Private Sector Industrialization in China:
Evidence from Wenzhou

Paper to be presented at the Workshop on **State, Community and Market in Development**
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ABSTRACT

It is the purpose of this study to help shed light on the entrepreneurship, entrepreneurs and enterprise growth in Wenzhou.   We rely on a probabilistic firm survey that we carried out in Wenzhou in early 2006 for three industries: shoes, eyeglasses and general equipment.   We fielded a formal survey, but we also asked many informal questions in addition, which helps us to enrich our story.   In our survey we focused on getting detailed firm histories to learn about how the firms started and grew. We focused on the origins of the firms, including prior firms that may have been antecedents.   We collected information on whom the founders were, how many, their relationships with each other, and their background in terms of experience and other human capital.   We collected detailed information on how they financed their start, and how they financed their expansion.   We also have detailed information on the sources of technology into the firms, particularly whether it was Chinese or imported and whether the firms were getting technical instructions from foreign firms they may have been exporting to.   We also have detailed information on markets, especially how markets and how export markets were found.   We also collected detailed information about explicit assistance that came from governments, local and/or central.   Finally we also interviewed workers at each firm: managers, skilled workers such as designers, and production workers.   In this paper we survey some the main results.

JEL Codes: O12, O14, O53

1. Introduction

The rapid growth of the Wenzhou economy is very unusual in that it has been based on privatization without tumult within transitional China, even during the planned economy regime before China's industrial economic reforms started in the early 1980s. Since then, the "Wenzhou Model" has become well-known in China.   Wenzhou is famous historically for its entrepreneurs and now its business network all over China and even many parts in the world. Wenzhou is a municipally region which has a city establishment with other 7 counties in southeast Zhejiang province in East Costal China, with total population of 7 million. During the Communist planned economic regime, there had been little building of state owned enterprises (SOEs) or township-village enterprises (TVEs) in the area.   Some scholars claim that local poverty had part to do with this, since TVEs and sometimes SOEs often were financed out of local resources.   Also Wenzhou is just across the straights from Taiwan, and was always a stronghold of the nationalists, and heavily pro-capitalist.

Infrastructure around Wenzhou has been very poor until recent years. The port is poor and is not heavily used; the roads had been poor; in the mid-1980s it apparently took 12 hours to drive to Hangzhou, the capital city of Zhejiang province; now it takes just 4 hours or so. Rail was not heavily built up either until mid-1990s.   So infrastructure development followed, it did not preceed industrialization in Wenzhou.

And yet, beginning in the mid-to late-1980s strong industrial growth occurred in the Wenzhou region in various industries such as clothing, shoes, cigarette lighters, eyeglasses, umbrellas, and many others. Most all of the firms in these industries in Wenzhou were private, even though the private sector was quite small in the early and mid-1980s. This was not as true in other areas of China, where TVEs and SOEs were many times more important than private sector firms. The local government in Wenzhou not only did not mind, they helped in different ways, such as accepted it as fact, and later encouraged it, and finally, building some industrial parks and market place areas in the early 2000s. There was even a very brief time around 1981 during which the local Wenzhou government actually allowed private banks (unheard of in China then), to establish themselves. These banks were short-lived, since when the central government found out; they shut down these private banks. Perhaps an equally important role of government was at the central and provincial levels, in spurring the economic reforms which led to rapid growth throughout China.   This undoubtedly helped drive industrialization in Wenzhou through general equilibrium demand effects.

As a result of this rapid industrial expansion, per capita incomes rose in Wenzhou far faster than the rest of China, despite starting at lower levels in the late 1970s.   According to data in Sonobe et al. (2004), today mean incomes in Wenzhou are more than double the rest of China.   There are reports these days of Wenzhou entrepreneurs now going outside of Wenzhou and starting buy out SOEs and TVEs in other provinces.

Much of the early industrial products in Wenzhou got the reputation, within China, for being very low quality, but also very low price. Some of this may have been due to the central government trying to discourage private enterprises during the early stage, but some was

undoubtedly real. Shoes apparently would fall apart with only some wear, and so forth. However, as Sonobe et al. (2004) show, and we provide corroborating evidence, firms in Wenzhou successfully began to climb the quality ladder during the 1990s.

Today Wenzhou is the center of private sector activity in China and is the center of much of the exports going to the US and Europe. About 10% of all clothing production in China (for export or not) occurs in the Wenzhou area, for shoes it is 25%, for eyeglasses and cigarette lighters, over 50%.   Hence Wenzhou is a very important area to study industrialization in China.   We note, however, that the industrialization in Wenzhou is not representative of other provinces in China.   It is based to date on low tech, labor-intensive industries and the private sector, particularly family firms. Indeed the Wenzhou experience is quite different from the industrialization in other parts of Zhejiang province, where former TVEs, and other government assistance was arguable more important, especially in the early stages.

It is the purpose of this study to help shed light on the entrepreneurship, entrepreneurs and enterprise growth in Wenzhou.   We rely on a probabilistic firm survey that we carried out in Wenzhou in early 2006 for three industries: shoes, eyeglasses and general equipment.   We fielded a formal survey, but we also asked many informal questions in addition, which helps us to enrich our story.   In our survey we focused on getting detailed firm histories to learn about how the firms started and grew. We focused on the origins of the firms, including prior firms that may have been antecedents.   We collected information on whom the founders were, how many, their relationships with each other, and their background in terms of experience and other human capital.   We collected detailed information on how they financed their start, and how they financed their expansion.   We also have detailed information on the sources of technology into the firms, particularly whether it was Chinese or imported and whether the firms were getting technical instructions from foreign firms they may have been exporting to.   We also have detailed information on markets, especially how markets and how export markets were found.   We also collected detailed information about explicit assistance that came from governments, local and/or central.   Finally we also interviewed workers at each firm: managers, skilled workers such as designers, and production workers.   We got information on the human capital background of the workers; how workers got their jobs, distinguishing between market mechanisms and networks; whether they had formal contracts and for how long; whether they continued to come back to the same firm year after year; and detailed information on wages and fringe benefits, such as free housing.   In this paper we survey some the main results.

Virtually all of the initial Wenzhou entrepreneurs are private sector.   Most of the firms are family-based, but some have partnerships.   All start with only a handful of workers, less than 10 almost always and manytimes even less.   However the successful ones have grown into very large-scale firms.   All were initially funded by their own family resources or money put up by shareholders. Government banks simply did not lend to small-scale private enterprises during this period.   During expansion, re-invested profits contributed almost half of the finance.

Most of the initial Wenzhou entrepreneurs (founders) typically used very simple, labor

intensive technologies, mostly locally made. This was arguably induced by a high population to land ratio, made much larger due to large-scale immigration of production workers from rural areas in other provinces, plus a lack of land caused by mountainous conditions surrounding Wenzhou. In many instances, firms were technology innovators, relying on learning by doing, often taking apart the machines and learning how to improve them on the factory floor.

Firms are sometimes arrayed in clusters, indeed there are hundreds of firms in the same industry located close by, a real sense of Adam Smith in action.   Local special economic zones were set up by the local government, and it is true that firms in these zones are somewhat more likely to export, but there is still plenty of export amongst firms outside these areas.   One way in which clusters may have helped is in market discovery.

Production labor is imported from rural areas in other provinces.   This was enabled by central government reforms on migration, beginning in the mid-1980s.   We find that about half the workers find work through formal advertisements and about half through informal networks of friends. The workers come for many years in succession to the same firms. About half have formal contracts, which saves costs for the firms.   Wages are far, far higher than in the rural labor markets from which the workers originate.   There is a real sense of surplus labor at work here.

Finally, the firm founders will insist that government played no direct role during their firm's growth.   Partly this may be boasting, but we found very little evidence of direct government help.   A hands-off approach may have been the most important local government role in Wenzhou, especially during the early era of the 80s and early 90s.   Partly this hands-off approach was decreed by a State Council directive from the mid-1980s, so by an act of the central government.   On the other hand, the critical role of the different levels of government in carrying through the economic reforms which in turn led to the rapid growth of the national economy was undoubtedly of critical importance to the growth in Wenzhou.

The structure of the remaining paper is as follows: in Section 2 we review the literature on the Wenzhou model, in Section 3, the survey is discussed in detail, and then the results are presented in Section 4. In Section 5 we have a discussion of these results and how they fit into the literature and in particular into Professor Hayami's schema of industrialization. Finally we conclude in Section 6.

2．The "Wenzhou Model"

2.1 The changes in Wenzhou

Wenzhou is very unusual within China.   It is famous historically for its entrepreneurs.   During the Communist regime, there has been little building of state owned enterprises (SOEs) or township-village enterprises (TVEs) in the area.   Indeed if anything Wenzhou was discriminated against under Mao because Zhejiang Province was the home province of Chiang Kai-shek (Liu, 1992).   Infrastructure around Wenzhou has been poor until recent years, including in particular

transportation.   And yet, beginning in the mid-to late-1980s strong industrial growth occurred in the Wenzhou region.   Most all of the firms in these industries were private sector and most of those small and medium enterprises (SMEs), though some of these firms have grown into large ones.   As a result of this rapid industrial expansion, per capita incomes rose in Wenzhou far faster than the rest of China, despite starting at lower levels in the late 1970s.   Today Wenzhou is the center of private sector activity in China and is the center of much of the exports going to the US and Europe.   Hence Wenzhou is a very important area to study industrialization in China.

Products in Wenzhou in the early stages of industrialization were lower-end technology products and lower-quality.   Imitation was prevalent among small firms.   The firms producing the same goods were clustered in a small area.   Lenders were always borrowers' friends, relatives, neighbors, or other shareholders.   Lenders had good understanding about the borrowers. Therefore monitoring costs were less and thus moral hazard problems reduced.   Further, as for entrepreneurs in Wenzhou, they had extraordinary motivation to work hard out of the instinct of survival, given the large number of firms there that existed.

With firm growth a number of characteristics began to change.   First, entrepreneurial ability arguably may have increased with the accumulation of experience.   After starting up the firm, entrepreneurs began to accumulate experiences of firm management and how to expand the product market. Also, as the central government took more favorable attitudes toward the private entrepreneurs, many entrepreneurs become more ambitious and wanted to enlarge their investment scale.

The technological level adopted by enterprises began to increase.   Although low-quality products have their advantages at the startup stage of firm growth, they also brought a bad reputation to Wenzhou enterprises.   Thus, in the new stage of firm growth, many firms began to climb the quality ladder as documented by Sonobe, Hu and Otsuka (2004) for one industry: low-voltage electronics. This was aided by learning by doing, as well as new and better sources of inputs (including labor) becoming available.

Although at an early stage of firm growth, employees in small firms were always entrepreneurs themselves, as the firms grew, more skilled workers became necessary. Firms had to hire skilled workers, which for shoe manufacturers included shoe designers, for general equipment firms possibly engineers, and so forth.   Plus managerial techniques improve over time, although in this regard we have not found that our firms have made much investment to date, though that is likely to change.

The growth of these private small and medium scale enterprises (SMEs) and of the regional economy has been characterized as "Wenzhou Model".   The Wenzhou Model has attracted researchers' attention, particularly in the early 1990s, but now again sine 2000. Liu (1992) has a very nice review of the early history of the Wenzhou industrialization.   Historically people around Wenzhou were farmers in specialty crops (tea, fruit, sugar cane) for commercial sale, which agents from Wenzhou went throughout China selling.   Collectivization went against the grain of Wenzhou area farmers and there was some resistance.   Liu (1992), as well as many other observers argue that the population in Wenzhou adapted their traditional institutions to

5

modern conditions.   What was especially important it is claimed, was initiative (particularly entrepreneurship) , mobility and markets.   The rapid growth of household industries is a manifestation of the first factor, initiative.   The sales of new products relied heavily, it is claimed, on Wenzhou migrants in other parts of China helping to discover markets, ie. mobility.   Within the Wenzhou area, market towns developed, sometimes each specializing in a different good. As early as 1986, according to Liu, Wenzhou received special status as an "experimental zone" from the State Council in Beijing.   In part Wenzhou was like other low income areas of China that were receiving similar permission to experiment in order to improve economic outcomes. Wenzhou also received support from the regional level from the Shanghai party establishment.

Many others have described the transition in Wenzhou, including Nolan and Dong (1990), Pariss (1993), Wang (1996), Zhang (1999), Ma (1999), Shi and Zhu (2002), among others.   Some discuss the natural endowment constraints and argue the lack of natural endowment forced Wenzhou people to seek economic opportunities outside.   Shi and Qian (2005) claim that the rural household responsibility system provided necessary conditions for emancipating labor from agricultural production in neighboring provinces, essentially allowing surplus labor to operate. Zhuo (2004) analyzes the geographic, climatic and historical conditions peculiar to Wenzhou, and states that the conditions of very limited endowments, particularly of land, imposed a heavy population pressure on Wenzhou, which has a much higher density than other places in Zhejiang Province, thus encouraging its special regional culture and entrepreneurship, inducing entrepreneurs from Wenzhou to migrate out, which eventually arguably helped in market discovery and no doubt in other ways as well.   Chen and Lin (2003) emphasize this last point, stressing the importance of the emergence of a large number of entrepreneurs in Wenzhou who had good knowledge about markets in China from their previous experiences from migrating outside of Wenzhou.

