly, multiple regression models

are thus set up with a general form as follows:

$$\text{PERSOEX/SOEXGDP} = \text{Const.} + \beta_1 \text{PERGDP} + \beta_2 \text{TOEXGDP} + \beta_3 \text{SOEXTOT} + \varepsilon.$$

Such a regression model is hypothesized that either per capita welfare spending or the welfare spending share in GDP is determined by per capita GDP, the total fiscal expenditure share in GDP, and the welfare spending share in total fiscal expenditure. Based upon the 1998 and 2006 provincial (regional) statistical data in the transformed values of natural logarithm, three set of multiple regression models are estimated for the goodness of fit, which are the 1998 models, the 2006 models, and the change models of the 2006 values minus the 1998 ones. And the standardized regression coefficients thereof are shown in Table 4 with adjusted R squares.

Table 4 Standardized regression coefficients, 1998 & 2006

	1998		2006		change (2006-1998)	
	PERSOEX	SOEXGDP	PERSOEX	SOEXGDP	PERSOEX	SOEXGDP
PERGDP	1.031**	0.001	1.270**	-0.001	0.752**	-0.003
TOEXGDP	0.860**	1.068**	1.032**	1.033**	0.896**	0.783**
SOEXTOT	0.247**	0.306**	0.349**	0.352**	0.748**	0.650**
Adjusted R square	1.000	1.000	1.000	1.000	0.996	0.999

Source: China State Statistical Yearbook (1999 & 2007).

Note: All requested variables are entered by method.

It is observed from Table 4 that per capita welfare spending is significantly determined by all the independent variables while the welfare spending share in GDP only by the total fiscal expenditure share in GDP (public sector size) as well as the welfare spending share in the total fiscal expenditure (social protection priority). And such a structural pattern of regression coefficients is not significantly changed from 1998 through 2006. To put it further, it seems plausible that economic development level (per capita GDP) is not conducive to the welfare spending size (the welfare spending share in GDP) but to the welfare spending equalization (per capita welfare spending). However, the welfare spending size through time is significantly determined by the public sector size (the total fiscal expenditure share in GDP) and/or the social protection priority (the welfare spending share in the total fiscal expenditure).

Exploratory Factor Analysis

On the basis of collinearity diagnostics, since all the independent variables are able to be linearly combined into one dimension with respect to each dependent

variable, it is necessary to explore any potential structural relationship between independent and dependent variables. Thus, the Pearson correlations between all the variables are calculated and then shown in Table 4. First of all, there is obviously no positive correlation between all the independent variables. Specifically, economic development level (per capita GDP) is negatively related with public sector size (the total fiscal expenditure in GDP) as well as social protection priority (the welfare spending share in the total fiscal expenditure) through time. Thus, all the determinants (independent variables) may be structured into two different categories; one is the market-based approach in association with per capita GDP, and the other is the government-based approach in association with the social protection priority (SOEXTOT) and the public sector size (TOEXGDP).

Table 5. Pearson correlation matrix, 1998 & 2006

	1998				
	PERSOEX	SOEXGDP	PERGDP	TOEXGDP	SOEXTOT
PERSOEX	1.000				
SOEXGDP	0.365*	1.000			
PERGDP	0.686**	-0.427*	1.000		
TOEXGDP	0.418*	0.958**	-0.343	1.000	
SOEXTOT	-0.267	-0.076	-0.201	-0.357*	1.000
	2006				
PERSOEX	1.000				
SOEXGDP	0.191	1.000			
PERGDP	0.636**	0.636**	1.000		
TOEXGDP	0.326	0.941**	-0.484*	1.000	
SOEXTOT	-0.413*	0.081	-0.386*	-0.263	1.000
	change (2006-1998)				
PERSOEX	1.000				
SOEXGDP	0.759**	1.000			
PERGDP	0.168	-0.512**	1.000		
TOEXGDP	0.681**	0.758**	-0.246	1.000	
SOEXTOT	0.348	0.621**	-0.485**	-0.039	1.000

Source: China State Statistical Yearbook (1999 & 2007).

Note: ** Correlation is significant at the 0.01 level (2-tailed), while * correlation is significant at the 0.05 level (2-tailed).

