Abstract: Post-1978 reforms in China implemented the Household Responsibility System to replace collective agriculture. Some villages resisted the new policy and remained collective. Interestingly, these villages achieved remarkable prosperity in the post-1978 era. I describe the organizational structure of these villages, and I attempt to explain their economic success. I argue that the prosperity of the collective villages is explained with self-selection and the introduction of market incentives. Specifically, only the villages which were able to exploit the economies of scale and mitigate moral hazard remained collective after the reforms. Market incentives provided additional motivation to address the moral hazard. This explanation is consistent with the fact that the Household Responsibility System led to higher productivity than the earlier system of People’s Commune. Nevertheless, the case of collective villages illustrates the fact that the problem of the Household Responsibility System was its universal character. Just like the system of People’s Commune, the new policy was an attempt to impose one organizational structure on all agricultural production while leaving little room for organizational diversity.

Keywords: collective villages, Household Responsibility System, Chinese reforms, Huaxi village, People’s Commune

1. INTRODUCTION

In his *State and Revolution*, Lenin (2004) envisioned a society that would be managed as a single factory. Although Lenin considered this arrangement only as a transitory phase before the withering away of the state, theorists of socialism who came after Lenin elaborated on this vision of an administratively managed society (Taylor 1929; Lange 1936, 1937). One of the countries that attempted to put this vision into practice was China. Although significant elements of administrative management remain present in the Chinese system, Chinese leaders realized that markets are indispensable as a tool to attain prosperity. Indeed, the current view of the Chinese authorities acknowledges that the market should “play the decisive role in allocating resources” (Xi 2014, 128). By combining planning and markets, the Chinese system gave rise to specific forms of governance. The purpose of this paper is to explore one such a particular form—collective villages. These villages have socialist characteristics, yet, they operate in a market environment. To paraphrase Robertson (1923, 85), they represent “islands of socialism in the ocean of markets.”
Chinese collective villages attracted the attention of scholars who studied them from various perspectives (e.g., Hou 2011; Lin 1995; Nathan & Kelkar 1997a, 1997b; Peng 2001). While these works improve our understanding of how these villages operate, they do not satisfactorily explain their prosperity in the post-1978 era.Related literature on township and village enterprises (TVEs) focuses on explaining the cross-sectional differences in performance of TVEs on the one hand, and state and private enterprises on the other (e.g., Chang & Wang 1994; Li 2005). This literature highlights either socio-cultural variables (Weitzman & Xu 1994) or political considerations (Chang & Wang 1994) as the main factors of TVEs success. However, these factors do not seem to account for the performance of the collective villages before and after the 1978 reforms: Socio-cultural variables are relatively stable over time, and therefore, they cannot explain the change in performance over time. Political considerations, such as state support, also seem irrelevant, because collective villages dissented from the official policy of the Household Responsibility System, and therefore, did not have political support from the central government. The present paper thus attempts to provide an alternative explanation. Building on the theoretical framework of Allen & Lueck (1998), I show that the prosperity of these villages depends on exploiting economies of scale and mitigating moral hazard. In particular, I argue that only villages with favorable characteristics chose to remain collective. Additionally, opening the markets during the reforms created a profit motive for local authorities that addressed incentive problems in their village organizations.

More generally, I argue that collective villages, although initially created from the top-down, may represent a local response to the question of an optimal organizational form in a given institutional and physical environment. By contrast, the official Household Responsibility System adopted during the reforms, although it possibly initially emerged at the local level, was a top-down attempt to impose an allegedly optimal organizational form for all agricultural production (Coase & Wang 2012; Chen 2016; Eisenman 2018). Although the Household Responsibility System fixed incentives in production teams, the case of collective villages indicates that family farming may not have been the optimal organizational form in all cases. From this perspective, my argument is similar to Ostrom’s (1990) insight that although top-down designs of incentive structures may work well in theory, they may be inferior to alternative designs that emerge spontaneously from the bottom up.

