

Banks and Enterprise Privatization in China

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Drawing on a unique dataset we collected in 1998 and 2000, this article examines the determinants of privatization of township and village enterprises in China. Our theoretical model explicitly considers the role of banks in determining privatization. We find that improved human capital and incentives of bank managers as well as deteriorating bank liquidity lead to privatization. We also analyze the conditions under which shutdown might be preferred to privatization as a method to divest of government-owned firms. We find empirical evidence that is consistent with our model's predictions.

1. Introduction

Through the first decade and a half of economic reform in China, township and village-owned enterprises (TVEs) were the most dynamic sector of the economy. Real growth in these enterprises averaged more than 20% annually. By the early 1990s, there were more than 1.25 million of these local government-owned and run enterprises, employing 135.1 million individuals, an increase of more than 100 million since 1980. The contrast with the performance of state-owned enterprises (SOEs) over the same period is fairly stark. Estimates suggest that the growth rate of output and productivity in SOEs was only half that in TVEs (Jefferson and Rawski, 1994).

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The rapid rise of TVEs has been linked to the period's imperfect institutional environment. Private firms were heavily regulated and private property was not well protected: local government ownership, on the other hand, protected firms against higher level state predation (Che and Qian, 1998b). Township governments also enjoyed preferential access to newly emerging product and input markets (Chang and Wang, 1994; Li, 1996), as well as loans on softer terms from China's state-run banking system (Che and Qian, 1998b). This was complemented by the superior human capital of local leaders in operating firms (Byrd and Lin, 1990; Weitzman and Xu, 1994; Che and Qian, 1998a; Chen and Rozelle, 1999; Oi, 1999; Whiting, 2001).

These advantages were reinforced by the incentive structures facing local government officials. Township cadres have been evaluated on the basis of their ability to fulfill targets set by higher level authorities, one of the most important of which is economic development, especially the development of local enterprises. Bonuses and promotion prospects are tied directly to fulfilling these targets (Manion, 1985; O'Brien and Li, 1999; Whiting, 2001; Li and Zhou, 2004). In addition, TVEs are an important source of local fiscal revenue that can be used to fulfill spending mandates from above. Local leaders also benefit indirectly from the control they exercise over these firms' assets, profits, and cash flow. Firm resources can be diverted to other local purposes, including paying cadre salaries and providing jobs for local residents. Leaders may also derive private perks from these firms, including access to jobs for family members and friends, and often direct access to funds. Of course, this capacity to extract resources and rents from TVEs is a function of their size, profitability, and cash flow (Shleifer and Vishny, 1994).

However, in the early 1990s, these same firms, which had fueled such striking growth and had been argued by some observers to be the "appropriate" ownership form in China, began to be privatized in large numbers (Oi, 1999; Whiting, 2001; Li and Rozelle, 2003). This followed a fundamental shift in central government policy that effectively allowed privatization as part of a program of enterprise restructuring, or *zhuanzhi*. In its implementation, this policy reflected the high degree of decentralization in China: each level of government was given discretion as to how to interpret and carry out this policy.

The privatization of TVEs has been linked to changes in the institutional environment, which altered the benefits and costs of government ownership (Li, Li, and Zhang, 2000; Li, 2003). Property right reform, for example, made government ownership less important in protecting property rights (Li and Rozelle, 2003). Market development and an increase in market competitiveness, on the other hand, reduced the advantages of government ownership and encouraged leaders to voluntarily privatize their firms (Li, Li, and Zhang, 2000; Li, 2003). Although retaining ownership provides advantages to local government leaders, through privatization this government control may be exchanged for revenue from the sale.

Largely overlooked in the literature on privatization is the general health and reforms within the banking sector. During this period, the township branches of the Agricultural Bank of China (ABC) and the Rural Credit Cooperatives

(RCC) largely serviced rural China.¹ At the outset of economic reform, these financial institutions bore numerous similarities with other state-owned enterprises and were subject to centralized management and economic planning. The government provided no incentives to motivate bank managers and staff, and their pay was predetermined and thus independent of performance. Bank managers had no formal training and lacked the skills either to screen loan applicants or monitor firms after loans were made.

Even more serious, loans to government-owned firms were soft. Although TVEs typically faced much tighter budget constraints than SOEs, local governments could still use their political power to influence local banks' lending decisions (Che and Qian, 1998b). This behavior was reinforced by the indirect role of township leaders in the appointment of township branch bank managers and a variety of perks that government leaders were able to extend to bank managers. Officially township branch managers were appointed by higher level bank officials. When projects were unsuccessful, loans to township-owned firms that were guaranteed by the township government (or other township-owned firms) were typically rolled over, and without penalty (Brandt and Li, 2003). This resulted in the significant accumulation of nonperforming loans, thereby jeopardizing the liquidity of the banking system.

Bank reform brought major changes to these financial institutions. First, the government initiated a bonus system in the early 1990s. The bank manager's year-end bonuses were tied to their performance in attracting deposits, reducing nonperforming loans, and increasing bank profits. Second, many better educated and more competent employees were promoted to branch managers. This contributed to improved screening of loan applications and to an increase in loan repayment rates through better project selection. Third, starting in 1994, township-owned firms, as well as other ownership types, were required to provide hard collateral, for example, bank deposits, buildings, machinery, etc., for their loans. This tightened the budget constraints of the TVEs. Fourth, reform has also made the banks more willing to lend to private firms (Brandt and Li, 2003), which are usually more profitable. Finally, by recentralizing a significant part of the lending rights from township bank branches to the upper (or county) level, banks became more likely to decline loan applications from TVEs. County bank managers are superior to township government leaders in the political hierarchy, and it is easier for them to say no to township leaders.²

An important feature of bank reform, like other reforms in China, is that it has not been uniform across localities. In fact, there remains a great deal of heterogeneity across localities in terms of bank incentives, human capital, and the harshness of budget constraints. Moreover, for historical reasons, banks also differ significantly in the size of nonperforming loans in their portfolios, and thus in their liquidity.

1. Both institutions can be found in most townships. Combined, they held nearly 80% of all rural deposits and were the source of an equal percentage of loans, nearly half of which went to TVEs (Park, Brandt, and Giles, 1997).

