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To My Parents and Yingdong

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" ... research has a propensity to deform one's personality into that of an absent-minded zombie, who in search of the Truth alienates his social surrounding and loses both friends and material possessions, forgotten in transit from research at home and research at office."

Jan Bojö, 1991

I still remember the anxious eyes with which a good friend looked at me when I told him that I was going to study for a PhD. After a short pause, he asked me "Do you know what you are letting yourself in for?" I don't remember what I said to him, but I now know better what he meant. It has been a long journey for me, and many people have contributed to making it shorter, less difficult, and more rewarding. I am glad it is now at an end and I have an opportunity to thank those who have so kindly helped me during these years.

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Stockholm, March 1997

Zhang Gang

Introduction and Summary

"China's TVEs are indeed an economic wonder of the world."

- Martin Wolf
Financial Times

I. Introduction

Industrialisation is a crucial development issue facing all developing countries in the world. The phenomenal growth of Chinese rural enterprises (REs), or township and village enterprises (TVEs), since 1978 has been one of the most important and dynamic aspects in the rapid economic growth and current reform in China.[1] Meanwhile, it presents a new opening for rural industrialisation in other developing economies, especially those in Asia.

This introductory chapter serves the following purposes. First, it provides a brief historical backdrop to the rural enterprise sector in China in order to give the readers, especially those relatively unfamiliar with Chinese REs, a basic grasp of the sector being studied. Second, it provides a general survey of the existing literature on the Chinese rural enterprises. Third, it presents the data used in the three empirical studies, reviewing at the same time the process by which the survey data were generated. Fourth, it gives a brief background account of the economic setting of the survey sample. Fifth, it presents the thesis in terms of the research issues, the methodology, and the research findings as well as the major contributions of the thesis. The rest of this introductory chapter is organised into five sections each corresponding to one of the objectives above.

II. A Brief Historical Background of the Chinese RE Sector[2]

2.1 The Three Growth Phases After 1949

Rural enterprises as a sector have been given importance in development planning ever since the mid-1950s, when China started to look for a development model which would

[1] While the term "township and village enterprises" in English is a close translation of the Chinese term "*Xiang Zhen Qiye*", the terminology used to refer to these enterprises is not unified - some use "township and village enterprises", others prefer "rural enterprises" or "rural industry(ies)" - in the Western literature. Although these terms are in most cases synonym, TVE may sometimes be used to refer to only those REs owned by the local governments. In this thesis, this distinction is not made.

[2] This section is written with readers unfamiliar with the RE sector borne in mind.

combine centralised planning with a certain element of local initiative in order to speed up economic growth in China. However, the actual development of the sector has varied a great deal, depending on the changing policy environment and economic conditions in the past.[3] Saith (1987) divides the process of China's rural industrialisation into three distinct periods.

The first period starts with the Great Leap Forward (GLF) in the late 1950s and ends with the formation of people's communes in the mid-1960s. The GLF emphasised the development of small rural industries in line with the strategy of "walk on two legs", in reaction to the extreme centralisation of the Stalinist type First Five-Year Plan. During the economic crisis of the early 1960s, most of the rural industries were shut down. As economic conditions improved after 1962, the role of rural industries was gradually emphasised anew, mostly in relation to agriculture.

In the second period, namely the Cultural Revolution and the years following it (approximately from the mid-1960s to mid-1970s), renewed support was given to rural industries with the objective of modernising the agricultural sector technically as well as bringing about a structural transformation of the rural labour force.[4] The rapid development of this period was in fact a result of a confluence of policies including: the regional-self-reliance policy calling for a relatively self-contained industrial system at provincial level and below; the defence strategy of building a so-called "third frontier" by shifting China's industrial production from the coastal towards the interior provinces; and the so-called "walking on two legs" technological policy promoting the development of small-scale industries alongside large, modern ones (Wong 1985:262). Forming the backbone of this development were the "five small industries", namely iron and steel, chemical fertilisers, farm machinery, cement and energy (coal and hydroelectric power). The enterprises were then mostly state or collectively run at county level or below. It is estimated that at that time (1973), the rural state-owned relatively large enterprises and collectively-owned smaller businesses combined, employed about 18 million people or 36 per cent of the total industrial labour force (Sigurdson 1978:670).

From 1979 onwards, the third period is marked by a general re-orientation of the economic system and policies of rural China, including the dismantling of the commune system and its replacement with administrative townships. Through the shift in policy away from direct physical planning towards a system of indicative planning using the market mechanism particularly in agriculture, rural industries acquired substantially greater freedom and development potential. In 1984 "commune and brigade enterprises" were renamed "township and village enterprises", and their options vis-à-vis ownership were widened, with private ownership officially accepted for the first time. Township

3 For an overall account and an analytical review of the development of the Chinese rural industries up to 1978, see Cai Fang *et al.* (1991) and Ronnås (1992), respectively. See also Byrd and Lin (1990c:9-11) for a brief history of China's REs up to 1978.

4 The North China Agricultural Conference (August-October 1970) marked the starting point of a new policy in support of the rural industries (Cai *et al.* 1991:5).

enterprises are now operated by townships/towns (former communes), villages (former production brigades), villager groups (former production teams), partnerships of farmers as well as by individual rural households.

2.2 The Significance of the Post-1978 Development

The spectacular growth of market-oriented rural enterprises in China has played an important role in the rapid development and transition of the Chinese economy since the reforms began in 1978. Their output has been growing by an average of 30 per cent a year for more than a decade. More importantly, there has been a continued rise of total factor productivity of the RE sector, averaging 6 per cent per year during the 1980s as estimated by Jin and Du (1993b:19-20). This productivity growth of the REs sector surpassed that of the state sector as shown by Jin and Du (1993b) and by Liu *et al.* (1995:28). At present, REs employ approximately 112 million people, up from some 28 million in 1978, and account for no less than 75 per cent of China's gross rural social output and 47 per cent of national industrial output, up from 24 and 9 per cent in 1978, respectively.[5] Meanwhile, the rural enterprise sector has become increasing important for Chinese exports. Although the statistics on exports from different sources are inconsistent, it is beyond any doubt that the REs account for an important, and still growing proportion of total national exports. According to one source (Sachs and Woo 1996:3) the REs' share of national export was 32.6 per cent in 1994, up from 10.9 in 1987.[6]

Equally as important, the RE sector serves as an engine of rural social economic development in post-reform rural China (Islam and Jin 1994, Yang 1994). In many localities, the RE sector is the major source of revenues, financing local government expenditure and community welfare. It has also become the major source of income for rural households, and for agricultural investments. Its development has even had an impact on urbanisation in regions where REs have developed particularly fast and successfully (Lo 1995:1). In short, the development of REs has had a profound economic and social impact on rural China.

Moreover, as a fast-growing, market-oriented, non-state sector, the RE sector has also contributed in several important ways to China's transition to a market-oriented economy. First, the existence and the growing importance of the RE sector have exerted strong competitive pressures on, and hence broken up the monopoly of, the state sector in the Chinese economy (Chen *et al.* 1990:7). Second, as market-oriented entities, REs have

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5 The present figures cited here are taken from *Renmin Ribao Haiwai Ban* [People's Daily Overseas Edition], January 8, 1994, p. 1, and October 19, 1995; and the others are calculated based on *Zhongguo* (1991:1) and *Zhongguo* (1993:412), respectively. Rural social output refers to the total output value produced by the agricultural and non-agricultural sectors in a jurisdiction, at the county level and below, which is defined as rural area in China's statistics, but excluding the output values produced by a state sector enterprise located in the locality. For a definition, see *Zhongguo* (1993:402).

6 On the different statistics on REs' exports and their proportion in terms of total export, see Chen *et al.* (1994:17), who put the proportion at 25 per cent as of 1991.

generated a great amount of entrepreneurship and managerial experience in market operations, which has been useful for the transformation of the Chinese economy in general and for the reform of the Chinese state sector in particular. Thirdly, REs tend to influence the behaviour of the state enterprises towards greater market orientation through various linkages and trade with the state sector, which may lead to a gradual transformation of the state enterprises.[7] It is claimed that China's economy would be much better off if the state-owned enterprises would operate along the same lines as the REs.[8] The development of REs is even seen to offer the possibility that China's state sector may be replaced, not by dramatic privatisation, but gradually by being overwhelmed and outperformed (Weitzman 1993:550, 552).

Furthermore, REs' development has attracted international attention in search for successful experiences in rural industrialisation and, to a lesser extent, in the development of the non-state sector in transitional economies. On the one hand, the rapid growth of Chinese REs, in contrast to the usually less successful experiences of rural industries elsewhere, may present a new opening, offering some useful lessons, for other developing countries, especially those in Asia.[9]

On the other hand, the post-reform development of the Chinese REs, as a market-oriented, non-state sector having advanced rapidly in China's transition economy, stands in stark contrast to the poor growth performance of the non-state sector in some of the more recent transition economies (Weitzman 1993).[10] Therefore, several authors, e.g., Chen *et al.* (1990), Xiao (1991b), Qian and Xu (1993), Weitzman (1993), and Pei and Gunnarsson (1996), have highlighted the impact of rural enterprise development when comparing Chinese reforms with those of the transition economies of the eastern Europe and the former Soviet Union. Indeed, Goodhart and Xu (1996:35) view the development of the rural enterprises to be arguably the most important feature distinguishing the Chinese path of transition from that of the east European countries and the former Soviet Union. In this context, the Chinese experience may also prove worth studying.

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[7] It has been argued, in the case of European reform economies, by Sachs (1996) that trade between the transition economies (in Europe) and the developed market economies (in the West) is conducive to spreading capitalist market institutions from the latter to the former economies. Following this argument, the various links between the market-oriented REs and the state sector - on which see Ronnås and Sjöberg (1993) - with more direct contacts and higher frequency and volumes in trade, may have a similar, but presumably more direct effect on the firm's behaviour.

[8] See a comment by Martin Wolf in the *Financial Times*, Nov. 13, 1995, p. 24.

[9] On learning from the Chinese experience in other developing or transitional economies, see, e.g., Saith (1987, 1993a).

[10] This was at least the case in the beginning of their transitions. Also see, e.g., McKinnon (1994a), Brus (1993) and Sachs and Woo (1994, 1996) on comparisons between China and other transition economies.

2.3 Some Salient Features of Chinese REs

Despite the great diversity in the ownership and management of rural enterprises and the regional disparity in terms of level and models of rural industrialisation (Islam and Jin 1994, Jin and Du 1993a), the following account of the salient features is generally distinctive and noteworthy.[11]

- *Dynamism.* Output has been doubling every three to four years, and hundreds of thousands of new firms have emerged each year on average.

- *Competitiveness.* The sector has gained a large share of the domestic market for many industrial goods and has penetrated some export markets as well.

- *Small scale.* Although enterprises of substantial size exist, especially in the more developed areas, most firms are small concerns with only a few score employees and some ten or hundred thousand Yuan in assets.

- *Diversity.* There is great geographic variety in ownership, institutional arrangements, level of development, and degree of industrialisation.

- *Outward oriented.* Most output, especially of manufactured goods, is sold outside the community or locality in which it is produced.

- *Community orientation.* Nearly all rural enterprises are tied in complex ways to their rural communities, and they would not consider relocating.

- *Factor immobility.* Like the enterprises themselves, factors of production and human talent are largely immobile across localities and communities.

While the above account summarises the economically important features of the RE sector, Zhang and Sjöberg (1992: 5-8) consider the following characteristics of REs of importance from an institutional perspective. First, the *non-state ownership* of the REs. It is important to note that REs are neither owned by the central government, like the state enterprises, nor are they completely privately owned. The sector is dominated, in terms of total output and fixed assets, by the so-called collective REs owned by the local governments at township and village level.[12] Second, REs are *market-oriented*, which means that REs follow basically the market principles in their operations (see also, e.g., Zhang 1993, Chen *et al.* 1994:16, Ho 1995:367).

Third, the *local nature* of the REs. This means that since REs are community-oriented and geographically immobile, as pointed out by Byrd and Lin (1990a), they are more influenced by the local, relative to the national, institutional environments and politics, including crucially the extent of local government involvement. Thus, it is important to pay attention to local institutional factors, and regional variations, when studying the

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[11] This account of the features is adopted from Byrd and Lin (1990a:vii).

[12] For example, as of 1990, this type of RE accounted for 65 per cent of the total output, and 77 per cent of fixed capital (original value) of the RE sector as a whole. See *Zhongguo* (1991:1-3).

development of REs. Finally, there is the *rural origin* of REs, by which it is meant that not only are the REs located in rural areas, but also, and more importantly, that they mainly tend to reflect the social institutions of an agrarian society in their behaviour. The informal institutions of a predominantly agrarian society may influence not only the industrial organisation and management within the REs, but also their relations with the local authorities and with other firms, as well as with the local community at large.

III. Previous Research[13]

This section provides a general survey of the literature on Chinese rural enterprises. The wealth of material means that it has to be kept general and brief. A more focused discussion on the literature is also provided in the individual studies of this thesis. This survey thus complements the literature reviews in the various individual studies, and although it covers the pre-reform period, its focus is on the 1990s, during which time the literature has increased considerably. The survey is basically organised chronologically, with the literature published in the 1990s being discussed in terms of data sources, research methodologies, and research topics.

3.1 The Pre-Reform Period

Important, book-length, contributions to the research on the pre-reform Chinese rural enterprises, which were then called the "five small industries" or commune-brigade enterprises, include Sigurdson (1974, 1977), Perkins (1977) and Wong (1979). Riskin (1971, 1978a, 1978b) and Sigurdson (1975, 1978) are some journal articles available from that period. Although RE development in the post-reform period differs in important ways from that of the pre-reform period, there are some important economic and institutional links between the two periods, as pointed out by Ronnås (1993a). Thus, the literature on the pre-reform period is still useful for understanding the post-reform development, in particular, from a historical perspective.

3.2 The 1980s

Foreign scholarly interest in the rural enterprise sector continued in the 1980s, although there were no book-length publications during that decade. An important feature of the studies produced during the 1980s is that they were often part of a broader research theme on institutional reform and development in post-reform rural China, with the growth of REs being looked at in that context. Works of this category include Enos (1984), Griffin and Griffin (1984), Gray (1982), Nee (1989), and a study by the World Bank (1988). Another World Bank (1989) study provides an overview on the development of rural

[13] This survey covers only the literature in English published outside China, and focuses on the studies on the post-reform period. See Wong *at al.* (1995) on some Chinese publications on this subject.

industries and their prospects. While Ho (1986) discusses China's rural industrialisation in the context of Asian experience in this regard, Wong (1988) discusses the problems with respect to the statistics on the rural enterprise sector. Other English literature from that period includes Chen (1986), Yu and Zheng (1988) and Du (1988), with the latter two studies providing views from a Chinese (official) perspective.

The following remarks by Byrd and Lin (1990b:20) summarise well the state of the art in the research on the REs in the 1980s. "Despite the considerable volume of past and ongoing research on the TVP [township, village and private enterprises] sector, until recently little if any comprehensive work had concentrated specifically on TVPs, as distinguished from rural small-scale industry in general, county-run state enterprises, and so on. Moreover, most of the work, particularly by foreign scholars, was not based on systematic data gathering. Most important, the rapid development of the TVP sector since 1984 has simply outrun past and even much current research."

3.3 The 1990s

The important aspects of China's rural industrialisation warrant in-depth and detailed studies. Indeed, a number of major research projects have been carried out in this field. These include, notably, a World Bank research project implemented jointly with the Institute of Economics at the Chinese Academy of Social Sciences (CASS), a major research collaboration between the Asian Employment Programme of the International Labour Organisation (ILO-ARTEP), Stockholm School of Economics (SSE) and the Rural Development Institute (CASS-RDI) in Beijing, another research collaboration between ILO-ARTEP and two Chinese counterparts on the reabsorption of surplus agricultural labour (see ARTEP *et al.* 1992), a project carried out jointly by the University of Adelaide, Australia, and RDI (see Findlay *et al.* 1994), and research collaboration between the Institute of East Asian Political Economy in Singapore and Beijing University and several Institutes of the CASS (see Wong *et al.* 1995).

Given the dearth of systematic information and data on the post-reform RE sector, data generation through enterprise surveys was deemed to be the necessary first task of the research projects in this field. As a result, all these research projects have conducted enterprises surveys of varying sizes, with the World Bank-CASS collaboration and the three-tier research collaboration between ILO-ARTEP, SSE and RDI being the largest and the most comprehensive surveys.

Although international research efforts on understanding the development of Chinese REs were already redoubled during the latter part of the 1980s, a real increase of literature in this field did not take place until the beginning of the 1990s, as several major research undertakings took years to complete. The result of the World Bank research project has been published in a volume edited by Byrd and Lin (1990a). This publication may be seen as the beginning of a new phase in the study of Chinese rural enterprises both because the studies are based on fresh data of systematically conducted surveys and because it provides

the most comprehensive research and some of the best studies, at that time, in this field. The World Bank study explores a whole array of issues ranging from the conditions and characteristics of the REs' development to the operational behaviours of the REs and, further, to REs' relations with the local government and with the local community.

Of the main research outputs of the ARTEP-SSE-RDI collaborative project, Zhang (1993a), on the role of local governments and their relations with REs, has appeared as a journal article, while most of the other studies, including Ronnås (1993b, 1993c) on the general characteristics and the establishment and capital generation of REs, Ronnås and Sjöberg (1993) on RE's linkages with other sectors in the Chinese economy, and Zhang and Ronnås (1994) on the capital structure of REs, have been brought out as research reports at the Stockholm School of Economics. These and other studies, including Edlund (1993) on the implications of market fragmentation on the development of REs, Jin and Du (1993a, 1993b), on the characteristics and patterns of REs development and on the productivity of REs, respectively, and Zhang (1993b) on impact of local government on the capital structure of REs, and several other studies were presented and discussed at an international conference on Rural Industrialisation in China held in Beijing on October 19-22, 1993. The above mentioned studies have been edited into one volume by Ronnås (1996) for final publication.

Other individual studies based on data collected through fieldwork include Nee and Su (1990), Nee and Young (1991), Lin *et al.* (1992), Rozelle (1994) and the book-length publications by Ho (1994), and by Odgaard (1992a). Another book published on this topic is Xu (1995), which consists of two theoretical studies and one empirical based on the published data.

Valuable case studies have also been done in this field. A major collection of ten case studies on rural enterprises has been published in one volume edited by Wong *et al.* (1995). Other publications based on case studies include Odgaard (1990, 1992b) focusing on the privately owned rural enterprises, Mohanty (1993) detailing some managerial practices and labour relations in REs, Walder (1994b) on the role of local governments, Yang (1994) on the social and cultural impact of Chinese rural industrialisation, Whiting (1996) examining the sources of discipline on enterprise behaviour, as well as Mood (1996) on the diversity of development models.

Parallel to studies based on own survey data, there are a host of studies based primarily on secondary data, but often combined with supplementary information from own field researches. Studies based on survey data and those based on secondary data are important complements to each other. While the former group often provides detailed insights at the regional or firm levels and bases its analyses on a relatively narrowly defined source of information, the latter group is more concerned with a relatively wider range of, and often more general, issues and at setting their analyses at national, as opposed to regional or firm levels. Studies from this group include mainly the following:

Odgaard (1990/91) usefully discusses the problem of inadequate and inaccurate Chinese statistics, in particular, the case of private rural enterprises. Cai *et la.* (1991) and Ronnås (1992, 1993a) offer insights into the historical and institutional settings for the initial development of the RE sector. Islam (1991) and Islam and Jin (1994) analyse the impact of REs on growth and prosperity of the rural economy. Yang (1991) reviews the studies on the role of local governments. Zweig (1991a) analyses the export performance of the RE sector. Ody (1992) serves as an update of the World Bank's main project, but focusing on the late 1980s, including the austerity period (late 1988 - early 1990). Knight and Song (1993) look at employment and worker remuneration. Saith (1993b, 1995) offers important insights into the restructured agricultural-industry linkages in the post-reform era, and compares them with the pre-1978 period. Zhou and White III (1995) provide an analysis of some political implications of the mushrooming RE sector in post-reform China.

Good overviews on post-reform development may be read in Schädler (1990), Zweig (1991b), Dong (1992), and Ho (1995). Schädler (1990) focuses on the operational dimensions of REs. Zweig (1991b) examines some of the macroeconomics impact of REs on urban-rural linkages, on changing sectoral structures and on the breakdown of state control. Dong (1992), which analyses rural industrialisation from a historical and an institutional perspective, presents the Chinese viewpoint. Ho (1995) considers, among other things, the impact of REs on the environment and social welfare and gender issues. Finally, new attempts to compare the experience and performance of the Chinese REs in an international context have been reported. The major contributions in this area include Saith (1993a) on the lessons for reforming and developing economies, and Johansson and Ronnås (1996), who provide an excellent comparative study on the experiences of five Asian economies in rural industrialisation.

3.4 Some Recent Developments in the Literature

One important development in the literature during the 1990s has been the emergence of studies seeking to explain the successful development of the REs from an ever more theoretical perspective. This type of study has been increasing, therefore they can be treated as a special class in the literature survey. Broadly speaking, these studies are concerned with two interrelated issues: one is the role of local governments, and the other is the nature of the REs seen from a property rights perspective. An important feature of these studies is that they all seek to explain the puzzle of the seeming paradox between, on the one hand, the outstanding performance of the REs and on the other hand, the implications of conventional economic theories on transaction costs and property rights, given China's underdeveloped market institutions and the poorly defined property rights of the REs.

On the role of the local government, Oi (1992) puts forward a theoretical framework, viz. local state corporatism, for explaining the economic co-ordinating function of local governments. Studies on this broadly defined theme include Nee (1992), Zhang and

Sjöberg (1992), Qian and Xu (1993), Walder (1995), Weitzman and Xu (1994), Pei (1994, 1996), and Nee and Su (1996). In these studies, much of the attention has been focused on the role of local governments, among other things, in lowering transaction costs in the process of RE development. Formal theorisation has been attempted by Che and Qian (1995) and by Che (1995, 1996) through modelling the local government's relationship with the REs as an M-form firm governance structure and the like. Lin (1995) provides an application of the theoretical framework for local government corporatism, but emphasises social-cultural forces in explaining the interplay between the market and collective mechanisms. Jiang and Hall (1996) look at the bearing of some institutional and social factors on local corporatism, and examine empirically, by using a sample of 132 REs, its impact on the characteristics of collective and non-collective REs.

Although there appears to be consensus among the above-mentioned studies in recognising and, to varying degrees, addressing the role of local government in assisting economic transactions in the process of rural enterprise development, Nee (1992), Zhang and Sjöberg (1992), and Pei (1994, 1996), albeit differing among themselves, tend to apply the theories of transaction costs in a more consistent manner in their analyses than do some other studies. Thus, they perhaps represent yet another stance in the literature.

In another area of theoretical and practical importance, Weitzman and Xu (1994) and Chang and Wang (1994) are all concerned with understanding the puzzle - namely the nature of the REs to borrow Chang and Wang's terminology - arising from REs' poorly defined property rights. Other studies on this topic include Weitzman (1993), Walder (1992, 1994a), and Che and Qian (1996). These studies address the issues of REs' property rights from a theoretical perspective, while Jin and Qian (1996) report an empirical test of some hypotheses on the REs' ownership choice derived from theories and observations made by, among others, Che and Qian (1995, 1996), Naughton (1994, 1995) and Nee (1992). Bowles and Dong (1996) report another empirical inquiry into the nature of rural enterprises, which contributes to the debate by offering empirical evidence on the distinctive characteristics of collective and private rural enterprises. Given the importance of understanding the property rights of REs and in order to study the effects of ownership reforms within the RE sector, new empirical research is being carried out in this area - in particular, an ongoing research project doing follow-up surveys in two provinces over a three year period on a sample of REs which underwent shareholding ownership reforms. Some analyses based on preliminary observations from recent fieldwork have been provided by Vermeer (1995).

To sum up, understanding China's rural industrialisation is a considerable challenge. Although the increased volume of literature in the 1990s, by charting and describing the various dimensions of the fast growing process, has improved our knowledge on the RE sector, the unprecedented development of Chinese rural industrialisation warrants greater understanding and hence in-depth research. However, as the literature survey has illustrated, many important aspects of the rapid development are only just beginning to be covered by research. The emerging theories which aim to explain some puzzling aspects of

the development, though important in themselves, need to be fully developed, and tested empirically. Thus, further research, both empirical and theoretical, is much needed in order to deepen and improve the existing knowledge and understanding of the whole subject. A main purpose of this general survey has been to prepare the reader for the following, more detailed discussion of the research issues and methodology. As already noted, the research issues of this thesis are not well covered in the existing literature.

IV. The Enterprise Survey and the Survey Data

There are two specific reasons for reviewing the survey process and discussing the issues related to the use of the survey data in the context of this thesis. First, because the three studies of this thesis all use the survey data generated through the rural enterprise survey conducted within the framework of the above mentioned ARTEP-SSE-RDI collaborative research project. Second, from the stage of project initiation, I was involved, and later worked as a team member from the SSE's side in all the various stages of the project implementation, including the major steps of the process through which the survey data were generated. Working on generating the survey data has been an integral part of my research training, provided me with valuable hands-on experience. It also gave me first-hand knowledge and greater familiarity with the survey data used in the thesis.

The objective of the project "Rural Industrialisation in China: The Role of Township Enterprises" was to study the rapid growth of non-agricultural enterprises in China in the past decades. The project aimed to:

- analyse the mechanisms and salient features behind the rapid growth of the rural enterprises;

- analyse the role of rural enterprises as spearheads of rural development and their impact on rural employment and income opportunities;

- improve the understanding of the potential of, and constraints on, the development of market oriented enterprises within the institutional setting of a transitional centrally planned economy, and;

- bring out lessons for other developing countries, particularly in Asia, from the recent experience of the rapid growth of rural non-agricultural enterprises in China.

At the heart of the project was a survey of some 630 rural enterprises. The survey was deemed necessary in view of the dearth of quantitative information on the rural non-farm enterprises and the need for micro-level analysis of the economic and operational characteristics of individual enterprises in order to be able not only to chart, but also to understand, the process of rural industrialisation in modern China (Ronnås *et al.* 1996).

4.1 The Process for Generating the Survey Data

Prior to the enterprise survey, a joint delegation[14] of the three parties involved in the research project conducted a field trip in March 1990 to the two provinces, Sichuan and Zhejiang, which had been pre-selected for the rural enterprise survey. The aim of the fieldwork was to allow the researchers, especially the foreign ones, to gain sufficiently solid first-hand knowledge as a base for formulating intelligent questionnaires for the enterprise survey. To this end, a compilation of agricultural, economic and social statistics of the provinces and the counties to be covered by the survey was made and a large number of interviews with enterprise managers and local officials were undertaken.

The survey questionnaires were designed by the project team at the SSE[15] in the Spring of 1990 and translated by me into Chinese. In Summer 1990, I discussed the draft questionnaires with our Chinese counterpart and together with a team of Chinese researchers carried out a pre-test of the draft questionnaires. Interviews were conducted in a number of selected REs in Shunyi county outside Beijing and the whole questionnaire run on a trial basis. In order to test certain questions that were considered subject to revision, two versions of the same question were asked. The results of the pre-test were discussed on site and afterwards in Beijing. The questionnaires were subsequently revised, with the quantitative questionnaires being redesigned in line with the official accounting principles of REs in order to help in the information gathering and to avoid unnecessary conversions of the original book-keeping data. The final versions of the survey questionnaires were agreed upon by the project leaders of the three parties in Beijing later in 1990.

The enterprise survey of a total 630 rural enterprises in Sichuan and Zhejiang was carried out in late 1990 and early 1991 (see below). In March 1991, I joined Dr. Rizwanul Islam, the then Director of ILO-ARTEP, in Beijing on a mission to inspect the quality of the completed original survey questionnaire by means of random checks and to discuss with our Chinese counterpart the design of the computer data-base and the entering of the data. Random checks were carried out for all counties covered in the survey sample. The quality of the survey data was deemed satisfactory, and the data entering work was subsequently carried out by the RDI project team in the Summer of 1991.

To improve the quality of the data base originally produced by the RDI, a substantial amount of work had to be devoted to the re-coding and cleaning of the data base. This work was first carried out in Stockholm by the SSE team members, including myself, together with two researchers from RDI. The final stage of the data cleaning work was done in Beijing by Ms. Lena Edlund of SSE in order to gain access to the original survey returns, which were kept at the RDI.

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[14] of which I was a member.

[15] The team consisted of Dr. Per Ronnås, Ms. Lena Edlund and myself.

4.2 The Survey and the Survey Sample[16]

The field survey of some 630 rural enterprise was undertaken between December 5, 1990, and January 10, 1991, by the staff of the RDI. The survey was carried out in two provinces, Sichuan and Zhejiang, which were chosen according to three main criteria. First, they should be dissimilar with regard to economic structure and level of development. Second, they should also represent the fast growing coastal regions as well as the inland. Thirdly, it should be administratively feasible to undertake the survey in these provinces.

The survey aimed to capture the economic and operational characteristics of both collective and non-collective REs as well as inter-and intra-provincial differences.[17] To this end, a stratified random sampling procedure was employed in the selection of counties from the two provinces. All counties in the respective province were ranked according to their per capita rural social output in 1987. Then, three counties, i.e., Cixi, Ouhai and Linhai were selected at random from the upper, middle and lower thirds of the list in Zhejiang and two counties, viz., Qionglai and Changshou, from the upper and middle thirds in Sichuan.[18] From each of these counties two townships were selected at random, and from the total population of rural enterprises in these townships a sample of 30 collective and 33 non-collective enterprises was drawn at random in each township.[19] In a few instances when the number of total enterprises in the selected townships proved to be inadequate, an additional township was drawn at random from the same county.

The survey sample consisted of all existing ownership forms of rural enterprises, but no state enterprises were included in the survey sample. Only enterprises established prior to January 1, 1990 were included in the survey sample. During and after the survey, it turned out that the officially registered ownership and the actual ownership form, as expressed by the enterprise manager/owner, of some enterprises differed. In these cases the enterprises were reclassified accordingly and kept in the sample. In the end, each county survey sample contained a total of 126 REs. The ownership and geographic distribution of the enterprises is shown in Table 1.

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16 This subsection is based on Ronnås *et al.* (1996:2-4)

17 For a presentation of the economic and operational characteristics of the enterprises covered by the survey, see Ronnås (1993b).

18 Because no county in the backward group in Sichuan had a sufficient number of REs to fill up the enterprise sample, only two counties, one from the advanced group and one from the medium group, were included in the survey.

19 Collective enterprises include township (*Xiang Ban*), village (*Cun Ban*), and villagers' group (*Zu Ban*) enterprises, while partnership (*Lian Hu Ban*), individual (*Geti*) and private (*Siren*) enterprises are classified as non-collective enterprises.

Table 1. Ownership and Regional Distribution of the Enterprise Survey Sample.

		Zhejiang				Sichuan		
	Total	**Cixi**	**Linhai**	**Ouhai**	**Sub-Total**	**Chang-shou**	**Qionglai**	**Sub-Total**
Collective								
TE	102	23	23	17	63	17	22	39
VE	126	38	24	17	79	25	22	47
VG	34	-	2	-	2	18	14	32
Subtotal	262	61	49	34	144	60	58	118
Non-collective								
PT	139	4	70	57	131	2	6	8
IE	210	56	7	29	92	59	59	118
PE	18	5	-	5	10	5	3	8
FJV	1	-	-	1	1	-	-	-
Subtotal	368	65	77	92	234	66	68	134
TOTAL	630	126	126	126	378	126	126	252

Notes: TE = township enterprise, VE = village enterprises, VG = villagers' group enterprise, PT = partnership enterprise, IE = individual enterprise, PE = private enterprise, FJV = foreign joint ventures.

4.3 The Questionnaires

Three questionnaires were used in the survey to obtain the required information. One was designed to collect quantitative information from the books of the enterprises and was structured along the lines of the book-keeping system used by rural enterprises in China.[20] In the few cases where the enterprises kept incomplete or no written records, the information was obtained verbally. This was mainly the case with small individual enterprises. The questionnaire consisted of the following nine tables for quantitative data: (1) balance sheets for 1987/1989; (2) profit and profit distribution, 1988 and 1989; (3) production and sales, 1988 and 1989; (4) material inputs and energy supply, 1988 and 1989; (5) costs of production and other costs, 1988 and 1989; (6) fixed capital account, 1988 and 1989; (7) wage payment, 1988; (8) information on enterprise employees, 1989; (9) enterprise historical data, initial year to 1989.

[20] See 'Notification on Implementation of the Regulations on the Book-Keeping System in Township and Village Enterprises', issued jointly by the Ministry of Finance and Ministry of Agriculture on September 15, 1986. For an extraction from this document, see *Zhongguo* (1978-1987), pp. 512-517.

The second questionnaire was used to collect qualitative as well as quantitative information other than that available in the books of the enterprises. This questionnaire contained a total of 45 questions covering the following categories: (1) general information of the enterprise and the enterprise manager (questions 1-9); (2) enterprise history (questions 10-15); (3) operational environment of the enterprise (questions 16-25 with the last two questions concerned with only the individually-owned and private enterprises); (4) managerial and operational practices (questions 26-45). The information for this questionnaire was obtained through interviews with the owner and/or manager of the enterprises in question.

A third questionnaire was used for those rural enterprise that were either engaged in formal joint venture agreements with other enterprises or that produced goods for export. It contained 10 questions for the former type of enterprise and 5 questions for the later.

4.4 The Data and its Limitations[21]

The survey generated one of the largest, most comprehensive, data sets on Chinese REs to date. As a result of the above mentioned process of generating the data, the final data set used in this thesis is believed to be of a generally high quality. However, it should be noted that the quality of the original statistics in the REs' books may not be all that high. Two types of errors in the original data are likely. First, there are, for instance, incentives for the REs to modify some statistics such as the profit data either upwards, for reporting better financial results, or downwards, for tax reasons. Therefore, instead of using the figures on profits given by the REs, I have calculated the profit data used in this thesis from the data on costs and incomes. Fortunately, for most of the variables contained in the database, there were no obvious reasons, either known or conceivable, for the REs to manipulate the information given.

Second, there is a possibility that the original data on some issues may not be very accurate, because the bookkeeping quality may have been crude in some REs, even without any incentive to alter the figures. This type of inaccuracy is more likely in the figures on the proportion of the raw materials from various sources and suppliers and on sales to various markets and buyers, just to give an example. For this type of inaccuracy, the internal consistency checks can help to detect some of them, such as those between the sum and the breakdown of a given variable, either in absolute terms or in percentages. If an error was discovered by this method, the enterprise in question was excluded from the data processing of the variable in question. Furthermore, extreme outliers of data value were, as standard practice, excluded from the data used in regressions.

Having considered the possible errors in the database in those general terms, we have next to consider the data quality and its limitations in the context of this thesis. In my

[21] The survey data are also presented, and some specific data limitations are discussed in the individual studies, which are written as self-contained studies. The discussion here applies generally to the whole thesis and is complemented by those made specifically for the different individual studies.

judgement, the wealth of the database is such that it presents a good opportunity to probe the research issues of this thesis in considerable depth as well as breadth. Having said this, it should, nevertheless, be noted that the thesis has relied on a pre-existing data set in the following senses: first, the questionnaires were designed to serve the objectives of the entire project, and not specifically to meet the data needs of this thesis. Second, not all the research issues of this thesis were specified at the time of the survey, consequently it was not possible to take into account fully the data needs of this thesis in designing the questionnaires. It is thus necessary to note the limitations of the data set in the context of this thesis.

A data limitation that applies to all three studies is that the scope of the empirical investigations and the choice of variables and indicators may not always be ideal, as they were effectively limited by the availability of the survey data. For instance, it would have been very much better to have collected the information on the important areas of local government intervention as perceived by RE managers and by local government officials. This information could then have been used to identify and construct variables on local government intervention in order to study their impact on the capital structure of REs (see *Essay I* below). As a concrete example, since there is no survey data on the appointment of the enterprise managers, the information on the past and present political background of the enterprise managers is used as a substitute for the variable of local government intervention on the appointment of RE managers in the econometric model. Moreover, it would have been useful for the study of soft budget constraints if information had been available on what financial measures the rural enterprise manager would consider taking if the enterprises were running at a loss, likewise the same could have been asked of the local government officials. Interviews with local banks, on the other hand, would have been helpful for a better understanding of the bank's policies as well as their autonomy in the issuing of bank credits. Similarly, it would have been valuable to have had information on the managers' perceptions of the relative hardness of capital sources such as local government investment, bank loans and other forms of formal and informal credits. Moreover, many additional questions could have been asked to shed light on the transaction costs facing the REs. On the whole, however, the limitations of the data have not overly restricted the scope or depth of the study.

Second, the survey data is also relatively weak in respect of information on the economic, and even more so, on the institutional settings of the localities covered by the survey. Although some information on these aspects was collected by the research team during the field work and the survey, the statistical materials collected were inadequate and the range and scope of local statistics varied between the counties and provinces. This variation in the local statistics, due to a lack of standard and rigour in their collection, has made it difficult to make comparisons between regions. Some of the necessary economic statistics at provincial and. to a lesser extent, at county level have been obtained from officially published sources such as the provincial statistical yearbooks of Zhejiang and Sichuan. However, the problem of diverse statistical standards between regions is also sometimes

found in the official statistics which further limits the possibilities for making comparisons between regions. This data limitation was, for instance, faced when comparing the development levels and the degrees in marketisation of the counties and provinces in the study on transaction costs (see *Essay III* below).

Third, it is important to consider the extent to which the survey data are representative, and hence what inferences can be drawn between the sample and the population. To answer this question, let us first consider to what extent the county samples are representative of the two specific populations, namely Sichuan and Zhejiang provinces. First, the stratification procedure (see above) used in selecting the county samples of each province should mean that the resulting samples are representative of the major development levels of the populations. Further, given that the varieties of ownership patterns and a wide range of differences in industrial structures, market orientation, size of enterprises, and so on, are well-presented in the survey data, the survey sample does seem to cover an adequate range of variations in the important aspects of the RE sector and thus may be considered representative of the respective populations, i.e., the two provinces in question.[22]

The next question to be asked is to what extent inferences may be made between these specific populations and other populations, namely other provinces in China at large. The answer to this question depends on how unique the specific populations (Sichuan and Zhejiang) are, relative to the rest of the population (China). To shed some light on this, let us compare these two provinces in some important aspects with other parts of China. With regard to the level of rural industrialisation, Zhejiang represents the advanced level, and Sichuan the underdeveloped level, with the meddle level under-represented in the survey sample.[23] Geographically, Sichuan is in certain respects representative of the inland regions, and Zhejiang the coastal regions, with some other geographically distinct regions missing from the sample.[24] Arguably, there have been several typical development models of rural industrialisation in China (Chen and Xia 1988). Some, but not all, of these development styles are included, to a greater or lesser extent, in the survey, such as the more developed but also more collective-oriented Sunan (South Jiangsu) model seen in Cixi, and the typically market-oriented Wenzhou model in nearby Ouhai county.

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[22] See Ronnås (1993b) on these diversities of the REs presented by the survey sample.

[23] A rough calculation shows that as of 1988, the RE output per rural labour force (per rural capita) was 3054 (1733) yuan for Zhejiang and 725 (376) yuan for Sichuan, with the national average being 1621 (1176) yuan. Statistics are based on *Zhongguo* (1989a:87, 162) and *Zhongguo* (1989b:96). See also Islam and Jin (1994:1661) on the regional level of per capita rural industrial output for several years in the 1980s, which gives the same picture.

[24] There are alternative ways to categorise China's regions by geographical factors. For example, in the study by Xu (1995, see specifically pp. 45-47), regions are subdivided into suburban, coastal (including Zhejiang) and interior regions (including Sichuan), while Xiao (1991a) uses the criteria of east, inland and west to group the Chinese provinces. Xiao's classification, in which Sichuan belongs to the west region, and Zhejiang the east region, coincides largely with the Chinese official classification consisting of east, central and west regions (see Watson and Wu 1994:71). Furthermore, Goodhart and Xu (1996:23) group China's provinces into: coastal (including Zhejiang), north-east, central (including Sichuan) and remote provinces. By whatever criteria, there seems to be more than the two types of region as represented by Sichuan and Zhejiang, respectively.

This shows that in these important aspects the survey sample of the two provinces may be representative of some, but not all, regions in China. It therefore follows that the research findings based on the survey data are of limited use in generalising about China as a whole. In other words, the discussions in and conclusions of the studies, with or without being explicitly qualified, are meant primarily to refer to the regions under discussion. To the extent that Sichuan may be representative of the underdeveloped, inland region, and Zhejiang the developed, coastal region, the results should also shed light on the development of REs in these two types of regions. When the research findings are seen in such a regional context, however, it is important for the reader to bear in mind that there may be local regional variations in the levels and styles of economic development.

A final note about the data. The survey data refer to 1989 or earlier and so strictly speaking, the analyses and conclusions of the various studies are most relevant to that time period. However, my judgement based on two subsequent field trips, one in 1994 and the other in 1995 (see below), is that the conclusions based on the survey data were still, qualitatively speaking, valid at the time when this thesis was being written. In a few areas, such as banking and taxation, the reforms implemented in the 1990s may have brought about some, even major, changes and this possibility has been specifically mentioned in the various studies where this may be the case.

4.6 The Two Subsequent Field Visits

In addition to the survey data, the studies also draw on the information and materials gathered through two subsequent field trips made specifically for the purpose of carrying out research for this thesis. I conducted one field trip to Sichuan in November 1994 together with Dr. Örjan Sjöberg, and one to Zhejiang in July 1995 on my own. The main aim of these visits was, first to conduct additional interviews with enterprise managers and local officials to verify some tentative results from the first runs of the data processing. The interviews focused mainly on issues related to the local governments' relations with the REs, the institutional environment with regard to uncertainty in transactions, and the problem of inter-firm arrears. The second aim was to gain some fresh impressions of the status of RE development in the two provinces and to observe any new changes since the original survey. Thus, these field trips were intended to gather primarily qualitative, rather than quantitative, information useful for interpreting the survey data.

The Sichuan field trip was to Dazu county and to Beipei district, near Chongquing.[25] In addition, a half-day academic seminar was held with researchers at the Southwest Agricultural University in Beipei for discussions on the issues in the field of RE development. The field trip to Zhejiang was conducted in Ning county in the Ningbo region.[26] It was not feasible, nor considered essential for this thesis, to conduct additional

[25] This is the area where Changshou, one of the counties covered in the survey in Sichuan, is located.

[26] This is the region where Cixi, one of the counties covered in the survey in Zhejiang, is located.

field trips to all the localities covered by the survey, given the budgetary and logistical constraints. The choice of these localities for carrying out the additional fieldwork was primarily based on the administrative feasibility for arranging such visits to the two provinces at the given times. That the subsequent field trips were undertaken in counties other than those covered by the survey is viewed to have been of little consequences to the relevance and usefulness of the information gained from them. This is because, first, the information obtained is qualitative in nature, and on those issues that tend to be common to different localities of a province. Second, the information has been used mainly to enhance my own knowledge and first-hand impressions of the subject matter with the direct inclusion of such information being kept to a minimum level in the study itself. In a few places where the information from the field trips is directly referred to in the studies, it is explicitly noted either in the text or by a footnote.

V. The Setting[27]

This section provides a concise background to the survey setting. It first gives a brief account of the basic characteristics of the economy of the two provinces and then of the five counties covered by the survey.

5.1 The Two Provinces: Sichuan and Zhejiang

Sichuan is an interior province situated in south central China, where the Yangtze River begins. It has a total area of 570,000 square kilometres, of which almost half is mountainous. Only 11 per cent, some 6.3 million hectares, is arable. Yet, the province is the largest food crop producer in China as well as one of the most important for cash crops. Agriculture and industry accounted for 27 per cent and 54 per cent, respectively, of the gross social output in 1988. Heavy industry made up slightly more than half of the industrial production in the same year.

Zhejiang is situated on the coast in the Southeast of China. Due to its location it has strong economic ties with Shanghai. Like Sichuan, it is a largely mountainous province and only a fifth of the total 100,018 square kilometres area is arable. Zhejiang ranks among the more industrialised provinces in China. In 1988, industry accounted for some two thirds of the gross social output, as against only 16.5 per cent for agriculture. Light industry accounted for almost two thirds of Zhejiang's industrial output.

In terms of population, Sichuan is the largest of China's provinces, with more than 105.8 million inhabitants in 1988, 2.5 times that of Zhejiang. With 410 inhabitants per square kilometre, Zhejiang is one of the more densely populated provinces in China. The overall population density in Sichuan is less than half that of Zhejiang. However, the population in

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[27] This section is drawn from Ronnås *et al.* (1996:4-9).

