The Formation of Wenzhou Footwear Clusters: How were the Entry Barriers Overcome?

Zuhui HUANG
Xiaobo ZHANG
Yunwei ZHU

Invited paper prepared for presentation at the International Association of Agricultural Economists Conference, Gold Coast, Australia, August 12-18, 2006

The Formation of Wenzhou Footwear Clusters: How were the Entry Barriers Overcome?

Zuhui Huang Xiaobo Zhang Yunwei Zhu

Wenzhou used to be one of the poorest regions in eastern China. With limited arable land, poor road access to major cities, and little support from the government, it seemed to lack all the necessary conditions for economic growth according to the standard textbook. However, over the past several decades, Wenzhou has achieved one of the fastest growing rates and owned the most dynamic private sector in China. The footwear industry in particular has grown from a negligible place to the largest market share and has formed one of the largest industry clusters in China. Therefore, the footwear industry provides us with a good example to understand the driving forces behind the dramatic rural industrial growth. For this study, we undertake a survey on about 140 enterprises at different scales in Wenzhou. The survey enables us to examine how the start-up capital, credit, technology, and institutional barriers have been overcome in the formation process.

1. Introduction

Wenzhou is located in the south-eastern part of Zhejiang Province and was predisposed for economic development. In 1978, Wenzhou City had a population of 5,612,600. Its arable land area was a meager 2,900,000 mu (equivalent to 0.52 m per capita; 1/3 of the national average) (Zhang Renshou, Li Hong, 1990). Additionally, Wenzhou's proximity to Taiwan made it a likely war frontline. Hence, neither the central nor the provincial (Zhejiang) governments were inclined to spare limited resources for Wenzhou's infrastructural and industrial development (Tsai, 2002). From 1949 to 1981, only 655 million yuan, or approximately 20 million yuan annually on average, were invested on the region (Zhang Renshou, Li Hong, 1990). Wenzhou suffered from poor transportation, relying upon a single narrow mountain road for transportation of people and goods[1], and consequently did not provide potential for industrialization.

Prior to reform, Wenzhou was one of the poorest regions in eastern China. With limited arable land, poor road access to major cities, and little support from the government, it seemed to lack all the necessary conditions for textbook economic growth, Nevertheless, since the economic reform in the late 1970s, several industries thrived in the region. The footwear industry in particular has grown from a negligible size to the largest share in the market and has formed one of the largest industry clusters in China.

With such unfavorable initial conditions, how did the new entrants succeed in overcoming the obstacles and constraints such as technology, start-up capital, etc. and begin the clustering process? What are the major factors that contributed to its formation? What lessons can be drawn from this success story? The footwear industry provides us with a good example to understand the

[1] Wenzhou Airport and Jin-Wen Railway were respectively completed in 1990 and 1998.

driving forces behind this dramatic rural growth. Little work has been previously made to examine these questions. This study aims to fill this knowledge gap.

This paper provides an overview of the Wenzhou footwear cluster and of our survey design in Section 2. It demonstrates how new entrants overcome the technological, capital and institutional barriers in Section 3 to 5 respectively. Finally, Section 6 summarizes the major findings and draws some lessons from this case.

2. An overview of the Wenzhou footwear cluster and survey design

The traditional shoemaking industry has a history of over 500 years in Wenzhou. In the Ming Dynasty, Wenzhou footwear was produced exclusively for the courts due to its exquisiteness and quality. At the end of the Qing Dynasty and the beginning of the Republic of China, the Wenzhou shoemaking industry began to flourish. The Fuqian Street in the city was then lined with dozens of footwear stores and became a unique footwear street.

In the 1920s, Shanghai, Xiamen and other cities employed workers from Wenzhou to make shoes. The shoemakers, through their work experience, mastered the advanced shoemaking process. When these skilled workers came back to Wenzhou, they became the key technicians in the local shoemaking industry. This batch of workers had a far-reaching influence on the development of the contemporary shoemaking industry in Wenzhou, especially in improving shoemaking technology.

