How Reform Worked in China

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Abstract

China's reform worked and produced one of the most impressive growth in the largest developing and transition economy in the world in the past twenty-two years. That China has managed to grow so rapidly despite the absence of many conventional institutions such as rule of law and secure private property rights is puzzling. To understand how reform works in a developing and transition economy that has great growth potential, it is not enough to study the conventional "best-practice institutions" as a desirable goal. One should also study how feasible, imperfect institutions have evolved to complement the initial conditions and to function as stepping stones in the transition toward the goal. Underlying China's reform is a serial of institutional changes concerning the market, firms, and the government in the novel form of "transitional institutions." These institutions succeed when they achieve two objectives at the same time: to improve economic efficiency by unleashing the standard forces of incentives and competition on the one hand, and to make the reform a win-win game and thus interest compatible for those in power on the other.

1. A Reform That Worked But Puzzling

In the last twenty-two years of the 20th century, China has transformed itself from a poor, centrally planned economy to a lower middle-income, emerging market economy. With total Gross Domestic Product (GDP) growing at an average annual rate of about nine percent, China's per capita GDP has more than quadrupled during this period. The benefits of growth were also shared by the people on a broad basis: the number of people living in absolute poverty has been substantially reduced from over 250 million to about 50 million, a decline from a one-third to a twenty-fifth of its population; and life expectancy has increased from 64 in the 1970s to over 70 in the late 1990s. Both the formal statistics and casual tourist impressions tell the same story: China's growth is real. Two decades ago, few economists would have bet on the outcome in China today. At the time, coming out of the disastrous decade of the Cultural Revolution, China was poor, over-populated, short of human capital and natural resources, and was constrained by the hostile ideology against markets and powerful oppositions against radical reform. Growth of this kind under such initial conditions is a surprise.

China's phenomenal growth is not just another successful growth story because China is not a "typical" country, although in cross-country regressions China can only represent one data point, same as Singapore or Ireland or Botswana. China is the largest transition and developing economy. As a transition economy from plan to market, China has a population three times more than all other transition economies combined, including the 15 former Soviet Republics. In 2000, its $1 trillion economy was already bigger than all other transition economies combined. As a developing economy, China has the population almost three times of all eight high-performing East Asian economies of Japan, South Korea, Taiwan, Hong Kong, Singapore, Malaysia, Thailand, and Indonesia. It has managed to match the growth record of these economies during their heyday, but on a population size much larger. The cumulative effects of the two decades' growth are significant when comparing China with its two largest neighbors: On total GDP terms, in 1988 China was less than half of Russia but ten years later Russia was less than half of China. On per capita basis, two decades ago China and India were about equal, but now China is about twice as rich as India.

China's growth is unlikely to end any time soon. In the first half of 2001, despite the global slowdown, China's economy continued to grow at an annual rate of about eight percent. Defying the perception that China has reached a plateau of growth, more and more economists start to believe that the best part of China's growth has not come yet. With the entry into the World Trade Organization (WTO), they suspect that China's economy is on the verge of the next boom.

According to Maddison's (1998) calculation, China might overtake the United States in total GDP in terms of "purchasing power parity" by 2015.[1] If Maddison is right, China would be the only economy, excluding European Union, capable of surpassing the U.S. economy (in purchasing power parity) within the next two decades. And this would make China the largest economy in the world, regaining its historical position which it lost in the middle of the 19th century. No wonder Lawrence Summers speculated in the early 1990s: "It may be that when the history of the late 20th century is written in a hundred years the most significant event will be the

[1]In terms of purchasing power parity, China's per capita GDP in 1995 was about 11% of that of the U.S. Because China had the population approximately 4.5 times as large as the U.S., China's total GDP, in terms of purchasing power parity, was about one-half of that of the U.S. in 1995. If China continues to grow four percentage points faster than the U.S. annually, then China's total GDP will be larger than that of the U.S. in 20 years.

revolutionary change in China" (Summers, 1992).

On the ground of economic growth and improving living standard, there is no question that China's reform has worked. But this reform is puzzling. In the early 1990s, the economics profession and policy makers reached a striking degree of unanimity on the recipe for transition form plan to market. Simply put, it calls for stabilization, liberalization, and privatization, following political democratization. Although many economists may not consider this recipe as sufficient to guarantee a good reform, few would question its necessity. Theoretically, it is difficult to imagine how a reform would work without these essential ingredients. Empirically, the fresh memory of the frustrated reform experience in Hungary, Poland, and the former Soviet Union prior to 1990 has reminded reformers how a reform would fail if not following these recommendations.

The Chinese path of reform and its associated rapid growth is puzzling because it seems to defy the necessity part of this conventional wisdom. Although China has adopted many of the policies advocated by economists, such as being open to trade and foreign investment and sensitive to macroeconomic stability, violations of the standard prescriptions are striking. For the most part of the past two decades, China's reform succeeded without complete liberalization, without privatization, and without democratization. One might have reasoned that coexistence of the planning mechanism with partial liberalization would only cause more distortion and become a source of disruption, not growth. Without privatization and secure private property rights, one might conclude that there could not be genuine market incentives. Without democracy, economic reform lacks a political basis and commitment to a market and thus is vulnerable. The actual performance of the Chinese reform provides a striking contrast to these expectations. Why has China grown so fast when conditions thought to be necessary for growth were absent, asked Blanchard and Fischer (1993).

It is not surprising that China's reform has been viewed as an anomaly and thus not has been appreciated by mainstream economists. For example, *From Plan to Market: World Development Report 1996* on transition economies (World Bank, 1996) only gave China short shrift because it couldn't figure out where to put China on the various measurement parameters. China simply does not fit into the general description of the report.

Those who do not find China's reform puzzling often misunderstand it. Two types of misperceptions or myths of China's economic success are common. The first is to regard foreign direct investment (FDI) and exports as the driving force for China's success. In this connection the roles of overseas Chinese and of Hong Kong and Taiwan are often emphasized. The simplicity of the argument adds to its power, and the vicarious message that it is the foreigners and foreign markets that made China grow finds appreciation outside China. However, the argument immediately loses its plausibility as soon as one considers a parallel experience in Germany. If Hong Kong or Taiwan could play such a powerful role on mainland China, West Germany should have been even more effective on East Germany, given that West Germany is much larger and stronger than Taiwan and Hong Kong combined and East Germany is way smaller than mainland China.

The role of FDI in China is vastly over stated in the press. For the entire 1980s, FDI in China was tiny. FDI only started to increase substantially in 1993, and at its peak it accounted for about 10 percent of total investment. On per capita basis, China's FDI was not high by the international standard. It is true that China's exports expanded very fast but it cannot be the main story. The direct contribution of foreign trade and investment to large countries cannot be quantitatively as important as to those small countries. Like FDI, China's exports were very concentrated in coastal provinces. However, contrary to a popular perception, China's growth was not just a phenomena of coastal provinces--it is across-board, both coastal and inland. Inland provinces grow fast while coastal provinces just faster. Anyone who have ever traveled to inland cities such as Xi'an or Guiyang cannot fail to notice their vibrant local economies. Indeed, if each China's province is accounted as an economy, about 20 out of top 30 growth regions in the world in the past two decades would be provinces in China, a lot of which did not receive much foreign investment and did not depend on exports. Table 1 shows GDP growth by province in China and refutes the perception that growth in China is only coastal.

If focusing on FDI and foreign trade leads to a downplay of the entire reform process and of the role of indigenous institutions, then the simple-minded view on trade and foreign investment would create obstacles to the understanding of growth in any country. This is because the effectiveness of openness has to work through the corresponding internal changes. Russia became very open after reform, more so than China, but neither higher growth nor more FDI ensued. Even in small East Asian countries, the export-oriented policy worked through domestic changes on investment and human capital accumulation. Therefore, it could well not be the export that drives growth, but the same forces of domestic changes drive both export and domestic growth.

The second common misperception of China's success is to attribute it exclusively to the agricultural reform in the early 1980s. To be sure, China's agricultural reform was a huge success. And the reason for it is easily a consensus because it is pretty much a standard story of family farming plus market liberalization, although researches have shown that it is more complicated than that. For example, there seemed to be significant contributions from the rural R&D and infrastructure investments made in the 1970s on the agriculture productivity growth in the 1980s (Huang and Rozelle, 1996); and the state institutions for marketing also played important roles in rural development (Rozelle, 1996). Nevertheless, economists are generally comfortable with the Chinese agriculture reform because it fits well their models of the world.

What becomes a myth is when one regards the agriculture reform as the only reform success in China. Often it carries two implicit messages: China did not do well in non-agriculture sectors because it did not follow the conventional advice, and China did well in agriculture reform because it was -- and still is -- a poor, agricultural country. The truth is that the agricultural reform is the first reform success in China, and its bigger achievements lie elsewhere. At the outset of reform in the late 1970s, over 70 percent of China's labor force was employed in agriculture. By 2000, China's agriculture labor force already declined to below the 50 percent mark, which is impossible without successful development outside the agriculture sector. In the late 1990s, the agricultural share of China's GDP was as 16 percent, about the same level as that in Poland and the Soviet Union in the early 1980s. Table 2 provides evidence showing that most China's growth came from the non-agricultural sector -- the industrial and tertiary sectors.

There could be important indirect effects of the agricultural sector on non-agriculture sectors. For example, the successful agriculture reform provides sources of savings and labor to boost or even drives industrialization. But in order for this mechanism to work, reforms of the non-agriculture sector is necessary, and how China managed it went beyond the agriculture success. The fact that today China is no longer a poor, agriculture country has demonstrated that the main success of China's reform is outside the agriculture sector.

One cannot understand China's growth without understanding how its reform worked in the domestic, non-agriculture sector, which is the focus of this paper.

2. Perspectives on Institutions

In their standard way of thinking, economists consider labor, physical capital, human capital, and productivity as the proximate determinants of growth. But factor accumulation and productivity changes are endogenous, depending on the improvement in technology, allocative efficiency, and incentives, which in turn are shaped by institutions. The advocates of New Institutional Economics (Coase, 1992; North, 1997; and Williamson, 1994) recognize that a good market economy requires not only "getting prices right," but also "getting property rights right" and "getting institutions right." This is because property rights, and institutions in general, set the rules to affect the behavior of economic agents in a fundamental way.

The institutional economists thus regard the conventional wisdom of transition focusing on stabilization, liberalization, and privatization as inadequate, missing the important institutional dimension. To them, a set of institutions are critical for sustained growth, including secure private property rights protected by the rule of law; impartial enforcement of contracts through an independent judiciary; appropriate government regulations to foster market competition; effective corporate governance; transparent financial systems, etc. The fact that all of them can be readily found in the developed economies, especially in the U.S., implies that they are "best practice" institutions.

