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Occasional Paper No. 9507
October, 1995

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A Team Theoretic Model of Firm
Evolution With Implications for
China's Economic Development

J. Ray Bowen II and David C. Rose

A TEAM THEORETIC MODEL OF FIRM EVOLUTION
WITH IMPLICATIONS FOR CHINA'S ECONOMIC DEVELOPMENT

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Revised version of a paper presented to the Economic History
Seminar at Washington University, St. Louis, October 27, 1995

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ABSTRACT

The performance of China's economy has generated much enthusiasm. However, students of the economic history of China remain curious about China's relative lack of economic development.

In a recent paper, noted China Historian William C. Kirby raised the following question: Why haven't corporations taken root in China despite repeated attempts to reform the legal environment to this end? He suggests that this may be a fundamental problem for China's economic development and points out that the reasons for non-emergence may include government opportunism and the sheer success of indigenous firms. We address this question by advancing a conceptual theory of the firm which is sufficiently general to explain the emergence of both the traditional Chinese family firm (FF) and the modern capitalist corporation (CC). The theory is based on the insight that an enduring institution must be organized so that its continued existence is time consistent. In other words, its decisions must be systematically consistent with the objective of continued survival. We show that for the FF such behavior is a consequence of concern for the welfare of descendants whereas for the CC such behavior is a consequence of salability of ownership rights.

The theory provides a framework for analyzing the co-evolution of firms with institutions and culture, thereby shedding light on what makes the FF successful and which aspects of Chinese culture and government are responsible for thwarting the emergence of the CC. We advance the view that the CC is a relatively fragile institution compared to its FF counterpart due the CC's relatively heavier reliance on a set of co-evolved support institutions, such as the legal infrastructure and deep factor markets. By contrast, the FF can survive even in the presence of an opportunistic central government which fails to support the basic rule of law. We explain that since the two forms are not necessarily on the same developmental continuum, the emergence of the CC in China is not inevitable. This tempers the prognosis for China's economic development.

While the modern CC has distinct advantages over the FF, there are production technologies for which the FF is nevertheless quite capable of competing successfully with modern corporations even in the presence of legal institutions which support the modern CC. This may explain the success of some Chinese family firms even in economies where the modern CC dominates.

1. Introduction

Recently, the performance of China's economy has been phenomenal, generating much enthusiasm in China and abroad. This parallels high growth rates over longer periods in Taiwan, Hong Kong, and substantially Chinese economies elsewhere. Despite widespread enthusiasm over this performance, however, students and scholars of the economic history of China remain concerned. One immediate problem is the "once-and-for-all correction" nature of much of reform policy in the PRC; agricultural procurement price adjustments, or the abandonment of state-administered fixed pricing of industrial output, for example, have an immediate effect of resource allocation, but other rigidities may eventually limit the policies effects. What will the engine of growth be once the benefits of corrections are exhausted? In the longer term sense, questions hang over the systemic nature and extent of China's economic development. China's overall long-run lack of development is particularly intriguing in light of research suggesting that China held the world lead in real per capita income and rate of innovation from the Song Dynasty (960-1279 AD) up to about the seventeenth or eighteenth century, when the Anglo-European economies overtook and surpassed China.

In a recent paper, noted China Historian William C. Kirby raised the following question about China's economic development: Why haven't modern legal corporations taken root in China despite repeated attempts since the late-Qing Dynasty to reform the legal environment to this end? He suggests that this may be a fundamental problem for China's economic development and points to reasons for the non-emergence of the modern legal corporation, including government opportunism and the sheer success of indigenous firms. Indeed, if the

modern legal corporation is either a requisite to economic development or an indication of the fulfillment of other requisite conditions of development, then economic development remains elusive for China.

As Kirby points out, the attempts to codify firm behavior along the lines of "western" style capitalist corporations show that this form has been viewed by generation after generation of Chinese policy makers as a necessary prerequisite to economic development. Yet the institution itself--an indigenous capitalist corporation--has never been generally achieved in China.¹ Some possible exceptions are found in the forms of firms in pre-1949 Republican China, in Hong Kong under British colonial rule for more than a century, in Taiwan under the umbrella of a tight post World War II economic and military alliance with the US, and other non-mainland Chinese-populated areas--such as Singapore--to which the corporate form could have extended under Anglo-European influence. Yet even in these situations, it is not clear that Chinese businesses elect (on any significant scale) to adopt the western model of a capitalist corporation. For example, the corporate form is not a feature of Taiwan's high developmental economic growth during the 1960-70s. Even in the 1980s, the "flagship" businesses of Taiwan's private market economy, and the vast majority of the largest businesses, are family-owned.² As Kirby points out, businesses on both sides of the Taiwan Strait have much in common as far as their mistrust of government is concerned.³

¹ Kirby substantiates this in his detailed history of "Company Law and Business Enterprise" (Kirby 1995). We define "capitalist corporation," consistent with Kirby's "modern corporation on a Western model," as limited liability, joint-stock companies without fixed or lineage-determined controlling partners.

² Kirby (1995) quotes Hamilton (1994).

³ Kirby (1995) p. 58.

As for Hong Kong, the forms of firms under British colonial rule cannot help but be influenced by the presence of the English multinational corporations and the presence of British law, a key difference, as we shall argue. Even so, much of the successful business in Hong Kong--especially the business producing the huge burst of growth during the post-1978 period--is also organized around family and kinship relations.⁴

In reviewing the most recent period (1950-94), Kirby suggests three reasons for the non-emergence of corporations in Chinese economy.⁵ First, focusing on the example of Taiwan he asks whether The Company Law and related rules might not have been so restrictive as to drive economic activity "underground." "Underground," is of course a relative term and in this context it simply means a place beyond the reach of government regulation. Second, he broadens this theme to the generally untrustworthy and opportunistic nature of the Chinese central government during the twentieth century. This, he argues, may have induced firms to avoid exposure of their assets and the imposition of government controls by avoiding organizational forms with high exposure to government scrutiny. A degree of protection from this is obtained from the fact that the Chinese business is an extension of the family and kinship framework.⁶ Finally, Kirby suggests that the need for a western-model capitalist corporate firm might be obviated by the sheer success of the family and kinship-based Chinese business in the mustering of resources "in a developing economy." Kirby points out that an underlying appropriateness is suggested by the existence, tenacity, and success of non-corporate Chinese

⁴ Redding (1990).

⁵ Kirby (1995) p. 58.

⁶ Levy (1949) and Redding (1990).

family business alternative to the capitalist corporation.

What, then, is the nature of the firm in China's economy? What impedes its transformation into a capitalist corporation? In this paper we address the non-emergence of corporations in China employing Rose's model of firm evolution. This model is consistent with the existing theories of the firm based on transaction cost and monitoring costs, etc., but it does not require the presence of the requisite assumptions of these theories.⁷ The model is broadly applicable, providing an account of the emergence of both the Anglo-European capitalist corporation and the traditional Chinese family firm forms.⁸

We use the model to show how the nature of co-evolved support institutions explains the non-emergence of the capitalist corporation (CC) in China, as well as the persistence of the traditional Chinese family firm (FF). The model shows how Kirby's three "reasons for non-emergence" are linked by the co-evolution of firms and complementary institutions. In so doing,

⁷ The co-evolutionary relationships between firm and other institutions that would give rise to the different business practices would extend much further back than the nineteenth and twentieth centuries alone. To discuss this, to examine the effect on the history of the economic development of China, and to make a prognosis for China's future, we pursue the relationship between firm evolution and economic development in the forthcoming separate articles: Families, Firms, and the Co-evolution of Culture and Economy in China, On the (Non)Emergence of Anonymous Legal Corporations in China, and Opportunity or Sealed Fate for China: lessons from mercantilism. In another forthcoming article, China's Development Dilemma: a lesson from China's reform of state enterprises, we use the framework provided by the model to offer a prognosis for economic reform policy in China.

⁸ "Family firms" are not necessarily limited to only hiring relatives. Particularly noteworthy is the well-documented extent and depth of the Chinese practice of treating even non-family hires as family (see Redding 1990).

The terms--noun/adjectives--applied to this firm or business phenomenon variously include "clan," "family," "household," "kinship," and "lineage." To those familiar with the structure of Chinese language there is little ambiguity; the noun/adjective terms are *jia* [family/home/house], and/or *jia zu* [family/home group]; the people involved are *qin shu* or *qin qi* [relatives].

the model strengthens the case that broadly-industrialized commercial development will not occur without the capitalist corporation.

The model provides an analytical framework that may serve as an explanation for Kirby's finding of "limited penetration of Chinese society by a body of formal commercial law" and the "anonymous private corporation on a Western model" (Kirby, 1995). It also sheds light on the question of whether the co-evolution of FF form and its complementary institutions in China have already proceeded beyond the juncture of reformability. We provide an explanation for why the bulk of economic institutions in China today are hostile to the CC. These institutions may well have such momentum that they will not be any more readily changed today by government reform policies than they were by other government campaigns during various administrations over the past century or more. This possibility has a host of implications for China's future economic development.

2. Chinese Economic Development and the Chinese Firm

There is an extensive literature on the issue of Chinese economic development.⁹ This literature typically treats the issue of China's failure to become an industrially developed economy in one of two ways. We call these the "cultural idiosyncrasy" approach and the "traditional neoclassical economics" approach.

⁹ For recent reviews see Myers (1991), Huang (1991a) and Feuerwerker (1992). The issue pervades discussions of Chinese economic systems and policies and performance, across political variations, from imperial times to the present.