Second, as for dependent variables, a weak positive correlation is shown in 1998 but no correlation found in 2006. However, there is a strong positive correlation between the differences of dependent variables from 1998 through 2006. From a perspective of policy performance evaluation (Pollitt & Bouckaert, 1999), per capita welfare spending is more related with social policy outcome, while the welfare spending share in GDP is more with social policy output with respect to social expenditure equalization. As a matter of fact, with the change terms from 1998 through 2006, a significant correlation with the 0.759 coefficient is shown remarkably

between per capita welfare spending and welfare spending size (see Table 5).

Third, the welfare spending size is significantly correlated with public sector size, while per capita welfare spending significantly with economic development level with respect to both the 1998 models and the 2006 models. Moreover, there is no significant positive correlation between per capita welfare spending and social protection priority, nor is the correlation between welfare spending size and social protection priority. However, there are significant positive correlations between the change terms from 1998 through 2006 with respect to per capita welfare spending, welfare spending size, and public sector size.

Finally, for the Pearson correlation matrix does show more rather than less significant correlations among dependent and independent variables, it thus suggests an underpinning structure, which needs to be spelled out through the method of factor analysis. Based upon the Pearson correlations, factor analysis together with rotation technique is thus conducted. The two-factor solutions are resulted from (see Table 6), which seems to be expected from the two by two conceptual relationships of independent variables with dependent variables discussed above.

Table 6 Rotated factor loadings matrix, 1998 & 2006

	1998		2006		change (2006-1998)	
	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2
PERSOEX	0.235	0.915	0.151	0.898	0.942	0.004
SOEXGDP	0.973	0.070	0.986	-0.029	0.808	0.588
PERGDP	-0.532	0.834	-0.657	0.728	0.021	-0.888
TOEXGDP	0.976	0.216	0.971	0.229	0.886	0.061
SOEXTOT	-0.224	-0.529	-0.050	-0.753	0.176	0.827
Eigenvalue	2.347	1.804	2.400	1.929	2.803	1.377

Source: China State Statistical Yearbook (1999 & 2007).

Note: all the data by region are in the ln value. Extraction method is Principal Component Analysis while rotation method Varimax with Kaiser Normalization.

By and large, according to Table6, the 2006 structure of factor loading coefficients is not significantly changed from the 1998 structure, in which the first factor is significantly positively related with SOEXGDP and TOEXGDP but negatively with PERGDP, while the second factor is significantly positively with PERSOEX and PERGDP but negatively with SOETOT. And then we can paraphrase visually the multiple regression models discussed above by means of the path diagram of two factor solutions, which is able to show any causal patterns of dependent variables such as PERSOEX and SOEXGDP and independent variables such as PERGDP, TOEXGDP, and SOEXTOT (see Figure 4).

Specifically, as far as Figure 4 is concerned, the bold line denotes a positive linkage, and the dot-and-dash line does a negative linkage. Furthermore, the frist

factor spells out the causal positive linkage of public sector size and welfare spending size as well as the causal negative linkage of economic development level and welfare spending size. Meanwhile, the second factor does the causal positive linkage of economic development and per capita welfare spending as well as the causal negative linkage of social protection priority and per capita welfare spending.
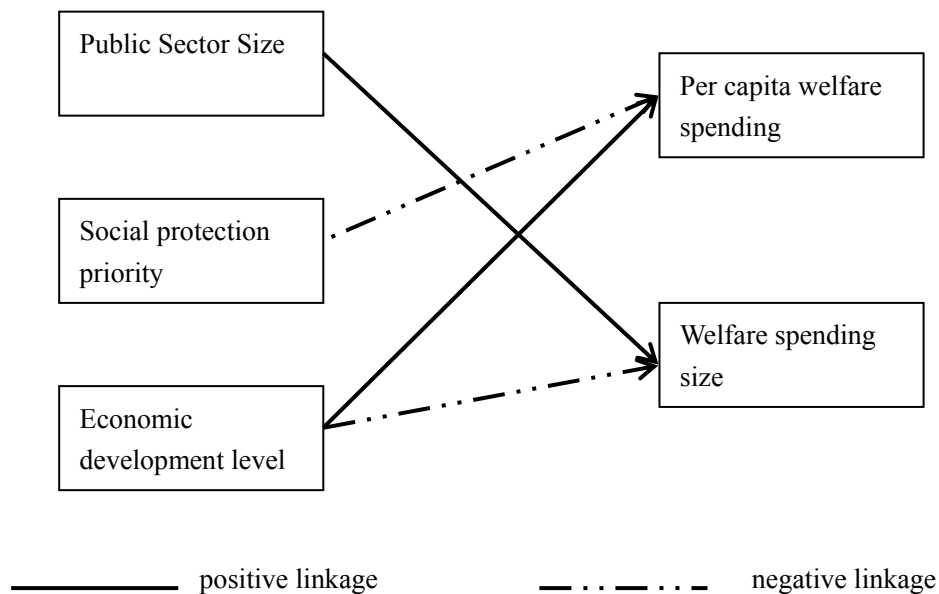