Economists then use these institutions as a benchmark to judge transition and developing economies, and often find huge institutional gaps. These findings then serve three purposes. First, they generate a diagnosis of the deficiency of institutions in developing and transition economies. Second, they are used to explain why these economies perform poorly, confirming the central hypothesis that institutions matter. Third, they lead to recommendations for institution building: if the economy has weak property rights, clarify them; a weak financial system? strengthen it; a bad law? change it; and a corrupt legal system? clean it up.

This "menu perspective" on institutions is useful in providing a benchmark of best practice institutions with which today's most developed economies have achieved to the development frontier. But this perspective does not provide enough intellectual power for insightful investigations of how reform worked (or did not work) in many developing and transition economies. Compare China with Russia for the last decade. Neither of them had the rule of law, secure private property rights, effective corporate governance, or strong financial system. But the two exhibited a huge performance difference, which obviously cannot be attributed to the presence or absence of the best practice institutions.

The same kind of problem also arises from the cross-country regressions incorporating institutional development indices. For example, the World Bank study *Beyond Washington Consensus: Institutions Matter* (Burki and Perry, 1998) gets serious on institutions. It compiled a "composite institutional development index" for each country according to a menu of institutions such as the rule of law, financial institutions, ownership, public administration, etc. The study carries out cross-country growth regressions using this index to find out positive associations between economic growth and institutional development. While the cross-country regressions are useful in estimating the magnitudes of the effects of explanatory variables on growth, they only do this right when the latter are correctly measured and truly exogenous. Otherwise they lead to biased estimations and/or leave large residuals unexplained. Indeed, China, together with Taiwan and Chile, is an outlier in the regression showing the relationship between institutional development and economic growth (Figure 1.1.a, Burki and Perry, 1998). China is again an outlier in the more refined regression of the "true" partial coefficient between institutional development and growth (Figure 1.1.b, Burki and Perry, 1998), together with Thailand, Indonesia, and Korea. In all these cross-country regressions, China's performance is too high relative to its index value of institutional development. This is not too surprising because the measurement of the institutional development index is simple-minded and the underlying variable is likely not exogenous.

Recognizing the importance of institutions is only a beginning. A major problem in the study of reform in developing and transition economies is not that it neglects institutions or even lacks enough attention to institutions. Not any more. The problem is the naive perspective on institutions. The naive perspective often confuses the goal (i.e., where to finish up) with the process (i.e., how to get there) and thus tends to ignore the intriguing issues of transition paths connecting the starting point and the goal. It is as if one neglects the "transition equations" (or "equations of motion") and the "initial conditions" in dynamic programming. Although building best practice institutions is a desirable goal, getting institutions right is a process involving incessant changes interacting with initial conditions. The difference between China and Russia is not at all that China has established best practice institutions and that Russia did not. The difference lies in the institutions in transition.

To understand how reforms work in developing and transition economies, we need to broaden our perspective on institutions. It is not enough to study the familiar forms of conventional institutions found in the most developed economies as a desirable goal; it is also essential to study the variety of unfamiliar forms of institutions in transition. The distinction between the conventional, best practice institutions and the transitional institutions is important. Gerschenkron (1962) made a crucial point in his studies of economic development of latecomers such as Germany in the 19th century: the latecomers need to make special arrangements to compensate for their backwardness and they can find ways to do so. In parallel, the broadened perspective on institutions takes a dynamic, not static, views on institutions. It recognizes that the real challenge of reform facing transition and developing countries is not so much about knowing where to end up, but about searching for a feasible path toward the goal. Therefore, it focuses on transitional institutions, not best practice institutions. In the metaphor of mountain climbing, although the peak of a mountain offers the best view, mountaineers enjoy a better and better view along the path toward the peak. For mountaineers, the most challenging job is not the study of the peak, but the search for a feasible path toward the peak. Like Shleifer and Triesman's (1999) study of Russian transition, our study of China's transition is not about what is desirable, but about what is feasible.

Compared to the developed economies, the backwardness resulting from the initial institutional conditions in transition and developing economies can be both disadvantageous and advantageous for growth. On the one hand, the immediate effects of the initial institutional conditions are generally not hospitable to growth in most transition and developing economies. Moreover, although these countries can take advantage of being latecomers to shorten the time of change, they may not be able to make and complete all the changes in a short period of time. This is disadvantageous for growth. On the other hand, however, because the adverse initial institutions created myriads of distortions, these economies usually enjoy great growth potential once institutions are changed to remove these distortions. In this regard the most striking examples are former centrally planned economies. These economies started reform from an extremely inefficient status quo. They operated not only far away from the Pareto frontier due to the enormous allocative distortions, but also deep inside the production possibility set because of poor incentives. Huge room existed for efficiency improvement, which might generate great growth opportunity not seen in the developed economies. Thus the central question for many transition and developing countries is how to make institutional changes to realize the great growth potential when the initial condition has myriads of distortions.

Underlying China's reform is a serial of institutional changes in the novel form of transitional institutions. These institutions work because they achieve two objectives at the same time -- they improve economic efficiency on the one hand, and make the reform a win-win game and interest compatible for those in power on the other. And they take into consideration of China's specific initial conditions. At one level, one could argue that China's transitional institutions merely unleashed the standard forces of incentives, hard budget constraints, and competition. This is true, but such an economic rationale is not enough. The transitional institutions are not created solely for increasing the size of a pie, they are also created to reflect the distributional concerns of how the enlarged pie is divided and the political concerns of how the interests of those in power are served. Rudimentary political logic readily predicts the existence of inefficiency, but it has difficulties in explaining why inefficient institutions are replaced by more efficient ones. China's reform shows that when the growth potential is large, with intelligence and will, reformers can devise efficiency improving institutional reforms to benefit all, including and especially those in power. There is apparently a larger room than we thought for institutional innovations to simultaneously address both the economic and political concerns, that is, to make a reform efficiency improving and interest compatible for those in power.

The general principle of efficiency-improving and interest-compatible institutional change is simple, but the specific forms and mechanisms of transitional institutions often are not. Successful institutional reforms usually are not a straightforward copy of best practice institutions. They need not be and sometimes should not be. They need not be because huge room exists for efficiency improvement that does not require fine-tuning at the beginning. They should not be because many dimensions of the initial conditions are country and context specific that require special arrangements to accommodate. Therefore, inevitably, transitional institutions display a variety of non-standard forms. Furthermore, because these institutions are often responses to the initial institutional distortions, the mechanisms of their functioning can be intricate. Understanding these mechanisms sometimes needs to appeal to the seemingly counter-intuitive "second-best argument," which states that removing one distortion may be counter-productive in the presence of another distortion. For all these reasons, studying institutions in transition requires careful, and sometimes imaginative, analysis.

In this paper we study the general principle and the specific mechanisms underlying China's transitional institutions through the analysis of four successful reforms and one failure. Together, these five examples cover a broad spectrum of institutional reforms of the market, firms, and the government.

The first example is about market liberalization through the so-called "dual-track" approach under which prices were liberalized at the margin while inframarginal plan prices and quotas were maintained. This reform is unconventional but shows in the simplest way of how a reform can simultaneously improve efficiency and protect existing rents. The invention of the dual-track reveals both the economic and political rationale, and also illustrates how the market-oriented reform can utilize the existing institutions, which were designed for central planning.

The second example concerns an innovative ownership form of firms – local government ownership in general and rural Township-Village Enterprises (TVEs) in particular. This ownership form is not standard -- it is neither private nor state (i.e., national government) owned. Yet TVEs, despite their non-standard ownership, have been China's growth engine until the mid-1990s. The non-standard ownership form worked to improve efficiency in an adverse environment characterized by insecure private property rights. At the same time, the equity stake of local governments serves both the interests of local and national governments by giving them higher share of revenue relative to the standard private ownership form.

The third example is on how to make fiscal federalism productive. China's fiscal contracting between the central and local governments has worked to provide the incentives for local governments to pursue economic prosperity. By granting high marginal retention rates, this innovative arrangement has aligned the interests of local governments with local business, and played a fundamental role in turning local governments into "helping hands" of local business. Local governments responded to incentives by supporting productive non-state enterprises and reforming non-productive state enterprises.

The fourth example is about how to constrain the government in order to protect private incentives in the absence of rule of law. The institution of anonymous banking is not only unconventional but also against the recommended principle of transparency. But it has an economic logic: when other institutional means is not working, it serves as a commitment device to limiting government predation by reducing the amount of information available to it. The government accepts such a constraint because it benefits from the revenue out of the banking system through its control over interest rate and capital flow. Although such a practice of financial repression is against the usual policy recommendations, it plays a crucial role in inducing the government to give up discretionary taxes on individuals.

Not all China's reforms worked. One miserable failure is the reform of large-scaled state-owned enterprises (SOEs). After many experiments still no reforms on these SOEs have been found to improve economic efficiency and to make it interest compatible for those in power. The institution of Party appointment of top managers is a key obstacle. This failure reform is very costly to China. But fortunately it is not fatal, as SOEs now account for less than one quarter of the entire economy and their role is diminishing.

3. Creating the Market: A Dual-Track Approach to Liberalization

The simplest way to demonstrate how China's reform worked is through an illustration of the dual track approach to market liberalization (Lau, Qian, and Roland, 2000). It highlights the general principle underlying this innovative, transitional institution in the most obvious way: making reform efficiency improving and interest compatible. It also shows how the initial conditions play a role in implementing the reform, including how to use the existing institutions.

It is well known that the essential building block of a market system is allocating resource according to free market prices. An essential ingredient of any market-oriented reform involves price liberalization. The Eastern European experience has shown two alternative approaches. In the first approach, practiced in Hungary for example after its 1968 reform, bureaucrats set prices administratively, supposedly in accordance with market supply and demand. But in reality, prices were set through bureaucratic bargaining, often to serve the political objectives of bureaucrats such as making state firms afloat (Kornai, 1986). Such reform satisfies bureaucrats' interests, but does not improve efficiency in any significant way because prices are not really determined by the market. This approach proved a failure. After 1990, Eastern European countries have adopted a standard approach: prices are freed in one stroke and determined solely by the market.

China adopted a third, unconventional approach to market liberalization known as the dual-track approach. Its basic principle is as follows. Under the plan track, economic agents are assigned rights to and obligations for fixed quantities of goods at fixed planned prices as specified in the pre-existing plan. At the same time, a market track is introduced under which economic agents participate in the market at free market prices, provided that they fulfill their obligations under the pre-existing plan. In essence, prices were liberalized at the margin while inframarginal plan prices and quotas were maintained for some time before being phased out. Clearly this approach differed from the two approaches experienced by the Eastern European countries: it differs from their experience prior to 1990 because real market prices and markets as a resource allocation institution were created immediately. It was also different from their experience after 1990 because of the continued plan track.

