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The Economics of Nonprofit and Its Relevance to China's Public Service Unit Reform: A Survey on Literature

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I. Introduction

A nonprofit is defined in economics as "an organization that is barred from distributing its net earnings, if any, to individuals who exercise control over it, such as members, officers, directors, or trustees."(Hansmann 1980). This feature, known as the "non-distribution constraint", distinguishes nonprofits from the most common form of production organization, for-profit firms. The term "not-for-profit organizations" or "nonprofits" in economic literature usually refer to "privately owned" nonprofits. In developed market economies, the nonprofit sector is often viewed as a third sector coexisting with the private for-profit sector and the government.

Nonprofit as an institution has received increasing attention in China in recently years. This is partly because of its potentially important role in reforming China's public service units (PSUs).

China's PSU sector has 1.12 million entities. Education and health together account for more than 60 percent of PSU sector employment. Scientific and technological (S&T) research and cultural services are the next two largest sub-sectors. The size of the PSU sector is about two thirds of the SOE sector in terms of employment, with a labor force of 25.5 million persons in 2001 (34.4 percent of China's public sector employment). A substantial portion of China's economic resources is devoted to the PSU sector, including 60 percent of its best educated professionals[1], a large amount of state owned land, around one third of non-SOE state owned assets, and one-third of the recurrent expenditures of the consolidated budget of all governments[2.] The PSU sector's contribution to China's GDP is probably in the range of 5-10 percent, based on available data. The largest four sub-sectors, education, health, scientific and technological research, and cultural services, accounted for 5.1 percent of 2001 GDP. Adding other sectors that may contain many PSUs would raise this ratio to 9.4 percent.

Reform of PSUs represents the third stage of China's long lasting efforts in transforming its public sector to fit the notion of a socialist market economy, after SOEs reform and government reform. Success in PSU reform will have an enormous positive impact on the overall development of the Chinese economy by improving the

[1] Data from Ministry of Personnel. The ministry has its definition of "professionals *(zhuanye jishu renyuan*)", which include most intellectuals such as teachers, doctors, scientists, engineers, actors, writers, etc..

[2] In 2001, expenditure on education, health, culture, science and technology and agricultural services accounted for 22.6 percent of total fiscal spending, government administration accounted for another 12 percent. A significant portion of these expenditures went to PSUs. *China Statistical Yearbook 2002*, Table 8-7.

quality of government functions, raising economic efficiency of the public sector, and promoting development of the service industry. However, this may not materialize without a coordinated reform based on a well developed overall strategy.

Nonprofit emerges as a potentially useful institution as researchers search for such an strategy. In an extensive study on PSU reform, a team led by Cheng Siwei (2000, p244) recommended that nonprofit should be taken as the "leading model" of PSU reform. He suggested to divide existing PSUs into two groups, nonprofits and for-profits, and see those for-profits being transformed into enterprises (p18). In the past few years, a series of books has been compiled by a research team sponsored by the Ministry of Science and Technology and Ministry of Finance introducing to Chinese readers international practices of management of nonprofits (e.g., Zheng Guoan and others, 2001). In the meantime, there are skeptics as well. For example, a recent report by another research team consisting of officials from the Central Office for Post and Establishment, Ministry of Finance and Development Research Center of the State Council called for caution in counting on nonprofit as a model of PSU reform (Ge Yangfeng, 2003).

The central question that remains to be answered is, taking nonprofit as an alternative institution to for-profit firm and core government departments in terms of organizing production of goods and services, what role can we rationally expect it to play in China's public service delivery in a socialist market economy? To formulate an answer based on sound economic analysis, we need to understand the economics of nonprofits, which seems to have received less attention in previous studies than international experiences. This paper intends to start filling this knowledge gap with a survey on literature. Given the size of the literature on this subject, however, it does not intend to cover everything. Instead, it will focus on a few key questions and look for answers in economic literature:

- Why do nonprofits exist in spite of the for-profit sector and the government?
- How do nonprofits work without "owners" and profit motives?
- How do performance of nonprofits compare with their for-profit counterparts? Are nonprofits efficient?

In addition, this paper will try to explore the potential relevance of nonprofit to China's PSU reform. To set a stage for application of economic theories to China's reality, it starts with an investigation into China's current situation. In particular, we review relevant laws, regulations, policies and other studies related to four major PSU sectors---education, health, S&T research, culture--- with the following two questions in mind:

- What role is nonprofit supposed to play in China's PSU sector?
- What role does it actually play in the existing system?

This paper is organized as follows. In section II, we present our findings of the investigation of China's current situation. Section III turns to the theoretical and

empirical literature of the economics of nonprofits, addressing the questions of why nonprofits exist, how they work, and how they perform. Section VI concludes with a discussion of the potential relevance of nonprofit to China's PSU reform.

II. Nonprofit in China's Public Service Sector

Nonprofit in its precise sense is often viewed as a western institution that has been introduced into China only recently. However, if one looks back to institutions that dominated China's production of goods and services before the reform, almost all of them were run without profit motives. Indeed, one major challenge of the state owned enterprise (SOEs) reform was to make them profit maximizers. Seeking profit was not an objective of PSUs as well. They differed from SOEs in that they were not supposed to produce "material products" and "accumulate funds for the state", i.e., they were service providers and not expected to make profit. In government decrees before the reform, PSUs were often defined as state units providing services whose value cannot be measured in monetary terms, meeting people's needs in education, health, culture, and generating social benefits[3]. Of course pre-reform SOEs and PSUs were not exactly nonprofits as defined in economics. However, when some PSUs were forced to "go to the market" to "generate revenue" for themselves, they moved closer to the for-profit model than others. This makes nonprofit model a useful reference point in understanding the operation of those PSUs characterized by relatively low degree of commercialization and profit motives. This is the case, for example, for most PSUs in the education sector, as the Education Law in China requires no education institution being run with a purpose of profit-making.