From a broad perspective, this paper illustrates the knowledge problem identified by Hayek (1945). Even if policy-makers were benevolent, they lack the knowledge necessary to design the details of the optimal economic order. In the present context, while we may be able to understand the main tradeoffs between family and collective farming, we may not be able to choose the “right” organizational structure without specific knowledge of local conditions. Therefore, the optimal policy consists primarily in introducing incentives, such as property rights and the price system, and letting economic subjects resolve the tradeoffs regarding the size and internal structure of organizations. Chinese reforms introduced market incentives, which allowed farms to respond to these incentives with the size and type of their output. However, these reforms did not allow the farms to respond by choosing their organizational structure.

In discussing the organization of collective villages, I use as the primary example Huaxi village in Jiangsu province. Arguably, Huaxi, sometimes dubbed the “richest village in the world,” is the most famous and prosperous of the Chinese collective villages (Hou 2011). Since Huaxi has been used as a model example of a collective village in prior literature, it seems to be a suitable case for the purpose of this paper, although its prosperity comes mainly from manufacturing rather than farming. The information about the organizational structure of collective villages in general, and Huaxi in particular, is based on both previous studies (especially Nathan & Kelkar 1997a, 1997b) and my visit to Huaxi in 2018.

The paper is organized as follows. In Section 2, I describe the post-1978 reforms in China to set the context under which the collective villages operated. The organization of collective villages is then discussed in Section 3. In Section 4, I introduce a theoretical framework to identify the main tradeoffs in choosing the size and organizational structure of a farm. Section 5 then uses this framework in an attempt to explain why collective villages prospered after 1978, although they failed to prosper before 1978. Section 6 concludes the paper.
2. POST-1978 REFORMS

Before 1978, Chinese agriculture was dominated by the People’s Commune system, which was characterized by collective production of output that was then administratively distributed at fixed prices. The commune system, especially in its early stage, was hugely inefficient, and China’s grain output per capita stagnated (Zweig 1987; Coase and Wang 2012; however, see Eisenman 2018, for a dissenting view). There were at least three main problems with the commune system. First, the effort in production teams was difficult to monitor, which gave rise to moral hazard. Second, markets were absent, which resulted in an inefficient allocation of output. Third, the commune system gave strong political and economic power to local cadres who, in many cases, abused their power at the expense of ordinary villagers (Chen 2016). This problem was further exacerbated by a minimal possibility for the oppressed villagers to exercise the “voice” and “exit” options.

In 1978, China started reforms that aimed at improving the performance in agriculture. In particular, these reforms included opening interregional markets and the introduction of the Household Responsibility System, which became an official policy in 1982. These reforms attempted to address the problems of the commune system. Opening the markets improved the inter-regional allocation of output, while the Household Responsibility System mitigated the moral hazard by allocating a share of land to a household. The households then made production decisions and were entitled to receive income from their land after meeting procurement obligations to the state. The Household Responsibility System also shifted the power from local cadres to ordinary villagers.

Interestingly, some villages resisted the official Household Responsibility System and remained collective. A possible explanation of this resistance was that the local leaders attempted to keep their power to exploit the villagers. Indeed, this explanation was also advanced by the central government. While this explanation might have played a role in some cases, in other cases, it is contradicted by at least two facts. First, the leaders in the rebellious villages were supported by the villagers (Nathan & Kelkar 1997a). The villagers’ support indicates that the leaders of these villages were benevolent rather than exploitative. This conjecture is also in line with the fact that at the time of the reforms, some of these rebellious villages were poor, even by Chinese standards. Therefore, they were relatively unattractive for exploitative leaders. Second, collective villages experienced remarkable increases in prosperity in the post-1978 period and even outperformed those villages which followed the official policy. For instance, in one of the most successful of these collective villages, Huaxi in Jiangsu province, the value of production arguably increased about three thousand times in less than twenty years (Nathan & Kelkar 1997a). This increase in prosperity is inconsistent with the view that these villages were governed by exploitative leaders.

Another possible reason why some villages resisted the post-1978 reforms was that they viewed these reforms as compromising the socialist ideals. This hypothesis is in line with evidence from several villages (Nathan & Kelkar 1997a). However, while this hypothesis explains why collective villages remained collective, it does not explain why they prospered in the post-1978 era, even though the system of collective agriculture failed to prosper in the pre-1978 era. This improvement in economic performance calls for an explanation. I suggest a possible explanation in Section 5. Before that, in the following section, I describe the characteristics of these villages in more detail.