The first implication of the dual-track approach is political: it represents a mechanism for the implementation of a reform without creating losers. The introduction of the market track provides the opportunity for economic agents who participate in it to be better off, whereas the maintenance of the plan track provides implicit transfers to compensate potential losers from the market liberalization by protecting the status quo rents under the pre-existing plan. This can be seen easily from the special case of efficient rationing and efficient planned supply, that is, the planned output is allocated to users with the highest willingness to pay and the planned supply is delivered by suppliers with the lowest marginal costs. Dual-track liberalization means that planned quantity continues to be delivered at plan price but any additional quantity can be sold freely in the market. With the dual track, the surpluses of the rationed users and the planned suppliers remain exactly the same. At the same time the new users and suppliers outside the plan are together better off. In comparison, the single track approach to liberalization in general has distributional consequences that cannot guarantee an outcome without losers.

The second implication of the dual track approach is economical: it always improves efficiency. Moreover, as the compensatory transfers are inframarginal, the dual-track approach may achieve allocative efficiency too. This can be seen most obviously in the special case of efficient rationing and efficient planned supply. In this case, because there is no inefficiency under the planned track by assumption, the efficient market track matching the residual demand and supply then implies the efficiency of the overall allocation. In a more general case of inefficient rationing and/or inefficient planned supply, the kind of market liberalization as described above cannot achieve efficiency although it always improves efficiency. However, efficiency can still be achieved under full market liberalization under which market resales of plan-allocated goods and market purchases by planned suppliers for fulfilling planned delivery quotas are permitted after the fulfillment of the obligations of planned suppliers and rationed users under the plan (Lau, Qian, and Roland, 2000). This type of transactions take many common forms in practice, for examples, subcontracting by inefficient planned suppliers to more efficient non-planned suppliers, and labor reallocation when workers in inefficient enterprises keep the housing while taking a new job in more efficient firms. In both examples, after fulfilling the obligations under the plan (planned delivery of supply and welfare support through housing subsidies respectively), the market track functions to undo the inefficiency of the plan track.

The dual track approach to market liberalization is an example of reform making best use of existing institutions. First, it utilizes efficiently the existing information embedded in the original plan (i.e., existing rents distribution) and thus its implementation does not require additional information. Second, it also enforces the plan through the existing plan institutions and does not need additional institutions. Enforcement of the plan track is crucial for preserving the pre-existing rents. However, contrary to common understanding of the relationship between state power and reform, state enforcement power is needed here not to implement an unpopular reform, but to carry out one that creates only winners, no losers.

Agricultural market liberalization followed the dual-track approach. The commune (and later the households) was assigned the obligation to sell a fixed quantity of output to the state procurement agency as previously mandated under the plan at predetermined plan prices and to pay a fixed tax to the government. It also had the right to receive a fixed quantity of inputs, principally chemical fertilizers, from state-owned suppliers at predetermined plan prices. Subject to fulfilling these conditions, the commune was free to produce and sell whatever it considered profitable, and to retain any profit. Moreover, the commune and households could purchase grain (or other) outputs from the market for resale to the state to fulfill its responsibility. As Table 3 shows, under the dual-track, the state procurement of domestically produced grains between 1978 and 1988 remained essentially fixed, with 47.8 million tons in 1978 and 50.5 million ton in 1988, while total domestic grain production increased from 304.8 million ton to 394.1 million ton, almost a one-third increase.

Industrial market liberalization also shows how markets could grow out of plans (Byrd, 1991; Naughton, 1995). For coal, China's principal energy source, the planned delivery was increased somewhat from 329 million tons in 1981 to 427 million tons in 1989 (mainly because new state coal mines were opened), but the market track increased dramatically from 293 million tons to 628 million tons in the same period. The increments came mainly from small rural coal mines run by individuals and TVEs. For steel, another China's major industrial material, the plan track was quite stable in absolute terms, but the share of plan allocation fell from 52 percent in 1981 to 30 percent in 1990. Unlike coal, the supply response in steel came mainly from large SOEs rather than small non-state firms. In the cases of both coal and steel, because the plan track was basically "frozen," the economy was able to grow out of the plan on the basis of the market track expansion by state or non-state firms.

Labor market development follows a similar pattern. Table 3 shows that employment in the non-state sector increased from 48.9 million to 204.85 million in 1994. In contrast, total employment in the state sector, including civil servants in government agencies and non-profit organizations, increased only from 74.51 million to 112.14 million. Furthermore, within the state sector, there are two tracks as well. Beginning in 1980, while pre-existing employees maintained their permanent employment status, most new hires in the state sector were made under the more flexible contract system. Employment in the plan track has been virtually stationary -- it went from 74.51 million in 1978 to 83.61 million in 1994.

4. Developing Firms: Non-Conventional Ownership Form of Township-Village Enterprises

Ownership reform of firms is a central issue in transition to market. The Eastern European experience in ownership transformation has the following pattern. In the earlier reforms (prior to 1990), there was a lack of development of non-state enterprises and a lack of privatization of state-owned enterprises, both were thought responsible for the reform failure. In the post-1990 transition, mass privatization of state enterprises became the cornerstone of the reform, and in many cases, it was a political mandate. Evidence shows that new entry private firms, rather than privatized state firms, have been the driving force for recovery and growth.

New entry firms have been also the driving force of China's growth. But China differs from Eastern Europe and most other developing economies in an important aspect: in the first fifteen years of reform between 1979 and 1993, most new entry Chinese firms were neither private firms nor state firms (i.e., national government firms), but local government firms. As Table 3 shows, private enterprises played only a minor role: in 1993 they contributed to less than 15 percent of the national industrial output. In contrast in the same year, local government firms contributed to 42 percent of the national industrial output.

The most important segment of local government firms are Township-Village Enterprises (TVEs) in rural areas, which numbered 1.5 million with employment of 52 million in 1993. The

TVE shares of output and employment in rural industry were 72 percent and 58 percent respectively, the rest being private shares. Although TVEs were being privatized and private firms became the engine of growth in the late 1990s, China's reform performance would look very different without the early contributions of TVEs. Thus, in order to understand how reform worked in China, one has to understand TVEs.

The crucial feature of TVEs is the local community (i.e., township or village) government control of firms, in contrast with private or national government control (Chang and Wang, 1994; Li, 1996; and Che and Qian, 1998a). But, given the obvious costs associated with government intervention, what are the comparative advantages of community government ownership over private ownership?

One of the most salient institutional features in China (and in many developing countries as well) is the absence of rule of law to protect private property rights. Combined with strong anti-private property ideology that inherited from the central planning era, private property rights, both cash flow and control over assets, are not secure. Indeed, the state has attacked private enterprises during several general political crackdowns after the reform, which include the "anti-spiritual pollution campaign" of 1983, the "anti-bourgeois liberalization campaign" of 1987, and most recently, after the Tiananmen Square of 1989. Therefore it is not surprising that private firms were under-developed because of the absence of legal protection of private property rights.

In such an institutional environment the property rights of local government-owned firms, such as TVEs, can be more secure than those of private enterprises because of the protection of community governments. In some countries the national government relies on local governments for votes. The political support provided by the local governments makes them useful to the national government, which could the basis of power of local governments. But under the China's political system rural community governments do not vote or elect the national government. Their support for the national government takes a different form -- providing local public goods, such as maintaining order, building roads, providing water and irrigation system, and implementing family planning. These local public goods have both political and economic dimensions. For example, maintaining order provides political support to the national government, at the same time it is also conducive to local business development.

Because the local community government engages in the activity of providing local public goods, the interests of the national government will potentially be more aligned with those of the local governments than with those of a private enterprise owner. Indeed, when the local government controls TVEs, it will become more useful to the national government than private owners. The following arguments show that, as a result, the national government may be more friendly toward TVEs than private enterprises and therefore, property rights of TVEs become endogenously more secure than those of private enterprises in the absence of rule of law (Che and Qian, 1998b).

Ownership of firms provides owners with control over firms' books and accounts, which allows the owner to hide and receive unobservable parts of the revenue. This provides the owner with incentives in a credible way when revenue-based contracts are credible in the absence of rule of law. In the case of private ownership it is the manager who has the control rights and receives unobservable revenue. Worrying about the possibility of government predation, private owners rationally make excessive revenue hiding by choosing short term or liquid projects. This provides incentives to managers but also incurs revenue hiding costs. When the manager has the control rights over the firms, the local government loses the control. Then the local government would not have the incentives to provide local public goods because it cannot be sure to be able to reap the future benefits.

In the case of local government ownership it is the local government who has the control rights and receives unobservable revenue. When the local government runs a business, ownership and control rights interact with government activities and generate two effects that are absent under private ownership. First, the local government would have higher incentives in providing local public goods because its ownership rights give it access to the future revenue in a credible way. Second, anticipating this, the national government would leave bigger budget to the local government and thus optimally prey less on TVEs than on private enterprises. This in turn makes the local government less worried about revenue confiscation and reduces TVE revenue hiding. Both effects improve efficiency.

Both economic and political rationale work in the ownership form of TVEs. TVEs not only have contributed to growth, but also served the interests of national and local governments. The crucial linkage is the role of local government in providing local public goods. There is evidence suggesting such a linkage. The national government has stipulated that the TVE after-tax profits should be essentially used for two purposes: reinvestment and provision of local public goods. Nationwide in 1985 about 46 percent of the after-tax profits of TVEs were reinvested, and 49 percent were used for local public expenditure. In 1992, 59 percent of the after-tax profits of TVEs were reinvested and 40 percent were used for local public expenditure (*A Statistical Survey of China*, 1992; 1993).

Does the TVE ownership, relative to private ownership, serve better the interests of the national and local community governments in terms of tax revenue? From the panel data of 28 provinces between 1986 and 1993, the relationship between ownership forms and fiscal revenues of local and national governments have been estimated (Jin and Qian, 1998). The main findings are that, in rural China, the share of TVEs relative to private enterprises in a province has a positive association with the revenue shares of the national and especially the township and village governments, after controlling for the level of per capita income and other geographic variables. Specifically, a 10 percentage point increase in the share of TVEs relative to private enterprises in the total rural non-agriculture employment (i.e., TVEs plus private enterprises) is associated with a 1.1 percentage point increase in the revenue share to the national government. Considering that the mean of the national share is 7.3 percent, the national government benefits from TVE ownership in terms of fiscal revenue in a significant way. Moreover, a 10 percentage point increase in the share of TVEs is associated with a 2.4 percentage point increase in the revenue share to township and village governments. This is an even more significant effect, given that the mean of the township and village government revenue share is 8.2 percent. These results indicate that local government ownership not only provides higher revenues to both the national and township and village governments, but also makes proportionally more revenue stay in rural areas rather than going to the urban areas.

