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CHINESE TOWNSHIP VILLAGE ENTERPRISES AS
VAGUELY DEFINED COOPERATIVES

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ABSTRACT

This paper concerns the paradoxes and dilemmas that the very successful "Chinese model" presents for transition theory. The "Chinese model" is centered on the development of township-village enterprises. The main purpose of this paper is to make the case that TVE's are not just some form of disguised capitalist institution; they are much better described as "vaguely defined cooperatives" - meaning an essentially communal organization extremely far removed from having a well defined ownership structure. That a transition strategy based on vaguely defined cooperatives should be so successful presents a severe challenge for traditional property rights theory. We speculate that to address this challenge properly, traditional property rights theory should be extended by including a dimension corresponding to the degree of individualism/cooperation existing in a society. A model of the required extension is described. Implications and applications are discussed.

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1. Introduction

Fully one third of the world's population currently seems to be moving away from centrally planned socialism towards some form of a "market economy."

Suppose we refer to the broad process of making a transition from some form of socialism to some form of capitalism as a process of "transformation." It sometimes appears as if there are two different "models" of transformation.

In principle, the more "revolutionary" model is what might be called the "standard model". Basically, the standard model involves making a transition to the "standard capitalist model" as quickly as is feasibly possible, with the essential core of the transition being centered on the aggressive establishment of well defined private property rights. This model is more or less familiar to us because the existence of well-defined private property rights seems an absolutely essential precondition to the proper functioning of a capitalist market economy. Such a basic truth comes at us from theory and from practice. To a western-trained economist, the centrality and immediacy to any transformation process of establishing well-defined private property seems so self evident as to hardly merit discussion. It is little wonder that, leaving aside the sometimes more immediate issues of macroeconomic stabilization, the officially sanctioned position of Western governments and international lending organizations places the highest priority on the aggressive and rapid establishment of well-defined property rights.

While it seems fair to say that the "standard model" serves as a general policy

guide for East European transformation to a West-European-style economy, this does not mean that the policy has been easily implemented. In fact, one of the major problems with East European transformation has concerned the great difficulty of establishing well defined private property rights. In this sense, a fair statement might be that the problem with the East European experience thus far is not that it has followed the "standard model" - as opposed to some other model - but rather that it has not *sufficiently thoroughly* followed the "standard model" because private property rights have not been instituted in a sufficiently consistent, clear, rapid or thoroughgoing fashion.

The second, more "evolutionary" model of transformation is perhaps somewhat less familiar. It might be called the "Chinese model," because China is the prime example.² Essentially, this model calls for a more gradualist strategy of allowing market oriented enterprises to develop from within the interstices of the economy. The state enterprises are not substantially reformed. Rather than being transformed dramatically by privatization in the short run, they are gradually replaced by being outcompeted and outgrown in the long run. While it will be important to present the Chinese model in some more detail, because certain key aspects are not widely understood, for present purposes it suffices to note one essential feature.

The driving force in the Chinese model is the so-called TVE (township-village enterprise). The major point of this paper is to argue that the TVE is essentially what might be called a *vaguely defined cooperative*. We realize that viewing the TVE's as vaguely defined cooperatives is likely to be controversial and develop this argument later in some detail - here only a brief summary is provided. A TVE is basically a communal organization very far removed from having well defined property rights.

There is a deep involvement of the community government in its operation. The legal system related to the TVE is also ill-defined. The typical TVE seems like almost the exact opposite of the type of private organization at the center of the standard model, as the TVE seems to go almost completely against the grain of standard property rights theory.

Yet the Chinese model is in fact enormously successful, much more successful so far than any actual applications of the standard model. So we have on our hands a significant paradox. Why does an economic strategy based primarily on vaguely-defined cooperatives seem to perform so outstandingly well? Does this not represent some contradiction with the major precepts of property rights theory? Can a transforming country actually choose between the two models?

This brings us to the second, and more speculative, part of the paper. It seems to us that the above questions, and some other important issues about transformation, are difficult to address meaningfully from within the standard framework that underlies the standard model. In the second part of this paper we attempt to sketch the outlines of a possible expanded framework for addressing these issues.

It seems fair to say that the standard property right theory aspires to be a universal or culture free theory. The theory assumes (explicitly or implicitly) that all people are indiscriminately non-cooperative regardless of their cultural background. Under this assumption, a major role of ownership is to resolve conflicts or to enforce cooperation in an economic organization. However, if there are cultural variations in cooperative behavior among people of different societies, then the significance of ownership in solving conflicts in economic organizations may vary among these different societies. By using a fundamental concept of repeated game theory, it is

possible to integrate formally the seemingly "cultural" element of a cooperative spirit with standard property rights theory to arrive at a somewhat more general version of property rights theory. In this paper we propose, at the level of verbal theorizing, a more general approach. This general approach may reconcile the originally posed paradox, and may have implications for understanding other interesting and puzzling phenomena (e.g. certain aspects of the Japanese economy).

The paper, then, divides into two parts. The first part, which constitutes the basic message of the paper, argues that TVE's are best viewed as "vaguely defined cooperatives" with weak or poorly developed property rights. If this is true, then the outstanding performance of the TVE's would appear to represent a paradox or challenge for traditional property rights theory. In principle there might be several ways to answer this challenge. We propose in the second part of the paper one particular way of dealing with the issue, based on a notion of "cooperative culture." While this approach seems useful to us, we would not claim that it represents the only way of resolving the paradox. In any event, the second part of the paper is necessarily more speculative than the first and should be treated as such.

