

# GUANXI AND EVOLVING OWNERSHIP STRUCTURES IN CHINESE PRIVATE ENTERPRISES

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## Abstract

This paper develops a theoretical model to study features of the evolving ownership structures of private enterprises in Zhejiang Province, China. The model predicts that in a developing economy where the market environment is immature or unstable, the ownership structure of a typical private enterprise involves a cooperative arrangement between a party with management skills and another party with Guanxi (connections). As the market environment becomes more stable, the ownership share of the party with management skills increases. This result is confirmed by empirical evidence of 296 surveyed firms in Ningbo city of China, showing that the perceived importance of both government and family Guanxi declined with perceived improvements in market stability.

**Keywords:** Guanxi, Ownership Structure, Quality of Economic Environment, Private Enterprises, China

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## 1. Introduction

Since the beginning of the market-oriented reforms in 1978, China has enjoyed extraordinary economic growth for over 30 years. During this period, China's stunning economic performance has been accompanied and most likely propelled by the rapid expansion of its private sector, particularly after the government recognized the non-public sector as an important part of the socialist market economy in the late 1990s. The number of registered private enterprises jumped from less than one million in 1997 to 8.18 million in 2010, and the private sector is estimated to contribute to about 70 per cent of GDP in recent years.<sup>[4]</sup> Indeed, the rise of the private sector in China has fuelled rapid economic growth during the last three decades, and private firms are the most dynamic component of the Chinese economy.

The top 3 provinces that host the most private enterprises are Jiangsu province, Guangdong province and Zhejiang province. However the

features of private sector development are different across these provinces. For example, in southern Jiangsu province, many private enterprises are spin-offs from state and collective enterprises. In the Pearl River Delta region of Guangdong province, private enterprises are often supported by capital from Hong Kong, Macao and other developed economies. In contrast, the private sector in Zhejiang province has grown spontaneously, relying mainly on capital accumulation from the owners' personal savings and retained earnings. We focus on the spontaneous private sector growth of the 'Zhejiang type' in this paper.

The growth of the private sector in Zhejiang province may be thought as a geographical expansion of the Wenzhou model frequently cited in the literature (Yuan, 1987; Sun, 2000; Zhang et al., 2002). Wenzhou is a prefecture-level municipality located in the southeast corner of Zhejiang province. From a relatively unknown city in the 1970s, Wenzhou has achieved national fame for its star economic performance by mid-1980s, and has continued to enjoy outstanding growth. Between 1978 and 2008 Wenzhou's real GDP increased from RMB1.3 billion to RMB86.5 billion (USD12.5 billion in 2008), an average annual

<sup>[4]</sup> Calculations based on data from Statistical Year Book of China 2011 and Yearbook of State's Industrial and Commercial Administration 2011.

growth of 15%. The main driver of growth has been the expansion of the private sector. In fact, 98% of all the industrial firms in Wenzhou are privately owned (The China General Chamber of Commerce, 2009, pp.183-184).

Like the case with Wenzhou city, the story of private sector development in other parts of Zhejiang province is one of “reforming from below.” Private sector developed as a result of individuals, households, and local government officials pursuing their pragmatic interests, rather than following ‘top-down’ directives (Sun, 2000). Of course, individual pursuits are not carried out in a vacuum, but are constrained by the policy environment. From the late 1970s to the mid-1980s, there was considerable uncertainty regarding private property rights, and government policies (e.g., allocation of resources, loan approvals, tax treatment and bank loans) clearly favoured collectively owned enterprises. During this period, private entrepreneurs maintained a tight relationship with the government through affiliations with established state or collectively owned enterprises. In such affiliations, the government had an ownership interest and acted as the protector of the private enterprises. These enterprises are often referred to as ‘red hat’ enterprises. During the next decade from mid-1980s to mid-1990s, the private sector grew rapidly. Private sector growth was especially encouraged by the 1992 speech of Deng Xiaoping, China’s paramount leader at the time, which called for a broadening of market-oriented reforms and the subsequent 14<sup>th</sup> Conference of the Chinese Communist Party, which endorsed the vision of building a ‘market socialist economy’. During this period, many private enterprises took off their ‘red hats’ and formed joint-stock cooperatives. Most of the joint-stock cooperatives had no government ownership interests, but private entrepreneurs retained a close relationship with local governments, and local governments actively promoted these businesses in the national market. In 1999, an amendment to the Chinese Constitution came into effect, which recognises private enterprises as an important component of the economy. A further amendment to the Chinese Constitution in 2004 provides the protection of legitimate private property rights. With increased clarity regarding the legal status of private property, government involvement in private enterprises retreated further. Since late 1990s, many joint-stock cooperatives have transformed into limited liability companies or joint-stock companies.

It appears therefore that the ownership structure of private enterprises in Zhejiang province has evolved with the changing policy environment. Moreover, there is some evidence to suggest that private firms’ reliance on both government connections and family ties have weakened as

direct involvements of government officials and family members are reduced with the changes of ownership structures over time.

The purpose of this paper is twofold. First, it develops a theoretical model to explain the evolution of private sector ownership structures in Zhejiang province. The model suggests that when the market is immature, a private entrepreneur with management skills tends to partner with someone with government and/or family connections (*Guanxi*). As the market develops, the ownership share of the entrepreneur tends to increase. Second, we present a case study based on a survey of 296 firms in Ningbo, the second largest city of Zhejiang province, which shows that the perceived importance of both government and family *Guanxi* declined when markets were perceived to be more stable.

Our theoretical model is an application of the endogenous ownership theory which argues that ownership structure is an endogenous choice that reflects the nature of market environment (Demsetz, 1983). More directly, our model builds on Tian’s (2000) analysis which concludes that private ownership in its pure form may not be optimal in ‘transitional and other irregular economic environments, in which economic freedom is constrained and markets are absent, immature, or imperfect’ (p.248-249).

Similar to Tian (2000), we treat *Guanxi* is a resource that is required in the production process, but that cannot be purchased from an immature market. More generally, *Guanxi* may be viewed as a network of informal relationships (Lovett et al., 1999; Li, 2002). In particular, *Guanxi* involves cultivating personal relationships through the exchange of favours and gifts for the purpose of obtaining goods and services, developing networks of mutual dependence, and creating a sense of obligation and indebtedness (Yang, 1994; Xin and Pearce, 1996; Lovett et al., 1999; Schlevogt, 2001; Sun and Wong, 2002).