2. For a discussion of China's political hierarchy, see Lieberthal (1995).

A bank's financial health and bank reforms affect the likelihood that a leader privatizes firms in two ways.³ First, analogous to the changes occurring in other market forces, bank health and reforms alter the return to government ownership and encourage privatization. For example, when the firm's budget becomes tighter, leaders are more responsible for bank loans and thus may find retaining a township enterprise (TE) less valuable compared to the benefits received from selling the firm. Second, uniquely, the bank's financial health and reforms may force leaders to privatize. When the bank refuses to lend to TEs either because the bank cares more about profitability or because it has serious liquidity constraints, TEs become less valuable to the leader and the leader is forced (by the bank) to privatize.

In this article we develop a simple theoretical model that allows the bank to play an active role in privatization. Privatization may occur when the bank is willing to lend to a government-owned firm, but the leader finds privatization more profitable. Privatization can also occur when the bank is unwilling to lend to a government-owned firm, but will lend to a more profitable private firm. Our comparative statics results show that the likelihood of privatization increases with the tightness of the leader's budget constraint, the enterprise manager's human capital, and the bank manager's human capital, but decreases with the leader's perks from government ownership and human capital. We also find that the bank's profit incentives and liquidity constraint have positive effects on privatization, and these effects decrease with the tightness of the leader's budget constraint.

We test these propositions by drawing on unique data we collected on firms and banks in China. The data cover a sample of more than 600 firms in nearly 60 townships in Jiangsu and Zhejiang provinces and show much heterogeneity in both privatization and bank reforms. We find that this heterogeneity in bank characteristics and other institutional variables are correlated with privatization as predicted. We have confidence that the causation is more likely to be running from bank heterogeneity to privatization because our empirical tests use a natural experiment. The relaxation of central government restrictions on enterprise privatization in 1994 essentially allowed all township governments to reevaluate the returns to government ownership. Since privatization was largely prohibited before 1993, it is hard to make a valid argument of reverse causality, that is, privatization affecting bank reforms. Indeed, our instrumental variable (IV) model that corrects for the potential endogeneity of the hardness of the government's budget constraint generates results that are consistent with those from non-IV models.

This article contributes to the existing literature on privatization (see Megginson and Netter, 2001) and transition in several ways. First, we explicitly consider the role of banks in determining privatization. This contrasts with the literature, which generally sees causality running from privatization to changes in bank incentives and budget tightness; in other words, privatization is viewed as critical to improving bank incentives and tightening the budget

3. Throughout the article we use the term leader and local government interchangeably.

constraints of firms (Roland, 2000).⁴ As a potential policy implication, our findings suggest that reforms that alter the human capital, incentives, and control rights in financial institutions can play an important role in encouraging enterprises to restructure and change ownership. Second, the unique survey data allow us to study shutdown behavior in a transition context, and in particular, firm shutdown driven by bank reforms.

2. A Heuristic Model

We consider a very simple environment in which three risk-neutral players interact: a government (township) leader, an enterprise manager, and a bank. The leader has one TE that he can choose whether to retain, privatize, or shut down. We denote a retained township enterprise as TE and a privatized enterprise as PE.

2.1 A Township Enterprise

If the leader retains the firm, he will enjoy its profits and receive some perks or other benefits (α_{TE}) from owning the firm. An operating firm can borrow at cost R from the bank to undertake a potentially profitable project, where R is set administratively by higher level government regulation and is unaffected by the parties modeled in this article. We also assume that the size of the loan is fixed. All players are uncertain as to whether this firm (project) will be profitable (with a profit $\pi > R$) or not (with zero profit). However, the firm manager can directly affect this probability of success, $p(e)$, through his effort choice, e . For simplicity, we set $p(e) = e$. When the project succeeds, the firm pays R to the bank; when the project fails, the bank will seize the amount $\delta_{TE}R$, where $\delta_{TE} < 1$. The variable δ_{TE} serves to measure the tightness of the budget constraint for a TE, but could alternatively be interpreted as the amount of firm collateral. Thus the TE's expected gross profit is $e(\pi - R) + (1 - e)(-\delta_{TE}R)$.

There are two costs for the government leader in operating the firm: the manager's wage, $w = C(H, h, e) + \bar{w}$, which covers the manager's reservation utility \bar{w} and his cost of effort $C(H, h, e)$, and the cost of monitoring the manager, $M(g, e)$.⁵ $C(H, h, e)$ is increasing in the manager's effort and decreasing in his human capital H . We assume that it is also decreasing in the human capital of the bank manager h . This captures in a simple way that a skilled bank manager may be able to assist the firm in realizing profitable projects. The leader must also incur a monitoring cost $M(g, e)$ to induce effort from the manager. This monitoring cost increases with effort e , but decreases with the leader's human capital g . Thus the leader's utility is $e(\pi - R) + (1 - e) \times (-\delta_{TE}R) - \bar{w} - C(H, h, e) - M(g, e) + \alpha_{TE}$.

4. There is related literature on bank privatization (see, e.g., Clarke and Cull, 2000, 2002). Here we focus on the role of bank behavior in firm privatization decisions.

5. This monitoring contract will dominate incentive contracts (with a minimal wage of zero in the default state) if $\frac{dC}{de} - \bar{w} > C(H, h, e) + M(g, e)$, for all e . This minimal wage restriction prevents the leader from effectively "selling" the manager residual control rights to the firm and thereby inducing optimal effort. This restriction seems natural within the context of managerial contracts, especially since our focus is on "real" privatizations.

The value of the firm to the government ultimately depends on the bank's lending behavior. If a project is not financed, the firm will not be retained. We restrict the bank to making a loan of fixed size. The bank is willing to lend as long as its participation constraint holds (or equivalently, its total expected rents from lending are positive). The bank's return from lending to a TE is given by $W_{TE} \equiv \gamma[eR + (1 - e)(\delta_{TE}R - (1 - \delta_{TE})f(R, l))] + \alpha_B$. The bank will lend if this is positive. The parameter γ measures the bank manager's profit incentive, while α_B measures the nonprofit incentive or perks that the bank manager may enjoy from having a good relationship with the township leader.⁶ The function $f(l)$ is the liquidity cost of lending money, which is increasing and convex in the current stock of bad loans.

Thus, as a firm owner, and conditional upon receiving bank finance, the leader's optimization problem is

$$\max_e e(\pi - R) + (1 - e)(-\delta_{TE}R) - \bar{w} - C(H, h, e) - M(g, e) + \alpha_{TE}.$$

This yields a first-order condition:

$$\pi - (1 - \delta_{TE})R = \frac{dC}{de} + \frac{dM}{de}.$$

This implicitly defines the optimal level of managerial effort, and thus the value to the leader of retaining the firm, V_{TE}^* . If the bank is not willing to lend, the firm has no value and will not be retained as a TE. Thus the value of a TE is $V_{TE} = V_{TE}^*$ if the bank lends, and $V_{TE} = 0$ otherwise.

