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Economic Institutions from Networks*

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ABSTRACT

Economic institutions enabling trust and cooperation rest on multiplex networks and norms of reciprocity. A key feature of economic institutions is they facilitate commercial transactions by reducing uncertainty and risk in markets. When trust and trustworthiness stem from confidence in community sanctions of norms, principal and agent relations are enforceable without resorting to legal rules and litigation. In this paper, we examine the workings of industrial clusters, a key economic institution enabling the emergence of private manufacturing firms in China. In industrial clusters, manufacturing firms economize on transportation costs, benefit from large pool of specialized human capital and informational spillovers. While agglomeration effects are important, what is missing is the effect of personalized exchange on the competitive advantage of industrial clusters. Comprised of a core group of small and medium sized manufacturers linked to niche suppliers and distributors, cluster location sustains dense multiplex networks that enable community sanctions sustaining self-enforcing trust and cooperation. This in turn enables collective action in solving problems of competitiveness and flexible adaption to changing market conditions. Though the individual firms lack brand names, industrial cluster enables the local industrial niche to secure brand reputation in domestic and global markets.

Economic Institutions from Networks

Introduction

Institutions viewed as social structures enabling and guiding economic action has been a core concept of economic sociology since its origin as a subfield of sociology. Whether in explaining the rise of rational capitalism in the West or the workings of firms, bureaucracy, national markets and the regulatory state, institutions matter in economic life. In a critique of the new institutional economics, Granovetter (1985) formulated the guidelines for a renewal of economic sociology as a response to the omission of social structure in the neoclassical model of economic action. Combined with White's (1981) "Where do Markets Come From?" the concept of embeddedness laid the foundation for a distinctive sociological approach to the study of markets and firms. By focusing on how social relationships channel information, secure trust, and enable cooperation, many long hanging fruits were ready for picking leading to significant findings on the workings of markets and firms (Swedberg 1994; Abolafia 1996; Burt 1992; Evans 1995; Keister 2000; Powell, Koput and Smith-Doerr 1996; and Uzzi 1996).

In the revival of economic sociology, White's (1981, 2002) sociological theory of markets was distinctive in its turn to economics for a micro-foundation (Muth 1961; Spence 1974, 1976; Akerloff 1976; Dixit and Stiglitz 1977; Porter 1980). His theory assumed firms are driven by hedonic profit seeking, which motivates a relentless drive for quality and innovation (Rosen 1974). In production markets, the need to make decisions under condition of uncertainty poses an incorrigible problem for firms (Knight 1921). The dilemma cannot be resolved within the firm, since classical uncertainty

involves the conditions where risks are incalculable. Yet, as White (2002) underscores, firms must make decisions to invest in productive capacity, human capital and technology in present time to meet the competition. This confronts economic actors with the need to make decisions under market pressure while confounded by uncertainty about risks involved and future returns. White turned to signaling theory (Spence 1974; Akerloff 1976) for the mechanism that enables economic actors in production markets to resolve the problem of Knightian uncertainty. Accordingly, economic actors watch signals of strategic action of other firms in their niche to position their firm where they have competitive advantage and where survival chances are better. As they seek positions in the niche to enhance survival chances and profitability, successive adaptations of firms in the niche lead to the social construction of a status order in which identity and position are ranked by quality, the $W(y)$ curve predicted by White's theory. This evolution results in a stable market structure in which predatory and destructive competitive pressure is restrained through social control of a stable market order (Fligstein 2003).

In this chapter, we extend White's emphasis on specifying general mechanisms of human behavior as the micro-foundation for economic sociology. We do not draw on neoclassical economics as White does; rather, the mechanisms we focus on are elementary forms of social behavior. Our aim is to show how mechanisms built into ongoing social exchange serve as the link connecting networks with institutional arrangements. We first provide an overview of our network and institutions approach, then we extend it to explain the emergence of economic institutions of capitalism in China.

The Network Foundation of Economic Institutions

The definition of institution we use integrates the structural approach of sociology with the agency perspective of economics. Our approach builds on the foundation of social exchange theory rather than rational choice theory, which assumes that choices are attributed to atomistic individual agents. In our framework, institutions are self-reproducing social structures that provide a conduit for collective action by enabling, motivating and guiding the interests of actors and enforcing principal agent relationships. We define institution as a system of interrelated informal and formal elements—customs, conventions, norms, beliefs and rules—governing social relationships within which actors pursue and fix the limits of legitimate interests. Carruther’s (\$\$\$) chapter underscores how modern financial markets turn on formal legal rules and the rule of law. Our definition shifts analysis of the effectiveness of enforcement of contractual agreements to social mechanisms endogenous to the transaction between principal and agent. In this shift in emphasis, we steer a middle course between Granovetter’s (1985) embeddedness approach and the new institutional economics.