A. Cultural Idiosyncrasy

One avenue in the literature has been to emphasize the unique features of the Chinese culture.¹⁰ Given the fact that China's culture is both highly advanced and very different from that of the Anglo-European experiences, this is a natural place to search for answers as to why China has failed to become an industrialized nation. The problem with this approach, however, is that it implicitly treats culture as static, thereby begging the question of why a nation would evolve such a culture in the first place. It amounts to simply asserting that the Chinese act the way they do because they are Chinese. This is a fundamentally tautological exercise which fails to provide a satisfying account of China's development history.

We believe culture is important because it shapes institutions, and institutions determine, in large part, what types of firms can exist at a moment in time. But we believe it is mistaken to suggest that culture is the key to understanding China's development history. While a truly satisfactory account of Chinese economic development should incorporate culture and institutions, it should do so in a way that acknowledges that both culture and institutions co-evolve with firms.

Weber has suggested that intellectual and technical shortcomings together with religion essentially prevented realization of China's potential for growth.¹¹ Weber identified as preconditions several important correlates of the economic growth and development as found in the "West," including some features of ownership, factor markets, political and legal institutions,

¹⁰ See, for example Fairbank (1992), Landa (1981), Levy (1949), Nathan (1993), Redding (1990), and Weber (1951) cited by Gardella (1992).

¹¹ Gardella (1992) citing Weber (1905, 1951).

and goals oriented toward capital accumulation.¹² The facilitating nature of these correlates of the economic growth and development is not, however, a coincidence; "capitalism" did not just pop-up as an accident of institutional formation. The institutions that support capitalism evolved over long periods of time, allowing ample opportunity for feedback from co-evolving firms and culture. In this regard, achievement of a particular system such as capitalism is analogous to a culinary exercise: it is not enough to possess all the ingredients--one must also add, stir and wait *in the correct sequence*.

Confucian values and a strong emphasis on family are also invoked as explanations for the nature of Chinese business practices and organization across national boundaries and political systems.¹³ Do Chinese businesses act the way they do because of Chinese culture? Of course they do, but to really understand China's development, one must also recognize that Chinese business practices also shape culture. Noting that "Confucian values" and FF co-exist is one thing--showing how the latter shapes the former is quite another. Discovery of a feature of culture does not necessarily constitute an explanation for a feature of commerce, nor the reverse. Rather, as we argue, the two are mutually inter-dependent and co-determined by a dynamic process of feedback and change. We do not reject culture out of hand; rather, we propose a

¹² Gardella (1992) citing Marshall (1982) discussing Sombart and Weber.

Gardella (1992) p 319 paraphrases the "Sombart-Werner thesis," as quoted from the characterization by Gordon Marshall (1982): "Economic growth and development in the West over the long term has been due to *the institutionalized separation of business and household capital, the widespread adoption of rational book-keeping and accounting techniques*; the creation of a formally free labor force ... ; the development of rational structures of law and administration; of industrial processes and technology; and importantly, of a business orientation that valued the accumulation of capital as an end in itself" (emphases added by Gardella).

Gardella (1992) refutes Weber's assertion insofar as the techniques of accounting and evidence of rationalism are concerned, and cites much related additional evidence to this effect.

¹³ E.g., see Redding (1990).

dynamic explanation that incorporates a role for culture, an approach that surely dominates a static explanation that relies solely on culture.

B. Traditional Neoclassical Economic Analysis

The other avenue pursued by scholars of Chinese economic development is to find instances of the operation of markets in the allocation of resources. The focus is on discovery of evidence of microeconomic rationality in the form of equation of price and marginal cost.¹⁴ The conclusion often drawn is that the presence of such evidence is an indication of commercial development in the direction of industrialization and capitalism. Similarly, the policy prescription for economic growth and development is generally to work toward free market pricing and exchange.

The emphasis on markets results in the discovery of dynamic potential in China's economy in places and at times when the markets are relatively free to operate.¹⁵ However, by not addressing the effects of institutional co-evolution, traditional neoclassical economic approaches implicitly presume that economic development in China proceeds on the same lineal development path as other countries. In such a view, the only substantive difference between China and more economically advanced nations is that the Anglo-European economies and Japan have progressed the farthest, while China and some other countries are just earlier in the process.

Whenever China's economic growth doesn't measure up to the "dynamic potential,"

¹⁴ For example, see Myers' (1991) discussion of Brandt (1987), Rawski (1989), Huang (1990).

¹⁵ E.g., see Rawski (1989).

reasons are found in various instances of interference in markets--and interruption of markets--due to one or another historical reason. The emphasis on markets treats exogenous historical events as the critical impediments to economic development in general and to the emergence of the CC and capitalism in particular. While a few instances at particular junctures in history might be convincing, to apply this explanation over a long period of time begs the question: why could certain Anglo-European economies develop and capitalist corporations emerge despite exogenous historical impediments that they too experienced? Over the millennial epoch from the Song Dynasty (960-1127 AD) through to the late Qing Dynasty that China has seemingly achieved and retained the material potential to commercially industrialize--but has not--the traditional neoclassical economic approach deteriorates into an interminable exercise in finding excuses and reasons in historiography.¹⁶ While this provides a fertile ground for much good historiography it skirts economic analysis. Economic analysis seeks greater explanatory power through identification of essential causal relationships that transcend the vagaries of history, if and when they exist.

¹⁶ The *Song* Dynasty ruled during 960-1127 AD, and the Qing dynasty ended in 1911 AD. China experienced a burst of internationally unprecedented innovation and extensive growth during the Song Dynasty. The eight score and seven year long period propelled China's economy to a stature unrivaled in standard of living until Anglo-European advances caught up the mid-nineteenth century. China's apparent advantage during this period derives from its comparative advantage at random innovation in due to its exceptional concentration of and absolute size of population compared to Europe at the time (Lin 1995), and by contrast with the "formal science," research establishment providing "industrialized innovation" in industrialized capitalist Anglo-European economies. This distinction fundamentally reconciles the contrast between the early discoveries made in China, as well as the obvious high ingenuity, imagination and intelligence of Chinese people, on the one hand, and on the other hand their currently "reverse engineering"-oriented technical and scientific establishments. In light of China's immense and relatively impenetrable domestic economy, a slow rate of economic innovation during the twentieth century is a corollary, despite the ongoing availability of a latecomer's advantage. Also see Needham (1965).

Important refinements of the traditional neoclassical economic analysis approach are found in the application of the theories of transaction cost, and principal-agent and property rights.¹⁷ These applications point in the direction of important microeconomic details of institutions, and represent an advance insofar as they place the economic analysis in a context. However, while attaining great accuracy of understanding of a particular situation, these too have generally tended to delve further into institutional detail while leaving aside tantalizing general questions about the system's development. We propose a model of firm behavior that accommodates transaction cost, principal-agent and property rights, but does not require their requisite assumptions, and in that regard gains generality.

C. Families and Firms as Units of Analysis.

Families and firms are fundamental building blocks of modern economic theory. Their role in traditional Anglo-European economic decision-making is that of being the entities outside of which the market mechanism applies and within which non-market mechanisms apply. This in turn gave rise to their special role in the tenets and models of contemporary economic theory.

The non-market mechanisms of intra-firm relationships has been the subject of much microeconomic study.¹⁸ The theories of transaction cost, and principal-agent problems and

¹⁷ For prescient examples of transaction cost analysis see (Cheung 1982) and (Myers 1988). Cheung prognosticates that China will not, in its economic reforms, necessarily adopt an "off-the-shelf" clear-cut existing system, and that a critical issue in the incipient transition would be transaction costs. In Myers' analysis of the property rights issues in PRC economic reform "at midstream," he perceptively--if subtly--identifies certain fundamental problems and discontinuities between stated policy aspirations, partial implementations, and the evolutionary status of complementary institutions.

For an extensive study on property rights in Chinese industrial enterprise see Granick (1990).

¹⁸ Becker (1964).

others have been brought to bear to explain intra-firm relationships and even firm existence. We address the role of these microeconomic issues in the next section on firm evolution. Of particular note here is the dichotomization or separation of the roles of family and firm in contemporary economic theory. The family is the seller of factor services and consumer of final goods, whereas the firm is the buyer of factor services and producer of goods.

This dichotomy of roles of family and firm stands in contrast to the momentum of Chinese tradition and practice. The centrality of the family in China is no less than elsewhere and--as others have already pointed out--much greater.¹⁹ The Chinese family stands in its own right as the strongest pillar of Chinese society, dwarfing other institutions. Indeed, the Chinese family firm is truly a direct extension of family.²⁰ Family and firm in China have a degree of unity or identity that is not directly appreciated by the structure of contemporary neoclassical economic theory.

As we explore the relationship between the CC and the FF and the institutional environments that support them, there emerges a stark contrast between the rich and detailed range of institutions that fill the interstices between the Anglo-European family and the Anglo-European firm, and the absence of such institutions between Chinese families and the Chinese family firm.

3. A Theory of Firm Evolution

In this section we provide an overview of a theory of firm ontogeny which is based on

¹⁹ Levy (1949).

²⁰ Levy 1949; Redding 1990;

the concept of team production. In addition to being sufficiently general to explain the emergence firms from teams, this theory also provides a framework for analyzing the co-evolution of key legal and cultural institutions, giving rise to the following feedback loop: the institutional landscape shapes the nature of productive enterprises (firms), but firms then shape both the culture and institutional landscapes of the environments in which they exist. This, in turn, leads to yet more mutual adaptation by firms. In the next section we will then show why in the West this process has led to the emergence of the modern legal corporation but in China it has not.