2.2 A Private Firm

We focus on privatization through the sale of the firm to its manager, since this is the only type that is empirically relevant. The bank is willing to lend to the PE if $W_{PE} \equiv \gamma[eR + (1 - e)(\delta_{PE}R - (1 - \delta_{PE})f(R, l))] \geq 0$. No manager would ever buy a firm if this condition does not hold, since such a firm would have no value to him. As the owner, the manager's objective is

$$\max_e e(\pi - R) + (1 - e)(-\delta_{PE}R) - C(H, h, e),$$

where δ_{PE} measures the budget hardness for a PE. The optimal effort choice is given by

$$\pi - (1 - \delta_{PE})R = \frac{dC}{de},$$

which implicitly defines the value of a PE, \hat{V}_{PE} . We define the net value of a firm V_{PE}^* as $V_{PE}^* \equiv \hat{V}_{PE} - \bar{w}$. The value of a PE is $V_{PE} = V_{PE}^*$ if the bank is willing to lend, and $V_{PE} = 0$ otherwise.

6. The manager may also enjoy perks from private firms, but probably of a lesser magnitude. So we restrict ourselves to perks only from relationships with TEs. Therefore $\alpha_B > 0$ for TEs and $\alpha_B = 0$ for private firms.

A PE manager undertakes more effort than a TE manager if the tightness of the budget constraint is the same for the two types of firms ($\delta_{TE} = \delta_{PE}$) and all else is equal. This can be seen from the associated first-order conditions. Given that a government-owned firm has to monitor its manager, managerial effort is more costly. Consequently a lower level of effort will be demanded by a TE. This difference is magnified since PEs normally have tighter budgets than TEs, that is, if $\delta_{TE} < \delta_{PE}$. Additional responsibility or loss when a project fails (higher δ) encourages firms to induce additional effort in an attempt to reduce the probability of project failure. As a result of both of these effects, a TE will induce less effort and therefore will be less likely to succeed than a PE.

2.3 Privatization or Shutdown

The leader compares the value of a TE to the value he receives from the firm if he privatizes it at price n . We assume that this price arises from a Nash bargain between the leader and the manager. A firm will be privatized if this price exceeds the value to the leader of retaining the firm. If a firm has a negative value for both ownership forms, it will be shut down.

In order to decide whether to privatize or shut down this risky venture, the leader takes into account that under either ownership structure, the bank will interact with the firm, determining whether or not to lend. We assume that the bank's lending decision is made prior to any firm manager's effort decisions. The timing of the whole game is as follows:

1. The leader decides to privatize, retain, or shut down the firm.
2. The bank decides whether or not to lend a fixed amount of loan.
3. The firm effort decision is made.
4. Profits are realized and loans are repaid.

We are now ready to address the question that motivated our analysis: Should a leader privatize or shut down a firm? What factors make privatization and shutdown relatively more attractive? Naturally a leader will compare his utility with a TE to his utility with a PE. In other words, if the price he gets from the sale of the firm is higher than the value to her of the retained firm, that is, $n > V_{TE}$, he will choose to privatize. When will the firm manager be willing to buy the firm? If his value of the firm exceeds its price, $V_P > n$. So a firm will be privatized if $V_{PE} - V_{TE} > 0$ and $V_{PE}^* \geq 0$. The value of $V_{PE} - V_{TE}$ will take the following values depending on the bank's lending decision,

$$V_{PE} - V_{TE} = \begin{cases} V_{PE}^* - V_{TE}^* & \text{if } W_{PE} \geq 0, W_{TE} \geq 0; \\ V_{PE}^* & \text{if } W_{PE} \geq 0 > W_{TE}; \\ -V_{TE}^* & \text{if } W_{TE} \geq 0 > W_{PE}; \\ 0 & \text{if } W_{PE} < 0, W_{TE} < 0. \end{cases}$$

First, note that when $V_{PE}^* < 0$, privatization is not possible and the leader can only choose to retain or shut down the firm. The leader will shut down the firm voluntarily if $V_{TE}^* < 0$ and will be forced to shut it down if the bank does not

lend to a TE. Since this case does not generate much insight, we will focus on the case of $V_{PE}^* \geq 0$.

In the following, we examine the factors that affect the likelihood of privatization and shutdown.⁷ These comparative static results provide the hypotheses for our empirical tests.

2.3.1 Privatization. When $V_{PE}^* \geq 0$, privatization may occur in two situations: (1) the bank is willing to lend to both TEs and PEs (i.e., $W_{PE} \geq 0$, $W_{TE} \geq 0$) and $V_{PE}^* - V_{TE}^* \geq 0$; and (2) the bank is only willing to lend to PEs (i.e., $W_{PE} \geq 0 > W_{TE}$). In the first case, the leader voluntarily chooses to privatize the firm. In contrast, in the second case, a firm is forced to be privatized because the bank does not lend to a TE. We will consider factors that drive privatization for both cases.

In case (1), the bank is willing to lend to the firm regardless of its ownership. Thus the likelihood of privatization increases with factors that increase the value of a PE more than that of a TE, or increases $V_{PE}^* - V_{TE}^*$. We consider the following factors.

Budget constraints and perks. Privatization is more likely when a TE faces tighter budget constraints (higher δ_{TE}), or when the leader derives smaller perks from a TE. When the leader's budget constraint becomes tighter or the perks from owning a firm become smaller for the leader, the value of a TE decreases and privatization becomes more likely.

Profitability. Privatization is more likely when the firm is more profitable. Higher profitability, π , increases the value of a firm for both ownership forms, but it increases the value of a PE more because a PE is more likely to succeed.

Human capital. The likelihood of privatization increases with both the firm and bank manager's human capital, but decreases with the leader's human capital. Better firm manager and bank human capital reduces the cost of effort for both ownership forms, but it will reduce the cost for a PE more, since PEs have higher efforts. Higher leader human capital reduces the monitoring cost and increases the value of a TE.

If $V_{PE}^* - V_{TE}^* < 0$, which could happen because of large perks from a TE, the leader is not willing to privatize. However, the bank can force the leader to privatize by lending to a more profitable PE, but not to a TE. Thus, in case (2), the likelihood of privatization increases with factors that increase the value for the bank from lending to a PE more than to a TE.⁸ We focus on two bank characteristics: the bank incentives (γ) and the liquidity constraint (I). Moreover, we also examine how the likelihood of privatization is affected by the interaction of these two factors with the tightness of the budget for a TE (δ_{TE}).