Different from Tian, we consider two types of *Guanxi*. One is government *Guanxi* which centres on cultivating personal relationships with government officials (Yang, 1994, 2002; Wank, 1996; Guthrie, 1998). Another is family *Guanxi*, which refers to the trusting relationship between family members and friends. The natural ties between family members are present in all cultures, as Smith (1759) observed, ‘every man ... is first and principally recommended to his own care ... after himself, the members of his own family ... are naturally the objectives of his warmest affections. They are naturally and usually the persons upon whose happiness or misery his conduct must have the greatest influence.’ (p.219) While family *Guanxi* involves mostly extended family members, it has an extraordinary capacity to reach beyond family members to friends and acquaintances (Sun

and Wong, 2002). Family *Guanxi*, like government *Guanxi*, is also treated as an ability to obtain necessary inputs for successful production that cannot be readily acquired through ordinary market transactions.

Apart from having two types of *Guanxi*, our theoretical model differs from Tian (2000) in an important way. Namely, we discuss the optimal ownership arrangements from the perspective of the entrepreneurs who has superior management ability, and attempts to explain the evolution of the private sector ownership structure as a result of entrepreneurs pursuing profits. In contrast, Tian (2000) discusses the optimal ownership from a benevolent government's perspective and considers what the desirable ownership structure should be if the government could impose the optimal structure from above.

The rest of the paper is organised as follows. Section 2 presents the theoretical model that explains the features of private sector growth in Zhejiang province of China. Section 3 contains an empirical analysis that investigates perceived importance of *Guanxi* in different market environments in Ningbo city. Section 4 concludes.

## 2. The Model

### 2.1 The Setup of the Model

Consider two agents: Agent 1 is a private entrepreneur with superior management ability ( $M$ ) while Agent 2 possesses *Guanxi* ( $G$ ), an ability to obtain resources that cannot be bought from the market. The production process requires both  $M$  and  $G$  and one unit of capital investment ( $k=1$ ).  $G$  is assumed to take a CES form, i.e.,  $G = (G_g^\beta + G_f^\beta)^{1/\beta}$ , where  $G_g$  is government *Guanxi* and  $G_f$  is family *Guanxi*, with  $0 \leq G_g, G_f \leq 1$ ,  $G_g + G_f \leq 1$ , and  $0 < \beta < 1$ .

The use of  $M$  and  $G$  in the production process is time-consuming, and each agent has one unit of time that can be allocated between production and alternative activities. Since Agent 1 has inferior  $G$  relative to Agent 2, it is assumed that one hour of Agent 1's time devoted to  $G$  is equivalent to only a fraction  $\lambda$  ( $0 < \lambda < 1$ ) of one hour devoted to  $G$  by Agent 2. The income from alternative activities of agent  $i$  is exogenous and is given by  $u_i$  ( $i=1, 2$ ).

Following Tian (2000), we assume that given  $M$  and  $G$ , the firm's profit function is:

$$\Pi(M, G; \rho) = M^{\alpha_1} (G_g^\beta + G_f^\beta)^{(1-\rho)\alpha_2/\beta} \quad (1)$$

where  $\alpha_1, \alpha_2 > 0$ , and  $\alpha_1 + \alpha_2 < 1$ . Subscription 1 refers to Agent 1, subscripted 2 refers to Agent 2.  $\rho$  ( $0 \leq \rho \leq 1$ ) measures the quality of market environment. As the market environment improves (that is,  $\rho$  increases), the importance of *Guanxi* in the production process declines.

### 2.2 Optimal arrangement choice

Agent 1 can establish a firm by choosing one of two organizational forms: (1) the non-cooperative arrangement, in which Agent 1 runs the firm by himself; or (2) the cooperative arrangement, in which Agent 1 runs the firm jointly with Agent 2.

If Agent 1 chooses the non-cooperative arrangement, he makes one unit of capital investment, and allocates his time between management, *Guanxi*, and his alternative activity in order to maximize his expected income. Given the profit function (1), Agent 1's decision problem is:

$$\Pi_1^s = \max_{M_1, G_{1g}, G_{1f}} \left[ M_1^{\alpha_1} \lambda_1^{(1-\rho)\alpha_2} (G_{1g}^\beta + G_{1f}^\beta)^{(1-\rho)\alpha_2/\beta} + (1 - M_1 - G_{1g} - G_{1f}) u_1 \right] \quad (2)$$

where  $M_1, G_{1g}, G_{1f} \geq 0$ , and  $M_1 + G_{1g} + G_{1f} \leq 1$ .

Solving this problem we obtain Agent 1's income function under non-cooperative arrangement:

$$\begin{aligned} \Pi_1^s &= [1 - \alpha_1 - (1 - \rho)\alpha_2] \left\{ \lambda_1^{(1-\rho)\alpha_2} \alpha_1^{\alpha_1} [(1 - \rho)\alpha_2]^{(1-\rho)\alpha_2} 2^{(1-\rho)\alpha_2(1-\beta)/\beta} \right\}^{1/[1-\alpha_1-(1-\rho)\alpha_2]} \\ &\times u_1^{-[\alpha_1+(1-\rho)\alpha_2]/[1-\alpha_1-(1-\rho)\alpha_2]} + u_1. \end{aligned} \quad (3)$$

If Agent 1 chooses the cooperative arrangement, he will own the firm jointly with Agent 2. We assume that they share the profit according to some ratio, determined by their

relative bargaining power. Let  $\theta$  ( $0 \leq \theta \leq 1$ ) be the profit share of Agent 1, then Agent 1's income is determined by:

$$\Pi_1^c = \max_{M_1} \left[ \theta M_1^{\alpha_1} (G_{2g}^\beta + G_{2f}^\beta)^{(1-\rho)\alpha_2/\beta} + (1 - M_1) u_1 \right] \quad (4)$$

where  $0 \leq M_1 \leq 1$ ,  $0 \leq G_{2g}, G_{2f} \leq 1$ , and  $G_{2g} + G_{2f} \leq 1$ .