A. The Emergence of Firms from Cooperative Teams

We begin with the recognition of the importance of teams. In our view firms are best viewed as institutions which exist to facilitate team-based production.²¹ Team production exists because production synergies often emerge from cooperative efforts, which is why cooperation exists. For example, consider two workers of identical ability. Working alone each worker can produce 100 units of output per day, but working together they produce 900 units of output.²² The existence of teamwork synergy, which here is reflected by the 700 units of output in excess of what could be attributed to the workers as individuals, is what provides the impetus for

²¹ We do agree that there is more to a firm than team production. The point here is that the team is a prerequisite for the development of any hierarchical theory of the firm, including theories based on transaction costs.

²² Why these synergies exist is not an important aspect of the theory. While synergies can result from specialization, this is not necessarily true in every case. Consider furniture moving, for example. Anyone who has helped a friend move furniture has benefitted from team synergy apart from specialization. We take the presence of team synergies to be a self-evident consequence of cooperation and, indeed, the very reason why cooperation emerges between individuals in the first place.

teamwork and, hence, teams.

There is a rich literature on team production and its implications for the theory of the firm, but our use of the word "team" is fairly simple and colloquial. We define a production team as follows (Rose 1995):

Definition: suppose individual A can produce X units of output and individual B can produce Y units of output, but A and B together (hereafter denoted A&B) produce $Z > X + Y$. Then A&B constitute a production team and $S = Z - (X + Y)$ is the team's surplus.

We shall call the idea that the team produces more output than the sum of the outputs which could have been produced by the individuals working alone *team synergy* (Alchian and Demsetz, 1972). Clearly teams only exist in the presence of team synergy for if there is no team synergy there is no advantage to team-based production. In other words, we know that if $Z \leq X + Y$, then A&B do not constitute a team. Note that all profit-seeking firms are clearly teams according to this definition, for if there is no team synergy from adopting a collective approach to production, then why bother creating the firm in the first place? The presence of team synergy is clearly a more fundamental aspect of firm existence than any of the other issues addressed in known theories of the firm.²³ We conceive of the firm as a team composed of individuals, not physical capital. It will become apparent, however, that the essential nature of

²³ This is not as extreme as it sounds. The rationale for this assertion is this: in a world with zero costs of transacting if there were firms whose existence needed explaining they would exist only in the presence of team synergy. In a world where workers were costlessly monitored or shirking did not exist there would still be an incentive to organize team production to capture team synergies. But in a world with no team synergies there would be no reason for cooperation, no reason for cooperative production, no production issues to resolve and, hence, no need to understand how such issues are resolved.

theory doesn't change if we view some of the "workers" as "units of capital." To focus on the issues at hand, we will assume that team members are fully observable to one another so the problem of moral hazard is ignored.²⁴ Later we will explain why this is not a restrictive assumption. We now introduce the idea of residual team surplus, R .

Definition: residual team surplus, R , is given by $R = pF() - \sum W_i$, where p is the price of the team's output and W_i is the wage paid to team member i , and $Q=F()$ is a production function which measures output in Q units.

The opportunity cost to any individual team member of working with the team is his wage, W_i . For the sake of specificity we assume each member receives his wage plus an equal share of the residual surplus. It follows that as long as the residual surplus is positive every member of the team will receive something more than his wage and will therefore be better-off in the team.²⁵ Finally, we assume that no team member owns the team or directs the team; each team member possesses full democratic membership rights, which in this context simply

²⁴ This assumption means that what follows works at a higher level of generality than the theory advanced by Alchian and Demsetz (1972). To Alchian and Demsetz, the problem "solved" by the firm is that of metering, which is a direct result of less than perfect monitoring of effort of team members by other team members.

²⁵ To make these ideas concrete, consider the following example. A team is composed of individuals A and B. A and B together produce 50 units of a particular good per hour and the price of this good is \$3 per unit. The best wage A can obtain elsewhere is \$20 per hour and the best wage B can obtain elsewhere is \$30 per hour. This means that the residual surplus, R , is given by the expression $R = (3)(50) - 20 - 30 = 100$. Given the allocation rule we have assumed, A receives one half of the residual surplus (50) plus his wage (20), which is \$70 per hour, while B receives one half the residual surplus (50) plus his wage (30), which is \$80 per hour. This, by construction, exhausts the residual surplus.

means that a majority voting rule determines all decisions involving the team as a whole.

The team must make decisions that simultaneously affect the welfare of the team as a collective and of its members as individuals. To illustrate the problems that can result from this dualism, consider two mutually exclusive ways to restructure the team, plan A and plan B. Plan A calls for neither the elimination of any current team member nor the reduction of any current team member's compensation and increases the team's residual surplus by \$100. Plan B increases the team's surplus by \$110, but 51% of the members must be eliminated from the team. Under a democratic decision rule, A is always chosen over B, even though B is more profitable for the team. What is good for the team in this case is not good for the majority of the members who comprise it.

If the right to be a residual claimant to the team's residual surplus could be sold, the expected present discounted value of teams that always chooses B-type decisions would be greater than those which choose A-type decisions. This means that an outside party, a principal, would be willing to pay more for residual claimant status of a team that makes B-type decisions than for a team that makes A-type decisions. Since the reason why A-type decisions are made is that such decisions are reached by majority rule among team members, an outside principal, who knows he would only make B-type decisions for the team, would be willing to pay more for residual claimant rights to the team's residual surplus than the team members themselves.²⁶ Put more generally, an institution whose sole objective is to maximize residual surplus will necessarily do at least as well maximizing residual surplus as an identical institution that does

²⁶ This assumes that the only source of utility for team members is the pecuniary value of their association with the team. We will discuss the impact of relaxing this assumption below.

not possess that sole objective or perhaps does, but is constrained by the democratic decision-making of those who comprise it. In a competitive environment this confers an advantage to firms that may compete cooperative teams out of existence in equilibrium.²⁷

This raises the question of whether it is reasonable to expect that team members would ever be willing to sell their democratic membership rights and agree to work for the firm as employees. If we accept the premise that a single-minded residual surplus maximizing firm will generate more residual surplus than that of an identical cooperative team, then the property right to the residual surplus of a firm is worth more than the property right to the residual surplus of an identical cooperative team.²⁸ As a result, an outside principal could pay every team member his expected present value of his share of the residual surplus and still realize a capital gain. In short, the sale of democratic memberships rights creates value because it helps align the team's decisions with the objectives of residual surplus maximization. If the difference between firm value and cooperative team value is large enough to compensate the majority of members for their loss of membership rights, then the sale of these rights to the principal will be in the best interest of the existing team members. It should be emphasized that monetarily the team members give-up nothing since they can always earn their opportunity cost elsewhere if they are

²⁷ Dow (1987) provides an interesting explanation for why this is not inevitable.

²⁸ One could argue that two institutions which possess the same physical capital, the same types of workers, produce the same product, etc., but assign property rights differently are not, in fact, identical (Jensen and Meckling 1976), because the way property rights are assigned is an essential aspect of production. This is surely correct, so by identical we mean it in the admittedly superficial sense.

subsequently eliminated from the firm.²⁹ Their share in the firm's profits is now moot since they have been fully compensated for this up-front, as well as for their surrendered membership rights. They are now employees.³⁰

It is tempting to think that membership rights would always be so valuable that team members would never sell them. This is mistaken. Team members can be paid up to the expected present discounted value of their share of the firm's residual surplus flow in perpetuity under the assumption that the team is directed to maximize profits, which necessarily exceeds their best case scenario as profit sharing team member. In some instances, however, workers have a strong preference for control. This is another way a saying that team members might derive a good deal of utility from having a vote in team decisions. One would expect this sentiment to be particularly strong in small teams, for in such cases the marginal impact of one's vote is greater. One would also expect this sentiment to be stronger in cases where team members would suspect that the prospective principal would, upon transforming the members

²⁹ Note that this assertion is true only if labor markets are competitive. Put another way, the more competitive are labor markets, the less risky it is for team members to sell their democratic member rights to a principal. This suggests that a prerequisite for the emergence of firms from teams is some minimal level of competitive market activity that would assure workers of being able to obtain employment at their market wage elsewhere were they to be removed from the team at some point in the future. This is consistent with the absence of indigenous, bona fide capitalist firms in remote areas.

³⁰ Fama (Journal of Political Economy, 1980, p. 289) comes close to this idea with the following statement: "The striking insight of Alchian and Demsetz (1972) and Jensen and Meckling (1976) is in viewing the firm as a set of contracts among factors of production. In effect, the firm is viewed as a team whose members act from self-interest but realize that their destinies depend to some extent on the survival of the team in its competition with other teams. This insight, however, is not carried far enough." Indeed.

into employees, begin treating them poorly.³¹ In this case it is possible that no principal would be willing to pay enough to gain control of the team because the value members place on democratic control rights makes the team too expensive. If preference for control confers some sort of advantage (Dow 1987), then it is possible that such a team (perhaps better known as a "labor-managed firm" (LMF)) might survive in long-run equilibrium under competition. This is an important feature of the theory for we don't want to suggest that all team production must necessarily be carried-out by profit maximizing firms.

B. Time-Consistency and Enduring Institutions

The preceding discussion provides an account of how a simple cooperative team can be transformed into an owner-manager controlled firm whose objective is now closer to that of profit maximization. But to be an interesting institution the firm must be an enduring institution. We believe firms are institutions which are enduring institutions because, for some reason, they self-perpetuate through time. Understanding why firms self-perpetuate is the key to understanding what differentiates a firm (an enduring institution) from a team (not necessarily an enduring institution). It should be clear that if two firms differ in what gives rise to self-perpetuation, then they differ in a very fundamental way. We now turn to the issue of what

³¹ This would be particularly true in cases where principals would possess much monopsony power because it is costly for workers to change jobs. If the labor market is competitive, however, workers need not fear mistreatment as employees (or if such mistreatment is forthcoming they can be assured a compensating differential). This observation emphasizes the importance of developed and competitive labor markets for the emergence of capitalist type firms. Moreover, it suggests that workers with a stronger than usual taste for proper treatment, in other words workers who would rather forgo the compensating differential for mistreatment and be treated well instead, will have a higher reservation price for the sale of their membership rights and will therefore be less likely to turn over control to a principal.

gives rise to self-perpetuation.