7. We only provide the intuition for these comparative statics results in the text and leave detailed proofs to the version with appendix at <http://www.economics.utoronto.ca/roberts/appendix.pdf>.

8. For simplicity, we restricted the bank to only choose whether or not to lend, but not how much to lend. As a consequence, in case (1), in which the bank is willing to lend to either ownership form, bank attributes do not affect the privatization decision. In a more general model, where the bank can choose the degree of its involvement, these variables might appear in the privatization decision.

Bank incentives. Privatization is more likely when banks have better incentives. Since PEs are more profitable than TEs, bank lending to a PE may be profitable when it is not to a TE for certain parameter values. In this situation, increasing bank incentives will increase the bank's value of lending to a PE, but reduce the value of lending to a TE (because the profit from lending to a TE is negative). Thus privatization is more likely with better incentives for these parameter ranges.

The effect of bank incentives on privatization is decreasing in the tightness of the leader's budget constraint. Although more powerful bank incentives make the bank less willing to lend to an unprofitable TE, a tighter government budget constraint reduces the loss of the bank in the case of default and therefore increases the profitability of lending to a TE, making the negative effect of bank incentives on the bank's lending to a TE weaker.

Liquidity. When the bank has many bad loans, it is very costly (perhaps prohibitively difficult) to lend for new projects. It is even more difficult to lend to TEs than PEs because TEs generally have a lower probability of being profitable. As a result, TEs are more likely to be shut down. If TEs need to be shut down, but PEs do not, privatization will occur.

The effect of bank liquidity on privatization is decreasing in the tightness of the leader's budget constraint. Although higher liquidity costs make the bank less willing to lend to a TE, a tight government leader budget constraint will increase the profitability of lending to a TE, making the negative effect of bank liquidity on the bank's lending to a TE weaker.

Hypothesis 1. The likelihood of privatization increases with the tightness of the leader's budget constraint, the firm's profitability, the manager's human capital, the bank's human capital, and the bank's incentives and liquidity constraint; it decreases with the leader's perks and human capital; the effect of the bank's incentives and liquidity constraint on privatization decreases with the leader's budget constraint.

2.3.2 Shutdown. When $V_{PE}^* \geq 0$, shutdown may also happen in two situations: (1) the bank is willing to lend only to a TE (i.e., $W_{TE} \geq 0 > W_{PE}$) and $V_{TE}^* < 0$; and (2) the bank is unwilling to lend to either firm type (i.e., $W_{PE} < 0$, $W_{TE} < 0$).

The comparative statics regarding shutdown are more straightforward. As discussed above, shutdown happens either because the bank is not willing to lend (to a TE or PE), or because the value of a firm (TE or PE) is negative when the bank lends. Thus any factor that reduces the value of a TE or PE or reduces the likelihood of bank lending will make shutdown more likely. For example, shutdown is more likely when the human capital of any player deteriorates and when the liquidity constraint worsens. Larger perks of either the leader or the bank also reduce the chance of shutdown.

The effect of bank incentives is ambiguous. When the bank's expected profit from lending is negative, increasing the profit incentives of the bank will make

lending less likely and shutdown more likely. However, when the bank's expected profit from lending (to either a TE or a PE or both) is positive, increasing the profit incentives of the bank will make lending more likely and shutdown less likely. Thus the sign of this effect depends on the sign of the bank's expected profit from lending.

The effect of the leader's budget constraint is also ambiguous. On the one hand, an increase in the tightness of the budget constraint will reduce the profitability of a TE and thus make shutdown more likely. On the other hand, an increase in the hardness of the budget will make the bank's lending to a TE more profitable and make it more willing to lend, thereby reducing the probability of a shutdown.

Hypothesis 2. The likelihood of shutdown increases with the bank's liquidity constraint; it decreases with the firm's profitability, the leader's human capital, the manager's human capital, the bank's human capital, the leader's perks, and the bank's perks; it may increase or decrease with the leader's budget constraint and the bank's profit incentive.

3. Data

We start this section by introducing our survey and data. We then describe the patterns of privatization, in particular the heterogeneity across townships. Since several papers describe privatization using the same data (see Li, 2003; Li and Rozelle, 2003, 2004), we only summarize the key features here.

3.1 The Survey

There are not national data tracking the ownership changes that occurred in township enterprises over the 1990s. In order to analyze enterprise privatization, the authors and their Chinese colleagues carried out an extensive survey covering 59 townships drawn from 15 counties in the two provinces of Jiangsu and Zhejiang in 1998 and 2000. The selection of the counties and townships was designed to ensure a representative cross section of the region. After stratifying all of the counties in each province into three income groups, we selected eight counties in each province. Within each county, we chose four townships also by stratifying on the basis of income. Administrative problems prevented the completion of the survey in one of the counties in Zhejiang, thus giving us data on 15 rather than 16 counties. Data were incomplete for three of the townships, so the total number of townships on which we have information is 57.

The survey consisted of four parts: (1) a census of all firms that were township owned as of 1993, in order to track changes in ownership and key enterprise aggregates (e.g., output, employment, profits, and assets), in these firms up through 1999; (2) an in-depth survey of three randomly selected enterprises in each township that collected detailed balance sheet data, bank loan history, and information on the privatization process (if the firm was privatized); (3) a survey of the local branches of ABC and RCCs that provided detailed

information on bank behavior, including balance sheet data, as well as bank loan information on the three randomly selected firms; and (4) a survey of township leaders that provided data on cadre personnel, the local government, and the township economy.

In this article we utilize the census data, in combination with the bank branch manager and township leader surveys.⁹ Altogether, we have information on ownership changes between 1993 and 1997 for a total of 643 township-owned firms, and for the period between 1993 and 1999, we have data on 390 firms. In the empirical work below, we primarily draw on the larger, but shorter sample of firms that goes through 1997. We do this for several reasons. First, it maximizes our sample size. Second, our ability to resurvey in townships in 2000 appears to be nonrandom, suggesting potential biases in analysis using the longer, but smaller dataset.¹⁰ Third, we are interested in how “initial” conditions, especially those in the financial institutions, influenced township government decisions once privatization became legal. To reduce the complications that arise because initial conditions may have changed over a longer period, we choose to use the data for the shorter period.