Although the existing literature analyzes the role of different factors on the establishment and growth of Wenzhou enterprises, there are rather few studies that are based on reliable statistical data, from probabilistic surveys. Examples that do so include Sonobe, Hu and Otsuka (2004), Sonobe and Otsuka (2006) and Ruan and Zhang (2008).   Sonobe, Hu and Otsuka (2004) look at firms that manufacture low-voltage electronic products in the Wenzhou area, emphasizing that these firms started by imitating easy to replicate technologies.   Later marketing expertise became important to expand sales and these firms at the same time learned and became more technologically sophisticated.   Sonobe and Otsuka (2006) focus on the roles of firm clustering in firm growth.   Ruan and Zhang (2008) examine firms in a cluster of cashmere sweaters, focusing on the initial financing of the firms and how clustering apparently aided this because firms could specialize in producing only certain parts of the whole sweater, lowering initial capital requirements.   However, in Puyuan Township in northern Zhejiang Province, the conditions are a bit different from those in Wenzhou and the "Wenzhou" model does not exactly apply. In addition, we study firms who are involved in the entire manufacturing process for their industries, not parts suppliers.   Our study is also broader in coverage than the Sonobe-Otsuka   and Ruan-Zhang studies, which are much more focused, particularly on firms climbing the technological ladder or the mechanisms through with clustering of firms plays important roles.

2.2 China's economic reforms and the transition to a market economy-implications for Wenzhou firms

Since China's reform and opening, the economic system of China has undergone significant changes. The older centrally planned price system eventually broke down; SOEs have been

reformed some and have more right to make their own decisions; foreign capital swarmed into China and many new technologies were imported. Both domestic and overseas markets were greatly expanded and became more competitive. Entrepreneurs in Wenzhou began to face new challenges and opportunities.

Since the reforms, China has begun to relax the government regulation of the price system, particularly for those goods produced by SOEs. The Government no longer makes administrative orders to set prices, in contrast to the planned economy period. The intermediate and final market goods markets have become open and competitive. Thus, due to competition of the intermediate goods market, the prices of intermediate goods faced by small firms have declined since the centrally planned period, but firms also are facing increasing price pressure for their outputs.

Perhaps the key impacts of the economic reforms on Wenzhou industrialization have been the rapid growth of the Chinese economy, thus providing an ever larger domestic market, plus the liberalization of migration, which has allowed a constant and very large flow of labor into Wenzhou, which has to be keeping wages of production workers lower than they might have been.

3. Data and sampling design

This study has its origins in a visit made by the authors to Wenzhou in the summer of 2005. We visited several firms in the clothing, eyeglass, motorcycle, and ship-building industries. We did not have formal questionnaires at this point, but spent one to two hours typically at each firm discussing firm origins and growth and touring factory floors. We had a former student of Qian with us, who had very good family connections with the firms we initially visited. During these visits the basic patterns emerged that we ultimately found in our formal survey. The problem with our initial results was that the firms we visited were not random. Consequently we decided to do a formal, probabilistic survey. In the fall of 2005 and the early winter of 2006 we wrote up our questionnaires and pretested them, in Wenzhou. We then conducted the survey proper later in 2006.

First, we choose 72 firms, 24 each from 3 popular industries in Wenzhou: general equipment, eyeglasses and shoemaking. We decided to do our fieldwork in three areas of Wenzhou: Lucheng, Ruian and Ouhai; which represented two areas of urban Wenzhou (Lucheng being downtown), plus a rural area (Ouhai). For each industry we sampled in two of the three areas (the top two areas for firms in each industry) choosing 12 firms in each region, for each industry.

The sampling frame was obtained from a complete census of firms in each of these 3 areas, by industry gotten from the county statistical bureau. This census included household and family enterprises as well as medium and large-scale firms. Information was supplied on names of the firms, addresses, sales and revenue estimates and number of employees as of December 2004. For each of the 3 areas and 3 industry combinations, we ranked firms by sales and sampled a first firm randomly from the smallest x firms, where x was chosen in

order to be able to sample 12 firms from each area (see Appendix Table 1). We then sampled every xth firm by size. In this way we were able to get a sample of firms across the firm size distribution.

The survey had several phases. The questionnaires were designed in the fall of 2005 and then tested by a pre-survey interview visit of 10 firms in Wenzhou, before December 2005. We then conducted a formal pretest in December. The formal survey was followed by 2 weeks of training in February 2006. For the survey, we used 3 groups of 4-5 students, each with a professor with the help of local people, including from the local county statistical bureau, who helped us make initial contact with the firms. We returned to the firms in April for 1 week to complete parts of the questionnaire that were incomplete for 15 firms. We also made phone calls to firms for clarifying information and data. All data collected were entered electronically using CSPro.

Table 1 shows average sales and employment in December 2004 of the sampled 72 firms and Figures 1a and 1b show the employment size distribution of the sample. Note that there is one firm that is much larger than the others, over 3,000 employees as of December 2004. This is a shoe firm that turns out to be one of the largest shoe manufacturing firms in China. We discuss this firm in detail below, as it is an outlier in many dimensions of our results. Dropping this firm (Figure 1b) we can see that only 5 of our other firms have more than 300 employees, while 56 firms have 100 employees or less. So the firm distribution in these three industries in Wenzhou is skewed towards small and medium firms, as is the case in much of the developing world.

As is usual in surveys, we were not able to find and complete surveys for all of the 72 firms. Two firms outright refused to see us, 8 had gone out of business, which we found out when we went to the December 2004 address, and 7 others had apparently moved, but we could not find out where. Table 2 shows the completion rates, by industry and total. As can be seen, we were able to contact 55 out of the 72 sampled firms. This of course raises a selection issue, but this is part of a deeper selection issue, that over the years many firms have no doubt entered and exited these 3 industries in these 3 areas, and so the sample of firms that existed in December of 2004 will not be representative of the firms that have existed over this period. The kind of sample that would be ideal for this study is to have sampled entrants for each year from the mid-1980s until now and to have followed the sampled firms over time. That sampling design would have picked up both new entrants and failures. What we have is a random sample of firms that existed in December of 2004, which will be biased towards successful firms, particularly the older the firm is.

But our 55 firms is not even a random sample of the existing firms from December 2004, because of the closures and moved firms from December 2004 until Feb/March 2006. We have attempted to address the later source of selection, while recognizing that there is the broader selection of successful firms that we still have. What we do is to include all 72 firms in a simple logit regression where the dependent variable is a binary variable equal to one if the firm was contacted. The covariates are dummy variables for tercile of firm size, where the largest tercile is dropped, and dummies for industry and for area. The results are in

Appendix Table 2.   Compared to being located in Ouhai, being in Ruian makes it somewhat more likely that we were able to contact the firm.   Being in general equipment makes it less likely compared to shoes, that the firm is contacted.   Most important from the point of view of potential selection bias is the positive relationship between firm size and being contacted. This is not surprising, larger firms are more likely to be successful and therefore to still be in business.

Because of the selection results, all of our statistics that we report hereafter are weighted. In fact there are two steps for the weighting, first is a simple sample weight that takes care of the fact that the sampling proportions are different for each industry/location strata.   For this we use the ratio of the population fraction to the sample fraction of firms by industry located in each of the three areas. We use our sample frame as our estimate of the population, since it is supposed to be a census of all manufacturing firms, no matter the size.   The second step is to use inverse probability weighting using the inverse of the predicted probabilities from the logit regression (see Wooldridge, 2002, for a justification).   We truncate the inverse probabilities at the 90th percentile and multiply that by the sampling weight described above to arrive at the final sample weights.   We use these for all of the firm analyses, but not for the labor.   While we argue that this does address the selection from December 2004 to February 2006, it does not address selection from prior years of exit and entry.

From Table 1 we see that on average, enterprises in Lucheng (downtown Wenzhou) are larger than in other areas, and in Ouhai (the rural area) are smallest.

4.   Empirical Results
4.1. Characteristics of Entrepreneurs

Who are the entrepreneurs who founded these firms? What is their background? Table 3A shows the year of firm founding.   Some 85% of these firms were founded after 1990. When we examine founding dates by type of ownership of firms (Table 3B), we find that almost all of the firms started out as private sector, and all are so today. Four firms started as collective, or red hat firms (former township village enterprises, TVEs), but in fact these firms were really private but used as a cover that they had been TVEs.   All of these four were founded before 1985.   Over half of our firms are purely family business, while 38% had partners or shareholders outside of the immediate family.

Table 4A shows that Wenzhou entrepreneurs, generally speaking, started the firm by themselves, or with a very small number of co-owners. Some 85% of firms had 3 or fewer founders, with 43% having only 1.   Shoe firms are especially likely to have only one founder. The other founders are most likely to be close relatives of the chief founder (usually the spouse or brother), followed by other relatives and friends (Table 4B).

The chief founders tend to be young at the time of founding, a mean of 35 years (Table 5A). Interestingly, in our sample, the age of the chief founders is younger the larger the firm size at founding.   Unfortunately we did not collect schooling completed at the time of founding, but only at the time of our survey.   This may overstate schooling at the time of founding because

some entrepreneurs went back and received honorary degrees. At the time of the survey, Table 5B indicates the schooling of the chief founders. About equal numbers have junior high school and senior high school schooling. A small number have only primary schooling, and an equally small number have some college. So clearly the level of schooling of these entrepreneurs was not especially large. Over 90% of founders were not Communist Party members at the time of founding. For large firms the fraction of Party members is somewhat higher, 17% (Table 5C).[1]

In terms of experience, 90% had some experience farming, but 22% had some sales and marketing experience (possibly in addition to farming) (Table 5D). Over half the chief founders had been apprentices, but virtually no one had worked for the government, including SOEs.

It is instructive to recount some actual firm histories at this point to get better sense of what happened over this period. We begin with the story of the largest firm in our sample, a very prominent shoemaking firm. The company was established in 1980. The founder was about 30 years old at the time and had a lot of difficulty in paying the basic living expenses of his family, especially because he had to take care of his brothers and sisters in addition to his own family. At the time, he was working at a machinery factory and the company produced different machinery, some of which could have been used in shoe industries also. He had a friend at the time who suggested him to make and sell shoes in order to be able to earn more money.

Motivated by this idea, he made a small, poorly equipped workshop in the basement of his house and started making shoes using his brothers and two hired workers. He borrowed 500 RMB to from his neighbor to start the business. During those years, he encountered many difficulties in maintaining the business. He did everything he could to earn enough money to finance the investments and growth of the company, such as selling fruits on the streets.

Despite this arduous process, he was capable of managing the business growth process. The small under-equipped workshop became bigger and better every year. In 1985, when the government announced that private enterprise was considered legal (as a result of the State Council ruling), he rushed that same day to the government registration office to register his business.

The small workshop became a medium size workshop with about 50 workers in late 80s. The firm at this point revolutionized its product design and quality. At the time, Wenzhou shoes were regarded as very low quality within China. Although the company's products were not of low quality, the perception of people was one of obstacles along the way. In 1987, the Zhejiang local government organized a large-scale burning of shoes made in Wenzhou in a major public square in the city of Hangzhou, the capital of Zhejiang Province. In the wake of this disasterous event for the Wenzhou shoe industry our owner traveled to Guangzhou, Shanghai and Italy to learn more about the shoemaking business.

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[1] The size of firm gradient may be a result of founders joining the party later, after their success. Our question was intended to elicit party membership at the time of founding, but there may have been some deviations in answers from intent.

In 1989, the owner set up a new company aimed to produce shoes with "quality and credibility". He set up the first mechanized stringing assembly line in Wenzhou and invested 1.2 million RMB on technological improvements such as Computer Aided Design (CAD) software. He tried to pursue a brand name associated with "first class quality, style and first class service". This completely distinguished this company from the competitors in Wenzhou, who were still focused on low-quality, low-priced lines of shoes. In 1993, the company introduced a production line bought from Taiwan and became one of the top 10 brands in China. In 1996, another production line was imported from Italy. In the same year, the company completed a project to computerize key parts of production lines and also the shoe design processes. Currently, the firm dominates the high and middle end markets of shoes in China. It has more than 2,500 chain stores within China and 120 stores in over 10 countries, including the US and Europe. It has won many prizes, and awards. It is key to understand the completely different direction that the firm took after 1989. This was an enormous risk that the owner undertook.