As noted above, when a team's collective decisions are made by voting members, members must balance their personal interests against the collective interest of the team. Some decisions are good for the team but bad for the majority of individual members, and these decisions won't be undertaken by the team. When ownership (residual claimant status) is sold to a principal, the salability of the rights to the firm's stream creates an incentive for the principal to make decisions which are consistent with on-going firm survival. This is because the firm's current market value is the expected present value of its profit stream where the expected (though discounted) profit terms run out to infinity. Team members voting in a cooperative team will never have as powerful an incentive to make decisions which are consistent with continued team survival because their association with the team is finite. By making salable the right to both direct the team and be its residual claimant, then, the decisions made by the firm become time consistent with the objective of continued existence. Put another way, a team whose existence does not transcend its members will have its members collectively make choices that will not necessarily insure the continued survival of the team after they leave it. A firm whose existence transcends its members' tenure and is directed by a principal whose wealth is immediately affected by changes in expectation of future profits will, however, make longer term beneficial decisions.³²

³² A key point here is to note that one need not believe the firm will make its decisions with regard to guaranteeing perpetual existence for the survival effect to emerge. As long as there is a powerful concern for continued existence for several periods into the future the firm's decisions will roll forward through time, always made in light of the need to continue to exist at least a few more periods. Of course, the lower the discount rate the longer this "planning horizon" will be. Some have suggested that this explains the longer-run view of Japanese firms over U.S. firms.

To reiterate, we contend that all interesting institutions are interesting because they are enduring and that institutions are enduring because for some reason they systematically make decisions which are time-consistent with the objective of continued survival. Teams may or may not be enduring institutions; firms are just a specific type of team that self-perpetuate for a specific reason. We call the idea that a team's decisions are not necessarily time consistent with the teams's continued survival the team's "time incongruence" problem, "a problem that cooperative teams can't solve" (Rose 1995). As we have shown, one way to solve the time incongruence problem is by making the property right to the firm's profits salable. The other is to organize the firm under the auspices of a family.

C. Family Firms

If one can sell the property right to a given firm's profit stream, one will make decisions that weigh heavily the issue of continued firm survival through time. What if the firm is merely an extension of a family? In this case decision makers will, out of concern for the welfare of their descendants, also weigh heavily the issue of continued firm survival. Indeed, the more difficult the economic environment, the more true it is that continued firm survival powerfully affects the probability of descendant survival. This explains the **existence** of family firms in difficult economic environments (ones where property rights are attenuated by crime or government fiat, ones where employment opportunities are limited by discrimination, etc.). It also explains why family firms have often been the primary vehicle of economic advance in capitalist societies. Family firms are enduring institutions because they, through concern for the welfare of their descendants, solve the time incongruence problem.

It seems natural to suppose that the first firms were family firms, mere extensions of the family itself. This is almost certainly true all over the world, even in countries that are now dominated by modern legal corporate firms. The appearance of the first firms in the form of family firms is not, however, simply and only a matter of extension of the natural social unit. We take the view that family firms have a survival advantage in economic environments where property rights are not clear, where formal legal contracts are difficult to enforce, indeed anywhere where there is the absence of the **objective** rule of law. The reasons why we believe family firms possess a survival advantage in such circumstances is well documented in the literature, but the key elements are the ability to enforce contracts without government interference (or without having to rely on supporting institutions in the government--and thereby be less vulnerable to government scrutiny as well) and the ability to maintain financial secrecy without inviting graft. This observation raises the question of why some economies provide hospitable environments to fragile, non-family firms and others do not. We address this issue in the next section.

4. The Co-Evolution of Firms and the Institutional Landscape

In this section we shift our focus to the patterns of the history of economic development. We retain the theoretical logic of firm existence, but re-arrange the discussion of the forms that firms may possibly take so as to reflect the likely order of evolutionary emergence and the respective paths of form development. In particular, we locate the different forms of firms on

a "tree of evolution." This framework provides a systematic explanation for the observed non-emergence of the modern legal corporation in China.

A. Institutional landscape, government behavior and public response

The evolution of firms occurs concurrently with the evolution of the institutional landscape. Among other things, the institutional landscape refers to the existence, extent, and nature of firm support institutions. The government is an important part of the landscape. Of particular importance is the government's role in the acquisition of resources (including those for its own use); the delineation of property rights; the use and enforcement of contractual agreements; codes of law, and mechanisms of law and rule enforcement. Among economies with histories, the existence of government and the public is axiomatic. Variations in the institutional landscape of countries, then, lies in the relationship between the governments of those countries and their publics.

Every government faces the following trade-off: it must balance the incentive to appropriate wealth as much as it can each period, against the incentive to forgo opportunistic acquisition of current resources in expectation that by predictably taking a small share each period the future resource availability will be greater. When government chooses to appropriate without regard to the incentive consequences for economic behavior in future periods, i.e. when it behaves unabashedly opportunistically, it pursues an "opportunistic strategy."

Alternatively, a government could pursue an non-opportunistic, restrained, far-sighted strategy toward the acquisition of resources from its economy. Under this strategy, each period the government takes a predictable and relatively small share of resources. In the long term,

the fact that the government forgoes acquisition of currently available resources may actually foster greater future availability of total resources, of which its smaller, predictable share is a larger absolute amount than it could have been under the opportunistic strategy. This might be called a "Smithian-Ricardian strategy."

Given an opportunistic strategy on the part of government, the representative surviving firm must be self-reliant, secretive and evasive. The more secretive the firms, the more aggressive the government action, and the more likely the choice of opportunism. In traditional feudal economies of pre-mercantile nature, government tends to employ the opportunistic strategy. True, there would be a constant efforts by firms to hide economic activity from the government, and stochastic incidence of protest/rebellion against extremes of government appropriation. However, for several reasons, the government perceives no "downside" to heavy-handed actions by the government.

First, in the absence of external competition, the feudal government would not fear invasion as a by-product of suppression of a rebellion due--for example--to economic hardship. In a "stable" feudal world, the traditional feudal economy is inherently relatively autarkic, and therefore not particularly subject to directly economically-motivated attempts at invasion by others, especially not superior systems. Why would a potential marauding force wish to invade a state so poor that the populace is in revolt?

Second, even if the feudal state happened to be attacked, the peasantry has strong incentive to fight in defense. This is born of the peasantry's deep identity of interest with the

feudal leadership to not lose to the invader, lest land tenure--and therefore livelihood--be lost.³³

Third, it is not clear that a government would necessarily conceive of the possibility of a highly elastic economic response to a reduction of its opportunism (an increase in stability of government behavior), and even if it could, such a strategy is potentially dynamically instable--and therefore risky in the short run--due to an ironic "downside" of the Smithian-Ricardian strategy. Should a government opt to not appropriate resources, the non-official economy in the country might become relatively wealthy and make an inviting target for take-over, even if only internally. "Pick the plum before someone else does." The more frequently the government "empties the till" the less attractive of a target the country makes. Any significant non-zero discount rate will generate this outcome.

Thus, a government that has heretofore appropriated resources opportunistically might see the Smithian-Ricardian strategy as very dangerous, even if it could envision the possibility of a highly elastic response by the economy. In general, the government would necessarily not deliberately choose to make the transition from opportunistic strategy to the Smithian-Ricardian strategy.³⁴

However, should a government have other, stronger, incentives to pursue the more stable Smithian-Ricardian strategy toward resource acquisition, and eventually to manage a transition,

³³ Even as late as the early eighteenth century, most of the European armies were militia recruited proportionately from the population and at best only semi-professional in training. Post-Roman standing armies did not come into significant existence until the middle-to-late eighteenth century. In most of the non-European areas conquered militarily by European imperial states, the indigenous armies were generally able to successfully resist the European armies until the second half of the nineteenth century.

³⁴ It could be argued that "latecomers" countries have full information and could deliberately choose to pursue the "Smithian-Ricardian" strategy.

it might eventually realize the benefits of its changed behavior and the economy's response. In particular, the more stable behavior of government could engender a new role for it and for law. As public confidence in government grows over time, it can take on the role of fair mediator of conflict. Firms need not expend as much energy concealing economic activity, and markets in general can expand greatly when open operation does not bring the possibility of opportunistic appropriation of wealth by the government. Once the transition comes about and economic benefits are realized, the government now has a huge stake in not behaving opportunistically. It is incentive compatible for the government to pursue the Smithian-Ricardian strategy. Incentive alignment conducive to the eventual emergence of the salable firm has come about.

B. Intra-family production in the absence of the rule of law

It seems natural to suppose that the first firms were family firms; mere extensions of the family itself. This is almost certainly true all over the world, even in countries that are now dominated by modern legal capitalist corporate firms. The appearance of the first firms in the form of family firms is not, however, simply and only a matter of extension of the natural social unit.

What are the advantages of intra-family production in a traditional economic system in the relative absence of the rule of law?³⁵ We take the view that the FF has a survival advantage over the CC when confronted with a government that opportunistically appropriates

³⁵ Absence of rule of law does not mean absence of codes, rules and regulations, but rather an absence of the self-conscience adherence thereto, and resort to the government as the fair arbitrator of unforeseen contingencies.

resources from the economy. Indeed, even if the government were not opportunistic, the presence of weak or nonexistent legal support institutions for resolution of disputes over property rights makes contractual-based business impossible. The key capabilities of the FF are the abilities to (1) mobilize factors in the absence of free, widespread, formal factor markets; (2) enforce contracts without government interference or scrutiny, and (3) maintain financial secrecy without inviting graft.³⁶ The single most significant inherent constraint on the FF is a limitation on access to capital imposed by family size, that in turn puts an upper limit on the economies of scale that may be exploited by FF-organized production.