The rest of the paper is organized as follows. To facilitate the later discussions, section 2 gives a brief survey of standard property rights theory. Then, the standard model of transition is briefly discussed in section 3 and contrasted with the "Chinese model." (We emphasize the standard model as a more or less consistent application of standard property rights theory.) Section 4, constituting the core of the paper, describes with some evidence the TVE as a "vaguely defined cooperative" and shows the basic contradictions with standard property rights theory. In section 5, which begins the more speculative part of the paper, we describe the fundamental "folk

theorem" concept of repeated game theory and show how it may be applied to provide a theoretical foundation for reconciling orthodox property rights theory with a cooperative cultural element. Some tentative evidence on cooperative behavior in TVEs is provided. Within this framework of a generalized property rights theory, the central paradox of the paper is seemingly reconciled, although, as we emphasize, this is not the only possible reconciliation. Some further implications of the generalized property rights approach are discussed in section 6.

2. The Standard Property Rights Theory

Our basic thesis is that the Chinese township-village enterprises are best described as "vaguely defined cooperatives" that perform extremely well in practice despite seeming not to be based on well defined private property in the standard or conventional sense. To develop further our thesis, we need to state the essence of the standard or conventional property rights theory.

There is no single universally accepted statement of so-called property rights theory. Most presentations of the theory are essentially verbal expositions representing a combination of philosophical thinking, empirical generalizations, and reasoned theoretical assertions.³ There are a few rigorously constructed theoretical models; these theories are developed under more or less the same culture free assumptions as the verbal formulations.⁴ Despite the lack of a single canonical form which can readily be cited, it seems fair to say that there is a consistent spirit to the basic thesis of the property rights school. The essence of that "spirit" may be summarized as follows.

In property rights theory, the existence of well-defined private property rights

is viewed as a basic precondition to the proper functioning of a capitalist market economy.⁵ "Well defined property rights" typically includes the following three basic elements:

- (1) To every property is assigned a well defined owner(s) with exclusive rights of ownership.
- (2) To the owner of the property goes the residual income accruing to the assets.
- (3) The owner has the right to control or determine use of the existing assets, to restructure the property, and to sell or lease it.⁶

Concerning the application of the property rights approach to the theory of the firm, the theory identifies the owner of the firm with the ultimate director of its important decisions. The theory implies, and this is a fourth point, that

- (4) Without well defined private ownership the firm will tend to operate badly, and any system without widespread well defined property rights will tend to perform badly.⁷

There may be many reasons for this fourth point. One reason frequently cited in the comparative systems and the transition economics literature is that without true private ownership there tend to arise problems associated with the "soft budget" syndrome⁸; since there are no clearly identified owners to pay for mistakes or bad luck, someone else pays, typically the state. When true property owners or residual claimants exist, it is ultimately they who are uniquely positioned, by having the rights and the incentives, to: observe or to monitor input behavior, to negotiate and to enforce contracts on behalf of the firm, to hire and lay off (or fire) workers, to sell off

or buy property, and to take other decisions to increase the profitability of the firm because it is they who ultimately must pay for mistakes or bad luck. When private owners cannot readily obtain compensation for losses from the state, then all of the rights enjoyed by the owner play a critical role in blocking the infinite regress of inefficiency and shirking that typically characterizes the soft budget syndrome of a system without true ownership of private property.

While this is an extremely succinct version of the property rights approach, which glosses over some fine points, we believe the above four features fairly summarize the essence of the theory.

3. The "Standard Model" and the "Chinese Model"

In describing the "standard model" of transition, we will concentrate on principles or fundamental strategies rather than the actuality of implementation. Our discussion will be very brief because the basic features are familiar.⁹ Remember that we are operating at a high level of abstraction, glossing over many possible differences among many different countries.

A common strand of the standard model is the central role of private property within an appropriate monetary and fiscal structure. Transition strategy is centered on developing the basic institutions of capitalism. These include well-defined ownership rights in the conventional sense, with a corresponding legal system, commercial code, contract and bankruptcy laws, and so forth.

A reward system that makes the owner the true residual claimant is viewed as critical to prevent shirking throughout the system. The "wedge" of true private property blocks the infinite regress of inefficiency and shirking that characterized the

old socialist regime, because the true property owners have the power, and incentives, to harden budget constraints, stop losses, and encourage profitability at the point where the owners are wedged into the hierarchy.

The standard model focuses sharply on privatizing formerly socialist enterprises. There are, as we know, various strategies of privatization,¹⁰ but the underlying goal is always to introduce well defined private property rights in a context of market competition. Any compromising with tainted institutions like producer cooperatives, worker management, state-private partnerships, semi-private or semi-cooperative firms, and so forth is viewed with hostility. The weak property rights and loose reward structures associated with such ill-defined institutions are deemed likely to result in the same poor performance (for many of the same reasons) from which the formerly socialist economies are trying to escape.

As a guide to policy, the standard model follows well the precepts of contemporary economic theory, most especially the tenets of the property rights school. Of course, it is one thing to have a guide to policy and quite another thing to enact the policy. It seems fair to say that there have been varying degrees of success in establishing property rights in Eastern Europe, but nowhere has it been easy or routine. In other words, the existence of what we are calling the "standard model" does not mean that the model has been quickly or easily implemented. In fact, the opposite has more nearly been the case for Eastern Europe.

The "Chinese model", as opposed to the "standard model", was not consciously designed as a transformation strategy at the beginning of the reforms, but evolved as the reforms progressed. The essence of the "model" is that new non-state enterprises, of which the TVE is the overwhelmingly predominant form, will

outcompete and outgrow the state enterprises and thereby replace them gradually over time.