Solving this problem, we obtain Agent 1's reaction function:

$$M_1 = \min \left\{ 1, \left[ u_1^{-1} \theta \alpha_1 (G_{2g}^\beta + G_{2f}^\beta)^{(1-\rho)\alpha_2/\beta} \right]^{\frac{1}{1-\alpha_1}} \right\} \quad (5)$$

Meanwhile, Agent 2's income is determined by:

$$\Pi_2^c = \max_{G_{2g}, G_{2f}} \left[ (1 - \theta) M_1^{\alpha_1} (G_{2g}^\beta + G_{2f}^\beta)^{(1-\rho)\alpha_2/\beta} + (1 - G_{2g} - G_{2f}) u_2 \right] \quad (6)$$

where  $0 \leq G_{2g}, G_{2f} \leq 1$ , and  $G_{2g} + G_{2f} \leq 1$ .

Solving this problem we obtain Agent 2's reaction function:

$$G_{2g} = G_{2f} = \min \left\{ 1, \left[ u_2^{-1} (1 - \theta) M_1^{\alpha_1} (1 - \rho) \alpha_2 2^{\frac{(1-\rho)\alpha_2 - 1}{\beta}} \right]^{\frac{1}{1 - (1-\rho)\alpha_2}} \right\}. \quad (7)$$

Assuming an interior Nash equilibrium, we have

$$M_1^{c*} = \left\{ u_1^{-1} \alpha_1 \theta^{1 - (1-\rho)\alpha_2} (1 - \theta)^{(1-\rho)\alpha_2} 2^{(1-\rho)\alpha_2(1-\beta)/\beta} \left[ \frac{(1 - \rho) \alpha_2 u_1}{\alpha_1 u_2} \right]^{(1-\rho)\alpha_2} \right\}^{\frac{1}{1 - \alpha_1 - (1-\rho)\alpha_2}} \quad (8a)$$

$$G_{2g}^{c*} = G_{2f}^{c*} = \frac{(1 - \theta) u_1 (1 - \rho) \alpha_2}{2 \theta u_2 \alpha_1} M_1^{c*}. \quad (8b)$$

Suppose Agent 1 has superior bargaining power, he would set Agent 2's remuneration level at (or slightly above) Agent 2's opportunity income (Eswaran and Kotwal, 1985). In other words, Agent

1's expected income is the joint profit of both Agent 1 and Agent 2, less the opportunity income of Agent 2, which is

$$\begin{aligned} \Pi_1^c &= (M_1^{c*})^{\alpha_1} [(G_{2g}^{c*})^\beta + (G_{2f}^{c*})^\beta]^{(1-\rho)\alpha_2/\beta} + (1 - M_1^{c*}) u_1 + (1 - G_{2g}^{c*} - G_{2f}^{c*}) u_2 - u_2 \\ &= [1 - \theta \alpha_1 - (1 - \theta) (1 - \rho) \alpha_2] \left\{ \theta \alpha_1 (1 - \theta)^{(1-\rho)\alpha_2} \alpha_1^{\alpha_1} [(1 - \rho) \alpha_2]^{(1-\rho)\alpha_2} 2^{(1-\rho)\alpha_2(1-\beta)/\beta} \right\}^{\frac{1}{1 - \alpha_1 - (1-\rho)\alpha_2}} \\ &\quad \times u_1^{-\alpha_1/[1 - \alpha_1 - (1-\rho)\alpha_2]} u_2^{-(1-\rho)\alpha_2/[1 - \alpha_1 - (1-\rho)\alpha_2]} + u_1. \end{aligned} \quad (9)$$

Having determined Agent 1's income under the non-cooperative and cooperative arrangements, the optimal arrangement is the one that gives Agent 1 a

higher income. From equations (3) and (9), we derive the income difference of Agent 1 under two alternative ownership arrangements:

$$\Pi_1^s - \Pi_1^c = u_1^{-\alpha_1/[1-\alpha_1-(1-\rho)\alpha_2]} \times \left\{ \alpha_1^{\alpha_1} [(1-\rho)\alpha_2]^{(1-\rho)\alpha_2} 2^{(1-\rho)\alpha_2(1-\beta)/\beta} \right\}^{1/[1-\alpha_1-(1-\rho)\alpha_2]} \times \left\{ \begin{aligned} &\lambda_1^{(1-\rho)\alpha_2/[1-\alpha_1-(1-\rho)\alpha_2]} \times [1-\alpha_1-(1-\rho)\alpha_2] \times u_1^{-(1-\rho)\alpha_2/[1-\alpha_1-(1-\rho)\alpha_2]} \\ &- [1-\theta\alpha_1-(1-\theta)(1-\rho)\alpha_2] \times [\theta^{\alpha_1}(1-\theta)^{(1-\rho)\alpha_2}]^{1/[1-\alpha_1-(1-\rho)\alpha_2]} \times u_2^{-(1-\rho)\alpha_2/[1-\alpha_1-(1-\rho)\alpha_2]} \end{aligned} \right\}. \quad (10)$$

It can be shown that  $\Pi_1^s > \Pi_1^c$  when  $\rho$  (which measures the quality of the market institution) is close to 1, and  $\Pi_1^s < \Pi_1^c$  when  $\rho$  is small enough. This result gives us

**Proposition 1.** *If the market institution is close to perfection, a profit-maximizing entrepreneur will prefer a non-cooperative ownership arrangement to the cooperative one. If the market is immature, then the entrepreneur will choose a cooperative ownership arrangement over a non-cooperative one.*

Proposition 1 suggests that during the early stages of private sector development, cooperative ownership arrangements would dominate non-cooperative ones. As the market matures, non-cooperative ownership structure will gradually be favoured by entrepreneurs. This result is consistent with the prevalence of ‘red hat’ firms in the period between late 1970s to mid 1980s, and later the dropping red hats and the growth of large private firms in recent years.