C. The non-family capitalist firm, requisite support institutions, and the rule of law

An important and widespread (in capitalist economies) alternative form of firm is the firm with salable rights to the ownership of the future stream of profits generated by its existence. The capitalist institutional landscape is a formal, contractual-based business environment.

The CC ensures its continued existence by the very salability of rights to its future profit stream in continuously divisible (finely divided) units--stocks and bonds. This allows the CC access to capital limited only by the willingness of the market--an amount of capital potentially much larger than the accumulated wealth of a large family. Thus the CC has the principal advantage of scale and, as a result, tremendous potential productivity; the value of the output of the US and some other economies is dominated by large capitalist corporations. However, these features rest on essential support institutions. Capital and other factors' markets must be

³⁶ The FF could also have advantages in moral hazard and monitoring costs. These would not be critical advantages, i.e. the family firm would be the best form under the conditions described, even if moral hazard or monitoring cost advantages did not exist.

well-developed. The government must have a far-sighted, non-opportunistic view toward appropriation of resources. The rule of law must be perceived to be so objective and fairly applied that it is virtually self-enforcing except in the case of unforeseen contingencies.³⁷ Most fundamentally, the public must perceive that there is very low risk to engaging in commercial and financial activity. Taken as a whole this is a demanding and fragile set of conditions.

As a corollary of the fragility of the CC in terms of its dependence on the existence of support institutions, the CC is not particularly robust in terms of its adaptability to variation of institutional environment. In developmental perspective, the CC is the more unlikely form.

An important implication of this is that government has a role in economic growth, and that this role goes beyond the conventionally understood one of only providing certain public goods and maintaining order. The critical *intangible* role of government is to provide an atmosphere of low risk due to a dynamic pattern of fair resolution of unforeseen contingencies. This is only possible as a result of a sustained pattern of trustworthy behavior.

We can imagine that, under the conditions of the intense economic competition among England and other mercantile European nation-states, those states in which the nobility and other elites either took the initiative to--or were forced to--enter into a "new social contract" of a specific form attained an advantage in the mercantile competition. By "new social contract,"

³⁷ We are not proposing a global theory of the emergence of the rule of law in the sense of the sophisticated codes of law. These may be found earlier in history and elsewhere in the world. The romantic idea that the rule of law--even if only moral principles--should in principle protect the ruled from the rulers is assumed to be universal and timeless. Rather, we are only pointing out the possibility of a fundamental change in the status of the rule of law due to a combination of special circumstances converging on Europe during the late Renaissance-early Mercantile period. However, it might be asserted that the value of the rule of law was discovered when the governments of European nation states were forced by circumstances to actually follow the rule of law.

we refer to the articulation and sincere implementation of improved and increasingly objective and sound legal codes and political systems--a *legal and political systemic rationalization*. The most immediate (but not necessarily temporally immediate) intended benefit of such change would be to elicit increased cooperative involvement of the national population, to the end of mercantile goals, due to the decreased risk of such involvement under objective, more uniformly-understood, and more fairly applied rules. Now, *contracts* could be read and understood in a more general sense, and the possibilities for business would explode for two reasons. First, risk is lowered; businesses (no matter what stage of firm evolution) may now undertake investment in more, longer-term, and larger-scale projects. This would lead to immediate advances in early industrialization and further expansion of commerce--extensive growth.

Secondly, and perhaps of greater evolutionary consequence, the general public's recognition of increased dynamic stability in the legal and political process would continually lower the cost of doing business because the longer the system worked, the more willing people would be to go forward according to the codes and rules, without actually having to incur enforcement costs. A social atmosphere of common respect for rules may be seen as having generated a dynamic positive feedback loop of further refinement of specialization, division of labor, and increased market exchange.

We would not deny that other aspects of the economic realities in the mercantile nation-states would have contributed to such a positive dynamic. That is, the ability of the expanding economies to provide increases in income may also have derived in part from sheer extensive growth and the mercantile expansion to conquer new resource bases. That does not, however,

diminish the importance of the dynamic feedback loop if it would not have started nor continued without the legal and political changes, and resultant *contract culture*. In short, this institutional change was intended to (statically) lower transaction costs of economic activity within the nation-state, but generated positive dynamic processes as well.³⁸

European nation-states in close geographical proximity displayed substantial variance in language and cultural national identity. After the demise of the Roman Empire, no one nation successfully controlled more than a fraction of the whole for any length of time. That such intense European inter-nation-state mercantile competition arose may be in part be the by-product of this historical chance, but we posit that it may have set in motion the self-reinforcing feedback loop of the "Smithian-Ricardian" strategy of government. Governments perceived a new cost to the opportunistic strategy toward resource acquisition. Should a government's opportunistic behavior weaken its economy or lead to a public revolt, under the pressure of mercantile competition the nation was now more vulnerable to economic competition and military invasion. This risk was only increased by the major changes occurring in the role of the public in domestic economies, perhaps in part as the result of new opportunities presented by increasing trade. The public's traditional sense of security in rights defined in terms of community and land tenure began to weaken. Allegiance to the leadership became more tenuous. We can imagine that under this pressure, in pursuit of survival, government offered a new social contract, which included aspects of increasingly fair application of the rule of law, and a "Smithian-Ricardian" approach to resource acquisition.

³⁸ A dynamic, "two-way street" analysis of the causal relationship between institutional change and technical change is advanced by Douglass North and John Wallis (North and Wallis, 1994).

Some nation-states without the new social contract could continue to be powerful in the sense that traditional empires like Spain were powerful. Over time, however, an evolutionary advantage manifest in geographical and economic supremacy was attained by those nation-states that moved forward with legal reforms which loosely translated amount to a respect for the rule of law.

The shift in government strategy not only allowed much immediate extensive growth given the existing structures of firms but also--more important in the long-run--preparing the way for the eventual de-linking of capital from the size and range limits of the FF. Once capital markets could operate, and eventually did operate, the institutional conditions that developed out of the legal and political changes--undertaken for different reasons--lowered the risk of making extra-firm capital services available from outside the firm (in any increment), and this allowed the evolution of the CC, with its attendant advantages of scale and objective.

Access to unlimited, continuously differentiable, extra-firm capital--the articulation of factor markets--together with contract culture made possible the subsequent explosion of capitalization.

Supportive social and government structures further co-evolved. The institutional mechanisms for financial recycling--monetary policy, banking systems and financial assets markets--generally further bolstered this self-reinforcing cycle of growth by expanding the capital markets. The increasing articulation and sophistication of mechanisms of government included rationalization of local, regional and central responsibilities in economic policy and legal jurisdiction--mechanisms of governance developed to manage succession and minimize its cost. These developments increased the dynamic stability--lowered risks and transaction costs--of the

business environment.

The incorporation of capitalist firms optimized the efficiency of the industrialized contractual economy. Among the mercantile nation-states those on this type of path showed the greatest competitive abilities in large-scale, industrialized, high-return activities, which proved the critical advantage in the endeavors of systematic expansion, first geographical and later scientific.

Of all the phenomena directly or indirectly linked with industrialization and sustained economic development, the shift in the government's role leading to the legal and political basis of "contract culture" and the CC may be the "necessary condition" that most distinguishes the Anglo-European experience from the indigenous development experiences of other major cultures, including--and especially--China.

D. Firm form in Chinese economic development

China's path of institutional co-evolution contrasts with the Anglo-European experience. Early dynasties in China promoted and achieved linguistic and cultural homogeneity across the relatively large population. A process of extensive growth expanded successive dynasties outward from the cradle of Chinese culture in the middle reaches of the Yellow River. Imperial administrations expended substantial resources on public works in communications and transportation and resulted in a modest but significant ability to conduct administration from the imperial central government and to conduct commerce in high value-added goods.

By the Song Dynasty (960-1279 AD), at just the period when Europe was in a state of technical back-sliding and socio-political disintegration, the size and density of China's

population generated a high absolute amount of innovation from the random process of discovery.³⁹ Commerce and technical sophistication reached such a level that China lead the world in real *per capita* income during the nine centuries from the Song Dynasty until the middle of the nineteenth century.⁴⁰ Certain aspects of the imperial central government were clearly supportive of commerce, including consistency of interpretation of property rights, awareness of fiat money, administration and maintenance of a degree of control over the monetary system, standardization of weights and measures, and the aforementioned aspects of language, communication, and transportation.⁴¹ Some observers have suggested that a relatively low degree of government intervention--*laissez-faire* policy--contributed to the relative successes of Chinese commerce.⁴² This "policy" could as easily have been by default as well as by design, as we shall argue in addressing the co-evolution of the government with the FF.

³⁹ The substantial technical discoveries and innovations included use of fossil fuels (coal) for steam power, metallurgical techniques (iron and steel production), and the knowledge of engineering techniques, including labor-saving mechanical devices such as fiber gins, spinning equipment and machine looms, to name but a few that are commonly cited as fundamental to the much later English and European industrial revolutions (Needham 1965).

For nine centuries China successfully relied on "the law of large numbers" for innovation. Compared to Europe and other civilizations, China's absolutely larger population and relatively greater population concentration, communications infrastructure, and linguistic homogeneity undoubtedly promote the efficient diffusion of a greater number of "randomly discovered" innovations (Lin 1995).

⁴⁰ Rawski 1991.

⁴¹ Though certainly not necessarily what we understand in the Anglo-European tradition, it may be inferred from the traditional Chinese respect for agriculture and the accumulation of wealth in land, that the property rights over wealth enjoyed by landholders held a special status and were not as subject to opportunistic behavior as were other more liquid forms of wealth (money holdings, etc.) and as were income flows.

