The Division of Intergovernmental Responsibilities and Powers for China's Basic Pension System: Some Conclusions and Policy Recommendations

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Abstract: To allocate the responsibilities and powers rationally and clearly among different levels of governments is a crucial issue for improving China's pension system and maintaining its sustainable operation. Based on the theoretical analysis and case researches, the authors argue that the principle of division is to achieve the incentive-compatible conditions by adjusting the financial responsibilities and other duties, and the specific provisions of division should be decided by mechanism of negotiation.The authors give some specific suggestions on the transition cost, subsidy responsibilities for the deficits of pension system and the investment model of accumulated pension funds. Especially, this paper put forward to build up a special committee belonging to the NPC as the platform of negotiation among the related parties.

Introduction

Many scholars have discussed the necessity of the intervention of governments in the provision of pension system, and have come to the conclusion that governments should assume some responsibilities and possess some powers within this system. As for the specific duties of governments in pension system, some scholars drew the different conclusions from different perspectives(Shaoguang Li, 2002; Fangfang Yang, 2004; Lianyou Li, 2004; Chun Wan and Changrong Qiu, 2007; Hui Yang, 2007; Yijun Sun, 2007; etc.). Generally speaking, the responsibilities and powers of governments mainly comprise policymaking, financing, administration and supervision. However, it is impossible for the central government of a big country, no matter how canny it is, to be sufficiently informed about the situation of the different parts of its vast territory. Therefore, the cooperation between central government and sub-national governments is very important.

The division of responsibilities and powers among different levels of governments is a very crucial issue, and more particularly for the reform and improvement of China's pension system. Today much more attention is paid to the issues at the core of this research by both Chinese scholars and officials(Fangfang Yang, 2003; Shewen Cai, 2004; Shuting Huang and Zongshun Zhou, 2004; Xuejian Guo, 2006; Zhifen Lin, 2006). Yet, most research results focus on proving or stressing the necessity of clearly dividing the duties between central and local authorities, and especially on improving the pooling level. Only a few researches(Mark W.Frazier, 2004; Shaoguang Li, 2006) analyzed the reasons why it is so difficult to divide, as well as the mechanism to overcome the obstacles, as we have done in this research. Therefore, we hope that the results presented in this paper will help to orient the reform and contribute to the improvement of China's pension system.

Our paper will discuss this issue from the following five aspects. The second part will present some preliminary considerations on the necessity to allocate the duties among the different levels of governments. The third part will construct a theoretical framework for analyzing the issue of "how to distribute duties and powers between central and local governments?". The next part will present a comparative analysis of the determinant factors of intergovernmental division of duties of some countries' pension system. Based on the analysis of previous parts, the next two will focus on China's basic pension system with the aim of determining the optimal way to distributing duties among different levels of governments.

The necessity to allocate the duties among the different levels of governments

As is mentioned above, the duties of governments in the pension system mainly include policymaking, financing, administration and supervision. Each of the four duties has different characteristics, which results in the different demands to select certain levels of governments to perform this function.

Basic pension system with the most important characteristic of redistribution is to maintain the minimum living cost for aged persons. In the light of the theory of Musgrave(1959), a famous economist, the function of income redistribution should belong to the central government[1]. And the sub-national governments can't implement their own redistributive policies under the conditions of labor and capital mobility. If doing like this, the phenomenon of "social dumping" will appear[2]. On the other hand, if the policies are different in different districts, it is not beneficial to the mobility of the labor forces. Therefore, the central government should be responsible for enacting the pension policy valid for the whole country.

Nevertheless, the duty of daily administration is different from the policymaking. Generally speaking, three models are alternative: centralization or decentralization or self-governing. The model of centralization is a method that pension system is administered by local or regional sub-branches of a ministry of central government, such as UK and USA; decentralization is by the local or state governments, such as Demark and Switzerland; self-governing model is employed by some countries with developed social partners, such as Germany and France. The first model is helpful for central government to control the operation and performance of pension system. However, the lower layers of governments are much more familiar with the demands and needs of local residents. As a consequence, a decentralized administration for pension system maybe produce optimal results. If a decentralized model is employed, a principal-agent relationship between the central government and local governments should be set up. In order to deal with the probability of "Agent Problems", it will be necessary to build up an efficient incentive mechanism.