Sichuan is very unevenly distributed and the central parts of the province, the Sichuan Basin in particular, have a population density equal to, or exceeding, that of Zhejiang.

Zhejiang belongs to a group of provinces which have registered very rapid growth since the early 1980s. Its national income increased more than threefold between 1978 and 1988, as against 'only' twofold for Sichuan and China as a whole (Table 2). As a consequence, the per capita national income in Zhejiang was twice as high as that of Sichuan at the end of the 1980s. The rapid economic growth of Zhejiang has been combined with fast industrialisation and as a result, its economic base has become more diversified and less agricultural than that of Sichuan.

Table 2. Basic Characteristics of Sichuan and Zhejiang (1988).

	Sichuan	Zhejiang	China
Area, 1000 km^2	570	102	9,600
Population, million	105.8	41.7	1,096.2
Population density, inha/ km^2	187	410	114
Labour force, million	55.9	25.0	543.3
- rural, %	82.9	80.1	73.7
- agricultural, %	71.7	51.4	59.5
National income *per capita*, Yuan	759	1,541	1,081
National income. Index 1978=100	203	337	212
Labour productivity, Yuan	1,430	2,552	2,166
- in agriculture	788	1,286	1,181

Sources: *Zhongguo* (1989a), various pages; *Sichuan* (1989), various pages; *Zhejiang* (1989), various pages.

Much of Zhejiang's rapid overall economic growth can be attributed to the development of rural enterprises. By 1988 these enterprises accounted for 36 per cent of the gross social product of the province, as against only 19 per cent in Sichuan. Table 3 reveals large differences between Sichuan and Zhejiang in the size and importance of rural enterprises. Although many fewer in number, the total production of REs in Zhejiang was almost twice as high as that in Sichuan. The nature of the enterprises in Zhejiang was also different from that in Sichuan; the average labour force was three times as high, the average fixed capital more than five times as high and labour productivity 2.3 times as high. These differences were largely a result of different growth rates in the 1980s. In 1978 the total output value of the rural enterprises had been virtually the same in Sichuan and Zhejiang; 2.1 versus 2.7 million Yuan, respectively.

Table 3. Rural Non-farm Enterprises in Sichuan and Zhejiang (1988).

	Sichuan	Zhejiang	China
Total number, 1000	1,836.6	504.8	18,881.6
Labour force, 1000	6,958	5,403	95,455
- as % of rural labour force	15	27	24
Fixed capital, billion Yuan	10.4	15.1	209.9
Output value, billion Yuan	34.0	60.7	649.6
- of which: % of industrial output	53.2	89.4	69.7
Labour productivity, Yuan	4,879	11,237	6,805
Average labour force	3.8	10.7	5.1
Average fixed capital, Yuan	567	2,972	1,112
Fixed capital/worker	150	278	218

Sources: *Zhongguo* (1978-1987), pp. 117, 142, 144, 575; *Zhongguo (1989b)*, pp. 40, 52, 71, 74, 80, 100; *Zhongguo* (1989a), p. 44; *Sichuan* (1989), pp. 42, 89, 107, 161; *Zhejiang* (1989), p. 22.

Notes: Output values are given at 1988 prices. Labour productivity is measured in output value per worker.

5.2 The Counties

Cixi county is located approximately 100 kilometres east of the provincial capital Hangzhou, on the road to the important port of Ningbo, in one of the most dynamic and densely populated parts of the province. Rural industries have served as the engine of industrialisation of the county and by 1988 they accounted for 81 per cent of the total industrial output of the county and employed 26.4 per cent of the rural labour force, as against 57.7 per cent in agriculture. Most rural industry is collectively-owned. Non-collective enterprises accounted for a mere fifth of the rural industrial output in 1988. The large discrepancy between the percentage of the rural labour force employed in agriculture and the share of agricultural sector in the gross rural social output (see Table 4) points to considerable differences in labour productivity between industry and agriculture.[28]

Ouhai county is located on the southeast coast of Zhejiang, in the vicinity of Wenzhou City, which has a long-standing reputation as a bastion of private entrepreneurship. This part of the province was traditionally oriented towards the sea, while communications with the inland were poorly developed. Until the late 1970s this relative isolation was combined

[28] However, it should be noted that gross social production overstates production in industry more than in agriculture as it is based on gross production rather than value added and because the share of inputs in gross production is likely to be higher in industry than in agriculture.

with economic backwardness. However, the economic reforms and the opening up of the country to foreign trade and investment gave great impetus to the local economy in the 1980s. Rural enterprises employed 24 per cent of the rural labour force in the country in 1988 and accounted for some 70 per cent of gross rural social product. As in Cixi, collective enterprises accounted for the bulk of both the employment (86 per cent) and the output (83 per cent) of rural industry.

Table 4. Basic Characteristics of the Counties Covered by the Survey (1988).

	Cixi	Linhai	Ouhai	Chang-shou	Qionglai
Population, 1,000	945.2	1,035.6	514.2	849.3	606.7
National income *per capita*	1,877	865	1,167	618	n.a.
Rural social output *per capita*	4,505	1,261	2,352	720	1,412
Rural social output, million Yuan	3,777	1,200	1,144	523	773
- % of agriculture	9,8	23,6	16,1	42,7	60,7

Sources: *Zhejiang (*1989), pp. 418-421, 428-429, 430-433; *Sichuan* (1989), pp. 614-616, *Zhongguo (*1980-1987), p. 396.

Notes: Rural population is used in calculating social output *per capita*. Figures for Qionglai and Changshou are for 1987.

Linhai county is by far the largest of the three counties covered in the survey in Zhejiang, with more than one million inhabitants and a total area of 2,200 square kilometres. The relative backwardness of Linhai as compared to Cixi and Ouhai is manifested in a number of ways. The industrial sector remains poorly developed and is dominated by state industries to a much larger degree than in the other two counties; reflecting the relatively weak development of the rural enterprise sector. The communications and transportation networks are also poorly developed. In the absence of a dynamic non-farm sector in the rural areas, a heavy burden is placed on agriculture, which is exacerbated by a very unfavourable land to labour ratio.

Qionglai county is located on the edge of the densely populated Chengdu plateau, only some 60 kilometres from the provincial capital Chengdu. Its favourable location and agricultural conditions have made Qionglai one of the more prosperous counties in the province and, since 1978, has been one of the counties with the most dynamic development of non-farm rural enterprises. By 1989 rural enterprises accounted for 73 per cent of the total industrial production in the county and employed some 83,300 people. In sharp contrast to the situation in the other counties covered by the survey, non-collective enterprises have played a key role in the rural industrialisation and accounted for a large

share of the rural enterprises. Thus, partnership and, in particular, individual enterprises accounted for 65 per cent of the labour force and 44 per cent of the gross output value of the rural enterprises in the county in 1989. Most enterprises were small: the average labour force in an enterprise was only 8.5 and some 84 per cent of all the enterprises were individually-owned.

Changshou county is located some 70 kilometres from Sichuan's largest industrial city: Chongqing. The development of the rural non-farm sector in Changshou has been relatively sluggish and by the end of the 1980s the economy of the county retained a marked dual character, with a sharp divide between the urban and rural areas. Rural enterprises accounted for less than 30 per cent of the total output of the county in 1988 and only some 15 per cent of the industrial output of the county originated from rural enterprises. Yet, the development of rural enterprises has been far from unimpressive. Measured by the number of enterprises and total output value, growth was quite substantial in the 1980s. In particular, the non-collective enterprises sector, which was virtually non-existent in 1978, developed rapidly and accounted for some 84 per cent of the number of rural enterprises and 47 per cent of their output value in 1989. However, manufacturing has accounted for a relatively small proportion of rural enterprise development and accounted for a mere 39 per cent of the total output of rural enterprises and for 42 per cent of their labour force in 1989, which is way below the proportions registered in the other counties covered by the survey.

VI. The Thesis

6.1 The Structure of the Thesis

The present thesis comprises the following three studies. (1) Impact of Local Governments on the Capital Structure of Rural Enterprises in China: The Case of Sichuan and Zhejiang Provinces, hereafter referred to as *Essay I.* (2) Soft Budget Constraints in Chinese Rural Enterprises: Some Empirical Evidence from Zhejiang and Sichuan Provinces, hereafter referred to as *Essay II.* (3) Economic Development, Marketisation and Transaction Costs in Chinese Rural Enterprises: A Regional Perspective, hereafter referred to as *Essay III.* These studies have been written as independent, self-contained articles in respect of content, structure, references and style. They can be read as a whole, or individually, in any order at the reader's choice.

6.2 The Research Issues of the Thesis

In this section, the research issues are discussed in terms of their importance and how they relate to the existing literature in the relevant field of research. In so doing, the continuity

between my previous research and the present efforts is also highlighted.[29]

The research issue of *Essay I* arises from two sets of interrelated observations in some previous studies. The first set indicates that local governments are important sources of initial capital for rural enterprises (Ronnås 1993a: 234, Zhang 1993a: 52-53, and Wang 1990). The active role played by local governments has, however, led to various government interventions particularly in such areas as the appointment of RE managers, employment decisions as well as the setting of wage levels in the REs (see e.g., Song and Du 1990, Song 1990:399, Wang 1990:226, Lin *et al.* 1992, Zhang 1993a, Weitzman and Xu 1994, Xu 1995:20). Moreover, Zhang (1993a)[30] and Lin *et al.* (1992) have shown that relationships between the local government and the collective and the non-collective differ in substance.

The second set of observations is that studies on the capital structure of REs (Zhang and Ronnås 1994, Wang 1990, Peng 1994) have noted that in various respects collective and non-collective REs appear to have different capital structures. According to Zhang and Ronnås (1994)[31] the major differences in the capital structure of the two types of REs include the following:[32] first, collective REs receive risk capital from local government investments, but the non-collective REs do not. Second, the proportion of formal bank loans to total loans is considerably higher for collective than for non-collective REs, suggesting that their access to bank loans may be unequal. Third, collective REs use the delayed payments of taxes and other dues to local governments as a source of informal credit to a much larger extent than do the non-collective REs.

Theses two sets of observations can be reasonably assumed to be related to each other, which gives rise to the research issue of *Essay I*: namely, what impact have local governments had on the capital structure of REs. *Essay I* investigates this issue by testing a set of hypotheses on the local governments' investment behaviour, on their influences on REs' access to bank loans and on the REs' use of delayed payment of taxes and other dues as a source of informal credits.

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[29] The research work of my graduate studies has been divided into two phases. In the first phase, I produced three studies, i.e., Zhang and Sjöberg (1992), Zhang (1993a) and Zhang and Ronnås (1994), which were submitted and successfully defended as a thesis for a licentiate degree in May 1994. The research for this thesis is closely related to these studies, although none of this earlier work is included here.

[30] Zhang (1993a) explores three interrelated issues: (1) the major areas of local government impact and interventions in the REs, (2) the areas and extent to which the REs operate as market oriented enterprises, given the existence of local government intervention, (3) the different relationship between the local government and non-collective REs compared to that between the local government and the collective REs.

[31] Zhang and Ronnås (1994) aim to throw some light on the development of financial markets, the role of various types of institutions as furnishers of capital to rural enterprises, and differences between ownership forms and regions regarding to access to formal loans and credits. The study covers three broad themes concerning the capital structure of rural enterprises: (1) the pattern of the total asset base and the capital intensity between ownership forms, regions and main branches, (2) a review of the financial markets in rural China with special reference to Zhejiang and Sichuan, (3) a detailed examination of the sources of capital for various types of enterprises.

[32] See Zhang and Ronnås (1994), pp. 32-35, 49 and 57 on the following aspects, respectively. See also Wang (1990) on features of capital formation of REs according to a survey by the World Bank.

Understanding these issues is important on several counts. First, although it is known that local governments are important investors in the REs, their investment behaviour as such has not been well understood. Second, while local governments are seen to have a great deal of influence on the allocation of bank loans - an observation which in turn is used to explain the better access to bank loans by the collective REs than the non-collective REs - this local government influence has not been subjected to quantitative assessment. In relation to this, it is also important to investigate how the REs' access to bank loans may have been affected by their ownership and by other economic and non-economic factors. Third, it is believed that the collection of taxes and other payments due from the REs to local governments are sometimes not strictly enforced. However, little is known about the factors that may influence the extent to which the REs may be allowed to be in arrears to the local governments. In short, in all these aspects our knowledge needs to be increased by in-depth and quantitative analyses, which is what *Essay I* aims to accomplish.

Essay II studies the soft budget constraints in the REs using the survey data. The concept of soft budget constraints was originally developed by Kornai (1980, 1982) to describe an economic phenomenon in the socialist planned economies in general and in their state sector in particular. Do soft budget constrains as such, have anything to do with REs, which are non-state owned, market-oriented entities? On the one hand, REs are seen to face basically hard budget constraints as they are market-oriented, which means that in principle their survival is determined by the market. Moreover, the perception in general is that the REs face harder budget constraints than do state enterprises. On the other hand, given that many of the REs are owned by the local governments it appears doubtful whether budget constraints on the REs are genuinely as hard as they may be for the private enterprises in a real market economy. Yet, theoretical studies by Qian and Roland (1994) and by McKinnon (1994b) suggest that REs face hard budget constraints precisely because local governments as owner of these enterprises face hard budget constraints themselves. However, to what extent this may be so is yet to be empirically proven.

Empirically, the belief that REs face hard budget constraints has been challenged on the following grounds. First, it has been noted that the local governments tend to influence the allocation of bank credits, often in favour of the collective REs. To the extent that formal and informal credit was guaranteed by local governments, Naughton (1995:153) goes as far as to say that "township and village enterprises did not have completely hard budget constraints". Second, taxation is another area where rural enterprises may enjoy preferential treatment, hence their budget constraints may be softened.[33] Young and Yang (1994:33-34), for instance, draw our attention to the sometimes deliberately lax collection of taxes.

Furthermore, rural enterprises tend to explore new means of budget softening, such as accumulating inter-firm arrears, by taking advantage of the poorly established market

[33] See e.g., Blejer and Szapary (1990) on the problem of China's tax system and its relation to soft budget constraints.

institutions in China (Zhang and Sjöberg 1992:33-34). In a similar vein, Zhang and Ronnås (1994) report the use of several types of informal credits, such as outstanding payments to governments, inter-firms arrears and unpaid wages, in the formation of total capital of rural enterprises. Zhang and Ronnås (1994:60) point out that such involuntary credits provide an indication of soft budget constraints in as much as they reflect a certain leniency towards the failure of enterprises to meet various contractual obligations, or at least an absence of effective deterrents against such failure.

In sum, the existing literature cited above amply suggests that there is still room for the rural enterprises to shield themselves from facing genuinely hard budget constraints. However, there are few earlier empirical studies that investigate this phenomenon in depth. Many studies have made passing references to the softness of budget constraints in rural enterprises (as in Findlay *et al.* 1994), but they do not pursue the subject any further. The existing empirical studies on soft budget constraints are either confined to China's state sector (e.g., Hay *et al.* 1994), or are of some vintage (such as the pioneering work by Wong 1986). The only work that looks at budget constraints on rural enterprises in some depth is by Whiting (1996), which is based on case studies and only includes collective REs. As a result, in spite of the theories of and observations on the hardness versus the softness of budget constraints, the true nature of budget constraints in the rural enterprise sector is still difficult to establish because of the lack of systematic and in-depth empirical work done on this topic. Against such a background, *Essay II* aims to contribute to the literature through a systematic empirical inquiry into the nature of budget constraints in the rural enterprise sector.

Essay II does so by systematically looking into the capital use as well as the capital sources of the REs, including local government investments, bank loans, inter-firm arrears and overdue payments to local government. In particular, *Essay II* aims to contribute to the literature on the study of Chinese REs in two respects: first, to test whether the theory of hard budget constraint on local government leading to hard budget constraint on REs holds empirically. Second, the findings of *Essay II* with regard to the nature of the budget constraint faced by REs contribute to debate on the nature of the REs.

Essay III is concerned with investigating the transaction costs facing REs. The outstanding performance of Chinese REs may be seen as a puzzle because their rapid growth took place in an institutional setting that was ill-suited for this type of enterprise. Yet, for a long time the causes of the REs' successful growth were more or less automatically, and single-handedly, ascribed to the beneficial impact of the market-oriented reforms on incentives and on the allocation and utilisation of resources. However, more recent developments in the transition economies of Eastern and Central Europe and the former Soviet Union have made it clear that such reforms do not automatically result in growth (Ronnås *et al.* 1996:1). Apparently, one of the major obstacles to growth is the high transaction costs in the transition economies due to their lack of well-developed market institutions.

On the one hand, Zhang and Sjöberg (1992: 14-20) note that China, as a transition economy, lacks well-developed market institutions during the post-reform era. On the other hand, existing literature on transaction costs points to the importance of institutions to the efficiency of an economy, by reducing the costs of economic transactions (North 1990:67). Thus, the lack of formal institutions to underpin efficient markets should mean a high transaction cost environment for Chinese REs. Furthermore, the low level of development in rural China tends also to give rise to high transaction costs due primarily to the lack of infrastructure. In addition, small businesses, which form the vast majority of Chinese REs, are, in general, considered to have the disadvantage of facing higher transaction costs because of the diseconomies of scale and scope in their business transactions (Nooteboom 1992, 1993). Thus, all these conditions mean that REs are likely to have to cope with some high transaction costs.

In view of the likelihood of high transaction costs in rural China for the reasons given above, the continued fast growth of the market-oriented rural enterprises raises interesting questions as to: (1) what is the actual nature of transaction costs facing the rural enterprises, and (2) what are the important economic and institutional factors that have worked towards lowering the transaction costs, and by what mechanisms and for which transactions? These issues are important, but not well understood. In the literature, there are only a few studies, including Nee (1992), Zhang and Sjöberg (1992)[34] and two recent studies by Pei (1994, 1996), that look particularly at the transactions costs of REs. However, none of these studies have used systematically gathered survey data to this end. An attempt is thus made in *Essay III*, which uses the survey data to look at the nature of transaction costs and the manner in which transactions are handled by the REs. The objectives of the study are twofold: (1) to put into perspective the nature of transaction costs facing the REs; (2) to investigate how economic and institutional factors such as the level of development, the degree of marketisation, the role of local government, as well as informal institutions may be seen to have affected these costs.

6.3 Methodological Remarks

This subsection discusses the choice of research methods employed in this thesis. In doing so, it also provides a discussion, supplementary to the literature survey above, on the research methodology employed in the literature on the related subjects.

First, I should point out my commitment to the funding organisation, the Swedish Agency for Research Co-operation with Developing Countries (SAREC), was to carry out empirical research on the topic of this thesis by principally using the survey data generated through the earlier major research undertaking on the Chinese rural industrialisation with financial assistance from SAREC. Given this commitment at the outset, the choice

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[34] Zhang and Sjöberg (1992) contains (1) a brief review of the transaction costs theories, (2) an overview of the institutional setting in China, by looking at the state and workings of formal and informal institutions, and (3) discussions on seven important aspects of economic transactions with particular reference to the REs.

between a theoretical or an empirical orientation of my thesis was not a matter for discussion. The choices remaining only concerned what kind of empirical study would be appropriate for this thesis. The choices then have been effectively influenced by the present state-of-the-art knowledge on the research issues, on the one hand, and by some special features of the research topics of the thesis, on the other hand.

Let us first consider the implications of the state of the existing knowledge on the choice of the research methods. It should be clear from the literature survey, and even more from the above discussions on the research issues that the subjects of this thesis are not well covered in the literature. Relatively speaking, however, there are more studies, and hence better knowledge, on local government influence (on REs) than on some other important aspects of the dynamic development of the rural enterprise sector. Similarly, the observations on the differences in capital structure between the collective and non-collective REs are, by and large, well-established from previous studies. On the basis of such existing knowledge, the primary task of *Essay I* is to improve the understanding of local government investment behaviour and their influence on the REs' access to bank loans and the extent of the non-payment of taxes by REs. The task of deepening the knowledge on these issues suggests, arguably, the application of some quantitative methods, hence the choice of regression analysis of *Essay I.* This is in an attempt to estimate quantitatively the influence of local government on the capital structure of REs. Existing knowledge has been drawn upon in formulating relevant hypotheses on the research topics of *Essay I.*

The existing literature on the research issues of *Essay II* and *Essay III* is, however, more limited than for *Essay I.* There are not many previous empirical studies and few if any of them explore the subject matter in a comprehensive manner or base their analyses on large scale, systematically generated survey data. Thus, existing knowledge about the nature of budget constraints, and on the transaction costs facing Chinese REs dose, indeed, seem to be unsystematic and incomplete.

Moreover, the direct relevance of conventional economic theories in explaining these phenomena of REs seems to be rightly questioned and considered limited, as suggested by Weitzman (1993), and Xu and Qian (1993). The lack of direct relevance of the existing mainstream theories may explain to a large extent some of the recent attempts to formulate alternative theories, as previously noted, on soft budget constraints by e.g., Qian (1994), Qian and Roland (1994), and Walder (1995), and on transaction costs by Nee (1992), and by Che and Qian (1995), to name but a few. However, these newly emerging theories have, in their turn, been criticised for being based on only limited empirical evidence, or on rather tentative, unsystematic observations of the real world.[35] Thus, such theories appear

[35] As a general critique, without mentioning any specific works, Goh (1995:318) points out that "as these theories have not been supported by reliable evidence, these theories deserve no more attention than guesses and speculation." In disagreeing with Chang and Wang (1994), Pei (1996:45) argues that "the TVEs described by Chang and Wang were made up by the authors and are, therefore, not realistic." Without necessarily agreeing with the opinions expressed by these authors, these quotations may nevertheless serve to stress the importance of further empirical research on the RE sector.

to have limited use in generating testable hypotheses on the subject matter of this thesis. Furthermore, without sound knowledge of both reality and relevant theory, the interpretation of the results from any hypothesis test is likely to be arbitrary and speculative.

This basic level of empirical knowledge and the lack of reported research efforts appear to have been, at least in part, a result of the lack of data available for investigating these subjects in a systematic manner and in depth. Against this backdrop, it would seem most appropriate and, above all, important to put into perspective the nature of budget constraints and that of the transaction costs facing the REs by using some of the best available data on this sector. This need to produce better, more systematic, factual knowledge leads, in part, to the choice of the explorative analytical approach employed in *Essay II* and *Essay III*.

Having considered the influence of existing knowledge, let us consider the implication of some special features of the research tasks on the research methods employed. Although the discussion below concerns mainly *Essay II* and *Essay III*, the issue is also to some extent relevant to *Essay I*. It may be noted that these two studies are concerned with operationalising two of the, perhaps, best-known concepts in modern economics: soft budget constraints and transaction costs. However, to apply such conceptual ideas to empirical use has proved difficult due to two inter-related factors. The first has to do with the fact that both these concepts are too broadly and vaguely defined to readily be made operational. For example, Williamson (1986:141) acknowledges that it is not clear how operationalisation of the concept of transaction costs might be accomplished. Second, and presumably as a result of the first factor, there are only a few previous empirical studies on either subject. Relatively speaking, however, there are more systematic empirical studies on the subject of soft budget constraints.[36] Thus, in respect of research methodology, *Essay II* has benefited to a certain extent from a recent study by Hay *et al.* (1994) on the Chinese state sector.

The lack of empirical research on various topics in transaction cost economics has been noted by several prominent authors in this field including Coase (1972:62), Williamson (1986:141), Clarke (1987:116, 125, 127), Clarke and McGuinness (1987:170), Davies (1987:104) and Eggertsson (1990:31), to mention just but a few.[37] Furthermore, the situation with regard to empirical research in institutional economics in general is well summarised by Matthews (1986) in his Presidential Address to the Royal Economic Society. A decade later, Matthews' remarks are still highly relevant. Thus, the following remarks are worth quoting in the present context.

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[36] See e.g., Kornai and Matits (1984), Raiser (1993, 1994), Buch *et al.* (1994), and Hay *et al.* (1994). However, most empirical studies on soft budget constraints rely on macro-level data, with relatively fewer studies using firm level data. Kornai and Matits (1984) and Hay *et al.* (1994) are some notable exceptions in this regard.

[37] However, as is well known, the transaction cost theoretical framework has been more successfully applied in business studies than in economics. See, e.g., Anderson and Gatignon (1986), Gatignon and Anderson (1988), Hennart (1991) and Hu and Chen (1993).

> "But it seems to me that in the economics of institutions[38] theory is now outstripping empirical research to an excessive extent. No doubt the same could be said of other fields in economics, but there is a particular point about this one. Theoretical modelling may or may not be more difficult in this field than in others, but empirical work is confronted by a special difficulty. Because economic institutions are complex, they do not lend themselves easily to quantitative measurement. Even in the respects in which they do, the data very often are not routinely collected by national statistical offices. As a result, the statistical approach which has become the bread and butter of applied economics is not straightforwardly applicable. Examples of it do exist, the literature on the economics of slavery being perhaps the most fully developed - not surprisingly because slavery is an institution that is sharply defined. But to a large extent the empirical literature has consisted of case-studies which are interesting but not necessarily representative, together with a certain amount on legal court cases, which are almost certainly *not* representative. Is this the best we can do? There is a challenge here on the empirical side to economists to see what is the best way forward." (Matthews 1986:917, italics in original, footnote added)

The lack of earlier research means that there were few examples to follow regarding research methodology. Thus, it has been methodologically challenging to undertake the studies of this thesis, given the availability of the survey data, with a great deal of effort going into the design of appropriate indicators to reveal the influence of local governments, the various soft budget constraints, and transaction costs facing the rural enterprises. This, together with the objective of working out the basic facts on the soft budget constraints and transaction costs, as discussed above, led increasingly to the choice of the explorative analytical approach of *Essay II* and *Essay III*.

6.4 Summary of Findings

This subsection summarises the main research findings of the three studies. It is a condensed version of the summaries of the three individual studies, and is primarily intended to provide the reader with a relatively concise overview of the research findings of the thesis.

Essay I has produced several interesting findings. First, with regard to the investment decision-making of local governments, this study has revealed significant provincial disparities. In Zhejiang, the pattern of local government investment behaviour appears to include: (1) local government investment as a share in total capital was relatively low (as compared with that in Sichuan); (2) the level of local government investment was

[38] By this, the author means to include the economics of institutions and the economics of transaction costs. See Matthews (1986:907).

insignificantly related to the local government interventions; (3) the rate of investment returns played an important role when allocating new investment, although this rate was negatively related to the *level* of local government investment. The pattern in Sichuan, on the other hand, yields the following: (1) local government investments accounted for a significantly higher share (about 30 per cent) in the total capital of REs than in Zhejiang; (2) significant impact of local government intervention on both the *level* of local government investment in total capital, as well as the allocation of new investment; (3) a negative relationship between the rate of return on investment and the level of local government investment in total capital on the one hand, but an insignificant role of the rate of return on investment in allocating new investment on the other hand.

Second, *Essay I* has shown that the impact of the collective ownership form on the REs' access to bank loans is not statistically significant in either provinces under study, but only so in certain counties, when the effects of the firm size and the rate of return on capital are being controlled for. The result suggests that the bias towards collective REs with regard to access to bank loans may be a local rather than a universal phenomenon. Thirdly, the study provides statistically significant evidence on the relationship between collective ownership and the weakening of financial discipline, through the use of delayed payments of taxes and other dues to local governments as a source of informal credit, in REs.

Essay II shows that there is a major distinction to be made between collective and non-collective rural enterprises with regard to the nature of budget constraint. This study reveals that non-collective enterprises face basically hard budget constraints. Yet, this is not the case in the collective rural enterprises. Comparisons between these two types of rural enterprises show that collective rural enterprises are in a better position to raise capital from all sources under study and thereby soften their budget constraints, than are non-collective enterprises. This fundamental difference in the nature of the budget constraints is apparently due to the local government ownership of the collective enterprises, although a fuller understanding of the budget softening mechanism of local government ownership requires further study.

Hard budget constraints faced by local governments appear to have made them cautious when allocating investment capital to rural enterprises. By allocating investment capital to profitable enterprises (cf. the significant regression result of *Essay I* on the rate of return on capital when allocating new local government investments), the hardness of the budget constraint on local governments can, at least in part, be passed on to the rural enterprises. This appears to be one of the key factors contributing to the hardness of budget constraints faced by, even collectively owned, rural enterprises.

However, the budget constraints of REs are not only affected by their access to local government investment capital. Many factors contributing to the softness of budget constraints still existed at the end of the 1980s. The discipline in the use of bank loans was yet to be hardened (cf. *Essay I* on the negatively significant relations between the rate of return on capital and the share of bank loans in the total capital of REs in some regions).

The softness of the tax system remained little changed, and the many loopholes existing in the local tax system gave rise to soft budget constraints, particularly on collectively-owned rural enterprises (cf. the result of *Essay I* on the strongly significant effect of collective ownership on the share of overdue payments to governments in the total capital of REs at both provincial and county levels). Thus, according to the survey data, a genuinely hard budget constraint on, in particular collectively-owned, rural enterprises still remained to be seen and hoped for as late as the end of the 1980s.[39]

Regarding the nature of the transaction costs facing the REs, *Essay III* has shown that in the initial stages of development rural enterprises tend to engage in primarily simple transactions, overwhelmingly in the local markets, e.g. within the same townships, for inputs and outputs. It is argued that the reliance of virtually all REs on the local labour force leads to low labour transaction costs, and the survey data shows clearly that marketing costs, on average, are indeed low for REs, in particular for those in Sichuan where most of the products are sold locally. That in the early stages of their growth REs tend to engage primarily in simple transactions, overwhelmingly within small local communities, would appear to have been a main factor behind the low transaction costs faced by these enterprises. Few previous studies have explicitly pointed out this.

While rural enterprises having derived some transaction cost advantages from being local and small, there appear, however, to be certain transactional disadvantages for precisely the same reasons. The scattered, rural locations of these enterprises may prove to be to the disadvantage of the REs when it comes to transacting with the urban sector and in the urban markets, added to which the small size of many REs would also seem to put them at a disadvantage when subcontracting production and even more when forming joint ventures with other firms.

With regard to the influences of some economic and institutional factors, the main findings of *Essay III* are as follows: first the impact of *development level* on transaction costs facing the rural enterprises appears to be mixed. On the one hand, a higher level of development is conducive to the provision of a better infrastructure, a condition necessary for the lowering of transaction cost, especially if REs are to be involved in complex transactions. On the other hand, to the extent that REs experience a decreasing reliance on the local markets and an increasing propensity to enter into non-local markets, and thus to become engaged in complex transactions, the transaction cost advantages that many REs enjoy in the initial stages of their development - derived from transacting overwhelmingly within the local markets for factors and for outputs - tend to diminish as the level of development rises. As the development level is uneven between regions in China, this further implies that transaction costs for REs engaged in transactions outside their local markets are unlikely to be affected just by the infrastructure in their home region.

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[39] However, China has implemented some reforms in the banking sector and introduced a new tax system since the survey was undertaken. Therefore, it is an important topic for further research to look at the extent to which these reforms have decisively changed the local banking and tax systems and, more importantly, effectively hardened the budget constraints on the rural enterprises.

The effect of the *degree of marketisation* may be looked at in two inter-related ways: first, the extent to which markets are allowed to function as an efficient means for arranging economic transactions. That wage levels for RE employees are to a greater extent determined by the market mechanism in the relatively more marketised Zhejiang than in Sichuan may be illustrative of this very effect of marketisation. Second, the effect of marketisation may also be seen from the point of view of a wider range of choices for transactions. It follows that if enterprises have more alternatives to choose between for any given transaction, the likelihood of a firm finding an alternative of lower transaction cost increases. An example of this effect of marketisation is the much higher percentage of the *collective* REs in Ouhai - the most marketised county covered by the survey - that rely on informal channels for recruiting their workforce, presumably due to the freedom they have to use other than government allocations. Moreover, China's, as yet, incomplete transition to a market economy and lack of formal market institutions have caused extra transaction costs - in the form of inter-firm arrears - to some REs, especially those in Zhejiang. That non-payments to REs are significantly correlated with the REs' sales to the state sector suggests that an increased degree of marketisation, i.e., a reduced state sector, would be conducive to reducing transaction costs of this kind.

Local government as a special institution in China, may be regarded as having played two important roles in reducing the transaction costs facing REs. First, is its role as a provider of better infrastructure, although this positive aspect of local government cannot be seen in isolation from the effects of a higher level of development. Second, local governments appear to have played an important role in facilitating the transactions of initial capital thereby reducing the transaction costs of some, mostly collectively-owned, REs. This role of local government is especially importance in the absence of a functioning capital market in rural China. Its importance is therefore to be reduced with an increasing degree of marketisation as well as that of economic development.

Informal institutions appear to have played an important role in reducing the transaction costs for REs, especially in the context of transactions within local communities. This is because informal institutions, such as norms of social behaviour, personal trust and reputation effect, etc., are more effective in facilitating transactions in the small, local markets than in large, increasingly impersonal, markets. Labour transaction is one of the areas in which informal institutions have been identified as being of particular importance in lowering the transaction costs of REs, as reliable information about employees is available locally at virtually no cost and because personal trust and reputation effect that discourage opportunistic behaviour work particularly effectively in small, local communities.

6.5 Major Contributions of the Thesis

Lastly, this thesis should be looked at in terms of its contribution to the understanding of the subject matter and on its other academic merits. Its major contributions may include the following:

first, the three essays all claim a measure of originality and of novelty in terms of their contribution to a better understanding of, and adding fresh knowledge to, the respective research subjects.

A. On the role of local governments. Essay I offers new, quantitatively derived, insights into local government investment behaviour, into the role of some factors in affecting the REs' access to bank loans and the bias in favour of the collective REs, and into the impact of enterprise ownership on the extent to which the REs may use overdue payments to government as a source of informal credit.

B. On the nature of budget constraint of REs. The novelty that *Essay II* claims rests with its position as being the first study to have looked systematically into the nature of budget constraints on REs using a set of survey data. It is a thorough inquiry into this subject, looking at the budget constraints in many respects, and comparing between collective and non-collective REs.

C. On the nature of transaction costs facing REs, and on the role of several economic and institutional factors in affecting such costs. Essay III also claims to be novel in its field - being a first study that has systematically looked at these issues in detail using a set of survey data. *Essay III* suggests that transaction costs for REs may have been low primarily because of their reliance on local markets for inputs and outputs in the early stages of rural industrialisation. Few have explicitly suggested that before.

Second, *Essay I* contributes to the methods of research on the role of local governments by reporting how statistical analysis may be applied to studies on this subject. To the best of my knowledge, no one has used this method before in similar studies.

Third, *Essay II* is a contribution to the empirical literature on soft budget constraints, which was lagging well behind the development of theories in this field.

Fourth, *Essay III* makes a contribution to the empirical literature on transaction costs through an attempt to operationalise the concept. In fact, it reports a rare attempt that looks, through a transaction cost conceptual framework, at what the transaction costs are like in reality at the firm level, and how they may be seen as being affected by a set of economic and institutional factors. This contribution, though modest, should be judged against the background of Coase's own observation on his transaction cost conceptual framework being "much cited but little used" (Coase 1972: 63), presumably because "transaction costs had not been operationalized and it was not obvious how this could be accomplished" (Williamson 1987:141).

Bibliography:

Anderson, E., and H. Gatignon, 1986, 'Modes of Foreign Entry: A Transaction Cost Analysis and Propositions'. *Journal of International Business Studies*, vol. 11, pp. 1-26.

ARTEP, Ministry of Labour, China, and The China Institute of Human Resource Development Planning, 1992, *Reabsorption of Surplus Agricultural Labour into the Non-Agricultural Sector: A Study of Township Enterprises in China.* New Delhi: Asian Regional Team for Employment Promotion (ARTEP), ILO.

Blejer, Mario I. and Gyorgy Szapary, 1990, 'The Evolving Role of Tax Policy in China', *Journal of Comparative Economics,* vol. 14, pp. 452-472.

Bowles, Paul and Xiao-yuan Dong, 1996, 'Enterprise Ownership and Worker Attitudes in Chinese Rural Industry: New Evidence and Implications for the Township and Village Enterprise Debate'. Mimeo. University of Northern British Columbia.

Brus, Wlodzimierz, 1993, 'Marketization and Democratization: The Sino-Soviet Divergence'. *Cambridge Journal of Economics*, vol. 17, pp. 423-440.

Buch, Claudia, Norbert Funke, Ralph Heinrich and Martin Raiser, 1994, *Overcoming Obstacles to Successful Reforms in Economies in Transition.* (Kieler Studien 261.) Tübingen: Institut für Weltwirtschaft an der Universität Kiel.

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

Byrd, William A. and Lin Qingsong, 1990b, 'Research Design, Methodology and Data'. In William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 19-40. Oxford: Oxford University Press.

Byrd, William A. and Lin Qingsong, 1990c, 'China's Rural Industry: An Introduction'. In William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 3-18. Oxford: Oxford University Press.

Cai Fang, Jin Hehui, Zhang Yuanhong, Du Zhixiong, Li Zhou, 1991, 'The Tradition and Structural Dynamics of Rural Industries In China'. (Studies in International Economics and Geography, Research Report 17.) Stockholm: Stockholm School of Economics.

Chang, Chun and Wang Yijiang, 1994, 'The Nature of the Township-Village Enterprises'. *Journal of Comparative Economics.* vol. 19 (3), pp. 434-452.

Che, Jiahua, 1995, 'China's Township and Village Enterprises: How Integration Can Expand Market Transactions'. Mimeo. Department of Economics, Stanford University.

Che, Jiahua and Qian Yingyi, 1995, 'Understanding China's Township-Village Enterprises'. Mimeo. Department of Economics, Stanford University.

Che, Jiahua, 1996, 'Why Multi-unit Firms Can Reduce Information Asymmetry'. Mimeo. Department of Economics, Stanford University.

Che, Jiahua and Qian Yingyi, 1996, 'Insecure Property Rights and Government Ownership of Firms'. Mimeo. Department of Economics, Stanford University.

Chen, Chunliai, Christopher Findlay, Andrew Watson and Zhang Xiaohe, 1994, 'Rural Enterprise Growth in a Partially Reformed Chinese Economy'. In Christopher Findlay, Andrew Watson and Harry X. Wu, eds., *Rural Enterprises in China,* pp. 4-23. Basingstoke: Macmillan.

Chen Jiyuan and Xia Defang, eds., 1988, *Xiangzhen Qiye Moshi Yanjiu* (*Study of Models of Township Enterprises*). Beijing: Zhongguo Shehui Kexue Chubanshe.

Chen, Kang, Garry H. Jefferson and Inderjit Singh, 1990, *Lessons From China's Economic Reform*. (Research Paper Series Number 5, Socialist Economic Reform Unit, Country Economic Department.) Washington, DC: The World Bank.

Chen, Te-Sheng, 1986, 'The Development of Town and Township Enterprise in Mainland China Since 1979'. *Issues and Studies*, vol. 22(10), pp. 67-88.

Clarke Roger, 1987, 'Conglomerate Firms'. In Roger Clarke and Tony McGuinness, eds., *The Economics of the Firm*, pp. 107-130. Oxford: Blackwell.

Clarke, Roger and Tony McGuinness, 1987, 'Conclusions'. In Roger Clarke and Tony McGuinness, eds., *The Economics of the Firm*, pp. 165-173. Oxford: Blackwell.

Coase, Ronald H., 1972, 'Industrial Organization: A Proposal for Research'. In Victor R. Fuchs, ed., *Policy Issues and Research Opportunities in Industrial Organization: Economic Research: Retrospect and Prospect*, pp. 59-73. New York: NBER, distributed by Columbia University Press.

Davies, Steve, 1987, 'Vertical Integration'. In Roger Clarke and Tony McGuinness, eds., *The Economics of the Firm*, pp. 83-104. Oxford: Blackwell.

Dong Fureng, 1992, *Industrialization and China's Rural Modernization*. New York: St. Martin's Press.

Du Rensheng, 1988, 'Rural Employment in China: The Choice'. *International Labour Review*, vol. 127(3), pp. 371-381.

Eggertsson, Thráinn, 1990, *Economic Behavior and Institutions*. Cambridge: Cambridge University Press.

Edlund, Lena, 1993, 'Market Fragmentation and Rural Industrialisation in the People's Republic of China: A Survey of Rural Enterprises in Zhejiang and Sichuan'. Paper presented at the International Conference on Rural Industrialisation in Post-Reform China, Beijing, 19-22 October, 1993.

Enos, John L. 1984, 'Commune-and Brigade-Run Industries in Rural China: Some Recent Observations'. In Keith Griffin, ed., *Institutional Reforms and Economic Development in the Chinese Countryside*, pp. 223-252. London: Macmillan.

Findlay, Christopher, Andrew Watson and Harry X. Wu, eds., 1994, *Rural Enterprises in China*. Basingstoke: Macmillan.

Gatignon, H., and E. Anderson, 1988, 'The Multinational Corporation's Degree of Control over Foreign Subsidiaries: An Empirical Test of a Transaction Cost Explanation'. *Journal of Law, Economics and Organisation*, vol. 4, pp. 305-336.

Goh, Keng Swee, 1995, 'Research Guide'. In John Wong, Rong Ma and Mu Yang, eds., 1995, *China's Rural Entrepreneurs: Ten Case Studies*, pp. 318-345. Singapore: Times Academic Press.

Goodhart, Charles and Xu Chenggang, 1996, *The Rise of China as an Economic Power*. (Development Discussion Paper No. 549.) Cambridge, MA: Harvard Institute for International Development.

Griffin, Keith and Kimberley Griffin, 1984, 'Commune-and Brigade-Run Enterprises in Rural China: An Overview'. In Keith Griffin, ed., *Institutional Reforms and Economic Development in the Chinese Countryside*, pp. 210-222. London: Macmillan.

Gray, Jack, 1982, 'Rural Enterprises in China, 1977-79'. In Jack Gray and Gordon White, eds., *China's New Development Strategy*, pp. 211-235. London: Academic Press.

Hay, Donald A., Derek J. Morris, Guy Liu and Shujie Yao, 1994, *Economic Reform and State-Owned Enterprises in China 1979-1987.* (Especially pp. 323-365.) Oxford: Clarendon.

Hennart J., 1991, 'The Transaction Costs Theory of Joint Ventures: An Empirical Study of Japanese Subsidiaries in the United States'. *Management Science*, vol. 21(4), pp. 483-497.

Ho. Samuel P. S., 1986, *The Asian Experience in Rural Non-Agricultural Development and its Relevance for China.* (World Bank Staff Working Papers, No. 757.) Washington, DC: The World Bank.

Ho, Samuel P. S., 1994, *Rural China in Transition.* New York: Oxford University Press.

Ho, Samuel P. S., 1995, 'Rural Non-Agricultural Development in Post-reform China: Growth, Development Patterns, and Issues'. *Pacific Affairs*, vol. 68(3), pp. 360-391.

Hu, Michael Y., and Haiyang Chen, 1993, 'Foreign Ownership in Chinese Joint Ventures: A Transaction Cost Analysis'. *Journal of Business Research*, vol. 26(2), pp. 149-160.

Islam, Rizwanul, 1991, 'Growth of Rural Industries in Post-reform China: Patterns, Determinants and Consequences'. *Development and Changes*, vol. 22(4), pp. 687-724.

Islam, Rizwanul and Jin Hehui, 1994, 'Rural Industrialisation: An Engine of Prosperity in Post-reform Rural China'. *World Development*, vol. 22(11), pp. 1643-1662.

Jiang, Shanhe and Richard H. Hall, 1996, 'Local Corporatism and Rural Enterprises in China's Reform'. *Organization Studies*, vol. 17(6), pp. 929-952.

Jin Hehui and Du Zhixiong, 1993a, 'The Characteristic and Evolution of China's Rural Industrialisation'. Paper presented at the International Conference on Rural Industrialisation in Post-Reform China, Beijing, 19-22 October, 1993.

Jin Hehui and Du Zhixiong, 1993b, 'Productivity of China's Rural Industry: Growth Rates and Regional Disparity'. Paper presented at the International Conference on Rural Industrialisation in Post-Reform China, Beijing, 19-22 October, 1993.

Jin, Hehui and Qian Yingyi, 1996, 'Choice of Ownership: Evidence from Rural China'. Mimeo. Food Research Institute and Department of Economics, Stanford University.

Johansson, Sara and Per Ronnås, 1996, *Rural Industrialization: A Review of Selected Asian Experiences.* (SAAT Working Papers.) New Delhi: ILO-South Asian Multidisciplinary Advisory Team (SAAT).

Knight, John, and Song Lina, 1993, 'Workers in China's Rural Industries'. In Keith Griffin, and Zhao Renwai, eds., *The Distribution of Income in China*, pp. 173-215. Basingstoke: Macmillan.

Kornai, János, 1980, *The Economics of Shortage*, Volumes A-B. Amsterdam: North-Holland.