Nonprofits have also been explicitly introduced as a model for reform of certain PSUs. Health sector and the S&T sector are examples at point. Past and ongoing reforms involve transformation of some hospitals and research institutes into nonprofits. In the cultural sector, nonprofit has also been adopted as a model for reform of some PSUs.

There have also been private counterparts of PSUs, "private non-enterprise units"[4]. They are defined by a State Council regulation as "not-for-profit social service providers". Presumably, they are even closer to the nonprofit model in economics. Private schools and hospitals all fall in this category. We now turn to each sector for a closer look at the supposed and actual roles of nonprofits.

1. Health

[3] State Council, Trial Approaches of Establishments Management, July 22, 1963; State Establishment Committee, Opinions on Classifying Government Departments, PSUs and Enterprises, May 4, 1965; Trial Approaches of Establishment Management for State Council Departments and Offices, 1984.

[4] State Council Decree 251, Oct. 25, 1998.

Nonprofit as an institution was introduced into China's health sector in 2000 in a reform program designed by a group of eight ministries led by former State Council Office for Restructuring Economic Systems (SCORES) and approved by the State Council[5]. The program calls for establishment of a "new management system of medical and health institutions" in which all institutions in the sector are classified as either nonprofit or for-profit organizations, with the former being expected to play a "leading" role. Since the government does not run for-profit health institutions in the reform program[6], three categories of institutions are expected to emerge:

i. Government owned nonprofit;
ii. Non-government owned nonprofits;
iii. Non-government owned for-profits.

Nonprofit institutions are defined in the reform program[7] as medical institutions established and run to serve the social public interest, not for profit-making purpose. Their revenues should all be used to cover medical service costs, with any surplus being invested in further development of the institution.

In terms of functions, nonprofit institutions are all supposed to provide "basic medical services". Government owned ones have the extra obligation of carrying out assignments by the government, while non-government owned ones have the freedom to provide "a small amount" of non-basic services. For-profit institutions are free to decide what services to provide[8].

Different taxation and price regulation rules apply to the three kinds of institutions. Government owned nonprofits are granted preferential tax treatment and fiscal subsidies, with service prices set at the cost net of fiscal subsidies and medicine sales income. For non-government owned nonprofits, no government financial support is given, and service prices are set according to government indicative prices. Prices for services provided by for-profit institutions are fully liberalized. They are supposed to be run as autonomous business entities according to relevant laws and regulations[9].

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[5] State Council General Office Notice to Issue the Instructive Opinions on Urban Medical and Health System Reform by SCORES and other Departments, Feb. 21, 2000. http://www.ceilaw.com.cn/dcd001/owa/cei.fgdetail_query?incode=112708200002

[6] Ministry of Health: Opinions on Implementing the Classification Management System of Urban Medical and Health Institutions, July 18, 2000. http://www.moh.gov.cn/yzgl/zcxx/yljggl/200205300064.htm

[7] Ministry of Health: Opinions on Implementing the Classification Management System of Urban Medical and Health Institutions, July 18, 2000.

[8] Ministry of Health: Opinions on Implementing the Classification Management System of Urban Medical and Health Institutions, July 18, 2000.

[9] State Council General Office Notice to Issue the Instructive Opinions on Urban Medical and Health System Reform by SCORES and other Departments, Feb. 21, 2000.

The government regulates salaries of employees of nonprofit institutions. For government owned nonprofits, a total amount of salaries has to be approved by the government every year. Within the approved amount, each institution has the freedom to decide how the total amount is distributed among its employees, subject to relevant government policies on PSU employees compensation. For non-government owned nonprofits, the government requires the institution to ensure (i) its total salary bill grows slower than surplus (*jingji xiaoyi*, which often means profit in enterprise); and (ii) the real average salary of its employees grows slower than labor productivity[10].

How to decide if an institution should be nonprofit or for-profit? Ministry of Health proposed the following guidelines:

- Existing government owned institutions should be reviewed by the relevant level of government in light of economic development and demand for medical services. Those providing basic medical services, representing the medical service quality level of a region or the nation may remain under government ownership and be classified as nonprofits. Others may choose to be non-government owned nonprofits or convert themselves into for-profits.
- Charity funded institutions should be nonprofits.
- Institutions run by enterprises or PSUs for their employees should be classified as nonprofits in principle.
- Institutions run by social organizations may choose to be either nonprofits or for-profits, subject to approval by health departments of the government.
- Institutions of the forms of private clinic, joint stock company, joint stock cooperative, joint venture should be classified as for-profits in general.
- Institutions involving both state/collective assets and its employees' investment may choose to convert themselves into for-profits in the forms of joint stock company, joint stock cooperative, or nonprofits.
- Government owned nonprofits shall not invest in for-profit "departments", "sections" or "projects" which have no independent legal status.

This reform program is still under implementation. Some incomplete data suggest an overwhelming dominance of nonprofits over for-profits in the post-classification health sector. For example, data of 10 provinces that have completed the classification

[10] Ministry of Health: Opinions on Implementing the Classification Management System of Urban Medical and Health Institutions, July 18, 2000.

exercise released by the Ministry of Health[11] show the following shares of for-profit institutions in local health sector: number of beds, 1.4%; number of doctors, 9.4%; number of outpatients, 7.7%; number of hospitalized patients, 2.9%. While some provinces are still in the process of implementation, 2002 national level data[12] present a similar picture in terms of shares of for-profit institutions in national total: number of beds, 2.7%; number of outpatients, 2.3%; number of hospitalized patients, 2.1%.

The primary reason for the dominance of nonprofit institutions in the post-classification health sector seems the negative attitude of some governments towards non-government owned institutions. In citing the above-mentioned data for 10 provinces, a vice minister of MOH criticized some local government health departments for protecting government owned institutions and setting up barriers against non-government owned institutions. It is probably a common practice that almost all the existing state owned and collectively owned institutions have been classified as nonprofits, with very few cases of privatization (Lei Haichao, 2002).