Because the financial structure is very closely related with the operational performance of pension system, hereby, the rational division of financial responsibility among different levels of governments is of the crucial point for building up an efficient incentive mechanism. In general, raising pension funds have two different channels: social insurance tax(or fee) and general tax. Some bismarckian countries(or called "social insurance model") raise pension funds by the former; yet the beveridge countries(or called "welfare model"), especially the Scandinavian countries such as Demark, by general tax. So the financial responsibilities of governments in pension system comprise three channels according to the different pension models: subsidizing the deficits frequently employed by the bismarckian countries; financing the pension system directly with the governmental budget by

[1] Mugrave, R.A.(1959). The theory of public finance: A study in public economy. London and New York: McGraw-Hill.
[2] Deborach Mabbett, Helen Bolderson.(1998). Devolved Social Security Systems: Principle-Agent versus Multi-Level Governance. Journal of Public Policy, 18(2),177-200.

beveridge countries; means-tested assistant. Who should pay for the pension system, the central government or sub-national governments, even or the two together, is decided not only by the pension system but also by the political institutions. In practice, the central government will bear nearly all the financial responsibilities in some countries on the basis of beveridge model, such as Danish Nation Pension Scheme(FP) financed by the central government; the central government and (or) sub-national governments will subsidize the deficits in bismarckian countries, for example, OASI financed by the federal government, while the basic old-age insurnce system(AVS) in Switzerland is by federal and cantonal governments together; for the pension assistant expenditures, the sub-national governments bear the main part and central government will subsidize according to the economical situations of different regions.

Besides, the efficient supervision to lower layers of governments is helpful to improve the operational performance. In the principle-agent relationships, the agents maybe deviate from the vested objective if their interests demands are not consistent with the principles'. For example, because of the redistributive characteristic of the basic pension system, the districts with younger population structure and more developed economy will contribute more to the pension system, while the benefits from it are much less than the districts with older population structure and more underdeveloped economy. The local governments as the representative of local interests have the motivations to avoid contributions. So the supervision of the central government to the administrative agents is very important. However, because of the information asymmetry, the supervision efficiency and effection will be uncertain and it is very possible to get into a "supervision paradox"[3]. Moreover, to supervise and audit the agents is costly. Therefore, how to reach an interest community between central government as the principle and sub-national governments as the agents is the fundamental rationale to allocate the duties for pension system among different levels of governments.

From the analysis, we can conclude that the different levels of governments are very involved in the operation of pension system and bear different responsibilities and possess different powers. And also the key issue of the cooperation among different levels of governments for the pension system is how to deal with the supervision paradox and to structure an interest community. The next section will focus on analyzing how to solve the agent problems in theory.

How to divide: A theoretical framework

Just like mentioned above, a principle-agent relationship is set up between the central

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[3] So-called supervision paradox mainly means that possessing complete and perfect information about the agents is the prerequisition for achieving a successful supervision, meanwhile, the initiative of the supervision is for the lack of information about the agents. So, to a certain degree, the perfect supervision result is very impossible to realize.

and local governments or sub-branches or self-governing organizations. In this special relationship, the former is the same as the ownership of a company and the latter as the managers, which have some private information without the residual claim, so the agent problems are inevitable. In order to deal with these problems, some economists put forward the equilibrium concept settling for the incentive-compatible conditions to identify the incentive mechanism, and the game theory for analyzing the process of realizing this equilibrium.

As an example of levying old-age insurance premiums, the local governments with self-interest motivations often tend to decrease the burden of local companies to attract the capital to invest[4], which will enlarge the amount of deficits of pension system and lead to much more subsidies from central budget to compensate the deficits. How to guard against this problem?

Supposing:
1) There are two local governments, which are very similar in all aspects, such as the development level, the population structure and so on.
2) If the local government is positive to perform, the deficits are $1/3*Q$; if passive, it will be $2/3*Q$;
3) The budget of central government to subsidize the deficits is Q, that is, if the two are all passive, every one will get the subsidies of $1/2*Q$ and finance the remainder of the deficits of $1/6*Q(2/3*Q-1/2*Q)$;
4) The cost of positive behavior of the local governments is C_1, and the passive is 0.

Then, we can get the matrix1 standing for the net benefits of local governments from the central government. In this matrix, the Nash equilibrium is at the point of $(1/3*Q, 1/3*Q)$, that is, whatever local 1 chooses, the dominant strategy of local 2 is passive and the same with local 1. In this situation, the amount of subsidies of local governments and the central government is $4/3*Q$. It is very obvious that this equilibrium don't meet the collective ration and the optimal result is at the combination of $(1/3*Q-C_1, 1/3*Q-C_1)$. A dominated strategy equilibrium will not change voluntarily without the intervention of external strength. Therefore, another variables should be introduced: Central government is to supervise the behaviors of local governments and meanwhile changes the pay methods.

Matrix 1:

Local 2 / Local 1	positive	passive
positive	$1/3*Q-C_1$, $1/3*Q-C_1$	$1/3*Q-C_1$, $2/3*Q$
passive	$2/3*Q$, $1/3*Q-C_1$	$1/3*Q$, $1/3*Q$

Supposing:

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[4] Just like the social dumping phenomenon mentioned above.

1) The cost of the supervision is C; the total income of central government is R;
2) The probability of central government to supervise positively is x; the probability of local governments to perform positively is y;
3) If supervising positively,

   the subsidy is $1/2*Q$ as a bonus of $1/6*Q$ if local government performs positively

   the subsidy is 0 as a penalty of $-2/3*Q$ if passively, that is, the local pays all the deficits.
4) If supervise passively,

   the subsidy is $1/3*Q$ if local government performs positively

   the subsidy is $1/2*Q$ if passively.