Kornai, János, 1982, '"Hard" and "soft" budget constraint', *Acta Oeconomica*, vol. 28(3-4), pp. 231-245.

Kornai, János and Agnes Matits, 1984, 'Softness of the Budget Constraint—An analysis relying on data of firms'. *Acta Oeconomica*, vol. 32(3-4), pp. 223-249.

Lo, Jack Man Keung, 1995, 'Local Government and the New Community Governance in China during the Reform Era: The Case of Taicang City'. *Regional Development Dialogue*, vol. 16(2), pp. 1-15.

Lin, Nan, 1995, 'Local Market Socialism: Local Corporatism in Action in Rural China'. *Theory and Society*, vol. 24, pp. 301-354.

Lin Qingsong, He Jiacheng and Du Haiyan, 1992, 'Rural Industrial Enterprises and the Role of Local Governments: A Chinese Case Study', in Derek C. Jones and Jan Svejnar, eds., *Advances in the Economic Analysis of Participatory and Labor-managed Firms: A Research Annual*, vol. 4, pp. 243-271. Greenwich, CT: JAI Press.

Liu Xiaoxuan, Zheng Linghai and Arne Bigsten, 1995, 'Ownership Structure and Technical Efficiency in Chinese Enterprises (1986-1990)'. Mimeo. Gothenburg: Gothenburg University.

Mattews, R. C. O., 1986, 'The Economics of Institutions and the Sources of Growth'. *Economic Journal*, vol. 96, pp. 903-918.

McKinnon, Ronald I., 1994a, *Gradual versus Rapid Liberalization in Socialist Economies: Financial Policies in China and Russia Compared.* (A Publication of the International Center for Economic Growth.) San Francisco, CA: Institute for Contemporary Studies Press.

McKinnon, Ronald I., 1994b, 'Hard Budget Constraint on Governments in a Theory of Market-Preserving Federalism'. Ohlin Lectures. Nov. 23-24, 1994. Stockholm: Stockholm School of Economics.

Mohanty, Manoranjan, 1993, 'Rural Industry, Management and Workers in Wuxi'. *China Report*, vol. 29(1), pp. 49-73.

Mood, Michelle S., 1996, 'The Political Economy of Township and Village Enterprises in Tianjin'. Paper presented at the Pacific Rim Allied Economic Organisations Biennial Conference, Hong Kong, January 10-15, 1996.

Naughton, Barry, 1994, 'China's Institutional Innovation and Privatization from Below'. *American Economic Review*, vol. 84(2), pp. 266-270.

Naughton, Barry, 1995, *Growing out of the Plan: Chinese Economic Reform 1978-1993.* Cambridge: Cambridge University Press.

Nee, Victor, 1989, 'Peasant Entrepreneurship and the Politics of Regulation in China', in Victor Nee and David Stark, eds., *Remaking the Economic Institutions of Socialism: China and Eastern Europe*, pp. 169-207. Stanford, CA: Stanford University Press.

Nee, Victor and Su Sijin, 1990, 'Institutional Change and Economic Growth in China: The View from the Villages'. *Journal of Asian Studies*, vol. 49(1), pp. 3-29.

Nee, Victor and Frank W. Young, 1991, 'Peasant Entrepreneurs in China's "Second Economy": An Institutional Analysis'. *Economic Development and Cultural Change*, vol. 39(2), pp. 293-310.

Nee, Victor, 1992, 'Organizational Dynamics of Market Transition: Hybrid Forms, Property Rights and Mixed Economy in China'. *Administrative Science Quarterly*, vol. 37, pp. 1-27.

Nee, Victor and Su Sijin, 1996, 'Institutions, Social Ties, and Commitment in China's Corporatist Transformation'. In John McMillan and Barry Naughton, eds., *Reforming Asian Socialism: The Growth of Market Institutions*, pp. 111-134. Ann Arbor, MI: University of Michigan Press.

Nooteboom, Bart, 1992, 'Small Business, Institutions and Economic Systems'. Paper for the EACES conference, Groningen, Sept. 24-27, 1992.

Nooteboom, Bart, 1993, 'Firm Size Effects on Transaction Costs'. *Small Business Economics*, vol. 5(4), pp. 283-295.

North, Douglass C., 1990, *Institutions, Institutional Change and Economic Performance.* Cambridge: Cambridge University Press.

Odgaard, Ole, 1990, 'Collective Control of Income Distribution: A Case Study of Private Enterprises in Sichuan Province'. In Jørgen Delman, Clemens Stubbe Østergaard and Flemming Christiansen, eds., *Remaking Peasant China: Problems of Rural Development and Institutions at the Start of the 1990s*, pp. 106-121. Aarhus: Aarhus University Press.

Odgaard, Ole, 1990/91, 'Inadequate and Inaccurate Chinese Statistics: The Case of Private Rural Enterprises'. *China Information*, vol. V(3) (1990/91), pp. 29-38.

Odgaard, Ole, 1992a, *Private Enterprises in Rural China*. Aldershot: Ashgate.

Odgaard, Ole, 1992b, 'Entrepreneurs and Elite Formation in Rural China'. *Australian Journal of Chinese Affairs*, no. 28, pp. 89-108.

Ody, Anthony J., 1992, *Rural Enterprise Development in China, 1986-90*. (World Bank Discussion Papers, China and Mongolia Department Series, 162.) Washington, DC: The World Bank.

Oi, Jean C., 1992, 'Fiscal Reform and the Economic Foundations of Local State Corporatism in China'. *World Politics*, vol. 45(1), pp. 99-126.

Pei, Xiaolin, 1994, 'Rural Population, Institutions and China's Economic Transformation'. *European Journal of Development Research*, vol. 6(1), pp. 175-196.

Pei Xiaolin, 1996, 'Township-village enterprises, local governments and rural communities: the Chinese village as a firm during economic transition'. *Economics of Transition*, vol. 4(1), pp. 43-66.

Pei, Xiaolin, and Christer Gunnarsson, 1996, 'Agrarian Structures, Property Rights and Transition to A Market Economy in China and the Former Soviet Union'. In Jacques Hersh and Johannes Dragsbaek Schmidt, eds., *The Aftermath of 'Real Existing Socialism' in Eastern Europe, Volume 1: Between Western Europe and East Asia*, pp. 247-268. Basingstoke: Macmillan.

Peng, Yuan, 1994, 'Capital Formation in Rural Enterprises'. In Christopher Findlay, Andrew Watson and Harry X. Wu, eds., *Rural Enterprises in China*, pp. 93-116. Basingstoke: Macmillan.

Perkins, Dwight H., 1977, eds., *Rural Small-scale Industries in the People's Republic of China*. Berkeley: University of California Press.

Qian, Yingyi and Xu Chengang, 1993, 'The M-form Hierarchy and China's Economic Reform'. *European Economics Review*, vol. 37, pp. 541-548.

Qian, Yingyi, 1994, 'A Theory of Shortage in Socialist Economies Based on the "Soft Budget Constraint"'. *American Economic Review*, vol. 84(1), pp. 145-156.

Qian, Yingyi and Gérard Roland, 1994, *Regional Decentralization and the Soft Budget Constraint: The Case of China*. (Discussion Paper Series, 1013.) London: Centre for Economic Policy Research.

Raiser, Martin, 1993, 'Searching for the Hole in the Public Pocket: the Institutional Legacy of Soft Budget Constraints and the Polish Transformation Process'. *Economic Systems*, vol. 16(2), pp. 251-278.

Raiser, Martin, 1994, 'The No-exit Economy: Soft Budget Constraints and the Fate of Economic Reforms in Developing Countries'. *World Development*, vol. 22(12), pp. 1851-1867.

Riskin, Carl, 1971, 'Small Industry and the Chinese Model of Development'. *China Quarterly*, no. 46, pp. 245-273.

Riskin, Carl, 1978a, 'China's Rural Industries: Self-reliant Systems or Independent Kingdoms?' *China Quarterly*, no. 73, pp. 77-98.

Riskin, Carl, 1978b, 'Political Conflict and Rural Industrialisation in China'. *World Development*, vol. 6(5), pp. 681-692.

Ronnås, Per, 1992, *The Second Leg: Patterns and Determinants of Rural Industrialization in Pre-reform China.* (Asian Regional Employment Program Working Papers.) New Delhi: ILO-ARTEP.

Ronnås, Per, 1993a, 'Economic Diversification and Growth in Rural China: The Anatomy of a "Socialist" Success Story'. *Journal of Communist Studies*, vol. 9(3), pp. 216-244.

Ronnås, Per, 1993b, *Township Enterprises in Sichuan and Zhejiang: General Characteristics.* (Studies in International Economics and Geography, Research Report 15.) Stockholm: Stockholm School of Economics.

Ronnås, Per, 1993c, *Township Enterprises in Sichuan and Zhejiang: Establishment and Capital Generation.* (Studies in International Economics and Geography, Research Report 16.) Stockholm: Stockholm School of Economics.

Ronnås, Per, ed., 1996, *Rural Industries in Post-reform China: An Inquiry into Their Characteristics.* New Delhi: ILO-South Asia Multidisciplinary Advisory Team (SAAT).

Ronnås, Per, Chen Jiyuan and Zhang Gang, 1996, 'Introduction'. In Per Ronnås, ed., *Rural Industries in Post-reform China: An Inquiry into Their Characteristics.* New Delhi: ILO-SAAT.

Ronnås, Per and Örjan Sjöberg, 1993, *Township Enterprises: A Part of the World or a World Apart?'.* (Studies in International Economics and Geography, Research Report 14.) Stockholm: Stockholm School of Economics.

Rozelle, Scott, 1994, 'Rural Industrialization and Increasing Inequality: Emerging Patterns in China's Reforming Economy'. *Journal of Comparative Economics*, vol. 19(3), pp. 362-291.

Sachs, Jeffrey D., 1996, 'The Transition to Capitalism: History and Present Challenges'. The Ohlin Lectures. November 6-7, 1996. Stockholm: Stockholm School of Economics.

Sachs, Jeffrey D. and Wing Thye Woo, 1994, 'Factors in the Economic Reforms of China, Eastern Europe and the Former Soviet Union'. *Economic Policy*, no. 18, pp. 101-145.

Sachs, Jeffrey D. and Wing Thye Woo, 1996, 'China's Transition Experience, Reexamined'. *Transition* (The Newsletter about Reforming Economies, Transition Economic Division, Policy Research Department, The World Bank.), vol. 7(3-4), pp. 1-5.

Saith, Ashwani, 1987, 'Contrasting Experience in Rural Industrialization: Are the East Asian Success Transferable?' In Rizwanul. Islam, ed., *Rural Industrialization and Employment in Asia*, New Delhi: ILO-ARTEP.

Saith, Ashwani, 1993a, *Chinese Rural Industrialisation, Some Lessons for Reforming and Developing Economies.* New Delhi: ILO-ARTEP.

Saith, Ashwani, 1993b, *From Collective to Markets: Re-Structured Agriculture-Industry Linkages in Rural China - Some Micro-Level Evidence.* New Delhi: ILO-ARTEP.

Saith, Ashwani, 1995, 'From Collective to Markets: Restructured Agriculture-Industrial Linkages in Rural China: Some Micro-Level Evidence'. *Journal of Peasant Studies,* vol. 22(2), pp. 201-260.

Schädler, Monika, 1990, 'Rural Industry in China'. *Advances in Chinese Studies*, vol. 1, part B, pp. 223-236. Greenwich, CT: JAI Press Inc.

Sichuan Tongji Nianjian 1989 (Sichuan Statistical Yearbook 1989). Chongdu: Zhonggou Tongji Chubanshe. This reference is referred to as *Sichuan* (1989).

Sigurdson, Jon, 1974, *The Role of Small Scale and Rural Industry and its Interaction with Agriculture and Large Scale Industry in China.* (China's Development Strategy, 5.) Stockholm: Economic Research Institute.

Sigurdson, Jon, 1975, 'Rural Industrialization in China: Approaches and Results'. *World Development,* vol. 3(7-8), pp. 527-538.

Sigurdson, Jon, 1977, *Rural Industrialisation in China.* Cambridge, MA: Harvard University Press.

Sigurdson, Jon, 1978, 'Rural Industrialization: A Comparison of Development Planning in China and India'. *World Development,* vol. 6(5), pp. 667-680.

Song Lina, 1990, 'Convergence: A Comparison of Township-Run Firms and Local State Enterprises'. In William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform,* pp. 392-412. Oxford: Oxford University Press.

Song Lina and Du He, 1990, 'The Role of Township Governments in Rural Industrialisation'. In William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform,* pp. 342-357. Oxford: Oxford University Press.

Vermeer, Eduard B., 1995, 'Between Capitalism and Collectivism: Chinese Experiments with Rural Industrial "Share-holding Cooperatives"'. Paper presented at the Fourth European Conference on Agricultural and Rural Development in China, held at Manchester University, November 10-12, 1995.

Walder, Andrew G., 1992, 'Market and Political Changes in Rural China: A property right analysis'. Paper presented at the Annual Meeting of the Public Choice Society, New Orleans, March 20-22, 1992.

Walder, Andrew G., 1994a, 'Corporate Organization and Local Government Property Rights in China'. In Vedat Milor, ed., *Changing Political Economies: Privatization in Post-Communist and Reforming Communist States,* pp. 53-66. Boulder, CO: Lynne Rienner.

Walder, Andrew G., 1994b, 'The Industrial Organisation of Zouping County: Agency and Ownership in Local Public Enterprise'. Paper presented at the Annual Meeting of the Association for Asian Studies, Boston, March 24-27, 1994.

Walder, Andrew G., 1995, 'Local Government as Industrial Firms: An Organizational Analysis of China's Transitional Economy'. *American Journal of Sociology,* vol. 101(2), pp. 263-301.

Wang, Xiaolu, 1990, 'Capital Formation and Utilization'. In William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform,* pp. 222-242. Oxford: Oxford University Press.

Watson, Andrew and Harry X. Wu, 1994, 'Regional Disparities in Rural Enterprise Growth'. In Christopher Findlay, Andrew Watson and Harry X. Wu, eds., *Rural Enterprises in China,* pp. 69-92. Basingstoke: Macmillan.

Weitzman, Martin, 1993, 'Economic Transition: Can Theory Help?'. *European Economic Review,* vol. 37, pp. 549-555.

Weitzman, Martin and Xu, Chenggang, 1994, 'Chinese Township Village Enterprises as Vaguely Defined Cooperatives'. *Journal of Comparative Economics,* vol. 18, pp. 121-145.

Whiting, Susan H., 1996, 'Contract Incentives and Market Discipline in China's Rural Industrial Sector'. In John McMillan and Barry Naughton, eds., *Reforming Asian Socialism: The Growth of Market Institutions,* pp. 63-110. Ann Arbor, MI: University of Michigan Press.

Williamson, Oliver, 1986, *Economic Organization: Firms, Markets and Policy Control.* Brighton: Wheatsheaf.

Wong, Christine P. W., 1979, 'Rural Industrialisation in China: Development of the "Five Small Industries"'. Ph.D. Dissertation, University of California, Berkeley.

Wong, Christine P. W., 1985, 'Material Allocation and Decentrialization: Impact of the Local Sector on Industrial Reform'. In Elizabeth J. Perry and Christine Wong, eds., *The Political Economy of Reform in Post-Mao China*, pp. 253-278. Cambridge, MA: Harvard University Press.

Wong, Christine P. W., 1986, 'The Economics of Shortage and Problem of Reform in Chinese Industry'. *Journal of Comparative Economics*, vol. 10, pp. 363-387.

Wong, Christine P. W., 1988, 'Interpreting Rural Industrial Growth in Post-Mao China'. *Modern China*, vol. 14(1), pp. 13-17.

Wong, John, Rong Ma and Mu Yang, eds., 1995, *China's Rural Entrepreneurs: Ten Case Studies.* Singapore: Times Academic Press.

World Bank, 1988, *China: Growth and Development in Gansu Province.* (A World Bank Country Study.) Washington, DC: The World Bank.

World Bank, 1989, *China: Rural Industries: Overview, Issues and Prospects.* (Report No. 7267-CHA.) Washington, DC: The World Bank.

Xiao, Geng, 1991a, *The Economic Role of Chinese Central and Local Government: Challenges and Opportunities from the State and Non-state Industrial Enterprises.* (Research Paper Series Number 22, Socialist Economies Reform Unit, Country Economics Department.) Washington, DC: The World Bank.

Xiao, Geng, 1991b, *What is Special about China's Reforms?* (Research Paper Series Number 23, Socialist Economies Reform Unit, Country Economics Department.) Washington, DC: The World Bank.

Xu, Chengang, 1995, *A Different Transition Path: Ownership, Performance and Influence of Chinese Rural Industrial Enterprises.* New York: Garland.

Yang, Dali L., 1991, 'Local Government and Rural Industrialization in China'. *Peasant Studies*, vol. 18(2), pp. 131-141.

Yang, Minchuan, 1994, 'Reshaping Peasant Culture and Community: Rural Industrialisation in a Chinese Village'. *Modern China*, vol. 20(2), pp. 157-179.

Young, Susan and Yang Gang, 1994, 'Private Enterprises and Local Government in Rural China'. In Christopher Findlay, Andrew Watson and Harry X. Wu, eds., *Rural Enterprises in China*, pp. 24-38. Basingstoke: Macmillan.

Yu Guoyao and Zheng Jun, 1988, 'Integrated Agro-Industrial Development in Rural Areas: China'. Mimeo. Dhaka: CIRDAP.

Zhang Gang, 1993a, 'Government Intervention vs. Marketization in China's Rural Industries: The Role of Local Governments'. *China Information*, vol. 8(1/2), pp. 45-73.

Zhang Gang, 1993b, 'The Impact of Local Government on the Capital Structure of Rural Enterprises'. Paper presented at the International Conference on Rural Industrialisation in Post-Reform China, Beijing, October 19-22, 1993.

Zhang Gang and Per Ronnås, 1994, *The Capital Structure of Township Enterprises.* (Studies in International Economics and Geography, Research Report 20.) Stockholm: Stockholm School of Economics.

Zhang Gang and Örjan Sjöberg, 1992, *Institutions and Managerial Strategies in China: A Transaction Costs Approach to the Study of Rural Industries.* (Studies in International Economics and Geography, Research Report 13.) Stockholm: Stockholm School of Economics.

Zhejiang Tongji Nianjian 1989 (Zhejiang Statistical Yearbook 1989). Yichuen: Zhongguo Tongji Chubanshe. This reference is referred to as *Zhejiang (*1989).

Zhongguo Fenxian Nongcun Jingji Tongji Zhaiyao 1980-1987 (Abstract of China Rural Economic Statistics by Counties 1980-1987). Beijing: Zhonggou Tongji Chubanshe. This reference is referred to as *Zhongguo* (1980-1987).

Zhongguo Tongji Nianjian 1989 (China Statistical Yearbook 1989). Beijing: Zhongguo Tongji Chubanshe. This reference is referred to as *Zhongguo* (1989a).

Zhongguo Tongji Nianjian 1993 (China Statistical Yearbook 1993). Beijing: Zhongguo Tongji Chubanshe. This reference is referred to as *Zhongguo* (1993).

Zhongguo Xiang Zhen Qiye Nianjian 1978-1987 (The Year-book of Chinese Township and Village Enterprises, 1978-1987). Beijing: Nongye Chubanshe. This reference is referred to as *Zhongguo* (1978-1987).

Zhongguo Xiang Zhen Qiye Nianjian 1989 (The Year-book of Chinese Township and Village Enterprises, 1989). Beijing: Nongye Chubanshe. This reference is referred to as *Zhongguo (*1989b).

Zhongguo Xiang Zhen Qiye Tongji Zhaiyao 1991 (Abstract Statistics of Chinese Township Enterprises 1991). Beijing: Gaige Chubanshe. This reference is referred to as *Zhongguo* (1991).

Zhou, Kate Xiao, and Lynnt T. White III, 1995, 'Quiet Politics and Rural Enterprises in Reform China'. *Journal of Developing Areas*, vol. 29(4), pp. 461-490.

Zweig, David, 1991a, 'Internationalizing China's Countryside: The Political Economy of Exports from the Rural Industry'. *China Quarterly*, no. 128, pp. 716-741.

Zweig, David, 1991b, 'Rural Industry: Constraining the leading Growth Sector in China's Economy'. In *China's Economic Dilemmas in the 1990s: The Problem of Reforms, Modernization and Interdependence* (Study papers submitted to the Joint Economic Committee, Congress of the United States.), pp. 418-436. Washington, DC: US Government Printing Office.

Essay I

Impact of Local Governments on the Capital Structure of Rural Enterprises in China: The Case of Sichuan and Zhejiang Provinces♣

I. Introduction

The rapid industrialisation through the development of rural enterprises (REs) has been one of the most important features of China's economy since the late 1970s. Local governments (LGs) in China have played a special role in this process (Byrd and Gelb 1990:358), not least because of their capacity to furnish initial capital for rural enterprises (Ronnås 1993a:234, Zhang 1993:52-53, and Wang 1990). The active role played by local governments has, however, also led to other government interventions in REs (Song and Du 1990, Wang 1990:226, Lin *et al.* 1992, Zhang 1993, Weitzman and Xu 1994). In particular, it is common for the LGs to intervene in the appointment of managers, the hiring of labour and wage setting at the rural enterprises (e.g. Song 1990:399, Zhang 1993: 58-59, Xu 1995:20). More detailed analyses of the relationship between local governments and REs have revealed that the relationships of local governments with collective and with non-collective REs differ in substance (Zhang 1993, Lin *et al.* 1992).[1] The important features of the relationship of LGs with collective rural enterprises, as compared to that with non-collective REs, include LG ownership through direct investments, their preferential treatment as well as often more direct intervention in these enterprises.

Collective rural enterprises differ from non-collective ones not only in their relationship with the LGs, but also in capital structure. Zhang and Ronnås (1994) note, among other

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♣ This study is published in Ronnås, Per, ed., 1996, *Rural Industries in Post-Reform China: An Inquiry into their Characteristics*, pp. 129-155. New Delhi: International Labour Organization, South Asia Multidisciplinary Advisory Team (ILO-SAAT).

[1] Collective REs refers to enterprises owned by township (town) authorities, by village authorities, and by villagers' groups, whereas non-collective REs include partnership enterprises, private as well as individual enterprises.

things, the following major differences in the capital structures of the two types of REs.[2] First, collective REs receive risk capital from LG investments, while this capital source is not available to the non-collective REs. Second, the share of formal bank credit in total loans is considerably higher for collective than for non-collective REs, suggesting that access to bank loans may be unequal. Third, collective REs use the delayed payment of taxes and other dues to LGs as a source of informal credit to a much larger extent than do the non-collective REs.

It appears that local governments may have had a certain impact on the access of rural enterprises to various sources of capital and, in turn, on the capital structure of the rural enterprises. The impact can, for instance, be made through the investments of LGs in REs, by their influence on the access of REs to bank loans, and by their acceptance of delays in payments of taxes and other dues to government. However, the behaviour of local governments with regard to investment decision-making has not been well studied, in fact, little is known about the criteria of local government investments. Moreover, hardly any statistical analysis has been done to examine the significance of the impact of LGs on the various sources of capital of rural enterprises, although that there is an effect has been indicated by many studies in the literature.

Yet, knowledge about the investment criteria is crucial not only to understanding the investment behaviour of LGs, but also to determining the nature of REs, i.e. if they are truly profit-maximising entities or are they just another type of public enterprise?[3] Statistical tests of significance of the impact of LGs on the access REs have to bank loans is an important way of clarifying the widely-held belief in the influence of LGs on the allocation of bank loans. Furthermore, a study of the impact of local governments on the delayed payments of taxes and other dues to government could shed light on the phenomenon of soft budget constraint in the REs, and on the influence of the collective ownership form and the LG intervention thereon.[4] Finally, previous studies have revealed different behaviours of local governments[5], which have, in part, been attributed to the regional level of economic development (Byrd and Gelb 1990, Song and Du 1990, Yang 1991). This suggests that the impact of local governments on capital structure may also vary between regions at different development levels. Therefore, it is important to study

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[2] See Zhang and Ronnås (1994), pp. 32-35, 49 and 57 on the following aspects, respectively. See also Wang (1990) on features of capital formation of REs according to a survey by the World Bank.

[3] The nature of REs has been dealt with in many studies in the literature. For recent contributions on this topic, see e.g. Chang and Wang (1994) and Weitzman and Xu (1994).

[4] Studies on soft budget constraints had originally focused on state-owned enterprises (Wong 1986). Recently, the analytical framework has been applied to the study of REs (Sjöberg and Zhang 1996), and to LG and enterprise relations (Qian and Roland 1994).

[5] On the different local government behaviour, Byrd and Lin (1990:8) note that the "degree of administrative control over wages, the prevalence of profit related bonuses, the methods of appointment of TVP [township, village, and private enterprise] managers, the allocation of labor, and a host of other practices can differ greatly among regions, localities and even communities within a locality.

the patterns of investment decision-making of LGs and their impact on the capital structure of REs in different regions.

This study is concerned with investigating the investment decision-making of LGs, and the role of local government in influencing the observed differences in the capital structure of rural enterprises. Firstly, it investigates the investment decision-making of LGs by testing hypotheses on revenue maximisation and on interventionist behaviour of LGs. Secondly, it studies the impact of the collective ownership form and LG intervention on the access of REs to bank loans. Thirdly, it examines the impact of collective ownership and intervention of LGs on the use of delayed payments of taxes and other dues as a source of informal credit to REs. A number of testable hypotheses will be formulated on each of the questions raised here, and regression analysis applied to the testing of these hypotheses.

II. The Survey Data

This study uses primary data collected through a survey of 630 rural enterprises undertaken during winter 1990-1991. The survey was part of a research collaboration between the International Labour Organisation (ILO), the Stockholm School of Economics (SSE) and the Rural Development Institute at the Chinese Academy of Social Sciences (CASS). The survey covered five counties in two provinces, Sichuan and Zhejiang, in south China. While Zhejiang, the economically more advanced province, represents a spearhead case of China's rural industrialisation, Sichuan is representative of economically backward regions which often lag far behind in the rural industrialisation process. The counties, i.e. Changshou and Qionglai in Sichuan province and Cixi, Linhai and Ouhai in Zhejiang province, were selected randomly from all counties in their respective provinces as stratified by their per capita rural social output in 1987. From within these counties two townships were selected at random, and from the total population of REs a sample of 63 REs were drawn at random from each township. As a result, each county survey sample contains 126 REs representing all existing ownership categories. Some descriptive statistics and correlation coefficients of the variables are provided in Appendix 1.

III. The Regression Variables and Hypotheses

This section defines the variables and discusses the hypothetical relationships between the dependent and the independent variables. Table 1 provides a summary of definitions for the variables used in the regression models.

3.1 The Dependent Variables

INVEST is the proportion of LG investments in the total capital of a RE for a given year. More often than not, it makes up a considerable share of the total capital of the collective REs, and it serves in effect as a proxy of the local government's ownership of the enterprise. In 1988, the mean value of this variable was 25 per cent for the relevant REs in Zhejiang, and 61 per cent in Sichuan. Among other things, INVEST is hypothetically dependent on the rate of return to investment, and on the extent of local government intervention in the enterprises in question.

TVI is the ratio of the stocks of LG investment in a RE between 1987 and 1989. This variable measures the rate of increase/decrease in LG investments in a RE over the given period. The mean value of this variable is 2.0 per cent for Zhejiang, and 1.0 per cent for Sichuan, which shows that the rate of increase of LG investment for the given period was much faster in Zhejiang than in Sichuan. Apart from the influence of the rate of return to investment and that of government intervention, TVI is assumed to be positively affected by the increase of employment, and the expansion of fixed capital and working capital of REs, respectively.

LOAN is the proportion of bank loans in the total capital of a RE, and it is used to indicate the access of an enterprise to bank loans.[6] Since bank loans are a scarce resource in rural China, and the need of REs for credits is usually inadequately met by bank loans, it is reasonable to assume that a higher variable value of LOAN can indicate preferential access to bank loans. The mean value of this variable is 10 per cent for Zhejiang, and eight per cent for Sichuan. It is widely asserted that access to bank loans is in various forms influenced by LGs, and, due mainly to such influence, that it is generally more favourable for the collective than for the non-collective REs (e.g. Byrd 1990:200, Chang and Wang 1994:444, Rozelle 1994:109). This would presuppose a positive impact of collective ownership on the dependent variable LOAN.

DELAY is the proportion of delayed submissions, i.e. taxes and other dues to LGs, in the total capital of a RE. Such delayed payments are in effect a source of informal credit, which accounted for some six per cent of the total capital of the affected REs in the survey sample.[7] Variable DELAY indicates the use and the extent of this informal credit in the sample REs. Delay in the payment of taxes and other dues to government is a phenomenon of soft budget constraint (Kornai 1979, 1992), which has its origins in the public

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[6] Bank loans refers to loans contracted from the formal rural banking system, which includes the Agricultural Bank of China (ABC) and the Rural Credit Cooperatives (RCCs). Zhang and Ronnås (1994) discuss briefly China's rural financial system in connection with the capital structure of REs.

[7] Wang (1990:230) reports that REs in a survey by the World Bank acquired funds through tax reductions and exemptions, and in one county the total reduction accounted for 27 per cent of the total tax dues.

ownership of enterprises. Therefore, DELAY is expected to be affected by the collective ownership form and LG intervention in REs. The mean value of this variable is 3.1 for Zhejiang and 1.4 for Sichuan.

Table 1. Summary and Description of Regression Variables

Variables	Description
INVEST	The proportion of township and village government investment in the total capital of a RE, in 1988.
TVI	The ratio of township and village government investment of 1989 to that of 1987.
LOAN	The percentage of bank loans in total capital of a RE.
DELAY	The percentage of delayed payments of taxes and other dues to LGs in total capital of a RE.
TAXPROF	The ratio of total taxes and profits to total LG investment in 1988.
TAXPROF7-9	The ratio of total taxes and profits to total LG investment, 1987 to 1989.
RCR	The rate of return on capital, total annual taxable profit divided by total capital.
EMPL	The total number of employees in 1988.
ΔEMPL	The ratio of total employment in 1989 to that in 1987.
SALES	Total sales value, Yuan.
ΔFIXCAP	The ratio of fixed capital (net value) in 1989 to that in 1987.
ΔWORKCAP	The ratio of total working capital in 1989 to that in 1987.
MANAGER	Dummy variable, which takes value 1 if a RE manager is and/or used to be a local party/government official.
LABOR	Dummy variable, which takes value 1 if a RE is subject to labour allocation and/or wage control by LGs.
TECH	Dummy variable, which takes value 1 if a RE is subject to the intervention of LGs on technical matters.
OWNERSHIP	Dummy variable, which takes value 1 for a collective RE, with non-collective REs as reference.
VE	Dummy for village-owned REs, with town-owned REs as reference.
Non-collective	Dummy for non-collectively owned REs, with town-owned REs as reference.
County Dummy	Four dummies represent Changshou, Qionglai, Linhai and Ouhai, respectively, with Cixi as base reference.

Note: Unless specified, the values of the variables refer to the survey returns for 1989.

3.2 The Independent Variables

Two sets of independent variables, namely non-economic and economic variables, are used in the regressions. The non-economic variables are intended to capture the underlying relationships between the REs and the LGs, and they all take the form of dummy variables. The economic variables are introduced to examine the influence of economic factors such as the rate of capital return and the size of enterprises, which are of general importance to the capital structure of an enterprise.

3.2.1 The Non-Economic Variables

OWNERSHIP is a dummy variable that is equal to 1 if a RE is collectively owned. Based on prior knowledge about the favourable relationship between collective REs and LGs, OWNERSHIP is expected to have a positive impact on the share of bank loans (LOAN) and on delayed submissions (DELAY) in total capital.

MANAGER is a dummy variable that takes value 1 if the manager of a RE is, or has been in the past, a local government/party cadre. It is often the case that managers with such political backgrounds are appointed by the LG to strengthen its presence in the REs.[8] Thus, the present position of RE managers as LG/Party cadres and/or such an experience in the past serves as a proxy for REs whose management is subject to the direct control of LGs. The mean values of this variable show that 21 per cent of RE managers in the sample for Zhejiang, and 20 per cent in the sample for Sichuan, fall into this category.

Hypothetically, MANAGER has a positive impact on LG investments (measured by INVEST and TVI), and on the share of bank loans (LOAN) in the total capital. However, because the RE managers with political backgrounds are commissioned to maximise both the interest of the LG and that of the RE (Byrd and Gelb 1990:384, Song 1990:401), their double roles may make the impact of variable MANAGER on delayed submission (DELAY) either positive or negative.

LABOR is a dummy variable that takes value 1 if a RE is subject either to the labour allocation by the LG and/or to its wage control.[9] Because LABOR is intended to capture the effects of two types of LG intervention, the effect of each intervention needs to be discussed first. The creation of local employment is one of the top priorities for LGs (Song 1990:399, Xu 1995:37), and it often leads the LGs to allocate workers directly to REs (Byrd and Gelb

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[8] Studies by Song (1990:399), and by Chang and Wang (1994:438) confirm that local government's direct control over the appointment of managers is pervasive in REs.

[9] According to Wu *et al.* (1990:321), LG's labour allocation and wage control are often related to each other. In our data, the correlation coefficient between labour allocation and wage control is 0.25 for Zhejiang, and 0.19 for Sichuan.

1990:371, Zhang 1993:58-59, and Rozelle 1994:120). There is a tendency for those REs subject to labour allocation by LGs to be made priorities for LG investment and bank loans as well as receiving soft tax terms. All this would suggest that *labour allocation* has a positive impact on the various dependent variables.

Local governments tend to control the wage levels of REs (Wu *et al.* 1990, Lin *et al.* 1992, and Zhang 1993). One of the conceivable reasons for wage controls is to safeguard the profit remittances to the government which might otherwise be negatively affected by higher wages. Thus, wage control exercised by LGs should mean a higher degree of financial discipline imposed on the RE. This reasoning suggests a negative impact of *wage control* on the variable DELAY, i.e. a reduction in the proportion of delayed submissions in total capital. Moreover, controlled wage levels tend to ensure the profit level of REs for a given level of income, which should encourage more investment from LGs and banks in such REs. This line of reasoning suggests there is a positive effect of *wage control* on the LG investment (INVEST and TVI), and on bank loans (LOAN) in the total capital.

The analysis of the separate effects of LG *labour allocation* and *wage control* suggests that LABOR, which captures the combined effect of the two types of intervention, may have a positive effect on the LG investment (INVEST and TVI) and on the access to bank loans (LOAN). But its effect on the share of delayed submissions in total capital (DELAY) may depend on the net effect of the two types of government intervention. Variable LABOR has a mean value of 27 per cent for Zhejiang and 14 per cent for Sichuan, which are the proportions of the REs subject to LG labour allocation and/or wage control in the respective provincial samples.

TECH is a dummy variable that takes value 1 if a RE relies primarily on LG for solving technical problems. The variable statistics show that some six per cent of REs in Zhejiang and seven per cent in Sichuan fall into this category. The intervention of LGs on technical matters, although not as common as other types of intervention, is a special dimension of the LG and REs relationship. Moreover, solving technical problems usually involves financial resources, usually from the same sources of capital as surveyed in this study. Therefore, TECH is expected to have positive effects on LG investments (INVEST and TVI), on the share of bank loans (LOAN) and on delayed submissions (DELAY) in total capital.

3.2.2 The Economic Variables

Three sets of economic factors are used as explanatory variables in the empirical models. Firstly, there are two variables on the rate of return to capital. TAXPROF, the level of investment returns, is measured by the ratio of total taxes plus net-profits to total LG investment for a given year. The use of this measure for investment returns assumes that payment of taxes and profit remittance to LGs take precedence over the economic returns to other investors, which is realistic in the context of Chinese REs.

RCR, the rate of capital return, is the ratio of total taxable profit to total capital, which is a measure of total capital efficiency. RCR is expected to shed some light on the relationship between total capital return and the allocation of bank loans, on the one hand, and the delayed payments to government, on the other. RCR is expected to have a positive relation with the variable LOAN, indicating that better performance leads to better access to bank credit. It is quite likely that the RCR is negatively related to the variable DELAY, suggesting that poor performance may lead to delays in payments of taxes and submissions to government.

The size of a RE is measured alternatively by total employment (EMPL) and by total sales value (SALES) in the different regression models of this study. There are two arguments suggesting that the size of REs is of importance when studying the capital structure of REs. First, local governments as well as financial institutions in China appear to be in favour in large rural enterprises. Secondly, the capital structure of large REs is usually different from that of small ones (Zhang and Ronnås 1994:28). With regard to LG investments, size may be negatively related to INVEST, due mainly to the fact that LGs have a financial limit when investing in large REs. However, the favour shown towards large REs by local institutions may suggest a positive effect of size on bank loans (LOAN) and, likewise, on delayed submissions in total capital (DELAY).

Thirdly, there are three variables on the growth of fixed capital (ΔFIXCAP), working capital (ΔWORKCAP), and employment (ΔEMPL), from 1987 to 1989. These variables are used to investigate the response of LGs in terms of investments to the increase in the capital needs of the REs. The increase in LG investment (TVI) is assumed to be positively related to ΔFIXCAP, ΔWORKCAP, and ΔEMPL.

3.3 The Empirical Models and Hypotheses

The following empirical models summarise the above discussions on the relationships between the various independent and dependent variables.

INVEST = *f*(EMPL, TAXPROF, MANAGER, LABOR, TECH) (Ia)
(-) (+) (+) (+) (+)

TVI = *f*(ΔEMPL, ΔFIXCAP, ΔWORKCAP, TAXPROF7-9, MANAGER, LABOR, TECH) (Ib)
(+) (+) (+) (+) (+) (+) (+)

LOAN = *f*(RCR, SALES, MANAGER, LABOR, TECH, OWNERSHIP) (II)
(+) (+) (+) (+) (+) (+)

DELAY = *f*(RCR, SALES, MANAGER, LABOR, TECH, OWNERSHIP) (III)
(-) (+) (±) (±) (+) (+)

Two specific aspects of the model specification need to be explained. First, OWNERSHIP is not used in Model Ia and Model Ib because practically all REs with LG investments are collectively owned, and these models are estimated using sub-samples that include only REs with LG investments. Second, the size of the REs is measured by total employment (EMPL) in Model Ia, but by sales value (SALES) in Model II and Model III. The reason being because employment creation is one of the important objectives of collective REs (Song 1990:399, Zhang 1993:47-48, Xu 1995:37), total employment ought to be of greater importance than sales value to the investment decisions of LGs. Since the estimation of Model Ia uses a sub-sample of predominantly collective REs, total employment is thus a better measure of size in Model Ia. The samples used in the estimations of Model II and Model III consist of not only collective but also non-collective REs, the latter not being employment maximisers, so sales value is a more suitable measure of size in these models.

Estimation results of the above empirical models can be used to test the following hypotheses:

Hypothesis 1. Revenue maximisation is a major objective of LGs when investing in REs. If the coefficient for TAXPROF is statistically positive, this hypothesis can be accepted.

Hypothesis 2. LGs are interventionist in investment decision-making, that is investment decisions of local government are influenced by the extent to which it intervenes in the REs. If coefficients for MANAGER, LABOR, TECH in Model Ia or/and Model Ib are statistically significant, this hypothesis can be accepted.

Hypothesis 3. LG investment is instrumental in the capital expansion of REs. If the coefficients for ΔFIXCAP and ΔWORKCAP in Model Ib are statistically positive, this hypothesis can be accepted.

Hypothesis 4. LGs in different provinces follow the same pattern of investment decision-making. If most of the results of Model Ia and Model Ib are statistically identical in terms of signs and significance/insignificance of coefficients for Zhejiang and Sichuan, this hypothesis can be accepted.

Hypothesis 5. REs subject to LG interventions have better access to bank loans. If the coefficients for MANAGER, LABOR, TECH (Model II) are statistically positive, this hypothesis can be accepted.

Hypothesis 6. Collective REs have preferential access to bank loans. If the coefficient for OWNERSHIP (Model II) is statistically positive, this hypothesis can be accepted.

Hypothesis 7. Allocation of bank loans follows the profit-maximisation principle. If the coefficient for RCR (Model II) is statistically positive, this hypothesis can be accepted.

Hypothesis 8. Collective ownership weakens the financial discipline in REs. If the coefficient on OWNERSHIP (Model III) is statistically positive, this hypothesis can be accepted.

Hypothesis 9. LG interventions weaken the financial discipline in REs. If coefficients for MANAGER, LABOR, TECH (Model III) are statistically positive, this hypothesis can be accepted.

Hypothesis 10. Poor profitability weakens the financial discipline in REs. If the coefficient for RCR (Model III) is statistically negative, this hypothesis can be accepted.

IV. The Statistical Method

The ordinary least squares (OLS) procedure is applied in estimating Model Ia and Model Ib. Since dependent variables of Model II and Model III take either positive or zero observation values, OLS in this case is not an appropriate procedure for producing consistent and unbiased estimates (Judge *et al.* 1988:797). The zero value of the various dependent variables means that some capital sources may have been either unavailable to or not utilised by the enterprises in question. For this type of dichotomous dependent variable, a more suitable estimation procedure is the Tobit model (Tobin 1958), which is therefore employed to estimate the empirical Model II and Model III in this study. A simple Tobit model is presented in Appendix 2.

V. The Regression Results

Two data restrictions have been used for defining the survey samples for estimations of Model Ia and Model Ib, respectively. The estimation of Model Ia uses the restricted samples that include only REs with LG investments in 1987, in 1988 or in 1989, i. e. under the restriction INVEST >0 for the respective years. The sample used in the estimation of Model Ib includes only REs with LG investments in *both* 1987 and 1989, thus TVI $\neq$ 0. Model II and Model III have been estimated by a maximum likelihood procedure on the data for all REs covered by the survey. The estimation results are reported in Tables 2 to 7 and are discussed in this section.

5.1 The Results of Model Ia and Model Ib

With the above data restriction, Model Ia has been estimated on an aggregate sample and on the two provincial samples, for 1987, 1988 and 1989, respectively. Because of the use of the aggregate sample, four county dummies and two ownership dummies are added to

the model. The results are basically stable for all three years, thus only the results for 1988 are reported in Table 2.

With regard to the effects of LG interventions, the result shows that in Sichuan LG's labour allocation and wage control (LABOR) have a significantly negative impact on the share of LG investment in total capital. The negative sign of the coefficient, which is opposite to our assumption, seems to suggest that labour allocations by LGs may have forced REs to employ more labour-intensive technology, such that labour is to some extent a substitute for investment by local government.[10] This is realistic in relatively backward Sichuan where labour is abundant, and capital is scarce. TECH, LG intervention on technical matters, has a significantly positive effect on the share of LG investment in total capital in Sichuan. However, the coefficients on these variables are statistically insignificant for Zhejiang.

Employment (EMPL) as a measure of enterprise size has a negative impact on the dependent variable, suggesting that the level of LG investment declines as the enterprise grows larger. As this result is only significant for Sichuan, it seems to emphasise the financial limitations of LGs in investing in REs in backward regions. The coefficients of TAXPROF show that in both provinces the *share* of LG investment in total capital is negatively related to the rate of return on LG investment.

The coefficients for county dummies show that the differences in the importance of LG investment are statistically significant between the two provinces. LG investments account for some 30 per cent more of the REs' total capital in Sichuan than in Zhejiang. This difference is, however, insignificant between counties within each province. Finally, the share of LG investment tends to be significantly higher in the total capital of village-owned REs than in that of township-owned REs, as the coefficient on VE shows for the whole sample and for Zhejiang. This difference between the village-owned and township-owned REs is, however, not significant in Sichuan.

Table 3 reports the regression results of Model Ib estimated on the aggregate as well as the two provincial samples. Regarding the effects of LG interventions, MANAGER, the political position of RE managers, is the only variable of statistical significance for Zhejiang. For Sichuan, the coefficients for MANAGER, LABOR and TECH show that all these variables may have a statistically significant impact on the increase of LG investments in the REs in question.[11]

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[10] Xu (1995:32) finds that the elasticity of substitution between capital and labour is 1 in Chinese REs.

[11] The results are stable to different model specifications. Several alternative specifications of Model Ib have been estimated to test the robustness of the results. The results are robust to variations in the definition of the dependent variable as well as to the inclusion of other independent variables, such as total employment, etc.