The TVE (township-village enterprise) thus plays a pivotal role in the Chinese model, and it is to this organization that we now turn in the next, central, section of the paper. We are aware that the phenomena under examination are extremely complex and multifaceted, but in this paper we have attempted to step back and paint a broad brush picture that is true in spirit, even while exceptions can be argued for some details. While the actual situation may be very complicated when viewed close up, it is possible to summarize fairly the basic features of the TVE at a high level of generalization. We will put some important qualifications into endnotes.

4. The TVE as a Vaguely Defined Cooperative.

What is a TVE?

According to the official definition, TVEs (township-village enterprises) are collectively-owned enterprises located in townships or villages.¹¹ More specifically, all the people in the township or village which "sets up" the TVE own the firm collectively. The property rights of TVEs can only be executed collectively through the representatives of the community. In practice, the most common case is that a community government is regarded as the "representative" of the people in the community, and thus it is the *de facto* executive owner of the TVEs in the community.

Concerning the management of TVEs, it is typical that the control rights of TVEs are partly delegated to managers through a contract (officially it is called the management responsibility contract). In a typical case, employees of a TVE collectively sign a contract with the executive "owner" - the community government.¹²

Then the manager of the TVE is determined jointly by the community government and the employees. Thus, the manager is a representative of the employees and of the government. The degree of the community government's role in the appointment of TVE managers varies from case to case, but it is rarely negligible.¹³

TVE Performance

TVE performance has been spectacular. Between 1981 and 1990, total industrial output of TVEs grew at an average annual rate of 28.1%, while the rates for the state sector and for aggregate national industrial output were 7.7% and 12.6% respectively (China's average annual GNP growth rate was 8.7% in the reform period of 1979 to 1991). With the rapid growth of TVEs, the status of the TVE sector has changed from a subsidiary sub-sector of agriculture to the second largest sector in the national economy. As a result, the non-state sector's share of industrial output increased from 22% in 1978 to 47% in 1991, while the share of the state sector declined from 78% to 53% in the same period. In the non-state sector, about 4/5 of the output was produced by TVE and similar cooperatives. This pattern of change can alternatively be presented in real outputs. For example, in 1990, about 1/3 of coal, more than 1/4 of cement, about a half of electric fans, about 2/5 of canned food and paper, and about 4/5 of completed construction projects in China were produced by the TVE sector. Exports by TVEs increased at an average annual rate of 66% from 1986 to 1990.¹⁴ Furthermore, TVEs are significantly more efficient than state enterprises. The growth rate of total factor productivity of TVEs is about ten times that of state enterprises.¹⁵

The fast growth and high efficiency of the TVE sector has exerted deep

influences on the state sector in two major aspects. First, the competition has forced state enterprises to work very hard to avoid making losses. Second, instead of being replaced dramatically by massive privatization (as in most East European strategies, if not in practice), the relative role of state enterprises has been gradually reduced as they are outcompeted and outgrown by the TVEs. According to an official prediction by the Chinese State Statistical Bureau, in the year 2,000 one half of industrial output will be produced by collectively-owned enterprises, in which the TVE sector is the dominant part; the state sector and private sector will each produce one quarter (*China Daily*, July 15, 1992).

The TVE as a Vaguely Defined Cooperative

To rationalize the success of the TVEs, many Western economists have regarded them as actually being private firms under the protective label of a collective enterprise. But this is not true in general, even though some counter examples can always be found.

There is another argument: because of political reasons TVEs are restricted from becoming true capitalist firms based on well defined private property rights. Although this argument may provide a plausible explanation for the existence of the TVE form, it cannot explain the spectacular success of their organizational form. Actually, the fact that TVEs are so successful would appear to contradict the main tenets of property rights theory.¹⁶

If TVEs must be forced into a traditional classification, then they are more like producer cooperatives than anything else.¹⁷ But we prefer to use the term "vaguely defined cooperatives", because TVEs seems to be especially ill-defined even by the standards of traditional producer cooperatives.

The following features of the TVE as a vaguely defined cooperative seem especially contradictory with the traditional four basic tenets of property rights theory previously noted:

(1) For the typical TVE there is no owner(s) in the spirit of traditional property rights theory. Many Chinese economists and policy makers have noted this and related phenomena. A typical comment is that "The property rights of TVEs are very unclear... who are the owners of a TVE - workers of the TVE, manager(s), or all the residents of the community?" (Du, 1992.) The answer is not clear - each party is and is not an owner because a typical TVE is a collectively-owned enterprise. The major difference between a collectively-owned enterprise and a producer cooperative is that private property rights are recognized in a typical cooperative but are not recognized in a typical collectively-owned enterprise (Chen, 1992); one of the major features of TVEs is the ambiguity of their property rights because TVEs are owned indistinctly by communities (Deng, 1992).

Nominally, TVEs are collectively-owned enterprises - that is, all the community members are nominal owners. In a typical case, these "collective owners" do not have clearly defined shares as that term is normally understood. Indeed, there are no shares, formally speaking. Consistent with this fact, there are no such words as "share holders" or even "owners" being used to describe community members. They are regarded as "participants," although, actually, there is no commonly used Chinese word for such a person. Furthermore, in a typical case, participation in a TVE is not a decision made by the "participants" voluntarily and independently. Instead, their participation is determined by their residency and mandated by the community government, through such actions as assigning households to donate money to a TVE

(*lingdao tanpai*) or mandating personal investment as a precondition of his/her being hired by the TVE (*yizi dailao*)¹⁸ (Deng, 1992).