3.2 Privatization in Rural China

Changes in ownership took several forms. In a majority of cases it entailed selling the entire firm to either a single individual or a group of individuals. In all but a few cases, the firm was sold to the incumbent manager. In other cases, however, only part of the firm was sold, and the township retained either a majority or minority position. This typically occurred as part of a process of converting the company to a joint-stock or shareholding company. In some cases, shareholding companies were subsequently completely privatized with the township’s divestiture of their remaining shares. Correspondingly, we utilize several alternative definitions of privatization. Our strictest definition, P1, defines as privatized only those firms in which 100% of the firm was sold. P2 adds to the list those firms in which a majority of shares (50% or more) were private, with the remaining shares retained by the township government. Finally, P3 includes as private those firms with minority private shares.

Several features of these data are noteworthy. First, over the period between 1993 and 1997, privatization was pervasive. As shown by Table 1, 220 out of our sample of 643 firms, or 34.2% of firms, were fully privatized by 1997.¹¹ This

9. Li (2003) utilizes the random survey of 168 firms (3 per township) to examine how market competition and budget tightness affect privatization. Brandt and Li (2003) use the “matching” firm-bank data covering the same number of firms to investigate discrimination against private firms.

10. A comparison of the two datasets reveals that townships in which we encountered administrative difficulty in resurveying in 2000 had higher than average privatization rates up through 1997. As a result, the 2000 sample of townships is underrepresented by townships that privatized earlier and more extensively.

11. The trend for the smaller sample that runs through 1999 is similar. In that sample, 208 of 390 firms or 53.3% were fully privatized and 64.9% were at least partially privatized by 1999.

Table 1. Distribution of Firms Privatized and Shut Down by Year (1993–1997)

Year	Number of TEs at the beginning of the year	Privatized (number)	Privatized (percentage)	Shutdown (number)	Shutdown (percentage)
1993	643	15	2.3		
1994	628	29	4.6	4	0.1
1995	595	46	7.7	28	4.7
1996	521	57	10.9	26	4.9
1997	438	73	16.7	41	9.4
1998	324				
Total	643	220	34.2	99	15.4

We use P1, or complete privatization, to derive the numbers of firms privatized. The percentage privatized and shutdown are calculated relative to the number of TEs in operation at the beginning of the year.

Table 2. Distribution of Townships by the Year in which Privatization was Started and Completed (Number of Townships)

Year	Number of townships started privatization in that year	Number of townships completed privatization in that year
1992	4	0
1993	11	2
1994	7	1
1995	6	1
1996	15	6
1997	14	6
1998	0	32
1999	0	3
Total	57	51

We do not have information on the year privatization was completed for 6 of the 57 townships in our sample.

consists of 210 firms that were fully privatized through a single sale, plus 10 more that were first converted into shareholding companies in which the township retained equity and then became fully private when the township sold off their remaining shares. If we also include as private those firms in which the township only had a minority position, then 290 out of 643 (45.1%) were privatized.¹²

Second, there is a marked increase over time in the rate of privatization activity, which peaked in 1998. This is true both in terms of the absolute number of firms affected, as well as in terms of the percentage of existing TEs privatized in a given year. Privatization began in earnest in 1993, with 11 townships starting that year (Table 2). From beginning to end, the length of time involved in the process was slightly more than two years, with a majority of townships reporting being completed in 1998. In 1996 and 1997, the rate of privatization nearly doubled that experienced between 1993 and 1995 (Table 1).

12. We do not report these data in the table, but they are contained in an earlier working paper available at <http://www.bus.umich.edu/KresgeLibrary/Collections/Workingpapers/wdi/wp429.pdf>.

Table 3. Distribution of the Pace of Privatization at the Township Level Among Townships in China (1994–1997)

Percentage of township enterprises privatized	Number of townships	Percentage
0–20	10	17.5
21–40	9	15.8
41–60	17	27.8
61–80	14	24.6
81–100	7	12.5
Total	57	100.0

Third, although provincial level differences are modest, there is considerable heterogeneity across townships in privatization rates (Table 3). For example, in 10 of the 57 townships (17.5% of all townships) less than 20% of all TEs were privatized by 1997. On the other hand, in 14 of the 57 townships (24.6% of all townships), between 60% and 80% of all TEs were privatized by 1997.

Fourth, a significant number of firms in the survey were shut down. For the sample of 643 firms, 15.4% went out of operation by 1997. To put this in perspective, this is twice the number of firms in the same townships that went out of operation between 1980 and 1993. The high rate of shutdown effectively lowered (raised) the percentage of government-controlled (private) firms in operation at the end of the period.

3.3 Explanatory Variables

The explanatory variables, or the potential determinants of privatization and shutdown, are organized into several groups: firm attributes, human capital variables, budget hardness, and bank attributes. We describe each of them below. Summary information for each of these variables is provided in Table 4. Unless we note otherwise, information is reported for 1994, or before most privatization activities began in our sample.

We use two firm attributes as independent variables. Since the rent a township leader derives from a TE is positively related to firm size, we use firm size or employment in this context to measure rent.¹³ The other firm attribute we use is the profit rate, which is defined as profits divided by firm sales in the initial year 1994. Ideally we would like the profit rate to measure only the ex ante likelihood of project success (or profitability), which is π in the model. However, since profitability is also correlated with firm rent, which we do not model in the theory, the profit rate may also pick up part of the effect of rents in a TE even after we control for firm employment.

Variables that measure the human capital of bank managers and township leaders are their age, years of education, and origin. Unfortunately we do not

13. We also experimented with total sales or fixed asset levels, which have a similar effect. Since these variables are highly correlated, we use only employment in this article.

Table 4. Descriptive Statistics of Variables

Variables	Mean	Standard deviation
Firm attributes in 1994		
Employment	164.3	402.5
Profit rate (profit/sales)	-0.01	0.54
The tightness of the leader's budget constraint	0.50	0.50
Bank attributes in 1994		
Weight on profitability (= 1, 2, 3, 4, and 5, weight increases with value)	3.78	0.75
Manager's bonus wage ratio	0.66	0.26
Percentage of nonperforming loans	21.1	18.5
Bank manager's human capital in 1994		
Education (years)	12.32	1.33
Age	39.94	5.05
Origin (1 if from the same township; 0 otherwise)	0.39	0.31
Leader's human capital in 1994		
Education (years)	13.28	1.74
Age	43.03	4.53
Origin (1 if from the same township; 0 otherwise)	0.23	0.42

observe the human capital of firm managers for the census data we use. While age (measuring experience) and education are related to their general human capital, the origin variable (one if from the same township, zero otherwise) measures location-specific human capital. However, the origin variables may pick up other effects. For example, it may be that leaders (or bank managers) who work in the same township as they grew up in are more likely to produce rents from the privatization process because of long relationships in the community. These local leaders may also have superior information about local firms, which reduces the information cost in the process of privatization and thus makes privatization more likely to happen (Li and Rozelle, 2004). Because there are two offsetting effects, it is an empirical issue whether the signs of the origin variables are positive or negative.