2. Science and Technology Research

S&T sector is another sector where nonprofit as an institution has been introduced into reform program in an explicit manner. China's S&T institutions are managed by the government in five systems: (i) the China Academy of Science; (ii) higher education institutions; (iii) industrial ministries and bureaus; (iv) local governments; (v) the military. Reform in the S&T sector started in 1985, when the Communist Party of China (CPC) Central Committee adopted "*Decisions on S&T System Reform*". S&T institutions were grouped into three categories: "basic research units", "public benefit related research units" and "development research units". Financial supports to those development research units were gradually reduced to a level, determined as one parameter of the reform program, by 1990, forcing them to "go to the market". Ten years later in 1996, the State Council issued a similar document[13] laying out the strategy for further deepening of the reform in this sector. The basic idea was characterized as "to stabilize one end and liberalize others", which meant to allow most S&T institutions to commercialize themselves by transforming into enterprises. The "one end" to be stabilized refers to those that are perceived as basic research units, public benefits related units, or other units of strategic significance. To stabilize essentially means to ensure adequate government financial support to maintain an effective public goods effort.

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[11] http://www.moh.gov.cn/was40/detail?record=4&channelid=7565&searchword=%B7%D6%C0%E0%B9%DC%C0%ED

[12] http://www.moh.gov.cn/tjxxzx/cgwstjsjyfx/cgwstjsj/1200305260048.htm

[13] *State Council Decision on Deepening Reform of Science and Technology System in the Ninth Five-Year Plan Period.* http://www.ceilaw.com.cn/dcd001/owa/cei.fgdetail_query?incode=112702199603

The CPC Central Committee and State Council *Decision on Strengthening Technological Innovation, Developing High-Tech and Promoting Industrialization (Document No. 14)*[14] in 1999 adopted nonprofit as an institutional arrangement for reform of some S&T research institutions. This document called for further classification of "social-benefit type" S&T institutions: (i) "those that have the capacity to face the market should be transformed into S&T enterprises, or taken over by enterprises, or transformed into intermediaries in the form of enterprise"; (ii) "those that provide public services to the society and cannot expect adequate economic return should be run and managed as nonprofits". The government will provide project-based funding and funding for research base construction, but in the meantime, the nonprofit institutions must restructure themselves and lay off redundant employees.

On April 29, 2000, the State Council approved an implementation plan formulated by 12 ministries led by the Ministry of Science and Technology (Notice No. 38)[15]. The plan specifies the kind of institutions that should be transformed into nonprofits, based on a detailed classification of institutions involved in this round of reform. The classification starts with a line drawn between "technological development institutions" and "social public benefit institutions". Nonprofit was adopted as an objective model of reform for part of the social public benefit institutions, i.e., those that "engage mainly in application basic research or public service delivery, cannot expect adequate economic return, really need government support". Institutions to be managed as nonprofits were required to cut no less than 70% of their labor force and implement complementary reforms in personnel and compensation management. Their supervisory departments were also required to shift from direct management to indirect management through boards of directors. Upon satisfactory implementation of the required reform, the government will increase budget allocation to these institutions.

On December 19, 2000, the State Council approved another document draft by MOST, Central Post and Establishment Office, MOF, State Administration of Taxation on management of nonprofit S&T institutions. According to this document, the transformation of those qualified institutions into nonprofits must be approved by the four agencies. In the meantime, government financial support, preferential tax treatments were promised.

Implementation of Notice No. 38 started in November 2001 when the first group of 98 institutions under four ministries were selected as pilots. The second group of 107 institutions under nine ministries joined in October 2002. Among the 98 institutions in

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[14] http://www.most.gov.cn/ShowContent.jsp?db=zczdjd_35&id=6

[15] State Council General Office Notice on the Opinions of MOST and Other Ministries on Implementation Plan of Deepening S&T Institutes Management System Reform. http://www.ceilaw.com.cn/dcd001/owa/cei.fgdetail_query?incode=112702200001

the first group, 29 were transformed into nonprofits with approved posts of 4084 (which implies a downsizing by 9529 persons if the 70% requirement has been complied). In the second group, 44 institutions were approved to become nonprofits with 6541 posts. Their employment was to be cut by 71.5%. An example is the 39 institutes of China Academy of Agricultural Science, which were approved to transform themselves into nonprofits and cut their employment from 9342 to 2852 (see Table 1).

Since 1999, another group of 242 S&T institutions have been involved in the reform. These are institutions formerly managed by ten industrial ministries, which were abolished during the government re-organization in 1998. Most these institutions were transformed into or integrated with enterprises. Only a small number of them maintain their PSU status but also managed as enterprises.

3. Education

There are two key laws governing the role of nonprofit in China's education sector, the Education Law[16] enacted in 1995, and the Private Education Promotion Law[17] passed in December 2002 (to be effective on September 1, 2003). Before the Private Education Promotion Law, it was the Regulation on Operation of Schools by Social Forces[18] enacted in 1997 by Ministry of Education that regulated private education institutions.

Unlike the health and S&T sectors, laws and regulations do not allow the coexistence of nonprofits and for-profits in the education sector. The grand rule was set by the Education Law, which requires all education institutions to be run as organizations very close to nonprofits, despite the absence of the word "nonprofit": "no organization or individual shall run schools or other educational institutions with a purpose of profit-making"(article 25). Following this law, the Regulation on Operating Schools by Social Forces also states that no "social force", i.e., non-government entity, shall run schools for the purpose of profit-making (article 6). Fees charged to parents and salaries and welfares of employees are subject to government review and approval (articles 35 and 37). Accumulated surplus "can only be used to increase inputs in education, improve conditions of the school, cannot be distributed to anyone or invested outside the school" (article 37).