A somewhat different example is a large clothing firm that we visited in the summer of 2005. This firm which had 1,200 employees at the time we visited them started out twenty years earlier with just the firm owner. He was in his early 20s at that time and was an apprentice sewer for another small company. He decided to form his own company and hired 1 or 2 other workers to sew with him, using his own savings plus resources from his family. Business was slow and he decided that he needed to learn design to be successful, so he stopped his business for 3-4 years and put himself through design school, in China. After learning some design, he re-started his business with 3-4 workers, and it began to grow rapidly. He now employs a large group of designers, some 24, working under his tutelage. He travels to Europe twice a year to look for new design ideas, but the firm does all its design by itself. Foreign, importing firms come to the plant and choose from the existing designs that the company will then export. The owner worries about how to keep costs down, but also about needing to pay sufficiently high wages to keep his designers. At the time we visited him, he had contracted with a managerial consulting company in Hong Kong to introduce modern management techniques that would help cut costs. No firm in our sample seemed to be doing anything like this.

A third example comes from the general equipment industry in our sample. The firm that we visited was like a general contractor. A customer comes to them and gives them orders, i.e. the blue-plan of the product to be produced. In return the company agrees to supply the orders with low prices. If the customer agrees, the firm will sub-contract the order to production shops.

This firm was a family business. The founder, the head of the family, who was the father, used to be a salesman of plastic machinery. Being acquainted with the industry, he saw the opportunity of an intermediary firm that could connect customers with firms that make quality products and low prices. He borrowed money from his relatives and started his own company based on this idea, in 1989. At the beginning, the company was specialized in plastic products, though later went into metal products. Their main competitive advantage was the network they built inside the industry, both with customers it was selling to and with product suppliers that could provide better price/quality combinations. There were repeated relationships of this intermediary firm, both with buyers and supplier firms. Now this firm is starting to get into actual production.

4.2. The financing the firm at founding and during growth

Equity financing, i.e. the shareholder's investment, is the major source of financing for firm startup in our sample, with 74% of firms saying that they used that form of financing (Table 6A). This is followed by resources from the family (38% of firms) and banks (11%). Rural credit unions are not an important source of initial lending in our sample.

During the firm's early growth stage the financing sources are different than for startup. In particular reinvestment out of profits becomes important, as shown in Table 6B. Funds from shareholders still dominates, providing 48% of new investment, but retained earnings supplies about 36% of investment. Family and friends, and banks are much less important, but still not zero. There are differences between small and large firms, with shareholder financing being appreciably larger for small firms and retained earnings more important for small firms.

Tables 7A and B indicate that firms believe that formal sector banks are quite difficult for them to borrow from, while family and friends is a much easier source. This helps explain why shareholders are the major source of funds at startup (note that it is virtually impossible in our data to distinguish resources from individual shareholders and from their families).

The major reason for shareholders, families and friends being the major source of financing at the birth of these firms is that formal sector banks were simply not available to these private sector firms, at least at the start of the Wenzhou industrialization process. But there exists a second important reason as well, which is that firms can generally start extremely small, as our shoe and clothing firm case examples exemplify. Indeed there is an old literature on microenterprises, that demonstrates that the assets that are used to start new microenterises are very small and well within reach of many households (see for example Kilby (1971), Kilby and Liedholm (1990), Liedholm and Mead (1987, 1999), plus many of their students).

Generally it is possible to start at a very small scale and then grow. For instance we found a shipbuilding firm in a rural town in the Wenzhou area that began very small, making small wood boats initially and grew in size, making larger and larger ships, later with steel, as it matured. The initial financing came through a rather unique scheme of selling shares in the firm to all of the local villagers who wanted them. That proved to be enough to raise the necessary startup capital.

A different example is provided by a motorcycle firm that we visited in Wenzhou. This firm had neither the resources nor the technological expertise to make motorcycles when it started. Instead it began by making metal casings of the exhaust pipes; not the entire exhaust pipes, which are complicated, but just the outer metal casing. After a few years of that experience they went into manufacturing the entire exhaust pipe. To understand the technologies that they would have to master, they hired a Chinese engineering firm as consultants. After more time, they began to manufacture the motorcycle pistons, again hiring a Chinese engineering firm to help them get started. Finally they went into the manufacturing of the entire motorcycle. At this point they were hiring their own engineers, and at the time we visited them they were

spending about 7.5% of sales on research and development.   They were quite open that they were manufacturing a low-quality, but also low price vehicle.   So while they did export some to Europe, it was not much, most of their exports were to Asian countries like Vietnam.   So this firm started by manufacturing a low tech part for motorcycles and on a small scale, climbing the technological ladder and expanding the scale greatly over a period of years.

4.3. Technology Selection and Innovation

There were many reasons why Wenzhou enterprises adopted low levels of technology during the early stages of enterprise growth. First, at the beginning of the economic reforms, the prices of many major production factors such natural resources and high skilled workers were regulated by the government in China and were kept at a high level.   There also existed dual price systems: the government set a relatively low price of production factors for the in-system SOEs in order to protect their profits.   For out of the system firms such as private firms in Wenzhou, it was very difficult to gain the necessary production factors, even if possible, the price was much higher than the in-system price. This made it difficult for Wenzhou enterprises to produce the same products as SOEs, or adopt similar advanced technologies as SOEs. On the other hand, because the development of the old planned economy was so imbalanced, many consumer goods were in short supply. As a result, the entrepreneurs had easy access to those unregulated but profitable small commodity markets.   As a result, goods produced by small private firms tended to be low-end products and the technologies were traditional and non-exclusive which means the technologies were obtained either from imitating advanced technologies or from self-innovation. Finally, the initial wealth of new entrepreneurs was too small to purchase large and expensive equipment, especially given the state of the credit markets.

Although low-quality products have their advantages at the startup stage of firm growth, they also brought a bad reputation to Wenzhou enterprises. Thus, in the later stage of firm growth, many firms began to climb the quality ladder and therefore require improving the technological level adopted by firms (Sonobe et al. 2004).

We began by asking the firm leaders to characterize the sophistication of the technologies that they were using at the start of the firm.   We divided technologies into ordinary technologies, ordinary plus some self-innovation, intermediate level technologies and advanced technologies.   As can be seen in Table 8A, only 10% or firms say that they were using advanced technologies, and the others are split between intermediate and ordinary technologies.   Of course what the meaning is of these terms is certainly in doubt, so that one well might want to focus on other dimensions.

As one example, the eyeglass firms in Wenzhou generally make the plastic frames.   They do not in general make prescription lenses, which is a much more complicated technology. They do make sunglass lenses, though, which is a much easier technology to master. Indeed much of the output of the eyeglass industry in Wenzhou is largely sunglasses, though they do purchase prescription lenses from suppliers in northern China and insert them into the frames that they make.

We asked if the equipment were domestically made or imported.   Tables 8B and C demonstrate that most of the firms use domestic equipment (82%) and the estimate of the percent of content of machines that are imported is only 23%.   In this regard the large shoemaking firm in our sample is quite different, not at the time of founding, but starting nine years later.   Over time about 1/3 of the firms say that they made improvements to the technologies they use (Table 8D).

In light of the literature on technology acquisition in East Asia (see for example,   Evenson and Ranis, 1990; Pack and Westphal, 1986; Westphal et al., 1985), it is instructive to examine whether these firms received assistance from abroad in the use of their machines. The answer is generally no, although again, our large shoe-making firm is an exception.   As Table 8E indicates, learning from doing is the most important way in which these early technologies was mastered, and that without assistance from outside.   Some of our firms did receive instructions from the equipment providers, which were mostly Chinese, and some by borrowing technicians from State-Owned Enterprises.

In Table 8F we investigate who is responsible for quality control.   For nearly 80% the firms claim that they learn by themselves.   Generally the firms train workers to engage in this task. Some 20% say that clients have some control over the firms learning about quality control (our categories are not mutually exclusive).   This latter is one model that one might have expected on the basis of the description of technology acquisition in South Korea in the late 1960s, as described by Westphal et al. (1985), so it is interesting that in Wenzhou, it was left much more to local firms to fend for themselves.

As one instructive example of technology acquisition, one of our eyeglass firms was one of the early eyeglass firms in Wenzhou.   It now is a large firm of over 1,000 employees and sells both domestically and internationally.   Among its largest customers is Walmart, with whom it has a contract for sunglasses.   When this firm started, the owners were looking for a machine that would make the plastic eyeglass frames.   This firm found such a machine, an old Chinese machine that had been discarded by an older company.   The machine was not very usable, but technicians at the firm took it apart and put it back together, and in doing so discovered how to improve upon machine construction.   This firm began making its own machines because there were no local suppliers and because it had through reverse engineering, bettered the quality of the machine.   So the firm became vertically integrated at this point.   In later years many other firms entered the eyeglass industry in Wenzhou and as that occurred, a supply industry of machine makers developed.   Now this firm contracts out to another supplier firm in Wenzhou, to make its eyeglass frame machines to its specifications.   So here is a case in which the clustering of firms later induced machine supplier firms to develop.   These machines were all locally made, no import of machines or inputs was undertaken.

On the other hand there are some important exceptions, the principal one in our sample being the large shoe manufacturing firm, which in a later phase of development, began to import its machines from abroad.   Indeed its owner chose to import machines that are very capital intensive, unlike the rest of the industry.

4.4. The Market Discovery and Competition

4.4.1 Competition

There is fierce competition in these low technology industries in China and in Wenzhou.   Table 9A shows that firms report there being over 1,000 firms in the same industry in and around Wenzhou; see also Table 1, which shows the number of firms by industry/location in the Statistics Bureau manufacturing census. Comparing Table 1 with 9A indicates that there is likely some exaggeration in 9A, perhaps most in the eyeglass industry, but overall the claims of the existence of many competitor firms seem mostly on target.   As Table 9B demonstrates, the firms are located close by, generally within 1 km for the closest firm of the same type.

The major types of competition are both in terms of price and quality, as shown in Table 10.   In shoemaking and eyeglasses, both are claimed to be important, while in general equipment it is more in quality.   When ranking the quality of the goods that they make with national and international standards, half of the firms think that the quality of their goods ranks with the average national quality, but there is a distribution around that point (Table 11A).   In shoes and eyeglasses roughly 2/3 of the firms believe that their products are lower quality, but lower price compared to national Chinese products (Table 11B).   However, over 1/3 believe that they make higher quality and lower price products than the national average.   Only about 15% of firms believe that they manufacture higher quality, higher price goods, and those forms are almost all in general equipment.

4.4.2 Markets and market discovery

Remember that 22% of founders said that they have some sales experience prior to founding their firms.   While we cannot say based on our survey, the sense that prior analysts have had that the prior migratory experiences of Wenzhou entrepreneurs before the 1990s helped create clusters of Wenzhou people all over China and thus greatly helped in market discovery may well be true.   One part of market discovery that we can shed light on from our data concerns export markets.   We see from Table 12A that about half of the firms export as of our survey, but the distribution is very different across industries, over 80% of eyeglass firms, 50% of shoe firms, but only 11% of general equipment firms. The latter is probably due to the fact that these firms are supplying inputs to other firms in the region.   Exporting also is monotonic in firm size, across these three industries.   In terms of the estimated percentage of sales that gets exported, almost no general equipment is exported, just under 30% of shoe sales and almost 80% of eyeglass sales.   Again this is monotonic in size of the firm.   In terms of other sales destinations, it is other provinces within China that are the next most important destination, followed by local sales (Table 12B).

One aspect of government assistance that could have helped in exporting was the establishment of "economic free zones".   These are small tracts of land within Wenzhou where the government allows firms to locate and they receive certain advantages if they do.   Tables

12C and D show that firms locating in the economic free zones do tend to be more likely to export, and they export a higher fraction of their sales.   We need to be careful here not to attribute causality to the export free zones; it just as well could be that more profitable firms locate there and they are more likely to be exporting.   However, note that the firms outside of these zones are also highly likely to export.

The other important consideration is how these firms learn about exporting possibilities.   Table 13 sheds light on this.   Nearly 80% of exporting firms in our sample do so through the Foreign Trade Company, which is a national governmental organization that matches Chinese firms with exporters.   This is especially likely to be important for new exporters.   One pattern in our data, though a bit weak, is that larger sized firms are more likely to have direct export connections, and so not have to export through the Foreign Trade Company.

Although local transport conditions were thought by us to have been very poor during the period of Wenzhou industrialization, when we asked about transportation difficulties, or slow shipments from suppliers or to markets, we were universally told that this was not a problem.

