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# Designing Market Socialism: Trustees of State Property

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**ABSTRACT** Market reform in China and other Asian post-communist states has renewed academic interest in the study of market socialism in the past two decades. This article attempts to answer the question: can market socialism, a market-based form of socialism within the political context of one-party communist rule, become competitive and efficient like market capitalism? We examine the fundamental problems of market socialism, particularly in the context of Chinese reform, based on property rights and principal-agent theory. This article seeks feasible solutions by developing a new Trustee of State Property (TSP) system based on a scientific design of benefit and risk mechanism.

**KEY WORDS:** Market socialism, property rights, principal-agent problems, trustee of state property, China,

JEL Classification: F160, F310, O240

## **Introduction**

With the collapse of communism and state socialism in Eastern Europe and the Soviet Union, is the capitalist economic model the only one that remains? Is there another way that is neither capitalist nor state socialism? Alternatively, is there a third way for economic development? Asian communist and post-communist states have provided an answer to these questions and attempted a third way which is called 'market socialism' – 'a species of economic system which is, in a number of ways, a cross between

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capitalism and socialism as it has been practiced' (Bardhan and Roemer, 1993). Socialists have abandoned the notion of central planning embedded in the Soviet model and argued that socialism is compatible with markets. What they would recognize as 'market socialism' is a mixed economy containing capitalist and socialist, bourgeois and proletarian, state and market (Lawler, 1998). China is often cited as the leading example of market socialism in Asia. Market reform or market socialist practice in East and Southeast Asian communist states has renewed worldwide academic interest in the study of market socialism in the past two decades. Using post-Mao China as a case study, this article attempts to address such a question: Can market socialism, a market-based form of socialism within the political context of one-party communist rule, become competitive and efficient like market capitalism?

Most studies on market socialism have mainly focused on the critique of market socialism, political morality of market socialism, or the merits of socialism based on Marxian theories (Lawler, 1998; Kornai, 1992; Roemer, 1994; Brighouse, 1994; Roosevelt and Belkin, 1994; Schweichart *et al.*, 1998). A rethinking of socialist reforms based on our empirical observation of the development of market socialism in China will not only help to address these questions but also provide a better understanding of the practical and theoretical implications of market socialism for the future of socialism. This article attempts to examine the fundamental problems of market socialism, particularly in the context of Chinese reform, based on the property rights theory and the principal-agent theory, and to seek feasible solutions to those problems by developing a new TSP system with the risk and benefit mechanism design; and demonstrate that the TSP system can transform market socialism into a truly competitive and efficient market economy. This study will use formal modeling techniques in the design of the core mechanism of the TSP system proposed by the author, and thus adopt formal analysis of its institutional arrangements, including its abstract properties, essential characteristics, components, relationships between the components, rules and procedures, and their effects on the actors involved in such institutional arrangements. The article will explain how the TSP model could resolve the major problems of market socialism that have hindered the development of market socialism in China and other market socialist economies, thus providing a policy recommendation for feasible reforms in the political context of market socialist countries.

### **The Property Rights Problems in Market Socialism**

The key issue to be addressed is not whether market socialism is theoretically possible but whether it can be realized in practice and capable of competing with market capitalism in the globalization of the world economy. Oskar Lange demonstrated to many economists' satisfaction that a well-functioning and efficient market is possible with state ownership of enterprises, provided that those enterprises follow the profit maximization rule (Perkins, 1993). Joseph Schumpeter followed largely Lange's arguments

in support of the feasibility of efficient market socialism and believed that Lange's argumentation was logically sound and consistent (Schumpeter, 1942). However, some economists disagree. Janos Kornai contends that market socialism is not capable of becoming a robust economic system (Kornai, 1993). In market socialism, the communist party's political monopoly is in direct conflict with the market economic law, because each precludes the realization of the other. In market socialism, owners or shareholders seek to maximize their financial gain and the value of their property in the short- and long-term, whereas the communist party-state in market socialism combines political, economic, social functions and has complex motives that are ultimately subordinate to political goals. Therefore, 'the concept of a market under socialism is like "fried ice"' (Ticktin, 1998). As Janos Kornai pointed out, 'this is the context in which the syndrome of soft budget constraint emerges' (1993; 1980; 1986; 1992). In market capitalism, with a hard budget constraint, a loss-making firm cannot survive. However, in market socialism, a loss-making firm may have to survive for political and social reasons. The bureaucratic redistribution of profits may be taken away from profit-making firms and given as assistance to loss-making firms. Firms do not have freedom of exit and entry into all business areas. Exist or entry into markets is largely decided by the government or influenced by the principal that has an administrative jurisdiction over its area. The state cannot let down an insolvent firm and may have to bail it out, because the state bears ultimate responsibility for the fate of firm. Moreover, the principal-agent problem that has been resolved in market socialism cannot be resolved in market socialism. A manager of a business firm is a bureaucrat. The motivation of the subordinate agent is loyalty to superiors to retain his or her career prospects, not business success, or concern for customers. Therefore, the quest for a truly competitive and efficient economy is hopeless in market socialism (Kornai, 1993).