   Matrix 2:

Central gov. / Local governments	positive	passive
positive	$Q-2C_1$, $R-Q-C$	$2/3*Q-2C_1$, $R-2/3*Q$
passive	$-4/3*Q$, $R-C$	$-1/3*Q$, $R-Q$

Based on the supposings, we can get the matrix2. In matrix 2, the strategies of the two are independent of each other, that is, no pure Nash equilibrium. Hence, the question is changed to seek for the mixed equilibrium, called 'perfect Bayesian equilibrium'. Using the probabilities, we can get the followings:

For the local governments, considering the probability of supervision, the expected benefit is:

$x(Q-2C_1)+(1-X)(2/3*Q-2C_1)=-4/3*Q-1/3*(1-X)Q$

The same to the central government:

$y(R-C-Q)+(1-y)(R-C)=y(R-2/3*Q)+(1-y)(R-C)$

Then,

$x=3/4*(C_1/2Q-1/4)$

$y=3/4*(1-C/Q)$

That is to say, if the probability of central government to supervise positively is more than $3/4*(C_1/2Q-1/4)$, the best choce of local governments is to perform positively anytime. By the adjustment we can get the matrix 3. In this matrix, the Nash equilibrium is at the combination of $(1/2*Q-C_1, 1/2*Q-C_1)$, which meets with the conditions of collective ration.

Matrix 3:

Local 2 / Local 1	positive	passive
positive	$1/2*Q-C_1$, $1/2*Q-C_1$	$1/2*Q-C_1$, $-2/3*Q$
passive	$-2/3*Q$, $1/2*Q-C_1$	$-2/3*Q$, $-2/3*Q$

Based on the analysis above, it can be concluded that if the efficient incentive and supervision mechanisms are employed, the agent problem will be solved, at that time the local governments will perform positively even without the supervision. In fact, the authers are always insisting on that the incentive mechanism design is much more important and crucial than the supervision.

Objectively speaking, the principal-agent theory and game theory are useful to analyze the rationale of the intergovernmental division of responsibilities and powers within the pension system, although they just provide the specification of an outcome and do not offer the dynamic process leading to the outcomes. In this case, the adjustment of the related parameters is decided by the central government solely without the participation of local governments. However, to seek some powers for the local governments during the process of policymaking is very possible because they should assume some expenditures for pension system. The research results of Deborach Mabbett and Helen Bolderson(1998) also proved that financial structure was very related to the institutional structure between central and local governments and the process of policymaking[5].

In the light of contract theory, we will propose a useful method for distributing responsibilities and powers and deciding of the boundaries between the different levels of governments. This method is based upon negotiation[6], a joint policymaking process of two or more parties combining their conflicting points of view into a single decision.[7] The characteristics of negotiation are consisted of four main points: Positive-sum exercise; changing the parties' evaluation of their values; a threefold choice(yes, no, or keep on talking) and power over each other. The process of negotiation means that the sub-national governments or the related self-governing also should play an important role in the policymaking, which is in accordance with the financial contribution of local governments to pension system .

The negotiation process is constrained by the political institutions and the Constitutions, which are defined by Arrow as a special choice mechanism affecting the process of policy formulation and policy outcomes. Voting is regarded as a pure case of scheme aggregating individual preferences into a social choice.[8] So the different political institutions and constitutions mean the different choice mechanism, which will strongly affect the behaviors and positions of negotiators during the process of negotiation and then the policy formulation and outcomes. From the perspectives of country structure, there exit two different basic systems: federalism and unitary system. Federalism is originally a legal concept that defines the

[5] Deborach Mabbett, Helen Bolderson.(1998). Devolved Social Security Systems: Principle-Agent versus Multi-Level Governance. Journal of Public Policy, 18(2),177-200.
[6] Li Shaoguang(2006). "Two Issues of the Reform of China's Social Security System". *Comparative Economic and Social Systems.* Vol. 123, No. 3:34-38.
[7] I. Willianm Zartman(1977). "Negotiation as a Joint Decision-Making Process". *The Journal of Conflict Resolution.* Vo1. 21, No. 4:619-638.
[8] Christian Toft.(1996). Constitutional Choice, Multi-level Government and Social Security Systems in Great Britain, Germany and Demark. Policy and Politics, 24(3),247-261.

constitutional division of authority between the federal government and the states.[9] In federal countries the powers of sub-national governments have constitutional protection[10]. The federal government and the states are paralleled with each other and can negotiate with the same statutory positions. Yet in unitary countries in theory all the powers in sub-national units are delegated by the central government, which can be changed and withdrawn at the will[11], but in practice there has been an effort to shift some powers to the subunits and the central government are rarely as autonomous as the formal institutional set-up might indicate in recent years.[12] The distinctions between federalism and unitary system just give us a legal comparison and the factual statuses of different levels of governments with different political systems are affected by some complicated factors, such as party competition, economical and political situations, electoral method and political culture and so on. But anyway, the public policy is significantly mediated by the institutional setting in which they operate.[13]