Table 2. OLS Estimation Results: Dependent variable INVEST

	Whole sample	Zhejiang	Sichuan
Constant	30.253 (5.481)***	20.977 (4.005)***	71.447 (9.658)***
MANAGER	2.437 (0.650)	5.444 (1.302)	-1.920 (-0.318)
LABOR	-3.623 (-1.019)	2.715 (0.719)	-12.061 (-2.077)**
TECH	12.098 (1.913)*	1.019 (0.134)	18.601 (1.967)**
EMPL	-0.123 (-3.240)***	-0.035 (-0.914)	-0.298 (-4.319)***
TAXPROF	-6.140 (-5.413)***	-5.343 (-4.267)***	-7.948 (-4.439)***
County Dummies			
Changshou (Sichuan)	28.813 (6.064)***	--	--
Qionglai (Sichuan)	35.479 (7.354)***	--	6.663 (1.257)
Linhai (Zhejiang)	4.973 (1.010)	5.879 (1.519)	--
Ouhai (Zhejiang)	4,528 (0.619)	6.027 (1.016)	--
Ownership dummies			
VE	10.869 (2.793)***	10.744 (2.472)**	5.669 (0.906)
Non-collective	-2.200 (-0.224)	-1.680 (-0.205)	--
Adj. R^2	0.537	0.323	0.370
N	179	92	87

Notes: The intercept is allowed to vary between counties as well as ownership forms, the effects of which are determined by the coefficients for the county dummies (with Cixi and Changshou as base references, respectively) and for the ownership form dummies (with town-owned REs as reference). Figures in brackets are t values, * = 10%, ** = 5%, and *** = 1% level of significance, respectively.

Table 3. OLS Estimation Results: Dependent variable TVI

	Whole sample	Zhejiang	Sichuan
Constant	0.938 (2.423)**	0.641 (1.225)	0.257 (1.247)
MANAGER	0.696 (3.158)***	0.968 (2.640)**	0.192 (2.187)**
LABOR	-0.189 (-0.809)	-0.548 (-1.312)	0.155 (1.706)*
TECH	-0.210 (-0.537)	-7.224 (-0.877)	0.238 (1.850)*
ΔFIXCAP	0.378 (1.837)*	0.171 (0.587)	0.713 (5.744)***
ΔWORKCAP	0.342 (5.702)***	0.576 (5.755)***	0.056 (2.547)**
ΔEMPL	0.018 (0.141)	0.111 (0.068)	-0.155 (-0.982)
TAXPROF7-9	0.276 (2.970)***	0.3944 (2.970)***	-0.057 (-1.180)
County Dummies			
Changshou (Sichuan)	-1.627 (-5.467)***	--	0.0193 (.234)
Qionglai (Sichuan)	-1.154 (3.866)***	--	--
Linhai (Zhejiang)	-1.293 (-4.039)***	-1.255 (-3.00)***	--
Ouhai (Zhejiang)	-1.579 (-3.476)***	-1.723 (-2.962)***	--
Adj. R^2	0.462	0.506	0.505
N	125	64	61

Notes: The intercept is allowed to vary between counties, the effects of which are determined by the coefficients for the county dummies (with Cixi and Qionglai as base references, respectively).
Figures in brackets are t values, * = 10%, ** = 5%, and *** = 1% level of significance, respectively.

While the increase of LG investment is significantly related to the growth of both fixed investment as well as working capital in Sichuan, it is only significantly linked to the growth of working capital of REs in Zhejiang. It is worth noting the insignificance of LG investment to fixed capital investment in REs in Zhejiang, given that LG investment is normally regarded as an important capital source for the collective REs. The results also suggest that LG investments are of differing importance to the REs' capital needs in Zhejiang and Sichuan. In both provinces, the increase in LG investment is insignificantly related to the employment expansion in the REs.

The coefficient for TAXPROF7-9 shows a significantly positive impact of investment returns on the allocation of new LG investments in Zhejiang. This result suggests that LGs in Zhejiang might have become market-oriented in their allocation of new investments by the end of 1980's. This would be an important change in the investment behaviour of LGs, since the result of Model Ia has just shown that in accumulative terms, the level of LG investment in the total capital is negatively related to investment returns (Table 2). The insignificant coefficient on TAXPROF7-9 for Sichuan shows that there has not been a similar change in LG behaviour in that province.

Finally, the coefficients for the county dummies show that the increase of LG investment was significantly higher in Cixi, the reference county, which out of all the counties in our survey, is known for its well-developed collective RE sector. This result seems to reflect the positive circulation of funds, as described in Byrd and Gelb (1990:376), between LGs and REs in the advanced regions, such as Cixi, where LGs have more resources for reinvestment in REs because of the adequate revenue income from the REs.

The estimation results of Model Ia and Model Ib permit the following conclusions to be set against the hypotheses of the previous section.

(1) According to the coefficient for TAXPROF (Model Ia), the revenue maximisation hypothesis on the allocation of LG investments, i.e. *hypothesis 1*, can be rejected for both provinces under study. Yet, LGs seem to have deviated from this pattern in the more advanced Zhejiang, as the coefficient for TAXPROF7-9 (Model Ib) suggests that by the end of the 1980s, allocation of new investments was significantly related to investment returns.

(2) According to the coefficients for MANAGER, LABOR and TECH in Model Ia and Model Ib, the interventionist hypothesis on the investment behaviour of LGs, i.e., *hypothesis 2*, can be accepted for Sichuan. Firstly, two out of three types of intervention have a significant impact on the *level* of LG investment in Sichuan, but none do in Zhejiang. Moreover, all types of LG intervention affect the allocation of new investments in Sichuan, but only one variable does in Zhejiang.

(3) According to the coefficients for ΔFIXCAP and ΔWORKCAP, *hypothesis 3* on the relationship between LG investments and capital expansions in REs can be accepted for Sichuan. This is because LG investments are instrumental in the expansion of *both* fixed

capital and working capital in Sichuan, but only in the increase of working capital in Zhejiang.

(4) With respect to the importance of investment returns to the allocation of new investments, the interventionist behaviour of LGs, and the links between LG investments and capital expansion of REs, the estimation results suggest that LGs in Zhejiang and in Sichuan tend to follow different patterns of investment decision-making. Thus, the hypothesis on the same pattern of LG investment decision-making in Sichuan and Zhejiang, i.e., *hypothesis 4*, can be rejected.

5.2 The Results of Model II

Table 4 and Table 5 present the results of Model II estimated by Tobit regression model on two provincial samples and on four county samples, respectively. McDonald and Moffitt (1980) showed that coefficients of Tobit regressions may be interpreted in terms of changes in the probability of the dependent variable being above the zero-limit, and changes in the value of the dependent variable if it is already above the zero-limit. However, this decomposition of variable effects dose not feature in the following discussions.

The variable RCR, i.e. the rate of capital return, shows a significantly negative effect on the dependent variable in Zhejiang, which means that the share of bank loans in the total capital is negatively related to the capital productivity. There may be two possible explanations for this result. First, it may refer to the tendency of increasing bank loans in the total capital of REs with poor financial performance (Sjöberg and Zhang 1996:10). This is an indication of soft budget constraint associated with bank credits, because scarce capital is allocated to poorly performing REs. The second explanation may be the tendency of decreasing capital productivity resulting from increasing capital intensity in REs as suggested by Wang (1990:237) and by Liu *et al.* (1995:14).[12] If an increase in capital intensity involves higher use of bank credits, the higher bank loan component in total capital on the one hand and the lower rate of capital return on the other hand would generate a negative relation in Model II.

Table 4 shows that the size of REs (SALES) may have a significant impact on the share of bank loans in total capital. This result, which holds for both Sichuan and Zhejiang, indicates that large REs tend to have the advantage over smaller ones by borrowing from the formal rural banking institutions. This may partly be the consequence of the lending policies of the formal banking institutions in favour of the large REs (Chang and Wang 1994:444). In part, it can also result from the fact that large businesses tend to have a

[12] On the other hand, there is a positive correlation between capital intensity and labour productivity, as reported in Liu *et al.* (1995:14).

higher reliance on external capital, while smaller REs essentially have to rely on equity capital (Zhang and Ronnås 1994:50).

All coefficients for non-economic variables are insignificant. In particular, the coefficient for the ownership dummy shows that controlling for the effect of size, collective REs do not have any significant advantage over non-collective REs in terms of access to bank loans. This result holds for both provinces.

Table 4. Result of Tobit Regression: Model II (provincial samples)

	Zhejiang	Sichuan
Intercept	0.1593 (1.0874)	-1.6929 (-3.8704)***
RCR	-0.4376 (-4.1876)***	-0.2918 (-1.5579)
SALES	0.0716 (2.5390)**	0.1474 (3.4359)***
MANAGER	0.0408 (0.9600)	0.0069 (0.0893)
LABOR	0.0429 (0.9387)	0.0860 (1.4360)
TECH	0.0249 (1.2327)	0.0347 (0.9083)
OWNERSHIP	-0.0441 (-0.6291)	0.2192 (1.3366)
y=0	194	190
y>0	167	57
y>0/Total	0.46	0.23
L-Ratio	51.01	48.06

Notes: The dependent variable is LOAN. L-Ratio = Likelihood ratio, the value of which is used to construct a statistical test on the hypothesis that all coefficients of the independent variables in the equation are equal to zero (see Tobin 1958:28-29). Figures in brackets are t values, * = 10%, ** = 5%, and *** = 1% level of significance, respectively.

Table 5 presents the results of Model II estimated on four county samples.[13] It shows that the effect of enterprise size (SALES) is significant, and that the coefficients for MANAGER, LABOR, and TECH are insignificant, for all counties. These results conform with the results of estimations on the provincial samples.

[13] For Ouhai county the estimation procedure of Tobit model did not converge.

In two out of four counties, collective ownership form contributes significantly to better access to bank loans, as shown by the coefficients for OWNERSHIP for Cixi and Linhai (Table 5). This suggests that the bias in access to bank loans favouring the collective REs is probably a local phenomenon influenced by policies at the county level. Likewise, the negative effect of the rate of capital return (RCR) turns out to be only significant in two out of four counties, i.e. Linhai and Changshou.

Table 5. Tobit Estimation Result: Model II (county samples)

	Cixi	Linhai	Changshou	Qionglai
Intercept	-1.4925 (-2.4971)**	0.5228 (3.0917)***	-0.9285 (-1.8022)*	-2.5087 (-3.090)***
RCR	-0.2264 (-0.8388)	-0.1720 (-1.9635)**	-0.5342 (-1.7372)*	-0.2363 (-1.028)
SALES	0.1018 (1.7491)*	0.2164 (3.0739)***	0.1478 (2.7320)***	0.1523 (1.9426)*
MANAGER	-0.0295 (-0.2788)	-0.0217 (-0.3868)	-0.0602 (-0.4743)	0.1877 (1.5988)
LABOR	0.1164 (0.9087)	0.0252 (0.3739)	0.0672 (0.7467)	0.0713 (0.8176)
TECH	0.0058 (0.1224)	0.0369 (0.9202)	-0.0058 (-0.0831)	0.0547 (1.2751)
OWNERSHIP	0.6208 (2.2815)**	-0.1404 (-1.5600)	-0.1819 (-0.7817)	0.6747 (2.2379)**
y=0	86	42	98	92
y>0	39	71	28	29
y>0/Total	0.31	0.63	0.22	0.24
L-Ratio	48.85	15.57	21.42	73.21

Notes: The dependent variable is LOAN. L-Ratio = Likelihood ratio.
Figures in brackets are t values, * = 10%, ** = 5%, and *** = 1% level of significance, respectively.

The estimation results of Model II permit the following conclusions to be set against the hypotheses put forward in the previous section.

(1) According to the coefficients on MANAGER, LABOR and TECH, *hypothesis 5* on the effect of LG intervention on the preferential access to bank loans can be rejected at the provincial as well as at the county level. In other words, LG intervention does not significantly contribute to better access to bank loans for the REs in question.

(2) According to the coefficient for OWNERSHIP, *hypothesis 6* on the ownership bias in access to bank loans can be rejected at the provincial level. That is, collective ownership form does not universally lead to easier access to bank loans, although this may be the case in certain counties.

(3) According to the coefficient for RCR, the profit-maximisation hypothesis, i.e. *hypothesis 7,* on the allocation of bank loans can be rejected at the provincial and the county levels. This means that allocation of bank loans has not followed the profit-maximisation principle in either of the two provinces, nor in the counties.

5.3 The Results of Model III

Table 6 reports the regression results of Model III estimated on the two provincial samples. The rate of capital return (RCR) is significantly related to the share of delayed submissions in total capital, in both provinces. The negative coefficient on RCR shows that poor financial performance in REs is an important factor behind delayed payments of taxes and other dues to LGs.

At the provincial level, the variable SALES, a measure of an enterprise's size, is significantly positively related to the share of delayed submissions in total capital (DELAY), showing that large REs are better positioned to capitalise on the soft terms of taxation. This result holds for both Zhejiang and Sichuan.

There is a significant negative effect of LABOR in Zhejiang. Apart from this, the estimation results indicate that LG intervention does not have any significant impact on the use of delayed payments as a source of informal credit to REs.

The collective ownership form (OWNERSHIP) has a significant positive effect on the share of delayed submissions in total capital (DELAY). This result, which holds for both Sichuan and Zhejiang, indicates that LGs showed more leniency towards collective enterprises than towards non-collective ones when it comes to enforcing taxes and other fiscal dues. Thus, the results provide an indication that collective REs, in particular, enjoyed soft budget constraints with regard to taxation.

The estimation results of Model III on the county samples are presented in Table 7. The most noteworthy result is the effect of variable OWNERSHIP, which shows a significant impact of collective ownership form on the dependent variable for all counties.[14] Apart from OWNERSHIP, the results of other variables appear to vary between the counties. On one hand, the effect of MANAGER appears significant only for Linhai; on the other hand, the

[14] For Qionglai county (Sichuan), the Tobit estimation cannot converge, presumably because of the low proportion, some 18 per cent, of the sample with above-zero value of the dependent variable. However, the result of the OLS procedure indicates that the variable OWNERSHIP is a strong factor affecting the dependent variable of Model III.

coefficient on SALES is significant only for Linhai and Ouhai. These results tend to suggest that the behaviour of LGs may vary considerably at the county level. Moreover, some estimation results vary between the estimation using the provincial samples and that using the county samples. The significant effect of RCR for both provinces and that of LABOR for Zhejiang become insignificant when Model III is estimated using the four county samples. To explain the sensitivity of the estimation results is, however, difficult in the context of estimations made by using different samples, apart from the possibility that multicollinearity between variables may have played a certain part in it.

Table 6. Tobit Estimation Result: Model III (provincial samples)

	Zhejiang	Sichuan
Intercept	-0.5622 (-3.1549)***	-3.8706 (-3.6650)***
RCR	-0.2308 (-2.4871)**	-1.2317 (-1.9514)*
SALES	0.0737 (2.6135)***	0.1185 (2.1467)**
MANAGER	0.0331 (0.7716)	-0.1938 (-1.5591)
LABOR	-0.0943 (-1.8710)*	0.1030 (1.3290)
TECH	-0.0311 (-1.3348)	-0.0221 (-0.4266)
OWNERSHIP	0.5974 (7.3391)***	1.6891 (3.6537)***
y=0	179	198
y>0	181	50
y>0/Total	0.50	0.20
L-Ratio	196.14	181.58

Notes: The dependent variable is DELAY. L-Ratio = Likelihood ratio.
Figures in brackets are t values, * = 10%, ** = 5%, and *** = 1% level of significance, respectively

The estimation results of Model III permit the following conclusions to be set against the hypothesis put forward in the previous section.

(1) According to the coefficient on OWNERSHIP, *hypotheses 8* on the ownership effect is accepted at the provincial and county levels. In other words, the collective ownership form weakened the financial discipline of REs by allowing a higher share of delayed payments in their total capital.

(2) According to the coefficients on MANAGER, LABOR and TECH, *hypothesis 9* on the effects of LG intervention can be rejected at the provincial and county levels. It means that LG intervention does not seem to have any significant effect on weakening the financial discipline of REs in terms of using delayed payments as a source of informal credit.

(3) According to the coefficient for RCR, *hypothesis 10* on the relationship between poor profitability and weakening of financial discipline can be accepted at the provincial level. This means that poor profitability tended to weaken the financial discipline of REs by increasing the share of delayed taxes and other dues to LGs in the total capital.

Table 7. Tobit Estimation Result: Model III (county samples)

	Cixi	Linhai	Ouhai	Changshou
Intercept	-6.9856 (-1.7269)*	-0.7260 (-2.0474)**	-0.2131 (-1.0071)	-2.9584 (-2.8288)***
RCR	0.4942 (1.3285)	-0.1547 (-1.0467)	-0.1355 (-1.2077)	-0.4402 (-1.1005)
SALES	0.0933 (1.3012)	0.2406 (2.3291)**	0.1023 (2.2533)**	0.0831 (1.4109)
MANAGER	-0.0328 (-0.2595)	-0.1769 (-1.8720)*	0.0779 (1.3478)	-0.2413 (-1.6382)
LABOR	0.1522 (0.8404)	-0.0077 (-0.0720)	-0.0492 (-0.9196)	0.1542 (1.5497)
TECH	-0.0429 (-0.6042)	0.0787 (1.2653)	-0.0065 (0.6075)	-0.0715 (-0.9028)
OWNERSHIP	4.1841 (1.9847)**	0.3604 (2.5291)**	0.3699 (4.3931)***	1.3533 (3.0495)***
y=0	67	58	54	98
y>0	58	54	69	28
y<0/Total	0.46	0.48	0.56	0.22
L-Ratio	1217.04	38.18	67.21	75.96

Notes: The dependent variable is DELAY. L-Ratio = Likelihood ratio.
Figures in brackets are t values, and * = 10%, ** = 5%, and *** = 1% level of significance, respectively.

VI. Summary and Further Discussions

This section summarises the main findings of this study and offers some further discussions with regard to the differences in the patterns of investment decision-making of LGs in Zhejiang and Sichuan.

6.1 Summary of Findings

Several interesting findings result from this study. First, the impact of LG intervention on the allocation of LG investment appears to be different in the two provinces in this study. The pattern shows that the impact tended to be significant in the less developed Sichuan, but insignificant in the more advanced Zhejiang. Second, there are significant differences between the two provinces with regard to the importance of LG investments. This is based on two findings: namely, that the share of LG investment in the total capital is significantly lower in Zhejiang than in Sichuan; and that the link between LG investment and the growth of total fixed capital in the enterprises is significant in Sichuan, but not in Zhejiang. Third, there is a negative relationship between the investment returns and the share of LG investment in REs, in both provinces. This particular result may be evidence of the inefficiency of LG investments, as far as the *level* of LG investment is concerned. Fourth, an important change in investment behaviour of LGs seems to have occurred in Zhejiang, where by the end of the 1980's allocation of new investments followed the level of investment returns.

Fifth, this study has shown that when both the effect of firm size and that of the rate of return on capital are controlled for, the impact of the collective ownership form on access to bank loans in REs is not statistically significant in either province, but only in certain counties, under study. The result suggests that the bias towards collective REs with regard to access to bank loans may be a local rather than a universal phenomenon. Sixth, the results of this study suggest that local government interventions do not generally contribute to better access to bank loans nor to a larger share of arrears to government in the total capital of the REs. Finally, this study provides statistical evidence of the relationship between collective ownership and the weakening of financial discipline in REs, through the use of delayed payments of taxes and other dues to LGs as a source of informal credit.

6.2 Further Discussions

With regard to the investment decision-making of LGs, this study has revealed two different patterns for Zhejiang and Sichuan. In Zhejiang province the main features include: (1) LG investment as a share in total capital was significantly lower; (2) the level of LG investments was insignificantly related to intervention by LGs; (3) the rate of investment returns played an important role in allocating new investments, although this rate is negatively related to the *level* of LG investments. The pattern for Sichuan, on the other hand, includes the following: (1) LG investments accounted for a significantly higher share (about 30 per cent) in the total capital of REs than in Zhejiang; (2) significant impact of LG intervention with regard to the *level* of investment as well as on the allocation of new investments; (3) a negative relationship between the rate of return on investment and

the level of LG investment in total capital on the one hand, and an insignificant role of the rate of return to investment in the allocation of new investments on the other hand.

What have made LGs behave so differently in the two provinces? The level of rural industrialisation and that of overall development are likely to provide part of the answer to this question. At the lower stages of rural industrialisation, such as in Sichuan, REs may be dependent on LGs for practically all kinds of capital needs, especially that of fixed capital investment; while at more advanced levels of rural industrialisation, like in Zhejiang, the dependence of REs on LGs is likely to be reduced due to the stronger capacity of the enterprises to generate their own capital and to their possibility to raise capital from other, private, sources. As a result, the share of LG investment in total capital tends to be lower, and it may even be insignificantly related to the expansion of fixed capital of the REs. These changes, which illustrate the shift in the role of LG investment from being a major capital source in the early stages of rural industrialisation to a supplementary one at the advanced stages, appear to have happened in Zhejiang by the end of the 1980s.

The advanced level of rural industrialisation would also seem to be conducive to reducing the impact of LG interventions on the allocation of LG investments. In the more industrialised regions, there are numerous REs to provide employment and revenues. Thus, the need of LGs to invest in order to fulfil of community objectives is reduced. More importantly, the fast-growing market in the more industrialised regions tends to influence the LGs towards more market-oriented investment decision-making. This can be seen from the significant impact of investment returns on the allocation of *new* investments in Zhejiang. When there is little need for LGs to invest other than for economic reasons, they are more likely to base their investment decisions on the level of investment returns, which will, by default, reduce the impact of intervention on investment allocation as well.

Not all differences in the behaviour of LGs can be explained by the level of rural industrialisation and the level of overall development. Local politics and ideologies must also have influenced the policies and practices of LGs towards market-oriented economic liberalisation.[15] Thus, variations in the estimation results between provinces as well as across counties may, in part, be attributed to differences in degree of economic and political liberalisation at local level. In particular, this factor is a candidate for interpreting variations in the estimation results of the non-economic variables, which are to a large extent subject to political influence. A case in point is the impact of collective ownership form on the REs access to bank loans, which is found to be significant in only two out of four counties in the study. It goes without saying that policy variations of this kind may account for intra- as well as inter-provincial variations in the estimation results as degrees of political and economic liberalisation may differ not only within a province but are even more likely to differ between provinces.

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[15] Using four villages in one neighbourhood area, Mood (1996) shows huge variations in local government policies due to differences in collective institutions and to ideological approach.

References:

Byrd, William A., 1990, `Entrepreneurship, Capital and Ownership´, in Byrd, William A. and Lin Qingsong, eds., *China's Rural Industry: Structure, development, and reform*, pp. 189-218. Oxford: Oxford University Press.

Byrd, William A. and Gelb, Alan, 1990, `Why Industrialize? The Incentives for Rural Community Governments´, in William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, development, and reform*, pp. 358-387. Oxford: Oxford University Press.

Byrd, William A. and Lin Qingsong, 1990, `China's Rural Industry: An Introduction´. In William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 3-19. Oxford: Oxford University Press.

Chang, Chun and Wang, Yijiang, 1994, `The Nature of the Township-Village Enterprises´, *Journal of Comparative Economics*, vol. 19:3, pp. 434-452.

Judge, George G., Griffiths, W. E., Hill, R. Carter, Lütkepohl and Lee, Tsoung-chao, 1988, *Introduction to the Theory and Practice of Econometrics* (Second Edition). New York: John Wiley and Sons.

Kornai, János, 1979, `Resource-constraint versus Demand-constraint Economies´, *Economica*, vol. 47:4, pp. 801-819.

Kornai, János, 1992, *The Socialist System: The Political Economy of Communism*. Oxford: Clarendon.

Lin Qingsong, He Jiacheng and Du Haiyan, 1992, `Rural Industrial Enterprises and the Role of Local Governments: A Chinese case study", in Derek C. Jones and Jan Svejnar, eds., *Advances in the Economic Analysis of Participatory and Labour-managed Firms: A research annual*, Volume 4, pp. 243-271. Greenwich, CT: JAI Press.

Liu Xiaoxuan, Zheng Linghai and Bigsten, Arne, 1995, `Ownership Structure and Technical Efficiency in Chinese Enterprises (1986-1990)´. Mimeo. Gothenburg: Gothenburg University.

McDonald, John F., and Moffitt, Robert A., 1980, `The Use of Tobit Analysis´, *Review of Economic and Statistics*, vol. LXI:2, pp. 318-321.

Mood, Michelle S., 1996, *The Political Economy of Township and Village Enterprises in Tianjin*. Paper presented at the "Pacific Rim Allied Economic Organisation Biennial Conference", Hong Kong, Jan. 1996.

Qian, Yingyi and Roland, Gérard, 1994, *Regional Decentralization and the Soft Budget Constraint: The Case of China*. Discussion Paper Series, 1013. London: Centre for Economic Policy Research.

Ronnås, Per, 1993a, `Economic Diversification and Growth in Rural China: The anatomy of a "socialist" success story´, *Journal of Communist Studies*, vol. 9:3, pp. 216-244.

Ronnås, Per, 1993b, *Township Enterprises in Sichuan and Zhejiang: General Characteristics*. Studies in International Economics and Geography, Research Report 15. Stockholm: Stockholm School of Economics.

Rozelle, Scott, 1994, `Decision-making in China's Rural Economy: The Linkages Between Village Leaders and Farm Households´, *China Quarterly*, No.137, pp. 99-124.

Sjöberg, Örjan and Zhang Gang, 1996, *Soft Budget Constraints: An analysis based on a survey of Chinese township enterprises*. Working Paper Series in Economic and Finance, No. 93, Stockholm: Stockholm School of Economics.

Song Lina, 1990, `Convergence: A Comparison of Township-Run Firms and Local State Enterprises´, in William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 392-412. Oxford: Oxford University Press.

Song Lina and Du He, 1990, `The Role of Township Governments in Rural Industrialisation´, in William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 342-357. Oxford: Oxford University Press.

Tobin, James, 1958, `Estimation of Relationships for Limited Dependent Variables´, *Econometrica*, vol. 26, pp. 24-36.

Wang, Xiaolu, 1990, `Capital Formation and Utilization´, in William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 222-242. Oxford: Oxford University Press.

Weitzman, Martin, L., and Xu, Chenggang, 1994, `Chinese Township Village Enterprises as Vaguely Defined Cooperatives´, *Journal of Comparative Economics*, vol. 18:2, pp. 121-145.

Wong, Christine P. W., 1986, `The Economics of Shortage and Problems of Reforms in Chinese Industry´, *Journal of Comparative Economics*, vol. 10, pp. 363-387.

Wu, Quhui, Wang, Hansheng, and Xu, Xinxin, 1990, `Noneconomic Determinants of Workers' Incomes´, in William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 323-338. Oxford: Oxford University Press.

Xu, Chenggang, 1995, *A Different Transition Path: Ownership, Performance and Influence of Chinese Rural Industrial Enterprises*. New York and London: Garland.

Yang, Dali L., 1991, `Local Government and Rural Industrialisation in China´, *Peasant Studies*, vol. 18:2, pp. 131-141.

Zhang Gang, 1992, `Provinces, Counties and Township and Village Enterprises - A Background Study´. Mimeo. Stockholm: Stockholm School of Economics.

Zhang Gang, 1993, `Government Intervention vs. Marketization in China's Rural Industries: The Role of Local Governments´, *China Information*, vol. VIII, Nos. 1/2 (Summer/Autumn 1993), pp. 45-73.

Zhang Gang and Ronnås, Per, 1994, *The Capital Structure of Township Enterprises*. Studies in International Economics and Geography, Research Report No. 20, Stockholm: Stockholm School of Economics.

Appendix 1. Variable Statistics and Correlation Coefficients

Descriptive Statistics, Zhejiang provincial sample

Variable	Means	Std. Dev.	Min	Max.	N	Note
Variables used in all Models						
MANAGER	0.21	0.41	0.00	1.00	378	
LABOR	0.27	0.44	0.00	1.00	378	
TECH	0.06	0.24	0.00	1.00	378	
Variables used in Model Ia						
INVEST	24.88	20.10	0.31	95.98	95	data for 1988
EMPL	57.99	53.90	5.00	293.00	95	data for 1988
TAXPROF	1.17	1.52	-2.80	8.91	92	data for 1988
Variables used in Model Ib						
TVI	2.04	1.86	0.35	9.86	70	
ΔFIXCAP	1.24	0.66	0.64	4.71	69	
ΔWORKCAP	1.89	1.79	0.55	11.36	69	
ΔEMPL	1.18	1.07	0.11	8.00	66	
TAXPROF7-9	1.04	1.28	0.01	7.98	69	average, 1987 to 1989
Variables used in Model II and Model III						
LOAN	10.07	14.52	0.00	66.65	361	data for 1989
DELAY	3.13	5.68	0.00	33.34	360	data for 1989
OWNERSHIP	0.38	0.49	0.00	1.00	378	
SALES (Yuan)	495,733	12,766,696.0	0.00	14,568,400	377	data for 1989
RCR	18.60	30.59	-6.23	385.71	361	data for 1989

Note: The actual sample size of each estimation is determined listwise.

Descriptive Statistics, Sichuan provincial sample

Variable	Means	Std. Dev.	Min	Max.	N	Note
Variables used in all Models						
MANAGER	0.20	0.40	0.00	1.00	252	
LABOR	0.14	0.35	0.00	1.00	252	
TECH	0.07	0.25	0.00	1.00	252	
Variables used in Model Ia						
INVEST	61.24	30.52	0.59	100.00	89	data for 1988
EMPL	26.44	44.06	1.00	230.00	89	data for 1988
TAXPROF	0.82	1.45	-0.01	7.42	87	data for 1988
Variables used in Model Ib						
TVI	1.00	0.36	0.26	2.96	71	
ΔFIXCAP	0.93	0.28	0.41	2.84	71	
ΔWORKCAP	2.56	2.24	0.53	13.64	66	
ΔEMPL	1.02	0.23	0.50	2.40	67	
TAXPROF7-9	0.56	0.77	-0.02	4.75	69	average, 1987 to 1989
Variables used in Model II and Model III						
LOAN	7.90	19.04	0.00	100.00	251	data for 1989
DELAY	1.37	4.01	29.01	250.00	250	data for 1989
OWNERSHIP	0.47	0.50	0.00	1.00	252	
SALES (Yuan)	119,176	366,195.0	300	3,359,384	252	data for 1989
RCR	36.97	73.47	-19.90	588.00	249	data for 1989

Note: The actual sample size of each estimation is determined listwise.

Correlation Coefficients, Zhejiang provincial sample.

MANAGER	1.000											
LABOR	0.097	1.000										
TECH	0.078	0.014	1.000									
EMPL	0.287	0.050	0.003	1.000								
TAXPROF	-0.100	-0.022	-0.126	0.084	1.000							
ΔFIXCAP	-0.095	0.226	-0.011	0.060	-0.593	1.000						
ΔWORKCAP	-0.089	0.130	-0.022	0.060	-0.009	0.190	1.000					
ΔEMPL	-0.103	0.126	-0.028	-0.077	-0.239	0.051	0.216	1.000				
TAXPROF7-9	-0.073	0.022	0.056	0.126	0.904	-0.079	-0.064	-0.043	1.000			
OWNERSHIP	0.327	0.142	0.042	0.413	-0.333	-0.017	-0.032	-0.060	-0.142	1.000		
SALES	0.241	-0.009	0.073	0.573	0.096	0.051	0.324	0.067	0.105	0.259	1.000	
RCR	-0.162	-0.593	0.116	-0.119	0.245	-0.035	0.017	0.018	0.271	-0.257	-0.025	1.000
	MANAG-ER	LABOR	TECH	EMPL	TAXP-ROF	ΔFIXC-AP	ΔWORK-CAP	ΔEMPL	TAXP-ROF7-9	OWNER-SHIP	SALES	RCR

Correlation Coefficients, Sichuan provincial sample.

MANAGER	1.000											
LABOR	0,143	1,000										
TECH	0,063	0,211	1,000									
EMPL	0,039	0,123	0,112	1,000								
TAXPROF	-0,122	-0,109	-0,151	-0,004	1,000							
ΔFIXCAP	0,102	-0,004	-0,051	0,044	0,078	1,000						
ΔWORKCAP	-0,139	-0,008	-0,046	0,055	-0,125	0,059	1,000					
ΔEMPL	0,039	-0,085	0,042	0,117	0,119	0,258	0,239	1,000				
TAXPROF7-9	-0,107	-0,085	0,030	0,065	0,962	0,046	-0,097	0,276	1,000			
OWNERSHIP	0,111	0,337	0,224	0,312	--	-0,082	-0,025	-0,116	0,529	1,000		
SALES	0,005	0,174	0,013	0,759	0,000	0,174	0,011	0,240	0,045	0,200	1,000	
RCR	-0,093	-0,140	-0,121	0,127	0,580	0,016	-0,023	0,060	0,367	-0,156	-0,092	1,000
	MANAG-ER	LABOR	TECH	EMPL	TAXP-ROF	ΔFIXC-AP	ΔWORK-CAP	ΔEMPL	TAXP-ROF7-9	OWNER-SHIP	SALES	RCR

Appendix 2. A Simple Tobit Statistical Model[16]

The stochastic model underlying Tobit may be expressed by the following relationships:

$$\begin{aligned} y_t &= X_t\beta + u_t \quad \text{if } X_t\beta + u_t > 0 \\ &= 0 \quad \text{if } X_t\beta + u_t \leq 0 \\ & \qquad t=1,2,\ldots,N, \end{aligned} \tag{1}$$

where N is the number of observations, y_t is the dependent variable, X_t is a vector of independent variables, β is a vector of unknown coefficients, and u_t an independently distributed error term assumed to be normal with zero mean and constant variance σ^2, i.e., $u_t \sim N(0, \sigma^2)$. Thus the model assumes that there is an underlying, stochastic index equal to $(X_t\beta + u_t)$ which is observed only when it is positive, and hence qualifies as an unobserved, latent variable.

As Tobin (1958) shows, the expected values of y in the model is

$$Ey = X\beta F(z) + \sigma f(z), \tag{2}$$

where $z=X\beta/\sigma$, $f(z)$ is the unit normal density, and $F(z)$ is the cumulative normal distribution function (individual subscripts are omitted for notational convenience). Furthermore, the expected value of y for observations above the limit, here called y^*, is simply $X\beta$ plus the expected value of the truncated normal error term:

$$\begin{aligned} Ey^* &= E[y|y>0] \\ &= X\beta + \sigma f(z)/F(z). \end{aligned} \tag{3}$$

Consequently, the basic relationship between the expected value of all observations, Ey, the expected value conditional upon being above the limit, Ey^*, and the probability of being above the limit, $F(z)$, is

$$Ey = F(z)Ey^*. \tag{4}$$

Substitute equation (3) into equation (4) gives

$$\begin{aligned} Ey &= F(z)\cdot E[y|y>0] \\ &= F(z)X\beta + \sigma f(z). \end{aligned} \tag{4a}$$

The effect of a change in the i^{th} variable of X on y can be written as:

$$\partial Ey/\partial X_i = F(z)(\partial Ey^*/\partial X_i) + Ey^*(\partial F(z)/\partial X_i). \tag{5}$$

Thus, the total change in y can be disaggregated into two, very intuitive parts: (1) the change in y of those above the limit, weighted by the probability of being above the limit; and (2) the change in the probability of being above the limit, weighted by the expected

16 This section is based on McDonald and Moffitt (1980).

value of y if above. Applying the maximum likelihood (ML) estimation procedure, the Tobit model can produce consistent parameters β and σ^2 (Judge *et al.* 1988:798). With the estimates of β and σ, each of the terms of equation (5) can be evaluated at some value of $X\beta$, usually at the mean of the X's, i.e., $\bar{X}$. The value of Ey^* can be calculated from equation (3), and the values of $F(z)$ can be obtained directly from statistical tables. The two partial derivatives are also calculable:

$$\partial F(z)/\partial X_i = f(z)\beta_i/\sigma \tag{6}$$

and, from equation (3),

$$\begin{aligned}\partial Ey^*/\partial X_i &= \beta_i + (\sigma/F(z))\partial f(z)/\partial X_i - (\sigma f(z)/F(z)^2)\partial F(z)/\partial X_i \\ &= \beta_i[1 - zf(z)/F(z) - f(z)^2/F(z)^2],\end{aligned} \tag{7}$$

using $F'(z) = f(z)$ and $f'(z) = -zf(z)$ for a unit normal density.

It is important to noted from equation (7) that the effect of a change in X_i on y^* is not equal to the β_i, as pointed out by McDonald and Moffitt (1980). And it is easy to see that the fraction of the total effect due to the effect above the limit, $\partial Ey^*/\partial X_i$, is just $[1 - zf(z)/F(z) - f(z)^2/F(z)^2]$.

Finally, the effect can be usefully expressed in the form of an elasticity of independent variable X_i on the dependent variable y:

$$\xi(Ey, X_i) = (\partial Ey/\partial X_i)\cdot(X_i/Ey). \tag{8}$$

In this study, it is the values of the elasticity evaluated at the sample means that are reported in the tables where the estimation results are presented.

Essay II

Soft Budget Constraints in Chinese Rural Enterprises: Some Empirical Evidence from Zhejiang and Sichuan Provinces♠

I. Introduction

Soft budget constraints have been identified as one of the most important reasons for the inefficiency of state owned enterprises, and hence that of the socialist economy as a whole. The term, originally suggested by Hungarian economist János Kornai (1980, 1982), implies that enterprises face no penalties for over-spending, and that they readily adjust to the perceived or actual lack of sanctions. In subsequent works Kornai (1986, 1992) distinguishes four basic types of external support contributing to the soft budget constraint: soft subsidies, soft taxes, soft credit and soft administrative pricing. The outstanding characteristic of such assistance is that conditions are negotiable and are therefore usually bargained over by enterprises and government agencies. The softness of the budget constraint faced by enterprises reduces their need to maintain efficiency, thereby undermining the viability of the entire economy.

This was definitely true for China. A decade and a half of economic reform has helped China make a decisive move away from being an archetypal resource constrained economy (Kornai 1979), and the `hardening of the soft budget constraint' has become one of the most cherished metaphors describing the core characteristics of post-Mao economic development. However, while budget constraints on both governments and enterprises have hardened over time, there may still be fundamental differences between the state and non-state sectors of the economy with regard to the nature of budget constraint.

♠ This study draws on *Soft Budget Constraints: An Analysis Based on A Survey of Chinese Township Enterprises*. Working Paper Series in Economics and Finance No. 93, Stockholm School of Economics (Co-authored with Örjan Sjöberg). A condensed version of this study has been accepted for publication in a refereed volume of conference proceedings from the `European Conference on Agricultural and Rural Development in China', Manchester, November 9-12, 1995. The volume is edited by Flemming Christiansen and Zhang Junzuo, to be published by Curzon Press in Spring 1997.

1.1 Soft Budget Constraints in Rural Enterprises: Theory and Observations

In the literature, opinions differ on whether REs face hard budget constraints. On the one hand, some, e.g., Ho (1995:367), view that rural enterprises face relatively hard budget constraints. Chen *et al.* (1994:16) hold that 'these enterprises are subject to hard budget constraints, since ultimately they have to depend on their viability in the market'. Furthermore, Qian and Xu (1993:547) and Montinola *et al.* (1995:68) all consider the large numbers of bankruptcies that were witnessed during the austerity programme of the late 1980s - on which see Ody (1992) - were indicative of the basically hard budget constraints on rural enterprises. That REs face hard budget constraints has even been put forward as a factor towards explaining the higher growth rate in the productivity of this sector by Liu *et al.* (1995:28-29).

The financial discipline of the rural enterprise sector has in turn been attributed to the hard budget constraint facing local governments. Local governments face hard budget constraints (Byrd and Lin 1990:5) because, unlike the central government, they cannot run budget deficits (Byrd and Lin 1990:5, Byrd and Gelb 1990:370), owing to their inability to print money.[1] This line of reasoning has been advanced theoretically by Qian and Roland (1994) and McKinnon (1994), and empirically by Montinola *et al.* (1995). However, there appear to be some important differences between the hardening of budget constraints on governments and that of budget constraints on enterprises (Bowles and White 1993:63). The former affects, but not necessarily to the same degree, that of the latter (Hay *et al.* 1994:324).

Another view on rural enterprises facing hard budget constraints has been put forward by Walder (1994, 1995), who is concerned with understanding the controversy between the continuing bargaining over budgetary terms between enterprises and government agencies and the marked improvement of performance. Walder (1994:54) refers to budget constraints on rural enterprises as 'flexible' rather than 'soft', and maintains that despite the budgetary flexibility achieved through bargaining, budget constraints on enterprises are actually hardening, thanks first to the shift from traditional bargaining over physical objectives to that over financial terms and, second, to the limited fiscal resources of local governments for subsidisation. Walder (1995) further argues that budget hardness increases with a decreasing number of enterprises owned or supervised by a given layer within the administrative hierarchy; and administrations at the village and township levels typically have more direct control over, leading to better financial performance of, the rural enterprises.

On the other hand, some have pointed to the practice of casual financial discipline in the rural enterprise sector, indicating that rural enterprises may not face genuinely hard budget constraints. This has been noted because local authorities crucially depend on the rural

[1] For more on this proposition, see Granick (1990), who argues that the enterprises controlled at the provincial level would face hard budget constraints. See Wong (1991, 1992) and Wong *et al.* (1995) on the fiscal system of local governments in China.

enterprises for revenues, they tend to be willing to protect them. Rural enterprises in turn receive preferential treatment in various forms (Zhang 1993) that tend to soften their budget constraints. One of the areas of preferential treatment is soft bank credits. Several authors, e.g., Wang (1990:224-226) and Byrd (1990:214-215), point to the influence of local governments over the operations of local bank branches that are often pressed into supplying credits on soft terms and lax collection of debts. The theoretical work by Qian and Roland (1994) also suggests that decentralisation of monetary authority and/or easy access to credits leads to a softening of local government's budget constraint as well as that of rural enterprises. To the extent that formal and informal credit was guaranteed by local governments, Naughton (1995:153) goes as far as to conclude that 'township and village enterprises did not have completely hard budget constraints'.

Taxation is another area where rural enterprises may enjoy preferential treatment.[2] Young and Yang (1994:33-34), for instance, draw our attention to the sometimes deliberately lax collection of taxes. Qian and Roland (1994) plausibly suggest the possibility of cross-subsidisation that tends to increase with the increasing number of rural enterprises in a local community

Furthermore, rural enterprises tend to explore new ways of budget softening, such as accumulating inter-firm arrears, by taking advantage of the poorly established economic institutions in China (Zhang and Sjöberg 1992:33-34). In similar vein, Zhang and Ronnås (1994) report the use of several types of informal credits, such as outstanding payments to governments, inter-firms arrears and unpaid wages, in the formation of total capital of rural enterprises. Zhang and Ronnås (1994:60) point out that such involuntary credits provide an indication of soft budget constraints in as much as they reflect a leniency towards the failure of enterprises to meet various contractual obligations, or at least an absence of effective deterrents against such failure.

In sum, for all the statements to the effect that rural enterprises face hard budget constraints, the existing literature cited above amply suggests that there may still be some scope for these enterprises to shield themselves from genuinely hard budget constraints. However, there are precious few empirical studies that investigate this phenomenon in depth.[3] Many studies have referred in passing to the softness of budget constraints in rural enterprises (as in Findlay *et al.* 1994), but they do not pursue the subject in any depth. The existing empirical studies on soft budget constraints are either confined to China's state sector (e.g., Hay *et al.* 1994), or are of some vintage (such as the pioneering work by Wong 1986). The only existing empirical work that focuses on the budget constraints on rural enterprises is by Whiting (1993), which is based on the case study method. The reasons for

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[2] See Blejer and Szapary (1990), e.g., on the problem of China's tax system and its relation to the soft budget constraints.

[3] This is true in general with regard to the empirical studies in the literature on soft budget constraints, which is readily reflected in the fact that, as yet, only a handful of empirical studies have been reported. See, e.g., Wong (1986), Whiting (1993), and Hay *et al.* (1994) on China, and Kornai and Matits (1984), Kraft and Vodopivec (1992), Eriksson (1993, 1994), Raiser (1993, 1994), and Reiman (1994), on other economies.

the scant attention to the factual substantiation of the existence, nature and magnitude of soft budget constraints lie, in part, in the difficulty of collecting the panel data needed for an in-depth analysis on the topic. As a result, in spite of the theories of and observations on the hardness versus the softness of budget constraints, the true nature of budget constraints in the rural enterprise sector is still difficult to establish because of the lack of systematic and in-depth empirical work carried out on this topic. Against such a background, the present study aims to contribute to the literature by reporting a systematic empirical inquiry into the nature of budget constraints in the rural enterprise sector.

1.2 Research Design

The focus of this study is at micro-level, that is the budget constraint facing rural enterprises. The primary concern of this study is to examine the existence and the sources of soft budget constraints in rural enterprises. To this end, evidence of budget softness in rural enterprises, if any, is to be established through a three-part scrutiny of financial data on the rural enterprises, in particular data on the loss making entities, covered by an enterprise survey. The focus on loss making enterprises (LMEs) is motivated by the fact that loss making enterprises have a greater need to exploit the possibility of soft budget constraints. Hence, indications of soft budget constraints ought to be found first in this type of enterprise. The other reason is because soft or hard budget constraints are, under certain circumstances, relative concepts, which can only be established through a comparative approach. The focus on loss making enterprises does not, however, preclude the possibility that soft budget constraints may be sought by firms that appear financially healthy, i.e. profitable. Thus, profitable firms are not only treated as a control group, but also made subject to inquiry in their own right.