Given the corporate structure, we can solve the optimal profit share of Agent 1 (the entrepreneur),  $\theta^*$ , that maximises Agent 1’s income, which is:

$$\theta^* = \frac{\alpha_1 [1-(1-\rho)\alpha_2] - \left\{ \alpha_1 (1-\rho)\alpha_2 (1-\alpha_1) [1-(1-\rho)\alpha_2] \right\}^{1/2}}{\alpha_1 - (1-\rho)\alpha_2}. \quad (11)$$

Clearly, the optimal share  $\theta^*$  depends on the relative importance of management ability  $\alpha_1$  and

*Guanxi*  $\alpha_2$ , and the degree of market perfection  $\rho$ . Differentiating (11) with respect to  $\rho$ , we have

$$\frac{d\theta^*}{d\rho} = \frac{\alpha_1^{\frac{1}{2}} \alpha_2^{\frac{1}{2}} (1-\alpha_1)^{\frac{1}{2}}}{\left[ \alpha_1 - (1-\rho)\alpha_2 \right]^2 (1-\rho)^{\frac{1}{2}} \left[ 1 - (1-\rho)\alpha_2 \right]^{\frac{1}{2}}} \times \left\{ \frac{\alpha_1 + (1-\rho)\alpha_2}{2} - \alpha_1 (1-\rho)\alpha_2 - \alpha_1^{\frac{1}{2}} \left[ (1-\rho)\alpha_2 \right]^{\frac{1}{2}} (1-\alpha_1)^{\frac{1}{2}} \left[ 1 - (1-\rho)\alpha_2 \right]^{\frac{1}{2}} \right\} > 0 \quad (12)$$

Inequality (12) gives us

**Proposition 2.** *The optimal profit share of the entrepreneur with management ability increases as the market environment improves.*

Proposition 2 is consistent with the tendency of many employee-joint-stock cooperatives in Zhejiang province, where ownership interests have become increasingly concentrated in the hands of managers (Sun, 2000).

The results of our model reflect the insight of endogenous ownership theory that the optimal ownership structure is influenced by the quality of market environment. These results are also broadly consistent with the features of the development of private enterprises in Zhejiang province, namely that the ownership structure choices are influenced

by the market environment, and that there are signs that private entrepreneurs’ reliance on government and family *Guanxi* is weakening. In the next section, we present an empirical analysis to investigate how the perceived importance of government and family *Guanxi* change with different market environment.

### 3. Empirical Analysis

#### 3.1 Model specification

We specify the following models to investigate how market environment may influence private entrepreneurs’ perceptions about the importance of government and family *Guanxi*, respectively.

$$G_g = \alpha_g + \beta_{1g} Age + \beta_{2g} LnAsset + \beta_{3g} Instability + \beta_4 Gift + \mu_g \quad (13a)$$

$$G_f = \alpha_f + \beta_{1f} Age + \beta_{2f} LnAsset + \beta_{3f} Instability + \mu_f \quad (13b)$$

$G_g$  and  $G_f$  in the above equations denote the importance of government *Guanxi* and family *Guanxi*, respectively, as perceived by private entrepreneurs.

*Age* in both equations indicates the lengths of the time the firms have been operating as registered private enterprises. It may be argued older firms are more likely to be more reliant on government connections, and less reliant on lateral connections through family and friends. If this argument is correct, we would expect  $\beta_{1g}$  to be positive and  $\beta_{1f}$  to be negative.

*InAsset* is a measure of firm size. Wank (1996) argues that firm size is irrelevant to government *Guanxi* because Chinese firms do not reinvest profits in existing firms, but into new firms linked to the parent firm through overlapping kinship ties of management and ownership. This creates business groups that embody sizeable investments, even though the size of any one member firm is small. Xin and Pearce (1996) also find that firm size does not affect the importance of government *Guanxi*. We conjecture that since larger firms need government *Guanxi* to secure bank loans, they may perceive government *Guanxi* as being more important than small firms. That is, we expect  $\beta_{2g}$  to be positive. As for family *Guanxi*, Schlevogt (2001) finds that the decision of many private firms to remain small is driven by their emphasis on family *Guanxi*. That is, firms choose to be small because the entrepreneurs prefer to have respected and trusted family members as main shareholders. This suggests that small firms are more likely to regard family *Guanxi* as more important than large firms.

*Instability* is a measure of the quality of the market environment, which is the key variable we are interested in. Our theoretical model suggests that government and family *Guanxi* are likely to be more important when the market is immature. Therefore we expect  $\beta_{3g}$  and  $\beta_{3f}$  to be positive.

*Gift* in equation (13a) indicates whether a firm gives gifts to government officials in order to enhance connections. In gift-giving an entrepreneur offers a material reward, but not a fee-for-service bribe because the gift is usually offered without an explicit demand for a return (Wank, 1996). Instead, gift-giving provides the entrepreneur with an intangible future claim for the government officials' support. Gift-giving is considered to be a good investment in government *Guanxi* that enhances bureaucratic protection of private firms in an uncertain environment (Yang, 1994, 2002; Xin and

Pearce, 1996; Wank, 1996; Guthrie, 1998). We expect a positive correlation between gift-giving and a firm's perceived importance of government *Guanxi*. In contrast, family *Guanxi*, which is unusually strong and prevalent in Chinese private enterprises (Whyte, 1995; Schlevogt, 2001), is not affected by gift-giving, therefore the gift-giving variable is not included in the specification of family *Guanxi*.

### 3.2 Data

Data used in our empirical analysis were collected through a survey of private enterprises in Ningbo city of Zhejiang province. Ningbo is the second largest city in Zhejiang province with a population of 5.83 million in 2008 (Zhejiang Statistical Yearbook, 2009). The development of private enterprises in Ningbo corresponds generally with that of private enterprises in the whole of Zhejiang province. In 2008, 86% of the total industrial output and 97% of total retail sales in Ningbo were generated by private enterprises (Ningbo Administration for Industry and Commerce, 2009).

The survey was administrated by the first author in Ningbo between December 2009 and February 2010. With the assistance from the Ningbo's Bureau of Industrial and Commercial Administration and the Association of Ningbo's Private Enterprises, 500 copies of questionnaires were distributed to privately enterprises, 337 (67%) copies of the questionnaires were collected, of which 296 (74%) could be used in our analysis. Of the 296 firms, 5 (1.7%) firms had been state-owned enterprises which were privatised, 63 (21.3%) had been transformed from collective-owned enterprises; the remaining 228 (77.03%) were green-field private firms. In addition to the survey, the first author also conducted in-depth interviews with the owners of 4 private firms that participated in the survey on the importance of government and family *Guanxi*.

No firm in the sample had government ownership interest at the time of the survey although 20 of them did when they started their operations. 283 (95.6%) of the firms were family controlled (family owned least 50% of the shares). The sector distribution of the 296 firms corresponds with the sector distribution of privately-run enterprises in Ningbo as a whole, as shown in Table 1.