Sociologists have long held the view of markets as self-reproducing social structures within which buyers and sellers transact across market interfaces. “However difficult it often is to account for all their detailed characteristics,” market institutions “are at least the product of the very things economics disregards—the relatively permanent relationships between individuals or between groups, which form social structures” (Homans 1974: 68). Economists concur that repeated exchange is commonplace even in markets characterized by the ease and reliability of impersonal exchange. The market is, for example, defined as “a forum” for carrying out “*exchange*

that is voluntary: each party can veto it, and (subject to the rules of the marketplace) each freely agrees to the terms [italicized in original]. In such definitions “the market” is generally differentiated from “a market” or “a marketplace,” which refers to a specific physical place or cyberspace where goods are bought and sold: “By ‘the market,’ I mean the abstraction,” writes McMillan (2002: 6). But economists have yet to find a fully satisfactory way to characterize the structure and process through which actually firms constitute a market. Economists and sociologists recognize the need to examine the workings of markets; yet as White (2002:9) observed, “because the market is a tangible social construction opaque to tools familiar to economists, and because sociologists by and large have not looked, the market has remained a mystification.”

The challenge to demystify markets calls for examining the relationship between norms embedded in informal social processes and the formal rules mandated and enforced by the state. Many economists now accept the view that social norms are likely to play a stronger role in explaining economic behaviour than was commonly assumed. Indeed, the formal rules that make up the institutional environment and informal norms embedded in ongoing social relations jointly interact to shape economic behaviour in markets, a central economic institution in all 21st century economies.

Only if individual interests and preferences are well aligned with the incentives structured in the institutional environment will they reinforce compliance with formal rules through self-monitoring and mutual enforcement. Otherwise, if individual interests are not aligned with the structure of opportunity legitimized by the state, strategic interest may give rise to decoupling from institutionalized routines, which may in turn lead to the formation of self-help opposition norms once a sufficient number of actors decide to

decouple from the formal framework of rules (Meyer and Rowan 1977). Informal norms gain in importance as more and more actors find it rational to decouple from existing formal rules. The collective action of economic actors imposes pressure on the state to respond initially by enforcing the existing legal and regulatory structures. Once a critical mass is reached, however, and collective action becomes self-reinforcing, the state can no longer effectively enforce compliance. Opposition norms may eventually spur changes in the formal rules, if a certain threshold level of noncompliance with state-mandated rules is reached and state actors set a need to adjust formal rules accordingly.

Norms arise in the course of social interaction as standards of expected behaviour and are maintained when reward is expected to follow conformity and punishment, deviance. Members of a group routinely reward conformity to norms by conferring social approval and status. Conversely, members punish failure to conform to norms through their social disapproval and, ultimately, through ostracism. Hence, the monitoring of norms is a spontaneous by product of social interactions in markets and firms. In more complex exchanges, the same processes hold, but the pressure to conform also takes on a collective action dimension. Frequency of interaction, a characteristic feature of close-knit groups, lowers the cost of monitoring members, assuming they are in close enough contact with one another that information about members' conduct is common knowledge. Reward and sanction in repeated exchanges—when actors take into account the weight of the future, as in ongoing relationships—motivates cooperative behavior. Community sanctions complement bilateral responses, if transactions are infrequent. In sum, trustworthiness and reliability as forms of cooperative behavior arise from social

action responding to rewards and sanctions in on-going relationships guiding economic activity.

Throughout history, norms have coordinated group action to improve the chances for success—the attainment of rewards—through cooperation. As ideas about expected behavior, norms evolved together with language, as in the norms uttered by early hunting parties to coordinate action during the course of the expedition. Norms probably evolved through trial and error, with success the arbiter of why a particular norm persists in equilibrium across generations and diffuses to different groups. Members of close-knit groups cooperate in enforcing norms not only because their interests are linked to the group's success, but their identity as well. Rational choice theory emphasizes reputational effects on social behaviour; but emergent principles of proper conduct embedded in identities are also important in norm compliance. For example, there are many occasions when no one is monitoring closely, yet people comply with norms that are woven into their identity. This is because identity as well as interests explains the willingness to cooperate in a competitive environment (see Aspens (\$\$\$) in this volume). Many economists now accept the view that social norms are likely to play a stronger role in explaining economic behavior than commonly assumed (See also Thevenot on the Convention School in this volume).