3. WHAT ARE COLLECTIVE VILLAGES?

Collective villages are villages run as firms. Villagers are nominal owners of firms, but the firm is managed by party cadres. From this perspective, collective villages differ from both collective firms and state enterprises. Collective firms, unlike collective villages, are not managed by cadres of the local government. State enterprises are managed by political cadres, but, unlike collective villages, they are not owned by employees. Moreover, unlike collective villages, state enterprises are subject to soft budget constraints (Kornai 1979).
Therefore, their losses can be covered from public budgets. Collective villages face hard budget constraints and are not able to draw funds from public budgets. In fact, collective villages make payments to public budgets (Nathan & Kelkar 1997a). Another characteristic of these villages is that they represent not only economic but also political and social units (Hou 2011). From this perspective, they may resemble organizations such as the Israeli Kibbutz (Keren et al. 2006), Mondragon in Spain (Thomas & Logan 1982; diZerega 2014), or Cistercian houses in the twelfth century (Baumol 1990; Berman 1986).

Based on these characteristics, a number of authors pointed out that the collective villages exemplify a hybrid system between a capitalist and a socialist firm. Oi (1999) uses the term “local state corporatism” to highlight the relationship between enterprises and the local governments. Building on this perspective, Lin (1995) talks about “local market socialism,” emphasizing the embeddedness of market and collective forces in the local networks. Yet another approach is offered by Hou (2011), who argues that collective villages represent an example of “community capitalism,” emphasizing the fact that socialist organizations operate in a capitalist environment. All these perspectives are useful in understanding the character of collective villages. However, terms such as “capitalism,” “socialism,” and “corporatism” may be too vague and value-laden for analytical purposes (diZerega 2019). Therefore, I merely focus on the organizational structure of the collective villages, and I leave it up to the reader to what extent these villages are socialist or capitalist.

Collective villages are not concentrated in one region in China. Well-known examples of these villages include Huaxi in Jiangsu province, Daqiu in Tianjin, Nanjie in Henan province, Liuminying in Beijing, or Shangyuan in Wenzhou. The population of these villages is typically less than 5,000 individuals. However, Huaxi merged 16 adjacent villages in the early 2000s, which dramatically increased its population (Hou 2011). Moreover, the number of migrant workers employed in the collective villages can reach tens of thousands of people. Chen (2016) reports that in 2013 there were 28,000 (4.77%) villages in China that can be classified as collective, although these villages differ in their organizational structures.

As in other communities with collective ownership (Ostrom 1990), there are rules for entering and exiting the village. Regarding the rules of entry, other than being born into a collective village, one may become a villager by marrying into the village. Individuals with special skills may become part of the village through the introduction-of-talents program. These individuals often enjoy extra privileges, including higher wages. Alternatively, one can be hired as a migrant worker for a low-skilled job, but in this case, he or she has fewer privileges than ordinary villagers. Leaving the village is possible (and it has happened in the past), but the villager who leaves loses rights to the collective assets. Therefore, leaving a collective village is more costly than leaving a village that does not rely on collective ownership.

The governance of a collective village is shown in Figure 1, which is primarily based on Nathan & Kelkar (1997a). The village has two committees: the party committee and the village committee. The village committee only has a small number of functions, such as the provision of municipal services. The dominant role in the village is played by the party committee. Indeed, the members of the party committee are often also members of the village committee. More importantly, the secretary of the party committee is also a general manager of the village enterprise (general company). The village enterprise is a “holding company” for various enterprises in the village. The committee of this “holding company” is appointed by the party committee, sometimes together with the village committee. The village company committee appoints managers of the village enterprises. These managers should meet production targets and manage work teams. They do not make strategic decisions about product mix, quality standards, or investment—these are made by the village enterprise. The village enterprise also sets wages and monitors the performance of managers.
Figure 1: The structure of a collective village

The types of enterprises differ from village to village. At first, villages focused predominantly on agriculture. Over time, most of them expanded into various industries. Huaxi is one of those industrialized villages with very diverse production, ranging from food to the steel industry. According to Huang (2008), the value of Huaxi’s fixed assets in 1978 was one million yuan, while the value of the agricultural output was only 240,000 yuan. In fact, the presence of manufacturing at the time of the reforms may be one of the reasons why Huaxi remained collective (Nathan & Kelkar 1997a). Nevertheless, this does not explain why some of the non-industrialized villages also remained collective.