Some cases：a comparative analysis

The political dimension of the pension problem is to a very large extent a question of how the diverging preferences expressed by different groups in society will be aggregated[14]. In theory, the political dimensions to affect the policymaking and policy outcomes mainly include the followings: electoral model, parties system, political and cultural traditional, veto point and so on, all which are regulated and affected by the Constitution. According the political theory, the basic division of political framework includes the federalism and unitary system. So this part will compare the operation of pension system in some countries with different country structures.

USA is the typical federalism country and have experienced three stages up to now, that is, dual federalism, cooperative federalism and coercive federalism. The social security system was set up in 1935 under the situations of the Great Depression enacting the "Social Security Act 1935". At that time, cooperative federalism was the special characteristic of American federalism, which emphasized the federal powers in policymaking and the financial grants to the states. The social security system was founded under that kind of history background. As an important macro-control instrument, it was employed by the Roosvelt government to urge the recovery of American economy. So the federal government played the crucial role in the process of the old-age insurance policymaking and was in charge of the administration of this program.

[9] Philip R.Lee, Carroll L.Estes.(1983). New Federalism and Health Policy. Annals of the American Academy of Political and Social Science,468, 88-102.
[10] Jens Blom-Hanse.(1999). Policy-Making in Central-Local Government Relations: Balancing Local Autonomy, Macroeconomic Control, and Sector Policy Goals. Journal of Public Policy, 19(3), 237-264.
[11] Gabriel A.Almond, G. Bingham Powell, Jr.Kaare Ström, Russell J. Dalton.(2004). Comparative Politics: A Theoretical Framework(4th Edition). Pearson-Longman, P136.
[12] footnoet 9 and 10.
[13] Giuliano Bonoli.(2000). The Politics of Pension System. Cambridge,Cambirdge University Press:P39.
[14] Giuliano Bonoli(2000). The Politics of Pension System. Cambridge,Cambirdge University Press:P29.

In Switzerland, the old-age insurance system (AVS) with the same model as the USA is administrated by the cantonal governments. In order to guard against the agent problems, the cantonal and federal governments assume the financial responsibilities together to subsidize the deficits up to the proportion of 19%, 17% of which is paid by the federal government and 2% of which is by the cantonal governments[15]. As is mentioned above, the assumption of financial responsibilities of cantonal governments is based on the sharing of policymaking power in the democratic institutions. The Swiss political institutions are very suitable to meet the demands of cantonal governments to participate in the policymaking procedures and express their viewpoints. In Switzerland, the draft of legislation is by the expert commission, which is consisted of civil servants, representatives of organized interests, academics and representatives of a number of cantons and politicians. During the drafting, the commissioners can express their viewpoints fully, including the representatives of cantons. At the next stages of consultation and examination by the relevant parliamentary commission, the cantonal governments also can express their viewpoints. At last, the bill will be voted in the two chambers of parliament. Even the bill is passed by the two chambers, the cantonal governments also can seek their interests by calling a referendum requiring the collecting of 50,000 signatures. Therefore, in order to make the draft be passed, the sufficient negotiation during the drafting is very pivotal. This kind of political mechanism makes the pension policy embody the interests of cantonal governments and is beneficial to maintain the cooperation between the federal and cantonal governments and realize the high performance of AVS.

Australia and Canada are the two federal countries with the pension systems of Beveridge model. The difference between two countries is that the Australian program is means-tested, but benefit in Canada is universal and flat rate. The pension systems are all administrated by the regional and local agents belonging to the Ministry of Social Security and financed fully by the federal budget. The centralized-federalism regime is the most important reason to adopt this kind of arrangement.

UK and Demark are of typical countries with unitary system and the same basic pension systems, which cover all the civics with flat-rate benefits and are financed by the central budgets on a Pay-As-You-Go(PAYG) basis. But the administration models are very different: UK is very centralized and Demark is decentralized. In UK, the Department of Social Security (DSS) is the leading institution for all the affairs of pension system and administrates the specific operation by some sub-branches agents, whereas in Demark, the local governments are responsible for the administration of Nation Pension Scheme (FP) and meet the management costs, which is very useful to stimulate them to pursue administrative efficiency.[16] The reason why the sub-national governments don't play any roles in UK, on the contrary in Demark, is the political environment. The local governments in Demark enjoy a considerable degree of

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[15] Giuliano Bonoli(2000). The Politics of Pension System. Cambridge,Cambirdge University Press:P97.
[16] Deborach Mabbett, Helen Bolderson.(1998). Devolved Social Security Systems: Principle-Agent versus Multi-Level Governance. Journal of Public Policy, 18(2), 177-200.

autonomy, which can govern the affairs stipulated by the law. Also the Danish association of the local government plays a very important role in the negotiation with the central government, which aims to maintain the benefit of local governments. It's a very useful negotiation mechanism between local governments and central government, which is also utilized to deal with the questions of macroeconomic control, sectional policy goals and so on[17].