The community government is the *de facto* executive owner of the TVEs. Many Chinese economists report that TVEs are usually controlled by local governments and typically there is no separation between the communal government and the TVEs. These reports describe a situation where many TVEs do not have genuine autonomy in business transactions; the communal government has major influence in the determination of managerial personnel and employment.¹⁹ A field research report reads: "it is very common to see that the basic rights (of TVEs) are in the hands of the Party and (communal) government apparatus, i.e. TVEs are not genuine cooperative enterprises. A significant portion of the net profit (of TVEs) is used for the administrative budget of TVE governments."²⁰

In summary, none of the nominal owners or the executive owner have the exclusive rights of ownership associated with traditional property rights theory. Moreover, there are legal restrictions to prevent a TVE from converting to a *de facto* privately-owned firm. For example, in the case where a TVE is contracted out to a manager or an individual, the law requires that "all the assets (including the incremental part contributed by the contractor) are still owned by all the labor mass collectively."²¹ That is, the individual contractor is formally prevented from owning the TVE.

(2) There is no residual claimant in the traditional sense. The typical community member waits passively to receive or to enjoy the benefits, of which the major part is not in monetary form but in the form of communal social investment, which is shared by every one in the community. The amount of the benefit and the form of

the benefit which the collective "owners" can get are determined by the community government and the manager of the firm.

The "owners" of a TVE, either the nominal owners or the executive owner, do not have the full right to consume or to dispose of the after tax income which they have earned from the TVE. In fact, about sixty percent or more of the after-tax profits of TVEs cannot legally be distributed directly to the "owners," but must be reserved for the TVEs. Most of this reserve fund is reinvested, with the remainder used as a collective welfare fund and a bonus fund within the firm.²² Even for the income distributed to the "owners," which accounts for less than forty percent of the after-tax profits, the owners still do not have the full rights of disposing with it as they please, since it is intended for social purposes.²³

Although most workers of a typical TVE are among the nominal owners of the TVE, their wages are out of their control, even collectively. For example, field researches found that some community governments (e.g. in Shangrao county) force TVEs to copy or to adopt the wage system of the state firms in that county (Meng, 1990); in some other areas (e.g. in Wu Xi county), the total wage bills of TVEs have to be approved by community government (Wu, Wang and Xu, 1990). Consistent with these field research results, an econometric study finds that the wages of TVEs are lower than their marginal labor productivities, lower than wages of state enterprises, and are *not* correlated with the profitability of the TVEs.²⁴

(3) In a typical case, the TVE assets are non-sellable, non-transferable, and non-hereditary both for the nominal "owners" and for the executive "owner". An inside individual will automatically lose his or her nominal "ownership" if he or she leaves the community and an outside individual will automatically gain "ownership" by

marriage to a community member.²⁵ Furthermore, the "owners" of TVEs do not have the right to determine the use of the existing assets. Nominal owners do not have any individual control rights, although they may have some influence on the operation of the TVE collectively.²⁶

As for the executive owner of a TVE, a community government, not being the legal owner, does not have the residual right of control over a TVE either. For example, in a typical case the government is restrained from firing the workers who are residents of the community where the TVE is located. The net income of TVEs must be spent for communal social welfare. Moreover, there are several other formal legal requirements and restrictions on the roles of the TVE "owner".²⁷ Not only is the community government's role different from a private owner of the assets, but also its right of control over a TVE is more restrictive than the state government's role *vis-a-vis* state firms in the sense that community governments have to take into account community members' preferences in their decision making. Field research has found that decisions on the establishment of new TVEs were often discussed and made collectively at village meetings (Byrd, 1990).

(4) Even without well defined ownership, the TVEs still operate efficiently. (We have previously documented the outstanding TVE performance.) This anomaly has also been noticed by other economists. "Entrepreneurial performance in the TVP sector has been especially remarkable in an environment in which ownership and property rights with respect to industrial assets are not clear and pure private ownership is rare in the smallest concerns." (Byrd, 1990, p.189).

According to property rights theory, the TVE's should be operating less efficiently than true private firms. Yet, the facts seem otherwise. An econometric study based on panel data of more than 400 TVEs and private firms in 4 counties over 16 years shows that "in particular, private ownership and community ownership appear to have similar effects on productivity" (Svejnar, 1990, p.253). In the regression, ownership dummy variables are used to investigate vaguely defined cooperatives (such as village enterprises) and clearly defined private firms (such as joint household, family and individual firms, or joint venture firms). The result of the regression shows that the difference between the coefficients of the different ownership dummy variables are statistically insignificant. This suggests that productivity and efficiency are not related to ownership, or at least that ownership doesn't matter in the sample investigated.

A more recent econometric study obtains a very similar result. By investigating 200 TVEs and private rural firms distributed in 10 provinces, with annual observations from 1984 to 1989, Pitt and Putterman (1992) find that there is no significant relationship between ownership and efficiency.

Consistent with outstanding performance, TVEs are subject to hard budget constraints. As evidence of the hard budget constraint on the TVEs, in 1989 about one sixth (three million) of township-village enterprises went bankrupt, or were taken over by other TVEs,²⁸ while almost all loss-making state-owned enterprises were bailed out by the state. As a result of hard budget constraints, in 1990 the loss-making township and village enterprises accounted for 7.5% of all TVEs, with this figure dropping to 4.6% in 1991. In contrast, more than a half of state enterprises were loss-making.²⁹

The Basic Paradox

According to almost any version of standard mainstream property rights theory, what we are calling the "Chinese model" should represent a far-out recipe for economic disaster. Without a true owner who has the clear rights and incentives to operate the firm for maximum profits, there ought to be inefficiency and shirking in TVEs. As a result, the TVEs should operate badly. A transformation strategy centered on "vaguely-defined cooperatives", even with a hard budget constraint, would seem like the farthest thing imaginable from conventional wisdom in this area.

The central paradox is the enormous success of the Chinese model in practice, contrasted with the predictions of the standard theory and also with the sputtering, tentative, comparatively less successful experience with the standard model. Why do theory and practice seem so diametrically opposed in this important area? Of course, one could attempt to argue that the "standard model" was never "really tried." But this explanation begs many further questions and still leaves a big gap between theory and practice in explaining the success of the Chinese model.