Janos Kornai's major contribution to the study of market socialism is his critical analysis of the fundamental problems in market socialism, such as the soft budget constraint, the principal-agent problem, and the lack of free entry and exit for firms. However, can these problems be resolved in market socialism? Can it become a competitive and efficient economy? Market socialist practice has so far not provided a conclusive answer to this question, but instead, in many respects, it has cast more doubt on the feasibility of transforming it into a truly competitive and efficient market economy. A retrospect of the market socialist practice and its fundamental problems may provide a new way of thinking about a feasible solution to the fundamental problems.

The root to these fundamental problems lies in the property rights issues relations, which, in market socialism, is the ambiguity of property rights. In market capitalism, private property rights provide hard budget constraints, freedom of entry into and exist from the market, and natural selection of principal-agent relations. Responsibility, power, profit, and risk are symmetrical, integrated, and interconnected in principal-agent relations; therefore, there is an essential requirement for a hard budget

constraint on both the principal and the agent. In state socialism, responsibility and power are asymmetrical, disintegrated, or disconnected in the principal-agent relationship. The government (the principal) has power in decision making, but no person bears actual responsibility for losing money; the government gains profit, but no person bears risk for investment, whereas the manager or executive director (the agent) has responsibility for business operation, but has limited power in decision making; the manager gains some profit but bears no risk for investment. Market reforms in market socialism have improved the property rights relationship by implementing the separation of ownership and control, particularly by defining the principal-agent relationship more clearly. Many practices have emerged in market reforms, such as reorganization, association, merger, administrative delegation, leasing, contract, shareholding cooperatives, and sell-off. Shareholding has become one of the most promising practices for the separation of ownership and control.

However, the current shareholding system is seriously flawed: who is the shareholder? In practice, there are different types of shares: state share, enterprise share, external share, and individual share. Article 4 of the Company Law in China requires the state to hold controlling stocks of pillar industries and subscribe at least 35% of total shares in shareholding companies. This enables the state to be the largest shareholder since the other shareholders are often highly dispersed in China (Ma, 1998). In most cases, however, the state share is greater than 50%. If corporate shares of enterprises (*qiye faren gu*) are also taken into account, the state actually holds controlling stakes of shareholding companies since the holders of corporate shares are state agents and such shares are indirectly owned by the state (Ma, 1998). Therefore, the administrative subordinate-superior relationship remains intact in the principal-agent relation where the state constitutes the principal and the executives of enterprises the agent. In such a relationship, each enterprise continues to have its own information channel and supervisor, and tends to monopolize its own markets and industrial sectors, and therefore it does not encourage competition. Moreover, the state share is impersonal with no direct personal interests, incentives, responsibilities, and disciplines. Therefore, the separation of ownership and control in market reform has not fundamentally changed the impersonal property rights under state socialism nor achieved the goal of efficient allocation of resources and free market competition. The problems in existing market socialism can be clearly demonstrated if we examine more carefully the evolution of property rights reforms in socialist states. The history of property rights reforms in China can be divided into several major stages.

### *The Centralized and Unified System (da yi tong)*

In state socialism, the state exercises all three powers simultaneously: administration, ownership, and control. The enterprises have no power. This can be illustrated in Figure 1.

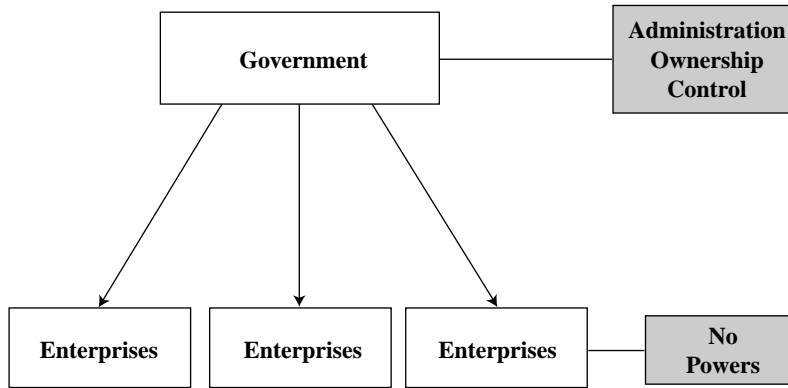


Figure 1. The centralized and unified system (*da yi tong*)

*The Decentralized and Unified System (tiao kuai feng ge)*

In the early stage of socialist reforms, three powers were combined and decentralized to regional/local governments as shown in Figure 2. This is also true in almost all countries of state socialism.