The study is organised as follows. Section II reports the first part of the three-part analysis, which investigates and compares the total capital formation of loss making firms to that of profitable ones. A static picture of the structural distinctions of capital formation between the two types of enterprises is gained at this stage. Signs such as a higher share of local government investment and of bank loans as well as a higher level of overdue payments to government, etc., in the total capital of loss making enterprises are recognised as preliminary indications of softness of budget constraints.

In the second step of the three-part analysis, *ex post* financial changes to the total capital formation of the loss making enterprises are looked into and compared with those of the profitable enterprises. A one-year time lag is used in the analysis at this stage to highlight the causal relations between observed behaviour of loss making enterprises and the losses incurred in their operations in the previous year. This forms Section III and adds a dynamic picture of the financial changes to the static one given in Section II on the capital formation of the enterprises.

Section IV examines the softness of taxation by looking into the payments of taxes and levies by the rural enterprises to the local governments. This forms the third part of the

scrutiny. Finally, the findings from Sections II, III and IV are summarised and preliminary conclusions are drawn in Section V. This cautious research design, which aims at cross-checking and reinforcing the research findings, is motivated by two concerns. First, the concept of soft budget constraints is considered to be stochastic in nature (Kornai 1992:143), which makes the concept slippery when applied empirically. Second, to interpret the data of a large survey sample in the light of soft budget constraints is sometimes difficult because the actual process by which budget constraints appear to be softened, e.g., the bargaining over the contingent supply of capital and over tax terms between the (loss making) enterprises and government agencies, is discrete, and information on this process is unknown. Therefore, a cautious research design, such as the one employed in this study, is needed to make sure that the interpretation of the survey data is as accurate as possible.

1.3 The Data and its Limitations

The study draws upon a set of data from a rural enterprise survey undertaken in Sichuan and Zhejiang in Winter 1990. The survey sample consists of 630 rural enterprises of all existing ownership categories selected from five counties representing a wide range of economic development levels.[4] Moreover, two additional field trips, one to Sichuan (late 1994) and another to Zhejiang (mid-1995), were carried out to conduct follow-up interviews with rural enterprise managers and local officials. The information and impressions gained during these field trips are used to assist the interpretation of the survey data.

Although the survey was not specifically designed to investigate the soft budget constraints - as was also the case with a major study of soft budget constraints on Chinese state enterprises by Hay *et al.* (1994) - the detailed questionnaire used and the quality of the returns from the survey make it possible to probe some of the issues at hand in considerable depth. However, since no stratification procedure was employed to ensure a certain proportion of loss making firms in the sample, loss making enterprises have a low presence in the sample (see Table 1). Given the particular focus of the present study on loss making enterprises, this sample distribution may be considered a weakness of the data set. As a remedy to this perceived data weakness, financial data of the surveyed enterprises over a three-year period (1987-1989), instead of one year, are used in this study in order to increase the number of observations, especially of the loss making enterprises, on which conclusions are based. The analysis in the following sections primarily refers to the average figures of the three-year period, with yearly data being given in the tables.

Another data limitation resulting from the relatively low numbers of loss making enterprises in the sample is the constraint on the subdivisions of the sample. In particular, there is little chance of subdividing the loss making group by two criteria simultaneously,

[4] For more on the survey procedure and the sample, see Rønnås (1993a, 1993b) and Rønnås and Sjöberg (1993).

e.g., by regions and ownership forms, as the size of each resulting sub-sample group would be too small to permit any meaningful analysis of the data. Given the limitations of the data base, we shall explore the phenomenon of SBCs in the RE sector as best as we can. With this data set, it should be possible to investigate the dimensions of the soft budget constraints and the factors involved, but difficult to ascertain the institutional setting and process, e.g., the bargaining and negotiations between the REs and the local governments, by which budget constraints were softened.

Table 1 presents the distribution of the survey sample by profitability for the period between 1987 and 1989. The loss making enterprises account for less than ten per cent of the total sample, and this proportion was fairly stable across the 3-year period between 1987 and 1989. Moreover, the majority of the loss making enterprises tended to return to profitability in the following year. Those enterprises in the red for two successive years accounted for 30 per cent of the loss making group in 1987, and for about 20 per cent in 1988 and 1989, respectively. Losses made for more than two successive years were exceptions in the survey sample (two such cases being found between 1986 and 1989). The low proportion of LMEs in the randomly selected survey sample may be an indication that unlike the state sector, the survival of rural enterprises in fact depends on their financial health.

Table 1. Sample Distribution by Profitability and Ownership Forms, 1987- 1989. Enterprise.

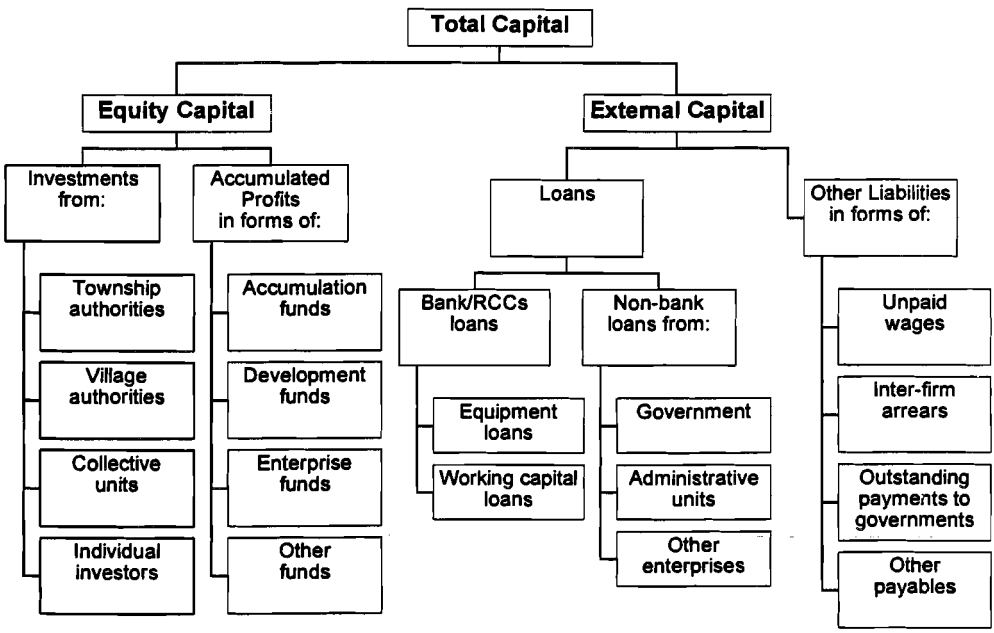
	Total	Profitable	Non-profit	Loss Making (LM)			% of LM
				Total	1-y LM	2-y LM	
1987	325	295	3	27	19	8	8.3
- Non-collective	151	147	2	2	2	0	1.3
- Collective	174	148	1	25	17	8	14.4
1988	476	433	7	36	29	7	7.6
- Non-collective	254	233	5	16	14	2	6.3
- Collective	222	200	2	20	15	5	9.0
1989	630	559	16	55	44	11	8.7
- Non-collective	368	326	14	28	23	5	7.6
- Collective	262	233	2	27	21	6	10.3

Notes: Non-profit refers to enterprises with neither positive nor negative profits; 1-y LM = 1 year loss making enterprises; 2-y LM = 2 year loss making enterprises.

Yet, Table 1 shows that the proportion of loss making enterprises was higher among the collective than the non-collective rural enterprises in all three years. It thus indicates that the chances of surviving a loss may be greater for the collective REs than for the non-collective ones. It may well be because rural enterprises run by local governments face softer budget constraints than do their non-collective counterparts. This tentative

proposition will be examined throughout this study. Finally, there are a very few enterprises that appear to have made neither profits nor losses. These enterprises are excluded from this study.

Fig. 1 Source of capital in rural enterprises



II. Capital Structure and Indications of Soft Budget Constraints

This section looks at the important differences between the capital structure of the loss making and the profitable enterprises in order to shed light on the nature of budget constraints for the rural enterprises. It presents some indications of soft budget constraint and considers the relative softness of the various components in the total capital formation. As a first step of analysis, the impressions gained at this stage are only preliminary and need to be reinforced by further analysis in the subsequent sections. Allowing for any important differences between the capital structure of temporary loss making enterprises and that of long-term loss makers (Hay *et al.* 1994:325-365), one-year and two-year loss making enterprises are separated for the purposes of analysis in this section.

Figure 1 (previous page) illustrates the sources of total capital of Chinese rural enterprises. The definition of each capital source is given under the respective subheadings. Following Kornai (1995:15), the relevance of different capital sources to the soft budget constraints of enterprises primarily depends on the ownership of the capital.[5] Capital sources that are external to the enterprises, especially those of publicly owned and allocated capital, such as government investments and bank loans, may, due to the public ownership and administrative allocation of these resources, have a direct bearing on the budget softness in the rural enterprises. Figure 1 shows that there may also be investments made by the so-called collective units, which refer primarily to other collectively owned business entities, but also including other organisations. The main difference between these types of investment and investments by the local governments is that the former are made on the basis of business relations between the rural enterprises and their business partners, while the latter are primarily based on administrative relations, and initially for non-economic purposes (Zhang 1993:47-48). Given the commercial nature and the infrequency of the investments from the collective units, which were only relevant to less than three per cent of the sample enterprises for all the years under study, these investments are not considered in this study.

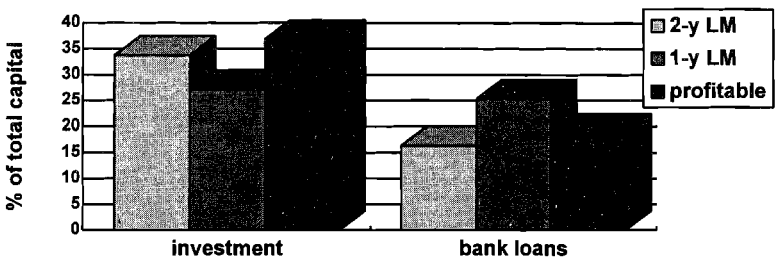
On the other hand, the equity capital of the enterprises, such as the enterprise's own funds, may be of little relevance to the soft budget constraint on enterprises. This is because these funds are the property of each enterprise, and thus may be used at their own discretion. Moreover, the so-called non-bank loans are of an *ad hoc* nature since they originate from a variety of sources, and each of them may be relevant only to a small number of enterprises in the sample. Thus, analysis of this source of capital either as a whole or by individual sorts would not permit any firm conclusions. Therefore, both the enterprise's own funds as well as non-bank loans are, for their different reasons, left out of the study.

Government Investment. Government investment refers to the capital invested by township and village authorities in the rural enterprises. It can be seen from Figure 2, which only refers to the collective enterprises in the sample, that the share of local

[5] Kornai (1995:15) argues that private ownership is an essential requirement for a hard budget constraint.

government investments in the total capital is generally higher in the profitable enterprises compared to that of the loss-making groups. It is lowest for the 1-year loss making group, but somewhat higher for the 2-year loss making group. This pattern preliminarily suggests that rural enterprises might have to cope with their losses, at least in the first year of loss making, by drawing on their own financial resources, or by external borrowing (see equity/liability ratio in Figure 4), or both. This may indicate a certain hardness in the allocation of local government capital to the rural enterprises, as subsidies do not seem to be made available to the enterprises immediately after making a loss.

Fig. 2 Shares of government investment and of bank loans in total capital of collective enterprises, average of 1987 to 1989.



Note: Collective enterprises only.

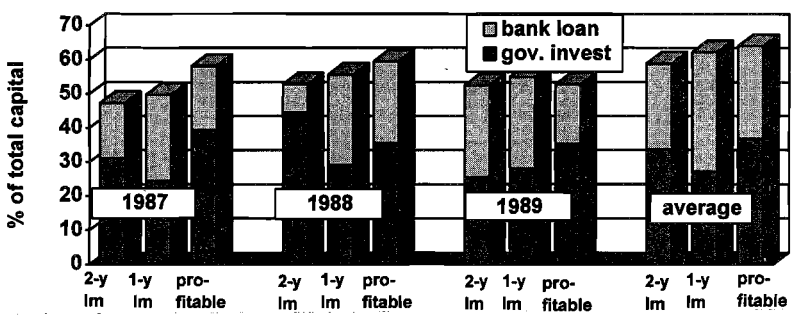
Bank Loans. Bank loans refer to loans from the Agricultural Bank of China and Rural Credit Cooperatives. In China, bank loans may be considered soft as they tend to be issued to assist the survival of LMEs and that interest payments as well as loan repayments cannot be effectively enforced.[6] Amongst all the groups shown in Figure 2, the one-year loss making enterprises had the highest share of bank loans in their total capital, on average 25 per cent, for the period of 1987 to 1989. A separate look at the data on 1989 shows that the 2-year loss making group had the highest share of bank loans, at 27 per cent, in their capital in that year, which was ten percentage points higher than that of the profitable group. It should be mentioned in this context that the RE sector as a whole was badly affected by the central government's tight credit policy in 1989 (Ody 1992:12, 29-30). The higher level of bank loans in the total capital of loss making enterprises in general, and in those of enterprises with continued losses during the period of severe bank

[6] On the softness of bank loans, see, e.g., Bowles and White (1989:487-489). Recently, it was reported that the total debt of industrial enterprises reached 805 billion Yuan (USD 97 bn), of which half would not be repaid. See *Financial Times*, July 1 1996. Moreover, all state banks were overwhelmingly burdened by their obligation to go on funding the ailing state enterprises. See *Financial Times*, Nov. 7. 1994, VII.

credit squeeze in particular, should be indicative of the softness of bank loans or, at least, the repayment problem.[7]

The Complementarity between Local Government Investment and Bank Loans. Local governments have considerable interests in protecting rural enterprises by various means. In the past, when the supply of bank credits was tightened by the central government, local governments tended to increase their investments to help reducing the disciplinary pressure of tight credit on the rural enterprises. In so doing, local government may have also assisted the survival of some troubled rural enterprises, as budget constraints on the rural enterprises tend to remain soft despite the tightening of the credit supply. Such a budget softening mechanism of local government may be detected from a complementary relation between the government investment and bank loans in the total capital of the collective rural enterprises.

Fig. 3 Share of government investment and bank loans combined in total capital of collective enterprises, 1987-1989.



Note: Collective enterprises only.

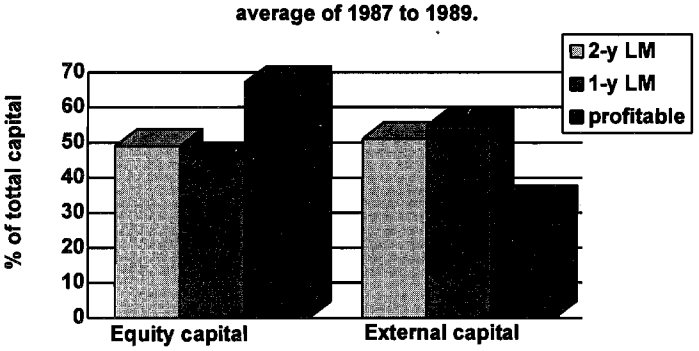
As can be seen in Figure 3, the survey data do reveal a measure of the complementarity between the local government investment and bank loans in the total capital: the combined share of local government investment and bank loans maintained at a stable level across the years between 1987 and 1989, while the share of each capital source varied between the years in the total capital. The share of the two capital sources combined, both on average and for individual years, tend to be the highest for the profitable enterprises, it is followed by that of the 1-year loss making group, and further by that of the 2-year loss making group. The generally higher proportions of local government investment and bank loans in the total capital of profitable enterprises seem to suggest a basically healthy pattern, that is a certain hardness, in the use of the capital resources controlled by the local

[7] The bulk of bank loans - 70 per cent of outstanding bank loans at the end of 1993 - was for working capital purposes, hence should be repaid within a short time.

governments. However, the observed complementarity between the two capital sources suggests that the effect of tight credit policies in hardening the budget constraint on rural enterprises may have been, at least in part, undermined by the contingent supplies of local government investment capital.

Enterprise Indebtedness. Figure 4 shows the proportions of equity and liabilities in the total capital of all enterprises divided by the three profitability categories. The ratio of external capital to total capital is a measure of enterprise indebtedness. External capital accounted for 55 per cent of the total capital of the 1-year loss making enterprises, 51 per cent of that of the 2-year loss making group, and merely 33 per cent of that of the profitable group. Thus, the level of indebtedness of the loss making enterprises is on average more than 20 percentage points higher than that of the profitable ones. This pattern indicates an increased reliance of loss making enterprises on external capital and, it is therefore important to look at the main components of liabilities (see Figure 5) to identify the available external capital for the loss making enterprises.[8] The proportion of equity capital provides just a mirror image of that of external capital in the total capital, as shown in Figure 4.

Fig. 4 Equity and liability structrue of all enterprises by profitability, average of 1987 to 1989.



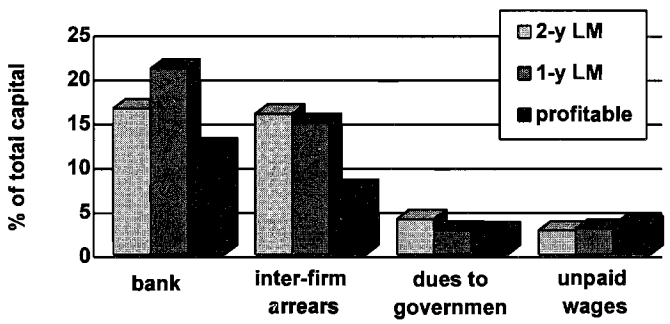
Although the composition of external capital may vary from enterprise to enterprise, major external capital of interest to this study includes bank loans, inter-firm arrears, outstanding payments to governments as well as unpaid wages. Their respective importance in the total

[8] The increased share of external capital in total capital of loss making enterprises appears not to have been a result of a decrease in equity and/or total capital. For this type of enterprise, the mean value of equity capital grew by 12.8 and 41.7 per cent in 1988 and 1989, respectively, while external debt increased by 17.2 and 21.3 per cent for the respective years. Moreover, the increase of equity was positively correlated with the increase of external capital, with the (two-tailed) correlation coefficients being 0.35 and 0.42 (both significant at below 10 per cent level) for 1988 and 1989, respectively.

capital formation of the enterprises surveyed is shown in Figure 5 and each of them is discussed below.

Bank Loans. For all the enterprises in the survey sample, bank loans account for 21, 17, and 12 per cent of the total capital of the one-year loss making, two-year loss making and the profitable group, respectively. This pattern is similar to that obtained for the *collective sub-sample* above (Figure. 2). Larger shares of bank loans in the total capital of loss making enterprises, than in profitable enterprises, clearly indicate the possibility that bank loans may have been made specially available to the loss making enterprises.[9] Hence, it suggests a certain softness in the allocation of bank credits.

Fig. 5 Shares of major liabilities in total capital of all enterprises, average of 1987 to 1989.



Inter-Firms Arrears. The inter-firm arrears, or the so-called triangle debts, refer to payments that firms owed each other for the purchase of goods and services. These arrears, which have created repeated chaotic situations in China's economy in the reform era, have in fact become a sort of informal credit that works to corrupt the budget constraints on Chinese enterprises. In China, this problem has its roots both in the poorly developed market institutions and in the state of partial reform of the Chinese economy. On the one hand, the growing volume of arrears among enterprises indicates that during the transition period, enterprises tended to exploit new sources of soft budget constraint by taking advantage of the severe lack of legal institutions (Zhang and Sjöberg 1992). On the other hand, the unreformed state sector, with half or so of its enterprises making losses, is much to be blamed for this problem in China. Because the government cannot leave the heavily indebted state firms to die, it had to foot the bill by providing new funds to clear up the

[9]Again, the large shares of bank loans in total capital of loss making enterprises would not appear due to an erosion of equity capital, as equity capital grew in both 1988 and 1989 for this type of enterprise (see footnote 8).

debt chains in the past. Thus, rather than being a 'forced credit' (Kornai 1993) on other firms, the inter-firm arrears are, in the end, more likely to be a 'forced credit' on the Chinese government. The inconsistency between the government's commitment to not bailing-out and the *ex post* bail-out of the indebted enterprises makes the inter-firm arrears clearly a case of soft budget constraint even in the classical sense of the concept.[10]

Rational expectation implies that firms caught up in the webs of inter-firm arrears understand only too well from their past experiences of this inconsistency in the government's behaviour. Consequently, they apparently do not worry about accumulating new arrears. Furthermore, since non-state firms, including many rural enterprises, are interrelated in the debt chain through economic transactions with the state sector - on which see Ronnås and Sjöberg (1993) - this inconsistency in the government's behaviour encourages opportunistic behaviour not only of state firms, but also of non-state businesses.

Turning to the survey data, Figure 5 shows that the inter-firm arrears on average account for more than 15 per cent of the total capital - twice the level of that for the profitable group at seven per cent - for both loss making groups. It shows that the budget constraints on rural enterprises, especially on the loss making ones, are softened as a result of the lack of contract enforcement mechanisms in China's emerging markets. Since enterprises face no formal penalties in accumulating these arrears, it is little surprise that loss making enterprises tend to increase the amount of arrears as an easy way of dealing with their losses.

Outstanding Payments to Government. Rural enterprises are subject to various taxes and local levies, while collective REs in addition are obliged to deliver part of their after-tax profits to the local government that owns the enterprise. Outstanding payments to government refer to the total amount of unpaid taxes and other dues that the enterprises surveyed owed to the local government. The fact that non-payment of taxes and other dues to government occurred in both profitable and loss making ones reveals another type of soft budget constraint facing the rural enterprises. These payments account for about three per cent of total capital of the profitable enterprises, and four per cent in the case of the 2-year loss making group. The difference with regard to the importance of this capital source is even less pronounced between the profitable and the 1-year loss making groups, as is shown in Figure 5. The softness in the payments of taxes and other levies is subject to further study in Section IV.

Unpaid Wages. Given the lack of institutions of modern labour relations (ARTEP *et al.* 1992), rural enterprises are able to withhold wage payments to their employees as a means

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[10] There is an increasing body of literature on the study of inter-firm arrears, which have been observed in many transitional economies, as a form of soft budget constraint and related issues. See, for example, Kornai (1993), Cui (1994), Raiser (1994), Calvo and Coricelli (1995) as well as Ickes and Ryterman (1992, 1993) and Dabrowski (1995). Some, e.g., Calvo and Coricelli (1995:194), argue that the phenomenon of inter-firm arrears in transition economies is not just a manifestation of continuing soft budget constraints.

of easing their budget constraints.[11] Unpaid wages, as shown in Figure 5, account on average for some 3.3 per cent of total capital of the profitable group, and is slightly lower for the loss making groups. These statistics tend to suggest that the extent to which enterprises can manipulate wage payments as a sort of soft credit may be somewhat independent of their profitability.

III. Financial Dynamics and Soft Budget Constraints

Soft budget constraints have been recognised as a dynamic commitment problem related to financial discipline (Qian and Roland 1994:1), because it is typically substantiated *after* financial losses have occurred. It is therefore important to look into the *ex post* financial changes at the loss making enterprises to find evidences on soft budget constraints. Such financial changes tend to reflect the adjustments made by the enterprises in response to their financial losses, and information on the available external funds is, therefore, crucial to the identification of the sources of soft budget constrains.

The survey sample is divided into loss making and profitable groups, which are sub-divided by collective and non-collective ownership categories for analysis in this section. This division by profitability and by ownership categories enables us to compare loss making enterprises with profitable ones on the one hand, and collective and non-collective enterprises on the other hand, in order to observe any significant influence of enterprise's profitability and ownership on the softness of budget constraints. The sub-division of the sample enterprises by main ownership categories is, however, made at the expense of the sub-divisions between 2-year and 1-year loss making groups, on the one hand, and between the two provinces, on the other. Otherwise, the size of each loss making group would be too small for analysis. The decision to focus on the ownership form instead of the other criteria for sub-divisions of the sample is based on the understanding of the importance of ownership in determining the budget constraints on enterprises.

3.1 Analysis of Capital Use

It has been argued that soft budget constraints can often be noted from the expansion drive observed in the socialist type economies (Kornai 1992:144, 162-163).[12] Since under soft budget constraints firms need not base their investment decisions on the rate of return on capital, expansion in the form of capital investment can take place even when firms run losses. This typically happens under the system of public ownership and the administrative allocation of investment capital. The collective ownership of some REs and the strong

[11] See also Saith (1995:227) on this practice of REs.

[12] The author further maintains that '[t]here is only a loose relation between the firms past and future (expected) profitability and its investment, growth and technical development.' (Kornai 1992:490). See also Wong (1986) on manifestations of the 'quantity' and 'expansion' drives in the Chinese state sector.

hand of local government in capital allocation thus give rise to the possibility of similar investment behaviour in the rural enterprise sector.

The Expansion of Total Assets. Table 2 compares the expansion of total assets of the loss making enterprises with that of the profitable enterprises during the periods of 1987 to 1988 and 1988 to 1989. On average, the same proportions of profitable and loss making enterprises underwent expansion of total assets during the period of 1987 and 1989. In terms of the rate of capital expansion, it is on average lower for the loss making group than for the profitable one, and this holds for both ownership categories. Comparisons between loss making enterprises of the two ownership groups reveal that the collective ones have a much higher rate of capital expansion (25 per cent) than their non-collective counterparts (13 per cent). Within each ownership category, for the non-collective enterprises, the rate of investment is substantially lower for the loss making than that for their profitable enterprises; while it is only marginally different between the two collective enterprise groups. This investment behaviour suggests that investment decisions in non-collective enterprises may be closely linked to the profitability of the enterprises. By contrast, the marginal reduction in the rate of investment expansion at the collective loss making enterprises appears to show a lack of sensitivity of capital investment to the enterprise's profitability. This, in turn, indicates that budget constraints may be softer in general for the collective than for the non-collective rural enterprises.

Table 2. Total Asset Expansion by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprises	295	27	433	36	-	-
Of which: (in % of total)						
- with total asset increase	72.8	66.7	70.4	75.0	71.6	70.8
Rate of total asset increase from previous year (%)						
All enterprises	33.4	17.4	23.9	29.1	28.7	23.3
- Collective	30.9	18.7	23.3	31.6	27.1	25.2
- Non-collective	44.0	6.8	26.4	18.5	35.2	12.7

The Growth of Fixed Capital. The total capital of enterprises can be divided into fixed capital and working capital, and Table 3 and Table 4 look into the expansion of fixed capital and working capital, respectively. With regard to fixed capital growth, at 16 per cent per year, the profitable group on average has a higher rate of investment than the loss making enterprises. Figures broken-down by ownership categories show that both collective and non-collective loss making enterprises have a much lower rate of fixed capital investment compared to that of their respective profitable counterparts. This suggests that fixed capital investment in both collective and non-collective loss making

enterprises are, to different degrees, reduced when enterprises have encountered losses in the previous years. Thus, insofar as fixed capital investments are concerned, this information alters the impression of a lack of sensitivity of capital investment to the financial losses in the collective enterprises.

Table 3. Fixed Capital Expansion by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprises	295	27	433	36	-	-
Of which: (in % of total)						
- with fixed capital expansion	43.5	51.9	39.4	41.7	41.5	46.8
Rate of fixed capital expansion over previous year (%).						
All enterprises	14.5	7.2	18.1	6.1	16.3	6.7
- Collective	12.6	7.4	12.0	3.6	12.3	5.5
- Non-collective	23.6	4.2	49.8	17.7	36.7	11.0

Yet, it can be seen from Table 3 that those enterprises that undertook fixed capital investment account for a slightly higher proportion in the loss making than in the profitable group. Thus, the survey data show that loss making enterprises tend to reduce the *scale* of investment rather than to cut back the investment projects completely when reacting to their financial losses. This may be rational given that most of loss making enterprises in the sample were in the red for just one year. To interpret this behaviour in the light of budget constraints, it seems to mean that rural enterprises face reasonably hard budget constraints with regard to the fixed capital investments.

Table 4. Working Capital Increase by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprises	294	27	432	36	-	-
Of which: (in % of total)						
- with working capital increase	73.8	70.4	72.2	75.0	73.0	72.7
Rate of working capital increase over previous year (%)						
All Enterprises	43.2	25.0	26.6	47.8	34.9	36.4
- Collective	40.9	28.0	28.7	55.3	34.2	41.7
- Non-collective	52.8	7.7	18.5	19.0	35.7	13.4

Working Capital Expansion. Loss making enterprises often find themselves in exceptional need of additional working capital because of losses and the possible increase of inventories in the meantime. This may explain why, for loss making enterprises as a group, the rate of working capital increase (36.4 per cent, Table 4) exceeds, by far, that of fixed capital increase (6.7 per cent, Table 3). Although collective and non-collective loss making enterprises may have equal need of extra working capital, their chances of raising the necessary funds are unequal according to the data in Table 4. The collective loss making enterprises have a significantly higher rate of working capital increase, at 43 per cent, than can be achieved by the non-collective loss making group (13 per cent). This indicates preferential access to working capital for collective rural enterprises, suggesting relatively softer budget constraints for these enterprises. This conclusion is further corroborated by intra-ownership comparisons between the loss making and profitable groups:-

on average, the working capital of the collective loss making enterprises increased by a rate exceeding that of profitable enterprises; while for non-collective loss making enterprises, the increase of working capital was less than half that of its profitable counterpart, as can be seen from Table 4. It suggests that the non-collective loss making enterprises face harder budget constraints than do their collective counterparts. All this indicates that the extent of budget constraints is crucially affected by the ownership of the enterprises, and consequently, collective enterprises are subject to softer budget constraints than non-collective ones.

3.2 Analysis of Capital Sources

This section examines the softness of budget constraints from the point of view of the availability of different capital sources. The availability of local government investment and that of various forms of external capital are judged on the basis of the increases of the respective capital sources in total capital of the surveyed enterprises. This information is then used to shed light on the sources of, and their relative importance to, the soft budget constraints on the rural enterprises. In this section, the analysis also focuses on the differences between the collective and the non-collective enterprises with regard to their access to various types of capital.

Local Government Investment. As a capital source, local government investments greatly influence the budget constraints on the rural enterprises as they account for a large part of the total capital for the collective rural enterprises (Zhang 1993:52). Although local governments themselves face relatively hard budget constraints, it does not necessarily mean that the hard budget constraints may be passed on in the same measure to the rural enterprises that they own. In our survey sample, 40 per cent of loss making enterprises, but only 32 per cent of the profitable ones, received increased amounts of government investment between 1987 and 1989. Despite the greater incidence of increased investment among the former group, the increase of government investment in the profitable enterprises was almost three times as much as in the loss making ones, i.e., 30 versus 11

per cent, respectively. To the extent that these figures reveal a tendency to allocate investments in favour of the profitable enterprises, they indicate that local government investments may be sensitive to the financial losses of the rural enterprises.[13] It further suggests that the hard budget constraints faced by local governments may have worked towards hardening the budget constraints on local enterprises as well - at least when it comes to the availability of government investment capital.

Table 5. Increase of Local Government Investment by Profitability, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of Enterprises	148	25	200	20	-	-
Of which: (in % of total)						
- with government investment	79.7	72.0	80.5	80.0	80.1	76.0
- with increased amount of government investment	33.1	40.0	14.6	40.0	31.6	40.0
Rate of increase of government investment over previous year (%)	26.8	4.0	32.3	17.2	29.6	10.6

Notes: LGI = local government investment which includes risk capital investment by township and village authorities in the rural enterprises. Collective enterprises only.

Table 6. Total Liability/Total Asset Ratio by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of Enterprises	295	27	433	36	--	--
Of which: (in % of total)						
- with increasing TL/TA ratio	34.0	48.1	33.6	44.4	33.8	46.3
Change in average TL/TA ratio from previous year (in % points)						
All Enterprises	-0.6	0.6	-1.2	-3.2	-0.9	-1.3
- Collective	0.6	0.4	-1.1	-5.1	-0.3	-2.4
- Non-collective	-1.9	1.9	-1.4	-0.8	-1.7	0.6

Notes: TL = total liability and TA = total asset.

Total Liability. Apart from being affected by local government investment, budget constraint on rural enterprises is to a great extent influenced by the availability of various external funds. In terms of total liability to total asset ratio (TL/TA), Table 6 shows that 34

[13] This is also the impression gained during a recent field trip to Sichuan, where government officials voiced concern about the return on their investment in rural enterprises.

per cent of the profitable enterprises, but 46 per cent of the loss making enterprises, had their TL/TA ratios increased on a yearly basis between 1987 and 1989. Thus, the percentage of enterprises with increasing indebtedness is, on average, 12 percentage points higher among the loss making enterprises than the profitable ones. The size of the change in the TL/TA ratio is, on average, very limited for both profitable and loss making groups. However, in the case of the latter, this should be seen against the high level of indebtedness of the loss making enterprises in absolute terms (see Figure 4). That loss making enterprises demonstrate a tendency to higher and probably increasing TL/TA ratios is not totally unexpected. But, the interesting questions concern the sources from which these enterprises manage to raise more external capital; and whether the increase of external funds in such cases leads to a softening of budget constraints on the enterprises. To investigate these questions, we now turn to examine the changes of major sources of liabilities in the enterprises surveyed.

Bank Loans. Table 7 shows that the percentage of loss making enterprises that manage to borrow from the formal rural banking sector is on average twice as high as that of the profitable group. Moreover, the incidence of increase in bank loans is also greater among the enterprises in the former than in the latter group, i.e., 27 and 18 per cent, respectively.

Table 7. Bank Loans Increase by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprises	259	27	433	36	-	-
Of which: (in % of total)						
- with bank loans	32.0	77.8	36.1	61.1	34.1	69.5
- with increasing bank loans	17.0	18.5	18.3	36.1	17.7	27.3
Rate of bank loans increase over previous year (%)						
All Enterprises	21.0	7.1	4.7	13.4	12.9	10.3
- Collective	17.8	7.1	5.4	11.9	11.6	9.5
- Non-collective	41.4	6.9	0.7	25.9	21.1	16.4

In particular, 36 per cent of loss making enterprises, as compared to some 18 per cent of profitable ones, were given increasing amounts in bank loans in 1989. The fact that twice as high a proportion of loss making enterprises as that of profitable enterprises were given more in the way of bank loans during a credit squeeze is in itself indicative of the softness in the allocation of bank loans. The above statistics suggest that access to scarce bank credits may have been channelled in favour of loss making enterprises. In terms of the rate of bank loans increase, the profitable and loss making groups are, on average, not markedly different. In fact, the former had a higher rate of increase than the latter, i.e. 13

and 10 per cent, respectively for the period of 1987 to 1989. The relatively modest rate of increase in the case of the loss making group should be seen in the light of the already high level of bank loans in their total capital (see Figure 5).

Other Liabilities. All liabilities are not in the form of bank loans, and liabilities in forms other than loans are referred to as *other liabilities* in rural enterprises (see Figure 1). Table 8 treats all other liabilities as a whole, and Tables 9 to 11 treat the main types of other liability one at a time.

Although the majority of both loss making as well as profitable enterprises rely on other liabilities as a source of capital, as shown in Table 8, other liabilities are incurred to a greater extent by the former than by the latter group. It can also be seen that the incidence of increase in other liabilities was greater among the loss making than the profitable enterprises, i.e., 59 and 41 per cent, respectively. Within the collective sector, the rates of increase of other liabilities are, on average, almost identical for the loss making and the profitable group. However, there is a marked difference between the two non-collective subgroups: while other liabilities increased by 50 per cent for the profitable group, they decreased by 10 per cent for the loss making group. This signals that the borrowing ability of non-collective enterprises is effectively affected by their profitability, and the reduced borrowing ability of the loss making enterprises suggests that non-collective enterprises operate in a relatively hard budget environment.

Table 8. Increase of Other Liabilities by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprises	294	27	432	36	-	-
Of which: (in % of total)						
- with other liabilities	57.1	92.6	59.3	80.6	58.2	86.6
- with increasing other liabilities	42.5	59.3	40.0	58.3	41.3	58.8
Rate of other liability increase over previous year (%)						
All Enterprises	71.1	35.4	25.6	31.7	48.4	33.6
- Collective	66.2	44.1	29.6	52.6	47.9	48.4
- Non-collective	91.9	-0.9	9.2	-19.2	50.6	-10.1

With regard to the rate of increase of other liabilities, the contrast between the collective and the non-collective loss making groups is, indeed, striking. While other liabilities increased on average by 48 per cent in the collective loss making enterprises, they decreased by ten per cent in the non-collective loss making enterprises between 1987 and 1989. In fact, Table 8 shows that the access of the collective loss making enterprises to other liabilities is, on average, unaffected relative to that of their profitable counterparts,

which suggests that these enterprises operate in a relatively soft budget environment with regard to the use of informal credits. The difference between the collective and non-collective loss making enterprises in this respect suggests collective ownership to be an important factor affecting a rural enterprise's access to unorthodox liabilities and, in turn, the degree of their budget softness.

Net Inter-Firm Arrears. With regard to the so-called inter-firm arrears, Table 9 shows that some 26 per cent of the profitable enterprises hold net arrears to other firms, but the corresponding figure is as high as 63 per cent among the loss making enterprises. The proportion of enterprises with increasing net inter-firm arrears from the previous year is, on average, 19 per cent among the former and 36 per cent among the latter group. Thus, the loss making enterprises may be characterised by the widespread incidence and, very likely, the increasing amounts of net inter-firm arrears in the years following their losses.

Table 9. Net Inter-firm Arrears by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprises	294	27	432	36	--	--
Of which: (in % of total)						
- with net inter-firm arrears	27.6	66.7	25.0	58.3	26.3	62.5
- with increasing net arrears,	19.7	40.7	18.8	30.6	19.3	35.7
Change in net inter-firm arrears over previous year (%)						
All Enterprises	71.1	36.7	33.1	1.3	52.1	19.0
- Collective	57.5	47.1	47.5	15.6	52.5	31.4
- Non-collective	134.4	4.4	-26.5	-24.8	54.0	-10.2

Notes: Net inter-firm arrears = total arrears - total collectibles. The figures refer to the sub-sample average of net inter-firm arrears.

The average rate of increase is, on the other hand, markedly higher for the profitable than for the loss making group, at 52 versus 19 per cent, respectively. However, this should be seen against the background of the markedly higher level of inter-firm arrears in the total capital of the loss making enterprises (see Figure 5). The statistics broken-down by main ownership forms show that among the loss making entities the rate of increase is significantly greater for the collective than for the non-collective enterprises. The latter as a group experienced a decrease of 10 per cent in the net amount of inter-firm arrears between 1987 and 1989.

In sum, it is shown in Table 9 that the budget constraints on rural enterprises may be weakened by the chances for them to hold back payments to other firms, thanks to the lack of institutions for enforcing economic contracts in China. Moreover, it is the collective loss making enterprises that are in a better position to tap this particular source of soft capital in

order to survive their losses. Hence, it is foremost in this type of enterprise that budget constraints are softened by inter-firm arrears.

Unpaid Wages. Table 10 shows that some 37 per cent of the profitable enterprises appear to have delayed payment of wages to their employees, but this percentage goes as high as 70 per cent among the loss making enterprises. The incidence of increase in unpaid wages is, on average, greater among the latter than the former group, i.e. 41 and 23 per cent, respectively. On the whole, the amount of unpaid wages increased at a greater rate in the profitable enterprises than in the loss making ones, averaging 29 and 20 per cent, respectively, between 1987 and 1989. However, a further breakdown of the data by main ownership categories reveals that the amount of unpaid wages increased, on average, by 25 per cent in the collective loss making enterprises, but decreased by 13 per cent in the non-collective loss making group. Thus, despite the changing pattern in the two periods studied, these figures seem to indicate that the scope for softening budget constraints by withholding wages is somewhat greater in the collective than in the non-collective rural enterprises.

Table 10. Changes of Unpaid Wages by Profitability and Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprises	295	27	433	36	-	-
Of which: (in % of total)						
- with unpaid wages	35.4	88.9	38.7	50.0	37.1	69.5
- with increasing unpaid wages	22.1	51.9	23.6	30.9	22.9	41.3
Change in average unpaid wages over previous year (%)						
All Enterprises	30.0	35.7	27.3	3.5	28.8	19.6
- Collective	22.9	50.7	35.6	-0.3	29.3	25.2
- Non-collective	50.0	-45.0	12.6	19.5	31.3	-12.8

Payments outstanding to Government. Generally speaking, the financial discipline of some rural enterprises may be considered weak, because payments of taxes and levies tend to be negotiable, and not rigorously collected. In rural enterprises, late payments of taxes and other dues to government are registered as outstanding payments to government (*Ying Jiao Kuan* in Chinese) and entered as a liability in their books. Rural enterprises with arrears to governments are many: nearly 40 per cent of the profitable enterprises and as high as 75 per cent of the loss making enterprises in the survey sample, as is shown in Table 11. The proportion of enterprises with increasing amounts of late payments to government from the previous years is, on average, 43 per cent for the loss making group and 27 per cent for the profitable one.

Table 11. Increase of Payments Outstanding to Governments by Profitability and by Ownership Form, 1987-1989.

	1987/88		1988/89		Average	
	Profit-able	LMEs	Profit-able	LMEs	Profit-able	LMEs
Number of enterprise	295	27	433	36	-	-
Of which: (in % of total)						
- with POTG	38.4	85.2	38.7	63.9	38.6	74.5
- with increasing POTG	30.6	55.6	22.9	30.6	26.8	43.1
Rate of change in POTG from previous year (%)						
All enterprises	89.6	61.7	24.0	18.3	56.8	40.0
- Collective	97.0	62.9	25.5	32.1	61.3	47.5
- Non-collective	50.4	45.1	13.9	-38.8	32.2	3.2

Notes: POTG = payment outstanding to government may cover all kinds of outstanding payments, but primarily taxes and local levies.

The amount of unpaid taxes and other dues to governments increased considerably during the period from 1987 to 1989, as can be seen from Table 11. On the whole, late payments to government increased at a faster rate among the profitable enterprises than the loss making enterprises, and at 61 per cent per annum, on average, the rate of increase was particularly fast for the collective profitable group. Non-payments to government by collective loss making enterprises as a group rose by 48 per cent per year over the same period. The average rate of increase was lower for the non-collective profitable group at 32 per cent, and lowest of all at 3.2 per cent for the non-collective loss making group. Overall, these survey data suggest that, on the one hand, soft taxation tends to be a phenomenon of greater and growing incidence among the loss making than the profitable enterprises, while on the other hand, the fiscal system appears more inclined to give soft tax terms to the collective rather than the non-collective enterprises, for their given profitability.

IV. Taxes, Local Levies and Soft Budget Constraints

This section continues to examine the behaviour of rural enterprises with regard to their payment of major taxes and levies in order to find further evidence of the softness of the local tax system. For this purpose, late payments of various taxes are first separated from the total outstanding payments to governments. Then, data on payments of taxes and local levies are broken-down by types of taxes and local levies, respectively.

The survey data in Table 12 reveals that tax exemptions were granted to a greater proportion of the loss making enterprises than the profitable ones, at 13 and 9 per cent, respectively. Furthermore, tax payments were in arrears in 21 per cent of the loss making enterprises and 15 per cent of the profitable ones. These statistics tentatively suggest that loss making enterprises may be more motivated to exploit the softness of the tax system.

Yet, the statistics show that the profitable group paid, on average, a lower percentage of total taxes due than did their loss making counterparts, i.e., 72 versus 69 per cent, respectively.

Further breakdowns of these data reveal that the profitable collective enterprises paid on average less than 60 per cent of their due taxes, the lowest among all enterprise categories. Next lowest were the collective loss making group with 68 per cent and the non-collective loss making group with 76 per cent. The non-collective profitable group paid the highest percentage, i.e., 95 per cent, of their total taxes due. These figures suggest that the soft terms of tax payments enjoyed by rural enterprises tend to be affected firstly by the ownership, and secondly by the profitability, of the enterprises.

Table 12. Outstanding Tax Payments by Profitability and Ownership Form, 1988-1989.

	1988		1989		Average	
	LMEs	Profit-able	LMEs	Profit-able	LMEs	Profit-able
Number of enterprises	36	433	55	558	-	-
Of which: (in % of total)						
- granted tax exemption	13.9	9.3	12.7	8.2	13.3	8.8
- with outstanding tax payments	16.7	15.0	25.5	14.0	21.1	14.5
Percentage of total taxes paid						
All enterprises	72.5	70.7	71.0	66.2	71.8	68.5
- Collective	73.3	61.1	62.3	57.3	67.8	59.2
- Non-collective	70.7	100.0	80.9	90.0	75.8	95.0

Note: Total taxes include sales tax and profit tax.