**Table 1.** Industrial Distributions of Ningbo's Private Enterprises and the Firms Surveyed at the End of 2008

	Ningbo City		Survey Firms	
	firms	proportion	firms	proportion
Total firms	68,500		296	
Primary Industry	840	1.20%	8	2.70%
Secondary Industry	39,860	58.20%	163	55.07%
Of the total: Manufacturing	37,395	54.59%	152	51.35%
Construction	2,090	3.05%	10	3.38%
Tertiary Industry	27,800	40.60%	125	42.23%
Of the total: Wholesale and retail trade and catering service	17,590	25.68%	66	22.30%

Source: Report of Development of Ningbo's Private Enterprises (2009) and Researchers' Survey

The variables in equation (13a) and (13b) are measured as follows and their descriptive statistics are reported in Table 2.

**Table 2.** Descriptive Statistics of the 296 Private Enterprises

Variable name	Description of variable	Means/Frequencies
Government <i>Guanxi</i> (Gg)	The importance of Gg on a 5-point scale 1=not helpful at all 2=relatively not helpful 3=neutral 4=relatively helpful 5=very helpful	Mean=3.79 (SD=1.02) Freq.=6 (2.03%) Freq.=31 (10.47%) Freq.=60 (20.27%) Freq.=120 (40.54%) Freq.=79 (26.69%)
Family <i>Guanxi</i> (Gf)	The importance of Gf on a 5-point scale 1=not helpful at all 2=relatively not helpful 3=neutral 4=relatively helpful 5=very helpful	Mean=3.80 (SD=0.96) Freq.=8 (2.70%) Freq.=19 (6.42%) Freq.=65 (21.96%) Freq.=136 (45.95%) Freq.=68 (22.97%)
Age (Years)	Years registered as a private firm	Mean=8.45 (SD=3.33)
LnAsset	Natural log of average gross assets over the past three years (million RMB)	Mean=0.80 (SD=1.57)
Instability (%)	Standard deviation of sales over the past three years	Mean=130.69 (SD=295.84)
Gift-giving (Gift)	A binary dummy variable where 1=giving gifts to government officials to build connections, 0 otherwise	21.28% (63 firms) of the total were giving gifts to government officials to build connections

(1) *The perceived importance of government Guanxi (Gg)* is measured by a five-point scale with 1= "not helpful at all," 2= "relatively not helpful," 3= "neutral," 4= "relatively helpful," 5= "very helpful." Similarly, the perceived importance of family *Guanxi (Gf)* is also measured by the same scale. From Table 2, we see that the mean of government and family *Guanxi* were 3.79 and 3.80 respectively, indicating that government and family *Guanxi* were viewed by private firms in the sample as almost of equal importance, which is consistent with our theoretical model which treats government and family *Guanxi* as being equally important.

(2) *Firm age (Age)*. This variable measures the age of the firm at the time of the survey. As shown in Table 2, the average age of firms in the sample was 8.5 years at the end of 2008, indicating that

most private firms were established after the ownership reform in 1997.

(3) *Firm size (LnAsset)*. This variable is measured by the natural logarithm of annual average total assets over the past three years.

(4) *Instability of market environment (Instability)*. This variable is measured by the standard deviation of changes in sales revenue over the past three years. It is not a direct measure of the quality of the market environment. However, given the difficulty in measuring the quality of the market environment conceptually and empirically, we choose this measure for two main reasons. Firstly, sales revenue is closely related to the level of uncertainty in the market; and secondly, private entrepreneurs' perception of the quality of the market environment is strongly influenced by

recent events that they experienced and their actions are guided by their perceptions. An obvious drawback of the measure is that sales revenue is also determined by factors other than market environment. As shown in Table 2, the instability indicator in the sample was quite large with a mean of 131, indicating that the market environment was considerably unstable.

(5) *Gift-giving (Gift)*. Each respondent was asked “Do you give gifts to government officials in order to build connections?” If the answer is yes, then *Gift* is set to be 1; otherwise it is set to be 0.

### 3.3 Estimation and results

We first deal with 3 potential problems in our estimation: multicollinearity, heteroskedasticity, and endogeneity.

As shown in Table 3, all simple correlations between any two variables in the sample are all smaller than of 0.6, suggesting that multicollinearity is not a concern that requires remedy (Gujarati, 1995).

**Table 3.** Correlation Matrix

	Gg	Gf	Age	LnAsset	Instability	Gift
Gg	1.0000					
Gf	0.0414	1.0000				
Age	-0.0281	0.1285	1.0000			
LnAsset	0.2380	0.1796	-0.0789	1.0000		
Instability	0.1913	0.1924	-0.0569	0.5008	1.0000	
Gift	0.1545	-0.0384	0.0033	0.1054	0.0900	1.0000

However, heteroskedasticity may be a problem since there are large differences among the firms (in terms of age, size etc.) in our survey. In order to avoid this potential problem, we employ a robust technique with White’s heteroskedastic consistent z-statistics in both ordered logit models.

Another potential problem is that the gift-giving variable may be endogenous in the government *Guanxi* equation (equation 13a), that is, the perception of the importance of government *Guanxi* may determine whether a firm gives gifts or not. To find out whether there is an endogeneity problem, we employ Hausman’s specification error

test. The test is reported in Table 4, where model (b) refers to the government *Guanxi* model without the gift-giving variable and model (B) refers to the government *Guanxi* model with the gift-giving variable. Our diagnostic testing shows that the difference in coefficients between models (b) and (B) fits the asymmetric assumptions, indicating that the coefficients in the government *Guanxi* model with the gift-giving variable are consistent and efficient. Therefore, gift-giving (*Gift*) is not an endogenous variable in the government *Guanxi* model.

**Table 4.** Hausman’s Specification Test for Gift-Giving

	Coefficients			
	(b) Partial	(B) all	(b-B) Difference	sqrt(diag(V_b-V_B)) s.e.
Age	-0.006801	-0.0071415	0.0003406	0.0019216
LnAsset	0.2016485	0.1949353	0.0067131	0.0182806
Instability	0.0001773	0.0001732	4.09e-06	0.0000147
Test	Ho: difference in coefficients not systematic $chi2(3) = (b-B)[(V_b-V_B)^{-1}](b-B)$ = 0.21 Prob>chi2 = 0.9754			
Result	Do not reject Ho			

Notes: b = consistent under Ho and Ha; obtained from ologit.