*The Reform in Separation of Two Powers*

Decentralization provides more incentives to local governments, but nothing else changed at the micro level. Such a decentralization, however, increased '*tiao kuai feng ge*' – different enterprises belong to different '*tiaotiao*' (central industrial ministries) and '*kuai*' (local governments). There is no horizontal flow of factors of production and efficient allocation of resources. Departmentalism and regionalism of various industrial ministries ('*xitong*')

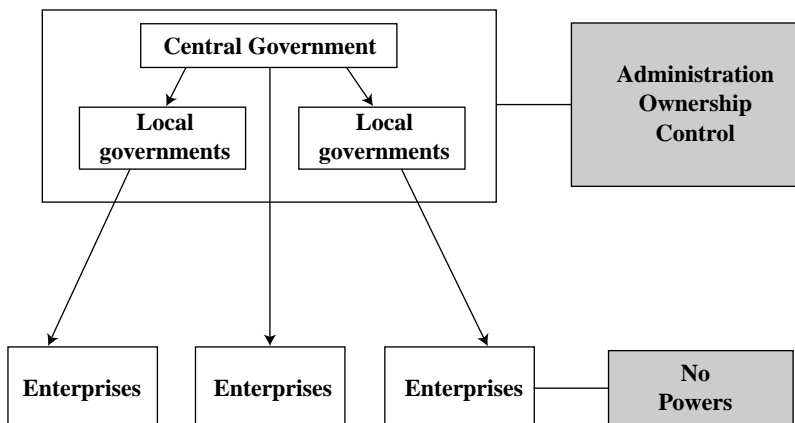


Figure 2. The decentralized and unified system (*tiao kuai feng ge*)

and various local governments further undermined the efficient allocation of resources and cause serious disequilibria and shortages. The systemic flaws made socialist reformers of many communist states in the 1980s realize that powers must be decentralized to enterprises or economic units, rather than to provincial and local governments, which was marked by the practice of separation of ownership and control as shown in Figure 3.

Ownership has been separated from control in modern market capitalism. A joint stock company is owned by shareholders while control rests with the chief executives and managers. Shareholders can exercise only limited control over the executives of firms and this has actually strengthened the power of the executives and weakened that of the owners. This separation of ownership and control has worked well in a free market economy of capitalism. This enlightened socialist reformers who wanted to maintain public ownership while improving economic efficiency and productivity. More than two decades of market reforms have developed all kinds of property rights and diversified ownership structure in China. In the state sector, enterprises not only have control rights but also some portions of ownership rights while the state retains ownership rights and some portions of control rights to intervene when necessary. In these reforms, a State Property Administration Bureau (SPAB) was created to exercise ownership rights and ensure the increase of state property value while delegating control rights and some portions of ownership rights to the enterprises. In practice, ownership rights are further divided into ownership right, use, control, and benefit right, which are divided and shared between the principal and the agent as shown in Figure 4.

In the practice of sharing property rights between the government and enterprises, 'a clear, plain assignment of property rights is lacking' (Kornai, 1993). The ambiguity and impersonal character of property rights have maintained the principal-agent relationship as 'mother-in-law and daughter-in-law' relationship (*poxi guangxi*), or administrative jurisdiction of subordinates and superiors. Therefore, this relationship allowed the government to

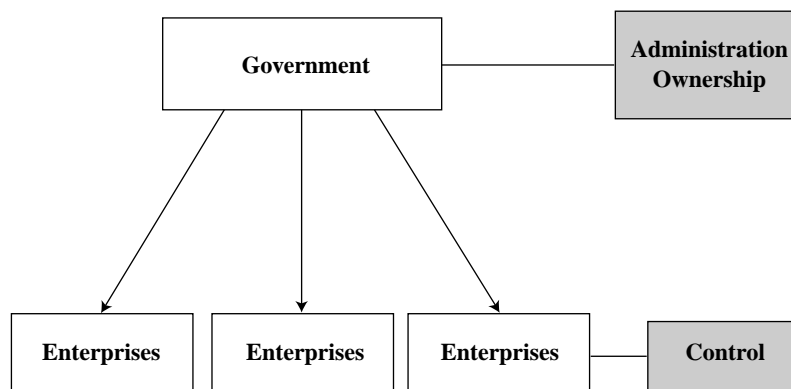


Figure 3. Separation of ownership and control

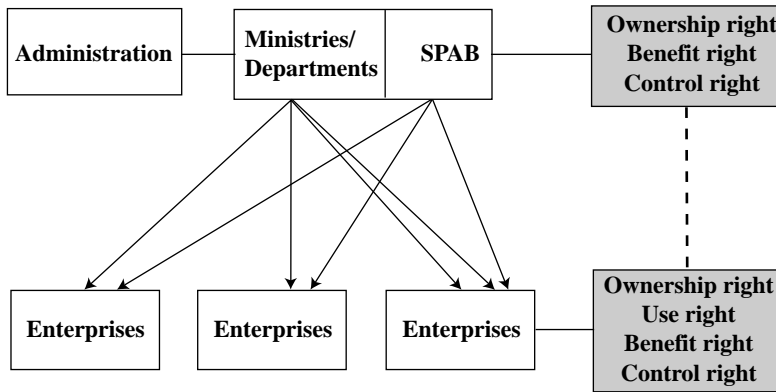


Figure 4. Divided and shared rights between the principal and the agent

intervene at its pleasure. The subordinate continued to be loyal to superiors and the decision was made based on ‘ad hoc negotiations between the upper level of the bureaucracy and the managers of the firm. The relative bargaining position is uncertain ... This is the context in which the syndrome of *soft budget constraint* emerges’ (Kornai, 1993). Although a substantial part of property rights have shifted from the government to the management of the enterprise, but the rights are not clearly defined and separated, and therefore, ownership and control are not completely separated. As a department of the government, SPAB is a bureaucracy, not a natural person, and therefore has no real incentive and discipline to ensure the increase in value of state property value and bears no responsibility for loss and no risk for investment. Therefore, an officially imposed division of ownership rights or separation of ownership and control between the state and the enterprises does not resolve the fundamental problems of the soft budget constraint, motivation of bureaucratic and corporate behavior, and inefficient allocation of resources in market socialism. Socialist reformers have come to the realization that administration must stay with the government. Control right must be given to the enterprises, but the key is where to place ownership right. If we continue to think about the two levels between the government and the enterprises, we will never get out of the vicious cycle, because both the government and the enterprises are not natural persons.