Since public schools and institutions have never been explicitly required by the government to make profit, the nonprofit requirement mainly has its impact on private education institutions. It makes a great deal of difference to private investors whether or not it is legal to extract profit from schools and education institutions they invest to

[16] http://www.moe.gov.cn/jyfg/laws/jyfgjyf.htm

[17] http://www.moe.gov.cn/jyfg/laws/mbjycjf.htm

[18] http://www.moe.gov.cn/jyfg/laws/sbtl.htm

create. The Private Education Promotion Law represents a compromise, which has departed from the Education Law but still some steps away from a model of for-profit school. Heated debate took place within the National People's Congress (NPC) in reviewing the draft of this law. The final wording of in its article 51 is as the follows: "after deducting running cost of the school, setting aside development fund and other provisions according to relevant government regulations, the investors of the private school may extract reasonable return out of the surplus. Specific rules on extraction of reasonable return shall be formulated by the State Council". Obviously, much will depend on how the State Council defines the term of "reasonable return". It could be defined with so much flexibility to allow de facto for-profit school, or with so much rigidity to make any significant profit distribution illegal.

In addition, the Private Education Promotion Law does not provide protection for ownership rights of those who invest to found the school. In case of termination, article 59 of the law states the following order of seniority: tuitions and other fees to be refunded to students; employees' salaries and social insurance contributions; other debts. And "the residual property after the previous compensations should be distributed based on relevant laws and regulations".

China has a long history of private education. As recently as 1947, China's five largest cities had nearly 2000 private schools, representing over half of all primary schools and 84% of all secondary schools in those cities. In that same year, around 40% of higher education institutions in China were private. Private schools disappeared during 1952-54 in a government "takeover"[19], and re-emerged in early 1980s. Since then, private education has grown quickly (LaRocque and Jacobsen, 2000). In 2002, 4.2% of students enrolled in private schools and institutions at all level from pre-primary education to tertiary education(World Bank, 2003).

How has the nonprofit requirement impacted these private schools and institutions? Despite the existence of some truly nonprofit schools founded as charitable organizations, it seems the legal requirement only drives most private schools into what is called "for-profit in disguise", as defined later. The fundamental constraint is that private participation in education, be it in the form of nonprofit or for-profit education institutions, requires adequate regulatory capacity from the government, which China seems to fall short of. On one hand, China does not appear to have an effective quality assurance system to produce output indicators of quality and to develop a means of observing and judging the education process themselves(World Bank, 1999, p2 and p15), which are particularly essential for sound development of

[19] Ministry of Education: Instruction on Takeover of Private Primary and Secondary Schools (Sept. 1, 1952); Plan of Takeover of Private Secondary and Primary Schools (Nov. 15, 1952). In He Dongchang ed: *Key Education Literature of the People's Republic of China*, Hainan Publishing House, 1998. P164, 181. Cited in Qi Hong, "The Ownership and Corporate Governance of Private Schools – A Case Study of the Yinghao School".

private for-profit education; on the other hand, regulatory capacity is also inadequate to ensure the compliance with the "non-distribution" constraint of nonprofit by private schools. While explicit profit distribution is easier to monitor, implicit profit transfer through related party transactions is very difficult to detect and verify. As a study on private education sector (LaRocque and Jacobsen, 2000) found in 2000, "there can be little doubt that investments are made in the expectation of obtaining a future return, despite the prohibition on profit-making". "A significant feature common to both schools and tertiary providers is the use of innovative financing mechanisms to permit investment and the arrangements to permit channeling of surplus to investors."

There are many ways to channel surplus to investors. For example, the private school may purchase goods and services from an entity created by the same owner and transfer profit to it through prices higher than normal. To bypass regulation on the rate of fees, a prevalent practice is to collect "educational reserves" from the students upon entering the school. The school commits to refund the money in full amount without interest on graduation or transfer. The money is often lent to the owner of the school for business operation. Box 1 and 2 provide two examples.

Box 1: Yinghao School

Yinghao School was founded in 1993. There were 2600 students enrolled with the school in 1999. The key founder of the school was a collectively owned enterprise, Yinghao Industrial Ltd, led by its chairman Chen Zhonglian. The school asks each student to deposit a "education reserve fund" of RMB300,000. There was no graduation before 1999. The total balance of education reserve funds reached its peak, over RMB700 million, in 1999. The money was lent to Yinghao Industrial by the school at an annual rate of interest 12%.

In 1996-98, the school acquired a company and became its controlling shareholder. The company had a subsidiary (90% ownership) Yinghao Education Ltd. In subsequent years, Yinghai Education acquired land and buildings of Yinghao School, and started to collect rent from the school, which accounted for 20-40% of the school's fee revenue.

Source: Qi, Hong (2002).

Box 2: Kaiming International Experiment School

Kaiming International Experiment School (Kaiming School) was founded by a private businessman Lu Kaiming, who used to be an owner of auto repair business. In 1993, Lu Kaiming acquired a piece of land from Chongqing government at preferential price and borrowed a loan from a bank with the land as mortgage to establish the school. He also invested his personal saving of RMB560,000. Kaiming School required each student to bring in a deposit of RMB80,000-300,000. In 1995-98,

Kaiming School enrolled 1200 students. Starting in 1995, there were graduation of students, to whom the school had to repay their deposits. In 1999, demand for the school started declining. In 2002 the school ran into crisis as it failed to repay deposits to 120 students who graduated or transferred to other schools. In January 2003, Kaiming School was taken over by Chongqing Education Research Institute.

Source: *21 Century Economic Herald*, Feb. 27, 2003.

4. Culture

Nonprofit has not been adopted as a model of PSU reform in the culture sector. In the past two decades, many PSUs in the culture sector have fully or partially commercialized. Those that did not are often under-funded and having difficulties to survive. In addition to the similar approach of letting those that can survive in the market transforming themselves into commercial entities, PSU reform in the culture sector has concentrated on internal management. A working conference to launch reform experiment in the culture sector was held on June 27, 2003, attended by Li Changchun, member of the Poliburo Standing Committee in charge of ideology. But details of this round of reform are not available in the public domain yet.