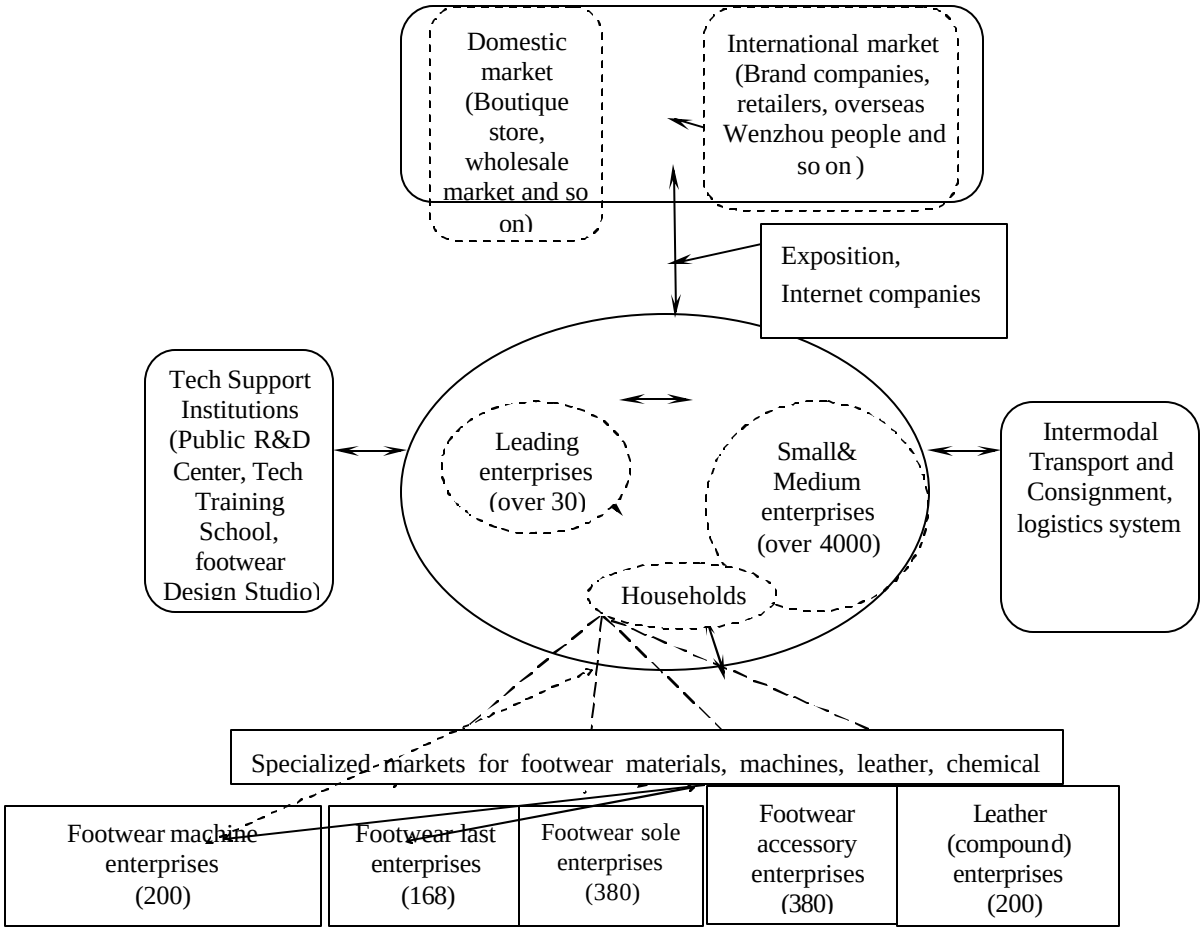
In 1950, there were 43 family footwear workshops and 103 employees in urban Wenzhou.[2] Since then, Wenzhou footwear industry went through two social movements; the socialist transformation movement in which many private workshops and factories were nationalized or closed, and the (write in the other social movement) movement. By 1978, there were only 19 footwear factories left, including two state-owned, eight collectively owned and nine privately owned with a yearly combined output of 496,800 pairs.[3] These factories are the "seed factories" which trained and accumulated a good number of technical workers, marketing and management talents and provided the basis for the emerging of the Wenzhou shoemaking industry in the context of opening and reform. After 1978, the Wenzhou shoemaking industry recovered rapidly. As state-owned and collective-owned businesses gradually went out of business, more and more employees set up their own factories, and the local shoemaking business boomed. By the end of 1981, there were 99 shoemaking factories in the Lucheng district of Wenzhou alone. After over 20 years' development, Wenzhou has now become the most important footwear production base, and is called the "Footwear City of China". As shown in figure 1, Wenzhou gradually formed a highly specialized and coordinated industrial cluster consisting of over 4000 shoemaking factories (over 30 leading companies with yearly output value of more than 100 million yuan), over 200 leather enterprises, over 380 footwear sole enterprises, over than 200 footwear machine manufacture enterprises, 168 footwear last enterprises, over 100 footwear accessories and ornamental materials, over 50 footwear-sample design and drawing offices and abundant household factories, in addition to specialized footwear-related information service agents, training schools and research institutes. These enterprises, institutions and households are linked together via numerous specialized

[2] Wenzhou City Annals, Zhang Zhicheng, Wenzhou City Annals Compilation Committee, Beijing, Chunghua Bookstore, 1998

[3] Wenzhou City Annals, Zhang Zhicheng, Wenzhou City Annals Compilation Committee, Beijing, Chunghua Bookstore, 1998

markets, such as the Wenzhou "Footwear City" Market, the Hetonqiao Footwear Accessories & Ornamental Materials Market, the South Zhejiang Footwear Accessories and Ornamental Materials Market, the Original Leather Market, Leather and Footwear Machine Market and the Leather Chemical Market, etc. In 2004, the total output of the Wenzhou footwear cluster amounted to 835 million pairs (including 452,980,000 leather shoes, 3,440,000 cloth shoes, 378,630,000 rubber shoes)[4] and employs over 400,000 people.[5] Table 1 shows the yearly output and export status of shoes during 2001-2004.

Figure 1 The structure of Wenzhou footwear cluster



Source: Footwear Leather Association of Wenzhou City, Footwear Materials Chamber of Commerce and Author's field survey.