The very foundation of market capitalism is private ownership or the ‘impersonalization’ of property rights. According to Kornai, the state-owned enterprises in socialist countries are characterized by the ‘soft-budget constraint’ – as an economic theorist of property rights put it, ‘the residual income that emerges as the difference between receipts and expenses does not pass into the pockets of natural persons, and the losses are not covered by the same natural party’ (Kornai, 1990). This embraces the central thesis of the property rights approach. Only the natural-personal owners control and direct production and distribution of residual income, and it is based on this condition that modern capitalist economies have developed. The

impersonalization of property rights is the very foundation of the free market economy (Lo, 1997).

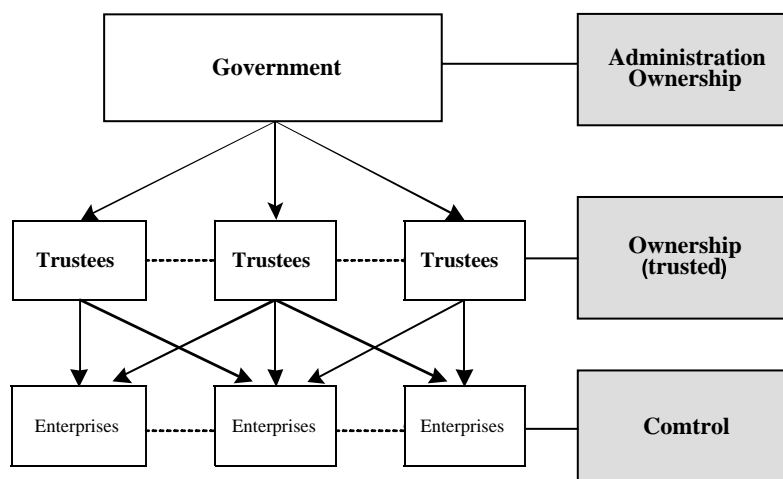
From the perspective of property rights, the solution is to insert a middle level between the state and the enterprises, and this level should not be governmental organizations nor administrative monopolistic corporations, but a natural person – a trustee of state property (TSP), who should be delegated with the entire ownership right on behalf of the state. This will constitute the foundation or starting point of our new thinking.

### *The Trustee of State Property*

A TSP is a natural person, who should not only be entrusted with power and responsibility but also be bestowed with benefit and risk to exercise ownership right on behalf of the state. A TSP acts like a member of Board of Directors under market capitalism and the agent of government under market socialism. This system of ‘Trustee of State Property’ can be illustrated as in Figure 5.

### **The Model: the Trustee of State Property in Market Socialism**

The TSP system is designed to resolve the fundamental problems of the ambiguity of property rights, soft budget constraints, lack of free entry into and exit from the market, and state intervention in the operation of enterprises, and fundamentally transform market socialism into an efficient and competitive economy. It emulates all key functional features of a free market economy of capitalism within the political economic context of communist political leadership and public ownership. A more detailed framework of property rights relations is constructed and presented in Figure 6.