III. The Economics of Nonprofit

1. Why Do Nonprofits Exist ?

Why do nonprofits exist as "the third sector" in addition to for-profit firms and the government? Is there anything that nonprofits can do and for-profits and the government cannot? These are theoretical questions answers to which are essential to gain an deep understanding of nonprofit as an institutional alternative to for-profit and the government.

Historical evidence suggests that nonprofits may have emerged as a private response to inadequacy of government efforts in meeting demands that were not taken care of by the private for-profit sector. In 16th century England, for example, voluntary private "philanthropies" (today we would call them nonprofits) were providing funds for a wide range of goods and activities that are now regarded as the natural responsibility of government: schools, hospitals, toll-free roads, fire-fighting apparatus, public parks, bridges, dikes and causeways, drainage canals, waterworks, wharves and docks, harbor cleaning, libraries, care of prisoners in jails, and charity to the poor (Weisbrod, 1988, pp4-5). In the case of medical care, in many countries, groups of socially-minded individuals came together to establish hospitals to provide care for the poor, long before the state had taken substantial responsibility in this area. Subsequently, when governments initiated extensive involvement in funding and providing health care (in the late 1940s and early 1950s in most of Europe), they were satisfied to integrate these existing service providers into the network of hospitals

which would be responsible for providing care with public funding (Harding, 2002).

However, historical background does not suffice to explain the continuous co-existence of nonprofits with the private for-profit sector and the government. Why have not they been driven out by for-profits and the government? One explanation for such continuous co-existence is that it is an “artifact” of favorable status under tax and other laws that favor nonprofits by making for-profits ineligible to participate in public subsidy programs. There are also views that point to private accreditation organizations that impose extra requirements on for-profits or use criteria that would exclude most for-profits. Attention has been drawn to barriers to exit as well, which implies that the nonprofit sector is larger than is economically efficient (Rose-Ackerman, 1996).

Formal economic theories, however, tend to view nonprofit as largely a way of solving informational problems (Weisbrod, 1988, pvii), which result in what is called “contract failure”. The contract failure in point occurs when the information asymmetry between the provider and the purchaser of some services is so severe that the contract cost for the purchaser to accurately observe and assess the quantities and qualities of output is too high and results in distortion (Hannsmann, 1996). Complex and vital personal services such as nursing homes, day care, health care, etc. are examples. They are usually hard to appraise personally due to asymmetric information. Another kind of examples is related to donations. Donors face difficulties in monitoring the quantities and qualities of charitable work they have helped to fund, in a similar way as an individual facing difficulties in monitoring the quantities and qualities of services provided by a nursing home to her parents. For example, donors who entrusted a firm to deliver food and clothing to suffering people in a foreign country would incur very high cost to verify whether or not the firm has actually delivered the desired goods to the designated population at the right time. When such informational problems are present, a for-profit firm is perceived to have conflicts of interests with their pursuit of the profit, as maximization of profit would require minimization of delivery of unobservable and unverifiable quantities and qualities. In this regards, nonprofits have advantages because of its weak profit motive: it has less incentive to renege on its promises than the for-profits (Folland et al. , 1997, p415).

Insofar as government departments and pubic service agencies are of the nature of not-for-profit, private nonprofits appear to be substitutes for the public sector. Why do they co-exist then? Or what are the advantages of private nonprofits over government departments and government owned nonprofits? The first advantage is that private nonprofits are better positioned to provide a more diverse collection of services than is possible in the public sector. The privately owned voluntary sector may foster experimentation and permit those who represent unpopular or extreme ideology to put their ideas into practice without imposing them on everyone else. People who are dissatisfied with the low level or quality of some government services and wish to supplement services and wish to supplement public provision may establish

nonprofits. While the public sector is the institution of choice when consumer demand are homogeneous, the private nonprofit is attractive in meeting heterogeneous demands from minorities who are willing to pay for high level of services. (Weisbrod, 1988)

The second advantage of private nonprofit over the public sector is related to governance. While the public sector often has great difficulties in maintaining independence from political process, private nonprofits are typically enjoy higher autonomy. They are usually governed by a three-tier structure of trustees---board of trustees---director, which are comparable with the structure of shareholders---board of directors---managers in for-profit firms (Harding, 2002).

In a recent model developed along the line of contract failure, Glaeser and Shleifer (2001) presents an integrated framework of the economics of nonprofit. The model asks the question of why an entrepreneur would wish to start a nonprofit rather than a for-profit. Unlike many previous studies, the entrepreneur is not assumed to be altruistic. Instead, he derives personal utility from (i) cash income (profit), (ii) perquisites and (iii) lower effort levels. The good or service he produces has both verifiable quality as well as non-verifiable quality, which is non-contractible. Without affecting verifiable quality, the entrepreneur has the option to take cost-reducing actions that lead to lower non-verifiable quality, which represents an ex post expropriation of customers. A commitment to nonprofit status softens incentives and reassures the customers that entrepreneurs will not take advantage of them. The same applies to donor and employees who may have invested in firm-specific skills. Such commitment enables the entrepreneur to charge more, get more donations and more firm-specific investment of employees. On the other hand, by abiding by the non-distribution constraint, the entrepreneur's cash income is restricted and forced into consumption of perquisites. Entrepreneurs choose the nonprofit status if the benefits of committing to higher quality outweigh the costs of having to take their net revenues in the form of perquisites rather than cash. In cases where the entrepreneurs do hold altruism, commitment to nonprofit serves to signal their taste for quality.

This model predicts the following:

(i) nonprofits play a large role mainly in sectors with opportunities for severe ex post expropriation of consumers, employees, or donors. Sectors dominated by nonprofit, such as child care, long term care for the aged, the performing arts, hospitals and schools, indeed face such expropriation problems.