From the brief introduction on some cases, some conclusions can be drawn:(1) In the same political frameworks and pension patterns, the central-local relationship has some differences for the specific political environments. For example, Switzerland is a very decentralized country with some much veto points so that the cantonal interests just like other interest groups should be considered very much during the policymaking process. So policy outcome must be fit to the rationale of interest equilibrium. In USA, when the Roosvelt enacted the Social Security Act was in the Great Depression, which affected the allocation of responsibilities. (2) National structure is not the crucial factor to affect the models of pension system and operation. (3) An efficient negotiation mechanism is very useful to the interest expression and reach the interest equilibrium. (4) The responsibilities and powers of different level governments are confirmed by the laws. (5) Allocating the different duties among different levels of governments should meet with the incentive-compatible condition.

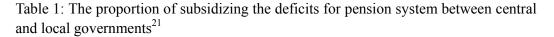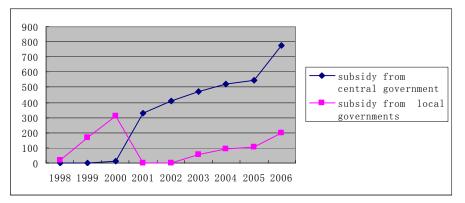## The relationship between central and sub-national governments in China's pension system

China's old-age insurance system is unified across the countries administrated by the local governments and subsidized by the central and local governments together. With the reform and perfection of old-age insurance in China, the issue of rationally allocating different responsibilities among multi-level governments is becoming more and more pivotal for its healthy and maintainable operation. Some official documents and regulations have mentioned it and hoped to divide the powers and responsibilities rationally.

At present, the main problems of the division of intergovernmental responsibilities and powers for China's pension system are to find a solution to the dilemma of improving the pooling level and to find a solution to the unreasonable allocation of financial subsidies necessary for covering the deficits among different levels of governments and to preserve and improve the value of accumulated pension funds. In fact, the necessity to improve the pooling at the provincial level was put forward officially in the document "Regulations on the Reform of Old-age Insurance for Enterprise Employees" in 1991. Thereafter, it was mentioned in all official regulations

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[17] Jens Bolm-hansen.(1999). Policy-making in Central-Local Government Relations: Balancing Local Autonomy, Macroeconomic Control, and Sectional Policy Goals. Journal of Public Policy, 19(3),237-264.

and decisions. It is about 27 years since the Chinese government put forward for the first time (in 1991) the aim of setting the pooling layer at the provincial level firstly. However, up to now this goal to "provincialize" the pension has not been achieved，and, only 13 provinces have implemented the provincial pooling, including Beijing, Shanghai, Tianjin, Shaanxi, Fujian, etc. The current pension system is composed of nearly 2000 official agencies nationwide operating at provincial, municipal or county levels. The low pooling levels are neither sufficient to achieve an appropriate balance for all funds, nor capable of risk averting[18], in addition, the portability becomes further difficult. For the financial subsidies which are closely related to the transition cost and the empty individual account[19], the central government assumed the major proportion up to more than 87% with a total of 305 billion from 2001 to 2006 (table 1). Moreover, how to find a good way to preserve and improve the value of accumulated pension funds is a crucial problem. For the narrow investment channels and the decentralized management model, the profit rate of accumulated pension funds is at a relatively low rate of 2.18%, while the rate of inflation is 2.22%[20].

Table 1: The proportion of subsidizing the deficits for pension system between central and local governments[21]

In essence, the issue of pooling level is to deal with the allocation of responsibilities and powers of finance and administration among different levels of government, which means that to solve the issue of pooling level is closely related with the division of governmental duties in pension system, such as the responsibilities of transition cost and fiscal subsidies for the deficits of pension system and the investment and administration of accumulated individual account funds. That is to say, as long as the intergovernmental responsibilities are divided clearly, the barriers to improve the pooling level will be smoothed.