The Relationship between Informal Norms and Formal Rules

The behavior of economic actors frequently bears little resemblance to the legitimate courses of action stipulated by state-mandated formal rules. Instead, social groups based on personal connections serve to organize market-oriented economic behavior according

to informal norms reflecting the private expectations and interests of individuals. They act often at odds with the goals formulated by politicians.

Norms operating in the shadows of state-mandated rules can both limit and facilitate economic action. On the one hand, a decoupling of norms from these rules can give rise to inefficient allocation of resources when individual actors collude to secure resources from government for their group, resulting in structural rigidities and economic stagnation. In Russia, mafia-like business networks operated to obstruct Boris Yeltsin's efforts at building a market economy. On the other hand, a decoupling of norms can also facilitate economic action and promote growth by providing a framework for trust and collective action. In China, informal privatization and local institutional arrangements have contributed to two decades of economic growth during the early stages of economic reform.

What accounts for the difference in results? Given the variance of possible interactions between formal rules and social norms, it is a central task for theory development to better specify the nature of the relationship. Under what conditions will norms evolve into self-reinforcing opposition norms, which then undermine the effectiveness of formal rule? By opposition norms we refer to beliefs that enable, motivate and guide collective action, decoupled from and not legitimated by state-mandated rules (Nee and Ingram 1998). Opposition norms are commonplace in all societies and span a wide range of activities, be they those of alienated minority youths in America and Europe or the untaxed economic transactions between buyers and sellers in the informal economy of established market economies. Especially in the early stage of norm emergence, opposition norms often involve "subterranean" activity below the radar

of the state, and thus are not detected by law enforcers. They can remain below the radar indefinitely, but at an inflection point, opposition norms can burst into the public arena to enable, motivate and guide self-reinforcing collective action compelling politicians to respond. Political elites face a range of options in their response, from strengthening law enforcement and use of coercive force to adaptive institutional change.

To understand the link between opposition norms and endogenous institutional change, it is crucial to explore the role of private order allowing members of social sub-groups to improve their welfare position, although the state is unwilling or unable to protect their economic transactions (Nee and Oppen 2012). Clearly, to the extent that social groups have interests and preferences independent of what politicians or organizational leaders want, the respective contents of social norms and organizational rules will emerge to "bend the bars of the iron cage" imposed by formal rules. Norms are ideas that arise from the problem-solving activities of human beings in their strivings to improve their chances for success (the attainment of rewards) through cooperation. Individuals jointly produce and uphold norms to capture the gains of cooperation. Such norms arise through trial and error and are adopted by members of a group when they result in success. Hence, norm emergence involves a collective learning process in which members learn from experience gained through different strategies and gradually identify the one which seems to have an edge over others. In this sense, established norms are focal points which evolve through social learning processes.

Whether decoupled norms operate only under distinct circumstances or more widely, developing into self-reinforcing opposition norms leading to endogenous institutional change, depends on whether a critical mass of societal participation is

reached. For instance, in all command economies it was commonplace that individuals and firms sought to alleviate shortages of the formal economy by resorting to black-market activities and barter trading. While this practice was against the formal rules, it never gave rise to endogenous institutional change. Although company managers hoarded goods and repair parts to prepare for unexpected shortages, these activities remained limited in scope. In retrospect, the scattered occurrence of black markets and barter trading may have stabilized the system, as companies were better able to respond to temporary shortages. Similarly, black markets may have helped to contain social discontent. As a thought experiment, assume now an alternative scenario: Given the beneficial effects of barter trading and black markets, a growing number of economic actors divert parts of their production to black market activities. The informal economy expands and expands, and subsequently planned production and public revenues decrease. Once a certain tipping point is reached, the official economy collapses.

The reason why in socialist economies the informal norms of black markets and barter trading did not evolve into self-reinforcing opposition norms is fairly obvious. Institutional and organizational sanctions effectively suppressed these activities. Tight monitoring, high probabilities of detection in case of noncompliance, and costly sanctions made black-market activities risky and expensive. In our counter-scenario, a self-reinforcing opposition norm could only develop if increasing numbers of actors could conveniently imitate the illegal activities at low costs without fear of sanctions or punishment.