Rural enterprises were subject mainly to two taxes, viz. sales tax and profit tax, at the time when the survey was undertaken. To measure the extent to which these taxes were actually paid by the enterprises, two tax rates, viz. nominal rate and effective rate, have been calculated based on the survey data. The nominal rate is measured on the basis of the total tax due as entered in the books of the enterprises; and the effective rates are measured on the basis of the actually amount of taxes paid by the enterprises.[14]

Tax exemptions and tax arrears that are entered in the enterprise's books indicate that these may be the results of negotiations over tax payments between the REs and the local authorities. Although exemptions or delays of tax payments in such cases are considered 'legal' as far as local governments are concerned, it is still an indication of the softness of the local tax system. This is simply because exemptions and delays of tax payments sanctioned by local governments do not always follow the tax laws laid down by the central government. In addition to exemptions and lax payments of taxes seemingly authorised by local governments, tax evasion tends to take place in rural enterprises. To

[14] See notes to Table 13 and Table 14 for definitions of these rates, respectively.

uncover and to measure this problem, tax evasion has been identified as having occurred when a sample enterprise has neither records of any tax payments, nor of tax exemption, nor of tax arrears.

4.1 Soft Budget Constraints in the Payment of Sales Tax

With regard to the payment of sales tax - a business turnover tax based on the business income of an enterprise[15]- figures in Table 13 show a higher rate of tax exemption among the loss making than the profitable enterprises. Moreover, delays of tax payments occurred more frequently among the former than the latter. That 17 per cent of loss making and 14 per cent of profitable enterprises registered arrears of sales tax, which presumably took place with the consent of the local governments, may be seen as an indication of the open softness of the tax system. On average, 20 per cent of the profitable enterprises can be identified as having evaded sales tax, while the corresponding figure is markedly lower among the loss making enterprises, approximately three per cent. These statistics indicate the extent of tax evasion at local level and show that the problem is, ironically, more prominent among the profitable than the loss making enterprises. The incidence of tax evasion among REs as revealed by the survey data illustrates the hidden softness of the local tax system.

Table 13. Payments of Sales Tax by Profitability, 1988-1989.

	1988		1989		Average	
	LMEs	Profit-able	LMEs	Profit-able	LMEs	Profit-able
Enterprises liable to sales tax	36	433	55	557	-	-
Of which: (in % of total)						
- of sales tax exemptions	13.9	8.4	12.7	7.5	13.3	8.0
- with sales tax arrears	13.9	14.7	20.0	13.5	17.0	14.1
- of evasions of sales tax	0.0	20.0	5.5 (3)	18.9	2.8	19.5
Sales tax rates, %						
- Nominal rate (NR)	7.48	4.96	6.13	5.24	6.81	5.10
- Effective rate (ER)	5.56	4.70	4.61	4.42	5.09	4.56
- Difference of NR & ER	1.92	0.26	1.52	0.82	1.72	0.54

Notes: Nominal rate = total sales tax due/total sales value; Effective rate = submitted sales tax/total sales value. Enterprises with positive sales values are regarded liable to sales tax; and evasion is defined here as enterprises that are liable to sales tax but actually have no records of payments of sales tax, nor of tax exemptions, nor of sales tax arrears. Numbers of observations, if below five, are given in brackets.

[15] In the context of REs, most of their business activities were subject to one of the two turnover taxes applied at the time the survey was taken. Manufacturing industries were subject to a Product Tax, for which there were 26 different rates ranging from 3 to 15 per cent for necessities and industrial raw materials, respectively, and from 40 to 60 per cent for luxury goods. Business activities other than manufacturing industry were subject to a Business Tax with tax rates ranging from 3 to 15 per cent. See Li (1991:33-34, 39-41).

The profitable group was subject to a nominal rate of sales tax, which stood at 1.7 percentage points below that of the loss making group (Table 13). In terms of effective rates, this contrast between the profitable and loss making group still holds: the former paid a rate of 4.56 per cent and the latter 5.09 per cent, respectively. Furthermore, there are positive residuals between the nominal and effective tax rates, which show that the enterprises paid an effective tax rate below the nominal rate. Thus, a positive residual between the two tax rates is a further indication of the softness of the tax system. However, because of the inequalities in the nominal rates between the profitable and loss making groups, it is difficult, from the size of the residuals, to estimate the relative budget softness faced by the two types of enterprises. This problem is best illustrated by the fact that despite having paid a higher effective rate of sales tax, the loss making group still had a larger residual (1.72 per cent) than the profitable group, because of the higher nominal rate imposed on the former.

4.2 Soft Budget Constraints in the Payment of Profit Tax

Turning to the payment of profit tax[16], Table 14 shows that enterprises registered for exemptions from profit tax were few, only four per cent in the profitable group and none in the loss making one. However, no fewer than 44 per cent of the profitable and 33 per cent of the loss making enterprises could be identified as evaders of profit tax according to our calculations.[17] Furthermore, some 12 per cent of enterprises in the loss making group, and eight per cent in the profitable one, reported late payments of profit tax. These statistics show that the softness of the tax system is pervasive at the local level and that evasion of profit tax is a severe problem in the rural enterprise sector.

Logically, profitable enterprises ought to be subject to higher payments of profit tax than loss making ones as profit tax is levied on the taxable profits of enterprises. However, figures in Table 14 show that this was not the case in the enterprises surveyed. Surprisingly, both in terms of nominal and effective rate, the profitable enterprises as a whole paid a lower profit tax than did the loss making ones! The average rate of profit tax for the profitable group was lower apparently due, at least in part, to the high rate of evasion found among this type of enterprise. This also raises the possibility that some of the enterprises appeared profitable owing to exemptions or concessions, but above all because evasion of profit tax. To sum up, the survey data on tax evasion and on the

[16] Profit tax was charged on the taxable profits of enterprises, i.e. income less costs, expenses and other specified deductible items. Collective and non-collective REs were subject to different profit taxes. The former were subject to Collective Enterprise Income Tax with an eight-grade progressive rate ranging from 7 to 55 per cent; while the latter were liable to Private Enterprise Income Tax at a 35 per cent flat rate. See Li (1991:80, 86).

[17] New REs are eligible for a tax holiday during the first year of their business operations, but this can often be extended up to three years by local authorities. Extended tax holidays are not legal, and the central government repeatedly issued decrees banning such practices by local governments. However, even when excluding new enterprises established in 1986, 1987 and 1988 from the calculations, evasion rates were the same. The results are virtually as high as that of the profitable group in 1989 in Table 14.

differences between nominal and effect rates of profit tax once again confirm the pervasive existence of softness in the local tax system and, in turn, that of budget constraints on the rural enterprises. The higher profit tax rate paid by the loss making enterprises suggests that local tax authorities may be more inclined to offer softer tax terms to the profitable than to the loss making entities, in which case the latter group may be considered as having to endure harder discipline in this respect than the former.

Table 14. Payment of Profit Tax by Profitability, 1988-1989.

	1988		1989		Average	
	LMEs	Profit-able	LMEs	Profit-able	LMEs	Profit-able
Enterprises subject to profit tax	18	411	24	527	-	-
Of which: (in % of total)						
- of profit tax exemptions	0.0	4.1	0.0	4.2	0.0	4.2
- with profit tax arrears	11.1(2)	8.5	12.5(3)	7.2	11.8	7.9
- of evasion of profit tax	33.3	42.3	33.3	45.4	33.3	43.9
Profit tax rates, %						
- Nominal rate (NR)	15.9	14.4	24.0	14.4	20.0	14.4
- Effective rate (ER)	14.0	11.5	16.1	10.9	15.0	11.2
- Difference of NR & ER	1.9	2.9	7.9	3.5	4.9	3.2

Notes: Nominal rate = total profit tax due/taxable profit; Effective rate = submitted profit tax/taxable profit. Enterprises that reported a positive taxable profit are regarded liable to profit tax; and evasion is defined here as enterprises that were liable to profit tax but had no records of payments of profit tax, nor of profit tax exemption, nor of profit tax arrears. Numbers of observations, if below five, are given in brackets.

4.3 Local Levies and Soft Budget Constraints

Table 15 sheds light on payments of local levies, including administrative fees. Although in the survey returns none of the enterprises was registered for exemption from local levies, it turns out that some 16 per cent of loss making enterprises, and as high a proportion as 26 per cent of profitable ones, appear to have not paid such levies anyway. In addition, some nine per cent of profitable enterprises and twice as high a proportion of loss making ones registered late payments of local levies in their books. These statistics provide further evidence of the softness of budget constraints in the rural enterprise sector.

The survey data in Table 15 also show that both the profitable and the loss making groups, on average, paid 81 per cent of the total levies charged to them. Within each profitability category, the non-collective enterprises, on average, paid a higher percentage of the total levies than did their collective counterparts.

The survey data on the rates of administrative fees, which are set by the central government at a maximum of one per cent of the enterprise's sales income, show the

following: first, both the nominal rate and the effective rate were higher for the loss making group than for the profitable group, indicating once again that the profitable REs may have been given concessionary treatment in their dealings with the local governments. Second, the nominal rates that exceeded the official maximum rate of one per cent provide a piece of evidence about excessive levies charged by local governments on rural enterprises. Indeed, the loss making group paid even an effective rate of 1.04 per cent in 1989. Compared to the softness in the collection of national taxes, the imposition of local levies appears to be hard as the nominal rates tending to exceed the official maximum rate. Third, there are residuals between the nominal and effective rates. Apart from showing, once again, that there are loopholes in the local fiscal system, the residuals, in particular in the case of excessive nominal rates, tend to indicate the resistance of rural enterprises to fiscal predation by the local governments.

Table 15. Payments of Local Levies by Profitability and Ownership Forms, 1988-1989.

	1988		1989		Average	
	LMEs	Profit-able	LMEs	Profit-able	LMEs	Profit-able
Number of enterprises	36	432	54	558	-	-
Of which: (in % of total)						
- paid levies	86.1	74.8	81.8	73.5	84.0	74.2
- with late payment of levies	22.2	10.0	12.7	7.9	17.5	9.0
Percentage of total levies paid						
All enterprises	79.9	87.9	82.5	74.2	81.2	81.2
- Collective	67.6	89.0	76.1	70.3	71.9	79.7
- Non-collective	99.3	85.3	88.3	82.7	93.8	84.0
Rate of administrative fee, %						
- Nominal rate	0.92	1.06	1.19	0.86	1.06	0.96
- Effective rate	0.83	0.96	1.04	0.76	0.94	0.86
- Difference of NR & ER	0.09	0.10	0.15	0.10	0.12	0.10

Notes: Local levies include administrative fees and agricultural assistance fees. Nominal rate = total administrative fee due/sales income; Effective rate = submitted administrative fee/sales income, of the respective years. Central government sets the administrative fee rate at a maximum of one per cent of the rural enterprise's sales income.

V. Summary and Concluding Remarks

This section first summarises the main findings of the study and then makes some concluding remarks.

5.1 Summary of Findings

A. Softness of Capital Sources and Soft Budget Constraints on Rural Enterprises

The use of bank loans by rural enterprises may be considered soft for a number of reasons. The share of bank loans in the total capital of the loss making enterprises was higher than for profitable enterprises and relatively-speaking, more loss making enterprises had access to bank loans. Moreover, a higher proportion of loss making enterprises than profitable ones were supplied with increased amounts of bank loans, especially during the bank credit squeeze in 1989. All this leads to the conclusion that the allocation of bank loans was still soft by the end of the 1980s.

Inter-firm arrears have been identified in this study as a main source of credit drawn on to help soften the budget constraint on rural enterprises in general and on the loss making entities in particular. This is shown by the fact that nearly one third of the profitable enterprises, and approximately two thirds of the loss making ones, had net arrears to other firms.

The fact that some 40 per cent of the profitable ones, and as high a proportion as 75 per cent of the loss making enterprises, in the sample had outstanding payments to government illustrates another type of softness of budget constraint on the rural enterprises. This phenomenon originates in the softness of the tax system, which is summarised below.

Unpaid wages may be seen as a relatively minor source of budget softness, as they tend to account for just a small share in the total capital of both profitable and loss making enterprises. Nevertheless, it should be noted that rural enterprises may seek out this option as a means of easing budget constraints when necessary.

B. Softness of Local Tax System and Implications for the Soft Budget Constraint

This study has revealed ample evidence of the softness of local fiscal system. With only 70 per cent of total taxes due being paid by the rural enterprises and tax arrears registered by many enterprises in the survey sample, the collection of national taxes was lax. In addition, a considerable percentage of the enterprises surveyed appear to have evaded their tax payments all together. Further indications of soft taxation can be observed from the arbitrary tax rates applied to the different categories of enterprises. On the one hand, collective enterprises paid a lower percentage of total taxes due than did the non-collective ones. On the other hand, within a given ownership category, profitable enterprises paid a lower share of taxes due than did their loss making counterparts. The inability, or unwillingness, of the local tax authorities to enforce tax payments, as the results of this study indicate, have undoubtedly softened the budget constraints on rural enterprises.

C. Hard vs. Soft Budget Constraints as Seen through Investment Behaviour

The nature of budget constraints on rural enterprises can, to a large extent, be seen from their investment behaviour. This study has shown that investments by the non-collective rural enterprises tend to be highly sensitive to their financial status: the rate of investment, both in respect of fixed capital and working capital, was drastically reduced in the loss making enterprises. Such behaviour in non-collective enterprises suggests that they face hard budget constraints. Clearly, this is because non-collective rural enterprises rely essentially on private capital for investment.

The collective rural enterprises, on the other hand, tend to demonstrate a markedly different pattern of behaviour in this regard. While collective loss making enterprises reduced the scale of *fixed capital investment*, they still managed to increase their working capital by a faster rate than that of their profitable counterparts - a larger increase by far than the non-collective loss making enterprises managed. This behaviour suggests that the collective and non-collective rural enterprises do not face equally hard budget constraints, although the collective enterprises may also be considered to have a relatively hard budget constraint when it comes to fixed capital investment. This observation lends support to the argument by Kornai (1995:15) that private ownership is essential for a hard budget constraint.

With regard to the investment behaviour of local governments, there are indications of a certain sensitivity of government investment to the profitability of rural enterprises. First, local government investment accounted for a higher share of the total capital of the profitable enterprises than the loss making enterprises. Second, the rate of increase of local government investment to the loss making enterprises was considerably reduced compared to the increase of their investment in profitable ones. These statistics suggest that the allocation of local government investment may to some extent be linked to the profitability of the rural enterprises. It may be seen as an indication of the hardness, or at least the limit of softness, of government investment capital. Combined with the observed reduction in the fixed capital investment of collective loss making enterprises, it is further confirmation that collective rural enterprises may face relatively hard budget constraints insofar as fixed capital investment is concerned. This may, in turn, be attributable to the hard budget constraints on local government itself.

5.2 Concluding Remarks

This study has shown that there is a major distinction to be made between collective and non-collective rural enterprises with regard to the nature of budget constraint. Comparisons between the two types of rural enterprises have shown that non-collective enterprises face basically hard budget constraints. Yet, this appears not to be the case for their collective counterparts. In respect of all sources of capital looked at in this study, collective rural enterprises are better placed than non-collective ones to raise the capital they need, thereby

tending to soften their budget constraints. The root of hard budget constraint faced by non-collective rural enterprises is undoubtedly the private ownership of this type of enterprise. By contrast, the relatively soft budget constraint of the collective enterprises is apparently related to their local government ownership. However, a fuller understanding of the budget softening mechanism of local government ownership requires further study.

Hard budget constraints faced by local governments appear to have made them cautious when allocating investment capital to rural enterprises. Through allocating investment capital towards profitable enterprises, the hardness of the budget constraint on local governments can, at least in part, be passed on to the rural enterprises. This is probably one of the key factors contributing to the hardness of budget constraints faced even by collectively owned rural enterprises.

However, budget constraints of REs are not only affected by local government investment. Many other factors that contributed to the softness of budget constraints still existed by the end of the 1980s. Discipline over the use of bank loans was yet to be hardened. The softness of the tax system remained little changed, and the many loopholes existing in the local tax system gave rise to soft budget constraints particularly on, collectively owned, rural enterprises. Thus, according to the survey data, genuinely hard budget constraints on rural enterprises were still something to be hoped for at the end of the 1980s.

However, China has implemented some reforms in the banking sector and introduced a new tax system since the survey was undertaken. Therefore, an important topic for further research would be to look at the extent to which these reforms have decisively changed the local banking and tax systems and, more importantly, effectively hardened budget constraints on the rural enterprises.

References:

ARTEP, Ministry of Labour, China, and The China Institute of Human Resource Development Planning (1992), *Reabsorption of Surplus Agricultural Labour into the Non-Agricultural Sector: A Study of Township Enterprises in China.* New Delhi: Asian Regional Team for Employment Promotion (ARTEP), ILO.

Blejer, Mario I. and Gyorgy Szapary (1990), 'The Evolving Role of Tax Policy in China', *Journal of Comparative Economics*, vol. 14, pp. 452-472.

Bowles, Paul and Gordon White (1989), 'Contradictions in China's Financial Reforms: The Relationship between Banks and Enterprises'. *Cambridge Journal of Economics*, vol. 13:4, pp. 481-495.

Bowles, Paul and Gordon White (1993), *The Political Economy of China's Financial Reforms: Finance in Late Development.* Boulder, CO: Westview.

Byrd, William A. (1990), 'Entrepreneurship, Capital and Ownership', in William A. Byrd and Lin Qingsong (eds.), *China's Rural Industry: Structure, Development, and Reform*, pp. 189-217. Oxford: Oxford University Press.

Byrd, William A. and Alan Gelb (1990), 'Why Industrialize? The Incentives for Rural Community Governments', in William A. Byrd and Lin Qingsong (eds.), *China's Rural Industry: Structure, Development, and Reform*, pp. 358-387. Oxford: Oxford University Press.

Byrd, William A. and Lin Qingsong (1990), 'China's Rural Industry: An Introduction'. In William A. Byrd and Lin Qingsong (eds.), *China's Rural Industry: Structure, Development, and Reform*, pp. 3-18. Oxford: Oxford University Press.

Calvo, Guillermo A. and Fabrizio Coricelli (1995), 'Inter-enterprise Arrears in Economies in Transition', in Robert Holzmann, János Gács and Georg Winkler (eds.), *Output Decline in Eastern Europe: Unavoidable, External Influence of Homemade?* (International Studies in Economics and Econometrics, 34), pp. 193-212. Dordrecht: Kluwer Academic.

Chen Chunlai, Christopher Findlay, Andrew Watson and Zhang Xiaohe (1994), 'Rural Enterprise Growth in a Partially Reformed Chinese Economy', in Christopher Findlay, Andrew Watson and Harry X. Wu (eds.), *Rural Enterprises in China*, pp. 3-23. Basingstoke: Macmillan.

Cui Zhiyuan (1994), 'Can Privatisation Solve the Problem of Soft Budget Constraints?' in Vedat Milor (ed.), *Changing Political Economies: Privatization in Post-Communist and Reforming Communist States*, pp. 213-227. Boulder and London: Lynne Rienner.

Dabrowski, Janusz M. (1995), 'State-owned Enterprises under Pressure', in George Blazyca and Janusz M Dabrowski (eds.), *Monitoring Economic Transition: The Polish Case*, pp. 53-74. Aldershot: Avebury.

Eriksson, Gun (1993), *Incidence and Pattern of the Soft Budget Constraint in Tanzania, Part One: Suggestions from Data on Loss Makers and Budget Softening Mechanisms via the Government.* (Macroeconomics Studies, 44.) Stockholm: Swedish International Development Authority.

Eriksson, Gun (1994), *Incidence and Pattern of the Soft Budget Constraint in Tanzania, Part Two: Suggestions from Budget Softening Mechanisms via the Donors: The Case of Import Support.* (Macroeconomics Studies, 60.) Stockholm: Swedish International Development Authority.

Findlay, Christopher, Andrew Watson and Harry X. Wu (1995), 'Rural Enterprises in China: Overview, Issues and Prospects', in Christopher Findlay, Andrew Watson and Harry X. Wu (eds.), *Rural Enterprises in China*, pp. 173-190. Basingstoke: Macmillan.

Granick, D. (1990), *Chinese State Enterprises: A Regional Property Rights Analysis*. Chicago: Chicago University Press. (Cited in Hay *et al.* (1994), p. 324)

Hay, Donald A., Derek J. Morris, Guy Liu and Shujie Yao (1994), *Economic Reform and State-Owned Enterprises in China 1979-1987*. Oxford: Clarendon.

Ho, Samuel P. S. (1995), 'Rural Non-agricultural Development in Post-reform China: Growth, Development Patterns, and Issues', *Pacific Affairs*, vol. 68:3, pp. 360-391.

Ickes, Barry W. and Randi Ryterman (1992), 'The Interenterprise Arrears Crisis in Russia', *Post-Soviet Affairs*, vol. 8:4, pp. 331-361.

Ickes, Barry W. and Randi Ryterman (1993), 'Roadblock to Economic Reform: Inter-enterprise Debt and the Transition to Markets', *Post-Soviet Affairs*, vol. 9:3, pp. 231-252.

Kornai, János (1979), 'Resource-constrained versus Demand-constrained Economies', *Econometrica*, vol. 47:4, pp. 801-819.

Kornai, János (1980), *The Economics of Shortage*, Volumes A-B. Amsterdam: North-Holland.

Kornai, János (1982), '"Hard" and "Soft" Budget Constraint', *Acta Oeconomica*, vol. 28:3-4, pp. 231-245.

Kornai, János (1984), 'Bureaucratic and Market Coordination', *Osteuropa Wirtschaft*, vol. 29:4, pp. 306-319.

Kornai, János (1986), 'The Soft Budget Constraint', *Kyklos*, vol. 39:1, pp. 3-30.

Kornai, János (1992), *The Socialist System: The Political Economy of Communism*. Princeton, NJ: Princeton University Press.

Kornai, János (1993), 'The Evolution of Financial Discipline under the Post-socialist System', *Kyklos*, vol. 46:3, pp. 315-336.

Kornai, János (1995), *Highways and Byways: Studies on Reform and Post-Communist Transition*. Cambridge, MA: MIT Press.

Kornai, János and Agnes Matits (1984), 'Softness of the Budget Constraint - An Analysis Relying on Data of Firms', *Acta Oeconomica*, vol. 32:3-4, pp. 223-249.

Kraft, Evan and Milan Vodopivec (1992), 'How Soft Is the Budget Constraint for Yugoslav Firms', *Journal of Comparative Economics*, vol. 16:3, pp. 432-455.

Li, Jinyan (1991), *Taxation in the People's Republic of China*. New York: Praeger Publisher.

Liu Xiaoxuan, Zheng Linghai and Bigsten, Arne (1995), 'Ownership Structure and Technical Efficiency in Chinese Enterprises (1986-1990)'. Mimeo. Gothenburg: Gothenburg University.

McKinnon, Ronald I. (1994), *Hard Budget Constraint on Governments in a Theory of Market-Preserving Federalism*. Olin Lecture delivered on Nov. 23-24, 1994. Stockholm: Stockholm School of Economics.

Montinola, Gabriella, Yingyi Qian and Barry R. Weingast (1995), 'Federalism, Chinese Style', *World Politics*, vol. 48:1, pp. 50-81.

Naughton, Barry (1995), *Growing Out of the Plan: Chinese Economic Reform 1978-1993*. Cambridge: Cambridge University Press.

Ody, Anthony J. (1992), *Rural Enterprise Development in China, 1986-90*. (World Bank Discussion Papers, China and Mongolia Department Series, 162.) Washington, DC: World Bank.

Qian, Yingyi and Gérard Roland (1994), *Regional Decentralization and the Soft Budget Constraint: The Case of China.* (Discussion Paper Series, 1013.) London: Centre for Economic Policy Research.

Qian, Yingyi and Xu Chengang (1993), 'The M-form Hierarchy and China's Economic Reform', *European Economics Review*, vol., 37, pp. 541-548.

Raiser, Martin (1993), 'Searching for the Hole in the Public Pocket: The Institutional Legacy of Soft Budget Constraints and the Polish Transformation Process', *Economic Systems*, vol. 16:2, pp. 251-278.

Raiser, Martin (1994), 'The No-exit Economy: Soft Budget Constraints and the Fate of Economic Reforms in Developing Countries', *World Development*, vol. 22:12, pp. 1851-1867.

Reiman, Mark A. (1994), 'Shortage Intensity, Priority Penetration, and Resource Allocation in Socialist Industry: A Translog Shadow Cost Model', *Journal of Comparative Economics*, vol. 19:2, pp. 237-259.

Ronnås, Per (1993a), *Township Enterprises in Sichuan and Zhejiang: General Characteristics.* (Studies in International Economics and Geography, Research Report 15.) Stockholm: Stockholm School of Economics.

Ronnås, Per (1993b), *Township Enterprises in Sichuan and Zhejiang: Establishment and Capital Generation.* (Studies in International Economics and Geography, Research Report 16.) Stockholm: Stockholm School of Economics.

Ronnås, Per and Örjan Sjöberg (1993), *Township Enterprises: A Part of the World or a World Apart?* (Studies in International Economics and Geography, Research Report 14.) Stockholm: Stockholm School of Economics.

Saith, Ashwani (1995), 'From Collective to Markets: Restructured Agriculture-Industrial Linkages in Rural China: Some Micro-Level Evidence', *Journal of Peasant Studies*, vol. 22:2, pp. 201-260.

Walder, Andrew G. (1994), 'Corporate Organization and Local Government Property Rights in China', in Vedat Milor (ed.), *Changing Political Economies: Privatization in Post-Communist and Reforming Communist States*, pp. 53-66. Boulder and London: Lynne Rienner.

Walder, Andrew G. (1995), 'Local Government as Industrial Firms: An Organizational Analysis of China's Transitional Economy', *American Journal of Sociology*, vol. 101:2, pp. 263-301.

Wang Xiaolu (1990), 'Capital Formation and Utilization', in William A. Byrd and Lin Qingsong (eds.), *China's Rural Industry: Structure, Development, and Reform*, pp. 222-242. Oxford: Oxford University Press.

Whiting, Susan H. (1993), 'Market Discipline and Rural Enterprise in China: A Principal-Agent Approach', paper prepared for the conference on 'The Evolution of Market Institutions in Transition Economies', held at the Graduate School of International Relations and Pacific Studies, University of California, San Diego, May 14-15, 1993.

Wong, Christine P. W. (1986), 'The Economics of Shortage and Problem of Reform in Chinese Industry', *Journal of Comparative Economics*, vol. 10, pp. 363-387.

Wong, Christine P. W. (1991), 'Central-local Relations in an Era of Fiscal Decline: The Paradox of Fiscal Decentralisation in Post-Mao China', *China Quarterly*, no. 128, pp. 691-715.

Wong, Christine P. W. (1992), 'Fiscal Reform and Local Industrialization', *Modern China*, vol. 18:2, pp. 197-227.

Wong, Christine P. W., Christopher Heady and Loraine A. West (eds.) (1995), *Financing Local Government in the People's Republic of China.* Manila: Asian Development Bank.

Young, Susan and Yang Gang (1994), 'Private Enterprises and Local Government in Rural China', in Christopher Findlay, Andrew Watson and Harry X. Wu (eds.), *Rural Enterprises in China*, pp. 24-38. Basingstoke: Macmillan.

Zhang Gang (1993), 'Government Intervention vs. Marketization in China's Rural Industries: The Role of Local Governments', *China Information,* vol. 8:1/2, pp. 45-73.

Zhang Gang and Per Ronnås (1994), *The Capital Structure of Township Enterprises.* (Studies in International Economics and Geography, Research Report 20.) Stockholm: Stockholm School of Economics.

Zhang Gang and Örjan Sjöberg (1992), *Institutions and Managerial Strategies in China: A Transaction Costs Approach to the Study of Rural Industries.* (Studies in International Economics and Geography, Research Report 13.) Stockholm: Stockholm School of Economics.

Essay III

Economic Development, Marketisation and Transaction Costs in Chinese Rural Enterprises: A Regional Perspective

I. Introduction

In the post-reform era since 1978, Chinese rural enterprises (REs) have undergone a rapid development. Today, the RE sector accounts for 75 per cent of gross rural social output and for 47 per cent of China's national industrial output, up from 24 and 9 per cent, respectively, in 1978.[1] Despite the great scholarly interest in studying the post-reform development of Chinese REs (see e.g., Wong 1987, Byrd and Lin 1990, Islam 1991, Nee 1992, Oi 1992, Ronnås 1993a, Zhang 1993, Chang and Wang 1994, Findlay *et al.* 1994, Ho 1994, Rozelle 1994b, Weitzman and Xu 1994, Xu 1995, Wong *et al.* 1995), understanding the remarkable growth of this non-state, market-oriented sector still presents a challenge.

According to the theory on transaction costs by North (1990:67), the development of market institutions is crucial for the reduction of transaction costs of an economy. This theory suggests that transaction costs ought to be high in China, because market institutions are only just beginning to emerge, which further means that Chinese REs have grown in an environment of high transaction costs. North (1990:69) also attributes the poor economic performance of developing counties to a negative impact of the prevailing high transaction costs in these economies. This suggests that China's high transaction cost environment is likely to have had a negative, rather than positive, impact on the performance of REs. Moreover, small enterprises are in general considered to face particular transaction cost disadvantages (Nooteboom 1993, 1992) - which as the majority of Chinese REs are small in size, means they probably face some additional, and even extra high, transaction costs. Given these theories, explaining the outstanding growth performance of the RE sector in what is very likely a high transaction cost environment, both external and internal, presents a challenge.

[1] Statistics are taken from *Renmin Ribao Haiwaiban* (People's Daily, Overseas Edition), October 19, 1995 and calculated based on Zhongguo (1991:1) and Zhongguo (1993:412), respectively.

One plausible explanation for the high performance of the RE sector in the context of China's high transaction costs environment is the useful role of some institutional factors (other than well-developed formal market institutions) in lowering transaction costs for the REs. If so, what are these factors and how, in reality, have they worked to reduce transaction costs? The answers to these questions are empirical ones, but only a few studies until now have looked at these issues.[2]

This study has been designed to investigate the transaction costs facing REs and how in reality these costs may have been reduced or circumvented. There are, therefore, two interrelated objectives of the study: first, it aims to put into perspective the nature of the transaction costs facing the RE sector. It should be noted that measuring transaction costs in a clear-cut manner is very difficult in practice because the concept is too broad and vaguely defined. Thus, rather than calculating the actual transaction costs incurred by the REs, the study looks at the types of transactions and how they are dealt with by rural enterprises in order to assess the nature of transaction costs facing them.

The second objective of this study is to analyse which economic and institutional factors have helped to reduce or circumvent the transaction costs facing the REs. The factors in focus include (1) the level of economic development in general and that of the rural enterprise sector in particular, (2) the degree of marketisation of, and the role of local government in, a local economy, two sides of the same coin, (3) the role of the informal institutions in mitigating the high transaction costs. Economic theories about transaction costs provide the framework for the analysis of the roles of these factors.

Since China is geographically diverse in terms of economic development and market institutions, Zhang and Sjöberg (1992) suggest that transaction costs facing REs are to a large extent influenced by economic and market institutions at the local rather than at the national level. Therefore, this study is set at provincial and, to a lesser extent, county level. This also means that it applies a comparative approach in examining the regional differences in transaction costs and in considering the influences of economic and institutional factors.

The study is organised as follows. Section II presents the data base. An analytical framework based on transaction cost economics is presented in Section III. Section IV looks at the development level of the local economies covered by the survey, and draws some transaction cost implications from the economic conditions. This is followed by Section V, which describes the local economies covered by the survey in terms of their degree of marketisation. Section VI goes on to analyse the transaction cost reality of the REs and how these costs may have been affected by the economic and institutional factors mentioned above. Finally, Section VII summarises the study and offers some concluding remarks.

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[2] Existing studies include Nee and Young (1990), Nee (1992), Zhang and Sjöberg (1992), and Pei (1994, 1996).

II. The Data

This study uses a set of survey data which was generated through an enterprise survey carried out in Winter 1990. The survey sample consists of 630 rural enterprises from two counties in Sichuan and three counties in Zhejiang in China.[3] The survey data contain a wide range of information and statistics from the sample rural enterprises, thus providing an opportunity to study transaction costs of REs in some detail. In addition, the analysis draws on information and materials obtained through the author's field work in 1994 in Sichuan and in 1995 in Zhejiang, respectively.

Zhejiang and Sichuan are very distinct both from the point of view of their respective levels of economic development as well as their rural industrialisation. To capture the intra-provincial disparities in economic development, a stratification procedure has been used in selecting the county samples. All counties in each province were divided into three groups according to their per capita rural social output, and one county from each stratification group was then drawn at random to ensure that the diverse economic development levels between, as well as within, the two provinces were represented in the survey samples.[4] The resulting survey data are therefore considered suitable for studying transaction costs from a regional perspective.[5]

III. A Transaction Cost Framework

The analytical framework of this study is based on transaction cost economics. This section clarifies the concepts and theorems that underpin this analytical framework. In doing so, references are made to China's specific circumstances.

Transaction Costs. "Transaction costs", like production costs, is a catch-all term for a heterogeneous assortment of inputs (Niehans 1987:676).[6] North (1990:62) notes that "transaction costs of the transfer are partly market costs, ... and partly the costs of time each party must devote to gathering information, to searching and so forth." A relatively concrete, but still mainly illustrative, account of transaction costs is given by Cheung (1987:56) as follows: "Transaction costs may then be viewed as a spectrum of institutional costs including those of information, of negotiation, of drawing up and enforcing contracts, of monitoring performance, and of changing institutional arrangements. In short, they

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[3] For more details of the survey procedure and on the survey samples, see Ronnås (1993b).

[4] Because no county in the backward group in Sichuan had a sufficient number of REs to fill up the enterprise sample, only two counties, one from the advanced group and one from the middle group, were included in the survey.

[5] Previous studies based on this survey include Ronnås (1993b) and (1993c), Ronnås and Sjöberg (1993), Zhang (1993) and Zhang and Ronnås (1994). However, none of these studies applied a transaction cost perspective.

[6] The difficulty associated with defining transaction costs has been addressed by many authors. Eggertsson (1990:14) points out that "a clear-cut definition of transaction cost does not exist". See also North (1990:68), on hard-to-measure costs of transactions. Allen (1991) devotes an entire article to this issue.

comprise all those costs not directly incurred in the physical process of production." Cheung's definition essentially distinguishes two types of cost, i.e. production costs and transaction costs, according to whether or not a specific cost is directly incurred in the physical process of production. The latter category may cover, in practice, all costs that can reasonably be considered to arise in the process of transferring ownership of information, goods and services. Cheung's definition of transaction costs is followed in this study, and different transaction costs are identified accordingly in the following analyses.

Economic Development and Transaction Costs. From comparisons made between the Third World situation and that of industrialised economies, North (1990:69) suggests that the level of economic development has a positive impact on the transaction efficiency of an economy. Economic development may lower the level of transaction costs in the following ways: first, it provides a better physical infrastructure, and secondly, it is conducive to the development of advanced market institutions, including well-functioning legal and law enforcement systems. Both factors may lead to the lowering of transaction costs. Third, a higher level of development brings the more sophisticated technical and marketing systems (Levy *et al.* 1994 quoted in Ramamurthy and Ronnås 1995:8) needed to cope with the increasing transactional complexity at a higher level of economic activity. Since the level of economic development varies between regions in China, the transaction costs facing REs, due to the influence of this factor, may be higher in the less developed than in the more developed regions.

Market and Marketisation. "Market" is used here in the conventional sense to refer to the physical and institutional settings of the market and the ordinary functions of it in conducting economic exchanges. "Marketisation" refers to the process of transition from a traditional command economy to a market economy. The development of market institutions, through the establishment of private property rights, is considered instrumental in reducing the high transaction costs of pre-reform Chinese economy (Cheung 1987:57, Cheung 1986:40-43). Private property rights provide individual resource owners with freedom in economic transactions and make them (transaction) cost-conscious, leading to competition among both individuals and economic organisations to get the best out of their resources. Equally important, marketisation allows a variety of transaction channels to compete on a market basis. Thus, transaction costs are reduced through competition both among resource owners and between alternative channels of transaction. Market transition ultimately requires the creation and the constant improvement of the formal market institutions - laws, legislation and enforcement mechanisms - needed to underpin efficient markets.

In this study, marketisation is a measure characterising the institutional environment of the provincial/county economies covered by the survey. The degree of marketisation here refers to the relative importance of the market in resource allocation.[7] The definition

[7] For an application of the concept, see Nee (1992), in which marketisation is used to characterise the market transformation of previously collectively-owned enterprises in China.

implies that the importance of local governments in economic decision-making is inversely related to the degree of marketisation. For individual REs, the degree of marketisation is exogenously given.

Hierarchies and Authorities. Although the concept of hierarchies in transaction cost theory often means the governance hierarchies within firms (e.g., Williamson 1975), it may also include the authority of governments. Coase (1960:16-17) points out "the government is, in a sense, a super firm ... since it is able to influence the use of factors of production by administrative decision ... it is clear that the government has powers which might enable it to get some things done at a lower cost than could a private organization ... But the governmental administrative machine is not itself costless. It can, in fact, on occasion be extremely costly."

In this study, the concept of hierarchies refers to the role of local government apparatus in economic decision-making. This characterisation of local governments follows Oi's (1992:100-101) theory of local state corporatism, in which local governments in China are described as co-ordinating economic enterprises in its territory as if it were diversified business corporations.[8] Authority is preferred to markets for organising transactions in situations where the market is either too costly an alternative (Williamson 1981:31-32), or is not readily available due to "the problem of weak market structure and incomplete market transition" (Nee 1992:4), referring to a low degree of marketisation. Under such circumstances, the decision-making and coordinative function of local governments may appear as a low transaction cost alternative to other ways of arranging certain economic transactions owing to the government's privileged access to information and its greater opportunities to overcome risk and uncertainty in transactions.[9]

Informal Institutions. Informal institutions, as opposed to formal rules and legislation, refer to the set of unwritten conventions and codes of behaviour that prevail in an economy (North 1990:4). Transaction cost theorists have identified the role of informal institutions, such as relational contracting (Williamson 1981:360, 1986:104), forming clans (Ouchi 1980), and kinship ties (North 1990:55, 120), as reducing transaction costs. The role of informal institutions in managing transactions is of particular importance in the Chinese context due to the lack of formal institutions, on the one hand, and to the Chinese cultural tradition of clan and network connections in economic life, on the other hand.

At any level of institutional development, informal institutions usually play an important role in economic transactions and in lowering transaction costs (North 1990:36). However, the relative importance of informal institutions tends to be reduced as formal institutions are better developed. Thus, they play a more important role in less advanced market economies than in the more advanced ones. While recognising the important role of

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[8] On this approach to the understanding of the role of Chinese local governments, see also Walder (1994a 1994b, 1995) and Pei (1996), respectively.

[9] However, it is worth noting that authority within a corporate hierarchy can be abused (Dow 1987), and local government authority may become an obstacle to efficient resource allocation (Wong 1987), and source of soft budget constraints (Sjöberg and Zhang 1996), or to be abused to the end of intervention in REs (Zhang 1993).

informal institutions in the Third World economies, North (1990:67) maintains that they come at a high cost compared to economies in which formal market institutions are better developed and contracts are legally enforceable. Yet, informal institutions may serve as a means for mitigating high transaction costs in situations where formal market institutions are either non-existent or function poorly. This position is adopted in our study.

The above framework is applied to the rest of this study to analyse the various transaction costs facing the REs. It should be noted that the framework draws on both North's and Williamson's theories on transaction costs. Both theories are relevant in different contexts. On the one hand, North's theory is applicable to the analysis on how the development level and the degree of marketisation may influence the transaction costs facing the REs. On the other hand, Williamson's theory is useful for understanding the implications of the governance relationship between the local government and REs on the latters' transaction costs. As to the relationships between the economic and institutional factors considered here, the degree of marketisation is taken as inversely related to the role of local governments. However, in the context of rural China, there is a lack of empirical evidence to suggest any fixed relationship between the level of development and the degree of marketisation. Moreover, the role of informal institutions may be little influenced by the level of economic development or by the degree of marketisation, because the importance of informal institutions is only likely to diminish, though not necessarily, when formal market institutions are relatively well-developed, and in this respect China's transition to a market system is far from complete.

IV. Local Development Level and Transaction Cost Implications

This section features the level of economic development of the local economies covered by the survey.[10] This is then used as an explanatory variable for analysing the regional disparity in transaction costs. Some preliminary implications of development level on the transaction costs facing rural enterprises are also looked at in this section.

4.1 Indicators of Development Level of Local Economies

Table 1 gives a concise picture of the rural economy as well as of the level of industrial production in the localities covered by the survey. Statistics on gross rural output (GRO), which were used as the criteria for the survey stratification, are a primary indicator of the overall development level. They refer to the total output value of both farming and non-farming sectors in a rural economy. Using this, it is quite straightforward to rank the three counties in Zhejiang in descending order of GRO as Cixi, Ouhai and Linhai, and as Qionglai and Changshou in Sichuan. According to their per capita agricultural output in 1988, they can be ranked in the same order. The difference between Zhejiang and Sichuan

[10] See Zhang (1992) for more details on the economic development and on the RE sector of the county samples.

as a whole is pronounced, and at county level an advanced county in Sichuan, say Qionglai, is only at the level of development of a backward county, e.g. Linhai, in Zhejiang, as can be seen from Table 1.

Table 1. Economic Development Indicators by Regions.

	Cixi	Ouhai	Linhai	Qiong-lai	Chang-shou	Zheji-ang	Sich-uan
Gross rural output, per rural capita, 1988, Yuan*	4500	2352	1262	1412§	720§	2679	858
Agricultural output, per rural capita, 1988, Yuan**	442	379	298	431	323	807	591
REs industrial output, per rural capita, 1988, Yuan**	3446	1630	658	460#	252	1490	196

Sources: Own calculations based on (1) Zhongguo Fenxian Nongcun Jingji Tongji Gaiyao 1980-1987 (China Rural Economic Statistical Abstracts by County 1980-1987), p. 397; (2) Zhejiang Tongji Nianjian 1989 (Zhejiang Statistical Yearbook 1989), pp. 12, 14, 41, 71, 75, 418-423, 431-435; (3) Sichuan Tongji Nianjian 1989 (Sichuan Statistical Yearbook 1989), pp. 71, 103, 107, 110, 162, 173, 614-617.
Notes: * = at 1988 prices; ** = at 1980 prices, # Excluding town-owned industrial output, § figures refer to 1987 at 1980 prices.

The Chinese statistics on industrial output include only manufacturing industries. Taking industrial output of REs, again the counties follow the same ranking as above, i.e., Cixi, Ouhai, and Linhai in Zhejiang, and Qionglai and Changshou in Sichuan, respectively. The differences in the development level of REs are indeed striking both between Zhejiang and Sichuan as a whole and across the counties. In per capita terms it appears that industrial output of Zhejiang's RE sector was nearly ten times that of Sichuan's, while the so-called backward county (Linhai) in Zhejiang was, in fact, ahead of the advanced one (Qionglai) in Sichuan by the end of the 1980s.[11]

There are also pronounced regional differences in other aspects of the RE development. In terms of sales value, a measure of enterprise size, by far the biggest difference is between the counties in Zhejiang on the one hand and those in Sichuan on the other hand. The average sales volumes in the enterprises in Zhejiang in 1989 was more than four times higher than in the enterprises in Sichuan, while the median sales value in the former province was almost fourteen times higher than in the latter province. The branch structure of the REs varies considerably between the two provinces as well. On the one hand, grain mills which account for a third of the collective and 21 per cent of the non-collective REs in Sichuan, do not feature at all among the sample enterprises in Zhejiang. Glass and non-metallic minerals production, feature much more strongly in Sichuan than in Zhejiang, as

[11] See Ronnås (1993b) for more details on the characteristics of the RE sector in the five counties covered by the survey.

does food-processing. Metal manufacturing enterprises, on the other hand, account for over 40 per cent of the sample enterprises in Zhejiang as against less than five per cent in Sichuan. These marked inter-provincial disparities in the industrial structure of REs clearly suggest that the REs in Sichuan are much more closely linked to agriculture than those in Zhejiang (Ronnås 1993b:3, 14).