Our survey on the relationship between local governments and banks allows us to measure the tightness of the leader's budget constraint. The tightness is a qualitative variable based on township level interviews with government officials who provided an answer to the following question: How difficult is it to ask for an extension when a loan is overdue in 1994? We consider the budget constraint to be tight (equal to one) if the local government official cannot persuade the banks to give extensions on overdue loans to TEs before liquidating them, and loose (equal to zero) otherwise.

Finally, the most important variables are measures of the banks' incentives and liquidity constraint. We use two variables to measure the bank manager's profit incentives, namely, the weight on profitability and the bonus-wage ratio. The weight assigned to profitability relative to nonprofit duties (such as bank safety and party activities) by upper-level banks is an index from one to five,

with five being highest. The bonus ratio, on the other hand, represents the manager's bonus relative to the base wage if all branch targets are fulfilled. Since both measures are *ex ante* measures, and are determined by higher level authorities, they are exogenous in our setup. On average, the bonus was equal to two-thirds of the base wage, or roughly 40% of total compensation. We utilize information on the nonperforming component of the bank's loan portfolio to capture bank liquidity. More specifically, we use the percentage of the bank loan portfolio that is overdue as the measure of the percentage of nonperforming loans, with a larger percentage indicating a more serious liquidity constraint.¹⁴

4. Empirical Results

We are interested in the decision of local governments to continue to operate TEs, privatize them, or shut them down. We use P1, or complete privatization, as our definition of privatization, and use the 1994 information to explain privatization and shutdown that happened between 1994 and 1997. Although we have observations for most of the explanatory variables for either both 1994 and 1997, or for the whole time series, we only use the initial year (1994) information to avoid potential simultaneity.¹⁵

Because the three choices—privatization, shutdown, and remaining a TE—are unordered, it is natural to use the multinomial logit model. In the estimation, we use “continue to operate as a TE” as our base category, and report the marginal effect, that is, the relative risk ratio (privatize versus TE; shutdown versus TE) for a one-unit change in the corresponding independent variable, where the relative risk ratio measures how likely privatization or shutdown is relative to the base category (i.e., remaining a TE). When the estimated coefficient is positive (negative), the marginal effect is greater (less) than one.¹⁶

4.1 Determinants of Privatization

The first two columns of Table 5 report results of our baseline model, in which we include firm profitability, the number of employees in the firm, bank

14. Nonperforming loans in China were divided in the early 1990s into three basic types: dead, inactive, and overdue. The balance sheet information we collected from the RCC and ABC branches included estimates of the stock of overdue loans, however, we collected much less information on loans classified as inactive and dead. Therefore, in the empirical work, we use the percentage of the portfolio that is overdue as the liquidity constraint measure in order to maximize our sample. In general, results using overdue plus inactive on a smaller sample are consistent.

15. For example, profit and employment could be endogenous. Firms could lay off workers before privatization, while managers may have incentives to reduce profit just prior to privatization in order to lower the price they pay. Li (2003) provides one way to partially address this concern, which is to use the initial year (1994) information to explain privatization that happened a few years later, so that the 1994 information will not pick up the preprivatization activities such as layoffs. We experimented with this method by using 1994 information to explain privatization that happened in 1995 to 1997 or even in 1996 to 1997, and find that the results do not change much.

16. If the estimated coefficient for variable x_i is β_i , then the marginal effect for this variable is $\exp(\beta_i)$.

Table 5. Multinomial Logit Regressions Examining the Determinants of Privatization of Firms in Rural China

Independent variables	Dependent variables			
	Model (1)		Model (2)	
	Privatization vs. TE	Shutdown vs. TE	Privatization vs. TE	Shutdown vs. TE
Firm attributes in 1994				
Employment	0.996* (-3.11)	0.995 (-1.38)	0.997* (-2.90)	0.995 (-1.36)
Profit rate	0.032** (-2.13)	0.018 (-1.07)	0.016** (2.20)	0.014 (-1.10)
The tightness of the leader's budget constraint	2.817* (3.80)	0.870 (-0.20)	262.442** (2.28)	0.824 (-0.06)
Bank attributes in 1994				
Weight on profitability (= 1, 2, 3, 4, and 5, weight increases with value)	1.786* (2.71)	0.401** (-2.35)	3.391** (2.17)	0.378 (-1.48)
Manager's bonus wage ratio	4.441* (2.64)	0.221 (-1.26)	3.495** (2.08)	0.203 (-1.30)
Manager's bonus wage ratio*hardness			0.485 (-1.18)	0.864 (-0.19)
Percentage of nonperforming loans	1.063** (2.37)	1.163* (3.09)	1.205* (3.70)	1.157*** (1.72)
Percentage of nonperforming loans*hardness			0.830* (-3.05)	1.040 (0.36)
Bank manager's human capital in 1994				
Education	1.396** (2.05)	1.050 (0.20)	1.435** (2.30)	1.097 (0.35)
Age	1.126* (3.00)	1.114 (1.53)	1.058 (1.36)	1.188*** (1.72)
Origin (1 if from the same township; 0 otherwise)	0.617 (-0.87)	2.591 (1.09)	1.236 (0.34)	2.817 (0.93)
Leader's human capital in 1994				
Education	0.797** (-2.05)	0.666 (-1.60)	0.870 (-1.21)	0.592* (-1.72)
Age	0.879* (-2.74)	0.867*** (-1.68)	0.905** (-1.96)	0.879 (-1.51)
Origin (1 if from the same township; 0 otherwise)	2.110*** (1.77)	0.221 (-1.57)	1.833 (1.40)	0.170 (-1.48)
Pseudo- R^2	0.19		0.20	
Pseudo-log-likelihood	-242.06		-236.61	
Observations	338		338	

In this table, we report the marginal effect, that is, the relative risk ratio (privatize versus TE; shutdown versus TE) for a one-unit change in the corresponding independent variable. Numbers in parentheses are robust z-statistics. Significance levels of 0.1, 0.05, and 0.01 are noted by ***, **, and *.

liquidity, the bank manager's incentives, the tightness of the leader's budget constraint, and bank manager and township leader attributes. In Model (2) reported as columns 3 and 4, we include interactions between the tightness of the budget constraint and bank liquidity, and between budget tightness and the weight on profitability in the bank's targets. Due to missing values of many independent variables, we have only 338 firms in the final sample for regressions.