4.5. Labor inputs, Human Capital Accumulation and Incentives

As part of the firm survey, we "sampled" three types of workers at the firms: managers, skilled workers such as designers or engineers, and production workers.   The sample was purposive, since we were not allowed to access worker lists to sample from.   At each firm we tried to interview 2 managers, 3 skilled workers and 3 production workers.   We went to cafeterias at each firm during lunch time and spoke to workers there.   While there were sometimes firm representatives present, we asked supervisors to let us interview the workers alone and generally once they saw one or two interviews, they let us do so.

In this section, we start out comparing simple human capital background characteristics of the three types of workers we interviewed.   We then discuss how they found the job they have now, how many years they have been working at the firm, whether they are from the Wenzhou area, and if not where they are from, whether they brought their family members with them. whether they have formal contracts, for how long, and the terms of the contracts, including current monthly salary, year end bonuses, and fringe benefits.

Our sample is largely male, though for production workers we interviewed 30% women (Table 14A).   Note that we do not want to argue that these proportions hold for the entire workforce, indeed at least for production workers these proportions are likely low.   Average age is about 30 years (Table 14B), somewhat higher for the interviewed managers.   Two-thirds of the production and skilled workers interviewed have junior high school or less education (Table 14C). For managers this fraction is only one-third.   Under 5% of production workers claim to be Communist Party members (Table 14D), 10% of skilled workers, while 20% of managers say they are.

In terms of finding their current job, our main question was how much were market mechanisms

such as newpaper ads, used and how much were informal networks, such as information from friends, used.   For managers, 31% used friends and about 20% used ads (Table 15).   Another 10% say that the firm found them, which could be through informal or formal contacts.   Some 56% of the managers we interviewed say that they have no relationship with the chief founder, and another 12% say they are friends (Table 16A).   Fifteen percent say they are close relatives, and another 9% say they are distant relatives.   So roughly 40% of the managers we interviewed were either relatives or friends of the chief founder (the remaining 5% are the chief manager themselves, as respondents).   Indeed, half of the managers we interviewed say that members of their close family or more distant relatives worked in the same firm (Table 16B).   So it is the case that these are family enterprises, presumably using family members as managers helps to solve the moral hazard problem of managers shirking and not necessary representing the family interests, though possibly at the expense of using less qualified managers.   Reflecting the proximity of family members, 24% of the managers are actually from Wenzhou and only 30% come from outside Zhejiang Province (Table 17).   However, for those managers who migrated to come to their work, only half brought their families with them (Table 18C).

For skilled and production workers, the situation is a little different.   A higher fraction of these workers used friends to find their jobs, roughly 50% in each case (Table 15).   However, between 37% and 43% used ads, also higher than for managers.   So for skilled and production workers the fraction finding jobs is roughly split between formal ads and informal networks.

Some 23% of skilled workers have a local hukou, while only 14% do for production workers (Table 18A).   A hukou is like a local passport, that indicates (usually) the place the person comes from.   Generally if the worker does not have a hukou in the place they work, there are social benefits that they do not enjoy, although this is beginning to change in some areas.   The meaning of this is that having a non-local hukou generally is a good indicator that the worker is a migrant, so these workers are heavily migrants.   Of the migrant workers, nearly all (92-95%) come from outside Zhejiang Province (Table 18B).   Most come alone, for production workers, only 17% say they came with family, while 31% of skilled workers say they brought family members with them (Table 18C).

Just under half of managers have formal contracts (Table 19A), the average length being about 5 years (Table 19B).   For skilled workers, half also contracts, of about 1.66 years duration. For production workers, only 38% have contracts, for somewhat under 1 year each.   For a firm, issuing contracts is costly because there are contractual obligations set by the central government which they are required to undertake if they give a contract to a worker.   For workers, some return to firms year after year and some of those get contracts, although the contracts may be separate Table 19C.   For instance one-third of skilled workers say they are working on at least their second contract for their firm and 60% of production workers say so. So especially for production workers, signing repeated contracts over a period of years is not unusual in these firms.   For skilled workers it is less likely, but presumably there is more incentives for firms to give a longer contract for skilled workers, particularly if part of their skills are firm-specific.   Even for industry-specific skills such as a shoe designer, if the person is good, a firm may want both to pay high salary and possibly to provide a multi-year contract, to avoid

being raided by other firms.   Yet owners constantly complained about tight labor markets for skilled workers, so the low percentage that are in repeated contracts may represent bidding away by other firms.

Monthly salaries by worker type are given in Table 20A.   Managers received just over 2,400 yuan/month in 2005 (the RMB-US$ exchange rate in early 2005 was between 8 and 7.75). Production workers on average received a little under half the manager's monthly salary, 1,156 yuan/month, while skilled worker salaries were in between, 1,767/month.   In Wenzhou, year end bonuses are an important part of annual income, so need to be examined.   As shown in Table 20B, year end bonuses comprise over 2.5 months pay for managers, about one month pay for skilled workers, and a little over one-third of one month pay for production workers. Less than 20% of managers own shares in the firm, and almost no workers do (Table 20C).

Combining monthly salary plus end of year work bonuses for all three types of workers and running simple Mincerian earnings functions (Table 21), we can see that schooling is highly rewarded, starting with junior high school, even restricting ourselves to these three industries in Wenzhou.   Part of this effect is likely that better schooling helps in getting managerial or skilled worker jobs, indeed we have seen in Table 14C that there is a positive gradient between schooling and the most skilled jobs.   There is also a quadratic return to general experience of over 5% per year for the first few years, although much lower returns for specific firm experience (which is arguably endogenous, since it depends on firm-worker quality match among other factors, and that may be endogenous).   Males are also paid more on average, holding schooling and experience constant.

Fringe benefits are quite important, particularly housing.   Two-thirds of production workers get housing benefits from the firms, usually in terms of dormitories that they can live in (Table 22A). For 56% of production workers housing is free, and for another 13%, subsidized.   While conditions vary, some recently built or refinished dorms that we saw included room air conditioners.   For skilled workers and even managers, some 55-60% have subsidized or free housing from the firms.

About 40-50% of workers get meals supplied at work, and between roughly 30% and 50% of all workers get their food at subsidized prices or free (Table 22B).   Annual leave (generally 2 weeks) is given to about 70% of skilled and production workers, but only about half of managers, who may have other deals that they get (Table 22C).   Health insurance is provided to half of the managers, one quarter of skilled workers, and 17% of production workers.   When it is provided it is generally done so for free, or with a subsidy (Table 22D).   Other fringe benefits are very limited, including transportation subsidies, providing education for children and pensions (Tables 22E-22G).   In all these cases, managers get more fringe than skilled or production workers, as one would expect.

A key issue for these workers, particularly the migrant production workers, is what their wages might have been had they stayed in their origin provinces.   Table 23A shows that in rural areas of major origin provinces for Wenzhou workers (according to the 2005 Intercensus data), that mean monthly salaries are on the order of half to one-third the level of our Wenzhou firm

salaries for production workers.   This comparison is for workers in the origin areas, who have primary or junior high school education, which we saw in Table 14C, were the most common levels of schooling of our production workers.   To compare with other workers in Wenzhou, we take mean monthly earnings from Wenzhou workers with primary and junior high school level schooling, also from the 2005 Intercensus.   This is presented in Table 23B.   One can see that our mean wages for production workers are fairly comparable to the Intercensus estimates.

So rural migrant workers into Wenzhou are making far larger salaries, double to triple, what could be made in the origin provinces.   On the one hand, these salary differences must keep new migrants coming to the extent they are allowed by the government, and on the other hand, must put downwards pressure on local wages for production workers.   This looks remarkably like a surplus labor story (Lewis, 1957, Fei and Ranis, 1964).   Unfortunately we cannot get local Wenzhou data on salaries over time to see if they have been rising slowly (with salaries in the origin regions rising even less).[2]

4.6. Government Price Subsidies and Other Support

We divide the government support into several parts in Wenzhou, including ease of getting business licenses; ease and price of getting land; financial aids and loans; import and export right; and other preferential treatment at the time of establishment. In general, the local government did not provide direct subsidies to the firms, such as financial support and tax preferential treatment. However, the Wenzhou government also did not hold back the development of private firms; most of firms in Wenzhou could get lands, business license and import and export rights easily. In fact, the local government's policy was "Just let them develop by themselves".

Only 12% of firms report getting any tax incentives when they started up (Table 24A).   Firms in shoemaking and general equipment were more likely to have gotten some tax breaks as were larger firms (at the time of the survey).   Firms were more likely to have gotten favorable tax treatment at startup if they were founded prior to 1985 (Table 24B).   Only 4% of firms report any direct financial assistance or loans from the government.   Business licenses and permissions to export and import were easy to get according to our firms.

Land has been the one factor that firms have at times worried about getting at reasonable prices.   Land was owned by the government and firms could purchase from the government. The price of land charged by government had a great impact on the costs of establishing new firms. As Table 25 indicates, 19% firms could get land from the government for free, 9% for less than market price, while most of firms (72%) needed pay the market price.   In different locations, the enterprises faced different price of lands. 31% firms in Ruian (an urban county), 24% in Ouhai (a rural town) and 14% in Lucheng (downtown Wenzhou) got free lands from government, and the percentages of "less than market price" were 20%, 17% and 3% respectively.   Except for Ruian, over three quarters of firms had to pay market price.

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[2] Census data in China do not have proper income data.

5. Implications and Further Discussion

At first glance the Wenzhou industrialization to date seems to have many commonalities with the East Asian model, although the details vary between countries (see Ranis, 1995, or World Bank, 1993).   In both cases it is low technology, labor intensive industries that served as the initial basis of industrialization.   It was small-scale family firms that were the source of the initial firms in Wenzhou, Taiwan and Japan before World War II, with financing coming initially from shareholders, family and friends, with reinvested profits becoming important during the growth stages.   So the size distribution of firms is still tilted towards small and medium sized firms, although firm growth has been going on, certainly for successful firms. There is doubtless a lot of firm entry and exit, although we could not establish that with our data.   Technologies were being scaled up over time, although in Wenzhou it is through the use of local technologies (or ones imported many years earlier), upgraded through learning by doing on the factory floor.   Wenzhou may have benefited even more from being a late starter than did Taiwan and Korea, at least in so far as technology acquisition is concerned, making it easier to use and upgrade low quality local machines.   Human capital was improved, especially the acquisition of skilled labor for designing products, but also over time the increasing education of the workforce.[3]   The roles of government were somewhat different in the different cases.   Certainly government reforms that gave rise to overall economic growth and price stability were important in Wenzhou and the East Asian cases. Overall the Wenzhou experience seems quite consistent with that of Taiwan in its early period of industrialization, with some similarities with Japan during the pre-war phase of its industrialization.

One important difference must have been the much larger size and the rapid growth of the Chinese economy and therefore its domestic market compared to other East Asian countries, allowing in principal for firm growth over a much longer period without exports, although as we have seen exports have played a major role in Wenzhou.   In addition, China's size has undoubtedly made a difference in allowing for a much larger amount of surplus labor migrating into Wenzhou than was available in Taiwan or Korea.   Although it is the case that today in Wenzhou one can hear entrepreneurs wringing their hands over rising wage costs and wondering how long they will be able to stay in Wenzhou as opposed to moving to more remote, lower wage areas of China, or even outside of China.

On the other hand, one must be quite cautious in noting that Wenzhou would seem to be a special case within China, both because of its initial conditions in the early 1980s, being remote, not having a history of SOEs or TVEs in the area, plus its special treatment both by local and national governments over this period.[4]   Perhaps Wenzhou also benefited from its history of entrepreneurship and migrant networks throughout China, though that is much

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[3] Though we must be careful, because based on our study, we do not know if the average schooling of production workers is rising over time.   We can guess that it may be, since overall schooling levels are rising, but that may not be true for the particular workers in these three industries, who even in 2005 have largely only junior high and primary school education.
[4] Note the eariness that very similar arguments were made in the late 1960s and 1970s about conditions in Taiwan and Korea being special so that replication in other parts of the world might be difficult.   This suggests discounting these special case arguments.

more speculative.   In addition, the Wenzhou experience may not be generalizable because of the nature of the industries that have arisen there, in particular their low tech nature. Scholars such as John Sutton argue that for high tech industries such as autos or auto parts suppliers, quality becomes much more important and he further argues that there exist quality thresholds which must be attained by such firms in order to be internationally competitive.   In this case larger scale firms may be necessary and more government subsidies to get started.