**Figure 5.** The trustee of state property

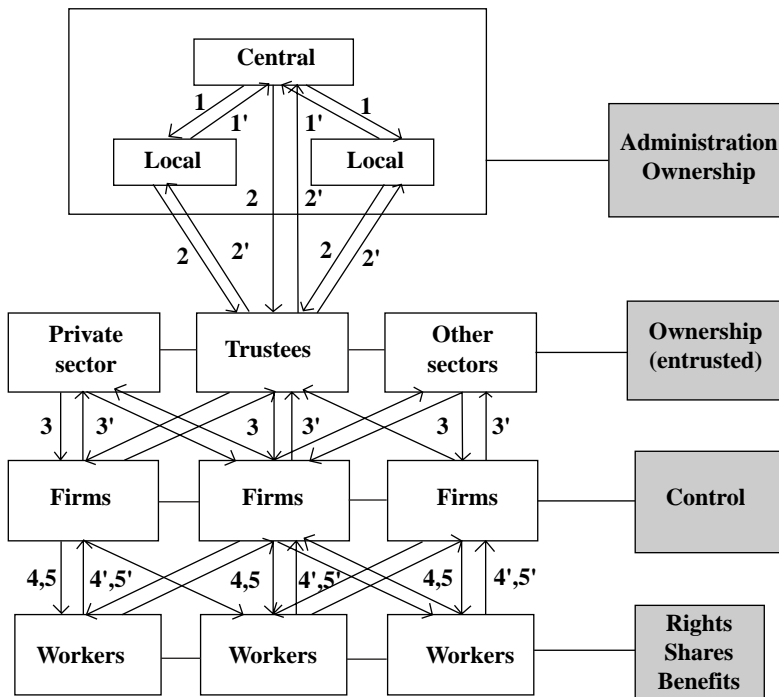


Figure 6. The framework of property rights relations

In this model, property rights relationships include the following most important variables: 1 = ownership trusted' tax and profit (deduct a percentage from local governments); 2 = ownership entrusted' tax and profit (deduct a percentage from firms); 3 = investment and influence on firm management; 3' = profit and dividends earned by firm management; 4 = labor; 4' = wages and bonus; 5 = sale of shares; 5' = profits and dividends. There are four major actors: the government, the trustees, the enterprises, and the workers, who are entitled to different rights, objectives, and roles, which are clearly defined by the law. The government has the authority to perform multiple functions: set rules, enforce laws, arbitrate conflicts, redistribute national revenue and income, dispense social security, and administer taxation and other administrative responsibilities, and legally entitled to ownership of state property. The trustees are entrusted with full responsibility, power, benefit, and risk to exercise ownership rights of the state to enhance the value of the state property. The enterprise managers are entrusted with control right to manage the enterprises and maximize profit. The workers have free choice of occupation, democratic rights in the economic units, and receive shares.

In this model, the assignment of property rights is clear and separated; property rights and resources are transferable horizontally and allowed to move freely cross departments, industries, and sectors. The trustees have

freedom of entry into all areas, and a hard budget constraint becomes an essential requirement for a functional TSP system. As a result, the principal-agent problems are resolved as has been in market capitalism, even though the owner is still the socialist state, and market socialism can be transformed into a competitive and efficient market economy. In what follows, we will lay out in more detail the blueprint of the TSP system under market socialism.

1. State Property Administration Bureaus (SPABs) are established at all levels of government to exercise the legal rights of ownership; perform the functions of administration, protect the rights and benefits of state property; evaluate the value of state property; set principles, rules, and criteria for selection of TSPs; draw experts from related areas to form special committees to evaluate and recruit the trustees of state property through public bidding; and delegate TSPs with legal authority to exercise ownership rights on behalf of the state. TSPs are entrusted with the major responsibility to enhance the economic return and the value of state property, and with full responsibility for and full authority in major decisions of investment and its directions and consequences. However, TSPs must also bear risk for their decision and operation using their personal property as a pledge and attain comparable benefit. Their benefit should be proportional or symmetric to their risk, and their benefit should be proportional or symmetric to the increase and decrease in the value of state property and profit and loss of enterprises. Therefore, the incentive and discipline problem of TSPs can be resolved and their potential short sighted and short-term behavior can be prevented. The major instruments used by the government to adjust or influence the behavior of TSPs and the enterprises are mainly tax rates, interest rates, exchange rates, profit retention rates, intentional investment rates of annual budget, and other macro-level industrial policies.
2. All state owned enterprises (SOEs) are shareholding companies or cooperatives. Shareholders may be a number of TSPs, individual shareholders, and other non-state economic sectors, but TSPs maintain a controlling share and one of the TSPs who has the largest share should be the Chairman of the Board of Trustees. TSPs as a whole act as the owner of state property on behalf of the state and constitute the operational main body of the state property ownership. The Chairman should have the final say in major decisions, including the appointment of the executives or managers of SOEs. The current managers or directors of SOEs can become TSPs through competitive public bidding. The executives or managers are accountable to the Board of Trustees dominated by TSPs and their objectives are maximization of profit, increase in the value of state property, and efficiency of investment. This will fundamentally transform the basic structure of the state sector – SOEs ‘belong’ to the government, through its industrial departments and bureaus in one way or another, and the government exercises its property rights over the enterprises through these industrial departments and bureaus, which in turn intervene in with

the activities of their subordinate enterprises. However, in the TSP system, TSPs bear full responsibility and full risk for the investment and profit. Therefore, they have the power in decision-making without being interfered with by the government and they have all the freedoms of entry into and exit from the market without having to get approval from the government. The state in the TSP system only exercises its property rights through its trustees and collects tax and income revenue from the profit of SOEs. A part of state revenue can be reinvested through TSPs to carry out its industrial policy, meet social demands, and achieve national goals, while the other part can be trusted to TSPs with a primary goal to increase the state property value and the economic return of investment.

3. A pluralistic ownership structure is one of the key features of market socialism, which encourages horizontal capital flow, optimizes grouping of factors of production, and increases the efficient allocation of resources. Shareholding enterprises in market socialism should be multiple forms: cooperative shareholding, or joint stock between SOEs, between SOEs and collectives, between collectives, between public sectors and private sectors. Private and foreign owned enterprises should be treated equally with SOEs. TSPs of SOEs have to compete with all different economic sectors for survival and growth. When enterprises profit, all shareholders gain dividends; when enterprises lose, all shareholders lose. When all parties involved share benefits and costs according to their shares, a hard budget constraint becomes an essential requirement for the TSP system. Since the interaction between ownership and control occurs between TSPs and enterprises, and not between the governments and the enterprises, the state will no longer intervene in activities of enterprises. In addition, all levels of governments will concentrate their attention on other important functions, such as rule-making, law-enforcement, conflict resolution, redistribution of national revenue and income, delivery of social security, and the administration of taxation and other administrative responsibilities. If the mechanisms between the state and the TSPs are well designed, particularly the TSP benefit and cost mechanisms, this system will function well. 'The mechanisms that have evolved (or been designed) under capitalism that enable owners to control management can be transported to a socialist framework' (Roemer, 1994).