REs in general have close ties with specific rural communities. This local community orientation of REs has been recognised by Byrd and Lin (1990:vii) as one of the noteworthy features of REs, and considered by Zhang and Sjöberg (1992:7) and Pei (1996) as a factor of particular relevance to the understanding of transaction costs of REs. On the upward linkages of REs with their local communities, Ody (1992:xi), for instance, notes that the supplies of both capital and labour are overwhelmingly local in origin. On the downward linkages, Ody (1992) notes, in terms of patterns of REs' reliance on local product markets, the following: the industrial REs in less developed regions concentrate heavily on the production of low-grade building materials for geographically isolated markets, while those in more advanced regions produce a very wide range of consumer and capital goods. The REs in this latter case are typically highly outward-oriented in their marketing strategies. Thus, REs' reliance on the local output markets appears to be related to their industrial structure, which is in turn related to the level of development, as just noted above.

4.2 Some Transaction Cost Implications of Development Level

North (1990:69) attributes the high transaction costs of Third World countries to the non-existence of an effective infrastructure shown by telephone systems that do not work, the unavailability of spare parts, and the endless production interruptions, etc. Infrastructure, which includes electricity supply, transportation and communication facilities, etc., thus, is of great importance to the reduction of transaction costs. The level of infrastructure is in general positively correlated with the level of economic development. Furthermore, governments at different levels can often play an important role in the development of infrastructure. Economic development can affect the level of transaction costs through its supply and demand effects on infrastructure. On the supply side, the impact of economic development on the reduction of transaction costs may be made through the provision of physical conditions that facilitate the exchanges in the factor and product markets. Moreover, the level of development determines the supply of human capital - a crucial factor for managing transaction costs.

However, economic development affects not only the supply of infrastructure, but also the demand for infrastructure. At a higher level of development, the level and type of economic activities tend to put higher demands on the physical and institutional infrastructure. The impact of economic development on the transaction costs facing REs thus actually depends on the interface between the two effects of economic development. A temporary imbalance between these two effects can result in growth constraints, which

usually mean that economic transactions in the areas of constraint are more difficult to arrange and, therefore, require higher transaction costs. Below we look into a few areas in which the survey data may shed light on how the level of economic development tends to affect the transaction costs facing the REs.

Table 2. Infrastructure Conditions by Regions. Percentage of Enterprises.

	Cixi	Ouhai	Linhai	Qiong-lai	Chang-shou	Zhe-jiang	Sich-uan
Electricity utilisation	96.0	95.2	96.8	71.4	81.7	96.0	76.6
Telephone Utility	65.1	77.0	74.6	6.3	4.0	72.1	5.2
DDD Utility	3.2	48.4	11.9	1.6	2.4	21.2	2.0
Distance to railway station (RS), km	31	282	210	52	124	174	88
Connection by paved road to RS, %	96.8	100	100	92.8	100	99.0	96.5
Distance to county centre (CC), km	12.0	18.7	33.0	15.4	22.6	21.3	19.0
Connection by paved road to CC, %	95.3	98.4	98.4	92.1	96.0	97.4	94.0

Source: Enterprise survey data.
Notes: DDD = domestic direct dialling telephone utility. Paved roads include all types of all-weather roads. The figures refer to the percentage of enterprises that are connected by paved roads to the respective destinations.

Power Supply. Development level affects both the demand and supply of electricity, which is a basic pre-condition for modern industrial production. With regard to the availability of electric power, Sichuan is far behind Zhejiang. More than 20 per cent of the REs in the survey sample in Sichuan lacked access to electricity, as compared to just four per cent in Zhejiang (Table 2).[12] With regard to the reliability of the public power supply, the survey data indicate that the incidence and the effect of power cuts may, in fact, be positively related to the level of rural industrialisation, since the situation appears more problematic in Zhejiang than in Sichuan. The shortage of electricity encountered by the REs in Zhejiang may be explained by a lag between the impact of economic development on the demand and that on the supply of electricity.

Rural enterprises without access to electricity or experiencing interruptions in power supply are forced to run their own generators in order to obtain electrical power and to reduce production losses. This is an instance where a transaction is internalised because of the so-called "transactional failures" in the operation of markets (see e.g., Williamson 1986:86). However, forced internalisation, that is when there is no choice for an enterprise

[12] Estimates put the shortfall in the supply of power at 7.6 billion kwh, and the corresponding loss of industrial output at 20 billion yuan for Sichuan as a whole in 1988 (Sichuan 1989:238), while Zhejiang as a whole also faced a "severe shortage of electricity supply" in 1988 (Zhongguo 1989:40).

but to internalise the transaction, is only a second best solution. This is because total costs, including production costs and transaction costs, of generating electricity in the present context would be higher than if it were publicly supplied. This is essentially different from firms being free to choose between market transaction and internalisation (Coase 1937:9), given the efficiency objective of minimising the total costs for the tasks required (McGuinness 1987:48). The situation with the electricity supply is an example which shows that in the process of rural industrialisation, REs may face higher transaction costs resulting from the lack of infrastructure facilities required to support fast economic growth.

Telecommunications. The costliness of information is essential to understanding the costs of transacting of which information costs constitute an important part of the total transaction costs (North 1990:108, 27). Modern communication systems, such as telephone and facsimile, are channels of information exchange with high efficiency and low cost. Hence, they bring a transaction cost advantage to their users. Table 2 shows that the majority (72 per cent) of the REs in Zhejiang are connected by telephone, but the corresponding figure is only 5 per cent in Sichuan. This vast difference has to be, among other things, related to the different development level of the two provinces. Apart from this, the priority of government investments given to the development of telecommunications system in Zhejiang can also help to explain the advanced level of the province's telecommunications systems.[13] The role of government in reducing transaction costs through the creation of better infrastructure is illustrated in this example.

Regarding the domestic direct dialling facility (DDD) for long distance calls, there are again significant differences between Zhejiang and Sichuan. On average some 20 per cent of the REs are equipped with the long distance call facilities in Zhejiang, but just 2 per cent in Sichuan. There are further interesting variations between the counties in Zhejiang: 48 per cent of the REs in Ouhai, but only 3 and 12 per cent in Cixi and Linhai, are equipped with long distance phone lines, respectively. Ouhai is located in the Wenzhou region - an area known for its enthusiastic market-oriented development in China - and REs in that region are also known for being successful in marketing their products throughout China.[14] The well-known commercial tradition of Wenzhou region, more than anything else, may explain the higher utility rate of DDD among the REs in Ouhai. This seems to show that the level and the type of economic activity determines the complexity of transactions, which further dictates the choice of transaction technology.[15] If efficient means are not provided at reasonably low costs, enterprises may either have to pay a higher

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[13] Zhejiang has reportedly invested heavily in telecommunications, and by 1993 it became the first province in China where all counties are covered by a mobile phone network. See *Renmin Ribao Haiwaiban* (People's Daily, Overseas Edition), Dec. 28, 1993, p. 2.

[14] The market oriented development of Wenzhou area has attracted scholarly interest both in China and internationally. See e. g. Fei (1988: 364-83) on the creation of a nation-wide market for its products; Xie (1988) on its approach to REs' development; Nolan and Dong (1990) on the so called Wenzhou Debate on the role of markets in socialist China; see also Parris (1993); and Liu (1992).

[15] "Transaction technology specifies what resource inputs are required to achieve a given transfer." (Niehans 1987:676)

transaction cost, or be restricted from engaging in complex transactions because of the high costs involved.

Transport Conditions. Road conditions are often an indicator of the development level of any economy. Urban proximity, which is identified as one of the strongest determinants for rural income (Schults 1953), proves equally important in the transaction efficiency of rural enterprises. First, proximity to urban markets affects the transaction cost that is analogous to transportation cost (Niehans 1989:676). Second, proximity and road conditions to railway outlets, county and township centres directly determine the time, expense and ease with which REs can acquire business information and conduct economic transactions. Furthermore, these factors tend to affect the REs' position in networking, e.g. in developing and maintaining *guanxi* connections with brokers and entrepreneurs whose activities are concentrated in urban centres (Nee 1989:676). The rural locations of REs, albeit advantageous in certain aspects, may mean higher transaction costs when it comes to transactions with urban sectors and in urban markets.[16]

While the average distance to railway stations varies from county to county, the survey data clearly show that the REs are scattered and far from railway lines, which can mean that they face higher transaction costs due to diseconomies of scale and scope in transactions. Despite their scattered locations, the survey data in Table 2 show that in all of the five sample counties, almost all of the REs are connected by paved roads to the railway outlets, and well over 90 per cent to the county centres. Thus, the survey data reveal no systematic variation in road conditions that might match the dissimilarity in regional development levels, both within and between the two provinces. This has to be explained by the importance of road conditions in the development of REs and as a consequence of which REs tend to congregate around township centres or near transport facilities in different regions.[17] A case in point is Linhai county, where some 15 towns and townships out of a total of 40 accounted for 70 per cent of REs' output value in 1989 due to the geographical concentration of REs (Zhang 1992).

Human Capital. Human capital is an important source of transaction efficiency. The quality of human capital, including the number of years of formal education and skills and know-how obtained through previous work experience, is directly relevant to the lowering of transaction costs. Equally important, more educated and experienced managers are usually better equipped to understand the institutional settings and to make the best possible use of the existing institutions to lower transaction costs. From this point of view, Nee (1989) argues that education can make people better able to discern policy transitions and political trends via the media and to understand the implications of these changes for the local political economy. This ability is particularly important in managing transaction

[16] The result of regression analysis by Nee and Su (1990:13) shows that, rather than the distances to marketing towns and to county towns, the proximity to the urban centre is a statistically significant variable negatively affecting the growth prospect of the rural villages.

[17] It comes out clearly from the study by Nee and Su (1990:13-16) that the transportation utility is a statistically significant variable, based on the rural cadres' perceptions, affecting the growth of rural villages.

costs in a fast changing institutional environment, like China. In addition, previous experience includes not only skills and knowledge acquired in the past but also useful personal connections that are indispensable for conducting transactions and for reducing transaction costs in China. Table 3 provides data revealing some differences in human capital among RE managers covered in the survey sample.

As shown in Table 3, the level of education of the REs' managers is virtually equal between the two provinces. A breakdown of the data on formal education by main ownership forms changes this picture little. Yet, there appears to be a big difference between the RE managers in Zhejiang and Sichuan regarding their background and previous experience. In particular, the percentage of managers with experience as a former RE employee is significantly higher in Zhejiang (30.7 per cent) than in Sichuan (7.5 per cent), due apparently to Zhejiang's more advanced level of rural industrialisation.

Table 3. Education and other Background of Enterprise Managers by Region.

	Cixi	Linhai	Ouhai	Qiong-lai	Chang-shou	Zhe-jiang	Sichuan
			***Formal education**, years of schooling*				
School education	6.9	7.4	6.7	6.3	7.7	7.0	7.0
			***Previous experience of managers, %** all managers in the sample.*				
Background experience:							
- As state employees	3.2	4.8	4.0	5.6	3.2	4.0	4.4
- As RE employees	32.5	32.5	27.0	6.3	8.7	30.7	7.5
- As petty traders	22.2	19.8	12.7	15.1	14.3	18.3	14.7
Travel experience:							
-To provincial capital	69.8	84.9	65.9	66.7	24.6	73.5	45.6
-To other provincial capitals	74.6	76.2	69.8	28.6	21.4	73.5	25.0
None of above experiences	8.7	7.9	13.5	18.3	46.8	10.1	32.5

Source: Enterprise survey data.
Note: Enterprise manager refers to *the* manager of each enterprise in the survey sample.

For rural enterprise managers, travel experience is directly linked to business transactions and their travel destinations often indicate the geographic reach of their business contacts. Table 3 shows that the percentage of managers who have travelled to their respective provincial capitals is considerably higher in Zhejiang than in Sichuan. The differences vis-à-vis travel experience to other provincial capitals were, as may be expected, even greater, i.e. 73.5 versus 25 per cent, between Zhejiang and Sichuan. The fact that Sichuan is larger than Zhejiang may explain to some extent this vast difference between the two provinces in this respect.[18] In other words, it must depend, in part at least, on their different

[18] In terms of land area, Sichuan is more than five times the size of Zhejiang.

development levels. According to Nooteboom (1993:286), "[E]ffect of experience is defined as the decline of the average [transaction] cost". With longer industrial experience including more travel experience, RE managers in Zhejiang may be considered as having transaction cost advantages over their counterparts in Sichuan.

Table 4. Perceived Growth Constraints by Regions. Percentage of Enterprises.

	Cixi	Linhai	Ouhai	Qionglai	Chang-shou	Zhejiang	Sichuan
Financial	64.2	63.2	60.3	27.4	42.1	62.6	34.8
Skill shortage	7.3	17.6	14.3	8.1	9.5	13.1	8.8
Product quality/marketing	10.6	9.6	6.3	4.0	8.7	8.8	6.4
Shortage of raw materials	2.4	4.8	3.2	16.9	8.7	3.5	12.8
Power/fuel shortage	0.0	0.0	0.0	8.1	0.8	0.0	4.4
Institutional constraints	2.4	0.0	9.5	17.7	11.9	4.0	14.8
Infrastructure/ physical limitations	1.6	0.88	1.6	3.2	3.2	1.3	3.2

Source: Ronnås (1993b), Table 31, p. 37.
Notes: Financial includes 'lack of funds' ,'difficulty to recall debts'; Skill shortages include 'lack of skilled workers', 'lack of management skills', 'lack of marketing personnel', 'high turnover rate of labour'; Product quality/marketing includes 'unsaleable products' and 'competition, unstable market'; Institutional constraints include 'interference by local leaders', 'policy changes', 'external interference'; Infrastructure refers to public infrastructure and physical limitations refer to enterprise premises, land and water, etc.

Growth Constraints. Growth constraints, as perceived by RE managers in the survey, are here used to indicate the difficulties faced by REs in some particular areas of transaction. The growth constraints listed in Table 4 have been selected to show some of the bottlenecks that are probably linked to the level of development in the two provinces. Ronnås (1993b:21-22) highlights the relationship between the level of economic development and the main growth constraints faced by the REs of the two provinces being studied, as follows: "Generally speaking, the constraints facing enterprises in Zhejiang are those which one might expect in a developed market environment, namely shortage of capital, skill shortages (including lack of managerial and marketing skills), and problems with product quality and marketing. In Sichuan, on the other hand, shortages of raw materials, fuel and power - which indicate underdeveloped markets - and various kinds of interventions are often perceived as a more severe constraint to growth than shortage of capital or competition." Moreover, as may be expected, infrastructure constraints are reported by a larger proportion of REs in Sichuan than in Zhejiang.[19]

[19] Recalling the higher rate of REs in Sichuan that lacked access to electricity (Table 2).

In sum, Table 4 indicates that REs in the relatively developed regions tend to face constraints in capital and product markets as well as in the market for the skilled labour force; while those in the less developed regions are more likely to confront constraints in the supply of basic production inputs as well as in the provision of infrastructure facilities. To the extent that growth constraints may be seen to reflect increasing difficulties in arranging economic transactions in the areas of constraints, REs in Zhejiang and Sichuan are likely to face higher transaction costs in the respective constrained areas.

V. The Degree of Marketisation of Local Economies

This section characterises the local economies covered by the survey and their RE sectors in terms of their degree of marketisation. Measuring marketisation is not as straightforward as measuring development level. Added to which the indicators of marketisation are severely limited by the available data for this purpose. However, we need to measure the relative degrees of marketisation of the two provinces in order to analyse the influence of marketisation on the transaction costs facing the REs. The underlying implication of marketisation is that REs in a more marketised local economy are expected to be more reliant on the market for economic transactions than those in less marketised economies.

Taking the view that marketisation refers to the economic environment of a local economy, a proxy of the degree of marketisation may be obtained from the share of non-state sector of a local economy. The share of the non-state sector essentially indicates the importance of the market mechanism (vs. redistribution) in total resource allocation of a local economy. Because of the data constraints, we use the share of the non-state industrial sector in the total industrial output to this end.[20] In rural economies, the non-state industrial sector is formed by market-oriented REs, usually with privately-owned businesses forming an important part of it. Therefore, a county economy with a relatively large non-state industrial sector is considered more marketized relative to those with smaller ones. Using this indicator based on data for 1988, Ouhai is the most marketised (97 per cent) of the three counties in Zhejiang, followed by Cixi (88 per cent) and Linhai (73 per cent). The two counties in Sichuan appear markedly different using this measure. With non-state industries responsible for 56 per cent of industrial output in Qionglai but only 19 per cent in Changshou, the former is more marketized than the latter. At the provincial level, Zhejiang is more marketised than Sichuan according to this measure.

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[20] Several previous studies have used this measure for similar purposes. For instance, Nee (1994) uses the shares of industrial output by state, collective and private sectors to characterise the regional economies in China. Xiao (1991) has shown that the share of non-state industrial output in a regional economy is an important factor accounting for productivity gaps among regions in China. See also Naughton (1995:163-168) on the growth of the non-state sector in the post-reform period; and Jefferson and Rawski (1994:60) on the implications of the growth of this sector on the productivity and behaviour of the state sector.

Table 5. Selected Indicators of Degree of Marketisation by Regions.

	Cixi	Linhai	Ouhai	Qiong-lai	Chang-shou	Zhe-jiang	Sich-uan
Share of non-state industries in total industrial output, 1988, %	88.2	73.4	97.1	55.2§	18.6§	68.7	33.8
% of inputs purchased at state prices, 1988-1989	4.8	5.8	1.3	1.6	18.6	3.8	10.1
% of REs purchased raw materials at state prices, 1989	5.0	7.4	4.0	0.9	15.7	5.4	8.3

Sources: In the first line, own calculations based on (1) Zhejiang Tongji Nianjian 1989 (Zhejiang Statistical Yearbook 1989), pp. 12, 418-423, 431-435, and (2) Sichuan Tongji Nianjian 1989 (Sichuan Statistical Yearbook 1989), pp. 173, 614-617; and the other figures are taken from the enterprise survey data.
Notes: § = The share of town(ship)-owned industries used in the calculation is the average (9.5 per cent) of town(ship) industries for Sichuan as a whole.

Apart from the share of the non-state industrial sector, Table 5 contains two other indicators based on the survey data. The first is the percentage of total inputs supplied at the state price, and the second is the proportion of REs with access to this type of raw material. These indicators provide two mirror images of the importance of the market with regard to the supply of inputs. Ronnås and Sjöberg (1993:37) argue that the frequency and importance of access to inputs at state prices decline with the degree of marketisation and level of development of the local economy. From the share of total inputs purchased at state prices, it can be seen that Ouhai (1.3 per cent) is the most marketised, followed by Cixi (4.8 per cent) and Linhai (5.8 per cent) in Zhejiang.[21] The two counties in Sichuan again appear to be very different: with only 1.6 per cent of the total inputs supplied at state prices, Qionglai is more marketised than Changshou (18.6 per cent). By percentages of REs with access to supplies of raw materials at the state prices, the counties can still be ranked as Ouhai (4 per cent), Cixi (5 per cent) and Linhai (7.4 per cent) in Zhejiang, and Qionglai (0.9 per cent) and Changshou (15.7 per cent) in Sichuan, indicating their descending degrees of marketisation. Here again, using this indicator, Zhejiang is more marketised than Sichuan.

In sum, the marketisation indicators listed in Table 5 suggest that Ouhai is the most marketised, followed by Cixi and Linhai, among the three counties in Zhejiang, and

[21] It was reported that for Zhejiang as a whole 96 per cent of the inputs were channelled through markets, and only 4 per cent through state plans (*Renmin Ribao Haiwaiban* (People's Daily, Overseas Edition), 17 Nov., 1992, p. 2). Thus, the survey data are consistent with the published statistics.

Qionglai's economy is more marketised than Changshou's in Sichuan. By whatever measure used, Zhejiang is shown to be more marketised than Sichuan.[22]

VI. The Transaction Cost Reality for REs: A Regional Perspective

Using the knowledge gained about the economic development levels and the degree of marketisation of the local economies, in this section we go on to analyse the reality of transaction costs facing REs. First, we look at the costs involved in the transactions of the two important production factors, namely capital and labour. We move on to analyse the transaction costs for the REs in the input and product markets. Finally, we look briefly at the use of production sub-contracting and joint venture arrangements as means for the REs to reduce transaction costs. The analysis applies the analytical framework outlined in section III, using the level of development, the degree of marketisation, and the role of local government as well as that of informal institutions as primary explanatory variables for understanding the differences found between regions in transaction costs. The focus of the analysis is primarily at provincial level since the last two sections have shown that the two provinces are characterised by marked differences in their level of development as well as in marketisation. Data breakdowns by counties are also given in the tables, and they are discussed in connection with the important variations in transaction costs observed at the county level.

6.1 Transaction Costs in Capital Formation

For rural enterprises, transaction costs in capital formation depend primarily on the relative scarcity of capital and on their ownership forms. As is shown in Table 6, virtually all of the non-collective REs rely on the owner's own capital for over 80 per cent of establishment capital in both Sichuan and Zhejiang. This is primarily due to two reasons: first, because the mobilisation of their own capital involves low transaction costs, and second, because non-collective REs face particular difficulties in getting bank loans for risk capital.

Che and Qian (1995:21-22) attribute the difficulty of private REs in getting bank loans to imperfect capital markets in rural China, where banks cannot effectively monitor clients to ensure repayments. Banks therefore require collateral, similar to what North (1990:62) calls an uncertainty discount, to insure the risk.[23] This requirement for collateral is a high transaction cost for the private entrepreneurs, and most of them are not wealthy enough to be able to meet it. As a result, this high transaction cost precludes most private enterprises

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[22] However, it should be noted that the use of these indicators is not meant to give a full picture of the differences in marketisation of the local economies covered by the survey. Therefore, the indicators discussed in this section do not necessarily set the limits to what the term "marketisation" may refer to in the rest of this study.

[23] Lin *et al.* (1992:250) reports that the banking system required 30-50 per cent of risk capital invested by REs as a prerequisite for borrowing. This requirement was easily met by collective REs with local government investment.

from being served in the capital market, a phenomenon noted earlier by Zhang and Ronnås (1994:50). This appears to be an instance where "no exchange occurs because the costs are so high" (North 1990:67). The above analysis provides a transaction cost explanation as to why bank loans have been little utilised by the private REs as a source of initial capital. Consequently, non-collective REs have to rely excessively on own capital, in particular during the initial stage. The situation with the collective REs is different, as is discussed below.

Table 6. Major Sources of Initial Capital by Ownership Forms and by Provinces.

	Collective		*Non-collective*		*All enterprises*	
	Zhe-jiang	Sichuan	Zhe-jiang	Sichuan	Zhe-jiang	Sichuan
Owner/managers own capital						
- A	20.8	12.7	96.6	97.0	67.7	57.7
- B	10.5	7.2	81.8	87.0	54.5	49.6
Township/village authorities						
- A	76.9	82.2	2.6	0.7	30.9	38.9
- B	49.9	65.4	0.4	0.7	19.3	31.0
Bank loans						
- A	35.7	31.4	18.5	14.2	25.0	22.2
- B	12.3	17.9	6.9	7.0	9.0	12.1
Contributions by employees						
- A	25.0	11.9	6.4	4.5	13.5	7.2
- B	12.8	3.8	2.7	1.5	6.6	2.6

Source: Ronnås 1993c, pp. 14-16.
Notes: A: Percentage of enterprises that utilise the given source of capital. B: Average contribution in percentage to the total capital formation for all enterprises in each sub-sample group.

Collective REs universally depend on local government investments for the bulk of their initial capital, as can be seen from Table 6. In many respects, the relationship between the local governments and the REs may be likened to the organisational structure of an M-form (multidivisional) conglomerate.[24] An M-form organisational structure of firms is particularly credited for its advantages in overcoming the high transaction costs associated with using the capital markets. M-form firms, seen as an internal financial market, possess the advantage, relative to the capital markets at large, of better access to information on the investment opportunities within the firm, and of effective control over the use of capital (Clarke 1987:110). Furthermore, the capital flow within M-form firms requires low costs of negotiation and contract-making and a whole spectrum of costs related to monitoring and enforcing the contracts.

[24] See Che (1996:36) on this perspective. See, e.g., Williamson (1986:69, 73-77), and McGuinness (1987:53-57) on M-form firms.

To the extent that local governments may function as the headquarters of an M-form conglomerate, they are likely to have these advantages when it comes to allocating investments to the REs. These advantages may prove particularly important in the absence of a functioning external capital market.[25] This means that the advantage of local governments tends to be reduced at higher levels of marketisation and of economic development, as does the importance of local government investment in the total capital of REs.

Turning to the survey data, both the incidence and the average contribution of government capital to the total initial capital is lower in Zhejiang than in Sichuan. These differences should be attributable first to Zhejiang's higher degree of marketisation, which leads to reduced reliance on local government capital and, second, to the advanced level of Zhejiang's rural enterprises, many of which depend on more diversified sources of capital (Ronnås 1993c:17-18).

Local governments are often seen to function as an intermediate agency between the REs and banks in China. They may, for instance, provide contacts, give recommendations or even directly take part in the REs' business relations with the local banks. This role of local government appears to have facilitated transactions between banks and REs, especially at the beginning of the reforms. There are, however, certain institutional and historical factors that have given rise to this role of local governments. First, the lack of formal institutions for the functioning of capital markets and the shortage of experience and skills of the banking sector in open market transactions, both of which imply high transaction costs in the capital markets (Che and Qian 1995). Second, the organisational setting in which both local bank branches and the REs fall under the leadership of the local governments. This organisational setting tends to give the transactions of loans between banks and REs the character of a flow of funds between divisions within a multidivisional corporation.[26]

Under these specific institutional and historical circumstances, local governments appear to have some advantages in lubricating transactions of bank loans, hence reducing the transaction costs. The advantages that local government appear to have include: their privileged access to information about the REs under their ownership and those located in their jurisdiction, their advantageous position as owners of many REs in risk management, and their authority in settling disputes with regard to the enforcement of contracts (Zhang 1993, Naughton 1994:269, Che and Qian 1995). Moreover, it has been suggested that the institutional identity of the township and village administrations, their fixed locations and their assets all make them *de facto* guarantors (Pei 1994:188). Because local governments in less marketised regions tend to play a larger role in the transactions of bank loans, it

[25] The transaction cost advantages of local governments in making investments should not, however, be taken as equivalent to the highest possible allocative efficiency of such investments.

[26] The description here refers primarily to the situation in the 1980s. Financial reforms carried out in the 1990s appear to have reduced the scope of local government influence according to the author's interviews with the local officials in Sichuan in October 1994.

may result in REs in these regions to have a higher proportion of bank loans in their initial capital than those in the more marketised regions.

Indeed, at the aggregate level, bank loans account for a somewhat higher share of the total initial capital for Sichuan (12 per cent) than for Zhejiang (9 per cent), as shown in Table 6. A similar relation is also found between the collective enterprise sector of the two provinces. This lack "of any [conventional] relationship between the overall level of development and the relative importance of formal credit" has earlier been noted by Ronnås (1993c:19).[27] It seems that Sichuan's lower degree of marketisation, implying a greater role of the local governments in the transaction of bank loans, can provide part of the explanation for the higher reliance of REs on bank loans for initial capital in that province. Equally important, Sichuan's backward economic development level means less capital is available from the rural households sector, which may provide yet another partial explanation for the puzzling phenomenon.

As is shown in Table 6, REs rely to varying extents on capital contributions from their employees. The transaction costs entailed in mobilising capital contributions from REs' employees seem to be low from the rural enterprise's point of view, if two conditions are fulfilled. First, private ownership must be permissible in the collective REs, which depends to the degree of marketisation. Second, there must be an economic surplus in the private sector, which depends on the economic development level.

With these conditions being met, the interest of rural households in making capital contribution is less of a problem, especially if that capital contribution is necessary in order to get a job in the RE.[28] Rural labourers are willing to pay to get a job in the REs because of the higher wages paid to RE employees relative to the employment alternatives in a rural economy. Thus, the key factors in determining the extent to which REs can raise capital contributions from their employees are the degree of marketisation and the level of development. And it should be clear that mobilisation of private capital can be eased by a higher degree of marketisation as well as by a higher level of economic development.

The survey data show that capital contributions by employees, judging both by their incidence and their percentage contribution in the initial capital, are of greater importance to the REs in Zhejiang than those in Sichuan (Table 6). Following the above analysis, these differences can be attributed to Zhejiang's higher degree of marketisation, on the one hand, and to its higher development level, on the other hand. Because mobilising capital contributions from employees of REs is considered to entail low transaction costs, REs in Zhejiang appear to have benefited from their possibility of raising a larger share of initial capital from this source. The larger share of capital contribution by employees may even to

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[27] Indeed, Ronnås (1993c:19) further notes in his study that the differences between the two provinces in the incidence and importance of bank loans become striking when the analysis is confined to collective enterprises with initial capital over 40,000 Yuan. "In Sichuan 64.1 per cent of the enterprises in this category received bank loans as against 43.2 per cent in Zhejiang, and the average contribution of bank loans to total capital formation at establishment was more than twice as higher in Sichuan as in Zhejiang; 35.9 and 15.2, respectively".

[28] See Saith (1995: 229-231) for a discussion on this type of workers' capital contribution.

a certain extent explain the lower share of bank loans in the initial capital for REs in Zhejiang, as noted above.

6.2 Transaction Costs in Labour Employment

Information asymmetry between the employer and the employees is one of the core reasons for high transaction costs in labour transactions. Imperfect information about an employee's ability and other attributes gives rise to measurement costs, and difficulties in measuring efforts works as a disincentive leading to reduced effort or even shirking, which further causes high monitoring costs to the firms (Barzel 1989:32). It is argued below that the information problem may to a very large extent be overcome and hence the cost of labour transactions saved for REs by employing local people.

In our survey sample more than 70 per cent of REs in Zhejiang and up to 86 per cent in Sichuan, employ mainly local (within village or township) labour. The hiring of local people brings a cost advantage in the labour-transaction to the REs. This is because locals often possess a good deal of knowledge about each other, and reputations of individuals are public goods in small communities. North (1990:55) points out that when "parties of exchange have a great deal of knowledge about each other and are involved in repeated dealings", as in small communities, "the measured costs of transacting are very low because of a dense social network of interaction. Cheating, shirking, opportunism, all problems of modern industrial organisation, are limited or indeed absent because they do not pay." This tells one of the most important reasons as why total transaction costs of labour employment may be low for the REs.

Yet, REs do still face high transaction costs when it comes to hiring more qualified manpower, such as managerial and technical competence, which is increasingly needed by the REs, but not locally available (ARTEP *et al.* 1992:39). This difficulty is in a way reflected by the survey returns showing that 13.1 per cent of the REs in Zhejiang and 8.8 per cent in Sichuan cite shortage of skills as the main constraint to further growth (Table 4).

6.2.1 Transaction costs and choices of employment channels

In China, labour mobility is still formally restricted by the household registration system (Meng 1990:318, Rozelle 1994a:108, Xu 1995:39-409) and the development of labour markets was not a priority of the ongoing reforms until the 1990s (ILO and ILO 1995:2). Thus, existing labour markets are characterised by segmentation between urban and rural categories, on the one hand, and across regional borders, on the other hand. This to some extent explains why the so-called market channels have played only a minor role in allocating labour force to the REs. This is so for both the collective and the non-collective REs, and in both provinces (Table 7). Consequently, REs tend to rely on different non-market channels for recruiting their workforce. Administrative channels including direct

allocation of workers by local governments are ways by which workers are assigned to the vast majority of the collective enterprises; while more than 90 per cent of the non-collective REs rely on the informal and clan network to find their workforce, as is shown in Table 7.

Table 7. Major Channels for Labour Employment by Regions and by Ownership Forms. Percentages of Enterprises.

	Cixi	Linhai	Ouhai	Qionglai	Chang-shou	Zheji-ang	Sichuan
Administrative allocation							
- collective	80.4	75.5	26.4	50.0	65.0	66.0	57.6
- non-collective	0.0	1.3	0.0	0.0	0.0	0.4	0.0
Market channels							
- collective	1.6	6.1	8.8	5.2	5.0	4.9	5.1
- non-collective	1.5	7.8	4.3	0.0	3.0	4.7	1.5
Informal channels							
- collective	16.4	18.4	61.8	43.1	30.0	27.8	36.4
- non-collective	93.8	90.9	94.6	100.0	97.0	93.2	98.2

Source: Enterprise survey data.

Notes: Administrative allocation includes (1) allocation by the local authorities, and for collective REs (2) recruiting directly within the village/township without advertising. Market channels include (1) various types of advertising, (2) recruitment through employment office, (3) recruitment from other counties, and (4) recruitment through examination. Informal/clan networks include (1) relatives, (2) only family members, and for non-collective REs (3) recruiting directly within the village/township without advertising.

For collective REs, however, the choice of labour recruitment channels is often influenced by non-economic concerns. There appear at least two non-economic factors of considerable influence. First, collective rural enterprises are to a large extent set up to fulfil local government's objective of creating new jobs (Zhang 1993:47, Mood 1996:11-12), thus they function to a certain extent as employment maximisers (Yuan 1994:116). Second, job assignments may work as an instrument for local governments to achieve a desired income distribution among the local residents.[29] The non-economic objectives of the local governments and their ownership in the collective REs provide not only the need, but also the means, for the local government to allocate labourers directly to the REs, as noted by Byrd and Gelb (1990:371), Zhang (1993:58-59) and Rozelle (1994:120). This in turn explains to a large extent why the administrative channel is so widely used among the collective REs.

[29] For instance, Saith (1995:229) reports that "[i]n Sichuan, it was stated that at a general level, about 30 per cent of the job recruitment into the enterprise sector explicitly favoured those from poorer households".

It should be noted that the administrative allocation of labour, though primarily a policy instrument used to achieve social objectives imposed by local governments on the REs, may nevertheless serve to save some transaction costs for the REs. This is due to that hierarchical decision-making may lower the cost of transactions. The REs in question may save on the advertising cost, the measurement cost, and the contracting cost, etc. An example of this is brought out in the study by ARTEP *et al.* (1992:20), which notes that labour contracts are not prevalent in the REs studied because the majority of workers are assigned to enterprises by the local government, and workers feel secure that they do not consider an employment contract essential. Thus, the cost of contracting is saved in these cases. But, as argued earlier, these costs would seem to be low anyway because REs recruit local people. The cost-saving effect of the government allocation of a workforce may therefore be indeed limited. On the other hand, the negative consequence of it, namely over-staffing, is likely to lead to potential overall efficiency losses.[30]

Due to their private ownership, employment decisions at the non-collective REs are not subject to the same local government influence. It is shown in Table 7 that non-collective REs overwhelmingly rely on informal channels of recruitment, such as clans, contact networks which are low-cost ways of arranging labour-transactions in small, privately-owned REs. These informal channels may, for example, effectively reduce the information asymmetry, thus discouraging opportunistic behaviours. Consequently, information costs, measurement costs and monitoring costs in such employment contractual relations are to a large extent saved. Furthermore, contractual relations based on personal trust tend to be self-enforcing (North 1990:55), resulting in little, in any, monitoring and enforcement costs.

These properties of the informal channel are well indicated in the following remarks by a young RE manager who was asked about why there was no supervision in his factory. He answered "We have grown up together and I knew who worked hard and who didn't in my village before I chose workers from among them. Therefore, I trust my workers, and know they will not let me down" (Pei 1996:50). In the context of Chinese REs, the self-enforcing property of such informal labour contracts is further enhanced by two interrelated factors. First, the limited labour mobility in rural China tends to make the employment relations in the REs long-lasting. Second, as the above quote shows, the reputation effect works extremely well in small, rural communities. And this effect is further re-enforced by the labour immobility of the rural populations.

Although at the provincial level, the degree of marketisation seems to have had little bearing on the REs' choice of employment channels, figures broken down by county

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[30] There is mixed evidence on over-staffing in REs. Meng (1990:304-305) reports quite serious overmanning problems, while Svejnar (1990:253), based on the same survey data, concludes that "on average, featherbedding is not a significant phenomenon" in the REs under study. Studies on the productivity of REs by Liu *et al.* (1995:20), Xu (1995:44), and Jin and Du (1993) have shown that RE sector as a whole had a higher total factor productivity than the state sector. The results of the above studies combined suggest that over-staffing may exist in REs, but to a much lesser extent than that in the state sector.

reveal some interesting patterns in this regard. The collective sector in Ouhai, the most marketised county in Zhejiang, demonstrates a surprisingly high reliance on the informal channels (62 per cent), and an equally impressive low use of the administrative means (26 per cent) as employment channels. By contrast, collective REs in Cixi and Linhai, both less marketised than Ouhai, have higher dependence on administrative channels, i.e. 80 versus 76 per cent, and a lower dependence on informal channels, 16 and 18 per cent, respectively. A similar situation is found between the collective REs in the two counties in Sichuan: REs in the more marketised Qionglai county appear to rely relatively less on the administrative channels and more on the informal channels compared to those in the less marketised Changshou county.

The comparisons at the county level seem to suggest a positive effect of the degree of marketisation in influencing the use of informal channels in labour transaction. A higher degree of marketisation in this case should mean a greater extent to which REs are free from the administrative labour allocation, thus giving them more freedom in using other recruitment channels. It follows then: if REs are free to recruit labour through other than government allocation, they are likely to use the most cost-efficient informal channels to hire their employees.

6.2.2 Market mechanism in wage setting and transaction costs

The low-skill labour force employed by REs is identified as non-specific goods in a transactional context (Williamson 1986:119). Following Williamson (1986:113), the market is the efficient governance structure for transactions of non-specific goods, and in the transaction of non-specific labour force both wages and employment are variables. The efficiency of the market in arranging non-specific labour transaction lies in the ease with which a uniform price, i.e. a wage, can be found in the market for non-specific labourers. It follows that the contract-making is simplified when wages, originally a variable in labour transaction, can be fixed against standard market wage rates. This means that firms can reduce their costs of labour transaction by adopting market wage rates. For an individual enterprise, a proxy of market wage rates can be observed from what other enterprises pay for the same type of workers. This behaviour of REs is indicated by the survey data on REs that refer to each other in determining their own wage levels.

Turning to our survey data, Table 8 shows that 48 per cent of REs in Zhejiang, but fewer than 20 per cent in Sichuan, report that they use other REs wage levels as their reference point when determining wages in their own enterprises. The figures indicate that REs, especially those in Zhejiang, have a tendency to rely on the market mechanism for setting wages for their labour force. That the market mechanism plays a more important role in this regard in Zhejiang may be expected given the province's higher degree of marketisation. It shows that the extent to which REs may be able to reduce their transaction costs through market mechanisms is determined by the degree of marketisation.

Seeing from the point of view that employment in REs and in farming sector are alternatives for the rural labour force, Meng (1990:311) suggests that wage references made by REs to local farmer's incomes are also a sign of an emerging labour market. Yet our survey data suggest that the overall development level appears to play a decisive role in determining the extent to which agricultural labour costs serve as a shadow price for industrial wages in REs. The income of agricultural workers is far more frequently referred to by the REs in the respective backward county, i.e. Linhai and Changshou, in Zhejiang and Sichuan, respectively, than in other counties covered by the survey, as shown in Table 8.

Table 8. Selected Criteria for Determining Wage Levels by Regions. Percentage.

	Cixi	Linhai	Ouhai	Qionglai	Chang-shou	Zheji-ang	Sich-uan
References made to:							
- Wages in other REs	24.6	53.2	65.1	6.4	33.3	47.6	19.8
- Incomes in farming sector	12.7	23.1	3.2	7.2	24.6	13.0	15.9
- Wages in SOEs	0.0	3.2	0.0	1.6	5.6	1.1	3.6

Source: Enterprise survey data.
Notes: SOEs = state owned enterprises. Incomes in farming sector include net income of the peasants in the same village/township and the income level of wage workers in the farming sector.

Finally, Table 8 shows that wage levels in REs are actually independent of those in the state sector, as only 1.1 per cent in Zhejiang and 3.6 per cent in Sichuan refer to the state enterprises for wage-setting. This shows that REs and the state sector operate in two highly segmented markets for employment, therefore the price in one market has little influence on the price in the other.[31] Yet, the relatively higher proportion of REs in Sichuan that refer to the state enterprises for wage-setting seems to be related to the province's lower degree of marketisation. Such an effect of marketisation can even be observed when comparing the two counties in Sichuan, where REs in the less marketised Changshou to a much greater extent (5.6 per cent) refer to the state enterprises for wage-setting than do REs in the more marketised Qionglai (1.6 per cent).

[31] This contradicts the finding by Xu (1995:33), who shows, by regression results, that wage levels in REs and in the state sector are strongly correlated.

6.3 Transaction Costs in Input Procurement

Given their rural locations, an important factor in determining REs' transaction costs for input procurement is their geographical distance to the markets that supply these inputs. This is because, *ceteris paribus* "the costs of organising and the losses through mistakes will increase with an increase in the spatial distribution of the transactions" (Coase 1937:397). Furthermore, spatial distance tends to create further complexities in transactions, which consequently increase transaction costs rapidly (Niehans 1987:678). This is especially so if markets are geographically segmented and institutionally underdeveloped, as in China.

Table 9. Geographical Pattern and Uncertainty in Input Supply by Regions, 1989.

	Cixi	Linhai	Ouhai	Qiong-lai	Chang-shou	Zhe-jiang	Sich-uan	F- test
Inputs originated from own province, %	85.0	80.4	90.4	94.2	97.8	85.4	96.3	13.81 (0.00)
Of which:								
- from own township	11.0	18.8	4.9	24.2	36.7	11.0	31.2	37.36 (0.00)
- from own county	50.4	22.5	43.5	27.8	32.1	39.0	30.2	4.11 (0.04)
Input originated from other provinces, %	14.9	17.4	8.4	4.6	2.2	13.3	3.3	14.41 (0.00)
Uncertainty in input supply, % of enter.	56	45	70	33	38	58	36	--

Source: Enterprise survey data.
Notes: Figures refer to the shares of inputs of different origins in the total raw material purchase. F-test values refer to sample differences at the provincial level only, significance level in parentheses. Figures on uncertainty in input supply refer to the percentage of REs that perceived the supply of inputs as being insecure and unstable between 1987 and 1989.

Table 9 reveals that rural enterprises in Zhejiang and Sichuan rely to different extents on local markets for inputs, and it reports some statistically significant differences between the REs in the two provinces in this regard. The reliance of REs on local inputs is significantly higher in Sichuan than in Zhejiang from which it can be seen that inputs originating from the REs' own province account for a significantly higher share of the total in Sichuan (96 per cent) than in Zhejiang (85 per cent). The heavy reliance of REs in Sichuan on the local markets for inputs is further revealed by the fact that these enterprises obtain more than third of their total inputs from within their own townships, while the corresponding figure is no higher than 11 per cent for REs in Zhejiang. Furthermore, there are statistically significant provincial differences in the shares of inputs originating from other provinces, i.e. 14 and 3 per cent for Zhejiang and Sichuan, respectively. These

figures further add to the picture of the different degrees of reliance on local markets for inputs by the REs in the two provinces.

The different degrees of reliance of REs on local markets for inputs can to a large extent be explained by their different industrial structures. As already mentioned in Section IV, REs in Sichuan have an industrial structure which is much more closely linked to agriculture than that of the REs in Zhejiang. The different industrial structures of the REs in Sichuan and Zhejiang suggest that rural industries are likely to develop from an agro-based to an increasingly non-agro-based industrial structure in the process of rural industrialisation. Thus, the higher dependence of Zhejiang's REs on inter-provincial markets for inputs is, at least in part, due to that province's higher level of industrialisation, although it is also likely that Zhejiang's physically smaller size may, to a certain extent, account for its reliance on inputs from other provinces. Nevertheless, figures in Table 9 show that REs in Zhejiang, on average, have to conduct to a greater extent transactions in markets farther away from their home bases, and sometimes even beyond their provincial borders. As a result, REs in Zhejiang may face higher transaction costs because of higher information costs, higher search costs, higher monitoring costs and higher travel costs, not to mention the greater uncertainty these REs tend to face in securing their supply of inputs.

Indeed, the survey data show that some REs can face uncertainty in input supplies. Some 58 per cent of REs in Zhejiang, compared to 36 per cent in Sichuan, consider the situation regarding the supply of inputs as unreliable and/or unstable.[32] Since transaction costs are substantively related to uncertainty concerning the future (Clarke and McGuinness 1987:6), a higher degree of uncertainty leads to higher transaction costs because more resources are required to deal with transactions involving higher, relative to lower, uncertainties. This means that REs in Zhejiang on average face higher transaction costs than those in Sichuan in this respect. Furthermore, figures in Table 9 seem to suggest a positive relationship between REs' reliance on non-local input markets on the one hand and the perceived uncertainty in this regard on the other hand.

Under the so-called dual price system, REs often have to pay more than the state price for many inputs. Zhou and White III (1995:469) report that prices for coal, electricity, steel and timber tend to be particularly high for REs. The higher prices paid by REs in such instances are not due to higher production costs, but as a result of a monopolistic market situation, which gives rise to many rent-seeking intermediate transactions of goods. Each time goods change hands, a margin is added to their price. And margins between buying and selling prices of the same commodity are nothing but transaction costs (Niehans 1987:676).