[4] Wenzhou Statistical Yearbook (2005).
[5] Wenzhou Shoes and Leather Industry Association

Table 1 Annual Output and Export of the Wenzhou Footwear Industry

Year	Annual output value (billion???)	Growth rate (%)	Export value (US$ million)	Growth rate (%)
2001	249	-	462	-
2002	263	5.62	667	44.37
2003	307	16.73	837	25.49
2004	346	12.70	1149	37.28

It is interesting to observe that the footwear cluster formed in Wenzhou where, despite having neither a legal nor a financial system which is well developed by existing standards, private enterprises have mushroomed in the last two and a half decades. To address the questions mentioned in Section 1, the International Food Policy Research Institute (IFPRI) and Zhejiang University conducted a joint survey in Wenzhou.

The investigation work was conducted by collecting related literatures and documents andby interviewing numerous individuals including as key persons in the local societies, competent government authorities as well as some senior predecessors and insiders. Concurrently, we conducted further informal interviews with managers of some middle-small enterprises of the footwear cluster to design and pretest our questionnaires and then finished them. From July to October 2005, we conducted the formal field survey, covering the key footwear production bases, including the first phase and second phase "Footwear City of China" industrial park in the Lucheng district of Wenzhou City, the Shuangyu Industrial Park of Lucheng District, the Oubei Township of Yongjia County and the Shenting Township of Ruian City and so on. We randomly selected our investigation targets from the list provided by local government or administrative departments of the industrial parks, and send one investigator to talk to the key responsible people face to face and to finally fill in the questionnaire according to the information obtained. We surveyed 140 existing footwear enterprises[6] including enterprises producing finished products or parts of supplies, which account for 2.77% of the total enterprises of Wenzhou footwear cluster. Table 2 presents the summary statistics of the survey.

Table 2 Statistics summary of the survey

Types of products	Number of samples	Total number of enterprises	Sample/total	Minimum**	Maximum**	Mean*	Std. Deviation**
Final products*	121	4000	3.03%	3	3500	459	547
Footwear sole	4	380	1.05%	30	1100	570	612
Footwear last	2	168	1.19%	10	80	45	49
Leather	4	200	2.00%	8	170	62	74
Accessories & ornamental Materials	7	100	7.00%	30	200	75	66
Footwear Machinery	2	200	1.00%	90	500	295	290

[6] We also attempt to investigate those founders of footwear enterprises who have vanished or changed their businesses or had to give up due to the difficulty.

Total	140	5048	2.77%	3	3500	427	531

* The final footwear products including leather shoes, leisure shoes, safety footwear and children's shoes etc.

** Number of the employers at the end of 2004.

Source: Field survey by authors.

3. Overcoming technology barriers

3.1 Features of the Entrepreneurs

Table 3 displays the number of sample enterprises, the average years of schooling and years of *Chuangdang*[7] of the founders, and the composition of their occupational backgrounds at the time of their entry into the footwear industry.

Table 3 Characteristics of enterprise founders

	1980 and before	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005
No. of enterprises	4	18	27	31	38	22
Years of schooling	6.25	7.97	8.02	9.03	9.70	9.18
Years of C huangdang	5.00	7.38	8.50	9.68	11.16	14.53
Occupation 1(%)						
Farmers	0.00	11.11	18.52	16.13	13.16	13.64
Factory works	50.00	27.78	37.04	29.03	13.16	9.09
Salesmen of trades	25.00	33.33	25.92	35.48	50.00	54.54
Engineers	0.00	16.67	0.00	6.45	10.53	9.09
Managers	25.00	11.11	7.41	3.23	5.26	13.64
Others	0.00	0.00	11.11	9.68	7.89	0.00
Occupation 2(%)						
Related to footwear industry	75.00	77.78	22.22	48.39	42.11	59.09
Occupation 3(%)						
Capable of Footwear making technique	75.00	94.44	62.96	80.64	65.79	63.64

Source: Based upon the data from authors' field survey in Wenzhou.

Years of schooling and years of Chuangdang are the averages of each respective group.

Several interesting facts emerge from table 3: (i) At the beginning of opening and reform, newcomers in the Wenzhou shoemaking industry increased rapidly and this trend lasted until the end of the last century. (ii) The years of schooling of the founders increased gradually along with the increase of the average education level in Wenzhou. This result corresponds to those of Sonobe, Hu and Otsuka (2004) in their inquiry into the Wenzhou low-voltage electric appliances cluster. (iii) Before setting up their own enterprises, newcomers typically left home and worked elsewhere for many years and accumulated an increasing amount of non-local working experience which gradually exceeding the years of schooling in the mid 1980s. Certainly, this was critical for the formation of the footwear cluster. Hu (2002) argued that market demand and obtaining

[7] This refers to joining armies, doing business or working away from home. After leaving school, Wenzhou people tend to work or learn to do business across the country, as is an very important feature of Wenzhou people. Through these non-local experiences, they may accumulate human resources and social capital, and obtain precious market information.

information of market demand are two of the four basic requirements[8] for the establishment of new enterprises. Market opportunities can be found everywhere; therefore, obtaining market information is highly important. Numerous residents of Wenzhou left home and worked in other places for long periods of time. While accumulating the human resources and social capital required for setting up their own businesses, they were exposed to information on related markets and hence quicker to grasp market opportunities and develop their own businesses in their own market.

(iv) There are many notable points about the professional backgrounds of the newcomers. First, out of all the newcomers' backgrounds, the least prevalent profession was the farmer. That has remained constant throughout the history of the market, whereas the newcomers who used to be workers and salesmen have changed remarkably in proportion. Initially, the large majority of the newcomers used to be workers, but that has gradually declined over time. On the contrary, the proportion of former salespeople rose steadily from an initially low proportion. These findings are similar to those of Sonobe, Hu and Otsuka (2004). In the early stage, relatively high operating technologies and "know-how" constitute the main access barriers for early participants. As the market matures, sales and development capacity become more crucial.