⁴² Rawski 1989.

Despite early economic advances and the long-term lead held by China, it did not generate the process of industrialization and capitalism as found in Europe much later. The relative stability and insulation from outside (international) challenge allowed the Chinese economy, and its FF form and firm-government relationship to grow extensively (replicate over a geographically broader and broader resource base).⁴³

As would have been true elsewhere, and as explained in our theoretical section above, the family formed a natural point of departure for the evolution of the firm. In China, however, the salient lack of international competitive pressure meant that there was little incentive for political elite or nobility to compromise their power despite the fact that in static terms, much less dynamic terms, the reach of that power was limited.⁴⁴ When faced by the great trade-off

⁴³ Though Chinese history is replete with invasions overland, the invaders tended to be developmentally "below" the Chinese, e.g. nomadic herdsman, albeit large and powerful groups. They aspired to rule China, so they tended to be absorbed and "Sinified" by Chinese culture and society even as they ruled the Chinese by force. China literally did not begin to directly face an economically competitive or "advanced" military challenge until the arrival of Europeans by sea in the seventeenth and eighteenth centuries, six hundred or more years into the development of its own culture, and China remained a serious contender for greatest *per capita* real income in the world, even into the mid-nineteenth century.

⁴⁴ The lack of international competition may well ultimately turn out to have been an illusory perception by Chinese government, or a blind spot. Nevertheless, this view, and how it shaped China's international relations--both in the tribute diplomacy with its Asian neighbors and in latter interactions with Europeans--is well-documented. Every person (Chinese or not) who has visited China, or even substantially interacted with Chinese, will appreciate the depth of this legacy.

Of course, the imperial central government nominally retained great reach and prerogative, and unilaterally promulgated code and rule. However, in the absence of a continuum of central, regional and local legal infrastructure and without a *self-enforcing pattern of rule by law (born of a tradition of trust in a court system to be fair)*, the cost of enforcement would in general be prohibitively high. This is the sense in which central government's reach is so limited in China. This is not to be construed, however, as an absolute weakness of the imperial economy. The relative weakness of the economic power of the imperial central government is only so by comparison with the mercantile and early capitalist economies arising much later in the Anglo-European area. The situation described above attained while China

of government economic strategy, opportunism was for China still the dominant strategy.

Local government enjoyed much actual autonomy within certain rather loose formal and informal constraints.⁴⁵ Despite examples of sophisticated tax collection systems and policies in the imperial economy, the fiscal power of the central government was not that great.⁴⁶ More importantly, the lack of rationalized intermediate local and regional government structures gave little incentive for the economy to develop risk-lowering and transaction cost-lowering self-enforcing attitudes of trust in socially remote market and commercial relationships.

The relative stability of the traditional Chinese economy and the longstanding absence of "sophisticated" outside challenge to it or China's government held significant evolutionary implications for China's institutions. China's "cellular" economy of the FF did not require, want or need articulation of governmental power. Economic intercourse was coordinated by relationships, not contracts, so the government's role as arbiter was neither needed nor welcome. No pressure was felt by Chinese government to lead it to seek avenues to alter its approach. Chinese FF-based business became ever more adept at not only operating in the absence of supportive government, but indeed adept at avoidance of administrative interference⁴⁷. The

held the lead in *per capita* income and absolute output for almost nine centuries.

⁴⁵ For a contemporary example, see Granick 1990. The spirit of this is captured well-by an ever-popular idiom in the Chinese language: *Shan gao, Huangdi yuan*, which translates well to "The mountains are high and the Emperor is far away." "The Emperor" symbolizes the central government, and the easily understood implication is that its reach is short.

⁴⁶ Eastman (1988), Thomas (1984).

⁴⁷ Those who have visited China or substantially interacted with Chinese will appreciate the deep behavioral imprint of this dynamic on the Chinese attitude toward any involvement with government. There is a great sophistication of approach predicated on extreme caution and indefinitely preserving every last possible degree of informational asymmetry.

axiomatic traditional orientation of Chinese to accumulate wealth in land holding is often treated as an idiosyncrasy of China's hierarchy of professions that places agriculture high and commerce low. However, the idea of storing wealth in land holding appears very rational if land is relatively immune from government taxation and confiscation relative to other more liquid forms of wealth, or income. Land holding rights, in turn, have commanded such a respect from the state in the interest of preserving the agricultural base of the economics system. Further, and more to the point, land is an asset whose expropriation carries with it the credible threat of armed revolt.⁴⁸

Where the extent of the reach of the FF is limited, family-like networks of business relationships extend.⁴⁹ These network relationships allow the geographical extension of commerce, but only to the extent of the reach of the social relationship network. For some high value-added products, the reach may exceed the relationship network, but even for long-distance commerce, the preference is clearly and strongly for going through family/clan and then locality and provincial membership associations. This is well-documented historically, and is readily apparent to the observer even in the current economy of Chinese everywhere.

The centrality of China's families had an evolutionarily positive feedback effect on the importance of the family, and an individual's relationship to and within the family to the point that it became the single major force in an individual's life. The stereotypical Chinese cultural value of subjugation of self-interest to that of the immediate social group, formalized in the belief system of Confucianism is, of course, obviously consistent with--and mutually reinforcing

⁴⁸ The importance of the land tenure relationship and traditional rights is, of course, held to have been equally important in feudal Europe for exactly the same reason.

⁴⁹ Redding (1990).

of--this path: "families are good for business, and family business are good for families."

There would also be feedback effects both on the development of Chinese government and community, and the relationship between the FF and the community or government. In the first instance, the imperial central government would not develop sophistication to perform tasks already performed by the family, i.e. tasks of coping with moral hazard, information and transaction cost performed by the FF. In the second instance, the government would develop increasingly autocratic measures to command resources it required and to extract them in the face of increasingly evasive private commercial practices. For relative lack of practice, the government's unsophistication in the incentive implications of economic policy might manifest itself from time to time in coercive measures that further raise the perception of risk and therefore raise or at least validate the defensive stance of business toward the imperial central government.

The Chinese FF-based form of business, then evolved to operate well in an institutional landscape with a government that is simultaneously both weak and opportunistic. This confers a comparative advantage to the FF relative to the CC, not only within the institutional landscape of China proper, but also in international operation across different systems of governments, and anywhere the firm is exposed to relatively large and/or persistent attempts at regulation and extraction by government. Under these constraints, the FF is the best able to mobilize factors for economic activity, while at the same time enjoying a degree of insulation from government scrutiny and opportunism. Chinese FF have a historical and current-day reputation for success in the operation of business in and between other East and Southeast Asian nations--many of which have governmental features in common with China proper--and even in certain *niche*

markets within Anglo-European capitalist-style market economies. In sectors where very large economies of scale do not attain, where the value-added by labor services is not always high, and/or where monitoring, information, and security costs are potentially high, the production technology of the FF may have a substantial cost advantage.

5. Conclusions

A. Consequences of Separate Co-evolutionary Paths

We can imagine that a historical event could have changed the conditions under which firms operated in Europe as compared to China. Co-evolution of firms and support institutions in the respective systems produced paths separate and divergent, from the common path followed before the event. Not only do the firms and complementary or support institutions differ along the different paths, they differ more and more over time.

Thus, multiple equilibria arise from the same basic process of firm evolution. This provides an alternative model of economic development that challenges conventional microeconomic economic theory that suggests economic development takes place along a linear continuum. Economies allegedly reside along the continuum at stages of greater or less maturity, and are expected to approach a convergence of economic system. While the validity of convergence theories is questioned elsewhere, we offer a precise critique of its fallacy. If the nature of the firm differs fundamentally, and the firm co-evolves with its institutional landscape, then two different types of firm in different systems may be on very different evolutionary paths and there can be--and likely will be--increasing divergence of the economic outcome.

A corollary is that it is a mistake to view China as simply being "behind" the West in moving along a single linear evolutionary path of corporate development. While we continue to believe that the Chinese Family Firm is the best "point of reference" by virtue of being an institutional antecedent of the modern corporation, we have argued that the modern incarnation of the Chinese Family Firm has also traveled down its own evolutionary path, inducing institutional co-evolution along the way. This path is quite different from the path traversed by modern legal corporations in the capitalist economies, and for this reason the co-evolved institutional landscape is quite different in the West as well. The practical problem is that there is no particular reason why the institutional landscape which has evolved in China should be hospitable to modern legal capitalist corporations which evolved outside of China in a very different institutional environment.

If evolutionary paths diverge then the firm type evolved in one system may or may not be viable in the other system, and even if "cross-system viability" extends (partially) in one direction, the reverse is not necessarily so. This might be called a "non-converse principle." Observation of apparently successful "transplants" in one direction does not necessarily mean that the reverse should be true.

It may appear, at first glance, that the family firm is the more primitive and the capitalist corporation is the more advanced. Indeed, the antecedents of the capitalist corporation would have been family or clan group enterprise. However, with the passage of time and the growth of the respective systems both co-evolved with very different sets of related institutions. A tradition of supportive government institutions co-evolved with the capitalist corporation. Likewise, a tradition of informal networking and government-avoidance practices co-evolved

with the family firm. With the meeting of the traditions in the international marketplace, it is now apparent that--despite common appreciation of fundamental principles such as rationality and efficiency, there are substantial institutional incongruities, and it is way beyond the realm of feasibility for anyone, even "experts," to design an "upgrade" for the FF (and its economic environment) to proceed *en masse* to the capitalist corporation economy.