(ii) Market for goods where consumers do not value non-contractible quality would be dominated by for-profit firms, but markets where consumers do value such quality—by the nonprofits. The more valuable such quality, the more valuable is the ability to commit to soft incentives.

(iii) With heterogeneity in costs among products, the lower cost ones choose for-profit and the higher cost the nonprofit status.

(iv) When consumers tastes and the producer technology are homogeneous, all firms in an industry choose the same status (e.g., automobile manufacture, child care). On the other hand, in some industries, such as healthcare and theatres, for-profit and nonprofit firms co-exist. One possible reason for such co-existence is heterogeneity of consumer taste. Co-existence of the two types of firms can also arise because of heterogeneity of employment relationships.

(v) Nonprofit status is not the only means of softening incentives. Other institutional arrangements, such as reputation and competition, may supplement (or replace) it. Nonprofit status is usually only necessary when the potential expropriation problem—and the disutility of consumers or donors from reduced quality—are very large.

(vi) Nonprofit status is more important in situations where individuals' altruism is not readily recognized.

One implication of the contract failure theory is that nonprofit may become less important if the informational problems are alleviated somehow. This is indeed the argument of Ben-ner (2002), which believes that the advantage of nonprofits is likely to be eroded in the future by various technological advances, particularly in the area of information transmission, analysis, storage and retrieval, and by the increase in the effective size of markets. Consequently, the demand for nonprofit organizations will possibly decline in the future.

Another implication of the contract failure theory is that the value of nonprofit as an alternative institution to for-profit and the government is critically dependent on enforcement effectiveness of legal and regulatory rules related to the non-distribution constraint. Weak enforcement results in nonprofits which are "for-profits in disguise" (Weisbrod, 1988, p11-14). Since net earnings of a nonprofit is by definition the difference between its revenues and costs, there are numerous ways for a nonprofit to abuse its status. Any transaction of purchase of inputs or sale of output may serve as a vehicle of abuse. For example, it may evade the non-distribution constraint by dispensing profit in the form of increased wages, purchasing inputs from a related party at prices higher than what need to be. When a nonprofit is controlled by a for-profit firm, such abuses tend to be more difficult to detect. Therefore, it takes highly effective enforcement of rules to ensure that the non-distribution constraint is abided by. Since nonprofits in most countries are granted preferential treatment by the government in terms of tax and public funding, and accept public donations, incentives of abuse, hence the need for enforcement effectiveness, increases with the extent to which nonprofits receive public support. Ineffective enforcement results in a

process of “debasement”: the bad drives the good out of market. That is, those who abuse their status have a competitive advantage over those honest ones. Such risk will be higher the greater is the public subsidy provided to nonprofits, and the more regulatory constraints favor nonprofits (Rose-Ackerman, 1996).

Effective enforcement of the non-distribution constraint is costly. This suggests a new dimension of institutional choice. It is as if the government is facing two options in ensuring delivery of a service that involves non-contractible quality. On one hand, it may choose to enforce laws and regulations to facilitate a nonprofit sector. In doing so, it regulates the distribution of net earnings of the service provider. Alternatively, it may choose to regulate the production of the service by enforcing rules with regards to quantities and qualities of the service the provider is supposed to deliver. For example, in the case of private school, the choice is between regulation to enforce the non-distribution constraint of nonprofit schools, or regulation to ensure quality of education of for-profit schools. Only if regulation of nonprofit per se is less costly than direct regulation of outputs and production process, the nonprofit form of institution is attractive (Weisbrod, 1988, pp22-23).

In this sense, the choice between for-profit and nonprofit is essentially a matter of incentive mechanism. Nonprofit helps solving the contract failure problem by softening incentives (or taking away profit motives). This virtue, however, may be accompanied by a corresponding loss of incentives to be efficient, unless the non-distribution constraint is circumvented (Weisbrod, 1988, p20). From this perspective, the nature of the problem is indeed how to provide optimal incentives to producers of goods and services which have non-contractible qualities that are valued by consumers. To the extent that such qualities results in contract failure, high powered incentives resulted from profit maximization may not be the optimal solution. An absence of profit motive may induce to a socially optimal level of quantities and qualities. On the other hand, there is the possibility that the inefficiency caused by the absence of profit motive in a nonprofit exceeds the efficiency loss in a for-profit firm when contract failure is present. Indeed, models along the direction of property rights theory have suggested that nonprofits lack a key element behind the drive toward efficiency of the for-profit. This key element is the missing property right, the right to claim the residual gains of the firm (Folland et al., 1997, p429). It is therefore critical to understand from theoretical and empirical points of view how nonprofits work.

2. How Do Nonprofits Work?

Since the non-distribution constraint ensures that the people who fund nonprofits are not residual claimants to the revenues and assets of the nonprofit, they differ from for-profits in that they do not have owners. Nonprofits do have boards, which ultimately do have control rights, but they are ultimately not accountable to shareholders or donors and they are generally self-perpetuating. In addition, nonprofit boards and managers are never subject to takeovers and often they are not elected.

“Given the weak nature of corporate control in nonprofits, perhaps the most surprising thing about nonprofits is that they function as well as they do”. (Glaeser, 2002) The challenge is to explain why nonprofits did not fail, as property right models may have predicted.

The key to an understanding of the functioning of nonprofit is to identify who hold control rights and what they maximize. There are four types of players in a nonprofit: managers (board members and CEO), workers (such as professors and doctors), donors and customers. Two main models have been developed around two of them: managers and workers.

The first model, developed by Newhouse (1970) for the case of hospital, assumes that the managers control the nonprofit and maximize their utility. However, these managers hold altruistic view towards the nonprofit’s mission in that their utility increases with the quantity and quality of care delivered to those who need. In the case of hospital, this implies a behavior of maximizing utility by choosing a combination of quantity and quality subject to a non-negative revenue constraint: the total revenue of the hospital has to cover its total cost. To the extent that patient-generated revenue is the main part of hospital revenue, the non-negative revenue constraint is also affected by the chosen combination of quantity and quality of services.