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[32] Figures in Table 7 refer to the survey returns on the question about whether the input supply had been stable, or alternatively, unstable, deteriorating, or improving between 1987 and 1989, while figures in Table 4 refer to the REs that perceived raw material supply to be a constraint to further growth. Uncertainties in input supplies may cause higher transaction costs, but need not necessarily be as serious as a growth constraint.

To get an idea of the size of this transaction cost facing the REs, margins between the state and market prices for some power inputs have been calculated based on the survey data for the period of 1988 to 1989. As can be seen in Table 10, REs in Zhejiang appear to have paid 36 per cent more than the state prices for coal, 7 per cent more for electricity, and 82 per cent more for motor fuels such as diesel and petrol. For Sichuan, the margins are 71, 10 and 70 per cent for the respective inputs. These figures illustrate the magnitude of the (additional) transaction costs paid by the REs in the input markets. It is somewhat surprising that state prices exceed market prices in Cixi by a margin of over 100 per cent for coal, and by 21 per cent for motor fuels. These figures indicate that the higher state prices may have been charged by the local government procurement departments to move funds from the REs' coffers to their own, a tactic similar to transfer-pricing practised by multinational corporations.

Table 10. Margins between State and Market Prices for Power Inputs, 1988-1989.

	Cixi	Linhai	Ouhai	Qiong-lai	Chang-shou	Zhe-jiang	Sichuan
Price margins, in % of state prices							
- Coal	-51.6	+89.2	+10.7	+95.8	+49.3	+36.2*	+71.2
- Electricity	+18.9	-2.5	+11.1	+33.3	0.0	+7.1	+10.0
- Fuels	-17.4	+31.6	+98.9	+69.4	+72.0	+81.5*	+70.1

Source: Enterprise survey data.
Notes: The survey data on input procurements on 1988 and 1989 have been pooled together to increase the number of observations. Price differences are measured in percentages of the average market price of an input (paid by all enterprises that purchased that input) over or below the average state price (paid by the subgroup of enterprises that purchased the respective item at the state prices). * = Based on average prices for Zhejiang excluding Cixi county.

6.4 Product Marketing and Transaction Costs

REs face a competitive product market (Whiting 1996:64) and sales of their products are not necessarily limited to their home markets. Table 11 illustrates the geographical pattern of product sales for the REs in the survey sample. There are statistically significant provincial disparities in the sales pattern of the two provinces. More than 50 per cent of products made by the REs in Zhejiang are sold outside their own province, while the figure for Sichuan is below 5 per cent. On the contrary, products sold within the same county, including the local townships, constitute more than 77 per cent of total sales for REs in Sichuan, but only 21 per cent in Zhejiang. Such a big difference in the REs reliance on inter-provincial markets for product sales cannot just be attributed to the different sizes of the two provinces. In other words, the higher proportion of total outputs sold by REs in Zhejiang to other provinces has to be explained by the province's higher level of rural

industrialisation; and the lower share of total outputs sold by REs in Sichuan to non-local markets is apparently due to the lower level of development of the REs in that province.

Furthermore, there are county variations in the proportion of total sales to other provincial markets which show that the more developed a county is, the larger tends to be the proportion of RE products sold to other provinces. Thus both at the provincial level and at the county level, the survey data suggest that the proportion of total sales to other provinces is positively related to the relative development levels of the local economies. By the same token, sales by REs to the local product markets, i.e. within the same township or the same county, tend to be inversely related to the relative development level.

A direct consequence of operating in the local markets is that it requires low marketing costs, which are measurable transaction costs. On the whole, marketing costs are indeed low for the REs in the survey sample, i.e., no more than 5 per cent of the total costs (Table 12). A factor that explains, at least in part, this low level of marketing costs is that the vast majority of REs, i.e., 82 per cent in Zhejiang and 93 per cent in Sichuan in our survey sample, do not advertise their products at all.

Table 11. Geographical Pattern of Product Sales by Regions, 1989. Percentages.

	Cixi	Linhai	Ouhai	Qiong-lai	Chang-shou	Zhe-jiang	Sichu-an	F-test
Products sold within same township	6.7	16.1	6.5	39.5	45.7	9.6	42.8	125.7 (0.00)
Products sold within same county*	10.5	12.2	12.5	28.8	40.3	11.8	34.9	62.0 (0.00)
Products sold within same province♣	13.6	35.7	21.0	26.0	10.4	23.1	17.7	2.7 (0.10)
Product sold to other provinces	66.8	35.5	58.5	5.8	3.4	54.1	4.5	172.9 (0.00)

Source: Enterprise survey data.
Notes: Figures are in percentages of total product sales value. F test values refer to sample differences at provincial level only, significance level is given in parentheses. * = excluding own township. ♣ = excluding own county.

Relatively speaking, the level of marketing costs is higher for REs in Zhejiang (4.9 per cent) than for those in Sichuan (2.1 per cent). It can also be seen from Table 12 that marketing costs are incurred much more frequently to the REs in Zhejiang (54 per cent) than to those in Sichuan (17 per cent). These statistics indicate a positive relationship between the level of development on the one hand and the level (as a share of total cost)

and incidence of marketing costs to the REs on the other.[33] Moreover, statistics at the county level seem to suggest that marketing costs might also have been influenced by the degree of marketisation, as the incidence and level of marketing costs coincide with the relative degree of marketisation of the three counties in Zhejiang.

The so-called inter-firm arrears, which refer to payments that firms in China owe each other for goods and services, can be seen as an unorthodox type of transaction cost, at least as far as the net-arrears are concerned. This phenomenon is mostly observed in the transition economies where opportunities to default on payments are high given the lack of sound market institutions. The survey data show that well over 50 per cent of the REs in the survey sample are faced with problems in getting paid for their products. The proportion of the affected REs is significantly higher in Zhejiang than in Sichuan, i.e., 72 and 34 per cent, respectively. The collectable sales payments are equivalent to 12 per cent of total sales for the REs in Zhejiang, and 5 per cent for those in Sichuan.

Table 12. Marketing Costs and Inter-firm Arrears by Regions, 1989. Percentages.

	Cixi	Linhai	Ouhai	Qiong-lai	Chang-shou	Zhe-jiang	Sichu-an
Marketing Costs							
REs with marketing costs, %	55.6	41.3	65.1	11.1	23.1	54.0	17.1
Level of marketing costs, in % of total costs	4.8	3.4	6.4	2.7	1.6	4.9	2.1
Inter-Firms Arrears							
% of REs with sales revenues to be collected	72.0	68.3	74.6	34.9	32.5	71.6	33.7
Collectable sales revenues as % of total sales	11.6	9.7	15.0	5.0	5.2	12.1	5.1
% of REs with net inter-firm arrears	84.1	85.7	87.3	39.7	38.1	85.7	38.9
Net inter-firm arrears as % of total sales							
- Collective	-7.7	-11.2	3.1	4.4	3.4	-6.3	3.9
- Non-collective	12.6	6.2	5.7	2.1	14.1	7.5	8.2

Source: Enterprise survey data.
Notes: Marketing costs (*Xiaoshou Feiyong* in Chinese) were specified as a separate cost item given in the enterprise survey returns. Figures on the net-arrears refer only to the inter-firm arrears originating from the payments for goods, and excludes other types of debts between enterprises. The negative values indicate net debts and positive values net credits, from the point of view of the REs in the survey sample. The percentages are averages of each enterprise's.

Furthermore, correlation coefficients show that the collectable payments as percentages of total sales are positively correlated with sales, as a share of total, to other provinces by the

[33] There are 12 observations, 5 in Sichuan and 7 in Zhejiang, where marketing costs account for 60 to 92 per cent of their total cost. But exclusion of these outliers, e.g., controlling the sample by including only REs with marketing costs below 50 per cent of total costs, does not alter this observed pattern.

REs in Zhejiang and, respectively, with sales, as a share of total, to other counties by the REs in Sichuan.[34] On the other hand, for REs in both provinces the problem of non-payments appears to be significantly negatively correlated with their sales within the same town.[35] These statistics suggest that the problem of non-payments is more serious for the REs selling a greater proportion of their products to non-local markets.[36] Since sales to non-local markets account for a much larger share of the total for the REs in Zhejiang than for those in Sichuan (see Table 11), this explains, in part, why a much larger proportion of REs in Zhejiang are affected, and to a greater extent, by non-payments than those in Sichuan.

As importantly, the survey data also reveal that non-payments for product sales are positively correlated with the RE's sales to the state sector as a percentage of the total. This holds for REs in both provinces. This implies that a higher degree of marketisation, i.e. a smaller state sector, is conducive to reducing the problem of non-payments for the REs. However, in this context, it is the degree of marketisation of other regions, rather than the REs' own region, that is of greater influence, because sales to the state sector by REs in both Zhejiang and Sichuan are sold predominantly to enterprises outside their own provinces. Since sales to the state sector account for a much larger share of the total for REs in Zhejiang than for those in Sichuan, it explains, crucially, why a much larger proportion of REs in Zhejiang are affected by non-payments, and to a greater extent, than those in Sichuan. More generally, the survey data suggest that REs in the more development regions tend to face a greater risk of non-payments because of the higher propensities for them to engage in transactions in the non-local markets as well as with the state sector.

Turning to the net-values of inter-firm arrears, which indicate the status of the REs as net-creditors/debtors, statistics in Table 12 show that this payment problem affects some 39 per cent of REs in Sichuan and as many as 86 per cent in Zhejiang. Apart from the collective REs in two counties in Zhejiang, all other sub-groups of the survey sample appear to be net-lenders, which may be interpreted as having to pay an extra transaction cost. In particular, non-collective REs in all counties covered by the survey, and consequently at the provincial level as well, stand to be losers in the inter-firm debt relations, and the level of debts to these REs is around 8 per cent of their total sales in both provinces.

On the other hand, collective REs in Cixi and Linhai on average maintain net-arrears to other enterprises in the order of 7.7 per cent and 11.2 per cent of their respective total sales

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[34] Both correlation coefficients are significant at 1 per cent level.

[35] The correlation coefficient is significant at 1 per cent level for Sichuan and 5 per cent level for Zhejiang, respectively.

[36] Interviews with REs' managers confirm that it is increasingly difficult for REs to collect default payments if the other parties are located outside the local borders. In such cases, the local authorities' function as mediator becomes ineffective as they cannot exert effective pressure on enterprises outside their jurisdictions. Meanwhile, local authorities in other localities tend to protect their own enterprises, hence making efforts including invoking legal procedures to recover bad debts of little use. Interview with RE managers in Zhenhai, Zhejiang, July 1995.

value. Correlation coefficients further confirm that the net inter-firm arrears as a share of total sales value are significantly negatively correlated with the collective ownership of the REs in Cixi and Linhai as well as in Zhejiang as a whole. The advantageous position of collective REs in inter-firm debts relations is apparently related to local government intervention in favour of this category of rural enterprises. However, the interventions of local governments in this context do not seem to solve the problem, nor do they even seem to lower this extra transaction cost from the point of view of REs as a whole, since the "gains" of some collective REs appear to be made at the expense, in part or in full, of their non-collective counterparts, as the survey data on the net-debts to the non-collective REs just indicated. In fact, local government intervention tends to worsen the problem of inter-firm arrears as local governments may not only protect their REs from being exploited but also from not playing by the rules, i.e., honouring their payments, in market transactions. The above analysis suggests that an increase in the degree of marketisation, and thus a decrease in local government intervention, would indeed seem to be part of the solution to the problem of inter-firm arrears.

6.5 Production Subcontracts, Joint Ventures and Transaction Costs

Rural enterprises operate in highly competitive product markets, which are subject to fluctuations because of economic and administrative shocks (Byrd and Zhu 1990:91). In this situation, production subcontracts may be desirable as a means of managing uncertainties associated with spot market transactions, and hence of reducing transaction costs. Consequently, REs engaged in production subcontracts face reduced risk in product overstocking due to market fluctuations.[37] Table 13 presents data on production subcontracting in the survey sample. In Zhejiang, no more than 17 per cent of REs are engaged in production contracts, and the figure for Sichuan is lower still, just 11 per cent. The average contract length is 12 months in Zhejiang and 17 months in Sichuan. Contractual relations for more than two years account for 15 and 36 per cent for Zhejiang and Sichuan, respectively. These figures show that subcontracting is not yet very common among the REs, and production contracts are mostly short-term in nature.

Firm size here, among other things, appears to be an important factor in explaining the low occurrence of subcontracting among the REs. Firms with large production capacity are in a better position to engage in production contracts as economies of scale in transaction are realised through subcontracts for large quantities. The disadvantages of small size means not only higher transaction costs to the small firms as suppliers but also higher costs for their partners (Nooteboom 1993:284). The importance of enterprise size regarding whether or not REs engage in subcontracting is in a way reflected in the survey data showing that the average sales value of the subcontractor group is higher than that of the non-

[37] Product overstocking is encountered in 20 per cent of REs in Zhejiang and 15 per cent in Sichuan. The most commonly perceived reasons for this include an oversupply of the same product and a lack of marketing channels.

subcontractor group in both provinces. This difference between the two categories of REs is particularly pronounced in Sichuan, with the subcontractor group being 3.3 times the size in production value of the non-subcontractor group. Enterprise size may even explain the much higher percentage of subcontractors as found among the REs in Cixi and Linhai than in Ouhai, as average sizes of REs in Cixi and Linhai are larger than that of REs in Ouhai (Ronnås 1993b:6).

Table 13. Production Subcontract Arrangements by Regions, 1989.

	Cixi	Linhai	Ouhai	Qiong-lai	Chang-shou	Zhe-jiang	Sichuan
No. of observations	125	117	125	74	126	367	200
Contracted enterprises, %	24.0	19.8	8.0	10.8	11.1	17.2	11.0
Average contract length, month	12.5	10.7	12.0	17.3	16.9	11.8	17.0
Assistance associated with production subcontracts, % of contracting enterprises							
Inputs supply	20.0	30.4	30.0	62.5	14.3	25.4	31.2
Financial assistance	10.0	17.4	10.0	50.0	0.0	12.7	18.2
Technical assistance	23.3	34.8	30.0	50.0	7.1	28.6	22.7
Managerial & staff training	13.3	26.1	10.0	62.5	0.0	17.5	22.7
Sales contract	0.0	4.3	0.0	12.5	28.6	1.6	22.7
Distribution of assistance, % of contracting enterprises							
Receiving no ass.	53.3	39.1	50.0	25.0	57.1	47.6	45.5
Receiving 1 ass.	30.0	30.4	30.0	12.5	35.7	30.2	27.2
Receiving 2 or more ass.	16.7	30.3	20.0	62.5	7.1	22.2	27.3

Source: Enterprise survey data.
Notes: Financial assistance includes advance sales payments and other forms of credits; Technical assistance includes production technology and machinery.

Ronnås and Sjöberg (1993:29) argue that the geographical factor, namely, Zhejiang's relative proximity to Shanghai, may account for the higher incidence of subcontracting arrangements, in particular with enterprises in other provinces, among REs in that province. To this argument, it may be added that the level of development of REs would seem to be an important prerequisite for the proximity to urban industrial centres to matter in this regard. Otherwise, it would be difficult to explain why Qionglai, 60 Km from Chengdu, and Changshou, near to Chongqing - both among the major industrial cities in China - are much behind their counterparts in Zhejiang with regard to the frequency of subcontracting. The effect of the higher development level may also be felt through its influence on a more advanced industrial structure, which makes the REs in the more developed regions more suitable to be subcontractors of the relatively modern industries in urban areas.

The general picture yielded from Table 13 suggests that for the majority of REs production subcontracting is not readily available as a means to manage uncertainty and reduce the

higher transaction costs associated with spot markets transactions. This seems mainly because many of the REs are still too small and primitive in their technology and management to cope with the quantity and technical requirements of the other contracting firms. As a result, most REs have to face higher transaction costs in the spot markets.

In more than half of the cases, REs engaged in subcontracts gain one or more kinds of assistance from their contracting partners (Table 13). In fact, the list of assistance covered almost all those important areas in which REs tend to have disadvantages. At the provincial level, the type of assistance given was concentrated on input supply and technology, both in Zhejiang and in Sichuan. These statistics suggest that for REs subcontracting arrangements may have served as a means not only for managing product sales but also for arranging transactions in these areas where REs may otherwise face a high transaction cost.

Forming joint ventures (JVs) is an important way through which economic transactions may be internalised to avoid the costs associated with the use of open markets. In China, regional and sectoral segmentation in factor markets, and separate government regulations for RE and for other sectors provide an opportunity, or indeed a need, for enterprises to form JVs in order to reduce transaction costs. Yet, joint ventures are found even less frequently than subcontracting ones among the REs in the survey sample, i.e. 26 out of 630 or 4.1 per cent, only. Relatively speaking, joint ventures arrangements are encountered more frequently in Zhejiang (5.3 per cent) than in Sichuan (2.4 per cent). Clan and personal contacts were the instrumental means by which 75 per cent of the JVs were established in Zhejiang, whereas 50 per cent of joint ventures in Sichuan had been set up under local government initiatives.

Although the number of JVs in the sample is too small to permit any firm conclusions to be made on the factors behind these provincial differences, the following tentative observations may nevertheless be made. Zhejiang's advanced development level would seem to explain the relatively higher frequency of JVs among REs in that province, while its higher degree of marketisation may explain the more instrumental use of informal institutions for initiating JVs in Zhejiang. In contrast, Sichuan's less advanced development level would seem to be responsible for the lower incidence of JVs, and its lower degree of marketisation appears to explain the involvement of local governments in this regard.

As to the benefits to be had from forming a JV, 50 per cent of joint venture enterprises in Zhejiang consider technology, and another 20 per cent marketing, to be the most important contributions by their partners. In Sichuan, on the other hand, the main contributions are perceived to be in the areas of marketing and input supply, with 33 per cent each.

On the RE's side, the managerial flexibility of REs often provides state enterprises with incentives to set up JVs with REs. This incentive may explain, in part, why 20 out of 26 of the joint venture partnerships are with state enterprises. Some 40 per cent of the JVs in Zhejiang claim to contribute in the area of higher managerial flexibility, as against none in

Sichuan. Zhejiang's higher degree of marketisation would appear to be an important factor regarding the difference between the two provinces. In contrast, the primary contribution of REs in Sichuan is in the area of providing locally-produced inputs, which appears closely related to the low development level of REs in that province, and further to Sichuan's relative strength as an important raw material producer.

Overall, the survey data on the JV arrangements seem to confirm the idea of building JVs on the comparative advantages of the partners. Such joint venture arrangements would certainly bring down the transaction costs in areas of comparative disadvantage of the respective partner. However, as in the case of production subcontracting, the small size of the majority of the REs appears to be one of the obstacles to the forming of JVs between rural and other enterprises. This is because their formation is likely to involve some high threshold costs, which are those transaction costs independent of the size of transaction and hence, are disproportionate for smaller transactions (Nooteboom 1993:288).[38] The implication of the small size of the REs in this context is that reducing transaction costs through forming joint ventures with other enterprises is not an option open to small REs.[39]

VII. Summary Conclusions

In this section, we first offer some concluding remarks regarding the nature of transaction costs facing the REs, especially in the early stages of their growth, which correspond to the first objective of the study given in Section I. Second, we summarise and discuss the main findings with regard to the roles of the economic and institutional factors considered in this study in reducing the transaction costs for the REs, which corresponds to the second objective of the study (Section I). In doing so, the empirical results of Section IV through Section VI are linked explicitly with the conceptual theorems of the transaction cost economics presented in Section III.

7.1 Concluding Remarks

This study has shown that rural enterprises, especially those in the initial stages of development, tend to be strongly focused on local markets for inputs and outputs, e.g., those within the same townships. We have argued that the reliance of virtually all REs on the local labour force leads to low labour transaction costs. It is also clear from this study that the marketing costs are also, on average, very low for the REs in the survey, in particular for those in Sichuan where most of their products are sold locally. The same applies to those REs that depend crucially on local markets for their inputs. For this type of REs, the transaction cost of input procurement must have been low, not least considering the reduced uncertainties in their input supplies. That in the early stages of their growth

[38] On the issues and the high costs involved in forming business joint ventures, see e.g., Lorange (1987).

[39] There are, of course, other obstacles to the forming of joint ventures between REs and other enterprises, among which the factor immobility of the REs due to the local government's localism politics is one.

REs tend to engage primarily in simple transactions within small local communities would appear to have been a main factor explaining the low transaction costs faced by these enterprises. Few previous studies have explicitly pointed this out.

While Chinese rural enterprises have derived some transaction cost advantages from being local and small, there appear to be certain transactional disadvantages for precisely the same reasons. The scattered, rural locations of these enterprises may prove to be to the disadvantage of the REs when it comes to transacting with the urban sector and in the urban markets, while the small size of many REs would seem to put them at a disadvantage in production subcontracting and, furthermore, in forming joint ventures with other firms. After all, enterprise size is important in its own right for realising economies of scale and scope in transactions.

7.2 Summary and Discussions

The impact of *development level* on transaction costs facing the rural enterprises appears mixed, according to this study. Through better developed infrastructure, a higher development level provides conditions for lowering transaction costs for REs, and for supporting REs in engaging in more complex transactions. However, the uneven development level between regions in China may mean that for REs engaged in transactions both in and with non-local markets their transaction costs are not just affected by the infrastructure conditions in their home regions.

On the other hand, the statistically significant differences between Zhejiang and Sichuan in the REs' reliance on the non-local, e.g. inter-provincial, markets for product sales and, to a lesser extent, for inputs suggest that at the higher development level, REs tend to rely less on local markets and, meanwhile, tend to have a higher propensity to enter into non-local markets, as well as to engage in more complex transactions. As REs enter into the non-local markets and engage in more complex transactions, the transaction costs advantages derived from their close linkages with their home local markets for factors and for outputs - which many of them enjoy in the initial stage of their development - tend to decline. Consequently, REs may experience an increase in transaction costs at higher stages of their development. This tendency can be seen, for instance, in the fact that the REs in the more developed Zhejiang, relative to those in Sichuan, tend to pay higher marketing costs, that they tend also to perceive higher uncertainties in the provision of inputs, and that the problem of inter-firm arrears is significantly more common among the REs in Zhejiang than those in Sichuan.

The effect of degree of marketisation may be looked at in two inter-related ways. First, the extent to which markets are allowed to function as an efficient means for arranging economic transactions. That wage levels for RE employees are to a greater extent determined by the market mechanism in the relatively more marketised Zhejiang than in Sichuan may be illustrative of this effect of marketisation. Second, the effect of marketisation may also be seen from the point of view of an enlarged set of choices for

transactions. It follows that if rural enterprises can choose from a greater number of alternatives in arranging any given transaction, the scope for enterprises to find a low transaction cost alternative increases. An example of this effect of marketisation is the much higher percentage of the *collective* REs in Ouhai - the most marketised county covered by the survey - that rely on informal channels for recruiting their workforce, thanks to their freedom to use other channels than government allocations.

However, China's, as yet, incomplete transition to a market economy and its lack of formal market institutions have caused extra transaction costs - in the form of inter-firm arrears - to some REs, especially those in Zhejiang. That non-payments to REs are significantly correlated with the REs' sales to the state sector suggests that an increased degree of marketisation, i.e., a reduced state sector, would be conducive to reducing transaction costs of this kind.

Local governments as an important institution in China may be regarded as having played two important roles in reducing the transaction costs facing the REs. First, the useful role of local governments in the provision of better public infrastructure. The improved telecommunications facilities provided by government investments in Zhejiang is an example in point. However, this positive role of local governments cannot be seen as totally independent of the effect of the higher development level, as pointed out earlier. Second, local governments appear to have played a useful role in the transactions of initial capitals, hence reducing the transaction costs for the REs in this regard. This role of local governments is particularly important in the absence of a functioning capital market in rural China. Its importance therefore tends to be reduced as marketisation and economic development increases. This tendency may be noticed from the reduced relative importance of local government investments, likewise the lower share of bank loans, on the one hand, and the correspondingly greater importance of private capital contributions by the RE employees, on the other hand, in the initial capital formation of REs in Zhejiang.

Informal institutions appear to have played an important role in reducing the transaction costs for REs, especially in the context of transactions within local communities and in the local markets. Labour transaction is one of the areas in which informal institutions has been particularly important in reducing the transaction costs faced by the REs. In this study, we argue that there are large transaction cost savings to be made by REs employing a predominately local workforce, as reliable information about employees is available locally at virtually no cost and because personal trust and reputation effect that discourage opportunistic behaviour work particularly effectively in small, local communities. Hence, employment contractual relations in the REs tend to be self-enforcing, leading to further reduction in monitoring and other costs related to information asymmetry and opportunism.

Informal institutions are also recognised as an important factor leading to low transaction costs for REs making transactions in the local markets for inputs and outputs, because informal institutions, such as societal norms, personal trust and reputation effects, etc., are

more effective in facilitating transactions in small, local markets than in large, increasingly impersonal, markets. Given the lack of well-functioning formal institutions in China, informal institutions are likely to continue to play an important role in economic transactions even in the relatively more marketised local economies. A good example of this is the key role played by personal contacts for REs to initiate joint ventures in Zhejiang.

References:

Allen, Douglas W., 1991, 'What Are the Transaction Costs?'. *Research in Law and Economics*, vol. 14, pp. 1-18.

ARTEP, Ministry of Labour, China, and The China Institute of Human Resource Development Planning, 1992, *Reabsorption of Surplus Agricultural Labour into the Non-Agricultural Sector: A Study of Township Enterprises in China*. New Delhi: Asian Regional Team for Employment Promotion (ARTEP), ILO.

Barzel, Yoram, 1989, *Economic Analysis of Property Rights*. Cambridge: Cambridge University Press.

Byrd, William A. and Alan Gelb, 1990, 'Why Industrialize? The Incentive for Rural Community Governments'. In Byrd, William A. and Lin Qingsong, eds., 1990, *China's Rural Industry: Structure, Development, and Reform*, pp. 358-388. Oxford: Oxford University.

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

Byrd, William A. and N. Zhu, 1990, 'Market Interactions and Industrial Structure'. In Byrd, William A. and Lin Qingsong, eds., 1990, *China's Rural Industry: Structure, Development, and Reform*, pp. 85-111. Oxford: Oxford University Press.

Chang, Chun and Wang Yijiang, 1994, 'The Nature of the Township-Village Enterprises'. *Journal of Comparative Economics*, vol. 19(3), pp. 434-452.

Che, Jiahua and Qian Yingyi, 1995, 'Understanding China's Township-Village Enterprises'. Mimeo. Department of Economics, Stanford University.

Che, Jiahua, 1996, 'Why Multi-unit Firms Can Reduce Information Asymmetry'. Mimeo. Department of Economics, Stanford University.

Cheung, Steven N. S., 1986, *Will China Go 'Capitalist'?* Hobart Paper 94, (2nd edition). London: The Institute of Economic Affairs.

Cheung, Steven N. S., 1987, 'Economic Organizations and Transaction Costs'. In Eatwell, J. Milgate, M. and Newman, P., eds., *The New Palgrave: A Dictionary of Economics*, vol. 2, pp. 55-57. London: Macmillan.

Clarke Roger, 1987, 'Conglomerate Firms'. In Roger Clarke and Tony McGuinness, eds., *The Economics of the Firm*, pp. 107-130. Oxford: Blackwell.

Clarke, Roger and Tony McGuinness, 1987, eds., *The Economics of the Firm*. Oxford: Blackwell.

Coase, Ronald. H., 1937, 'The Nature of the Firm'. *Economica*, N.S., vol. IV, pp. 386-405. (Reproduced in Williamson, Oliver E. ed., 1990, *Industrial Organisation* (International Library of Critical Writings in Economics, 9.), pp. 3-22. Aldershot: Edward Elgar.

Coase, Ronald. H., 1960, 'The Problem of Social Cost'. *Journal of Law and Economics*, vol. 3, pp. 1-44.

Dow, Gregory K., 1987, 'The Function of Authority in Transaction Cost Economics'. *Journal of Economic Behavior and Organization*, vol. 8, pp. 13-38.

Eggertsson, Thráinn, 1990, *Economic Behavior and Institutions*. Cambridge: Cambridge University Press.

Fei Xiaotong, 1988, 'Xiao Shangpin, Da Shichang' (Small Commodities, Big Markets) In *Fei Xiaotong Xuanji* (Selected Works of Fei Xiaotong), pp. 364-83. Tianjin: Tianjin Renmin Chubanshe.

Findlay, Christopher, Andrew Watson and, Harry X. Wu, eds., 1994, *Rural Enterprises in China.* Basingstoke: Macmillan.

ILO, East Asia Multidisciplinary Adversary Team and ILO, Regional Office for Asia and the Pacific, 1995, *China: Employment and Training Policies for Transition to a Market Economy, Volume 1: Synthesis Report.* Bangkok: ILO Regional Office for Asia and the Pacific.

Islam, Rizwanul, 1991, 'Growth of Rural Industries in Post-reform China: Patterns, Determinants and Consequences'. *Development and Changes*, vol. 22:4, pp. 687-724.

Jefferson, Gary and Thomas G. Rawski, 1994, 'Enterprise Reform in Chinese Industry'. *Journal of Economic Perspective*, vol. 8:2, pp. 47-70.

Jin Hehui and Du Zhixiong, 1993, 'Productivity of China's Rural Industry: Growth Rates and Regional Disparity'. Paper presented at the National Conference on Rural Industrialisation in Post-Reform China, Beijing, 19-22 October, 1993.

Ho, Samuel P. S., 1994, *Rural China in Transition.* New York: Oxford University Press.

Levy, Brian, Albert Berry, Motoshige Itoh, Linsu Kim, Jeffrey Nugent, Shujiro Urata, 1994, *Technical and Marketing Support Systems for Successful Small and Medium-Size Enterprises in Four Countries.* Policy Research Working Paper 1400. Washington, DC: The World Bank.

Lin Qingsong, He Jiacheng and Du Haiyan, 1992, 'Rural Industrial Enterprises and the Role of Local Governments: A Chinese case study'. In Derek C. Jones and Jan Svejnar, eds., *Advances in the Economic Analysis of Participatory and Labor-managed Firms: A research annual*, vol. 4, pp. 243-271. Greenwich, CT: JAI Press.

Liu, Alan P., 1992, 'The Wenzhou Model of Development and China's Modernisation'. *Asian Survey*, vol. XXII: 8, pp. 696-711.

Liu Xiaoxuan, Zheng Linghai and Arne Bigsten, 1995, 'Ownership Structure and Technical Efficiency in Chinese Enterprises (1986-1990)'. Mimeo. Gothenburg: Gothenburg University.

Lorange, Peter, 1987, 'Cooperative Strategies: A Challenge in Multinational Management'. In Peter Lorange and Johan Roos, eds., *The Challenge of Cooperative Ventures.* Stockholm: Institute of International Business.

McGuinness, Tony, 1987, 'Markets and Managerial Hierarchies' in Roger Clarke and Tony McGuinness, 1987, eds., *The Economics of the Firm,* , pp. 42-59. Oxford: Blackwell Publishers.

Meng, Xin, 1990, 'The Rural Labour Market'. In Byrd, William A. and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 299-322. Oxford: Oxford University Press.

Mood, Michelle S., 1996, 'The Political Economy of Township and Village Enterprises in Tianjin'. Paper presented at the Pacific Rim Allied Economic Organisations Biennial Conference, Hong Kong, January 10-15, 1996.

Naughton, Barry, 1994, 'Chinese Institutional Innovation and Privatization from Below'. *American Economic Review*, vol. 84:2, pp. 266-270

Naughton, Barry, 1995, *Growing out of the Plan: Chinese Economic Reform 1978-1993.* Cambridge: Cambridge University Press.

Nee, Victor, 1989, 'A Theory of Market Transition: From Redistributive to Markets in State Socialism'. *American Sociological Review*, vol. 54, pp. 663-681.

Nee, Victor, 1992, 'Organizational Dynamics of Market Transition: Hybrid forms, property rights and mixed economy in China'. *Administrative Science Quarterly*, vol. 37, pp. 1-27.

Nee, Victor, 1994, 'The Emergence of a Market Society: Changing Mechanisms of Stratification in China'. Working Papers on Transition From States Socialism No. 94.1 (Apr. 1994). Mario Einaudi Center for International Studies, Cornell University.

Nee, Victor and Frank W. Young, 1990, 'Peasant Entrepreneurs in China's "Second Economy": An institutional analysis'. *Economic Development and Cultural Change*, vol. 39:2, pp. 293-310.

Nee, Victor and Su Sijin, 1990, 'Institutional Change and Economic Growth in China: The view from the villages'. *The Journal of Asian Studies*, vol. 49:1, pp. 3-25.

Niehans, Jürg, 1987, 'Transaction Costs'. In Eatwell, J. Milgate, M. and Newman, P. eds., *The New Palgrave: A Dictionary of Economics*, vol. 4, pp. 676-679. London: Macmillan.

Nolan, Peter and Dong Fureng, eds., 1990, *Market Forces in China*. London: Zed Books.

Nooteboom, Bart, 1992, 'Small Business, Institutions and Economic Systems'. Paper for the EACES conference, Groningen, Sept. 24-27 1992, Groningen University.

Nooteboom, Bart, 1993, 'Firm Size Effects on Transaction Costs'. *Small Business Economics*, vol. 5:4, pp. 283-295.

North, Douglass C., 1990, *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

Ody, Anthony, 1992, *Rural Enterprise Development in China, 1986-1990*. World Bank Discussion Papers, China and Mongolia Department series, No. 162. Washington, DC: The World Bank.

Oi, Jean C., 1992, 'Fiscal Reform and the Economic Foundations of Local State Corporatism in China'. *World Politics*, vol. 45, pp. 99-126.

Ouchi, William G., 1980, 'Market, Bureaucracies and Clans'. *Administrative Science Quarterly*, vol. 25:1, pp. 129-141.

Parris, Kristen, 1993, 'Local Initiative and National Reform: The Wenzhou Model of Development'. *China Quarterly*, no. 134, pp. 242-263.

Pei, Xiaolin, 1994, 'Rural Population, Institutions and China's Economic Transformation'. *The European Journal of Development Research*, vol. 6:1, pp. 175-196.

Pei Xiaolin, 1996, 'Township-village Enterprises, Local Governments and Rural Communities: The Chinese village as a firm during economic transition'. *Economics of Transition*, vol. 4:1, pp. 43-66.

Ramamurthy, Bhargavi and Per Ronnås, 1995, 'Small Industries and Institutional Framework: A Transaction Costs Approach'. Working Paper Series in Economics and Finance No. 83. Stockholm: The Stockholm School of Economics.

Ronnås, Per, 1993a, 'Economic Diversification and Growth in Rural China: The anatomy of a "socialist" success story'. *Journal of Communist Studies*, vol. 9:3, pp. 216-244.

Ronnås, Per, 1993b, 'Township Enterprises in Sichuan and Zhejiang: General Characteristics'. (Studies in International Economics and Geography, Research Report 15) Stockholm: Stockholm School of Economics.

Ronnås, Per, 1993c, 'Township Enterprises in Sichuan and Zhejiang: Establishment and Capital Generation'. (Studies in International Economics and Geography, Research Report 16) Stockholm: Stockholm School of Economics.

Ronnås, Per and Örjan Sjöberg, 1993, 'Township Enterprises: A part of the world or a world apart?'. (Studies in International Economics and Geography, Research Report 14) Stockholm: Stockholm School of Economics.

Rozelle, Scott, 1994a, 'Decision-making in China's Rural Economy: The Linkages Between Village Leaders and Farm Households'. *The China Quarterly*, No. 137, pp, 99-124.

Rozelle, Scott, 1994b, 'Rural Industrialization and Increasing Inequality: Emerging Patterns in China's Reforming Economy'. *Journal of Comparative Economics*, vol. 19:3, pp. 362-391.

Saith, Ashwani, 1995, 'From Collective to Markets: Restructured Agriculture-Industrial Linkages in Rural China: Some Micro-Level Evidence'. *Journal of Peasant Studies*, vol. 22:2, pp. 201-260.

Schultz, Theodore W., 1953, *The Economic Organisation of Agriculture*. New York: McGraw-Hill

Sichuan Tongji Nianjian 1989 (Sichuan Statistical Yearbook 1989). Beijing: Zhongguo Tongji Chubanshe (1989).

Sjöberg, Örjan and Zhang Gang, 1996, 'Soft Budget Constraint: An analysis based on a survey of Chinese township enterprises'. Working Paper Series in Economics and Finance No. 93. Stockholm: Stockholm School of Economics.

Svejnar, Jan, 1990, 'Productive Efficiency and Employment'. In William A. Byrd and Lin Qingsong, eds., *China's Rural Industry: Structure, Development, and Reform*, pp. 243-254. Oxford: Oxford University Press.

Walder, Andrew G., 1994a, 'Corporate Organization and Local Government Property Rights in China'. In Vedat Milor, ed., *Changing Political Economies: Privatization in Post-Communist and Reforming Communist States*, pp. 53-66. Boulder: Lynne Rienner.

Walder, Andrew G., 1994b, 'The Industrial Organisation of Zouping County: Agency and Ownership in Local Public Enterprise'. Paper presented at the Annual Meeting of the Association for Asian Studies, Boston, March 24-27, 1994.

Walder, Andrew G., 1995, 'Local Government as Industrial Firms: An organizational analysis of China's transitional economy'. *American Journal of Sociology*, vol. 101:2, pp. 263-301.

Weitzman, Martin and Xu, Chenggang, 1994, 'Chinese Township Village Enterprises as Vaguely Defined Cooperatives'. *Journal of Comparative Economics*, vol. 18, pp. 121-145.

Whiting, Susan H., 1996, 'Contract Incentives and Market Discipline in China's Rural Industrial Sector'. In John McMillan and Barry Naughton, eds., *Reforming Asian Socialism: The Growth of Market Institutions*, pp. 63-110. Ann Arbor: The University of Michigan Press.

Williamson, Oliver, 1975, *Markets and Hierarchies: Analysis and Anti-trust Implications*. New York: Free Press.

Williamson, Oliver, 1981, *The Economic Institutions of Capitalism*. New York: Free Press.

Williamson, Oliver, 1986, *Economic Organization: Firms, Markets and Policy Control*. Sussex: Wheatsheaf.

Wong, Christine P. W., 1987, 'Between Plan and Market: The role of local sector in post-Mao China'. *Journal of Comparative Economics*, vol. 11, pp. 385-398.

Wong, John, Rong Ma and Mu Yang, eds., 1995, *China's Rural Entrepreneurs: Ten Case Studies*. Singapore: Times Academic Press.

Xiao, Geng, 1991, 'The Economic Role of Chinese Central and Local Government: Challenges and Opportunities from the State and Non-state Industrial Enterprises'. Research Paper Series, Socialist Economies Reform Unit, Country Economics Department. Washington, DC: The World Bank.

Xie, Liping, 1988, 'Shichang Xing Xiangzhen Qiye Moshi' (Market Oriented Approach to the Development of Township Enterprise). In Chen Jiyuan and Xia Defang, eds., *Xiangzhen Qiye Moshi Yanjiu* (*Study of Models of Township Enterprises*), pp. 91-117. Beijing: Zhongguo Shehui Kexue Chubanshe.

Xu, Chenggang, 1995, *A Different Transition Path: Ownership, Performance and Influence of Chinese Rural Industrial Enterprises*. New York and London: Garland.

Yuan Peng, 1994, 'Capital Formation in Rural Enterprises'. In Findlay, Christopher, Andrew Watson, and, Harry X. Wu, eds., *Rural Enterprises in China*, pp. 93-116. Basingstoke: Macmillan.

Zhang, Gang, 1992, 'Provinces and Counties and Township and Village Enterprises: A background study'. Mimeo. Stockholm: Stockholm School of Economics.

Zhang, Gang, 1993, 'Government Intervention vs. Marketization in China's Rural Industries: The role of local governments'. *China Information*, vol. 8:1/2, pp. 45-73.

Zhang, Gang and Per Ronnås, 1994, 'The Capital Structure of Township Enterprises'. (Studies in International Economics and Geography, Research Report 20). Stockholm: Stockholm School of Economics.

Zhang, Gang and Örjan Sjöberg, 1992, 'Institutions and Managerial Strategies in China: A Transaction Costs Approach to the Study of Rural Industries'. (Studies in International Economics and Geography, Research Report 13). Stockholm: Stockholm School of Economics.

Zhejiang Tongji Nianjian 1989 (Zhejiang Statistical Yearbook 1989). Beijing: Zhongguo Tongji Chubanshe. 1989.

Zhongguo Fenxian Nongcun Jingji Tongji Gaiyao 1980-1987 (China Rural Economic Statistical Abstracts by County 1980-1987). Beijing: Tongji Chubanshe. 1989.

Zhongguo Tongji Nianjian 1993 (China Statistical Yearbook 1993). Beijing: Zhongguo Tongji Chubanshe. This reference is referred to as Zhongguo (1993).

Zhongguo Xiangzhen Qiye Nianjian 1989 (China Township Enterprises Yearbook 1989). Beijing: Nuongyie Chubanshe. This reference is referred to as Zhongguo (1989)

Zhongguo Xiangzhen Qiye Tongji Zaiyao 1991 (China Township Enterprises Statistical Abstract 1991). Beijing: Gaige Chubanshe. This reference is referred to as Zhongguo (1991).

Zhou, Kate Xiao and Lynn T. White III, 1995, 'Quiet Politics and Rural Enterprise in Reform China'. *The Journal of Developing Areas*, vol. 29:4, pp. 461-490.

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Andersson, P., Concurrence, Transition and Evolution - Perspectives of Industrial Marketing Change Processes.

Andersson, P., The Emergence and Change of Pharmacia Biotech 1959-1995. The Power of the Slow Flow and the Drama of Great Events.

Asplund, M., Essays in Industrial Economics.

Delmar, F., Entrepreneurial Behavior & Business Performance.

Edlund, L., The Marriage Market: How Do You Compare?

Gunnarsson, J., Three Studies of Financial Behavior. Research Report 1996.

Hedborg, A., Studies of Framing, Judgment and Choice.

Holgersson, C., Höök, P., Ledarutveckling för kvinnor - Uppföljning av en satsning på Volvo - Research Report.

Holmberg, C., Stores and Consumers - Two Perspectives on Food Purchasing.

Håkansson, P., Wahlund, R., Varumärken. Från teori till praktik. Fonden för Handels- och Distrubitionsforskning, Ekonomiska Forskningsinstitutet.

Karlsson, A., The Family Business as an Heirloom. Research Report.

Linghag, S., Man är handelsstudent. Research Report 1996.

Molin, J., Essays on Corporate Finance and Governance.

Mägi, A., The French Food Retailing Industry - A Descriptive Study. The Foundation for Distribution Research.

Mölleryd, B., Så byggdes en världsindustri - Entreprenörskapets betydelse för svensk mobiltelefoni. Research Report.

Nielsen, S., Omkostningskalkulation for avancerede produktionsomgivelser - en sammenligning af stokastiske og deterministiske omkostningskalkulationsmodeller.

Normark, P., Danielsson, L., Larsson, A., Lundblad, P., Kooperativa nyckeltal. Research Report.

Sandin, R., Heterogeneity in Oligopoly: Theories and Tests.

Sandén-Håkansson, U., Från kampanjmål till mediemix - en studie av samarbete mellan annonsörer, reklambyråer och mediebyråer. Research Report.

Stein, J., Söderlund, M., Framgång i arbetet, strategier för att utföra arbetsuppgifterna, arbetsuppgifternas karaktär och utbildningskvalitet. En empirisk studie av civil-ekonomer. Research Report.

Strömberg, P., Thorburn, K., An Empirical Investigation of Swedish Corporations in Liquidation Bankruptcy. Research Report.

Söderlund, M., Och ge oss den nöjda kunden. En studie av kundtillfredsställelse och dess orsaker och effekter. Research Report.

Thodenius, B., Användningen av ledningsinformationssystem i Sverige: Lägesbild 1995.
Ulfsdotter, U., Internationalisering för expansion eller hemmamarknadsförsvar? De nordiska marknaderna för fruktyoghurt 1982-1994.
Westelius, A., A Study of Patterns of Communication in Management Accounting and Control Projects. 1996.
Wijkström, F., Den svenska ideella sektorn och pengarna. Research Report.
Örtendahl, M., Health and Time - A Problem of Discounting.

1997

Berggren, N., Essays in Constitutional Economics.
Nilsson, H.E., Using Conceptual Data Modelling in Management Accounting: A Case Study,
Löthgren, M., Essays on Efficiency and Productivity; Contributions on Bootstrap, DEA and Stochastic Frontier Models.
Åsbrink, S., Nonlinearities and Regime Shifts in Financial Time Series.