5. Cooperative Culture: A Possible Reconciliation of the Paradox

Why do China's vaguely defined cooperative TVEs perform so outstanding well? Why in East Europe does it seem (or at least people believe) that without a well-defined private ownership structure the non-state sector will not develop adequately? How can these contradictory observations be reconciled with property rights theory?

In keeping with the necessarily compressed nature of this paper, there is not

space here to explore fully all the possible explanations. Several factors may be playing a role. We would like to emphasize in this paper one line of thought that seems to us particularly appropriate, even if it should be regarded as somewhat speculative at this stage because other explanations are logically possible. The conventional property rights theory may be inadequate here because it is missing a critical dimension.

The key missing element is the ability of a group to solve potential conflicts internally, without explicit rules, laws, rights, procedures and so forth. To make this idea more operational, and more internally consistent, we consider a theoretical framework.³⁰ It is possible to criticize this theoretical framework as, in the end, doing little more than elaborating the syllogism that "China's vaguely defined cooperative enterprises perform outstandingly well because China's culture is unique and different." Yet we feel it is useful to go more deeply into the structure of a general argument that might reconcile the paradox, both for its own sake and because this line of reasoning could bear on many issues in economics other than just the one being addressed here.

A word about methodology may be in order. In this second part of the paper we are largely trying to synthesize and apply already known results to an important issue not adequately treated so far in the literature. Thus, the treatment here is largely at the level of "verbal theorizing." (We believe that a rigorous formulation will ultimately be possible, but difficult.) Also, in trying to state our case succinctly, some simplifications and generalizations are inevitable.

The Folk Theorem of Repeated Games and Cooperative Culture

Let us consider the prisoner's dilemma non-cooperative game.³¹ The only

solution to the one-shot prisoner's dilemma game is the selfish Nash equilibrium, which is Pareto inferior to the cooperative solution. However, when the prisoner's dilemma game is played repeatedly, a much richer set of results is possible. Actually, a continuum of solutions is possible, which can often be Pareto ranked, corresponding to a greater or lesser degree of 'as if' cooperation. Thus, there is a sense in which a non-cooperative repeated game can yield the kinds of outcomes typically associated with cooperation, collusion, or binding agreements. This family of results is so important, and it has been known for so long, that it has been given a name: the so-called "Folk Theorem" of game theory.

The Folk Theorem states that the outcome of a repeated non-cooperative game played among sufficiently patient players may look as if it is the outcome of some cooperative process, or some legalistic binding agreement to play cooperatively. Or, it may not. It all depends. Depends upon what? In a word it depends upon an intangible expectational factor that might legitimately be identified with the history or culture of the group of players.³²

If each member of the group expects that every other member of the group will play cooperatively and that there will be a relatively severe penalty for not playing cooperatively, then the cooperative solution may become a self-reinforcing equilibrium. On the other hand, if members of the group expect that other members will not play cooperatively and the penalties for such behavior are relatively light, then a non-cooperative solution will emerge as a self-sustaining equilibrium. In general, there will be a continuum of infinitely many such solutions, ranging from more 'as if' cooperative to less 'as if' cooperative. It seems fair to identify a "cooperative spirit" or "cooperative culture" with a set of self-reinforcing expectations

that result in a more 'as if' cooperative solution.

Let the outcome to a repeated non-cooperative prisoner's dilemma game be quantified by the parameter λ , which is valued between zero and one. A high value of λ near one means a non-cooperative solution that comes close to satisfying the Folk Theorem and looks as if it were the outcome of cooperative collusion. A low value of λ near zero means a non-cooperative solution that is far from the cooperative solution, thus yielding low individual payoffs.

The parameter λ stands for the ability of a group of people to resolve prisoner's dilemma type free riding problems internally, without the imposition of explicit legalistic rules of behavior, other things, including the size of the group, being equal.³³ With a value one of λ , people in a group would be able to resolve free riding problems internally in repeated games regardless of the size of the group. With a value zero of λ , even two people - the smallest group of people - cannot resolve free riding problems. With a value between zero and one of λ , people would be able to cooperate relatively effectively when their group is sufficiently small, but they may not be able to cooperate so effectively when their group is sufficiently large. The relevant theory appears to justify taking λ as a more or less given function of "culture." As we have readily admitted, it could be argued that our approach essentially shifts the paradox back one stage to explaining the determinants of λ - on balance, however, we think there is a useful net gain in understanding. A more serious inquiry would want to probe further, but suppose for the sake of argument we temporarily treat λ as a quasi-fixed reduced form parameter. Of course it does not constitute proof, but a lot of anecdotal evidence could be cited to justify the general proposition that East Asia is a high- λ society relative to Europe, which by

comparison is more of a low- λ society.³⁴ The entire topic of defining operationally a λ -value is worthy of further study. For the purposes of this paper, we merely wish to examine the likely relationship of various values of λ , taken as given, with property rights theory.

Ownership

It seems fair to say that the property rights literature is often presented as if it were culture-free, of universal applicability. Ownership gives a residual right to control an asset in the case of a missing contractual provision, thereby resolving potential conflicts and preventing shirking.³⁵ More generally, it is important to have well-defined property rights and clear reward systems of the right sort because otherwise there is an incentive for opportunistic and shirking behavior that can seriously undermine economic performance.