Figure 4 Path diagram for two factor solutions without change terms
Note: Based upon the data from Table 6.

Thus, we may label the first factor the government-based approach, whereas the second factor the market-based approach, since factor solutions are based upon principal component method with orthogonal rotation. To put it further, the government-based approach, which is also regarded as the welfare state approach, assumes that increasing public sector size is conducive to reducing welfare spending disparity in terms of welfare spending size. In contrast, the market-based approach assumes that accelerating economic development level is conducive to welfare spending equalization in terms of per capita welfare spending.

However, the two separated approaches above, which are corresponded with the two separate multiple regression models discussed previously, need to be reconciled with respect to welfare spending equalization. As for the two dependent variables, welfare spending size can be regarded as welfare policy output, while per capita welfare spending as welfare policy outcome through the perspective of policy performance evaluation. To great extent, any causal relationships among dependent variables and independent variables seems to be harmonized through time by the two factor solutions with change terms from 1998 through 2006 (see Figure 5).

Empirically, based upon the path diagram of two factor solutions with change

terms from 1998 through 2006, causal positive linkages through time are seen among public sector size, per capita welfare spending, and welfare spending size, as far as the first factor is concerned (see Figure 5). Moreover, the second factor spells out a causal positive linkage of social protection priority and welfare spending size but a causal negative linkage of economic development level and welfare spending size through time (see Figure 5).

Obviously, the causal patterns of two factors above exclude the positive effect of economic development level on welfare spending equalization through time. Therefore, the path diagram with change terms seems to spell out the government-based approach rather than the market-based approach. To put it differently, the two factor solutions with change terms mentioned above do separate the public sector size approach (the first factor) from the social protection approach (the second factor) with respect to the government-based approach.
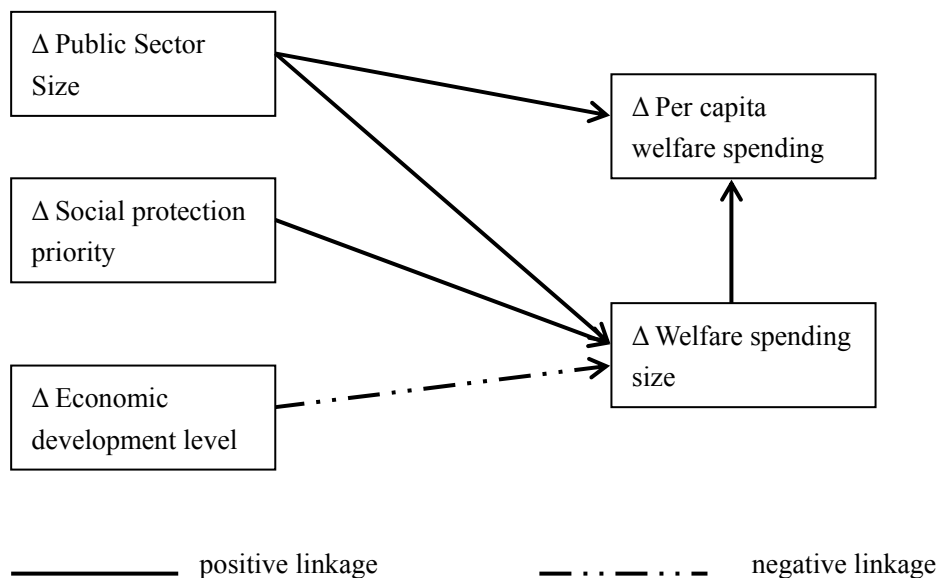