The early Wenzhou shoemaking industry lacked a specialized division of labor and coordination because the participants in this period produced whole shoes and set up footwear stalls and family workshops. Comparatively, the production of whole shoes requires high levels of technology. Naturally, the participants were technicians who used to work in state-owned or collective shoemaking enterprises. They used relatively small machines and manually produced shoes. The industry was dominated by skilled workers because the technology barrier prohibited peasants ignorant of shoemaking technologies to enter. Due to diffusion, some specific production processes were separated and numerous specialized bases were formed as sub-clusters and engaged in specific processing and production steps, intermediary or auxiliary products. With the increasing divisions, the technology barrier gradually weakened and the production and supply capacity rose sharply, causing the market to undergo a fundamental change. In this new context, marketing capacity became crucial for new participants; only those who had customers and marketing capacity could manage to exist and develop. This is the underlying reason for the increasing proportion of salespeople joining the industry.

Secondly, while newcomers with a shoemaking background represented a large proportion initially, this proportion then declined. Prior to 1985, most of the participants used to work in related industries but afterwards the ratio dropped sharply, especially during the mid and late 1980s. Lured by the high profits of the industry, many individuals without any shoemaking background entered. This led to the quality crisis of Wenzhou footwear products.[9] Subsequently the ratio of those with shoemaking backgrounds rose, but remained low.

Thirdly, the newcomers with shoemaking technologies were a large portion of the entrants in the early years but declined over time. This process has been even, however, with some periods of increases and the portion of newcomers with shoemaking technologies has remained relatively high. This further demonstrates the high technological barrier of the shoemaking industry as well as the overcoming of that barrier through rich workers with footwear-making technologies. That overcoming of the technological barrier in Wenzhou has enabled the local industry to develop

[8] The other two are having or raising the minimum funds and acquiring production technologies.
[9] This was marked by the burning of Wenzhou shoes in Hangzhou Wulin Plaza in 1987. Wenzhou shoes became a noun for substandard shoes in the 1980s.

rapidly.

3.2 The Diffusion of Footwear-Making Technique and Knowledge

Following China' opening and reform, traditional state-owned and collective shoemaking enterprises gradually declined, and skillful technicians, sales people, managers and the retired set up their own factories. Subsequently, through master-apprentice relationships, shoemaking technologies rapidly spread. The thick line in Figure 2 represents the diffusion process of production and technology in the period. The process mainly includes the following aspects:

Figure 2 Diffusion of footwear production technique and knowledge in Wenzhou

Source: authors' field survey.

(i) Skillful technicians, sales people, managers and retired people who used to work for state-owned or collective enterprises set up their own private enterprises. At the turn of the 1980s, when China's command economy was starting to transit into a market economy, footwear products were undersupplied. However, the strong market demand and economic return attracted many people working in state-owned or collective footwear factories, especially technicians, to set up their own footwear stalls or family workshops and produced the whole shoe by themselves. Due to the highly technological requirements for the production of a whole shoe, the newcomers were mainly technicians who typically used little machinery and manually produced shoes. A representative enterprise is the state owned Dongfanghong Leather Footwear Factory. Three enterprises were derived from it, namely Jierda Footwear Co., LTD., China Aolun shoes Co., LTD., and Wenzhou Dashun Footwear Machinery Manufacture Co., LTD. In addition to these three big ones, there are also numerous smaller enterprises, such as the Tailong Footwear Last Factory etc. Table 4 displays the former work background of these four enterprises' founders.

Table 4: Backgrounds of the founders of 4 enterprises derived from the Dongfanghong Shoemaking Factory

Name of Enterprise	Founders	Positions in Dongfanghong before setting up enterprises
Jierda Footwear Co., LTD.	Yu Ashou	Head of workshop
China Aolun shoes Co., LTD.	Yao Wanfu	In charge of production
Wenzhou Dashun Footwear Machinery Manufacture Co., LTD.	Xia Zhengyi	In charge of machine repair
Tailong Footwear Last Factory	Huang Yongbin	Senior technician

Source: authors' field survey.

(ii) The master-apprentice mode boosted footwear production and technology diffusion in Wenzhou. The most typical example is Mr. Yu Ashou, the founder of Jierda Footwear Co., LTD. He taught a total of 16 students of whom 15 set up their own companies while the last one became his son-in-law and worked in Jierda Footwear Co., LTD. (Yuan Yaping, 2003).

(iii) Copying and spin-offs further increased footwear production and the rate of technology diffusion. As a matter of fact, the formation of an industrial cluster is also a process of production and technology diffusion and dissemination through copying of others. Success of one enterprise often lures others to copy, resulting in numerous enterprises being duplicated. As far as Wenzhou's diffusion and dissemination channels are concerned, this process is accomplished through relatives and friends (Zhu Kangdui, 2005). This phenomenon pushes industrial diffusion and boosted the formation of the Wenzhou shoemaking cluster[10].