The second model assumes workers’ control. In particular, Glaeser (2002) suggests that nonprofits have a life cycle where they are originally controlled by initial donors who select the board and continue to provide financing for the firm. However, over time, as the initial donors die off and the firm becomes richer, the preferences of workers will tend to dominate the preferences of donors. Indeed, Glaeser & Shleifer (2001) states that “the ability of workers to protect themselves from ex post appropriation in nonprofits may be a major reason for the success of nonprofit firms.”

This approach implies that the Pauly-Redisch model developed in 1973 on hospitals is likely to be applied to many areas of non-profits. This model assumes that the hospital is de facto controlled by the physician staff who operate the hospital so as to maximize their net income, and therefore is a “physicians’ cooperative”(Folland et al. 1997, p425).

Competition is an important factor that explains the operation of nonprofits. Glaeser (2002) believes that competition in the market for customers and donors is ultimately more important than corporate control, and ultimately serves to keep nonprofits firms reasonably honest. In particular, when competition drives down net revenue of the hospital to zero in Pauly-Redisch model, the quantity-quality combination that maximizes net income of physicians also maximizes utility of the altruistic managers in the Newhouse model(Folland et al. 1997, p423).

3. *How Do Nonprofits Perform?*

Do nonprofits actually provide higher quality and more varied services? Are nonprofits more or less efficient than comparable for-profits? These are subjects of many empirical studies, which so far are not conclusive. However, it seems likely that the inefficiency resulted from the absence of profit motive in nonprofits is at most modest in comparison with their for-profit counterparts. While nonprofits are found less efficient by some earlier empirical investigation into industries where nonprofits and for-profits provide the same service, the study is found flawed in that it missed an important point: nonprofits do not necessarily supply the same services as for-profits. More recent work has examined industries where the lack of a profit motive can serve a positive function, such as nursing home industry, and found results roughly consistent with the theory. Nonprofits appear providing higher quality services and charging higher prices than their for-profits counterparts (Rose-Ackerman, 1996, p722). Studies on hospitals in the US yield similar results. "Considering results from all of the studies, it appears that efficiency differences between private non-for-profit and for-profit hospitals are small, at most" (Frank Sloan, see Folland et at., 1997, p430).

In a study on the US nursing home sector, Weisbrod & Schlesinger (1994) recorded significantly more complaints against proprietary than against either religious or other non-profit nursing homes; according to Holtman & Ullman (1993), poorly informed people were more likely to select non-profit nursing homes. A test case in Weisbrod (1988) revealed that non-profits that provide long-term care generally take less advantage of their information superiorities, and that based on the distribution of waiting lists, the church-owned non-profits were most unlike the proprietary and other non-profits are in between. The proprietary nursing homes appeared to use less labor for the types required for active patients (which implies more use of sedatives to cut costs), and most labor of the type required to manage the organization to make it "efficient" (Rose-Ackerman, 1996, p722; Weisbrod, 1988, p147-55; Holtman and Ullman, 1993, p149-62).[20] Studies yielded similar results for child day care industry. Kagan (1990) and Kisker et al (1991) found that for-profit day care centers were providing somehow lower quality services than non-profits. Nonetheless, it is demonstrated that the cost for the high quality is higher prices. Among nursing homes, non-profits cost 15-percentage more than for-profits (Marmor et al. 1986, Arling et al. 1987). Similar results are in the child day care industry as well. (Preston 1993).

This pattern of high-quality with high-price seems supporting the hypothesis put forward by Weisbrod (1988, p35), as shown in Figure 1. The hypothesis is that while average cost increases with quality of output for either proprietary or public/nonprofit institutions, each form of institutions is more cost efficient in a different quality range. When quality is in the lower range, proprietary providers are more efficient, in the

higher end of the quality range, public or nonprofit providers have advantage in being cost efficient, and in the middle, they are more or less indifferent.

Extensive empirical works have been conducted to determine the relative efficiency of nonprofit and for-profit hospitals. They are mainly of three types in terms of methodology: comparisons of matched samples, regression studies and frontier studies.

With the matched sample approach, researchers select matched samples of non-profits and for-profits pair-wise and set all other factors the same within the pair. Lewin et al. (1981) reported a 4% higher average cost in for-profit hospitals of Medicare patients in three states (California, Florida and Texas). Pattison and Katz (1982) found a 2% higher operation expenses in for-profit chain-owned hospitals than in nonprofit voluntary hospitals, and a 3% lower costs in independent for-profit hospitals than in nonprofits in California. Very little difference is noticeable in the matched-pair studies(Folland et al. 1997, p429-30).

Regression studies aim at finding the cost attributable to ownership status in the firm's cost structure. Becker & Sloan (1985) found that "total costs per admission were lower in free-standing for-profit institutions than in free-standing nonprofits, but were higher in for-profit chains. Neither result, however, was statistically significant.(Folland et al. 1997, p430; Bekcer and Sloan, 1985)" The results of Fizel & Nunnikhoven (1992) supports the "property right theory" which says that for-profit nursing homes are inherently more efficient that non-profit ones.
The frontier research tends to identify the best performer in the sample and categorizes a firm as "inefficient" if it lags behind compared with the "best" one. Wilson and Jadlow (1982) focused on nuclear medicine services to avoid the complications that are caused because hospitals have heterogeneous outputs. They found for-profit hospitals to be significantly more efficient at providing nuclear medicine services than were the private nonprofit hospitals in the sample.

IV. Implication for China's PSU Reform

The potential role of nonprofit as an institutional arrangement in China's PSU reform is subject that deserves extensive research. Literature survey in this paper suggests the following.