### **A Formal Modeling of the TSP Core Mechanisms**

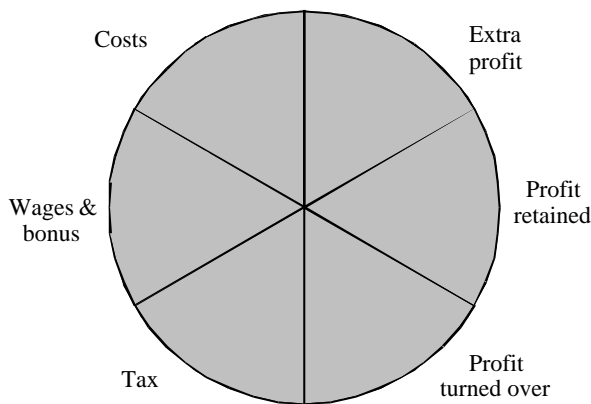
The key of the TSP system lies in the design mechanism of the relationships between the state and the TSPs. This must be able to guarantee the autonomy and freedom of TSPs from state intervention; make the TSP's goals be the maximization of profit; increase in the value of state property, and the efficiency of investment; keep the personal interest of TSPs in line with the interest of enterprises; make their gains and losses mutually interconnected; inhibit the short-term economic behavior of TSPs and enterprises; and prevent the excessive differential income of TSPs. The mechanism design must be able to address the central economic issues of any model of market

socialism: 'how to monitor the managers of public firms to maximize profits, to get them involved in competitive races for innovation, to discipline laxity, and how to separate political from economic criteria in decision-making' (Bardhan and Roemer, 1993). The fundamental principles of the design mechanism are symmetrical or proportional relationships between power, responsibility, benefit, and risk (cost). They not only guarantee the full autonomy and freedom of TSPs in the exercise of entrusted ownership rights, but also overcome incentive and discipline problems under market socialism and ensure the validity and efficiency of the state macroeconomic policy and guidance. To be specific, this mechanism includes the following 18 major points.

1. TSPs are selected through a competitive public bidding mechanism based on examination and evaluation. TSPs should have term limits with predicted goals within their tenure for 3–5 years and can be renewable at the end of the term depending on the assessment of their achievement of predicted goals.
2. Potential TSPs should compete with each other to bid on the value of state property, which will be taken as comparable to the property appraisal of an independent appraiser or company, which would then be calculated into the arithmetic mean as the original value of state property, represented as  $C_0$ .
3. Bidders must put down a certain amount of personal property as down payment or personal risk fund, represented as  $a$ , which should be a percentage of the state property to be trusted, and which should constitute a real risk for the bidders.
4. Bidders must also offer a quote for the part of the profits turned over to the state each year during their tenures and the highest bidding wins, everything else being equal. The total sum of profits within tenure is represented as  $p$ . The winner signs a contract with the State Property Administration Bureau (SPAB). The contract has legal binding for both parties after public notarization.
5. The winner becomes the TSP, and should be entrusted with the power and responsibility to exercise the ownership rights on behalf of the state within the term of tenure. However, since all enterprises are shareholding firms in practice, multiple TSPs should emerge and become members of the Board of Trustees. The one who has the largest share would become the Chairman of the Board of Trustees.
6. TSPs constitute the Board of Trustees and behave as owners, seeking to enhance the value of their property and exercise control over the management of enterprises. They have the power in decision making regarding investments, goal functions of enterprises, and major appointments, such as managers or directors of firms, who can be appointed or selected

through a competitive mechanism of public bidding. The Board of Trustees Chairman or other TSPs on Board could become the chief executives in the enterprises.

7. CEOs or Managers act as the chief executives of enterprises as under market capitalism. They have the power to appoint or dismiss staff or management, recruit or lay off workers by law and due process, decide on salary and bonus, sub-contract or sub-lease within or outside the enterprises, decide sale prices according to changes in demand and supply in the market, borrow bank loans, and so forth. All decisions are only constrained by law and legal contract without being subject to government intervention.
8. Gross profit is the remainder after deducting total costs from total revenue of sales. Net profit is the total sum after deducting total wages and bonus from gross profit. Post-tax profit is what remains after deducting tax from net profit. Post-tax profit includes a percentage of profit turned over to the state; a percentage of profit retained at enterprises, and extra profit after all these deductions. Extra profit is the sum after deducting profits for the state and the enterprise from post-tax profit. The point to be made here is that extra profit should be at the discretion of TSPs who use it for technological renovation, job training, or to reinvest in other products or areas of business as long as making profits. However, this extra profit cannot be used for increasing their personal income. TSPs can also put it in the bank, but the amount of deposit and its interest should be added to the value of property at the end of their term. The components of gross profit are shown in Figure 7.
9. At the end of the term, another public bidding for TSPs should be conducted and incumbents should be allowed to seek renewal of their



**Figure 7.** The components of gross profit

term based on external assessment and evaluation. The final value of state property, represented as  $C_1$ , which is based on the arithmetic mean of the new highest bid price on the total property value and the property appraisal of an independent appraiser or company, is the net increase in property value (value added), represented as  $\Delta C = C_1 - C_0$ , which should deduct retained profits and interest. If the net value in property increases, i.e.  $\Delta C > 0$ , reward for TSPs should be rendered; if the net value in property decreases, i.e.  $\Delta C < 0$ , penalties are warranted.