From the perspective of fiscal institutions, the above results reveal other interesting implications of TVE ownership. One of the common institutional problems in developing and transition countries is an inadequate taxation system for generating tax revenue for the government and a good fiscal system to use the revenue. On the revenue side, all transitional economies have been experiencing sharp government revenue shortfalls because of the erosion of monopoly profits from SOEs and the greater difficulty in taxing new private firms. In a centrally planned economy, taxation is simple: the government uses distorted prices to concentrate most surpluses to the final industrial sectors and extracts revenues from them. After the liberalization of prices and ownership, profits are more equally distributed among different sectors and the government loses revenue bases, especially in enterprises it does not control (McKinnon, 1993). The fiscal collapse is one of the major reasons behind the recent Russian crisis. On the expenditure side, the governments in developing countries often bias the use of revenue toward certain groups in urban areas for political economy reasons (Bates, 1987). After revenue is collected, the government is often unable to commit the spending to local public goods in rural areas in the presence of stronger political lobbying from the urban elites.

Both problems hurt rural industrialization and development. Local government ownership of TVEs can work in mitigating both problems. With the ownership and control rights over firms, the local government has a less costly way to extract revenues from these firms than from private firms because the latter control their own financial accounts. For the same reason, when local governments control firms, it is harder for the central government to extract revenue from them, and thus revenue is more likely to stay in the local areas. The above evidence shows that the role of TVE ownership to some extent substitutes for the problematic fiscal system: on the revenue side, it allows for some revenue extraction despite the lack of effective taxation system at the time of general tax revenue decline; on the expenditure side, it also commits a large proportion of revenue to staying in the rural areas without being redistributed by the national government to the urban areas.

The ownership of TVEs is an example of how existing institutions can be utilized and modified to serve the new purpose of development. The root of TVE organization is the agricultural commune system initiated in 1958. The commune system was a huge failure in agriculture production which was responsible for the more than 20 million death in the greatest famine in human history in the early 1960s. The same organizational structure of the commune also bred the Commune and Brigade Enterprises, the predecessor of TVEs. They were the driving force for the first wave of rural industrialization in 1958, but was no success on themselves. Operating on the fringe of the central planning, they pushed for a moderate success in the second wave of rural industrialization in the 1970s. Commune and Brigade Enterprises were renamed as TVEs in the 1980s and became the engine of growth and the driving force for the market-oriented reform. This illustrates the complexity of institutional development. The same local government ownership became something phenomenal only in a particular time period under particular circumstances with complementary changes in other aspects of the economy. The fact that TVEs are being privatized in the 1990s is another reminder that one should not take a static view on institutional reforms. There is no fool-proof way of recommending a particular institution.

5. Reforming the Government: Productive Fiscal Federalism

Economists working on transition used to focus on the trilogy of stabilization, liberalization, and privatization. But they increasingly realized that an important missing component in this menu was the government. Even in an economy that has been stabilized, liberalized, and privatized, there is no guarantee that growth will ensue. A crucial determinant of growth is the behavior of government, especially that of local governments which often have direct regulatory authority over new, small enterprises. In one way, local governments can be a "grabbing hand" vis-a-vis private enterprises; in another way, they can be a "helping hand" (Shleifer, 1997). To some extent, whether local governments play "grabbing hands" or "helping hands" depends on their incentives. In many ways the incentives of local government officials can be structured. One aspect that has important bearings on the incentives of local governments is the their fiscal relationships with higher level government.

A comparison between China and Russia is relevant. Both are large countries, and thus the central-local relationship is an important issue for reform, which is quite different from smaller transition countries like Poland and Hungary. Arguably, Russia has implemented more reforms in the areas of price and trade liberalization and privatization than China. Nevertheless local governments in Russia are often blamed for being the obstacles to local development. In contrast, local governments in China have been viewed as being very enthusiastic in supporting local development and helping local businesses. Why the difference? The difference cannot be attributed to that China has developed better rule of law than Russia. One plausible explanation is the local government's fiscal incentives.

An important, innovative reform in China has been a fiscal reform concerning the central-local relations, which started as early as in 1980. Before the reform, the shares of local government expenditure in total government expenditure were 46 percent during 1971-75 and 50 percent during 1976-80. After the reform, the shares were 51 percent during 1981-85 and 60 percent during 1986-90. After excluding price subsidies during 1986-90 to make the data comparable to previous periods, the shares of local spending came down to about 50 percent. Therefore, the aggregate local-central spending ratio has been basically the same before and after the reform. However, the share of local government expenditure itself does not capture the important elements of reform and decentralization in China for two reasons. First, prior to the reforms, local governments had no authority over the structure of their expenditures. After the reforms, local governments acquired authority over expenditures within a broad set of guidelines set by the central government. Provinces also gained the authority to decide on the fiscal arrangements with the sub-provincial governments within them.

Second, China's decentralization involved more than just the devolution of government authority. It also involved changes introduced between 1980 and 1993 in the fiscal incentives for local governments through the so-called "fiscal contracting system." Government revenue in China falls into three categories: budgetary funds, extra-budgetary funds, and off-budget funds. The off-budget funds are not recorded, so little can be said about them. Extra-budgetary revenue consists of tax surcharges and user fees levied by the central and local government's agencies as well as earnings from SOEs. The extra-budgetary local revenues are not subject to sharing with the central government but the budgetary revenues are. Up to 1994, all budgetary revenues except custom's duties were collected by local governments. In 1980, reforms put into place the new fiscal system known by the nickname "eating from separate kitchens." This system represents a dramatic departure from the previous system of "unified revenue collection and unified spending," known as "eating from one big pot."

Under the new system, the central and provincial budgetary revenue and expenditures were determined in the following way (Wong, 1997). First, central fixed revenue was defined to include custom's duties, direct taxes or profit remittances from the central government supervised SOEs and some other taxes. All other revenue falls under the heading "local revenue." Second, the local revenue was divided between the central and provincial governments according to pre-determined sharing schemes. Examples of these pre-determined sharing schemes include: between 1980 and 1987, Guangdong province would remit a fixed amount of 1 billion yuan per year; and between 1988 and 1993, it would remit a fixed amount per year, which increased by 9 percent per year. Guizhou province would receive fixed subsidies which increased by 10 percent per year. On the other hand, Jiangsu province would remit a fixed share of revenue to the central government. Over time, many provincial governments retained 100 percent of the total local revenue at the margin, which effectively made them residual claimants. Figure 1 displays the average of the provincial marginal revenue retention rates and the share of provinces with 100 percent marginal retention rates. It shows that in the early 1990s, provinces retained nearly 90 percent of local revenues on average and about 70 percent of provinces became "residual claimants" because they retained 100 percent of local revenue at the margin.

What are the motivations for introducing the fiscal contracting system? There are two stated purposes (Oksenberg and Tong, 1991). First, the central government intended to guarantee itself a certain flow of revenue from provincial governments. Second, the central government also wants to provide provincial governments with incentives to build up local economies and their own revenue bases. High fixed remission amounts and high marginal local revenue retention rates apparently serve both purposes.

Two issues are relevant in examining how this reform worked in practice. First, to what extent had the provincial governments' fiscal incentives been strengthened as the result of this reform? Second, how did provincial governments respond to the fiscal incentives?

Jin, Qian, and Weingast (2001) have used the panel data of 28 provinces between 1982 and 1992 to answer these two questions. Through the examination of the correlation between local governments' revenue generated and their expenditures one can gauge the marginal fiscal incentives of provincial governments. As Table 5 shows, during the reform period between 1982 and 1991, the correlation coefficient between the provincial budgetary revenue and budgetary expenditure is, on average, 0.75, and that for the extra-budgetary revenue and expenditure is as high as 0.97. These numbers imply that a one yuan increase in provincial budgetary revenue results in about three-quarters of a yuan of provincial budgetary expenditure, and the relationship becomes almost one to one for extra-budgetary revenue and expenditure. In comparison, during the pre-reform 1970-79 period, the corresponding coefficient between the budgetary revenue and expenditure is, on average, 0.17. It indicates that prior to the reform the central government, on average, extracted over eighty percent of any increase in provincial revenues. Comparing the post-reform and pre-reform results, we find that the fiscal contracting system represents a drastic departure from the past by allowing provinces to keep the lion's share of increases in revenue at the margin. Therefore, the new fiscal system indeed substantially enhanced the fiscal incentives for local governments.

A comparison of these findings with parallel investigations in Russia is also revealing. Zhuravskaya (2000) examined the fiscal incentives of city governments in the region-city fiscal relationship in post-reform Russia (city is one level below region, which in turn is one level below the federal government). Using the data of 35 cities for the period 1992-1997, and by regressing the change in “shared revenues” between local and regional governments on the change of “own revenue,” she found that the coefficient was -0.90. This estimation means that increases in a city's own revenue are almost entirely offset by decreases in shared revenues from the region to the city. The resulting near-zero incentives in post-reform Russia looks similar to the pre-reform China but stands in sharp contrast to the post-reform China.

The incentive theory tells us that if the central government takes away all the locally generated revenue, the local government would have no incentives in supporting productive local businesses because it cannot benefit from such an effort. Conversely, if local governments' expenditures are closely linked to the revenue they generate, the local governments will more likely support productive local businesses as they benefit directly from their efforts. The empirical evidence found by Jin, Qian, and Weingast (2001) reveals that such incentive effects do exist and are significant. An increase in the marginal fiscal revenue retention rate in a province by 10 percentage points is associated with an increase of 1 percentage point in the growth rate of employment by non-state enterprises in that province. This result holds when "non-state enterprises" are measured by rural enterprises only and by all non-agriculture-non-state enterprises, rural and urban. Quantitatively these numbers are quite significant because the mean of the growth rates of rural enterprise employment is 6 percent and that of all non-agriculture-non-state employment is 9 percent. Similar results are found for some reform measurements in state-owned enterprises. A 10 percentage point increase in the marginal revenue retention rate in a province is associated with a 0.5 percentage point increase in the share of contract workers (as opposed to permanent workers) where the mean is 9 percent. As for the change of the share of bonuses in total employee wages, a 10 percentage point increase in the marginal revenue retention rate is associated with a 0.15 percentage point increase in the share of contract workers where the mean is 15 percent. These results imply that local fiscal incentives are important inducement for local economic development and reform, more so for the former.

6. Constraining the Government without Reducing Its Revenue

One of the fundamental institutional obstacles to economic development, according to economic historians such as North, is the lack of institutional constraint on the powerful, discretionary state. When the state is not constrained, it faces a fundamental commitment problem, that is, how to credibly commit not to prey on private gains or intrude on private economic activities despite the great temptation to do so. The lack of such commitment often results in an excessive discretionary marginal tax rates which is detrimental to private incentives. Moreover, the state itself also suffers from its lack of commitment: when the discretionary marginal tax rate is too high, the state is only able to grab little revenue because it is on the downward sloping part of the Larffer curve. While the rule of law is proven to be an effective way of constraining the state in developed countries, China has not had it yet.