3.3 Division of Labor Lowers Technological Threshold

[10] Aokang and Hongqingting are two typical examples. Two carpenters, Wang Zhentao and Qian Jinbo left home and worked elsewhere and later sold shoes together until in 1988 when they co-founded a leather shoe factory. In 1995, due to difference in personalities, the factory was separated into the existing Aokang Group and Hongqingting Group. Following this, the two groups made great progress and became leading companies of their type in China.

Whereas it is generally recognized that specialized divisions can improve production efficiency (Smith, 1776; Yang Xiaokai, Huang Youguang, 1996), its role in breaking through industry access barriers is often neglected. Our investigation shows that the specialized division of labor simplified complicated production which not only lowered technological and access capital barriers[11] but also took full advantage of the entrepreneurs' capacities.

First, the specialized division initially decomposes very complicated footwear products into numerous intermediary products, thereby providing opportunities for households without shoemaking backgrounds or access to technology required for shoemaking. Table 5 shows the 7 categories and over 20 varieties of intermediary products into which the process of producing a pair of shoes can be divided, from which newcomers can choose according to their technological capacity.

Table 5 Intermediary products of shoes

Assortments	Intermediary products
Upper of footwear	Leather, PV leather, PVC leather, etc.
Sole of footwear	Outsole, Mid-sole, Insole, Heel, Sock lining, Heel pad, etc.
Lining of footwear	Fore-lining, Back-lining, Sponge, Cloth material, Foam, etc.
Materials of footwear	Filament, Cement(Rubber cement, Neoprene), Crepe, etc.
Matching products	Last, Footwear horn, Cotton flannel for footwear-polishing, Brush, etc.
Accessories and ornamental Materials	Footwear buckle, Slide fastener, Lace, Edging, Elastic band, etc.
Packing Materials	Box/Carton, Brand, Lag label ticket, Tissue paper, Drying Agent, etc.

Source: Author's field survey.

Secondly, the specialized division of labor decomposes the initially rather complicated shoemaking process into relatively simple steps; hence, remarkably reducing the technical difficulty. Some auxiliary production steps in the production process can even accommodate the elderly, the weak, the disabled and the young. Our investigations in the rural Yongjia County of Wenzhou have found that women used simple tools to assemble small metal components like shoe accessories and shoe buckles during slack farming season.

Finally, specialized divisions can also make better use of entrepreneurs. Entrepreneurs of the enterprises have different capacities; competent entrepreneurs can accommodate more working steps into the enterprise or expand their enterprises through vertical integration, whereas less competent entrepreneurs may engage one or several steps at the appropriate scale. Therefore, specialized divisions can adequately exploit the potential of rural entrepreneurship (Hayami, Kikuchi and Marciano, 1998) that is abundant in villages and local towns in Wenzhou. This also accommodates entrepreneurs with different capacities into the production chain and transforms these capacities into real profit.

[11] Division of labor can remarkably lower its access capital threshold, i.e. decompose the shoemaking chain into numerous steps requiring variable investments. Different households may choose different steps according to their fund, financing capacity, and risk-bearing capacity, thus even the households with scanty capital can be accommodated into the process and take up some labor-required work. We will dedicate another paper to analysis on how to lower access capital threshold.

4. Overcoming the capital barriers

4.1 Entry barriers of start-up capital investments

The lack of access to adequate start-up capital has been recognized as an important deterrent to small enterprise development and growth. Many authors (Otero and Rhyne, 1994; Pretes, 2002; Schreiner and Woller, 2003; Hernandez-Trillo etc., 2005) stress that it is very difficult for most small enterprises to obtain support from formal financial institutions. This is especially true when the founders setting up small and medium sized enterprises often lack sufficient mortgages or guarantee. In these cases, banks are generally cautious in issuing start-up loans. This has also emerged in our investigation. Among the 140 enterprises we surveyed, only two had obtained bank loans. One was founded in 1996 with an investment of 500,000 yuan, including a 40% bank loan; the other was founded in 2000 with an investment of 500,000 yuan, including a 20% bank loan. How did Wenzhou shoemakers overcome capital shortages when formal financial aid could not be obtained in order to meet start-up fund requirements? Among the 140 enterprises we surveyed, 20 failed to respond or give clear answers and 2 were new enterprises. If we deduct these 22 enterprises from the total, 118 enterprises remain upon which we based our analysis.

These 118 enterprises made a combined initial investment of 19,701,100 yuan, with each making the average investment of 160,700 Yuan. Table 6 shows that the enterprises differ significantly in terms of start-up capital, ranging from 500 to 3,567,400 Yuan[12] as a result of different start-up capital and production link choices. In terms of the minimum, maximum and average values in different periods, the total start-up fund increases over time, showing that whereas the industry threshold rises, the minimum investment requirements for different periods remain relatively low. This shows that access capital requirements were still quite small and that average households can enter at an appropriate scale matching their accumulated fund plus the informal finances.

Table 6 Start-up funds required for 118 enterprises during different periods (’000 yuan)

Years	Number	Minimum	Maximum	Mean	Std. Deviation
1980 and before	4	0.5	70.7	20.9	33.5
1981-1985	14	0.9	225.3	35.0	61.1
1986-1990	25	2.5	312.7	66.1	91.7
1991-1995	27	0.5	272.1	64.9	72.2
1996-2000	32	11.1	3,567.4	246.2	612.7
2001-2005	16	8.9	3,095.7	490.3	914.5
All samples	118				

Note: All the initial investment values are revised by the price index of fixed capital investment of Zhejiang province which is obtained from the Zhejiang Statistics Yearbook and the China Statistics Yearbook.