Figure 5 Path diagram for two factor solutions with change terms
Note: Based upon the data from Table 6

Moreover, the path diagram of Figure 5 seems to account for the causal mechanisms of the government-based approach. Per capita welfare spending is determined directly by public sector size and welfare spending size, while social protection priority has an indirect effect on per capita welfare spending through welfare spending size. Thus, it is reasonable that per capita welfare spending as welfare policy outcome is preferred rather than welfare spending size as welfare policy output with respect to welfare spending equalization by means of the welfare state approach.

Regional Patterns for Equalization

Factor analysis works not only for exploring any association structure of all the variables discussed above, but also for demonstrating any location pattern of all the observations in the reduced factor space. Such location values are called factor scores. Unlike common factor model, in which each original variable is a linear function of common factors, with respect to factor score, each common factor is a linear function of original variables. Usually, factor scores are able to be obtained through a regression method.
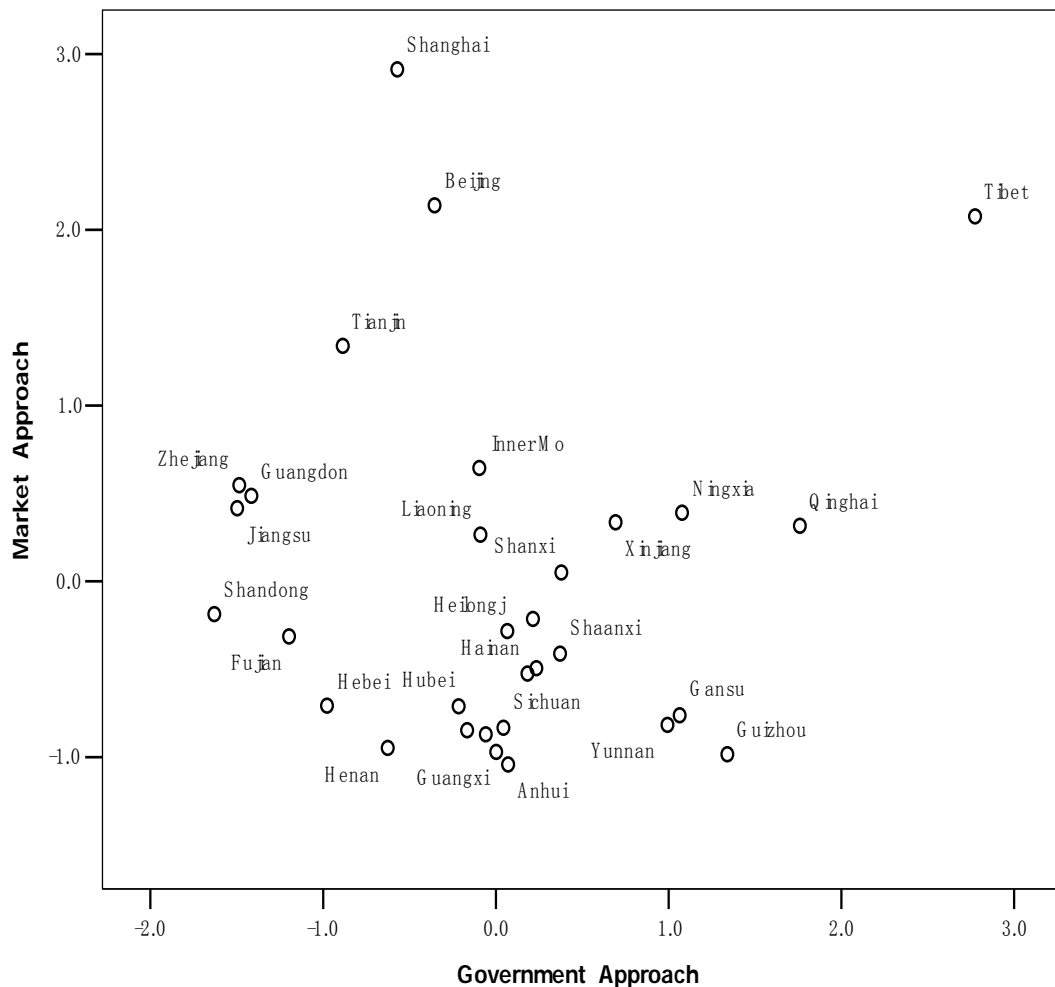