How exactly do the Chinese collective villages differ from other organizations? If we consider their various characteristics separately, then these villages may not be unique. Regarding the organization of production, they do not differ significantly from other multidivisional firms. One possible difference from “capitalist” firms is the political involvement in the management of these firms. However, as stated earlier, the fact that the collective villages are subject to the hard budget constraints make them more similar to “capitalist” firms rather than to state enterprises that enjoy soft budget constraints (Kornai 1979). One unusual aspect of collective villages is that they offer job security to villagers, although this job security is denied to migrant workers (Nathan & Kelkar 1997a). Yet, we find examples of “capitalist” firms, such as Lincoln Electric, who have a similar policy (Sharplin 1982). Another unusual aspect of collective villages are various welfare benefits that are provided to villagers on the village level. These benefits include “free” or subsidized housing, cars, education, and health care. For example, Huaxi provided identical houses and cars (Volkswagen Santana) to villagers (Peng 2001). This type of arrangement may be unusual but not unique. For example, besides Lincoln Electric, Bata company towns also offered various social benefits (Ševeček & Jemelka 2013; Zeleny 1988).

One important characteristic that distinguishes collective villages from the villages that followed the official Household Responsibility System are rules that limit the choices of the villagers. The Household Responsibility System gave more economic freedom to households (Coase & Wang 2012). In collective villages, household decisions are constrained by rules set at the village level. First, decisions about savings and working hours are made at the village level rather than at the household level. Indeed, in People’s Communes before 1978, the goal was to extract maximum savings from households to support investments in capital and technology (Eisenman 2018). This strategy of low consumption and high savings resembles the strategy of Cistercian houses in the later Middle Ages or early Protestant entrepreneurs (Baumol 1990). The village-level decisions about savings are typically set to maximize economic outcomes, but they may fail to maximize the welfare of the villagers. Indeed, at some point, there was pressure in the villages towards higher wages and more generous welfare benefits (Nathan & Kelkar 1997a). Second, Nathan & Kelkar (1997b) report that collective villages also regulated the private life of individuals. In some villages, these regulations involved
a minimum age for having a boyfriend or girlfriend or fertility regulations. Therefore, while collective villages were able to accumulate substantial wealth, they may not have maximized the welfare of villagers. Arguably, the discrepancy between wealth and welfare becomes even more important when individuals develop substantial differences in their tastes. These considerations notwithstanding, the economic success of the collective villages calls for an explanation. I attempt to provide a possible explanation in the following two sections. First, I introduce a theoretical framework, and then I will apply it to the Chinese collective villages.

4. THEORETICAL FRAMEWORK

I follow Allen and Lueck (1998) in identifying the main tradeoffs in choosing the size and the ownership structure of the farm. A crucial difference between farms and other firms is the influence of nature on production. Nature causes random shocks to the production process. These random shocks create opportunities for moral hazard. Therefore, if the variance of these shocks is large, farms tend to be small. Nature also affects production through seasonal forces. The seasonal character of production implies that there are limited gains from specialization: if a certain task can be performed only during a given period, labor specialized in this task would be idle during other periods. Therefore, if the length of the periods during which a specific task is performed is short, farms tend to be small. These two effects of nature on production helps to explain family farms as the dominant form of organization in agriculture.

There are two other reasons for the prevalence of family farms. First, families are residual claimants, which mitigates the moral hazard. Second, as argued by Laird & Laird (1970), farming depends on the local knowledge of farmers, which may be difficult to communicate in large organizations. Nevertheless, if the importance of specialization is high, farms may sacrifice moral hazard mitigation and the low cost of communicating knowledge in favor of gains from specialization. Consequently, the organization of a farm may shift from family farms to partnerships or corporate farms.