Note: Among all the enterprises founded in 1996-2000, two enterprises have a start-up fund of 3,567,400 and 3,095,700 yuan respectively. If these two enterprises are excluded in our calculation, then the average start-up funds of the two periods are only 139,000 and160,700 yuan respectively.

Source: Calculated from data collected by authors.

[12] The Kangnai Group had an initial investment capital of only 500 yuan when it was found in 1980, and now it becomes one of the biggest and also most outstanding shoemakers. At present, it owns 14 advanced automatic production lines and output reached 1.2 billion yuan in 2004.

Table 7 shows the values of various sources of funds and their percentage in the total start-up capital. The data shows that 66.37% of the start-up fund came from individual investments, 24.94% from direct relatives and friends of the founders, 8.35% from social fund raising or other resources, and only a negligible 0.34% from banks.

Table 7 Sources of start-up funds of 118 shoemaking enterprises

	Start-up fund	Founder	Direct relative	Relatives or friends	Merchant banks	Public fund	Others
Weighted amount	1970.11	1307.48	287.00	204.40	6.79	43.58	120.86
Weight (%)	100.00	66.37	14.57	10.37	0.34	2.21	6.14

Note: All the initial investment value are deflated by the price index of fixed capital investment of Zhejiang province, which is obtained from Zhejiang Statistics Yearbook and China Statistics Yearbook.

Source: calculated according to the data collected by author's field survey.

Two aspects of the above results are worth noting: without formal financial support, Wenzhou shoemakers mainly relied on their own funds for start-up capital; most informal start-up capital came from relatives and friends while the more generic and market-oriented informal finance channels, such as public fund raising, were seldom used[13]. We find that the enterprises preferred to borrow from relatives and friends (44.29%), followed by banks, accounting for 20%, then by those who raised funds through direct relatives, which only makes up 10.71%, and finally those choosing social fund-raising, which was used minimally.

We now proceed to analyze how these enterprises overcame working capital difficulties. Table 8 shows the number and proportion of enterprises with different preferred channels when they need working capital.

Table 8: Number and proportion of enterprises using different preferred channels to raise funds

Preferred channel	Direct relative	Relatives or friends	Merchant banks	Public fund	Others	No financial difficulty	Total
Number of enterprises	15	62	28	4	16	15	140
Percentage (%)	10.71	44.29	20.00	2.86	11.43	10.71	100.00

Source: Based upon authors' field survey.

What is the reason behind this? Further analysis shows that fund raised from direct relatives usually do not bear interest and have no definite payment deadline unless otherwise specified. Since the fund can also be used by the borrower for a relatively long period, such funds are often used for start-up capital or ramp-up capital expenditure. When working capital is required,

[13] Table 7 shows that, among the 118 enterprises, only 6 used proceeds raised from public channels, accounting for 20%-67% in their initial investments respectively.

enterprises tend to use delayed payment which is a common practice among upstream and downstream enterprises based upon trust and commitment. These enterprises have formed a relatively stable friendship relation after long term business cooperation. As they are engaged in the same products, well aware of the credit of each individual and pf enterprise development, and have a multilateral default penalty mechanism which has been formed within a community, enterprise owners can use credit to pay various expenses, hence financial support and circulation gradually comes into existence. Table 9 examines whether the 140 enterprises can purchase on credit goods provided by upstream enterprises. In fact, most investigated enterprises may do so within a credit term of no longer than 3 months. This shows that delayed payment has become an important channel for Wenzhou shoemakers to overcome their working capital shortage. On the other hand, banks are more willing to lend to those which can mortgage the fixed assets in which they invested during the start-up period. Therefore, some enterprises prefer bank loans when they need working capital.

Table 9: Whether enterprises can purchase on credit goods provided upstream suppliers

	Credit allowed (credit period)							
	1 month or less	1-2 months (inclu. 2 months)	2-3 months (inclu. 3 months)	3-6 months (inclu. 6 months)	Over 6 months	Not allowed	No definite answer	Total
Number of enterprises	78	17	17	7	2	12	7	140
Percentage (%)	55.72	12.14	12.14	5.00	1.43	8.57	5.00	100.00

Source: Calculated from authors' field survey.

5. System Barrier Breakthrough

The formation of the Wenzhou shoemaker cluster was also a process of exploration and deepening of China's opening and reform policies. At the beginning of this period, the founders of the Wenzhou shoemaking enterprises faced two system barriers: ownership risk caused by under-protection of private ownership; performance risk caused by a lagging legal system.