As the more atomistic form, the family firm is not entirely incompatible with the CC-co-evolved institutional landscape, though it is at a competitive disadvantage where scale confers cost advantage. Indeed, in a capitalist economy as the US, small businesses are legion in number (and include many that are family firms, some of which are indeed Chinese family firms) but small in share of total output. Small firms are not at a disadvantage in the US--if their scale is appropriate--insofar as they have access to capital.⁵⁰ By contrast, the capitalist corporation--as the form more dependent on an array of complementary, specialized institutions--is placed at a severe disadvantage in the hostile environment of the non-capitalist,⁵¹ non-developed traditional economy⁵². Indeed, as Kirby has demonstrated, an indigenous capitalist corporation remains

⁵⁰ For capital, scale is not a focal issue, but risk and return are.

⁵¹ "Non-capitalist" does not mean socialist, etc., rather simply the absence of developed capitalism.

⁵² The projection of foreign (non-Chinese) political and military power can--and has during historical periods--spatially and temporarily overcome this problem. However, in general absent this shielding, the CC in China lies exposed to wide-ranging microeconomic market failure and official predation alike. Unlike the tougher, lower-profile FF skillfully maneuvering among China's countless domestic instances of market failure, and slipping by or completely avoiding unrelenting official attempts at rent extraction and other commercial hazards, the CC in China would likely be simultaneously "starved" and "eaten alive." In fact this later outcome is not observable because indigenous understanding of institutional framework and lack of complementary institutions prevents entrepreneurs from even trying to engage in corporate organization. The closest we can come to observation of this would be to consider the high

fundamentally absent from China's economy. It is certainly possible for the two types to meet and even mingle in the marketplace--and they do on a grand scale. However, "co-existence" can only occur in an environment that is already conducive to the capitalist corporation form by virtue of co-evolution. The aspects of Chinese culture and government that have co-evolved with the family firm are hostile to the capitalist corporation and are, we believe, responsible for systemically thwarting the emergence of modern corporations. In effect, they forestall modern economic development to the extent that the conditions that foster the modern legal corporation are necessary ingredients of economic development.⁵³

The Anglo-European evolutionary path eventually produces a capitalist corporation ensconced among finely-tailored support institutions, whereas the Chinese evolutionary path produces a detailed articulation of the networks of fundamentally simple family firm-based business with comparatively little in the way of support institutions.⁵⁴ A major difference in outcome lies in the development of factor markets. While labor availability may seem to not be an obvious problem within the Chinese family firm-based economy, capital availability will be constrained in a way that it is not in the Anglo-European capitalist corporation-based

"start-up costs" incurred by foreign firms entering the market in China, and the fact that the successful endeavors are the outcome of adaptation to Chinese conditions by adoption of Chinese institutions, practices and hired intermediaries.

⁵³ As Kirby points out, this by no means for lack of information, business-orientation, or innate intelligence. These character traits are prevalent in China.

⁵⁴ Chinese networks of social, political and economic relationships appear byzantine to Anglo-European earnest observers trying to "connect the dots" on organizational charts and flow diagrams with proper noun titles. The confusion ends when the observer realizes that it is a generic set of n-dimensional family and network relationships that apply in virtually all circumstances.

economy. In Chinese family firm economy, capital access depends virtually entirely on family membership, and entrepreneurs with good ideas but no connections or an economically and/or politically weak family may never have the opportunity to economically develop an idea. In the CC economy, even "strangers" have access to our capital through capital markets. The world of Chinese commerce includes many financially powerful family business giants. They are giants by comparison with other Chinese businesses, and sometimes even by comparison with the net worth of wealthy non-Chinese. But the fact that the largest firms fall into the FF paradigm is the "exception that proves the rule." It would be erroneous to infer the existence of capitalist economy from the existence of indigenous Asian tycoons, their popular designation as Asian "capitalists" notwithstanding.

Another consequence is found in the difference of attitudes toward the process of innovation. In the Chinese family firm, economy, the lack of co-evolution of objectively rationalized government and legal infrastructure includes the lack of a system of assignment of property rights to the flow of income from invention and innovation, and for that matter, publications.⁵⁵ That contrasts with the codified system of intellectual property rights within and between major Anglo-European capitalist market economies, that goes hand-in-hand with formalized pursuit of scientific knowledge and discovery in the scientific-academic research sector.

Last, but by no means the least issue in co-evolution, is the nature of government itself.

⁵⁵ As a current example, note that China's (immature and weak to nonexistent) intellectual property law is a salient and ongoing source of friction between China, on the one hand, and the US and other Anglo-European-based members of the former GATT and current WTO, on the other hand. The Chinese attitude toward intellectual property rights has its roots in China's traditional, "random," mode of discovery, innovation, and diffusion, which essentially relied on the "law of large numbers."

Despite a series of superficially ideologically distinct governments, and despite deep differences in the policies as distinguished along those ideological lines, Chinese central governments of the twentieth century have been essentially imperial in nature. For example, the early Republican period was nominally led by political reformers, but in effect controlled by various warlords until consolidated in mid- to late-Republican era by the Jiang-Song dynastic families. Though not particularly strong by concurrent Anglo-European standards of government, the Jiang-Song group's behavior and stature with the Chinese qualified them as imperial. The Japanese Imperial forces in control of northeastern China installed a straw emperor, *Pu Yi*, who was in fact a blood descendant and legitimate claimant to the throne of the pre-Republican Qing-dynasty. The administration under the "great helmsman" of the Communist Party of China, Chairman Mao Zedong, looks more and more like a dynasty in retrospect, as does the rule of his most effective Communist successor, Deng Xiaoping, albeit a perhaps more effective rule as regards economic opening and change.

An immediate corollary of the extraordinarily weak government and strong family is a "weakness of community" in the sense of the impetus to development of local community institutions.⁵⁶ This extends both to political and economic institutions. While the political institutions would be stunted for lack of role and practice, the economic institutions--formalized markets and complex production--would be stunted simply by the relative lack of demand directed to them.

Weakness of community should not, however, be confused with (dis)orderliness of community, for the strength of family may also have as corollary stability of social relationships.

⁵⁶ Redding (1990) p. 54.

Family stability would have positive externality for community order. Those personally familiar with Chinese society know that functional community order generally attains. Another potentially confusing aspect is "nepotism." Nepotism is not infrequently charged as a problem by those outside of economies with strong family business traditions⁵⁷. Yet within the context of the family firm-based economy and without the political and legal traditions of the capitalist corporation-based economies, it has little or no pejorative meaning. In fact, to Chinese, the very ideas of deliberately avoiding entanglement with relatives' competent economic connections and of avoiding the exploitation thereof would seem strange and irrational.

B. Re-examination of the "Success" of Models of Chinese Enterprise.

It is a mistake to argue that the observation that the Chinese family firm "does well in the US" implies that China should undergo an economic take-off once repressive government policies are lifted.⁵⁸ Such arguments assert that "Chinese culture obviously has what it takes" to mimic capitalist economic achievement, even if on its own terms.⁵⁹ In our view, the mistake lies in the misinterpretation over the reasons for the success of, say, the Chinese family firms

⁵⁷ Redding (1990) p 158; Note also the dispute in which the International Herald Tribune was taken to court over alleged libel by the Singapore government during 1994-95. The alleged libel was in a Tribune article to the effect that a particular official was incompetent and only nepotistically appointed because of family relations. If family is the central--and only--enduring institution a political economy, however, then its competence would precisely be a function of family relations. That academic competence might also be required would be a rational but "second cut" consideration.

⁵⁸ Indeed, the current phenomenal performance under the program of partial reforms *in China*, as well as the longer-term achievements in Taiwan, Singapore and Hong Kong, are also cited to support the same argument.

⁵⁹ The students of neo-Confucianism advance this argument.

in the US. The family firms might have some advantages as a production technology in *niche* markets, for example in a sector (such as some service retailing) where monitoring costs might be much higher without the advantage of family ties and where at the same time economies of scale do not attain. But this does not hold in reverse for the capitalist corporation in China.

In our view, the error in assuming that China should have little problem adopting modern legal corporations--or even "just" capitalist firms--is that the capitalist corporation is in fact a much more fragile institutional form than the family firm, and the capitalist corporation is incapable of surviving in the current economic environment of China.

C. "(In)compatibility puzzle"

We imagine that the common ancestor of both the family firm and the capitalist corporation would be more like the family firm, and we can conjecture that a combination of historical events must have occurred over time in Europe to select for institutions that ultimately developed much later into the capitalist corporations's complementary and support institutions. However, we emphasize that the process of co-evolution is ongoing, and both forms and their co-evolved institutions have developed along separate paths for at least a half a millennia, and perhaps much longer. By this time, there is substantial incompatibility across the respective, co-evolved institutional landscapes. This returns us to the question of conventional economic theories of development along a linear continuum, and the convergence of economic systems. The capitalist corporation and the Chinese family firm are not only not on a developmental continuum, they are on completely different paths. Convergence is not only not inevitable, it

is highly unlikely. In particular, the weight of China's institutional legacy is against the survival of the capitalist corporation form in China.

Theory does not require that each form's existence be absolutely or purely exclusive. In practical real world terms, it is of course true that Chinese firms are not exclusively or narrowly confined to family or even lineages, but the fundamentals of family or familial-type relations are generally present, whereas the pre-conditions for the capitalist corporation are absent. The new literature on "Asian business networks" and "Asian capitalism" highlights the human ingenuity applied to overcoming the constraints imposed by a pattern of opportunistic and capricious behavior by government, and a relative absence of over-arching legal infra-structure.

Similarly, in capitalist economies there are partnerships, proprietorships, family businesses, team-like cooperative production units and, indeed, even Chinese family firms. However, these are likely to exist due to specific advantages of those production technologies in certain activities, and this does not diminish the predominance of the CC in overall output.