As is known, China is a unitary country and authorities are centralized at the central

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[18] For example, the balance of old-age insurance in 2005 was 105.3 billion nationwide, meanwhile, 19 provinces had deficits and state budgets at all levels contributed 65.1 billion yuan toward basic old-age insurance funds, of which 54.4 billion yuan came from the central budget and 10.7 billion yuan from local budget.
[19] Up to the end of 2006, the amount of empty individual account reached 840 billion.
[20] http://news.sohu.com/20070829/n251832112.shtml.
[21] This table is done by author according to the data of " Ministry of Labour and Social Security Statistical communique for Social Security(1998-2006)"

governments including the appointment of inferior officials. Why central government does not simply order the local governments to comply with the State Council regulations? Why did it take so long time to improve the pooling level，however not succeed? Scholars have done some in-depth researches to explain this paradox. Since the economic reforms of the 1980s, there was little doubt that new fiscal arrangements gave local governments greater responsibilities than existed under the planned economy to carry out local industrial development projects, collect revenues, and manage social welfare issues. The fiscal reform in 1994 formally divided the financial interests of different levels of governments. Hence, the rational behaviors of local governments may deviate from the objectives set by the central government, if the objectives of the central government are not in line with the interests of local governments[22]. For the local governments, maximizing GDP and local fiscal revenues are their main goals, which is also as the determinant indicator for being promoted. Meanwhile, China is a country with a unitary system, which means that the central government is the only body to assume the ultimate responsibilities for pension system in order to keep the governmental legitimacy and the local governments just perform the duties delegated by the central government without the political responsibility, at least in theory. The mismatch between politics and economy will bring out the adverse incentive to the local government, that is, the opportunism behaviors. As far as the pooling level is concerned, the biggest barrier is from the vested interests of local authorities, just like the ascription right of the accumulated pension funds. If the central government wants to improve the pooling level, the choice of richer districts is to misappropriate or embezzle the accumulated pension funds, or to help the companies avoid contributing; relying on the grants from the central government to compensate the deficits; or exaggerating the amount of deficits and so on. Meanwhile, the ill-defined division of transition cost and fiscal subsidies for the deficits of pension system among multi-level governments amplifies the local interests and activates the local governments to shift the subsidy responsibility to the central government. Though the central government can force the local governments to confirmed with its orders by promoting or dismissing the officials of low layers of governments, it is very difficult for central government to supervise the behaviors of local governments for the information asymmetry. And even doing like this, the factual effection is doubtable. The case of transferring the sector-based pension systems to provincial government administration in 1998 is a good example[23].

The next part will give some alternative options for solving the dilemmas on the intergovernmental relationships in pension system in accordance with China's institutional-consitutional environment.

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[22] Mark W.Frazier(2004). "After Pension Reform: Navigating the 'Third Rail' in China". Studies in Comparative International Development, Vol. 39, No. 2: 45-70.
[23] Mark W.Frazier.(2004). After Pension Reform: Navigationg the 'Third Rail' in China. Studies in Comparative International Development, 39(2), 45-70.

Some recommendations for allocating the duties among different levels of government for China's pension system

Last part argumented the viewpoint that the local interests should be considered and recognized by explaining the reasons why it was so difficult for central government to realize the objective of improving the pooling level. According to the theory mentioned above, the local governments with some financial responsibilities should share the policymaking power with central government and negotiation is a good method to reach the consensus. That is, the principle of division is to achieve the incentive-compatible conditions by adjusting the financial responsibilities and other duties, and the specific provisions of division should be decided by mechanism of negotiation.

In fact, according to the contract theory, a useful division method of responsibilities and powers among the different levels of governments is to decide the boundaries by negotiation.[24] The author suggests that a special committee should be founded belonging to the National People's Congress(NPC) composing of the official representatives of sub-national governments and central governments in the fields of social security, treasury and some experts. The premier has the power to appoint an expert as the president of this committee and the other several standing commissioners will be recommended by the representatives of different levels of governments and experts respectively. This committee is not a standing body and will be founded according to the issues, however, the outcomes of this committee should be implemented compulsorily by all the involved agencies. If violating the contract, the economical penalty and administrative punishment will be carried out.

As mentioned above, in order to improve the pooling layer at the provincial level successfully, the different governmental duties in pension system should be allocated clearly among different levels of governments, mainly including the followings: the transition cost, the investment and administration of individual account and governmental subsidy for the deficits of pension system.

In fact, the main point of dividing the intergovernmental responsibilities is how to decide the proportion of subsidy for the deficits of social pool account. But the transition cost, to a very large degree, is the precondition to decide this proportion, which affects the deficit scale very much. In order to satisfy the needs of the aging population and adapt to the economic and social reform, China established a social-pool-plus-personal-account scheme, which was different from the traditional PAYG system. Therefore, it is inevitable to face the transition cost totaled 1-10 trillion

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[24] Li Shaoguang.(2006). Two Issues of the Reform of China's Social Security System. Comparative Economic and Social Systems, 123(3),34-38.

RMB[25] according to the calculations made by different scholars. In theory, the government should compensate the cost. However, according to the measures taken by government, it seems that the government does not plan to assume it, which leads to the problem of the "empty individual account" reaching 900 billion by the end of 2006. Due to the background and reasons for the empty account, it is easy to conclude that the empty account is closely related to the transition cost. So how to raise funds to compensate the transition cost becomes a vital problem.