5.1 Avoiding ownership risk

At the beginning of reform and opening, China had no market economy system in place. As a result, the property rights system was still constrained by politics especially since the then top government leaders still disagreed on the direction of reform. Consequently, private economic activities in this period were often branded as "illegal market activities" and suppressed by the police. Questions as how to circumvent ownership risk and obtain individual economic liberty were the main problems for the new shoemakers at this time. In order to avoid direct conflicts with the then current system and ideology, seek for legal political protection, and reduce the high transaction cost and efficiency loss caused by the branding, many private enterprises resorted to some makeshift practices such as "Attaching them to a legal enterprise or organization" or wear a "red hat" [14]-collective owned enterprise- to avoid ownership risk. Through these practices, they not

[14] Those that become affiliated with public enterprises were called "hang-on household enterprises" (or called "guahu qiye"), since they attached themselves to state-owned enterprises by paying to use their name, stationery, receipts, and account numbers. Those that chose to register as collectives with neighborhood or village

only managed to legalize their private enterprises, but also to effectively enlarge fund resources. Local government was also not negligible in this process as their acquiescence and even support towards these private innovations (Zhang Renshou, Li Hong, 1990) enabled Wenzhou shoemakers to break through the then system barriers and circumvent the crucial ownership risk.

5.2 Reduce Contract Performance Risk

The efficient functioning of markets requires that some organization enforce contracts and property rights. To be credible, the organization that enforces contracts and property rights must have the power to force people to adhere to its decisions.(Haber, North & Weingast, 2003 However, given that the legal system is incomplete and a credit system has yet to be set up, the cost of enforcing contracts by legal means, such as by courts, is very high and often impractical because the value of unit transactions is small relative to the litigation cost (Hayami, Kikuchi and Marciano, 1998). Therefore, in this situation, it is very impractical to rely only on the system to improve market efficiency, reduce performance risk and transaction cost. In our survey, we examine the issue of how Wenzhou shoemakers generally solve contractual conflicts among enterprises. Table 10 presents the results of this analysis.

Table 10: Solutions Usually Adopted to Solve Contractual Conflicts between Enterprises

Solutions	Go to court	Mediation through related associations	Out-of-court settlement	Others	No response	Total
Number of enterprises	4	9	94	7	26	140
Percentage (%)	2.86	6.43	67.14	5.00	18.57	100.00

Source: Calculated according to the data collected by author's field survey.

Among the 140 investigated enterprises, 94 explicitly express that they usually solve contractual conflicts through out-of-court negotiation, and only 4 would like to "go to court". Due to the incomplete legal system, going to court costs not only money but also energy in China. Furthermore, even though a party wins a lawsuit, it may not help much. Consequently, negotiation out of court is used as a substitute for formal contract performance. Under these circumstances, how do Wenzhou shoemakers deal with performance risk? We find that resorting to market force, i.e. the creative establishment of various specialized markets, e.g. Footwear Accessories & Ornamental Materials Market, Original Leather Market, Leather & Footwear Machine Market, and Leather Chemical Market etc., to facilitate concentrated transaction, may be an important aspect. Sonobe *et al.* (2002) argue that the local marketplace, where enterprise managers can easily purchase materials and sell products to local traders, plays a critical role in stimulating the entry of new enterprises in the early stage of cluster development. Specialized markets not only facilitate transaction, but also help to maintain pressure on transaction partners, and consequently reduce risk of transaction failure. (Yang Xiaokai, Huang Youguang, 1999) The more potential transaction partners on the market, the more replaceable the transactions become. In this case, even though the original partner fails to perform the contract, the loss incurred would

committees were said to "wear a red hat". (Tsai, 2002)

become reduced. In the meantime, having substitutes leads competitors to enhance transaction efficiency. Therefore, the formation and development of specialized markets not only addresses issues such as "product market" and "information" but also effectively reduces the transaction cost incurred due to the underdeveloped credit system and legal environment at the beginning of China's opening and reform, improve transaction efficiency and boost the formation of Wenzhou's shoemakercluster.

6. Lessons from this case

China is an important counterexample to the findings in the law, finance and growth literature: neither its legal nor financial system is well developed by existing standards, yet it has one of the fastest growing economies (Allen, Qian, and Qian, 2005). As an area of fast growth in China's private economy, Wenzhou provides an example for both China and the rest of the world. Using a field survey on Wenzhou's footwear cluster, we find that due to adverse conditions, such as a large population and relatively little land, and lack of resources, a great number of residents were forced to either leave home and find work elsewhere or became engaged in the production of small commodities. They thereby developed a strong market sense and accumulated a good financial basis. After China's opening and reform, Wenzhou's entrepreneurs took advantage of market opportunities based on the information they obtained outside of Wenzhou; they overcame a range of barriers in technology, capital and system, and made remarkable development. From this case, the following lessons emerge:

The study of the formation and evolution of the Wenzhou footwear cluster contribution to economics in terms of theoretical models. Law, private property rights and effective markets are often viewed as prerequisites for economic development. However, the formation of the cluster shows that well specified and developed property rights, the rule of law, a judicial system that enforces contracts, well financial system are important to economic development but are not necessary preconditions. In some sense, these factors are the consequences of economic development rather than its prerequisites. The role of the informal system can also not be neglected. The innovations made by the entrepreneurs with respect to informal systems, such as "circumventing the red traffic light" and other informal norms of behavior may make up for deficiencies in the formal system and facilitate economic development. As a matter of fact, the process of economic development itself is a process of continuous confrontation with new barriers and identification of new problems. The innovations of the entrepreneurs can overcome these barriers and problems overtime and lead to greater development of the economy.