Figure 6 Scatter plot of factor scores by region, 2006

Based upon the 2006 factor model, the factor scores of observations by region are calculated and then shown in Figure 6. According to the two-factor solution discussed above, the horizontal (X) axis denotes the government-based approach to welfare spending equalization (factor 1), while the vertical (Y) axis does the market-based approach (factor 2). Thus, the scatter plot of factor scores by region shows that all the regions can be classified into three categorical groups. The first group is clustered by such coastal regions as Shanghai, Beijing, Tianjin, Jiangsu, Guangdong, Zhejiang, Liaoning, Shandong, and Fujian (see Figure 6). With the profile of both the higher per

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capita welfare spending and the higher per capita GDP, the first group is willing to adopt the market-based approach to equalizing welfare spending.

On the contrary, the second group includes most western peripheral regions such as Tibet, Inner Mongolia, Xinjiang, Ningxia, Qinghai, Gansu, Guizhou, and Yunnan (see Figure 6). With the profile of both the higher welfare spending share in GDP and the higher total fiscal expenditure share in GDP, the second group relies more upon the government-based approach to equalizing welfare spending, which is also consistent with the less fiscal capability on their own (see Figure 1). Thus, it is evidently shown in Figure 6 that nationality autonomous regions of the second group reach a medium level of per capita welfare spending through the government-based approach together with central transfer payment.
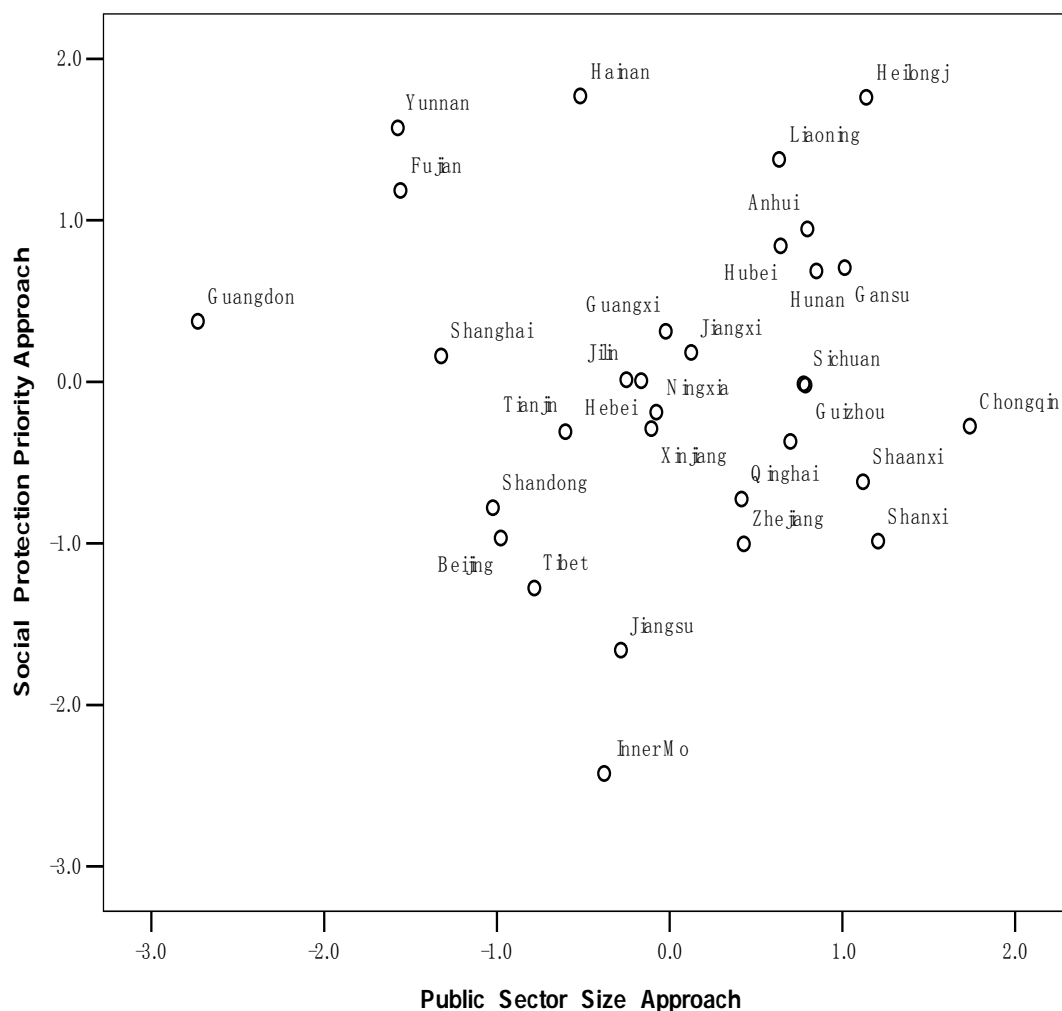