B = inconsistent under Ha, efficient under Ho; obtained from ologit.

Having dealt with the potential statistical problems, we estimate the two ordered logit models

specified in equations (13a) and (13b). The results are reported in Tables 5 and 6.



**Table 5.** Estimation Results: the Perceived Importance of Government *Guanxi* (Gg)

Ordered logistic regression with robust standard errors	Gg
Age	0.0071415 (0.20)
LnAsset	0.1949353 <sup>b</sup> (2.28)
Instability	0.001732 <sup>a</sup> (3.58)
Gift	0.5954213 <sup>b</sup> (2.50)
Number of firms	296
Log pseudolikelihood	-386.50838
Pseudo R <sup>2</sup>	0.1380
Wald chi2(4)	43.05
Prob>chi2	0.0000

Notes: a, b, c stand for significant at 1%, 5%, 10% level respectively. z-statistics are in parentheses.

**Table 6.** Estimation Results: Perceived Importance of Family *Guanxi* (Gf)

Ordered logistic regression with robust standard errors	Gf
Age	-0.0920613 <sup>a</sup> (-2.72)
LnAsset	0.1304204 (1.52)
Instability	0.001731 <sup>b</sup> (2.49)
Number of firms	296
Log pseudolikelihood	-371.49164
Pseudo R <sup>2</sup>	0.1360
Wald chi2(3)	29.84
Prob>chi2	0.0001

Notes: a, b, c stand for significant at 1%, 5%, 10% level respectively. z-statistics are in parentheses.

Firm age (*Age*) has an insignificant effect on the perceived importance of government *Guanxi*, but has a significant and negative effect on the perceived importance of family *Guanxi*, suggesting that younger firms attach more importance to family *Guanxi* than older firms. This is consistent with the argument that older firms, having experienced the ‘red-hat’ phenomenon, consider government *Guanxi* to be more important.

Firm size (*LnAsset*) has a significant and positive effect on the perceived importance of government *Guanxi*, but has no significant effect on family *Guanxi*. This is consistent with our conjecture that larger firms attach more importance to government *Guanxi* because they have a greater need for government support in obtaining bank loans. It may also be the case that larger firms can establish stronger government *Guanxi* and therefore perceive it to be more important. For instance, Sun and Wong (2002) suggest that private firms need to get involved in government-sponsored projects such as the ‘Hope Project’ and the ‘Glorious Program’<sup>[5]</sup> because this may generate, as Wank

(1996) put it, ‘mutual understanding’ or ‘mutual concern’ between the government and private firms. Small firms have more difficulty in building government connections as they are less visible to the government. As the owner of one small private firm in our survey stated:

Every enterprise has to establish all kinds of links with the government. We do this to advance our business interests and during the early period of the reforms, we need government connections to protect our investment because private firms were not formally recognised by the government. However, we have many difficulties in communicating with the government, as in the old saying ‘we present the pig-head but the temple does not accept it’ (*Tizhezhutoumeimiaojin*).<sup>[6]</sup> That is, the government does not really care about us. (Personal interview in Ningbo, 2009)

<sup>[5]</sup> The objective of the ‘Hope Project’ is to improve basic education in remote villages while the objective of the ‘Glorious Program’ is to develop western China. They are both organized by the Chinese government.

<sup>[6]</sup> In this expression, the ‘pig-head’ refers to gifts and favors while the ‘temple’ refers to authorities such as the government.

Instability of the market environment (*Instability*) has a significant and positive effect on the perceived importance of government *Guanxi* and family *Guanxi*, confirming our expectation that the importance of both government and family *Guanxi* in the production process declines as the market environment improves.

There is a positive and significant effect of gift-giving (*Gift*) on the perceived importance of government *Guanxi*, which means that those firms who give gifts to government officials to build connections are likely to regard government *Guanxi* as being more important. This is consistent with our expectation.

Although the improvement of the market environment has a dampening effect on the perceived importance of government *Guanxi* and family *Guanxi*, private firms still view both *Guanxi* as being quite useful. As an owner-manager of one private firm in our survey stated:

Government *Guanxi* matters for getting things done in our business. In the past we relied on government *Guanxi* to obtain some advantages such as obtaining raw materials. Nowadays, a good relationship with the government can enhance business in the market because the government still dominates almost every aspect of our business. At present the importance of government *Guanxi* may decline in some social domains, but flourish in new areas ... (Personal interview in Ningbo, 2009)

This view is echoed by another manager of a green-field private firm:

Government *Guanxi* is very important everywhere in China because the government controls state contracts, banks loans, access to imports, favourable tax incentives, access to valuable market information, exemptions from troublesome laws and regulations, and so on ... We hope, however, that we can do our business relying on market rules instead of the government. (Personal interview in Ningbo, 2009)

To understand private firm's perceptions about the current and future role of the government in their businesses, we included in our survey the question: 'what is the main role that the government has been playing and the role that you expect the government will play in the future within your firm?' The responses are reported in Table 7. Unfortunately the question does not distinguish the government's current role and expected future role. 91 firms (30.7% of the sample) reported that the most important role for government *Guanxi* was to provide 'technological support and services'. This probably reflects private firms' expectations that government would move away from direct involvement in firms' business activities, and focus on providing social services. 59 firms (19.9% of the sample) reported that the most important role for government *Guanxi* was to facilitate 'access to financial resources'. This appears to support the argument by Sun and Wong (2002) that the government is important in providing access to bank loans. 57 firms (19.3%) considered government *Guanxi* to be important for 'protection', suggesting that government *Guanxi* acted as an insurance against institutional uncertainty.

**Table 7.** The Use of Government *Guanxi* in Private Firms

	Freq.	Percent	Cum.
Protection	57	19.26	19.26
Market access	38	12.84	32.09
Tax preference	51	17.23	49.32
Assess to financial resources	59	19.93	69.26
Technological support and services	91	30.74	100.00
Total	296	100.00	

Most firms considered family *Guanxi* to be very useful as well. For example, the owner of a green-field private firm in our survey stated:

Family relationships are the core of the moral system defined by traditional Confucius thought. For my business, my family has been a reliable source of cheap and flexible capital and labour, particularly in the business start-up phase. However, this is not the end of family *Guanxi*. In fact, family *Guanxi* enables me to embrace others who may assist my business ...