For instance Sutton notes that the car parts supply industry in China has now virtually reached international quality levels (Sutton, 2004, see also Brandt, Rawski and Sutton, 2008). He further argues that a period of domestic protection with import substitution policies were well-used to protect these firms for a time (fortunately the government recognized when to begin to rachet down the import protection).   To the extent that Sutton is correct, there may be a limited applicability of the Wenzhou experience for future industrialization in China to the extent that more sophisticated industries start to play a larger role.   Indeed, based on the historical experiences of other countries, particularly in East Asia, we should expect the types of industries in Wenzhou to shift in the future, to more high tech industries (Nelson and Pack, 1999).   This may not happen overnight, so long as wages in Wenzhou stay low because of large-scale immigration.   However, as wages in Wenzhou rise, the lower tech industries may move westwards, to poorer parts of China with lower wage rates, in which case the Wenzhou experience still may have some relevance.   Indeed, so long as the rural "surplus labor" exists in China, labor-intensive, low tech industries will still likely be important in some parts of China.

This last discussion is related to the discussion in Professor Hayami's textbook, *Development Economics* of the difference between the Marx-type and Kuznets-type economic growth. Hayami means by Marx-type growth, growth largely driven by capital accumulation, whereas the Kuznets type growth is fueled by growth in total factor productivity (TFP).   The growth of low-tech labor-intensive industries might according to the Hayami classification be classified as Marx-type growth, while the advanced industrialization that auto manufacturing represents would be more driven by the Kuznets-type growth.   Of course, like any typology, there are simplifications that are made.   For the Wenzhou firms, our study cannot say anything precise over the relative roles of capital accumulation vs TFP growth in the growth of these industries in Wenzhou.   Certainly there is capital accumulation as successful firms expanded, but we cannot even say anything about whether and by how much capital/labor ratios might have been changing; we do not know.   Yet from some of the stories of technological adoption, we can also say that TFP must have been increasing, although some of that was in the form of vintage capital, as machines were improved by factory floor innovations.

6.   Conclusions

     This paper discusses the industrialization in Wenzhou, a special city on the southeast coast of China where the private sector has been dominant for over 25 years.   Wenzhou has

become the source of much of the Chinese production and exports of low technology, labor-intensive exports.   The firm owners there have rich business experience; based largely on a family-based governance structure, but one with some outsider involvement (usually friends).   These firms started out as very small firms, mostly what would now be considered small and micro-enterprises.   Initial financing did not need to be large and came from family and friends.   At the time the older firms were starting it was not possible for them to obtain formal sector government bank loans.   The level of technology is low and labor intensive.   The technology is largely domestically produced, some by the firms themselves, especially before supplier firms come into existence.   Learning by doing is important in getting factory floor improvements to technology, importing equipment not so important, unlike cases in Korea that Westphal et al. (1985) examined years ago.   Learning about markets is key.   The central government plays a key role through its Foreign Trade Company in helping connect local firms and importers from other countries. The role of government has been largely indirect, though important.   Keeping a hands-off approach at one level has been important.   Promoting rapid economic growth within China and expanding the ability of people to migrate across provincial boundaries through reforms and other policies have been two critical functions of the central government. Labor markets appear to operate today as a fairly unfettered market.   No doubt there exist some cases of firms taking advantage of workers, but overall, worker salaries are very high relative to the rural areas they come from.   Indeed there seems to be a very strong surplus labor that is at work here.

Overall Wenzhou is unusual in the Chinese industrialization process .   The process has been self-induced from the bottom, with entrepreneurship, and entrepreneurs being highly important.   Wenzhou experience is made more impressive, though perhaps not so surprising, because Wenzhou had lower initial endowments than other areas in China; their options were far fewer.

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Figure 1:

Distribustion of firms based on size of employment

Figure 2:

Distribution of firms based on size of employment (dropping the largest one)
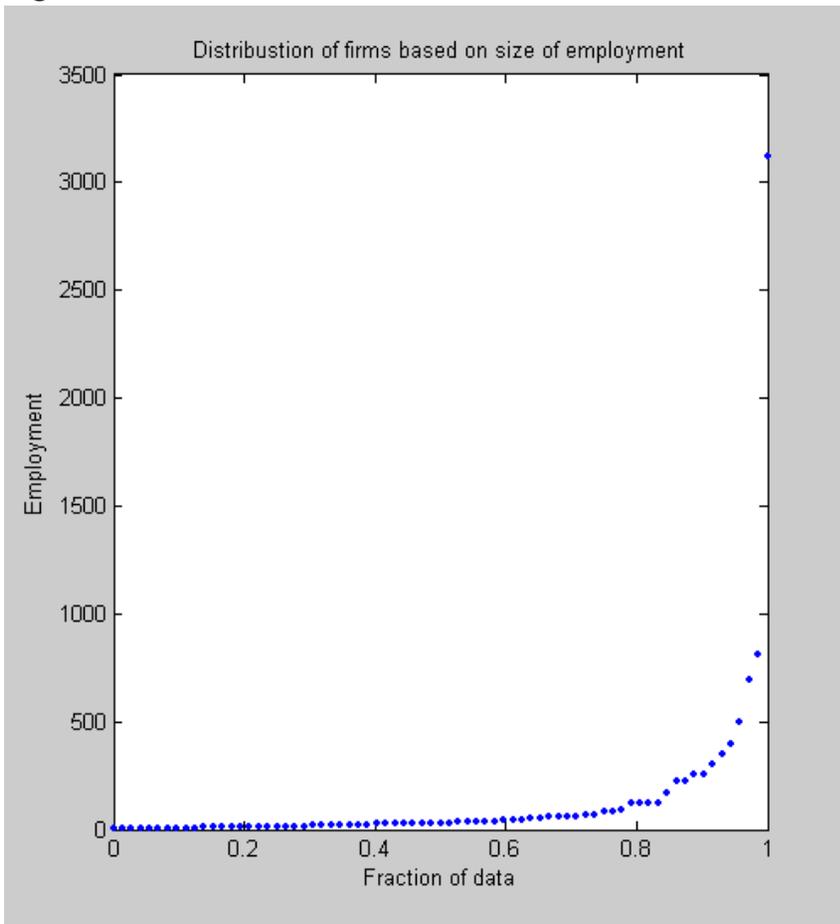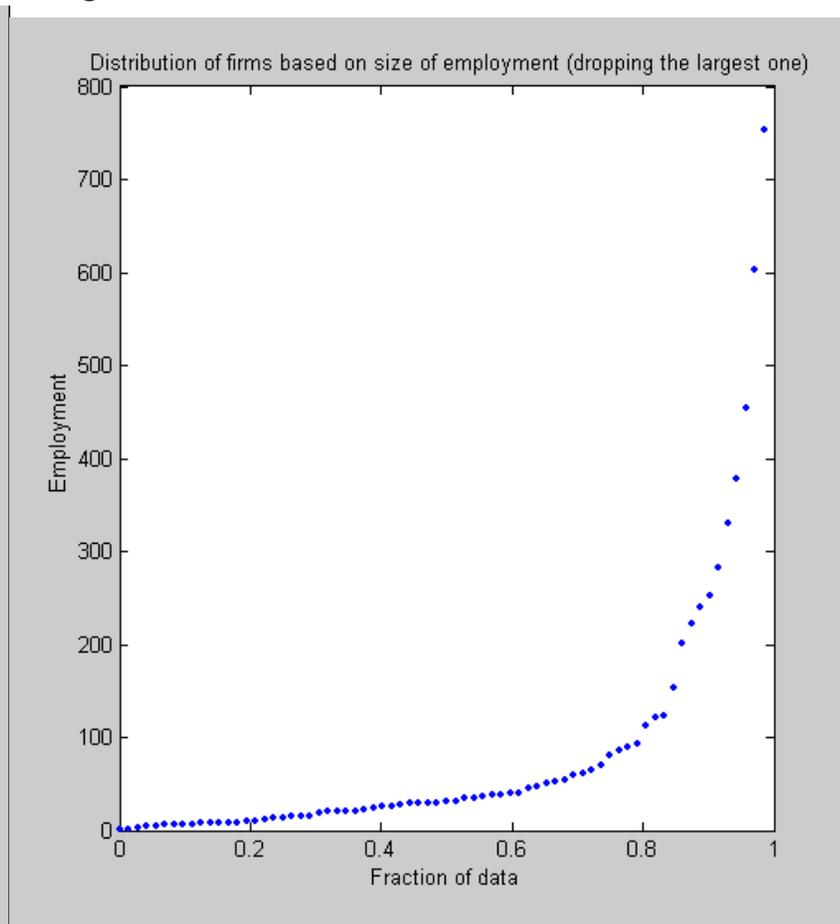
Table 1 – The distribution of the sampled firms by industries and regions

	Shoe Making		Eyeglasses		General Equipment	
	Lucheng	Ouhai	Lucheng	Ouhai	Lucheng	Ruian
Total number of firms	469	459	167	292	233	600
Number of sample firms	12	12	12	12	12	12
Average sales (10 thousand)	5825.23 (4936.51)	468.86 (190.40)	771.5 (418.69)	673.18 (342.94)	1204.43 (880.52)	735.03 (418.69)
Average employment	359.00 (881.48)	82.08 (107.56)	74.5 (87.13)	128.41 (224.49)	81.16 (195.76)	55.08 (111.19)

Note: Standard errors are in parenthesis.

Table 2 – Completion Rate by industries

	Shoe Making		Eyeglass		General equipment		Total	
	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent
Refused	0	0.00%	1	4.17%	1	4.17%	2	2.78%
Interview	21	87.50%	17	70.83%	17	70.83%	55	76.39%
Cannot find	1	4.17%	4	16.67%	2	8.33%	7	9.72%
Out of business	2	8.33%	2	8.33%	4	16.67%	8	11.11%
Total	24	33.30%	24	33.30%	24	33.30%	72	100

Table 3A – Distribution of year of establishment of the firms

	Industry			Total	Observations
	Shoe Making	Eyeglass	General Equipment		
Pre1979	0.05	0.00	0.10	0.04	3
	(0.03)	(0.00)	(0.01)	(0.02)	
1979-84	0.09	0.06	0.22	0.12	8
	(0.01)	(0.06)	(0.02)	(0.04)	
1985-89	0.00	0.05	0.16	0.07	4
	0.00	(0.05)	(0.01)	(0.04)	
1990-94	0.46	0.04	0.35	0.27	16
	(0.09)	(0.04)	(0.12)	(0.11)	
1995-99	0.26	0.33	0.00	0.20	11
	(0.10)	(0.02)	(0.00)	(0.08)	
2000-04	0.15	0.52	0.17	0.29	13
	(0.04)	(0.14)	(0.10)	(0.12)	
Total	1.00	1.00	1.00	1.00	55

Note: There are 55 observations. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 2.75 and P-value, 0.06.

Table 3B – Distribution of Type of Ownership across period of establishment

| | Period of Establishment | | | | | | | |
	pre1979	1979-84	1985-89	1990-94	1995-99	2000-04	Total	Observations
Collective	0.46	0.36	0.00	0.00	0.00	0.00	0.06	4
	(0.34)	(0.16)	0.00	0.00	0.00	0.00	(0.04)	
Private	0.33	0.25	0.70	0.81	0.60	0.40	0.55	31
	(0.30)	(0.19)	(0.16)	(0.06)	(0.09)	(0.09)	(0.10)	
Partners(outside family)	0.00	0.30	0.30	0.09	0.10	0.47	0.24	10
	0.00	(0.13)	(0.16)	(0.07)	(0.07)	(0.14)	(0.09)	
Share-owned(also private)	0.00	0.09	0.00	0.10	0.30	0.13	0.14	9
	0.00	(0.10)	0.00	(0.07)	(0.08)	(0.11)	(0.07)	
Other	0.21	0.00	0.00	0.00	0.00	0.00	0.01	1
	(0.22)	0.00	0.00	0.00	0.00	0.00	(0.01)	
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	55

Note: Number of observations is 55. Standard errors are in parenthesis. The corrected Pearson corrected Pearson chi-squared test of equality across periods has value, 2.36 and P-value, 0.11.

Table 4A - How many founders did the enterprise have?

	Industry			Total	Observations
	Shoe Making	Eyeglass	General Equipment		
1	0.75	0.33	0.18	0.43	23
	(0.05)	(0.10)	(0.02)	(0.11)	
2	0.25	0.23	0.34	0.27	15
	(0.05)	(0.04)	(0.15)	(0.05)	
3	0.00	0.31	0.11	0.14	7
	(0.00)	(0.02)	(0.01)	(0.06)	
4	0.00	0.07	0.00	0.02	2
	0.00	(0.07)	0.00	(0.03)	
5	0.00	0.06	0.08	0.04	2
	0.00	(0.03)	(0.03)	(0.02)	
6	0.00	0.00	0.09	0.03	1
	0.00	0.00	(0.03)	(0.02)	
7	0.00	0.00	0.14	0.04	2
	0.00	0.00	(0.05)	(0.04)	
Total	1.00	1.00	1.00	1.00	52

Note: Number of observations is 52. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.10 and P-value, 0.38.

Table 4B – The shareholder's relationship with the chief leader at the time of establishment?