So far, we have assumed that the farms adjust their size and organizational structure. However, in China, both of these variables were determined by government policy. Therefore farms could not adapt their size and structure to their specific conditions. Consider People’s Communes in the pre-1978 era. They were large, consisting of about 5,000 households that contributed to the collective output. However, this output was not owned by the collective that produced it. The model predicts that the Communes could exploit potential economies of scale, but they also enabled moral hazard. The opportunities to moral hazard were due to the commune size, its ownership structure, and the randomness caused by the dependence of the production processes on nature.

The Household Responsibility System, introduced in the post-1978 era, reduced the size of the farms and allocated limited property rights to households. The Household Responsibility System sacrificed economies of scale but significantly mitigated moral hazard. Moral hazard was reduced not only through the reduction of farm size and the allocation of property rights but also through the introduction of market incentives. However, households had only limited possibilities to use capital, and the reform possibly forced them into using technologically inferior production processes. Overall, the success of the Household Responsibility System in increasing productivity in the rural areas (Lin 1992; Putterman 1993) is consistent with the historical observation that the dominant form of farming is family farming, which implies that economies of scale in agriculture are usually low (Allen and Lueck 1998; Dahlman 1980; Laird & Laird 1970). However, the question of what explains the prosperity of collective villages in the post-1978 era remains. Another unanswered question concerns why some villages re-collectivized after experimenting with the Household Responsibility System (Chen 2016; Nathan & Kelkar 1997a). In the following section, I attempt to answer these questions.
5. WHAT EXPLAINS THE PROSPERITY OF COLLECTIVE VILLAGES?

The theoretical framework introduced in the previous section yields the following predictions: Collective villages prosper if 1) their production is characterized by economies of scale, and 2) if they succeed in mitigating moral hazard. Therefore, to explain the success of the collective villages, I focus on these two aspects.

The problem with explaining the prosperity of the collective villages only through economies of scale is that economies of scale do not seem to explain differences in performance before and after the reforms. A possible answer to this problem is that the performance of the collective villages was underestimated in the pre-1978 era. For instance, local cadres could underreport their output to reduce the procurement obligations to the government (Eisenman 2018). While this scenario is conceivable, it cannot be the full answer because, as argued earlier, economies of scale in farming are generally low. More plausibly, the prosperity of collective villages is explained through self-selection. That is, only those villages that could exploit substantial economies of scale remained collective. That these economies indeed existed is demonstrated by the fact that the post-1978 collective villages employed large numbers of migrant workers. An important source of the economies of scale was an expansion of the activities of the collective villages in industrial production. As was mentioned earlier, in Huaxi village, industrial production became much more important than agriculture. This argument suggests that the villages that remained collective after 1978 would have been relatively prosperous also before 1978. It is unclear whether this prediction holds in general, but it does not hold for Huaxi, which was poor in the pre-1978 era.

Even if the collective villages could exploit economies of scale, they still had to address the moral hazard problem. It may be tempting to argue that the identification with the village, as well as the presence of other social norms, may mitigate moral hazard (Kandel & Lazear 1992). However, it is implausible that the identification with the village increased in the post-1978 era. Therefore, this explanation does not explain the low productivity of collective farming before the 1978 reforms because a change cannot be explained with a constant. In fact, the identification with the village may even have decreased because, arguably, Maoism no longer served as a uniting ideology among the villagers after 1978 (Eisenman 2018). Moreover, the majority of workers in the collective villages are migrant workers who arguably do not identify with the village to such an extent that it would solve moral hazard problems.