But there are other institutional arrangements that perform the similar function of constraining the arbitrary behavior of the government in order to protect private incentives. When it is difficult to constrain the state power in a direct way, it may be possible to reduce the effectiveness of the state power by reducing the information available it. Bai, Li, Qian, and Wang (1999) suggest that reducing information available to the state has played an important role in constraining the government in China in the absence of rule of law. This includes the practices of anonymous business transactions through the use of cash and anonymous financial assets through the use of anonymous bank deposits.

In China there was a very tight control over the use of cash for business transactions before the reform. Any transaction of more than 30 yuan (about US$20) had to go through a state bank. During the reform, government controls were relaxed. The ratio of cash in circulation to GDP was less than 6 percent at the eve of reform in 1978, but increased to more than 13 percent in the 1990s. When a transaction is conducted in cash rather than going through a state bank, the state obtains no information about the actual income earned through business transactions.

Cash is not only useful for anonymous transaction but also for storing value in an anonymous way. Yet there is a more efficient way of accumulating wealth anonymously: the use of anonymous household bank deposits. In China, individuals making bank deposits need not present personal IDs or register their real names. As a result, the state banks cannot find out in any way which deposits belong to whom. As such, the state does not have the information about individual's financial wealth in the forms of cash and bank deposits.

The use of anonymous transactions and financial assets leads to a combination of income and wealth hiding, which in turn sets credible limits to government taxation and thus preserves private incentives. The theoretical argument goes as follows. Consider first the benchmark case of information centralization under which the state observes all the income generated in the economy. For the ease of making argument, suppose an extreme case prevails in which the state cannot make any credible commitment in the absence of the rule of law. Then, the discretionary ex post marginal tax rate of 100 percent will be imposed on all individuals' income because the state has perfect information. When individuals anticipate that the state is going to undertake such discretionary taxation, and given that all revenues are observable to the state, individuals will have no private incentives to work or invest. The result is a very low-efficiency equilibrium.

In contrast, under the regime of anonymous transaction and anonymous bank deposits as described above, the state does not observe individual incomes nor savings but only aggregate savings deposits. This implies that the state cannot target particular individuals and thus can only levy a flat tax on savings deposits. Consider that even an autocratic government faces at least one constraint -- the fear of rebellion from the poor and needy, and the government maximizes revenue minus the cost associated with probable revolt. However, the fear of rebellion itself is not sufficient to constrain the state under good information, because the state can still avoid rebellion from the poor by taxing at 100 percent marginal rate only on the rich. Under anonymous transaction and financial assets, the state is forced to tax the rich and the poor and needy at the same flat rate. Then there is a maximum amount the state can levy beyond which the needy may starve and revolt. As a result, anonymous transaction and financial assets would impose an upper bound of taxation on savings deposits. In this way, even in the absence of any institution to explicitly constrain the government power, limiting the detailed information about an individual's transactions and savings can credibly limit government predation. This credible commitment mechanism can enhance the security of private property rights that would otherwise not possible.

The above analysis shows how reducing information available to the state improves economic efficiency. It is clear that this is in the interests of private entrepreneurs, but less clear how this is also in the interests of the state. Conceivably it could be against the interests of the state if the state cannot tax anything. The government could benefit from anonymous transaction and financial assets by controlling over international capital flow and imposing restrictions on domestic interest rates. Then the government is able to collect "quasi-fiscal" revenues from the state banking system, despite the fact that it may well lose fiscal revenue in terms of income taxes. Through this type of financial repression, the government also benefits from information opaqueness.

In summary, information opaqueness, together with financial repression, achieves two goals at the same time: efficiency improvement and interest compatibility. Foremost, it credibly limits government predation by imposing upper bounds on explicit taxation on outputs and implicit taxation on bank deposits. This fosters private incentives. Second, it also implies that the lower bound on the implicit taxation on bank deposits is greater than zero so that the government can collect some revenues from the state banking system. This suits the government's own interests. Together, the institution of anonymous transaction and financial assets, together with a mild financial repression, can limit government predation without reducing its revenue. While it does not reduce government revenue in absolute amount, it does reduce the average tax rate because of the expansion of the pie of the economy as a result of the improved private incentives.

Evidence from China reveals a general trend of fiscal decline together with financial deepening after the reform. The total (consolidated) government budgetary revenue as a percentage of GDP declined sharply from 31 percent in 1978 to only 11 percent in 1996. If one includes extra-budgetary revenue and off-budgetary revenue, then the total government fiscal revenue as percentage of GDP declined from about 40 percent in 1978 to 17 percent in 1996. Notice, however, that the absolute amount of fiscal revenue has been rising in real terms because of the fast growth of the economy. More precisely, real government budgetary revenue almost doubled in 20 years when the economy expanded by almost five-fold. An important reason for the decline of the government's fiscal revenue is not so much due to the formal reduction of tax rates, but rather to the inability of the government to collect taxes, which is mainly due to private revenue hiding from government observation.

However, government's fiscal revenue is only a partial story, because the government has another important "quasi-fiscal" revenue source from the state banking system. Accompanying the fiscal decline, there was an impressive financial deepening in China when individuals voluntarily held cash and deposited money in the state banking system. The ratio of household bank deposits to GDP was merely 6 percent in 1978. It went up to 56 percent in 1996 and further to more than 65 percent in 1998. This impressive financial build-up benefitted the government in two ways: it collected revenue from both currency seigniorage and from implicit taxes on savings deposits when interest rates were set below the market rate. According to Table 6, between 1986 and 1994 currency seigniorage was averaged at about 3 percent of GDP each year, where about 1.2 percent was inflationary but 1.8 percent was due to the expansion of real money balance. Implicit taxes on bank deposits were about 2 percent of GDP each year on average, assuming a zero interest rate as the opportunity cost of capital. Then total quasi-fiscal revenue from the state banking system (the central bank and state commercial banks) would be over 5 percent of GDP each year. Combining the fiscal and the quasi-fiscal revenues, total government revenue would be more than 22 percent of GDP in the mid-1990s. This may well be substantially less than that in the pre-reform period, but does not represent a collapse of government revenue.

It is interesting to compare China again with Russia in this regard. In both countries, government fiscal revenue as shares of GDP declined dramatically, even more so in China than in Russia. In both countries individual economic agents engaged in revenue hiding, but in Russia individuals engaged in barter transactions while in China cash transactions. In Russia, there was high inflation and the government collected only a low level of seigniorage. In fact, because of the extensive use of US dollars and free international capital flow, the seigniorage in Russia went into the Treasury Department in Washington and capital flew to Swiss banks. In contrast, the Chinese government was able to control inflation at a modest level and collected sizeable seigniorage revenue through capital control and interest rate control.

Anonymous household bank deposits existed even before the reform. This is not so much that a new institution is created but that an existing institution finds its new use in a new environment. Because private economic activities were prohibited before the reform, private savings were very low and the role of anonymous bank deposits in protecting private incentives was limited at best. Anonymous bank deposits become an important institution to protect private interests only after the reform when the ban on private businesses was lifted and the use of cash for business transaction becomes legal. In fact, China learned about anonymous bank deposits from the Soviet Union. But unlike China, Russia abandoned them after the reform in order to follow international "common practice." As a result, the mafia, colluding with the banks, was able to obtain information about the depositors' wealth. This is an important difference between China's local government, which does not have information about depositors, and Russia's mafia, which has this information.

7. From Transitional Institutions to Best-Practice Institutions

During the transition from central planning to a market economy, markets need to be created and expanded, firms needs to be developed, and the government needs to be transformed. The previous four sections have provided four examples from China's experience showing how innovative institutional reforms improve efficiency and benefit major decision makers and also complement the existing institutions. In the dual-track market liberalization, efficiency improves because market prices play a role of resource allocation and reform is interest compatible because existing rents are protected by the planned track. In the example of TVEs, efficiency improves because of more secure property rights for local government owned firms and local governments have more incentives to provide more local public goods. Both the national and local governments' interests are better served because TVEs provide more revenue, as compared with private enterprises, to both. Under the fiscal contracting system, the closer link between local revenue generated and local government expenditures enhances the incentives of local governments which in turn helps the development of local non-state enterprises and the reform of state-owned enterprises. In the final example, in the absence of the rule of law, anonymous transaction and financial assets improve efficiency because they credibly constrain the state's discretionary behavior to better protect private incentives. The state itself also benefits from the improved private incentives when it is able to extract quasi fiscal revenues from the state banking system through a mild financial repression.

However, the institutional forms in all the above four examples are better understood as transitional institutions. They are transitional because they incur higher costs and generate lower benefits than some alternative institutions if other complementary institutions are in place. The costs of the dual-track liberalization include the cost of enforcing the planned track, the consequence of failed enforcement such as supply diversion, and the possibility of ratcheting up the scope of the planned track. The weak managerial incentives, together with costly government intervention in TVEs, make them uncompetitive in the market place in the long run. The fiscal contracting system suffers from the renegotiation problem and perhaps makes macroeconomic stability more difficult to achieve. The information opaqueness resulting from anonymous transaction and banking often facilitates corruption, detrimental to corporate governance, and make it harder for introducing modern taxation. Therefore, these institutions should not be viewed as permanent and should eventually be replaced by the more conventional, best practice institutions when the underlying environment improves.

The fact that best practice institutions are more efficient than transitional institutions does not imply that the former should always prevail. To the contrary, there are theoretical arguments and empirical evidence from other countries showing the opposite. Specifically, vested interests who benefitted from transitional institutions may block further reforms of their replacement, leading to a possible "partial reform trap." Hellman (1998) emphasized this possibility and provided some evidence from Eastern Europe and Russia showing that it was the interim winners, not the losers, of partial reform who blocked further reform. However this is only one of two possibilities. Dewatripont and Roland (1992, 1995) and Wei (1997) demonstrated another, more optimistic possibility in which a sequential reform strategy has important advantages of building constituencies as well as momentum at the interim stage of reform for further reform. China's experience has demonstrated that this latter possibility can hold and the new vested interests do not necessarily block further reforms. Three factors seem to facilitate the effects of building up constituencies and momentum: the nature of early reforms, the potential gains from further reforms, and the compensation schemes for potential losers. In what follows we examine each of the four examples above.

Since the early 1990s, the planned track of the dual track in product markets started to be gradually phased out. By 1996, the plan track was reduced to 16.6 percent in agricultural goods, 14.7 percent in industrial producer goods, and only 7.2 percent in total retail sales of consumer goods. These numbers became even smaller in the late 1990s and the planned track in those markets almost ceased to exist. On January 1, 1994, plan allocation of foreign exchange was completely abolished, and the planned track and the market track were merged into a single market track. Two direct factors have contributed to the smooth transition to a single track market.