	Industry			Total	Observations
	Shoe Making	Eyeglass	General Equipment		
Same person	0.66	0.42	0.36	0.45	44
	(0.05)	(0.09)	(0.02)	(0.06)	
Close relatives	0.16	0.26	0.31	0.26	25
	(0.01)	(0.06)	(0.07)	(0.05)	
Extended Relatives	0.07	0.11	0.15	0.12	14
	(0.06)	(0.02)	(0.05)	(0.03)	
Friends	0.07	0.14	0.14	0.12	11
	(0.05)	(0.04)	(0.01)	(0.02)	
Former colleagues	0.00	0.08	0.00	0.03	2
	0.00	(0.02)	0.00	(0.02)	
No relationship	0.00	0.00	0.03	0.01	1
	0.00	0.00	(0.01)	(0.01)	
Others	0.04	0.00	0.01	0.01	2
	(0.03)	0.00	(0.02)	(0.01)	
Total	1.00	1.00	1.00	1.00	99

Note: There are 99 observations. Standard errors are in parenthesis. The chi-squared test of equality across groups of industries has value, 0.27 and P-value, 0.79.

Table 5A – Age of founders at the time of establishment

	Industry			Employment Size			
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total
Average age	31.78	37.87	34.92	41.04	35.23	28.46	35.08
	(3.20)	(1.93)	(0.93)	(2.34)	(2.35)	(1.66)	1.55
Observations	18	16	14	13	18	17	48

Note: Number of observations is 48. Standard errors are in parenthesis. The Adjusted Wald test of equality across groups of industries has value, 1.26 and P-value, 0.38 and across groups of employment size has value, 9.64 and P-value, 0.03.

Table 5B – Education background (at the time of survey)

	Industry				
	Shoe Making	Eyeglass	General Equipment	Total	Observations
University graduated or above	0.06	0.06	0.10	0.07	3
	(0.04)	(0.03)	(0.03)	(0.02)	
College (some, technology)	0.15	0.14	0.00	0.10	6
	(0.01)	(0.15)	0.00	(0.06)	
Senior high school	0.27	0.36	0.28	0.31	17
	(0.01)	(0.01)	(0.20)	(0.07)	
Junior high school	0.23	0.45	0.37	0.35	14
	(0.05)	(0.10)	(0.08)	(0.07)	
Primary school	0.11	0.00	0.16	0.08	4
	(0.07)	0.00	(0.06)	(0.05)	
Not educated	0.18	0.00	0.10	0.08	4
	(0.08)	0.00	(0.03)	(0.04)	
Total	1.00	1.00	1.00	1.00	48

Note: Number of observations is 48. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.93 and P-value, 0.45. Standard errors are in parenthesis.

Table 5C – Membership of Communist Party when the firm founded

	Industry			Employment Size				
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total	Observations
Yes	0.12	0.12	0.00	0.06	0.04	0.17	0.08	5
	(0.01)	(0.13)	0.00	(0.07)	(0.04)	(0.09)	(0.05)	
No	0.88	0.88	1.00	0.94	0.96	0.83	0.92	41
	(0.01)	(0.13)	0.00	(0.07)	(0.04)	(0.09)	(0.05)	
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	46

Note: Number of observations is 46. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.39 and P-value, 0.59 and across groups of employment size has value, 1.81 and P-value, 0.23.

Table 5D – Prior work experience

| | | Industry | | | | |
		Shoe Making	Eyeglass	General Equipment	Total	Observations
Government						
	Yes	0.07	0.04	0.00	0.03	2
		(0.06)	(0.04)	0.00	(0.03)	
	No	0.93	0.96	1.00	0.97	41
		(0.06)	(0.04)	0.00	(0.03)	
	Total	1.00	1.00	1.00	1.00	43

Note: Number of observations is 43. . Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.40 and P-value, 0.65.

Salesman						
	Yes	0.07	0.18	0.40	0.22	9
		(0.05)	(0.01)	(0.04)	(0.07)	
	No	0.93	0.82	0.60	0.78	33
		(0.05)	(0.01)	(0.04)	(0.07)	
	Total	1.00	1.00	1.00	1.00	42

Note: Number of observations is 42. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 9.33 and P-value, 0.02.

Apprentice						
	Yes	0.38	0.48	1.00	0.61	24
		(0.02)	(0.04)	0.00	(0.13)	
	No	0.62	0.52	0.00	0.39	16
		(0.02)	(0.04)	0.00	(0.13)	
	Total	1.00	1.00	1.00	1.00	40

Note: Number of observations is 40. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 4.18 and P-value, 0.09.

Farmer						
	Yes	0.94	1.00	0.67	0.89	37
		(0.05)	0.00	(0.05)	(0.08)	
	No	0.06	0.00	0.33	0.11	5
		(0.05)	0.00	(0.05)	(0.08)	
	Total	1.00	1.00	1.00	1.00	42

Note: Number of observations is 42. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 4.80 and P-value, 0.05.

Table 6A – Source of Initial Funding

	Industry			Employment Size				
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total	Observations
Shareholders								
Yes	0.53	0.97	0.66	0.77	0.71	0.70	0.74	35
	(0.06)	(0.03)	(0.08)	(0.16)	(0.14)	(0.12)	(0.10)	
Family								
Yes	0.47	0.38	0.30	0.41	0.37	0.36	0.38	18
	(0.10)	(0.14)	(0.11)	(0.08)	(0.12)	(0.11)	(0.08)	
Other Personal Loans								
Yes	0.00	0.00	0.08	0.00	0.07	0.00	0.02	1
	0.00	0.00	(0.03)	0.00	(0.08)	0.00	(0.02)	
Informal Loans								
Yes	0.05	0.00	0.00	0.00	0.00	0.05	0.02	1
	(0.04)	0.00	0.00	0.00	0.00	(0.05)	(0.02)	
Banks								
Yes	0.05	0.19	0.08	0.22	0.00	0.11	0.11	4
	(0.03)	(0.10)	(0.03)	(0.10)	0.00	(0.06)	(0.05)	
Rural Credit Unions								
Yes	0.00	0.03	0.08	0.07	0.00	0.04	0.04	2
	0.00	(0.03)	(0.03)	(0.05)	0.00	(0.04)	(0.02)	

Note: Number of observations is 50. Standard errors are in parenthesis.

Table 6B   – Source of Funding During Firm Growth (% of funds)

	Industry			Employment Size			
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total
Retained from profit (%)							
	27.83	30.60	48.32	40.34	52.94	15.18	36.53
	(24.23)	(21.69)	(14.26)	(14.84)	(19.37)	(12.10)	(11.69)
Family and Friends							
	10.25	4.30	5.66	5.61	10.40	3.35	6.41
	(6.96)	(3.05)	(5.66)	(2.07)	(8.27)	(3.85)	(2.48)
Shareholders							
	44.97	60.12	36.63	47.95	31.43	62.28	48.07
	(19.69)	(28.27)	(17.55)	(18.00)	(13.89)	(17.13)	(13.95)
Other personal Loans							
	0.00	0.00	1.12	0.00	1.34	0.00	0.42
	0.00	0.00	(0.53)	0.00	(1.48)	0.00	(0.37)
Informal Lending							
	5.39	0.00	0.00	0.00	0.00	4.70	1.45
	(4.69)	0.00	0.00	0.00	0.00	(4.27)	(1.54)
Banks							
	11.56	1.39	7.72	3.64	3.89	12.70	6.51
	(2.28)	(0.99)	(3.22)	(2.25)	(2.35)	(5.34)	(2.23)
Rural Credit Unions							
	0.00	0.00	1.12	1.11	0.00	0.00	0.42
	0.00	0.00	(0.53)	(0.75)	0.00	0.00	(0.37)
Firm payables							
	0.00	1.55	0.00	0.00	0.00	1.79	0.55
	0.00	(1.10)	0.00	0.00	0.00	(2.05)	(0.54)
Total	100	100	100	100	100	100	100
Observations	9	10	11	9	11	10	30

Table 7A – Difficulty level of borrowing from Commercial banks

	Industry			Employment size				
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total	Observations
Highly difficult	0.56	0.53	0.44	0.61	0.54	0.43	0.51	24
	(0.01)	(0.01)	(0.02)	(0.13)	(0.17)	(0.11)	(0.02)	
2	0.11	0.23	0.26	0.19	0.24	0.16	0.20	9
	(0.08)	(0.01)	(0.13)	(0.08)	(0.14)	(0.10)	(0.05)	
3	0.11	0.15	0.00	0.09	0.05	0.13	0.09	4
	(0.00)	(0.03)	0.00	(0.10)	(0.05)	(0.07)	(0.03)	
4	0.18	0.00	0.00	0.00	0.07	0.09	0.06	3
	(0.03)	0.00	0.00	0.00	(0.07)	(0.09)	(0.04)	
Very Easy	0.05	0.09	0.30	0.12	0.09	0.18	0.13	5
	(0.04)	(0.04)	(0.15)	(0.08)	(0.08)	(0.14)	(0.07)	
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	45

Note: Number of observations is 45. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.96 and P-value, 0.40 and across groups of employment size has value, 0.27 and P-value, 0.82. From ordinary difficulty to the most difficulty by ranked code 5 4 3 2 1.

Table7B – Difficulty level of borrowing from relative/friends

	Industry			Employment Size				
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total	Observaitons
2.00	0.13	0.18	0.00	0.24	0.10	0.06	0.12	4
	(0.01)	(0.04)	0.00	(0.23)	(0.07)	(0.05)	(0.04)	
3.00	0.12	0.37	0.14	0.13	0.14	0.39	0.23	9
	(0.01)	(0.09)	(0.08)	(0.11)	(0.08)	(0.15)	(0.08)	
4.00	0.06	0.04	0.47	0.28	0.16	0.05	0.15	7
	(0.05)	(0.04)	(0.08)	(0.15)	(0.10)	(0.05)	(0.08)	
5.00	0.70	0.40	0.39	0.35	0.60	0.50	0.50	22
	(0.08)	(0.08)	(0.01)	(0.13)	(0.12)	(0.11)	(0.08)	
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	42

Note: Number of observations is 42. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 4.39 and P-value, 0.02 and across groups of employment size has value, 1.20 and P-value, 0.34.

Table 8A –The most important technology the firm adopt is

	Industry				
	Shoe Making	Eyeglass	General Equipment	Total	Observations
Ordinary technology that is easily acquired	0.24	0.21	0.46	0.30	15
	(0.02)	(0.03)	(0.11)	(0.08)	
Ordinary technology plus self-innovation	0.11	0.14	0.30	0.18	11
	(0.08)	(0.15)	(0.03)	(0.07)	
Intermediate level technology used in similar firms	0.55	0.57	0.14	0.43	22
	(0.10)	(0.27)	(0.07)	(0.16)	
Advanced technology used in similar firms	0.10	0.08	0.10	0.09	6
	(0.00)	(0.09)	(0.01)	(0.03)	
Total	1.00	1.00	1.00	1.00	54

Note: Number of observations is 54. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.45 and P-value, 0.28.

Table8B – Is the equipment imported?

	Industry				
	Shoe Making	Eyeglass	General Equipment	Total	Observations
Yes	0.19	0.24	0.11	0.18	9
	(0.00)	(0.03)	(0.01)	(0.03)	
No	0.81	0.76	0.89	0.82	44
	(0.00)	(0.03)	(0.01)	(0.03)	
Total	1.00	1.00	1.00	1.00	53

Note: Number of observations is 53. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 15.29 and P-value, 0.01.

Table8C – By the value, what is the percentage of imported equipment? (in %)

| | Industry | | | |
	Shoe Making	Eyeglass	General Equipment	Total
Average (%)	13.3	31.5	15.9	22.9
	(4.89)	(8.73)	(12.32)	(6.18)
Observations	15	10	14	39

Note: Number of observations is 39. Standard errors are in parenthesis. The Adjusted Wald test of equality across groups of industries has value, 0.40 and P-value, 0.69.

Table8D – Has the enterprise made any improvement to the equipment, in order to improve work efficiency and the quality of the products by Industry

	Industry				
	Shoe Making	Eyeglass	General Equipment	Total	Observations
Yes	0.26	0.49	0.32	0.34	15
	(0.18)	(0.19)	(0.13)	(0.10)	
No	0.74	0.51	0.68	0.66	28
	(0.18)	(0.19)	(0.13)	(0.10)	
Total	1.00	1.00	1.00	1.00	43

Note: Number of observations is 43. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.46 and P-value, 0.64.