Nathan and Kelkar (1997) argue that collective villages use monitoring and punishment to mitigate moral hazard. Why were not these mechanisms effective in communes before the reforms? There are three possible explanations. First, in the post-1978 era, villages were able to employ not only moral but also more effective material incentives to reduce moral hazard (however, see Eisenman, 2018, for the argument that moral hazard was effectively reduced by a commune’s “work-point system”). Second, self-selection again played a decisive role: those villages which were able to mitigate moral hazard more effectively remained collective. Third, local authorities in the pre-1978 era were not incentivized to address moral hazard. It was only after the markets opened that the leaders had a profit motive to address the issue. Therefore, opening the markets seems to be the crucial aspect of the post-1978 reforms. Indeed, it matters whether “islands of socialism” are surrounded by an “ocean of socialism” or an “ocean of markets.” This argument suggests that villages that remained collective became successful only after 1978. This is true for Huaxi village, but it is unclear whether it is true in general.

One important source of moral hazard is related to the ownership structure of the village. After the 1978 reforms, villagers became the owners of the village output. However, the village is managed by the party committee that is nominally an agent representing the villagers. How do they ensure that the interests of the villagers are aligned? Standard mechanisms, such as the market for corporate control (Manne 1965; Shleifer & Vishny 1997), are not available. However, the introduction of the Household Responsibility System offered villagers a choice between village-level management and household-level management. The fact that collective villages did not join the Household Responsibility System not only signals something about the technological conditions under which these villages operated but also something about the personal
characteristics of their leaders. Arguably, leaders with undesirable characteristics would not gain support from villagers to dissent from the official policy. Besides their personal characteristics, these leaders were possibly better equipped with human and political capital than other villagers, which could partly compensate for the moral hazard problem. It appears that these leaders, although committed to a socialist ideology, understood the main sources of the economic prosperity of an organization, and possessed sufficient entrepreneurial talent to achieve this prosperity. More importantly, they resisted the temptation to abuse their power. Nevertheless, the dependence of the economic performance of the village on the characteristics of the leaders exposes collective villages to a single point of failure risk. Indeed, without the management of Wu Renbao, who was the leader of Huaxi village during its successful years, the village might have failed to prosper to the extent that it did in the 1980s and 1990s.\textsuperscript{1} This suggests that the personal characteristics of the leader played an important role, at least in the case of Huaxi.

In sum, I argue that the success of the collective villages can be explained by two factors. First is self-selection: Villages that could exploit economies of scale while at the same time mitigate the moral hazard problem remained collective. The second factor is market incentives, which were arguably reflected on the organizational level of these villages. Although the proposed hypotheses behind the economic success of collective villages need to be tested empirically, they at least show that it is possible to reconcile the view that collective farming was productive in some cases with the view that family farming introduced through the Household Responsibility System significantly improved productivity in other cases. According to this account, the main problem with the Household Responsibility System was its universality, which left little room for organizational diversity. Arguably, a policy that would allow the choice of the organization form of production would achieve better results. However, the question remains whether such a possibility was politically feasible during the reform era.

CONCLUSION

The post-1978 reforms in China represent an important chapter in both Chinese and global history. These reforms resulted in unprecedented economic growth\textsuperscript{2} because they successfully addressed the problems of incentives and allocation. However, due to their top-down character, these reforms failed to reflect the Hayekian point that a rational economic order should let individuals use their knowledge for their purposes (Hayek 1945; 1973). Only in such a system can knowledge be effectively used to address problems at the local level, including the problem of optimal organization design. I have illustrated this point using the example of collective villages. I attempted to explain why the Chinese collective villages prospered in the post-1978 era, while at the same time, the system of collective agriculture was less productive than the Household Responsibility System. Future research can empirically test the relevance of the arguments advanced in this paper.\textsuperscript{3}

NOTES

1. Wu Renbao passed away in 2013. The village is now managed by his son. For recent reports about the economic problems of Huaxi, see, e.g., Zheng (2018) and Zhang (2019).
2. The specific numbers about Chinese economic growth should not be taken too literally (see, e.g., Chen et al. 2019). However, even if we account for the fact that the Chinese growth figures have been overestimated, there still remains a tremendous increase in prosperity that calls for an explanation.
3. I would like to thank Nicole Yi Yang and Lingling Feng for their invaluable help with the translation of Chinese sources. I also greatly benefited from comments by Per Bylund, Geoff Hodgson, Xiong Yue, and Martin Komrska. Any mistakes are, of course, mine alone.
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