But if the way of looking at things presented in the previous section has any validity, the significance of ownership interacts in a critical way with the ability to solve efficiently internal organizational problems without formal rules, which may perhaps be treated as more or less culturally given in many relevant cases. The orthodox version of property rights theory is not universal -- it is really applicable to a low- λ culture. With low values of λ , it becomes critically important to specify in legalistic detail the rules of ownership, rewards, and so forth, because without legally binding rules the low- λ organization will not achieve efficient results. On the other hand, formal property rights and binding legal rules become less important for a high- λ society relative to other issues like competition among organizations.

To be more specific, let us look at the so-called lock-in relationship. It is common in business that there are lock-in relationships or lock-in effects between

parties. The lock-in effect refers to situations where a small number of parties make investments that are relationship-specific, i.e. once made, they have a much higher value inside the relationship than outside. For example, if some of the workers' human capital invested today is firm-specific in the sense that their human capital payoff in the future depends on some particular features of their firm, then there is a lock-in effect between the firm and its workers.

When there are lock-in effects, with a low value of λ (i.e., people cannot trust each other) a long-term contract may be necessary to reduce opportunistic behavior or to induce people to formally "cooperate" or to establish legally the efficient lock-in relationship. However, if it is difficult or impossible to have a complete long-term contract between the parties, say because certain outcomes are unobservable or the contract would be prohibitively costly to enforce, then overall ownership may be the necessary condition to maintain efficiency, since the owner of the physical assets, with the residual right or power of employing workers, can direct employees to utilize these assets in accordance with his directions.³⁶

Making a group of people follow the instructions of other people is critical to success in any large scale economic organization. In this sense, according to the property rights school, a well-defined ownership structure can be regarded as the necessary and unique instrument to make some people (the employees) follow the instructions of other people (the owners), or to avoid potential conflicts among a group of people in their pursuit of economic activities.³⁷ In the conventional property rights theory, a low value of λ or non-cooperative behavior is a fundamental assumption about the players of the game. It is so fundamental that economists simply don't mention it as an assumption.

Personally, we think it is plausible that in a society with a low value of λ the conventional property rights theory is basically correct. However, we would like to point out that if there is a situation where a society can be described by a high λ -value, or people trust each other, then without formal ownership people may still be able to invest in the relationship or to lock together. In this case, it may not be necessary to have a well defined owner with a clear-cut right to exclude some people from accessing the asset. With a high λ , or a stronger capability or desirability of cooperating, the threat of firing may not be necessary or may not be the best incentive for inducing good behavior. Put another way, well defined property rights may not be so crucial in a high- λ society. In any event, the existence of varying degrees of cooperating capabilities among people in disparate societies makes the importance of well-defined property rights itself vary across societies.

Here we argue that in a high λ -society, an implicit contract may be more efficient than an explicit contract. There may be many reasons for high- λ society people to prefer implicit to explicit contracts.³⁸ First of all, there may be some saving of time and energy in negotiating, formulating and enforcing the contract. There may also be an "incentive effect" of the implicit contract. If people are cooperative or can "trust" each other, employees may behave responsibly "as if" they are residual claimants or owners in the sense that they are willing to deal effectively with contingencies that may not be written or may not be able to be written in a formal contract. By contrast, in the case of an explicit contract, employees may do only those things specified in their employment contract. Thus, an implicit contract here may generate better incentives than an explicit contract.

In general, the costs of an explicit contract, which include the costs of negotiation, observing or verifying outcomes, and enforcing the contract, are continuous (not zero nor infinite either). The value of λ across different societies is also continuous in principle, that is, people from different societies differ in their capability or desire to be cooperative. Thus, the costs and benefits of forming explicit contracts and implicit contracts will be different in different societies. There will be trade-offs between explicit contracts and implicit contracts. There may exist a range of situations where people who are more cooperative may prefer to have a "gentleman's agreement" - an implicit contract which is self-enforced by custom, good faith, and reputation etc, while low- λ people may need to have an explicit contract to prevent opportunistic behavior.

Concerning actual TVE contracts, law officials and policy makers report that such transactions are often based on oral agreements instead of written contracts. Even in the case of written contracts, it is often the case that the contracts are incomplete and unspecific in items, or there is no specific punishment for breaching the contract. It has been noted that part of the reason for the popularity of this kind of practice is the importance of long term relationships and connections for TVE transactions. (Liu, 1989.) "They regard friendship as the most secure way of doing business. They usually try to develop friendship first before doing business." (Cai, 1990, p.201.) Given the importance of long term relationships and connections, when there are disputes many TVEs would rather settle privately instead of relying on the courts, because they care more about keeping long-term connections, even though doing so may hurt their business in the short run.

6. Some Implications of a Generalized Property Rights Theory

If the above story is believable, we have more or less answered the central paradox within the paradigm we have provided. Against the strong predictions of property rights theory, the "Chinese model" may succeed better in practice than the "standard model" because traditional property rights theory omits a critical variable and tends to treat only the low- λ case.

In a high- λ society, the evolutionary Chinese model might be a better transition strategy because it may be less disruptive overall and it concentrates more directly on the main task of building market-oriented organizations. That these market-oriented organizations are ill-defined cooperatives may not be critically important. In a high- λ society the ownership structure can perhaps be sorted out later, if it even needs to be then. Perhaps China is headed more towards a high- λ Japanese-style capitalism than towards a low- λ European-style capitalism in any event.

As for the idea that a transforming country has the option of choosing between the Chinese and standard model, the framework of this paper seems to be suggesting that in fact such choice may be largely illusory. If the ideas being put forth here are sound, the value of λ is essentially the product of a path-dependent historical heritage. The costs of changing culture are presumably very high, if culture is changeable at all. So it simply may not be a realistic option for Eastern Europe to be thinking in terms of the Chinese model. It may be that Eastern Europe really has not got much choice but to take the difficult route of developing and strengthening traditional private property rights appropriate to a low- λ society. By the same token, it is might not be fruitful for China or Vietnam or North Korea to be thinking in

terms of the standard model. In a high- λ society, the time and effort needed to formalize property rights, contracts, and so forth is perhaps better spent on developing new products or on penetrating new markets or on increasing productivity or on other more directly productive activities.