First, because of the fast growth of the market track, the planned track becomes less significant as compared to the market track. For example, Table 3 shows that steel production under planned track dropped to 30 percent in 1990 from the level of 52 percent in 1981. Similarly, In 1978, 97 percent of total retail sales were under the planned track, but only 31 percent in 1989. In the foreign exchange markets, at the time when planned track of the foreign exchange was finally abolished in January 1994, the share of centrally allocated foreign exchange had already fallen to less than 20 percent of the total. With rapid growth, the plan track becomes a matter of little consequence to most potential losers, which in turn reduces the cost required for compensating them.

Second, when the plan track was abolished, potential losers were explicitly compensated. For example, although consumers can buy foodstuffs in the market since 1980, urban food coupons (for purchasing grain, meat, oil, etc.) were finally removed only in the early 1990s. Guangzhou completed the removal of the above coupons in 1992 and spent on average 103 yuan in 1988, 113 yuan in 1990, and 43 yuan in 1992 per urban resident for compensation (*Guangzhou Statistical Yearbook*). Beijing also spent 182 yuan in 1990, 185 yuan in 1991, and 123 yuan in 1994 per head before its removal of the coupons (*Beijing Statistical Yearbook*). At the time of abolishment of the central allocation of foreign exchange in 1994, annual lump-sum subsidies sufficient to enable the purchase of the pre-reform allocation of foreign exchange, were offered for a period of three years for those organizations which used to receive cheap foreign exchange.

After reaching the peak in the early 1990s, TVEs were being privatized throughout the 1990s. Privatization of TVEs accelerated in 1998 after the Chinese Constitution was amended to regard the private sector as "an important component" of the economy. Wuxi in southern Jiangxu Province was often regarded as the model for TVEs for the whole country, and it was the subject of almost all major studies on TVEs, including the important one by the World Bank (Byrd and Lin, 1990). Until mid-1990s, TVEs was dominant in Wuxi and private enterprises were almost non-existent. Correspondingly, the income from TVEs was the chief revenue source for the township and village governments there. However, throughout the late 1990s, TVEs were being privatized in all the three counties in Wuxi, and by the year 2000 over 90 percent of TVEs have been privatized (author's interview, March, 2001).

Three changes have played significant roles in increasing the gains from privatization of TVEs and/or the costs for the local government to continue to run TVEs. First, an important benefit of TVE ownership is the political protection of local government against adverse environment in order to secure property rights. In the late 1990s, private ownership of enterprises gained more legitimacy, as evidenced by the aforementioned Constitutional Amendment and the increased share of private sector in the economy. Therefore, the benefit of TVEs in terms of more secure property right decreases. Second, the cost of TVE ownership, mainly the lack of managerial incentives, became more important as the economy became increasingly marketized and both product and labor markets competition intensified. In the product market, fast entry of firms changed the previous seller's market to a buyer's market, eroding the profit margins TVEs enjoyed in the 1980s as early starters. Indeed, in the 1990s, the profitability of many TVEs deteriorated, while private enterprises started to boom in the same location. In the labor market, TVEs also started to lose good managers to foreign and joint venture firms when the latter gave the managers high salary or even company shares. Third, the reforms in the monetary and banking systems made local bank branches more independent of local governments. TVEs found more difficulty in obtaining credit from the banking system.

The potential social gains from privatization will not automatically lead to privatization unless the local governments have the incentives to do it. As shown above, the significant benefits of TVE ownership to local governments are the tax revenues they extract from TVEs. After privatization, the township and village governments were able to keep all the privatization revenue, they are also able to continue to levy fees on all local private firms, usually 1.5 percent of total sales. This "local tax" is not shared with the higher level government, instead, township and village governments usually pay a fixed amount. Therefore, local governments support, rather than oppose, to privatization out of their own interests.

China's fiscal contracting system had played a positive role of providing fiscal incentives for local governments. But the fiscal contracting was an ad hoc arrangement and was not rule-based. On January 1, 1994, China introduced major tax and fiscal reforms which is more aligned with international best practices. Previously, China had never had a national tax bureau, and there was no such a need because all taxes were collected by local governments and shared with the central government. The 1994 reform established formal fiscal federalism by introducing a clear distinction between national and local taxes and by establishing a national tax bureau and local tax bureaus, each responsible for its own tax collection. The reform also set up fixed rules between the national and local governments. For example, under the new system, the value added tax is shared by the national and local government at a fixed ratio of 75:25.

Although the new tax and fiscal institutions are more in line with the international best practice, they might potentially hurt the interests of some local governments because they kept larger marginal shares of revenue under the previous fiscal contracting system. Why did the local governments accept such a change? Although some local governments (such as Guangdong province) benefitted tremendously from the earlier fiscal contracting system, they also recognized that the ad hoc nature of the contracting system created many uncertainties and that the political pressures from other provinces had increased. The potential gain by moving to a rule-based tax system instead of insisting on the ad hoc contracting system is in their long-term interests. Moreover, the central government compensated the local governments for their potential revenue losses in the short run in the following way: Local government expenditures in the subsequent three years would be guaranteed to stay at the 1993 levels. This is why in the fourth quarter of 1993 local expenditure exploded because local governments wanted to increase the base for the compensation. The move from the fiscal contracting system to fiscal federalism turned out to be quite successful.

On April 1, 2000, China introduced “real name” household deposits under which all the bank deposits require a depositor’s ID. This is an important step in moving from anonymous banking to real-name banking, an international practice. Like in Korea, this change was not so much about increasing tax revenue, but to reduce political corruption by making the flow of money transparent. What is interesting is the particular way China introduced the real name banking: It followed a dual track approach. The real name policy only applies to the new deposits made after April 1, 2000. Withdrawing from the existing deposits, which amounted to about 6 trillion yuan (or more than 60 percent of China's GDP), continued to be anonymous. This drastically reduced the opposition to this reform. By following the dual track approach, the existing bank deposits were "grand fathered" and thus protected, and only the new deposits are required to follow the new rule.

The Chinese experience of institutional changes shows the possibility that transitional institutions can be superceded by conventional best practice institutions when more development and reform take place. Transitional institutions do not necessarily lead to a partial reform trap, and incremental reforms do not always create obstacles to block further reforms. However, China's experience also shows that this will not arise automatically. It depends on the nature of early reforms, future gains, and especially, compensation schemes.

8. An Example of Failure: Reform of Large State-Owned Enterprises

The above sections analyzed how reforms worked in China through four examples of success. These reforms worked precisely because they found ways to improve economic efficiency and at the same time to divide the pie to benefit all, especially those in power. In one notable area reform has not worked in China. This is the reform of large-scaled state-owned enterprises. In this section we examine the troubled path of this reform, showing that how efficiency improving and interest compatible solutions failed to emerge.

Reforming state-owned enterprises has always been a priority of reform in China. In fact, SOE reform started in Sichuan province in October 1978, even before the agriculture reform, in an experiment of expanding enterprise autonomy and introducing profit retention. But the most successful SOE reforms to date are perhaps privatization of small-sized SOEs and layoffs of redundant employees in the mid-1990s. Privatization of small-sized SOEs started by local governments as experiments, first in a few provinces such as Shandong, Guangdong, and Sichuan as early as in 1992 (Cao, Qian, and Weingast, 1999). Later, the central government endorsed it under the policy of "grasping the large and releasing the small." Since 1995, millions of redundant SOE workers have also been laid off. After reaching a peak in 1995, the total state employment in China (including both civil servants and SOE employees) started to shrink. By the late 1990s, it dropped to below 100 million, the level of the late 1980s.

However, the core of the SOE sector – the large-scaled state-owned enterprises – remains a problem spot. Many reforms were implemented but they did not work well or did not work at all. In the 1980s, the "managerial contract responsibility system" was introduced to provide profit incentives for managers. It had limited success by some measurements, for example, in increasing the enterprise productivity (Groves, Hong, McMillan, and Naughton, 1994). But the financial performance (i.e, profitability) of these enterprises continued to decline. On average, profits and taxes per unit of net capital stock and working capital in state industrial enterprises fell from 24.2 percent in 1978 to 12.4 percent in 1990 and further down to 6.5 percent in 1996 (*China Statistical Yearbook*, 1997). In the late 1990s, there were constantly more than one-third of SOEs in red.

In the 1990s, the focus of SOE reform shifted to ownership and governance issues, but it still saw no breakthroughs. Several failed attempts in the late 1990s were quite revealing. Some large SOEs were corporatized. But they, including those already listed on China's two stock exchanges, often suffered from the conflict between the so-called “three old committees” (i.e., the Party committee, the employee representative committee, and the workers union) and the “three new meetings” (i.e., the meeting of shareholders, the meeting of board of directors, and the meeting of the supervisory committee). In some cases, the conflict between the Party secretary and the CEO is so severe that it interferes an enterprise's normal operation. In response, some enterprises opted to place the same person in both positions of Party secretary and CEO. But this leads to another problem of insider's control. To address this problem, starting 1998, hundreds of external “special inspectors” were sent by the central government to large SOEs to supervise their operations. However, these inspectors were mostly retired high level bureaucrats who had no knowledge about business operation and financial accounting. Not surprisingly, they could not play any constructive role in addressing the corporate governance problem. Then the government came up another solution by setting up a “Large Enterprise Working Committee” within the Party's Central Committee to be responsible for making appointments of top managers in large SOEs directly instead of going through different levels of bureaucracy.

So what is the problem? The key problem is the Party’s control over the appointment of SOE managers (Qian, 1996). Although the past SOE reform adopted various reform policies, the fundamental principle of the so-called “Party control personnel” remained unchallenged. It is not uncommon for the ruling Party to make political appointments for administrative posts. But the Party in China not only appoints cadres to administrative posts but also all the managers of state-owned enterprises. The Party has exercised its control over the selection and dismissal of SOE managers through its Organization Departments at different levels. For example, the Central Party Organization Department has the authority over appointments of the top managers of very large SOEs (the level of minister or deputy minister), as does the Provincial or Municipality Party Organization Department for most large and medium-sized SOEs (the level of bureau chief or deputy bureau chief). This authority applies to joint-stock companies as long as the state has the majority share, even if they are listed on the stock market or are located in the special economic zones. The appointment and dismissal process represents the most important channel of political influence over enterprises by the Party.

Under the Party control personnel system, SOE managers, like mayors, ministers, and Politburo members, are political appointees of the Party. This political process of managerial appointments has serious problems. First, the appointment process is politicized, secretive, and complicated. When the Party selects both managers and politicians at the same time, it may not choose the people who are the right managers. Second, the selection and evaluation methods are based on information through bureaucratic rather than market channels such as the stock market, rating companies, and investment banks. Third, the Party bureaucrats have neither the ability nor the incentives to make the right decisions on managerial selection according to business criteria because they are mainly politically motivated. It is interesting to compare SOEs with TVEs in this regard. Although TVE managers are appointed by township or village governments, they do not go through the higher level Party apparatus because they are not "state cadres." Therefore, they are not subject to the same political process as SOE managers.