4.1.1 Leader and Firm Attributes. We find considerable empirical support for Hypothesis 1, which concerns the determinants of privatization. First, the likelihood of privatization relative to remaining a TE increases with the tightness of the budget constraint. The relative risk ratio of 2.817 implies that budget tightness more than doubles the likelihood of privatization and is significant at the 1% level. Tighter budget constraints effectively increase the liability of the local government in the event of project failure by the TE, and thus reduce the attractiveness of retaining government ownership relative to privatizing.

Second, privatization is significantly linked to the attributes of the township leader as our model predicts. We find that the likelihood of privatization is reduced in townships where township leaders are better educated and have more experience (as captured by age). This reflects the fact that leaders with better human capital have a lower cost in the management and oversight of TEs, and thus have a larger value in retaining them. We also find that the likelihood of privatization doubles relative to remaining a TE if the leader is from the local township. One possibility is that leaders with long ties to the community are able to extract side payments in the course of privatization.

Finally, privatization is less likely when the leader's perks associated with a TE are larger. Our first measure of the size of perks is the size of the firm as captured by total employment, which has a statistically significant coefficient. As firm employment increases by one worker, the relative risk ratio of privatization versus remaining a TE decreases by 0.4%. The second measure, the firm's profit rate, is a more complicated measure. The impact of firm profitability on privatization is ambiguous because of two offsetting effects. On the one hand, our model predicts a positive effect of profitability because higher profitability (π in the model) increases the value of a PE more than that of a TE. Potentially offsetting this is the fact that rents or perks from government ownership will be positively correlated with firm profitability. We find that the firm profit rate has a relative risk ratio significantly less than one, which suggests that profitability is more likely picking up the effect of perks to local leaders on privatization decisions. This finding is in sharp contrast to much of the experience in eastern Europe, where more profitable firms in fact were the first to be privatized (Gupta, Ham, Svejner, 2001).

4.1.2 Bank Attributes. More important in this study, we find that the likelihood of privatization is related to bank attributes, such as the human capital and incentives of bank managers, and the capacity of the bank to lend in the way our model predicts. First, in terms of the bank manager's human capital, we find that the

likelihood of privatization is enhanced by the human capital of the bank manager. This is consistent with our model and the view that the bank manager's human capital has a greater impact on private firms than TEs because of the agency problems in a TE. A related interpretation for this link between bank manager human capital and privatization is that "relationship lending" and the rents from lending to TEs are more important for less able managers. Lacking the human capital required to make lending decisions strictly on the basis of project profitability, these bank managers are more likely to be influenced by the potential rents via the local government from lending to TEs.

Second, consistent with Hypothesis 1, regression results show that firms are more likely to be privatized in townships where the evaluation of bank managers' performance gives more weight to profitability and when managers have stronger incentives (Table 5, column 1). Both the weight given to profits in managerial evaluation and the manager's incentives (measured by the manager's bonus to the base wage ratio) have a relative risk ratio greater than one, and are statistically significant. An increase in the weight of profitability, for example, from three to four increases the likelihood of privatization relative to continued government ownership by slightly more than 75%. When bank managers are given greater profit incentives by higher level bank authorities, they are more inclined to lend to PEs versus TEs, thereby increasing the value of a PE relative to a TE.

Third, we find that bank liquidity is important in exerting pressure on township leaders to privatize. Reductions in bank liquidity, as captured by an increase in the ratio of nonperforming loans to the bank's total loan portfolio, significantly increase the likelihood that the firm will be privatized. The liquidity constraint reduces the likelihood that TEs will be able to access bank finance relative to PEs, because TEs generally have lower profitability. Thus the bank liquidity constraint makes it harder for a TE to remain in operation.

Finally, our econometric model identifies important interaction effects involving budget tightness with bank attributes. Although more powerful bank incentives or more serious liquidity constraints make the bank less willing to lend to an unprofitable TE, a tighter government budget constraint reduces the loss of the bank in the case of default and therefore increases the profitability of lending to a TE. This weakens the effect of bank incentives and liquidity constraints on the bank's lending to a TE and implies that the effects of bank incentives and liquidity constraints on privatization should decrease with the tightness of the leader's budget constraint. We test this prediction by including two interaction terms, one for incentives with budget tightness and the other for the liquidity constraint with the tightness (column 3).¹⁷ As predicted, the relative risk ratio for both of these variables is less than one, however, only the interaction with bank liquidity is significant. With the inclusion of these

17. We experimented with including interactions between budget tightness and the manager's bonus, but multicollinearity prevents us from identifying the effects of all six variables, that is, manager bonus, weight on profitability, bank liquidity, budget tightness, and budget tightness interacted with the first three variables.

interaction terms, the relative risk ratios for budget tightness, the bank manager incentives, and the liquidity constraints all remain greater than one.

4.1.3 *Alternative Definitions of Privatization.* Table 5 is based on a definition of privatization that only includes firms that are fully privatized. We examine the robustness of our results by extending our definition to include those firms in which the township retained either minority (P2) or majority ownership (P3), or an additional 70 and 33 firms, respectively.¹⁸ The role of the attributes of financial institutions remains significant in explaining privatization, however, firm-level attributes (size and profitability) lose explanatory power, especially with the inclusion of P3.

4.2 Determinants of Shutdown

In columns 2 and 4 of Table 5 we report regressions examining the choice between shutdown and remaining in operation as a TE. According to Hypothesis 2, the likelihood of shutdown increases with the bank's liquidity constraint; it decreases with the firm's profitability, the leader's human capital, the manager's human capital, the bank's human capital, the leader's perks, and the bank's perks; it is ambiguous with respect to the leader's budget constraint and the bank's profit incentive.

In general, the results are much weaker than we find for the decision to privatize versus remaining a TE, but several variables are suggestive. First, consistent with Hypothesis 2, the bank liquidity constraint increases the likelihood that a firm is shut down. Clearly, in townships in which banks are handicapped in their ability to continue to lend to TEs, local leaders find it more difficult to continue to run these firms and they are much more likely to be forced to shut down. Second, firm size and profitability have the expected effects, though their effects are statistically insignificant. Third, the findings regarding the human capital variables are mixed. On the one hand, the relative risk ratio for the human capital variables of the bank manager are all greater than one (though most of them are not significant), which contradicts Hypothesis 2. On the other hand, all the human capital variables of the leader have the expected effects, and are typically significant. All else being equal, more able leaders are less likely to shut firms down in their townships. Finally, we find that the weight on profitability and the bank manager's profit incentives reduce the prospect that the firm is shut down. As suggested by our theory, this could happen when lending to TEs is profitable, because in that case larger incentives will make a TE more valuable and less likely for leaders to shut down.