The world is a complicated place and there may be many other contributing factors that explain the "Chinese miracle." To the extent that these other factors are significant, the Chinese experience may have greater or lesser relevance to the Eastern European debates about the role of privatization and the speed of transformation. At the very minimum, the Chinese experience offers a strong counter-example to the sweeping claim, sometimes made in support of "big bang" approaches, that gradual reform must fail.

The main purpose of this paper is to draw attention to the seemingly contradictory nature of the Chinese and standard approaches to transition. We have tried to argue strongly that TVE's are best viewed as "vaguely defined cooperatives." Why, given the usual emphasis by economists on the prime importance of well defined private property rights for incentives and for a successful transition from socialism to capitalism, should the Chinese township-village enterprises, which seem to operate under poorly defined property rights, have been so successful? Posing this question sharply is our first task.

The second task of the paper tries to focus on a readily apparent explanation in terms of the ability to cooperate, or λ -value, of a society. This part is bound to be more controversial. Even if our explanation is largely true, there is still some scope in how it might be applied. And there is no reason why all the countries of Eastern Europe should have the same λ -value. For example, it might be argued that Russia

is more of an intermediate- λ society than most of the others. If so, there might be somewhat different policy implications about privatization for Russia than for the rest.

If the approach of this paper rings true, there is a lot of research remaining to be done. As it has been practiced thus far, the standard property rights theory seems to be covering only the low- λ case. How property rights theory interacts with the λ -value of an organization in the more general case may prove to be an insightful way of viewing a number of issues.³⁹

Endnotes

1. Economics Department, Harvard University; and Economics Department and Centre for Economic Performance, London School of Economics, respectively. The Centre for Economic Performance is financed by the Economic and Social Research Centre.
2. Some people may argue that without a political revolution, China has only reforms and is not really making a true transition. But what we care about here is the essence of the change process, not its label.
3. For example, Alchian and Demsetz, 1972, Demsetz, 1967, Furubotn and Pejovich, 1974, Williamson, 1985.
4. e.g. Grossman and Hart, 1986, Hart and Moore, 1990.
5. Alchian, the founding father of the new property rights approach, admitted that the argument that private property rights are the precondition of a well-functioning market economy is a belief or a proposition which is "not yet derivable from economic theory nor fully validated by sufficient evidence." (1974). In this section, we are summarizing property rights theory as a broad generalization or abstraction rather than an ironclad rule about how capitalist economies actually operate. In reality, there are some examples of public enterprises that outperform stagnant or failed private enterprises in the same industry. Also, there are some examples of regulation and even coercive government policies in capitalist economies that seems very successful.
6. Demsetz, 1967 and Furubotn and Pejovich, 1974.
7. Alchian and Demsetz, 1972.
8. Kornai, 1992.
9. By this time there is a sizable literature on "transition economics." See, for example, the Fall 1991 symposium in *Journal of Economic Perspectives*.
10. Some of these are described in Stark (1992).
11. Many TVEs are located in urban areas. They are called TVEs simply because they are supervised by rural township or village governments and the majority of their employees are registered as rural laborers.

12. There are other forms of contracts in practice: the partnership contract, manager contract, and individual contract. In the partnership contract case, the executive owner (the community government) invites bids for the TVE. Individuals form partnership bidders. The winning partner signs a contract based on its bid with the community government. Then the manager is determined by the winning partner. In the manager contract or individual case, the manager or an individual signs a contract with the community government.
13. According to a sample survey conducted in 1986, 83.3 percent of township enterprise directors thought that they were appointed by the township government (Song, 1990).
14. The above numbers are taken from *Statistical Yearbook of China, 1986, 1987, 1988, 1989, 1990, 1991*.
15. From 1982 to 1987, the average annual growth rate of total factor productivity of the TVEs was 12.5 % at the national level (Xu, 1991). In contrast, from 1978 to 1985, the average annual growth rate of total factor productivity of the state-owned enterprises was 1.3 % at the national level (Chen et al., 1988).
16. In a property rights "experiment" designed and implemented by the Regional Experiment Office of the State Council, TVEs in suburb Wenzhou were given the opportunities to clarify their ownership status. Somewhat surprisingly, it turned out that most TVE's did not wish to register as formal private firms under the legal protection of private property provided by the State Council. Instead, most TVEs insisted on registering as cooperatives or as township village enterprises (personal communication with Mai Lu, the former director of the Regional Experiment Office).
17. In their comparative studies of TVEs and other institutions throughout the world, Gelb and Svejnar also believe that the institutions most similar to the Chinese TVE are producer cooperatives, including cooperatives in Eastern Europe, Mondragon enterprises in Spain, and the labor managed firms in the former Yugoslavia (Gelb and Svejnar, 1990).
18. But even in this case, very often there is no share specified for the workers' investments in the TVE.
19. "National Academic Conference on TVE, 1984" in *China Agriculture Yearbook, 1984*.
20. Rural Policy Research Division of the Central Committee Secretariat, "A Summary of Nationwide Rural Socio-economic Sampling Survey," in *China Agricultural Yearbook, 1986*.
21. Article 4, Chapter 1, "The Stipulation of Contract Management Responsibility System in the TVE (*xiangzhen qiye chengbao jingying zeren zhi guiding*)."