With the Party acting as a "super owner," corporate governance is hard to establish. Corporate governance is a set of institutional arrangements governing the relationships among investors (shareholders and creditors), managers, and workers. The structure of corporate governance concerns (1) how control rights are allocated and exercised; (2) how boards of directors and top managers are selected and monitored; and (3) how incentives are designed and enforced. In other developed economies, major issues of corporate governance concern legal rules limiting the agency problems, protecting shareholders and creditors, and providing room for managerial initiatives. The same problems arise in China, but with a special concern about the role of the state as a large stakeholder. Unless the state, institutional investors, and individual investors are put on an equal footing, political intervention by the powerful government and the Party will continue to plague the performance of these firms.

The SOE sector in China now accounts for about one-quarter of industrial output, but more in such services as wholesale commerce, transportation, communication, and banking. Large-scaled SOEs still constitute the backbone of the economy. The state sector continues to place a disproportionally large claim on economic resources. For instance, SOEs' share of bank lending remained at near 60 percent by the end of 1998. Although SOEs remain the main revenue source for the government (they account for more than one half of total government revenue), they also represent a big financial burden for it. The poor financial performance of SOEs is responsible for China’s banking sector problem. Total non-performing loans may have reached as high as 50 percent of GDP in 1999 before some of them being removed from the banks’ balance sheets to the newly created “Assets Management Companies.”

Fortunately for China, the vibrant non-state sector has grown so fast that the problem of the state sector becomes less critical. Things would be different twenty years ago when the state sector constituted about 80 percent of total national industrial output. But will China’s reform of large-scaled SOEs (including privatizing them) eventually work? The most recent government policy on SOE reform adopted in September of 1999 intended to jump start the stalled reform

(*China Daily*, September 27, 1999). The first, and perhaps most important, new policy is "readjustment of the layout of the state economy" to narrow down its scope dramatically. SOEs are operating in almost all sectors of the economy, ranging from fighter plane production to hotel operation, from book selling to toy making. Committing the government to withdrawing from most industrial and service sectors is a significant and encouraging step forward in transforming the state sector in the economy. The second new policy calls for the diversification of ownership structure for those enterprises over which the state still wants to maintain control. Except for a few enterprises in which the state intends to retain 100 percent ownership, all other enterprises will become joint stock companies with multiple owners. These new owners can be either domestic private investors or foreign investors, and the companies can be listed on the domestic or foreign stock markets. Examples include PetroChina listed on the New York Stock Exchange and China Telecom (Hong Kong) listed on the Hong Kong Stock Exchange.

Will the reform work this time? As for the Party's role in corporate governance, the recent policy on SOE reform sent out a mixed signal. On the one hand, the government intends to follow the international common practice in hiring, empowering, and rewarding top managers for its enterprises, including giving them stocks. On the other hand, the policy reiterated the fundamental principle of "Party control personnel," although it also mentioned that the "control method" will improve. The Party control gives the enterprise Party Committee extraordinary power in making strategic decisions, and thus presents a fundamental problem in corporate governance. In the coming years we will not be surprised to see frustrating contradictions at every turns of corporate governance reforms.

9. Concluding Remarks

This paper has demonstrated how novel transitional institutions of market, firms, and government worked in China. The institutional reforms achieved two objectives at the same time: they are both efficiency enhancing and interest compatible. The real challenge of reform facing transition and developing countries is not so much about knowing where to end up but about searching a feasible path toward the goal. To understand how reform works in a country, it is not enough to study the best-practice institutions as a desirable goal. One should also study how feasible, imperfect institutions fit the economic and political reality and function as stepping stones in the transition process toward the goal. The good news is that in these economies a large room usually exists for efficiency improvement (that is why they need reforms in the first place). China's experience has shown that there will be a time period in which impressive growth does not require perfect institutions, and imperfect but sensible institutions can perform. On the other hand, China's success in unconventional institutions does not constitute an argument against fostering best practice institutions such as rule of law, private ownership of firms, and transparent government. It is an argument against simplistic and naive views on institutional reform.

As a whole, China's reform experience is quite unique among developing and transition economies. However, each component of China's reform may find resemblance in other countries. For instance, all the schemes involving various forms of "grand fathering" have a resemblance to the Chinese dual-track approach. The two-tier wage system with lower wages for newly hired employees and higher wages for existing employees has been used in some industries such as the U.S. airline industry. The dual-track also worked in the export zones in Mauritius as documented by Rodrik (1999). Although the huge scale of TVEs is unique to

China, successful firms in developing and transition economies in which the government holds equity stakes are not unusual. Moscow firms controlled by its Mayor or Indonesian firms that the Suhato family holding substantial shares all enjoyed the comparative advantage of political protection. Giving equity stakes to the government does not guarantee growth, but it does align the interests of the government with growth and sometimes helps growth in an environment without a rule of law. Anonymous banking is not unique to China. Korea, and even some developed countries in Europe such as Austria, had it for a long time until recently, not to mention Switzerland where the entire banking industry is built upon it.

The thrust of the arguments in this paper, that is, institutional development needs to fit into the initial conditions and to be made interest compatible for the ruling groups, also finds parallels in other successful experiences, such as Botswana. In contrast to most African countries where institutions were imported and were significantly at odds with the indigenous political culture and the political ambitions of the most powerful people, Botswana's imported institutions were largely consistent with the political ambitions of the powerful people. The success of Botswana is much due to the fact that good economics was also good politics (see Acemoglu, Johnson, and Robinson's chapter on Botswana in this book). This is the common ground between China and Botswana, despite the huge differences between the two successful growth experiences.

The country study of China's growth experience highlights the context-specificity of what worked and what not, which may not come out easily in cross-country regressions. It allows us to use a richer set of information to bring out the insights on the diverse paths of good transition and development. China's path of reform is filled with seemingly frustrating contradictions.

Starting from misaligned prices, unproductive firms, and an overreaching government, the inefficient economy had a large scope for improvement. Unconventional solutions applicable to developing and transition economies usually come from the people who have a stake in the economy and have the information about its own initial conditions and history.

Our study does not predict the eventual success of China's transition, but it does question the prognosis that China's reform is doomed to fail because it did not follow the conventional wisdom. Whether China 's present short march to a market economy muddles through or ends like Indonesia of the late 1990s is still an unknown. But nothing on this scale and within such short a time period has ever been attempted in the history of the world.

Table 1. GDP Growth Rates by Province (percent)					
Provinces	1978-90	1978-95	Provinces	1978-90	1978-95
Beijing	9.0	9.8	Henan	12.6	10.9
Tianjin	7.7	8.9	Hubei	9.4	10.5
Hebei	8.5	10.2	Hunan	7.7	8.7
Shanxi	8.2	8.8	Guangdong	12.3	14.2
Inner Mongolia	9.8	13.0	Guangxi	7.2	9.9
Liaoning	8.1	8.8	Hainan	10.1	12.3
Jilin	8.9	9.5	Sichuan	8.6	9.5
Heilongjiang	4.9	4.8	Guizhou	9.2	9.1
Shanghai	7.4	9.1	Yunan	9.7	9.9
Jiangsu	11.0	12.8	Tibet	7.7	8.3
Zhejiang	11.7	13.8	Shaanxi	9.0	9.1
Anhui	9.3	10.7	Gansu	8.2	8.6
Fujian	11.5	13.7	Qinghai	6.5	6.8
Jiangxi	9.0	10.4	Ningxia	9.2	8.9
Shangdong	10.0	11.9	Xinjiang	10.8	11.1

Source: *China Statistical Yearbook.*

Table 2. Growth Rates of GDP and GDP Components (percent)				
Year	GDP	Agriculture	Industry	Tertiary
1979	7.6	6.1	8.2	7.8
1980	7.8	-1.5	13.6	5.9
1981	5.5	7.0	1.9	10.4
1982	9.1	11.5	5.6	13.0
1983	10.9	8.3	10.4	15.2
1984	15.2	12.9	14.5	19.4
1985	13.5	1.8	18.6	18.3
1986	8.8	3.3	10.2	12.1
1987	11.6	4.7	13.7	14.4
1988	11.3	2.5	14.5	13.2
1989	4.1	3.1	3.8	5.4
1990	3.8	7.3	3.2	2.3
1991	9.2	2.4	13.9	8.8
1992	14.2	4.7	21.2	12.4
1993	13.5	4.7	19.9	10.7
1994	12.6	4.0	18.4	9.6
1995	10.5	5.0	14.1	8.0

Notes: Data on industry includes construction.

Source: *China Statistical Yearbook.*

Table 3. Dual Track Market Liberalization		
Grain (million tons)		
	1978	1988
State procurement at plan price	47.8	50.5
State procurement at market price	near 0	43.8
Total domestic production	304.8	394.1
Steel (million tons)		
	1981	1990
Plan quota	13.91	15.58
Domestic production	26.70	51.53
Plan/production	0.52	0.30
Labor (million)		
	1978	1994
State permanent employees	74.51	83.61
State contract employees	0	28.53
Non-state employees	48.9	204.85
State permanent/total	0.60	0.26

Source: Lau, Qian, and Roland (2000).

Table 4. Industrial Output Share by Ownership (percent of total)		
	1978	1993
State firms	78%	43%
Non-state firms	22%	57%
of which:		
Local government firms	22%	42%
Private and other types firms	0%	15%

Source: *China Statistical Yearbook.*

Table 5. The Correlations between Local Revenue and Expenditure				
	1982-91		1970-79	
	β	R^2	β	R^2
Fixed Effect				
(1) Budgetary expenditure on budgetary revenue	0.752 (19.73)	0.968	0.172 (6.172)	0.930
(2) Extra-budgetary expenditure on extra-budgetary revenue	0.971 (32.25)	0.991		

Notes: (1) Each regression includes a full set of year dummies.
(2) Huber-White robust t-statistics are in parentheses.