My firm faced a threat of serious 'punishment' several years ago for a tax infringement, but one of my father's friends [working in the government] intervened and we only received a minimal level of 'punishment' ... (Personal interview in Ningbo, 2009)

In our survey we also asked respondents the question: 'what is the main role that family members have been playing or will play in your firm?' The results are reported in Table 8.

**Table 8.** The Use of Family *Guanxi* in Private Firms

	Freq.	Percent	Cum.
Provide cheap/flexible resources	152	51.35	51.35
Manage financial affairs	7	2.36	53.72
Assist in decision making	62	20.95	74.66
Extend network resources	74	25.00	99.66
Build up family reputation	1	0.34	100.00
Total	296	100.00	

Overall 152 firms reported that the most important role of family *Guanxi* was to ‘provide cheap and flexible resources such as capital and labour’, accounting for 51.4% of the sample. This was a main reason why family businesses account for the majority of private firms, and also the fact that most firms are small because private resources are relatively limited (Sun and Wong, 2002). 74 firms, accounting for 25% of the sample, considered that the most important role of family *Guanxi* was to ‘extend the firm’s network of connections outside the firm’. This supports the argument that although family-centred, family *Guanxi* is an important avenue to extend networks of the firm (Sun and Wong, 2002). Altogether 62 firms, accounting for 21% of the sample, considered that family *Guanxi* ‘assist in decision making within the firm’, which suggests that family ties may reduce conflicts among decision makers, thereby making it easier to reach consensus.

#### 4. Conclusion

In this paper we have developed a theoretical model to study two features of the spontaneous growth of private enterprises in China’s Zhejiang province, namely that the ownership structure appears to be strongly influenced by the quality of market environment, and that private firms’ reliance on government *Guanxi* and family *Guanxi* seems to have weakened over time. The theoretical model suggests that when the market is immature or unstable, the ownership structure of a typical private enterprise involves a cooperative arrangement between a party with management skills (the entrepreneur) and another party with government and/or family *Guanxi*. As the market environment improves, the importance of both types of *Guanxi* declines. This result is consistent with our empirical analysis based on a survey of 296 firms in Ningbo city in Zhejiang province, which shows that the perceived importance of both government and family *Guanxi* declined with improvements in market stability.

It should be noted that all the firms surveyed are 100% privately owned, thus the use of government *Guanxi* is not through government’s ownership interests as in our theoretical model, but through other channels such as gift-giving. Data

limitations do not allow us to directly test the relationship between ownership structure and institutional quality. However, the fact that private firms have shunned away from maintaining government *Guanxi* through conceding ownership interests to the government is itself an indication of the waning importance of government *Guanxi*. From our empirical result that the perceived importance of government and family *Guanxi* have declined with the increased stability of the market, one may infer that private firms would invest less in building connection and more in productive activities as the market environment improves.

Despite the tendency for the importance of government and family *Guanxi* to fall, currently both types of *Guanxi* are considered to be very useful, notably in gaining access to finance resources. In future research it would be interesting to investigate the impact of financial sector reforms on ownership structure and the perceived importance of government and family *Guanxi* in private enterprises.

#### References

1. China General Chamber of Commerce, (2009), *Report of China’s Citizen-run Enterprises* (in Chinese), No.1, No.2.
2. Demsetz, H., (1983), “The Structure of Ownership and the Theory of the Firm”, *Journal of Law and Economics*, 26, pp.375-390.
3. Eswaran, M. and Kotwal, A., (1985), “A Theory of Contractual Structure in Agriculture”, *American Economic Review*, 75 (3), pp.352-367.
4. Gujarati, Damodar N., (1995), *Basic Econometrics (Second Edition)*, McGraw-Hill, Inc.
5. Guthrie, D., (1998), “The Declining Significance of *Guanxi* in China’s Economic Transition”, *The China Quarterly*, 154, pp.254-282.
6. Li, S., (2002), “Does East Love *Guanxi* More Than West? The Evolution of Relation-Based Governance: Contemporary and Historical Evidence”, *Global Economic Review*, 31 (1), pp.1-11.
7. Lovett, S., Simmons, L. and Kali, R., (1999), “*Guanxi* versus the Market: Ethics and Efficiency.” *Journal of International Business Studies*, 30 (2), pp.231-237.
8. Ningbo Administration for Industry and Commerce, (2009), *Report of Development of Ningbo’s Private Enterprises* (in Chinese).

9. Schlevogt, K., (2001), "The Distinctive Structure of Chinese Private Enterprises: State versus Private Sector", *Asia Pacific Business Review*, 7 (3), pp.1-33.
10. Smith, A., 1759 [2002], *The Theory of Moral Sentiments*, Cambridge: Cambridge University Press.
11. Sun, L., (2000), "Anticipatory Ownership Reform Driven by Competition: China's Township-Village and Private Enterprises in the 1990s", *Comparative Economic Studies*, 42 (3), pp.49-75.
12. Sun, W. and Wong, S., (2002), "The Development of Private Enterprises in Contemporary China: Institutional Foundations and Limitations", *China Review*, 2 (2), pp.65-91.
13. The State Bureau of Industrial and Commercial Administration, *Yearbook of State's Industrial and Commercial Administration* (in Chinese), (2011).
14. The State Statistical Bureau of China, (2011), *Statistical Yearbook of China* (in Chinese).
15. Tian, G., (2000), "Property Rights and the Nature of Chinese Collective Enterprises", *Journal of Comparative Economics*, 28, pp.247-268.
16. Wank, David L., (1996), "The Institutional Process of Market Clientelism: *Guanxi* and Private Business in a South China City", *The China Quarterly*, 147, pp.820-838.
17. Whyte, M.K., (1995), "The Social Roots of China's Economic Development", *The China Quarterly*, 144, pp.999-1019.
18. Xin, K. R. and Pearce, J. L., (1996), "*Guanxi*: Connections as Substitutes for Formal Institutional Support", *Academy of Management Journal*, 39 (6), pp.1641-1658.
19. Yang, M. M., (1994), *Gifts, Favours and Banquets: The Art of Social Relationships in China*, Ithaca, NY: Cornell University Press.
20. Yang, M. M., (2002), "The Resilience of *Guanxi* and Its New Developments: A Critique of Some New *Guanxi* Scholarship", *China Quarterly*, 170, pp.459-476.
21. Yuan, E., (1987), *The Wenzhou Model and the Road to Affluence* (in Chinese), Shanghai: Shanghai Academy of Social Sciences Press.
22. Zhang, H., Ming, L. and Liang, C., Eds., (2002), *Blue Book of Private Enterprises*, No. 4 (in Chinese), Social Science Documentation Publishing House.
23. Zhejiang Provincial Bureau of Statistics, (2009), *Zhejiang Statistical Yearbook* (in Chinese).