22. According to the law, "more than or equal to 60% of the after-tax profit of an enterprise should be reserved for the enterprises' autonomous distribution. The reserved after-tax profit for the enterprise should be mainly used as investment funds for technological transformation and extending reproduction, and also as welfare funds and bonus funds in a proper way." (Article 32, Chapter 5, in *The PRC (People's Republic of China) Regulations of Rural Collectively-Owned Enterprises (RRCOE)* (*zhonghua renmin gonghehuo xiangcun jiti suoyou zhi qiye tiaoli*), Beijing: People's Press. 1990.)).
23. "The share of the after-tax profit which is distributed to the owner should be used mainly for the construction of agricultural infrastructures, providing agriculture technology services, rural public welfare, and the renewal of enterprises or setting up of new enterprises." (Article 32, Chapter 5, in *The PRC (People's Republic of China) Regulations of Rural Collectively-Owned Enterprises (RRCOE)* (*zhonghua renmin gonghehuo xiangcun jiti suoyou zhi qiye tiaoli*), Beijing: People's Press. 1990.)).
24. Xu, 1991.
25. There are TVEs which are initiated and managed by individual entrepreneurs, and thus are not typical collectively-owned enterprises. But still the right of these TVEs to appropriate assets is very vague. The entrepreneurs borrow the land (or other input factors) from the community government. As a condition of borrowing the land from the government the enterprises have to be classified as collectively-owned enterprises (even though the value of the TVE assets far exceeds the value the entrepreneurs borrowed from the government). Many do not know who is the real owner of the assets. Neither the community government nor the entrepreneur is the residual claimant of such firms. In recent years, joint stock companies that issue shares have appeared. But they are still a small fraction of TVEs. Even in the case of a joint stock company, very often the stock held by an individual is non-sellable, non-transferable and non-heritable. Moreover, many of the "joint stock companies" are very close in form to producer cooperatives or labor-managed firms.
26. In contrast, with the separation of ownership and management, in the case of a typical capitalist firm, equity owners at least have the right to withdraw their shares from the firm which they have invested, if they are unhappy about the performance of the firm. That is they have the right to control their own investment.
27. For example, the law requires that "the owner should provide services for the production, supply and marketing of the enterprise, and should respect the autonomy of the enterprise"(emphasis added). (Article 19, Chapter 3).
28. *Zhongguo qiye guanli nianjian (China Enterprise Management Yearbook), 1990*, Beijing: Enterprise Management Press, 1990. p.342.

29. According to Mr. Gao Shangquan, Deputy Director of the State System Reform Committee of the State Council of China, in the early 1990's, there had been only 1/3 of state enterprises making profits, 1/3 making losses, and another 1/3 making *de facto* losses (The Keynote Speech at the Chinese Economic Association (UK) 1992 Annual Conference, London).
30. David Kreps has formally developed a notion of "corporate culture", some elements of which are similar to the ideas being explicated here. See Kreps (1990).
31. We assume basic familiarity with the prisoners' dilemma game. See, e.g., Fudenberg and Tirole (1992) and the cited there.
32. The Folk theorem for infinitely repeated games can be summarized in the following terms (Fudenberg and Tirole, 1991, pp.150-160): If the players discount the future at a sufficiently low rate, then individually rational payoffs can be supported by an equilibrium. Thus, in the limit of extreme patience, repeated play allows virtually any payoff to be an equilibrium outcome. Because multiple equilibria are generic in the repeated game, economists typically focus on cooperative results or efficient outcomes. But there is no generally accepted theoretical justification for assuming efficiency in this setting.
33. In TVEs, there is a popular spirit called "*gemen*" (buddy-ship commitment and loyalty) which plays an important role in substituting for formal rules, contracts or ownership. Some Chinese economists or businessmen have noted that the "*gemen*" mechanism replaces contracts or ownership. A series of case studies in Anhui Province find that many TVEs consciously do not use formal contracts to maintain or to strengthen the "*gemen*" relationship both in internal management and in outside transactions. People there "regard defining personal interests by written agreement or contracts as damaging "*gemen*" spirits." "In order to strengthen the atmosphere of stressing "*gemen*" spirit and downplaying personal interests inside the firm, ... managers earn not much more than workers." (Cai, 1990, p.201.)
34. It is possible to cite some loose evidence to show that there are differences in cooperative behavior under different cultures. But we think this entire subject is well beyond the scope of this paper. A brief and tentative explanation might relate the cooperative culture in China to the more than two thousand year old Confucian tradition and the heritage of people's commune system, and to the *hukou zhidu* (household registration system), which has prevented migration for many decades. Confucian philosophy, which teaches people to regard a community as a big family, and the community government as the father of the family in the sense that the father should take care of the family and the rest of the family members should obey the father, strengthens people's mutual help and trust. To some extent, the people's commune system is a version of this Confucian idea. This institutional arrangement plus that

fact that most households in rural communities have remained there for generations, means, in the repeated game context, that the reputation of the communal government and each member's own reputation of being trustable and responsible in the community is important.

35. It has been argued that the residual right to control a property is the most important element of ownership. In addition to the right to decide the usage of the property except to the extent specified in a contract, ownership grants the right to exclude some people from accessing the property (Coase, 1937, Grossman and Hart, 1986, Hart and Moore, 1990).
36. Coase, 1937, Williamson, 1985, Grossman and Hart, 1986, Hart and Moore, 1990.
37. Coase, 1937, Williamson, 1985, Grossman and Hart, 1986, Hart and Moore, 1990.
38. In the literature of contract theory, if a contract is not enforceable or prohibitively costly to enforce, the explicit contract will be given up or be replaced by an self-enforced implicit contract (Bull, 1987, Hart and Holmstrom, 1987).
39. It was already mentioned that perhaps some aspects of Japanese-style capitalism might be illuminated by this approach.

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