Figure 7 Scatter plot of factor scores by region, 2006-1998

It seems difficult to account for the third group, which includes the central regions in between, such as Heilongjiang, Jilin, Henan, Hunan, Hubei, Anhui, Jiangxi, Shaanxi, Chongqing, and Sichuan (see Figure 6). These regions are profiled with the

lower social policy performance (indicated by per capita welfare spending and welfare spending share in GDP) but the higher welfare spending share in the total fiscal expenditure (social protection priority). It seems that the third group uses neither the market-based approach nor the government-based approach, but the change terms from 1998 through 2006 suggest a dynamic location pattern of factor scores by region (see Figure 7).

To some extent, Figure 7 shows the further exploration of the government-based approach to welfare spending equalization in reflection of any structural change through time. By the same token, the X axis denotes public sector size approach (factor 1), while Y axis does the social protection priority approach (factor 2). Obviously, it is shown in Figure 7 that most regions of the third group discussed above such as Chongqing, Heilongjiang, Hunan, Hubei, Anhui, and Sichuan are caught up with the better performance of social policy through the public sector size approach as well as the social protection priority approach. So are the other regions such as Liaoning, Zhejiang, Shanxi, Shaanxi, and Guangxi.

Conclusion

A compound fiscal system for welfare spending equalization is argued in this study based upon a fiscal federalism perspective for the emerging market economy of contemporary China. Specifically, as far as welfare spending equalization is concerned, fiscal expenditure decentralization for the sake of efficiency is in correspondence with the rationale of market economy, whereas fiscal taxation centralization for the sake of equity with the rationale of welfare state. Moreover, regional fiscal disparity rather than central transfer payment is empirically explored by means of multivariate analysis methods in order to spell out any causal mechanisms of the determinants of the two welfare spending measurements.

Conventionally, the two welfare spending equalization measurements are chosen as per capita welfare spending as well as the welfare spending size. And based upon the relevant data from 1998 through 2006, multiple regression models are first of all set up with such determinants as economic development level, public sector size, and social protection priority. Given the evidenced collinearity among the determinants, exploratory factor analysis is then utilized to capture any causal associations of the two welfare spending equalization measurements as dependent variables and the determinants as independent variables.

As a result of exploratory factor analysis, the two factor solutions without change terms do separate the market-based approach from the government-based approach with respect to welfare spending equalization. In particular, the market-based approach connotes welfare spending equalization as a function of economic development level. Furthermore, the government-based approach is structurally decomposed into the public sector size approach and the social protection priority

approach, which are resulted from the two factor solutions with change terms.

Last but not least, the two path diagram with/out change terms indicate the harmonization of the market-based approach with the government-based approach for it is empirically confirmed that per capita welfare spending is regarded as welfare polity outcome while welfare spending size as welfare policy output. In addition, the emerged regional patterns for welfare spending equalization show that the coastal eastern regions are in correspondence with the market-based approach while the peripheral western regions with the government-based approach. And through time the in-between regions do endorse the catch-up effect by means of the government-based approach. Thus, this study suggests that fiscal federalism in association with a market economy makes sense for reconciling efficiency and equity with respect to a welfare state system.

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