4.3 Instrumental Variables

One problem with the above tests is that the variable measuring the hardness of the budget might be endogenous. There are two potential sources of

18. These results are available from the authors up on request.

endogeneity. It could be that local governments privatize firms in order to harden the budget constraint (Megginson and Netter, 2001). If this is the case, then there is a simultaneity problem. However, it could also be that both the tightness of the budget in a township and privatization are caused by a third variable that we have not observed. For example, it could be that in localities with good institutional environments (including, e.g., good protection of property rights), governments are more likely to face a tight budget constraint and firms are more likely to be privatized. In this case, there is an omitted variable bias. In either case, our estimate of the effect of budget hardness is likely to be biased.

In order to correct for those potential biases, we reestimate our model using IVs. The key to this strategy is to find an appropriate instrument to identify the tightness of the government's budget constraint. A good IV should be able to explain the tightness of the government's budget constraint, but should not have any independent explanatory power on the firm's likelihood of privatization except through their effect on the tightness of the budget constraint. Following Li (2003), we use the tightness of budget constraints of neighboring townships in the same county as an IV. We argue that this IV satisfies both conditions. First, since all township bank branches in a county are under the administration of the same county headquarters, which formulates lending policies and designs incentive contracts for the township branches, there must be some common factor to explain the tightness of the government's budget among townships in the same county. Second, the tightness of the government's budget constraint in neighboring townships should have no direct influence on a township's decision on privatization except through the township branches that lend to local township enterprises directly.

IV-multinomial logit estimates are reported in Table 6, along with z-ratios calculated using bootstrapped standard errors with 200 replications. As shown in Table 6, the relative risk ratio for the tightness of the government's budget constraint in the IV regressions is greater than one and significant. Moreover, the relative risk ratio for the tightness of the government's budget constraint as well as for other variables in the IV estimates in Table 6 are not significantly different from the non-IV estimates reported in Table 5, especially for the case of privatization versus TE.¹⁹ Thus, at least for this study, the endogeneity of the budget tightness does not appear to be a serious problem.

5. Conclusion

Government ownership confers a variety of benefits and perks on governments and their leaders. These benefits, however, are not determined in isolation, but rather depend crucially on the interaction between governments, financial institutions, and enterprise managers. Starting from this basic premise, in this article we examine the decision of local governments in China to privatize

19. As expected, the standard errors for the IV estimations are much larger than those of non-IV estimations.

Table 6. Instrumental Variable-Multinomial Logit Regressions Examining the Determinants of Privatization of Firms in Rural China

Independent variables	Dependent variables			
	Model (1)		Model (2)	
	Privatization vs. TE	Shutdown vs. TE	Privatization vs. TE	Shutdown vs. TE
Firm attributes in 1994				
Employment	0.996* (-2.80)	0.995 (-1.52)	0.997* (-2.74)	0.994 (-1.63)
Profit rate	0.035** (-2.18)	0.021 (-1.18)	0.029** (-2.17)	0.025 (-1.08)
The tightness of the leader's budget constraint	6.846* (4.47)	0.159 (-1.20)	15.326 (0.92)	0.014 (-0.88)
Bank attributes in 1994				
Weight on profitability (= 1, 2, 3, 4, and 5, weight increases with value)	1.873* (2.90)	0.253** (-2.33)	1.927 (1.01)	0.155*** (-1.96)
Manager's bonus wage ratio	5.540* (2.86)	0.074 (-1.43)	5.378* (2.76)	0.085 (-1.13)
Manager's bonus wage ratio*hardness			0.984 (-0.02)	1.638 (0.31)
Percentage of nonperforming loans	1.069** (2.46)	1.107** (2.07)	1.110* (2.64)	1.096 (1.59)
Percentage of nonperforming loans*hardness			0.920 (-1.35)	1.079 (0.57)
Bank manager's human capital in 1994				
Education	1.505** (2.45)	1.062 (0.23)	1.527** (2.43)	1.042 (0.15)
Age	1.135* (3.22)	1.160* (1.74)	1.135* (3.20)	1.186*** (1.79)
Origin (1 if from the same township; 0 otherwise)	0.705 (-0.59)	2.037 (1.69)	0.674 (-0.64)	3.059 (1.16)
Leader's human capital in 1994				
Education	0.825 (-1.60)	0.546** (-2.36)	0.825 (-1.57)	0.520** (-2.22)
Age	0.869* (-2.87)	0.842** (-2.19)	0.873* (-2.60)	0.835*** (-1.85)
Origin (1 if from the same township; 0 otherwise)	2.317** (2.03)	0.190 (-1.89)	2.196*** (1.83)	0.167*** (-1.87)
Pseudo-log-likelihood	-237.20		-235.95	
Observations	338		338	

In this table, we report the marginal effect, that is, the relative risk ratio (privatize versus TE; shutdown versus TE) for a one-unit change in the corresponding independent variable. Numbers in parentheses are robust z-statistics. Significance levels of 0.1, 0.05, and 0.01 are noted by ***, **, and *. We treat the hardness of the leader's budget constraint as endogenous and use the hardness of the neighboring townships as an IV.

township-owned firms in light of the changes in these relationships. Our simple theory highlights not only how the government leader may voluntarily choose to privatize their firms when the environments in which they operate these firms change, but also how leaders are forced to privatize by local banks that have good profit incentives or face serious liquidity constraints. Drawing on unique data we collected from Jiangsu and Zhejiang provinces, we find evidence supporting the predictions of our theory.

Our study demonstrates an important linkage between changes in the financial sector and privatization decisions. In part, the fast growth of TVEs in the 1980s and early 1990s was due to the rapid credit expansion of banks operating under poor managerial incentives. One consequence of this expansion was the significant accumulation of nonperforming loans. This same accumulation of nonperforming loans also underlay bank reform. The privatization of TVEs we document for the 1990s is a response to a combination of improved bank incentives and worsening bank liquidity. In this sense, our work nicely illustrates how reform in one sector, in this case the financial sector, can spur reform in others, notably, the enterprise sector.

Given the important role of financial institutions in the privatization process, in future work we plan to examine how these same institutions are influencing the return to privatization. In addition to being a potential source of selection effects in the privatization process, banks can also affect firm performance through their willingness to lend and their monitoring role.

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