10. TSPs are entrepreneurs and, during their tenure, should be paid at a higher level of salary, but they should not receive any form of bonus, because they will receive reward or penalty based on the evaluation of their performance and the assessment of property value at the end of their term. The salary scale of TSPs should be determined by the government and approved by the legislature. If a TSP's annual salary is designated as  $b$ , years of tenure as  $n$ , a certain percentage of the total salary ( $nb$ ),  $a + \frac{nb}{2}$ , should constitute the TSP's personal risk fund, represented as  $a + \frac{nb}{2}$ .

11. Benefits and losses should be shared between the TSP and the state and be proportional to the risk each bears. The risk mechanism formula for the TSP reward and penalty is essential for a functional TSP system: suppose the TSP's part of shared risk is  $Y_1$ , the part of shared risk for the state would be  $\Delta C - Y_1$ , which would be  $|\Delta C|$ .

$$\frac{Y_1}{\Delta C - Y_1} = \frac{a + \frac{nb}{2}}{|\Delta C|}$$

$$Y_1|\Delta C| = (a + \frac{nb}{2})\Delta C - (a + \frac{nb}{2})Y_1$$

$$Y_1|\Delta C| + (a + \frac{nb}{2})Y_1 = (a + \frac{nb}{2})\Delta C$$

$$Y_1 = \frac{(a + \frac{nb}{2})\Delta C}{|\Delta C| + (a + \frac{nb}{2})}$$

If  $\Delta C > 0$ , i.e. property value added,  $Y_1 > 0$ , reward is rendered;  
 If  $\Delta C < 0$ , i.e. property value reduced,  $Y_1 < 0$ , penalty is warranted.

12. The above risk benefit equation can be further illustrated in Figures 8 and 9.

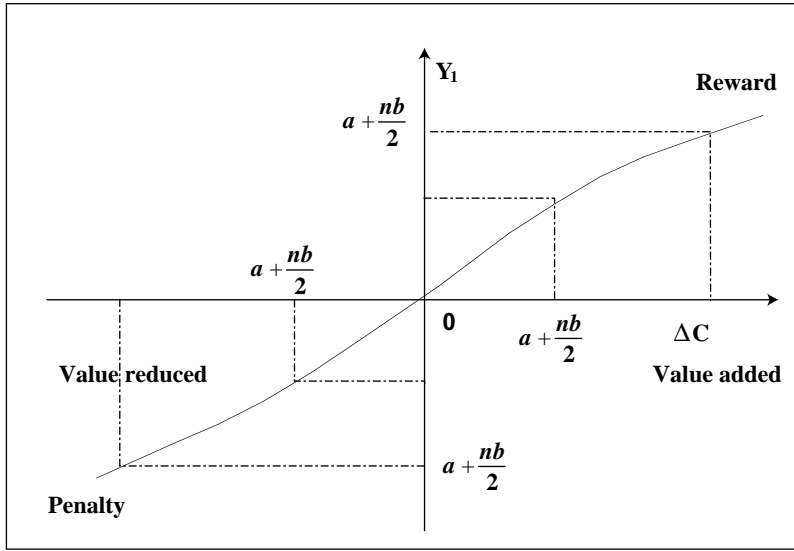


Figure 8. Changes in TSP reward and property value

In the light of TSP's reward curve line that changes along with changes in value added (Figure 8), TSP's reward and risk are symmetrical and proportional, depending on the changes in value added. The more state property value increases, the more TSP's reward increases. Suppose that when value added is zero, reward is zero; when value added is equal to personal risk fund  $a + \frac{nb}{2}$ , reward is equal to a half of personal risk fund. For example, if  $a = \text{¥}100,000$ ,  $b = \text{¥}100,000$ ,  $n = 3$  years, then,  $a + \frac{nb}{2} = \text{¥}250,000$ .

In the light of TSP's reward curve line that changes along with changes in personal risk fund (Figure 9) the only way to secure personal reward is to increase the entrusted state property value, because the precondition for increasing personal reward is the increase in state property value. If TSPs choose to increase their personal risk fund, it means that TSPs would bear more risk for themselves, which would provide more incentives for working hard to increase the trusted property value.