Table 8E – How did the corporation master the technique of operating the equipment

	Industry			Total	Observations
	Shoe Making	Eyeglass	General Equipment		
Training technicians by equipment provider					
Yes	0.27	0.03	0.07	0.11	7
	(0.13)	(0.03)	(0.02)	(0.06)	
Inviting technicians in state-owned corporations to give some instructions					
Yes	0.05	0.13	0.15	0.11	4
	(0.04)	(0.06)	(0.05)	(0.04)	
Getting technical instructions from equipment provider					
Yes	0.32	0.23	0.03	0.19	12
	(0.16)	(0.05)	(0.04)	(0.08)	
Employing technicians of state-owned corporations					
Yes	0.07	0.31	0.05	0.15	5
	(0.05)	(0.15)	(0.05)	(0.10)	
Employing other technicians					
Yes	0.10	0.29	0.05	0.15	8
	(0.08)	(0.09)	(0.05)	(0.08)	
Learning by doing					
Yes	0.38	0.16	0.87	0.46	26
	(0.23)	(0.17)	(0.05)	(0.19)	

Note: Number of observations is 51. Standard errors are in parenthesis.

Table 8F – Who is responsible for quality control?

	Industry				
	Shoe Making	Eyeglass	General Equipment	Total	
Learn by oneself					
Yes	1.00	0.81	0.57	0.79	43
	0.00	(0.01)	(0.15)	(0.11)	
No	0.00	0.19	0.43	0.21	9
	0.00	(0.01)	(0.15)	(0.11)	
Total	1.00	1.00	1.00	1.00	52
Employ Technician working in the state-owned enterprise					
Yes	0.05	0.05	0.00	0.04	2
	(0.04)	(0.03)	0.00	(0.02)	
No	0.95	0.95	1.00	0.96	50
	(0.04)	(0.03)	0.00	(0.02)	
Total	1.00	1.00	1.00	1.00	52
Controlled by clients					
Yes	0.16	0.19	0.23	0.20	10
	(0.13)	(0.01)	(0.06)	(0.04)	
No	0.84	0.81	0.77	0.80	42
	(0.13)	(0.01)	(0.06)	(0.04)	
Total	1.00	1.00	1.00	1.00	52
Others					
Yes	0.05	0.03	0.28	0.12	6
	(0.04)	(0.03)	(0.10)	(0.08)	
No	0.95	0.97	0.72	0.88	46
	(0.04)	(0.03)	(0.10)	(0.08)	
Total	1.00	1.00	1.00	1.00	52

Table 9A – How many other companies in Wenzhou producing the same products?

| | Industry | | | | |
	Shoe Making	Eyeglass	General Equipment	Total	Observations
less than 10	0.00	0.10	0.31	0.15	7
	0.00	(0.10)	(0.11)	(0.07)	
10-49	0.00	0.07	0.32	0.14	7
	0.00	(0.07)	(0.02)	(0.08)	
50-99	0.00	0.00	0.11	0.04	2
	0.00	0.00	(0.01)	(0.03)	
100-499	0.08	0.15	0.17	0.14	6
	(0.05)	(0.05)	(0.07)	(0.04)	
500-999	0.08	0.21	0.09	0.14	4
	(0.05)	(0.11)	(0.04)	(0.06)	
More than 1000	0.85	0.46	0.00	0.40	16
	(0.09)	(0.11)	0.00	(0.16)	
Total	1.00	1.00	1.00	1.00	42

Note: Number of observations is 42. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.70 and P-value, 0.22.

TABLE 9B – What was the distance between your company and the nearest company making your product ?

	Industry				
	Shoe Making	Eyeglass	General Equipment	Total	Observations
Less than 1 km	0.80	0.77	0.75	0.78	33
	(0.06)	(0.14)	(0.07)	(0.06)	
1 to 5 km	0.13	0.13	0.14	0.13	7
	(0.11)	(0.13)	(0.05)	(0.06)	
5 to 10 km	0.07	0.04	0.03	0.04	3
	(0.05)	(0.04)	(0.04)	(0.03)	
More than 10 km	0.00	0.06	0.07	0.05	2
	0.00	(0.03)	(0.02)	(0.02)	
Total	1.00	1.00	1.00	1.00	45

Note: Number of observations is 45. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across the groups of industries has value, 0.20 and P-value, 0.88.

TABLE 10 – What was the main competition ?

		Industry			Employment Size				
		Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total	Observations
Price									
	Yes	0.60	0.55	0.37	0.45	0.48	0.60	0.51	27
		(0.13)	(0.06)	(0.04)	(0.08)	(0.14)	(0.16)	(0.06)	
Quality									
	Yes	0.74	0.58	0.54	0.44	0.76	0.64	0.62	32
		(0.12)	(0.02)	(0.07)	(0.13)	(0.08)	(0.17)	(0.06)	

Note: Number of observations is 51. Standard errors are in parenthesis.

Table 11A – Compared with similar products in the market the quality of product was

	Industry			Total	Observations
	Shoe Making	Eyeglass	General Equipment		
Correspond to international Quality	0.05 (0.04)	0.20 (0.10)	0.26 (0.00)	0.17 (0.06)	8
Superior to national, but inferior to international	0.00 0.00	0.11 (0.03)	0.21 (0.13)	0.11 (0.05)	6
Correspond to national	0.60 (0.12)	0.40 (0.15)	0.53 (0.14)	0.50 (0.10)	27
Inferior to national	0.29 (0.13)	0.29 (0.08)	0.00 0.00	0.19 (0.09)	9
Others	0.05 (0.04)	0.00 0.00	0.00 0.00	0.02 (0.02)	1
Total	1.00	1.00	1.00	1.00	51

Note: Number of observations is 51. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.62 and P-value, 0.57.

Table 11B – Compared to similar domestic products the product of corporation was

	Industry			Total	Observations
	Shoe Making	Eyeglass	General Equipment		
Higher Quality, Higher Price	0.11 (0.09)	0.03 (0.03)	0.38 (0.16)	0.15 (0.08)	10
Lower Quality, Higher Price	0.00 0.00	0.00 0.00	0.07 (0.08)	0.02 (0.02)	1
Higher Quality, Lower Price	0.24 (0.12)	0.34 (0.07)	0.55 (0.24)	0.37 (0.11)	17
Lower Quality, Lower Price	0.65 (0.21)	0.63 (0.10)	0.00 0.00	0.46 (0.16)	20
Total	1.00	1.00	1.00	1.00	48

Note: Number of observations is 48. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.05 and P-value, 0.39.

Table 12A – Does firm export?

	Industry			Employment Size			Total	Observations
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large		
Yes	0.50	0.83	0.11	0.35	0.51	0.65	0.50	25
	(0.08)	(0.17)	(0.01)	(0.23)	(0.15)	(0.17)	(0.18)	
Observations	20	17	16	14	18	21	53	

Note: Number of observations is 53. Standard errors are in parenthesis.

Table 12B – Destination Markets (Sales Percentages)

| | Industry | | | Employment Size | | | |
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total
Sales to the local county (district)							
	6.08	3.45	17.05	8.91	11.28	5.80	8.58
	(4.46)	(3.69)	(0.03)	(3.82)	(5.97)	(5.53)	(3.74)
Sales to the local province or neighbor province							
	13.87	12.69	19.57	20.00	14.38	11.44	15.24
	(6.91)	(13.58)	(3.36)	(8.46)	(6.59)	(7.04)	(6.06)
Sales to other province in the country							
	51.47	4.80	59.51	43.22	36.19	31.81	37.02
	(5.19)	(4.50)	(0.17)	(16.85)	(13.41)	(11.99)	(12.88)
Export							
	28.81	79.44	3.87	27.87	40.44	50.95	39.89
	(7.46)	(20.61)	(3.55)	(26.10)	(18.63)	(17.30)	(19.76)

Note: Number of observations is 52. Standard errors are in parenthesis.

Table 12C – The answer to the question " Did the firm export " across whether the firm was located inside or outside Economic Free zone

	Economic Free Zone			
	Inside	Outside	Total	
Yes	0.69	0.42	.5032	
	(0.15)	(0.17)	(0.18)	
No	0.31	0.58	.4968	
	(0.15)	(0.17)		(0.18)
Total	1.00	1.00	1.00	
Observations	17	36	53	

Note: Number of observations is 53. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality has value, 5.83 and P-value, 0.06.

**Table 12D - Average percentage of export from the total sale for firms
that are inside and outside of the Free economic Zone**

	Economic Free Zone		
	Inside	Outside	Total
Average	58.20	31.63	39.89
	(18.96)	(18.88)	(19.76)
Observations	17	36	53

Note: Number of observations is 53. Standard errors are in parenthesis. The
Adjusted Wald test of equality has value, 5.45 and P-value, 0.07.

Table 13 - Channels of Export (Sales Percentages)

	Industry			Employment Size				
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total	Observations
Through Foreign Trade Company	70.07 (21.41)	88.65 (2.41)	30.42 (10.78)	86.86 (15.90)	100.00 0.00	61.11 (14.26)	79.08 (9.69)	19
Direct Export	29.93 (21.41)	11.35 (2.41)	69.58 (10.78)	13.14 (15.90)	0.00 0.00	38.89 (14.26)	20.92 (9.69)	5
Total	100	100	100	100	100	100	100	24
Observations	9	13	2	3	7	14	24	

Note: Number of observations is 24. Standard errors are in parenthesis. The Adjusted Wald test of equality across groups of industries has value, 11.33 and P-value, 0.02 and across groups of employment size has value, 2.98 and P-value, 0.16.

Table 14A Gender of interviewed workers

	Work Type		
	Manager	Skilled Worker	Production Worker
Male	0.80	0.90	0.69
	(0.03)	(0.03)	(0.06)
Female	0.20	0.10	0.31
	(0.03)	(0.03)	(0.06)
Total	1.00	1.00	1.00

Note: Number of observations is 318. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 8.10 and P-value 0.01.

Table 14B   Age of interviewed workers

	Work Type	
Manager	Skilled Worker	Production Worker
37.97	29.62	33.43
(0.89)	(1.61)	(1.06)

Note: Number of observations is 316.

Table 14C Education of interviewed workers

	Work Type		
	Manager	Skilled Worker	Production Worker
University and Higher	0.03	0.06	0.02
	(0.03)	(0.05)	(0.01)
Junior College	0.13	0.07	0.04
	(0.03)	(0.03)	(0.01)
Secondary School	0.12	0.08	0.11
	(0.02)	(0.02)	(0.03)
Secondary technical school	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)
High school	0.38	0.12	0.15
	(0.07)	(0.04)	(0.03)
Junior high school	0.28	0.58	0.51
	(0.06)	(0.10)	(0.02)
Elementary school	0.05	0.08	0.13
	(0.03)	(0.02)	(0.04)
None	0.00	0.00	0.03
	0.00	0.00	(0.01)
Total	1.00	1.00	1.00

Note: Number of observations is 318. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 3.85 and P-value 0.02.

Table 14D Communist Party Membership of workers?

	Work Type		
	Manager	Skilled Worker	Production Worker
Yes	0.21	0.11	0.06
	(0.04)	(0.05)	(0.04)

Note: Number of observations is 319. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 3.32 and P-value 0.08.

Table 15 – How did you find the job in this enterprise?

	Managers	Skilled Workers	Production Workers
Help from friends	0.31	0.52	0.47
	(0.07)	(0.05)	(0.07)
Want ad or Labor market	0.04	0.33	0.39
	(0.02)	(0.10)	(0.10)
AD from enterprise	0.15	0.04	0.04
	(0.07)	(0.02)	(0.03)
By chance	0.10	N/A	N/A
	(0.05)		
The enterprise find me	0.10	N/A	N/A
	(0.03)		
Head hunter/Agency	0.01	0.04	0.06
	(0.01)	(0.03)	(0.02)
Government	0.03	0.01	N/A
	(0.03)	(0.01)	
Others	0.26	0.06	0.04
	(0.09)	(0.03)	(0.01)
Total	1.00	1.00	1.00

Note: There are 73 observations. Standard errors are in parenthesis. N/A is not applicable.   The corrected Pearson chi-squared test of equality across groups of industries has value, 0.67 and P-value, 0.58 and across groups of employment size has value, 1.49 and P-value, 0.26.

Table 16A-Managers: What is the relationship between you and the founder of the enterprise?

	Total	Observations
Yourself	0.05	4
	(0.03)	
Spouse	0.07	4
	(0.03)	
Parents	0.04	4
	(0.02)	
Sisters or brothers	0.02	2
	(0.01)	
Spouses of brothers or sisters	0.02	2
	(0.02)	
Other relatives	0.09	8
	(0.04)	
Former colleagues	0.02	2
	(0.01)	
Friends	0.12	10
	(0.05)	
No relationship	0.56	39
	(0.11)	
Total	1.00	75

Note: There are 75 Observations. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.27 and P-value, 0.32 and across groups of employment size has value, 1.58 and P-value, 0.22.

TABLE 16B –Managers: Did your family or your relatives work in this enterprise ?