Experts suggested various approaches to raise pension funds, such as expanding the coverage, raising the contribution rate, transferring the state assets, issuing state bond or using welfare lottery, etc. Another set of suggestions propose to raise the retirement age, to reduce pension replacement rate etc. Among these suggestions, the proposal to allocate part of state assets to enrich social security funds had attracted the attention of many people. On June 12, 2001, the State Council enacted "The Interim Measures for Allocating State Assets to Enrich Social Security Funds", which gave some specific measures for allocating state assets to compensate the deficits of the social security system. However, due to the opposition of stakeholders in the stock market, this decision was suspended. Related to the allocation of the asset of state-owned enterprises(SOEs), the Central government established the "National Social Security Fund" as the strategic reservation fund dealing with the aging of the population, managed by the National Council for Social Security Fund in 2000. Up to now, the total sum of this fund reached 280 billion[26] , which may not be used during the next 20-30 years, i.e. until the aging of the population will attain its climax.

It is doubtless that allocating some state assets for raising the transition cost is a good way, while it is difficult in the short term to compensate the deficits between revenues and expenses of the pension system[27]. Meanwhile, granted that capitalizing the individual account is the only way for managing China's pension system, embezzling the individual account funds will be strictly forbidden by separating the management between the social pooling account and the individual account. Therefore, allocating budget funds to subsidize the deficits is the exclusive choice in order to guarantee the payment of pension on time and in full. Considering the intergenerational fairness, this method will increase the burden of active workers, while on the contrary, the burden of the next generation will be very light, with the accomplishment of the transition of pensions system from a Pay-As-You-Go(PAYG) scheme to social-pool-plus-individual-account plan in about 2030. Therefore, some scholars suggest borrowing some funds from individual accounts to subsidize the deficits, which would be refunded by the assets of the National Council for Social Security Fund (NSSF)[28]. It is evident that this method is very valuable to equalize the burden on different generations.

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[25] The total of 3.7 trillion of the transition cost is recognized by most of scholars.
[26] National Council for Social Security Fund, 2006 Annual Report National Social Security Fund, June 15, 2007.
[27] For example, the pricing mechanism limits transferring the state assets to NSSF in the capital market.
[28] At that time, the barriers to transfer the state assets to NSSF will be solved and the amount of accumulated funds in NSSF is enough to refund the loans from individual accounts.

Based on the hypothesis of 5 percent of capitalizing individual account[29], the following paragraphs will analyze the financial burdens of different provinces for the year of 2006 and give some suggestions on how to divide the financial responsibility among different levels of governments to compensate the transition cost. Table 2 calculates the ratio of financial burden.

Table 2: The Revenues and Expenses of old-age insurance in 2006[30]

Region	Revenue (1)	Premium Revenue (2)	Assets in pooling acount[A] (3)	Expense (4)	Amount of governmental subsidies[B] (5)	Financial revenue of local government (6)	Ratio of financial burdern[C] (7)
overall	6308.6	5213.7	4282.7	4895.9		18303.6	3.35
beijing	289.1	284	233.3	228.7	**-4.6**	1117.2	**-0.41%**
tianjin	157.5	119.3	98.0	130	32.0	417	7.67%
hebei	252.7	202.5	166.3	214.7	48.4	620.5	7.79%
shanxi	182	139.5	114.6	114.7	0.1	583.4	0.02%
neimeng	125.8	91.7	75.3	96.2	20.9	343.4	6.08%
liaoning	424.5	292.6	240.4	351.6	111.3	817.7	13.61%
jilin	158.1	110.7	90.9	111	20.1	245.2	8.18%
heilongjiang	279.6	182.7	150.1	203.7	53.6	386.8	13.86%
shanghai	424.2	395	324.5	414	89.5	1576.1	5.68%
jiangsu	486.4	453.4	372.4	381.1	8.7	1656.7	0.52%
zhejiang	352.7	336.7	276.6	221.9	**-54.7**	1298.2	**-4.21%**
anhui	162.9	128.6	105.6	129.5	23.9	428	5.58%
fujian	122.3	118.9	97.7	103.2	5.5	541.2	1.02%
jiangxi	102.8	73.8	60.6	84.5	23.9	305.5	7.82%
shandong	440.7	406	333.5	351.8	18.3	1356.2	1.35%
henan	235.4	187.1	153.7	190.1	36.4	679.2	5.36%
hubei	239.8	169.5	139.2	201.9	62.7	476	13.17%
hunan	213.4	155	127.3	181.3	54.0	477.9	11.29%
guangdong	560.2	531.6	436.7	307.3	**-129.4**	2179.5	**-5.94%**
guangxi	79.2	65.4	53.7	71.3	17.6	342.6	5.13%
hainan	40.7	28.7	23.6	34.3	10.7	81.8	13.11%
chongqing	112.2	83	68.2	95.9	27.7	317.7	8.73%
sichuang	292.8	235.4	193.4	228.2	34.8	607.6	5.73%
guizhou	66.6	50.2	41.2	53.6	12.4	226.8	5.45%
yunnan	99.4	73.2	60.1	86	25.9	379	6.83%
tibet	5.9	3.5	2.9	5.1	2.2	14.6	15.24%
shannxi	134.1	103.5	85.0	105.8	20.8	362.5	5.73%

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[29] In fact, the proportion in the pilot experiment of capitalizing the individual account is set at 5% in most provinces, which reduces the burden of the governmental budget.