13. Suppose that the difference between annual average profit values was accomplished by the current TSPs and expected profit bid in the next public bidding is  $\Delta p$ . If  $\Delta p > 0$ , it indicates that the average profit value has increased because of the good performance of the current TSPs, and therefore they should receive reward, and vice versa. The relationship between reward and profit should be treated in the same way as the

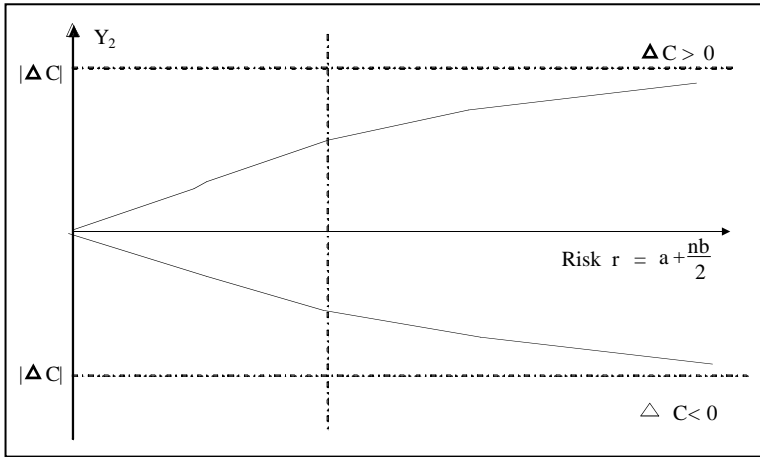


Figure 9. Changes in TSP reward and personal risk fund

relationship between reward and property value added was formulated. Suppose that personal reward is  $Y_2$ ,

$$Y_2 = \frac{\Delta p(a + \frac{nb}{2})}{|\Delta p| + (a + \frac{nb}{2})}$$

14. To avoid penalty and receive reward, TSPs must ensure efficient allocation of resources and move capital from investments where marginal rate of economic return is lower to location where marginal rate is higher. TSPs would also seek a longer term of tenure to increase  $n$  in order to increase  $b$  and ultimately the amount of income and benefit. The total income of TSPs during their tenure is comprised of two parts: one is salary ( $nb$ ) and the other is risk benefit ( $Y_1 + Y_2$ ).
15. TSPs should buy ‘TSP Bankrupt Insurance’ from China’s People Insurance Company, because in the worst scenario TSPs may end up with  $Y_1 + Y_2 \approx -2(x + \frac{nb}{2})$ , i.e. the amount of penalty exceeds the total amount of personal risk fund. However, if a TSP fails to buy insurance or gets full coverage from the insurance company, the SPAB would auction his or her personal property through legal process to compensate losses. If it is not enough to cover losses, the TSP could be sentenced to debt prison. Term of imprisonment would depend on the the amount of debt, which should be determined by a supplementary clause of Criminal Law, but it should be lower than term of imprisonment for graft and embezzlement.

16. The TSP's salary, reward, and penalty should be disbursed from profit of the entrusted state property, and added to the balance of account of the current TSPs. That is to say, the TSP's salary, reward, or penalty should be added onto the average value between the bidding of the next TSPs and the appraisal of an independent appraiser or company in the next public bidding, which would become the new property value to be entrusted to the next TSPs.
17. TSPs have freedom to move the state property they are entrusted to any sector of Chinese industry where the marginal rate of economic return is higher, TSPs would create a socialist market economy in which the market is the invisible hand that ensures resources being allocated to their most productive uses in line with the principle of consumer choice and utility maximization (Rawski, 1994).
18. Breach of contract would be subject to legal penalty. All parties involved should have legal rights to seek compensation for losses incurred by breach of contract, and all parties are equal before the law. If the SPAB breaches the contract, the state agency should bear responsibility and the person who is in charge should bear economic responsibility to indemnify for the damages or losses to the state property. If a TSP breaks the contract, the TSP also pays the losses or damages incurred by their actions. If a TSP terminates the contract by force of circumstances that is beyond the TSP's control, such as death or disabilities caused by accidents or serious injuries, another public bidding should be conducted by the SPAB. If a contract is terminated because of a TSP's self-inflicted injury or imprisonment, the TSP must bear all the consequences. If an enterprise that is entrusted bankrupts, the enterprises will be auctioned under the SPAB, the penalty should be calculated by risk and benefit formula. The amount of penalty could be twice as much as the amount calculated by the formula, because personal reward  $Y_2$  no longer exists and therefore,  $Y' = 2Y_1$ . The above 18 clauses would constitute the basic framework of **TSP Law**.

## **Conclusion**

This article attempts to examine the fundamental problems of market socialism based on the property rights theory and principal-agent theory; to seek feasible solutions to those problems by developing a TSP system with the risk and benefit design mechanism; and demonstrate that a TSP's goal and behavior can satisfy the conditions of a healthy and competitive microeconomic mechanism and can be subject to the state's macroeconomic adjustment and guidance.

The driving force of the TSP system is market competition and self-interest, which ensure that TSPs are not political appointees but those entrepreneurs who have courage, management skill, know how, experience and who

can win in a competitive public bidding based an examination and evaluation system. Therefore, it offers a feasible solution to the problem of discipline in management of state properties through the competitive labor market for trustees and managers. The TSP risk and benefit mechanism is based on a rigorous design of personal benefit and risk fund connected to the increase in property value increase and profit maximization. The TSP risk and benefit mechanism ensures symmetrical or proportioned relationships between power, responsibility, benefit, and risk (cost).

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