First, the choice between nonprofit and for-profit is essentially one of incentive mechanisms. It is not supported by theories, nor empirical evidence, that public-benefit related services have to be provided by nonprofits, not to mention government owned nonprofits. In an environment of fair competition and effective regulation, privately owned for-profits can function as well as nonprofits in providing services such as nursing home and health care. In the reform of health, S&T and education sectors, the common underlying idea seems that whatever services

classified as public-benefit related must be provided by government owned entities, which in turn should be pursue profit. This idea deserves a second look.

Second, the effectiveness of nonprofit as an institution is determined by effectiveness of government regulation. When regulation is so weak that nonprofits become "for-profits in disguise", this institution loses its value and degraded to an instrument to claim public support and consumer confidence. It is therefore worthwhile to consider the for-profit alternative when regulatory effectiveness is unlikely to be significantly strengthened. The private education institutions are examples at point.

Third, a cautious stance should be taken in providing nonprofits preferential tax treatments and other public supports. Inadequate regulatory capacity is one reason. The other reason is that fair competition among nonprofits and for-profits are essential for the well-functioning of either form of institutions. The government is well advised to level the play ground for them.

Fourth, there might be an element of path dependence to be considered. While the nonprofit sector has been large and successful in North America and Europe, this is not necessary the case in China. Nonprofit sectors in these nations are result of historical development of centuries. While China should certainly encourage the development of private nonprofits, the government should guard against possible rush to create a nonprofit sector with administrative forces. To the extent that PSUs have never been for-profits in the formal sense, the important thing is to prevent them from becoming employees' cooperatives subsidized by the budget.

Table 1
China's PSU Reform in the Science and Technology Research Sector: Downsizing

Institutions and Their Supervisory Ministries	Number of Employees Before Reform	Number of Retirees	Approved Number of Jobs After Reform
Ministry of Agriculture			
Chinese Academy of Agricultural Science (include 39 subsidiaries)	9342	5458	2852
Including:			
Breeding and cultivation research institute	314	149	405
Crops variety resource research institute	194	139	
Bio-technology research institute	90	3	90
Husbandry research institute	216	122	155
Harbin Veterinary Surgeon research institute	602	305	242
The plant protection research institute	190	116	140
China Rice research institute	1061	483	240
Cotton research institute	506	355	220
Oil Crop research institute	260	201	160
Lanzhou Husbandry and animal medicine research institute	295	175	210
Grasslandsresearch institute	196	109	145
Domestic Animals Parasite disease research institute	131	44	105
Environment protection research institute	121	72	110
Agricultural Economics research institute	100	44	80
Science and technology literature information center	389	161	70
Soil and fertilizer research institute	175	152	160
Agricultural Meteorology research institute	82	40	130
Biological Prevention and treatment research institute	59	28	
Graduate Institute	41	20	30
Chinese Academy of Aquatic Products Science (include 13 subsidiaries)	2142	1298	755
Including:			
Yellow Sea Aquatic Products research institute	359	218	170

East Sea Aquatic Products research institute	256	182	150
South Sea Aquatic Products research institute	345	220	160
Helongjiang Aquatic Products research institute	124	92	80
Fresh Water Researching Center	175	134	110
Chinese Academy of Tropical Agriculture Science (include 14 subsidiaries)	3441	2220	820
Including:			
Rubber research institute	588	408	190
Tropic crops variety resources research institute	408	273	190
Environment and Plant protection research institute	367	265	100
Tropic bio-technology research institute	303	196	200
South Asian tropic crops research institute	221	177	80
There were 69 research subsidiaries prior to reform. 30 nonprofit institutes (involving 32 subsidiaries) are established after reform.			4427
The State Administration of Radio Film and Television			
Radio Science Research Institute	326	266	171
China Film Science and Technology Research Institute	84	64	50
There were 3 research subsidiaries prior to reform. 2 nonprofit institutes are established after reform.			221
General Administration of Press and Publishing			
China Publishing Science Research Institute	65	18	60
There were 2 research subsidiaries prior to reform. 1 nonprofit institute is established after reform.			
State Sport General Administration			
Sport Science Research Institute	136	99	136
There were 5 research subsidiaries prior to reform. 1 nonprofit institute is established after reform.			136
China Seismological Bureau			

Institute of Geophysics	684	355	210
Institute of Geology	370	244	175
Institute of Crustal Dynamics	380	357	225
Analysis and Forecast Center	357	169	235
Institute of Engineering Mechanics	489	358	190
There were 7 research subsidiaries prior to reform. 5 nonprofit institutes are established after reform.			1035
State Grain Administration			
Science and technology of Grain Institute	222	51	80
There were 7 research subsidiaries prior to reform. 1 nonprofit institute is established after reform.			80
State Bureau of Surveying and Mapping			
China Surveying and Mapping Science Institute	338	137	150
There were 4 research subsidiaries prior to reform. 1 nonprofit institute is established after reform.			150
Ministry of Science and Technology			
China Science and Technology Information Research Institute	813	570	432
There were 2 research subsidiaries prior to reform. 1 nonprofit institute is established after reform.			432

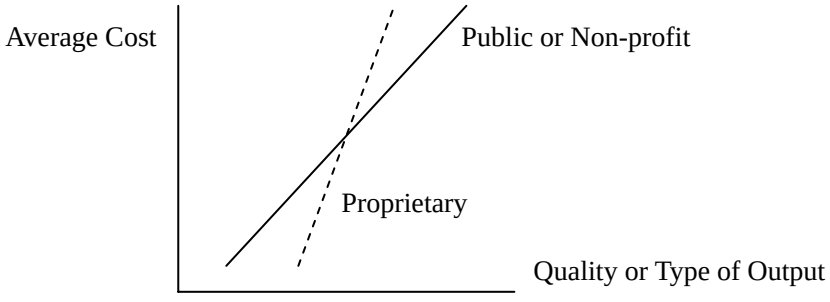

Figure 1: Production costs for hypothetical public or nonprofit and private firms

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