[30] Source: calculations done by Liu Dehao, Developing Social Security System in China, Lugano 2008.

gansu	80.9	63.8	52.4	61.4	9.0	141.2	6.37%
qinghai	29.3	20.8	17.1	23	5.9	42.2	14.01%
ningxia	27.2	22	18.1	20.3	2.2	61.4	3.63%
xinjiang	130.1	85.4	70.2	93.4	23.3	219.5	10.59%

**

A = (2)*23/28, which stands for the proportion of social pooling account in old-age insurance.

B = (4)-(3), which is the amount of shortfalls of pooling account and should be paid by governments.

C = (5)/(6), which stands for the financial burden.

Table 2 shows that:

(1)   the shortfalls of the pension system in 10 provinces are much heavier   than elsewhere, i.e. Tibet, Qinghai, Heilongjiang, Liaoning, Hainan,   Hubei, Hunan, Xinjiang, Chongqing and Jilin (in decreasing order), for   which the ratio of the financial burden in these provinces is greater than 8%.

(2)   the social pooling accounts in Beijing, Guangdong and Zhengjiang have some surplus and the ratio of financial burden in another five provinces, such as Shanxi, Jiangsu, Fujian, Shandong and Ningxia, is less than 4%.

(3)   The remaining 13 provinces stand between the previous 2 groups, with a ratio of a financial burden of between 5% and 8%.

Therefore, the division of subsidy responsibilities between central and provincial governments should be based upon the relationships between the shortfalls of pension system and the financial capacity of the different provinces:

(1) the 10 provinces of the first group, with a ratio of financial burden greater   than 8%, all belong to the old industrial districts with a heavy history of   financial burdens such as the Northeast provinces or are provinces   (seven in number) comprising undeveloped districts. So, the central   government should bear more financial responsibilities for these   provinces. The proportion can be placed at 75% (for Central government) and 25% for provincial governments), which by the way is the proportion used for the "Northeast Pilot";

(2)   the provinces in the second group all possess   developed districts with a   light burden in the pension system. Therefore, the Central government burden should be smaller than for the first group. The proportion can be set at   25%:75%. But Ningxia and Shanxi should be excluded from this group and be put into the third group because of the relatively lower level of economic development;

(3)   the provinces of the third group, stand in between the first two groups, not only from the aspect of the pension burden, but also for the financial capacity. So, for these provinces the proportion can be set at 50%:50%.

In any event, the proportions mentioned above should be considered only as a reference framework, and the actual proportion should be decided by negotiation between the Central government and the provincial governments. Correspondingly, the division of burden between provincial governments and local governments should

be decided in the same way.

As far as pension fund investment is concerned, by the end of 2007, the amount of accumulated pension funds reached 739.1 billion yuan, which were administrated by more than 2,000 official agencies nationwide operating at the provincial, municipal or county levels. Local governments hope to control these asset for local interests, which is the biggest barrier to improve the pooling level. From the calculation of the revenues and expenses of pension system(table 2), it can be concluded that the accumulated pension funds is a part of individual account funds. So the validity of localized vested interests including the interests from the ascription right of accumulated pension funds will vanish and the barriers to improve the pooling level will be smoothed. Corresponding to the provincial pooling level, the accumulated pension funds should be administrated by the provincial official agencies as the trustees to guarantee the goals of preserving and increasing its value, which can choose some specialized investment companies to invest the pension funds according to the laws or regulations.

Conclusion

To allocate the responsibilities and powers rationally and clearly among different levels of governments is a crucial issue for improving China's pension system and maintaining its sustainable operation. The main problems are to find a solution to the dilemma of improving the pooling level and to find a solution to the unreasonable allocation of financial subsidies necessary for covering the deficits among different levels of governments and to preserve and improve the value of accumulated pension funds. Based on the theoretical analysis and case researches, the authors argue that the principle of division is to achieve the incentive-compatible conditions by adjusting the financial responsibilities and other duties, and the specific provisions of division should be decided by mechanism of negotiation. This paper insists on building up a special committee belonging to the NPC as the platform of negotiation among the related parties. Meanwhile, the authors give some specific policy options to achieve the objectives: transferring SOEs assets to compensate the transition cost; deciding the proportion of subsidy responsibilities attributed to central and provincial governments based on the relationship between deficits of pension system and the financial capacity of the different provinces; setting up a trustee system administrated by the provincial official agencies as the trustees to realize the goals of preserving and increasing the value of the accumulated pension funds.

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