## Appendix

### Private Enterprise Questionnaire (English Translation)

Dear Sir or Madam,

Thank you for your help with this study. Please answer all questions as accurately as possible. We guarantee the confidentiality of your answers. Your cooperation is highly appreciated.

In the following questionnaire, please circle your choice or complete your answers on the line as appropriate (the unit of amount is RMB 10 thousand).

When did your firm register as a private enterprise?

\_\_\_\_\_ Year \_\_\_\_\_ Month

What was the ownership form of your enterprise before it became a privately-run enterprise?

- 1) Registered as a privately-run enterprise from the beginning
- 2) An individual business previously employing no more than eight people
- 3) State-owned
- 4) Collective-owned (including township- or village-owned)
- 5) Joint venture with a foreign company

What is the legal form of your firm?

Solely-owned  
Partnership  
Limited liability  
Company limited by shares (joint-stock company)

What is the main industry or sector in which your firm operates?

Farming, forestry, animal husbandry and fishery  
Mining and quarrying  
Manufacturing  
Construction  
Transport, storage, postal and telecommunication service

Wholesale and retail trade and catering services  
Social services  
Others

What was the structure of the shares in your firm (in percentages) when it started as a private enterprise?

- 1) Shares of all individuals (including jointly owned by family members): \_\_\_\_\_%  
Of which, the biggest shareholder: \_\_\_\_\_%  
Shares held by family members: \_\_\_\_\_%
- 2) Shares of government agencies (including the central and local governments, collectives, and government institutions such as banks): \_\_\_\_\_%
- 3) Among total shares, shares of top management (including CEOs, general managers, and other high level managers) in your firm: \_\_\_\_\_%

6. What is the current structure of the shares in your firm (in percentages) if there are any changes compared with when your firm commenced as a private enterprise?

- 1) Shares of all individuals (including jointly owned by family members): \_\_\_\_\_%  
Of which, the biggest shareholder: \_\_\_\_\_%  
Shares held by family members: \_\_\_\_\_%
- 2) Shares of government agencies (including central and local governments, collectives, and government institutions such as banks): \_\_\_\_\_%
- 3) Among total shares, shares of top management (including CEOs, general managers, and other high level managers) in your firm: \_\_\_\_\_%

7. What was the total employment in your firm in the past three years?

2006: \_\_\_\_\_ employees  
2007: \_\_\_\_\_ employees  
2008: \_\_\_\_\_ employees

What were the gross assets of your firm in the past three years?

2006: \_\_\_\_\_  
2007: \_\_\_\_\_  
2008: \_\_\_\_\_

What was your firm's sales revenue over the past three years?

2006: \_\_\_\_\_  
2007: \_\_\_\_\_  
2008: \_\_\_\_\_

What were your firm's net profits over the past three years?

2006: \_\_\_\_\_  
2007: \_\_\_\_\_  
2008: \_\_\_\_\_

11. When your firm selects management personnel, which one of the following factors is considered to be the most important?

- 1) Integrity (consistency and congruity)
- 2) Benevolence (caring for others and loyalty to the firm)
- 3) Competence (professional skills)
- 4) Responsibility (devotion and hard work)
- 5) Predictability (past experience)

12. Do you plan to give shares in the firm to management personnel other than family members?

\_\_\_\_\_ Yes    \_\_\_\_\_ No

A. The main reason for choosing "yes" (choose one):

- 1) It facilitates a convergence of interests between owner(s) and manager(s)
- 2) Manager(s) will be more responsible if they have shares in the firm.
- 3) It shares the risk between owner(s) and manager(s).
- 4) It reduces managerial turnover
- 5) It improves decision making

**B.** The main reason for choosing “no” (choose one):

- 1) The profits should be restricted to the owner(s)
- 2) Concerned about the loyalty and capability of the manager(s)
- 3) Paying a high salary is enough to motivate management
- 4) If you give manager(s) shares it makes it harder to dismiss them if they under-perform
- 5) It would create disputes within the firm

**13.** Is *Guanxi* (personal relationships) important for the success of your firm? *Guanxi* includes being perceived as trustworthy by others and using relationships to acquire necessary inputs and vital information to assist in firm production.

- 1) Not important at all
- 2) Relatively unimportant
- 3) Neutral
- 4) Relatively important
- 5) Vivaly important

**14.** When you cultivate and maintain *Guanxi* with a person related to your business, what is the individual’s primary value to the firm (choose one)?

- 1) Important connections in government
- 2) Access to suppliers
- 3) Access to customers
- 4) Control of financial resources
- 5) Technical or professional knowledge
- 6) Other purposes

**15.** How would you rate the role that government has been playing and the role that you expect the government will play in the future within your firm?

- 1) Not helpful at all
- 2) Relatively not helpful
- 3) Neutral
- 4) Relatively helpful
- 5) Very helpful

**16.** What is the main role that the government has been playing and the role that you expect the government will play in the future within your firm?

- 1) Provide protection
- 2) Facilitate market access
- 3) Provide preferential tax treatment
- 4) Facilitate access to financial resources
- 5) Provide technological support and services

**17.** People in business relationships often give one another gifts. Do you give gifts to government officials in order to build connections?

- 1) Give gifts to build connections
- 2) Do not give gifts to build connections

**18.** How do you rate the role of family members within your firm?

- 1) Not helpful at all
- 2) Relatively not helpful
- 3) Neutral
- 4) Relatively helpful
- 5) Very helpful

**19.** What is the main role that family members have been playing or will play in your firm (choose one)?

- 1) Provide cheap and flexible resources such as capital and labour
- 2) Manage internal financial affairs of the firm
- 3) Assist in decision making within the firm
- 4) Extend the firm’s network of connections outside the firm
- 5) Build up reputation of the family