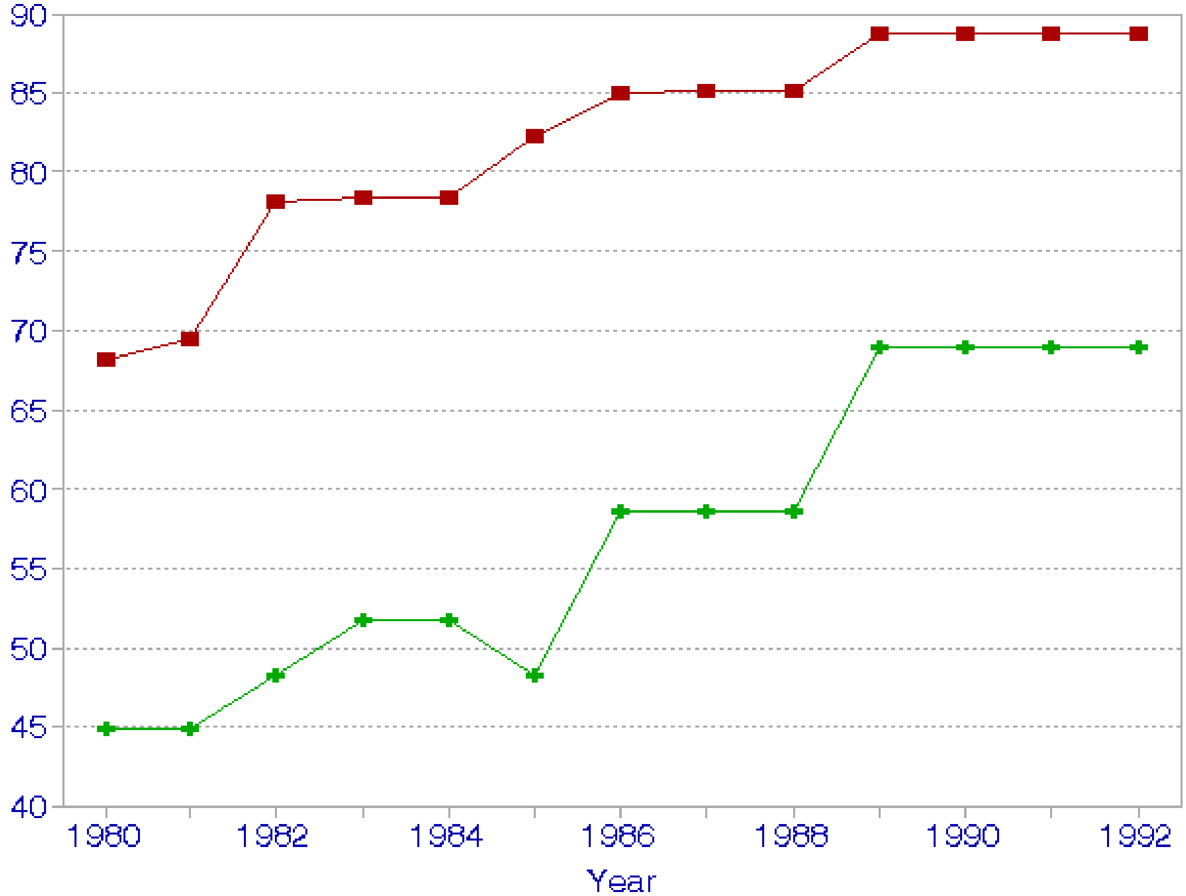
Source: Jin, Qian, and Weingast (2001).

Table 6. Currency Seigniorage and Implicit Taxation on Bank Deposits (percent of GDP)				
	Currency Seigniorage			Implicit Tax on Bank Deposits
	(1) Inflation Tax	(2) Real Expansion	(3) Currency Seigniorage	(4) Implicit Tax on Bank Deposits
1986	0.7	1.5	2.2	1.33
1987	1.1	0.7	1.8	3.07
1988	0.9	3.9	4.8	1.12
1989	0.8	0.5	1.3	-0.09
1990	0.7	-0.7	-0.0	-1.11
1991	1.0	1.5	2.5	0.70
1992	1.7	3.0	4.7	5.61
1993	2.0	3.6	5.6	4.40
1994	1.9	3.3	5.2	4.43
Average 1986-94	1.2	1.8	3.0	2.10

Notes: Column (3): Equal to sum of Columns (1) and (2).
Column (4): A zero real interest rate is assumed as opportunity cost of capital. Inflation compensation for household term deposits maturing in over three years is not taken in to account.

Source: Bai, Li, Qian, and Wang (1999).

Figure 1. Provincial Marginal Revenue Retention Rates (1980-92)



Notes: The upper line is the average of marginal retention rates.
The lower line is the share of the provinces with 100 percent marginal retention rates.

Source: Jin, Qian, and Weingast (2001).

References

Acemoglu, Daron, Simon Johnson, and James A. Robinson. “An African Success Story: Botswana,” in Dani Rodrik (eds.) *In Search of Prosperity: Analytical Narratives on Economic Growth*.” Princeton University Press, forthcoming.

Bai, Chong-En, David D. Li, and Yingyi Qian, Yijiang Wang. "Anonymous Banking and Financial Repression: How Does China's Reform Limit Government Predation without Reducing Its Revenue?" Mimeo, Stanford University, 1999.

Bates, Robert, *Essays on the Political Economy of Rural Africa*, Berkeley: University of California Press, 1987.

Beijing Statistical Yearbook. Various years. Beijing: China Statistical Publishing House.

Blanchard, Olivier; and Stanley Fischer. Editorial, *NBER Macroeconomics Annual* 1993, National Bureau for Economic Research, 1993.

Burki, Shahid Javed; and Guillermo E. Perry. *Beyond the Washington Consensus: Institutions Matter*. World Bank Latin American and Caribbean Studies, The World Bank, Washington DC, 1998.

Byrd, William. *The Market Mechanism and Economic Reforms in China*. New York: M.E. Sharpe, 1991.

Byrd, William and Qingsong Lin (eds.), *China's Rural Industry: Structure, Development, and Reform*, Oxford University Press, 1990.

Cao, Yuanzheng; Yingyi Qian; and Barry R. Weingast. "From Federalism, Chinese Style, to Privatization, Chinese Style." *Economics of Transition*, March 1999, *7*(1), pp. 103-131.

Chang, Chun; and Yijiang Wang. "The Nature of the Township Enterprises." *Journal of Comparative Economics*, 1994, *19*, pp. 434-452.

Che, Jiahua; and Yingyi Qian. "Institutional Environment, Community Government, and Corporate Governance: Understanding China's Township-Village Enterprises." *Journal of Law, Economics, and Organization*, April 1998a, *14*(1), pp. 1-23.

Che, Jiahua; and Yingyi Qian. "Insecure Property Rights and Government Ownership of Firms." *Quarterly Journal of Economics*, May 1998b, *113*(2), pp. 467-496.

China Statistical Yearbook. Beijing: China Statistical Publishing House, various years.

Coase, Ronald. "The Institutional Structure of Production." *American Economic Review*, September 1992, *82*, pp. 713-719.

Dewatripont, Mathias; and Gérard Roland. "Economic Reform and Dynamic Political Constraints," *Review of Economic Studies*, 1992, *59*, pp. 703-730.

Dewatripont, Mathias; and Gérard Roland. "The Design of Reform Packages under Uncertainty," *American Economic Review*. December 1995, *83*(5), pp. 1207-1223.

Gerschenkron, Alexander. *Economic Backwardness in Historical Perspective: A Book of Essays*, Cambridge, MA: Harvard University Press, 1962.

Groves, Theodore, Yongmiao Hong, John McMillan, and Barry Naughton. "Autonomy and Incentives in Chinese State Enterprises," *Quarterly Journal of Economics*, 1994, *109*(1), pp. 183-209.

Guangzhou Statistical Yearbook. Various years. Beijing: China Statistical Publishing House.

Hellman, Joel S. "Winners Take All: The Politics of Partial Reform in Postcommunist Transitions." *World Politics*, January 1998, *50*, pp. 203-34.

Huang, Jikun; and Scott Rozelle. "Technological Change: Rediscovery of the Engine of Productivity Growth in China's Rural Economy," *Journal of Development Economics,* July 1996, *49*, pp. 337-369.

Jin, Hehui; and Yingyi Qian. "Public vs. Private Ownership of Firms: Evidence from Rural China." *Quarterly Journal of Economics*, August 1998, *113*(3), pp. 773-808.

Jin, Hehui; Yingyi Qian; and Barry R. Weingast. "Regional Decentralization and Fiscal Incentives: Federalism, Chinese Style." Mimeo, Stanford University, 2001.

Kornai, Janos. "The Hungarian Reform Process: Visions, Hopes, and Reality." *Journal of Economic Literature*, December 1986, 24, pp. 1687-1737.

Lau, Lawrence; Yingyi Qian; and Gérard Roland. "Reform without Losers: An Interpretation of China's Dual-Track Approach to Transition." *Journal of Political Economy*, February 2000, *108*(1), pp. 120-143.

Li, David D. "A Theory of Ambiguous Property Rights in Transition Economies: The Case of the Chinese Non-State Sector." *Journal of Comparative Economics*, August 1996, *23*(1), pp. 1-19.

Maddison, Angus. *Chinese Economic Performance in the Long Run*. Paris: OECD Development Centre, 1998.

McKinnon, Ronald. *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*. Baltimore and London: The Johns Hopkins University Press, 2nd edition, 1993.

Naughton, Barry. *Growing Out of the Plan*. Cambridge University Press, 1995.

North, Douglass. "The Contribution of the New Institutional Economics to an Understanding of the Transition Problem." *WIDER Annual Lectures*, March 1997.

Oksenberg, Michel, and Tong, James. "The Evolution of Central-Provincial Fiscal Relations in China, 1971-1984: The Formal System." *China Quarterly*, March 1991.

Qian, Yingyi. "Enterprise Reform in China: Agency Problems and Political Control." *Economics of Transition*, 1996, *4*(2), pp. 427-447.

Rodrik, Dani. "Institutions for High-Quality Growth: What They Are and How to Acquire Them." mimeo, Harvard University, 1999.

Rozelle, Scott. "Gradual Reform and Institutional Development: The Keys to Success of China's Rural Reforms," in John McMillan and Barry Naughton (eds), *Reforming Asian Socialism: The Growth of Market Institutions*. Ann Arbor, MI: The University of Michigan Press, 1996.

Shleifer, Andrei. "Government in Transition." *European Economic Review*, April 1997, pp. 385-410.

Shleifer, Andrei; and Daniel Triesman. *Without a Map: Political Tactics and Economic Reform in Russia*, Cambridge, MA: The MIT Press, 1999.

Summers, Lawrence. "The Rise of China." *Transition Newsletter*, Volume 3, number 6, p.7, The World Bank, 1992.

Wei, Shang-Jin. "Gradualism versus Big Bang: Speed and Sustainability of Reforms." *Canadian Journal of Economics*, November 1997, *30*(4), pp. 1234-47.

Williamson, Oliver. "Institutions and Economic Organization: The Governance Perspective." Annual Bank Conference on Development Economics. The World Bank, 1994.

Wong, Christine P.W. (eds.). *Financing Local Government in the People's Republic of China*. Hong Kong: Oxford University Press, 1997.

World Bank. *From Plan to Market: World Development Report 1996*. Oxford University Press, 1996.

Zhuravskaya, Ekaterina V. "Incentives to Provide Local Public Goods: Fiscal Federalism, Russian Style." *Journal of Public Economics*, June 2000, *76*(3), pp. 337-68.