D. Some Practical Implications

Different paths of firm and institutional co-evolution in China and the West would suggest a very cautious re-assessment of the outlook for China's economic reform policies. The reforms have been portrayed for the most part as market-oriented.⁶⁰ An assumption widely held, both on the part of Chinese and foreign analysts, has been that the ultimate goal, or "point of convergence," lies beyond market economy toward some variant of capitalism, whether or

⁶⁰ Though "capitalism" and "capitalist" have been applied at times this use is clearly inaccurate. Another term of recent usage is "market Leninism." This is intended to convey the idea of a combination of political retrenchment with policies aimed at achieving market efficiency.

not this is the intention of the Leninist leaders of the CPC. Some analysts have even suggested that the extent of the US' policy dilemma *vis-a-vis* China will hinge on how benevolently China's leadership wields the efficiency gains that are ostensibly to be had from the market reforms.

Our theory suggests that China has long ago already gone beyond the point of institutional evolution that would have allowed the option of direct pursuit of capitalism. The institutional landscape may have evolved so differently in China as compared to the capitalist West, that no attempt to "just change it" could possibly succeed. China already has so many institutions that are complementary to the family firm and hostile to the capitalist corporation that the capitalist corporation and its support institutions will not take root on any general scale in China. As the PRC (or any conceivable successor) pursues alternatives to socialist economy through market reform, the most likely end result may turn out to be a family firm-based, market-oriented economy, not a market-oriented capitalist economy. If so, the economic character of government in China is unlikely to change rapidly, regardless of nominal ideology.

For the PRC's leaders to merely declare the establishment of "corporations," to rename ministerial firms as corporations, and to proclaim that a "stock market" is open, and to "offer stocks" are not sufficient conditions for the existence of true capitalist corporations. We would ask several questions to suggest which are the "missing features." (1) What real possibility exists for the formation of a completely independent private company on any significant scale, absent ministerial or other governmental (including familial) connections, and is there any general pattern of such events? We do not allow that this is answered by the emergence of private street peddling and intermediate-scale private entrepreneurial enterprise in commerce or manufacturing,

especially those holding "leased" government property. (2) If they are modeled on capitalist corporations, then why do "stock-market-listed companies" in the PRC have a serious problem with profitability and obtaining capital when the central government tightens credit allocation?⁶¹ Note that among Chinese households there is simultaneously an extremely large excess demand for financial instruments--vehicles for the storage and preservation of assets. (3) If there arise disputes over financial rights, ownership, liability, and contract enforcement where will these be taken up for resolution? What does the record of dispute resolution between Chinese and non-Chinese businesses say about the Chinese conceptualization of these issues?

This is not to diminish the importance of findings such as that by Jean Oi of what she has termed "local state corporatism."⁶² Here, local political elite exercise noncompetitive market power on the basis of pre-existing, socialist political authority. This is consistent with traditional practices of Chinese business, and certainly does rely upon any of the general conditions specifically associated with the emergence of capitalist corporations other than the existence of an output market, certainly not a sufficient condition for capitalist economy, nor necessarily limited to economy conducive to the emergence of capitalist corporations. The use of "state corporatism" by Oi refers to the manipulation of political position as the basis for organization of a network to engage in non-competitive production and commerce, including the "mobilization" of some state funds for use as capital, and the exercise of monopsony franchise over factor markets. It may resonate with the history of dynastic state enterprise and Republican period Nationalist Party "capitalism," but neither Oi's "corporatism," nor the latter two

⁶¹ For an example of this, see "Profits at China's State-Run Firms Sank in First Half, Reflecting Credit Squeeze" The Wall Street Journal 9/5/95 p A12.

⁶² Oi (1992).

phenomena comprise anything approaching western-style capitalism in terms of ownership and factor market conditions. This is not surprising, in light of the institutional environment.

True, should China's institutions change, the capitalist corporation could naturally occur in China as it evolved in Europe--without government "economic reform." But no one should be holding their breath. China continues to face a seemingly intractable incentive compatibility problem. Given the tremendous momentum of China's economic institutions, our analysis suggests that any conceivable reforms could not allow a fast enough growth of output to entice Chinese government to change its opportunistic strategy, appearances to the contrary notwithstanding. The behavior of the government in that landscape would have to undergo a dramatic change, and the government's new, responsible and long-term outlook would have to persist for a long enough time to engender a public trust. The kind of external pressures that may have generated such changes at an earlier period in Europe are (unlike Japan) not features of China's history, and might not even be features of China's present.

REFERENCES

- Alchian, A. and Demsetz, H. 1972 "Production, Information Costs and Economic Organization." American Economic Review December.
- Ash, Robert and Y. Y. Kueh, 1993 "Economic Integrations within Greater China: Trade and Investment Flows Between China, Hong Kong and Taiwan," in The China Quarterly 136 (December): 711-745.
- Becker, Gary S. 1964 Human Capital New York: Columbia University Press.
- _____. 1981 A Treatise on the Family Cambridge MA: Harvard University Press.
- Brandt, Loren. 1987 "Philip C. C. Huang, The Peasant Economy and Social Change in North China." in Economic Development and Cultural Change 35, 3 (April): 670-82.
- Brandt, Loren. 1987 "Farm Household Behavior, Factor Markets, and the Distributive Consequences of Commercialization in Early Twentieth-Century China." Journal of Economic History 47, 3 (September): 1-27.
- Cheung, Steven N. S., 1982 Will China Go 'Capitalist'?, (July) Hobart Paper 94, The Institute of Economic Affairs, London
- Clegg, Stewart S., Redding, S. Gordon, eds., 1990 Capitalism in Contrasting Cultures New York, Walter De Gruyter Studies in Organization 20.
- Dow, Gregory K. 1987 "The Function of Authority in Transaction Cost Economics," Journal of Economic Behavior and Organization; 8, 1 (March): 13-38.
- Eastman, Lloyd E. 1988 Family, Fields and Ancestors: constancy and change in China's social and economic history, 1550-1949; Oxford, Oxford University Press.
- Fairbank, John King, 1992. China: a new history Cambridge, Harvard University Press.
- Fama, Eugene F. 1980 "Agency Problems and the Theory of the Firm," Journal of Political Economy; 88, 2 (April): 288-307.
- Faure, David. 1989. "The Lineage as a Business Company: Patronage versus Law in the Development of Chinese Business." In The Second Conference on Modern Chinese Economic History. Taipei: Institute of Economics, Academia Sinica
- _____. 1991. "A Note on the Lineage in Business." Chinese Business History 1.2:1-3
- Feuerwerker, Albert 1992 "Presidential Address: Questions About China's Early Modern Economic History That I Wish I Could Answer" The Journal of Asian Studies, 51, 4 (November): 757-769

- Gardella, Robert. 1992. "Squaring Accounts: Commercial Bookkeeping Methods and Capitalist Rationalism in Late Qing and Republican China." The Journal of Asian Studies, 51, 2 (May): 317-339.
- Granick, David, 1990 Chinese State Enterprises: a Regional Property Rights Analysis, Chicago, University of Chicago Press.
- Harding, Harry, 1993 "The Concept of 'Greater China': Themes, Variations and Reservations," in The China Quarterly 136 (December): 660-686.
- Huang, Philip C. C., 1990 The Peasant Family and Rural Development in the Yangzi Delta, 1350-1988, Stanford University Press, Stanford.
- _____. 1991 "The Paradigmatic Crisis in Chinese Studies." Modern China 17, 3 (July): 299-341
- Huang, Philip C. C., 1991 "A Reply to Ramon Myers" The Journal of Asian Studies, 50, 3 (August): 629-633
- Jensen, Michael C., and Meckling, William H. 1976 "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure,": Journal of Financial Economics; 3, 4 (October): 305-60.
- Kirby, William C., 1995 "China Unincorporated: Company Law and Business Enterprise in Twentieth Century China" The Journal of Asian Studies, 54, 1 (February).
- Landa, Janet T., 1991 "Culture and Entrepreneurship in Less-Developed Countries: Ethnic Trading Networks as Economic Organizations" Chapter 4 in Berger, Peter L (ed), The Culture of Entrepreneurship, Institute for Contemporary Studies Press, San Francisco.
- Landa, Janet T., 1981 "A Theory of the Ethnically Homogeneous Middleman Group: An Institutional Alternative to Contract Law," The Journal of Legal Studies 10: 349-62.
- Leibowitz and Margolis, 1994 "... " Journal of Economic Perspectives 8, 2 (Spring).
- Levy, Marion J., Jr. 1949. "The Social Background of Modern Business Development in China." in Marion J. Levy, Jr. and Kuo-heng Shih, The Rise of the Modern Chinese Business Class. New York: Institute of Pacific Relations.
- Lin, Justin Yifu, 1995 "The Needham Puzzle: Why the Industrial Revolution Did Not Originate in China" in Economic Development and Cultural Change: 269-292.
- Luo, Qi and Christopher Howe, 1993 "Direct Investment and Economic Integration in the Asia Pacific: The Case of Taiwanese Investment in Xiamen," in The China Quarterly 136 (December): 746-769.
- Meyer, Milton W., 1994 China: A Concise History, Rowman and Littlefield.
- Myers, Ramon H. 1991 "How Did the Modern Chinese Economy Develop? -- A Review Article" The Journal of Asian Studies, 50, 3 (August): 604-628
- Myers, Ramon H. 1988 "Property Rights, Economic Organization and Economic Modernization During the Economic Reforms," Chapter Five (pp 137-167) in Chinese Economic Policy: Economic Reform at Midstream Edited by Bruce L. Reynolds, Paragon House, New York.
- Nathan, Andrew J. 1993 "Is Chinese Culture Distinctive? -- A Review Article" The Journal of Asian Studies, 52, 4 (November): 923-936