	Total	Observations
Yes	0.49	37
	(0.05)	
No	0.51	34
	(0.05)	
Total	1.00	71

Note: Number of observations is 71. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.23 and P-value, 0.76 and across groups of employment size has value, 1.18 and P-value, 0.34.

Table 17 –Managers: Where is your hometown?

	Total	Observations
Local town	0.26	17
	(0.13)	
Local county	0.05	4
	(0.04)	
Wenzhou	0.23	24
	(0.12)	
Other parts of Zhejiang	0.04	4
	(0.02)	
Other Province	0.41	30
	(0.12)	
Total	1.00	79

Note: Number of observations is 79. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.48 and P-value, 0.27 and across groups of employment size has value, 2.73 and P-value, 0.08.

Table 18A –Do you have a local Hukou?

	Skilled Workers	Production workers
Yes	0.23	0.14
	(0.09)	(0.03)
No	0.77	0.86
	(0.09)	(0.03)
Total	1.00	1.00

Note: Number of observations is 94. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 17.23 and P-value, 0.00 and across groups of employment size has value, 0.10 and P-value, 0.81.

Table 18B –if you are a migrant from outside areas , where do you come from?

	Skilled Workers	Production Workers
Other county		0.03
		(0.02)
Other city	0.05	0.06
	(0.03)	(0.02)
Other province	0.95	0.92
	(0.03)	(0.04)
Total	1.00	1.00

Note: Number of observations is 71. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.54 and P-value, 0.56 and across groups of employment size has value, 3.90 and P-value, 0.08.

Table 18C –Did your whole family migrate?

	Managers	Skilled Workers	Production Workers
Yes	0.55	0.31	0.17
	(0.07)	(0.09)	(0.02)
No	0.46	N/A	0.83
	(0.07)		(0.02)
Total	1.00	N/A	1.00

Note: Number of observations is 79. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.48 and P-value, 0.27 and across groups of employment size has value, 2.73 and P-value, 0.08.

Table 19A Did you sign a contract with the enterprise

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes	0.45	0.50	0.38
	(0.04)	(0.05)	(0.06)

Note: Number of observations is 317. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 1.67 and P-value 0.25.

Table 19B   What is the fixed number of years of the contract

	Worker Type	
Manager	**Skilled Worker**	**Production Worker**
4.93	1.66	0.87
(2.50)	(0.87)	(0.10)

Note: Number of observations is 221.

Table 19C- How many repeated contract did you sign before in this enterprise?

	Skilled Workers	Production Workers
0	0.66	
	(0.05)	
1	0.15	0.40
	(0.03)	(0.09)
2	0.06	0.24
	(0.01)	(0.06)
3	0.03	0.10
	(0.01)	(0.05)
4	0.01	0.06
	(0.01)	(0.03)
5	0.03	0.09
	(0.02)	(0.04)
6	0.04	0.03
	(0.02)	(0.02)
8	0.03	
	(0.01)	
10		0.04
		(0.04)
12		0.02
		(0.02)
18		0.02
		(0.02)
Total		1.00

Note: There are 48 observations. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 0.59 and P-value, 0.65 and across groups of employment size has value, 0.98 and P-value, 0.43.

Table 20A   Salary per month (Yuan /month) 2005

Worker Type		
Manager	**Skilled Worker**	**Production Worker**
2418.81	1767.22	1155.77
(241.71)	(134.02)	(53.65)

Note: Number of observations is 262.

Table 20B   Year end bonus （Yuan） 2005

Worker Type		
Manager	**Skilled Worker**	**Production Worker**
6681.56	1794.98	415.66
(1933.88)	(357.19)	(172.56)

Note: Number of observations is 252.

Table 20C   Are you holding shares of this enterprise

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes	0.18	0.05	0.03
	(0.08)	(0.02)	(0.02)

Note: Number of observations is 314. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 6.59 and P-value 0.04

Table 21: Mincerian Earnings Regressions (All workers pooled)

Log Monthly Earnings

	Coef.	Std.Err.
Gender	0.225	0.060
Primary school dummy	-0.023	0.188
Junior high school dummy	0.204	0.176
Senior high school dummy	0.444	0.157
College and above dummy	0.363	0.196
General experience	0.056	0.015
General experience squared	-0.001	0.004E-1
Job experience	0.034	0.026
Job experience squared	0.004E-2	0.184E-2
Constant	6.292	0.128

Note: Number of observations is 181.The R-squared value is 0.44.

Table 22A   Does the enterprise have housing support

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes, Free	0.50	0.52	0.56
	(0.12)	(0.11)	(0.10)
Yes, Subsidized	0.05	0.06	0.13
	(0.03)	(0.03)	(0.04)
No	0.45	0.42	0.32
	(0.12)	(0.10)	(0.12)
Total	1.00	1.00	1.00

Note: Number of observations is 305. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 1.06 and P-value 0.39

Table 22B   Does the enterprise provide meals?

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes, for free	0.41	0.32	0.22
	(0.07)	(0.02)	(0.05)
Yes, cheaper than market price	0.09	0.07	0.06
	(0.02)	(0.03)	(0.03)
Yes, at market price	0.05	0.11	0.12
	(0.03)	(0.06)	(0.04)
No	0.45	0.50	0.60
	(0.09)	(0.05)	(0.08)
Total	1.00	1.00	1.00

Note: Number of observations is 306. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 3.16 and P-value 0.06.

Table 22C Do you have annual leave

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes	0.58	0.71	0.76
	(0.11)	(0.13)	(0.09)
No	0.42	0.29	0.24
	(0.11)	(0.13)	(0.09)
Total	1.00	1.00	1.00

Note: Number of observations is 308. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 4.52 and P-value 0.05

Table22D   Does the enterprise buy health insurance for you?

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes, for free	0.29	0.16	0.11
	(0.04)	(0.07)	(0.03)
Yes, subsidy	0.11	0.07	0.04
	(0.04)	(0.05)	(0.02)
Yes, no subsidy	0.09	0.03	0.02
	(0.04)	(0.02)	(0.01)
No	0.51	0.74	0.83
	(0.05)	(0.11)	(0.04)
Total	1.00	1.00	1.00

Note: Number of observations is 306. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 2.88 and P-value 0.10.

Table 22E   Does the enterprise give you transportation subsidy

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes, Free	0.14	0.07	0.06
	(0.06)	(0.03)	(0.02)
Yes, Subsidized	0.18	0.07	0.05
	(0.07)	(0.04)	(0.02)
No	0.68	0.86	0.89
	(0.07)	(0.05)	(0.04)
Total	1.00	1.00	1.00

Note: Number of observations is 306. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 3.10 and P-value 0.07

Table 22F   Is the enterprise responsible for the education of your children

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes	0.08	0.09	0.04
	(0.02)	(0.03)	(0.02)
No	0.92	0.91	0.96
	(0.02)	(0.03)	(0.02)
Total	1.00	1.00	1.00

Note: Number of observations is 302. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 2.08 and P-value 0.20.

Table 22G   Pension Insurance

	Worker Type		
	Manager	**Skilled Worker**	**Production Worker**
Yes	0.11	0.02	0.03
	(0.03)	(0.01)	(0.02)
No	0.89	0.98	0.97
	(0.03)	(0.01)	(0.02)
Total	1.00	1.00	1.00

Note: Number of observations is 303. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value 5.18 and P-value 0.04

<p align="center">**Table 23A-** **Incomes in the origin provinces (rural):**</p>

	Education			
	primary	Junior high	Senior high	college
Province				
Anhui	337.1473	468.7729	576.8567	951.8519
	314.251	473.6774	488.168	785.7222
Observations	13681	14537	1179	108
Jiangxi	351.4613	500.3428	595.5502	977.5862
	263.994	427.0856	601.9456	840.3953
	10320	10084	1274	58
Henan	249.1101	303.603	371.8236	577.8465
	231.1871	253.9065	343.4125	391.1702
Observations	9450	24708	2977	202
Hubei	327.533	440.8952	542.3165	850.2231
	241.0886	353.9746	466.8228	639.7413
Observations	12707	17456	2809	130
Chongqing	305.9087	426.8512	628.9121	914.0533
	282.8793	391.6937	845.1446	564.3864
Observations	10090	8988	1104	75
Sichuan	289.8184	394.5054	543.1681	914.5776
	266.9709	392.2651	571.5967	680.851
Observations	19862	14965	1713	116
Guizhou	260.6744	382.8446	537.6083	914.2321
	223.4343	394.8849	477.1307	1048.207
Observations	16262	8093	771	56

Note: Source, 2005 Intercensus Survey. In this sample, only persons who are living in rural areas, aged between 17 and 55, and having non-zero wages are included.

Table 23B – Monthly incomes in Wenzhou, Zhejiang

	Education			
	Primary	Junior high	Senior high	College
Rural	866	1110	1209	1430
	(635.7)	(738.4)	(715.1)	(677.6)
Observations	1774	1816	355	47
Urban	1150	1537	1735	2004
	(676.8)	(1323.2)	(1304.1)	(987.3)
Observations	71	198	188	240

Note: From 1% Intercensus Survey, 2005. Only individuals who are aged from 17 to 55, who are working are included.

TABLE 24A – Whether the firm had preferential tax treatment at the time of establishment?

	Industry			Employment Size				
	Shoe Making	Eyeglass	General Equipment	Small	Medium	Large	Total	Observations
Yes	0.19	0.04	0.16	0.00	0.09	0.28	0.12	9
	(0.07)	(0.04)	(0.08)	0.00	(0.07)	(0.13)	(0.05)	
No	0.81	0.96	0.84	1.00	0.91	0.73	0.88	45
	(0.07)	(0.04)	(0.08)	0.00	(0.07)	(0.13)	(0.05)	
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	54

Note: Number of observations is 54. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality across groups of industries has value, 1.49 and P-value, 0.27 and across groups of employment size has value, 2.26 and P-value, 0.16.

Table 24B– The answer to the question " Whether the firm had tax preferential treatment at the time of establishment" across period of establishment

	Period of establishment					Total	Observations
	Pre1985	1985-89	1990-94	1995-99	2000-2004		
Yes	0.48	0.00	0.10	0.07	0.00	0.12	9
	(0.16)	0.00	(0.11)	(0.08)	0.00	(0.05)	
No	0.52	1.00	0.90	0.93	1.00	0.88	44
	(0.16)	0.00	(0.11)	(0.08)	0.00	(0.05)	
Total	1.00	1.00	1.00	1.00	1.00	1.00	53

Note: Number of observations is 53. Standard errors are in parenthesis. The corrected Pearson chi-squared test of equality has value, 0.23 and P-value, 0.14.

Table 25 – The answer to the question " What is the price of land given by government " across The location of enterprises

	The location of enterprise			Total
	Ouhai	Ruian	Lucheng	
Free	0.12	0.31	0.19	0.19
	(0.12)	(0.00)	(0.04)	(0.07)
Less than Market Price	0.00	0.30	0.06	0.09
	0.00	0.00	(0.06)	(0.07)
Market Price	0.88	0.39	0.75	0.72
	(0.12)	(0.00)	(0.09)	(0.12)
Total	1.00	1.00	1.00	1.00
Observations	17	10	23	50

Note: Number of observations is 50.The corrected Pearson chi-squared test of equality has value,2.80 and P-value, 0.09. Standard errors are in parenthesis.

Appendix Table 1: The distribution of the sampled firms by industries and regions

	Area	Total number of firms	Selected firms
General Equipment Industry	Lu Cheng	233	2, 21, 40, 59, 84, 103, 122, 141, 170, 189, 208, 227 (Distance: 19)
	Ruian	600	11, 66, 121, 176, 254, 309, 364, 419, 455, 510, 565, 620 (Distance: 55)
Eye-Glass Industry	Lu Cheng	167	(没数据)(Distance: 19)
	Ouhai	292	5, 29, 53, 77, 115, 139, 163, 187, 217, 242, 267, 292 (Distance: 27)
Shoes Making Industry	Lu Cheng	469	1, 40, 79, 118, 183, 222, 261, 300, 327, 366, 405, 444 (Distance: 39)
	Ouhai	459	32, 70, 108, 146, 173, 211, 249, 287, 333, 371, 409, 447 (Distance: 38)

Appendix Table 2   **Logit regression of whether the firm was surveyed**

	Dependent Variable =1 if firm was surveyed
Ruian	3.39
	(1.51)
Lucheng	0.61
	(0.79)
Eyeglass	-1.22
	(0.82)
general equipment	-2.62
	(1.06)
Small	-2.40
	(0.93)
Medium	-1.19
	(0.94)
Constant	3.20
	(1.05)
Pseudo R-squared	0.22

Note: Number of Observations is 72. Standard errors are in parenthesis. The dependent variable is a dummy which is 1 if the firm was surveyed and zero otherwise. The independent variables are all dummy variables for location, industry and size.