The forming process of the footwear cluster shows that whereas an initial disadvantageous environment restricts economic development it also creates opportunities. Wenzhou's inconvenient location and poor transportation hindered economic development in Wenzhou. However, these adverse conditions (the lack of natural resources and inconvenient location) forged a unique regional social culture in Wenzhou such as a mercantile culture, pioneering and adventurous, hardship enduring spirit, valuing local relationship, etc. These factors played a significant role in the formation of the footwear industry in Wenzhou. The establishment of the "Wenzhou Mode" is, in a sense, the result of being cornered by disadvantageous factors. The large number of farmers and relatively insufficient arable land in rural areas (per capita arable land of less than 0.5mu, equal to 333.34m^2) resulted in an oversupply of labor in Wenzhou. Meanwhile, the development of rural collective enterprises was low due to the lack of vigorous support from modern industry which was also very weak.

From the perspective of system and economical reform, inferior transportation was an advantage at the beginning of China's reform and opening. In an age of poor information communication, remote and inaccessible areas were less subject to governmental influence and control, and hence more favorable to those things in exploration stage or which were temporarily prohibited. This is an important reason behind the bottom-up private economy development and the existence and development of market-oriented reform in Wenzhou at the beginning of opening and reform in China. Due to the success, the "Wenzhou mode" and experience were gradually accepted and highly recognized. It became an unforeseen driving force behind the market oriented reform and economic development across China. In this sense, the formation and evolution of the Wenzhou shoemaker cluster is not only significant in itself, but also as a means to understand and to interpret the development of China's economy and system transformation.

References

Dorothy Mccormick. (1999). African enterprise clusters and industrialization: theory and reality. World development 27(9)1531-1551.

Yujiro Hayami, Masao Kikuchi and Esther B. Marciano. (1998). Structure of rural-based industrialization: metal craft manufacturing on the outskirts of greater Manila, the Philippines. The developing economics. XXXVI-2(June 1998) 132-154.

Tetsushi Sonobe, Dinghuan Hu and Keijiro Otsuka. (2004). From inferior to superior products: an inquiry into the Wenzhou model of industrial development in China. Journal of comparative economics, 32(2004)542-563.

Tetsushi Sonobe, Dinghuan Hu and Keijiro Otsuka. (2002). Process of Cluster Formation in china: A Case Study of a Gwrment Town. The Journal of Development Studies, 39(1):118-139.

Tetsushi Sonobe and Keijiro Otsuka. (2006). The Division of Labor and the Formation of Industrial Clusters in Taiwan. Review of Development Economics, 10(1):71-86.

Eiji Yamamura, Tetsushi Sonobe and Keijiro Otsuka. (2003). Human capital, cluster formation, and international relocation: the case of the garment industry in Japan, 1968–98. Journal of Economic Geography 3:37-56.

Smith, Adam. (1776). The wealth of nations. Bantam Classic Edition, March 2003. New York: Bantam Dell.

Stephen haber, Douglass C. North and Barry R. Weingast, If economists are so smart, why is Africa so poor? The Wall Street Journal, July 30, 2003.

Dinghuan Hu, The General Mode of Rural Industry Development in China—""? ? ? ", The 6th issue of 2002, Research Newsletter, Economy & Development Research Institute, China Academy of Agricultural Sciences.

Yang Xiaokai, Specialization and Economic Organizatons- An Emerging ClassicalcMicroeconomics Framework[M].Translated by Zhang Yugang, Beijing: Economic Sciences Publishing House, 1999.

North, Douglass C., (1990) Institutions, Institutional Change, and Economic Performance, New York: Cambridge University Press.

Zhang, R. and Li H., 1990, Wenzhou Mode Research, Beijing: China Social Sciences Publishing House.

Kellee S. Tsai, Back-Alley Banking, Cornell University Press. 2002.

Zhu Kangdui, Wenzhou Shoemaking Industry: From Local Cluster to Global Value Chain, Wenzhou Fo rum, 2005,(3)

Hubert Schmitz. (1995) Small Shoemakers and Fordist Giants: Tale of a Supercluster. World Development. 23 (1): 9-28.

Schmitz Hubert. (1999) Global Competition and Local Cooperation: Success and Failure in the Sinos Valley, Brazil. World Development. 27(9): 1627-1650.

Williamson, Oliver E. 1985. The Economic Institutions of Capitalism. New York: Free Press.

Allen, Franklin, Qian, Jun and Qian, Meijun, "Law, Finance, and Economic Growth in China" (May 7, 2004). U of Penn, Inst for Law & Econ Research Paper No. 03-21.

Ayyagari, Meghana, Demirguc-Kunt, Asli and Maksimovic, Vojislav, "How Important are Financing Constraints? The Role of Finance in the Business Environment" (January 2006). World Bank Policy Research Working Paper No. 3820.

Hernandez-Trillo, Fausto, Pagan, Jose A. and Paxton, Julia, "Start-up Capital, Microenterprises and Technical Efficiency in Mexico" . Review of Development Economics, Vol. 9, No. 3, pp. 434-447, August 2005

Maria Otero and Elisabeth Rhyne, The New World of Microenterprise Finance: Building Healthy Financial Institutions for the Poor, West Hartford, CT: Kumarian Press (1994).

Michael Pretes, Microequity and Microfinance, World Development, 2002, 30(8):1341-1353.

Mark Schreiner and Gary Woller, Microenterprise Development Programs in the United States and in the Developing World, World Development, 2003, 31(9):1567-1580.

Yuan Yaping, born in Wenzhou, Beijing: People's Literature Publishing House, 2003.