Emergence of Economic Institutions: the Rise of Capitalism in China

To demonstrate the potential of the networks and institutions approach for explaining economic life, the following section offers a brief review of an underlying multilevel model of institutions, in which more encompassing structures both constrain and empower the societal structures and actions at lower levels, which in turn through bottom-up dynamics reproduce and also change the very contexts in which they operate. The explicit notion of bidirectional dynamics linking more encompassing structures with localized social structures offers novel opportunities for the dynamic analysis of institutional change and sources of innovation not yet sufficiently exploited. In the following we provide an illustration of the explanatory power of the networks and institutions approach by turning to a case of institutional change that standard institutional theory focusing on the role of a state as the central arbiter of institutional change could not explain. Turning to the puzzle of the formation of a dynamic and quickly growing private firm economy in China, we highlight the role of networks and emanating institutional innovations that allow private economic actors to compete and cooperate in spite of the absence of reliable formal institutions. Building on seven years of research conducted in China's Yangzi delta region, we highlight the underlying social mechanisms enabling cooperative behavior among entrepreneurs in the absence of formal institutions providing predictable and effective mechanisms to resolve business conflicts. Specifically, we draw on data from our firm-level survey conducted in 2009 in seven cities of the extended Yangzi delta region in China using a stratified random sample of 700 CEOs of manufacturing firms (for details see, www.capitalism-from-below.com). Finally our analysis demonstrates how these social mechanisms are closely linked with

the bottom-up construction of robust business norms enabling and guiding economic exchange.

Networks and Institutions

The networks and institutions approach integrates network spillover effects and shifts in norms into a multi-level model of the institutional framework. Importantly, the approach opens a novel analytic method to examine the sources of institutional innovation, change and emergence. As Padgett and Powell (2012: 3) observe, “novelty in new organizational form often emerges through spillover across multiple, intertwined social networks.”

Although North also underscores the importance of informal institutional elements in his framework, informal constraints play a role as the “cultural filter” providing “continuity so that the informal solution to exchange problems in the past carries over into the present and makes those informal constraints important sources of continuity in long-run societal change” (North 1990: 37). Greif (2006: 9) notes that in North’s framework the stability of institutions is “attributed mainly to frictions in the process of institutional adjustments (e.g., the costs of changing rules) or to the impact of exogenous informal institutions, such as customs and traditions.” In other words, North’s explanation of institutions turns on exogenous factors wherein stability stems from informal constraints—custom and tradition—and institutional change emanates from purposive action of politicians, but not from institutional innovations arising from shifts in the content of social norms (Nee and Opper 2012) and spillovers across multiple intertwined networks (Padgett and Powell 2012).

The networks and institutions approach accommodates dynamic processes of institutional change emanating from shifts in norms and positive feedback of network effects and accommodative action by the state. It is sceptical about the effectiveness of purely top-down imposition of institutional change by the state without a supportive social foundation of informal norms and multiplex networks. The sequence of institutional change we think is more common in the emergence of new organizational forms and institutional arrangements come first from bottom-up shifts of norms and positive spillover effects from interacting networks, followed by accommodative action by the state bringing formal rules into alignment with change that already has been realized in the real economy through bottom-up institutional innovations (Nee and Opper 2012; Padgett and Powell 2012). In other words, linking networks and norms to the analysis of institutional innovation and emergence uncovers the causal sequence in endogenous institutional change. Indeed, transformative institutional change do not originate first from top-down implementation by a powerful state elite, but often start from small local action in networks leading to bottom-up institutional change arising from positive payoffs of institutional innovations from below. The larger the local payoffs of bottom-up institutional innovation, the more rapid the diffusion of new organizational forms and institutional arrangements and the more likely state actors will accommodate bottom-up institutional change by implementing change in formal rules (Della Posta, Nee and Opper 2014).

The making of capitalist institutions

By the time private enterprise received constitutional protection guaranteeing equal status with state-owned firms in 2004 and the implementation of China's first Property Rights Law in 2007, a substantial private firm economy already employed close to 75 million workers. Even so, private property remained vulnerable. Many entrepreneurs are still skeptical that legal reforms provide substantive benefits. Their assessment is in line with the World Bank's attempt to measure the quality of business regulations around the world (World Bank 2011). Yet, by 2011, with close to 10 million registered units, the private sector has critically reshaped China's industrial landscape, forcing a shift from a state-dominated economy to a mixed economy resting on a robust entrepreneurial base that provides now the main source of nonfarm employment and, importantly, tax revenues for local governments. The emergence of private firms as the most dynamic sector of the economy was confirmed in a communiqué of the National Bureau of Statistics of China, which reports that profits of private enterprises increased by 20.0 percent in 2012, while state-owned and state-holding enterprises experienced a 5.1 percent decline in profits that same year. Thus, although state capitalism remains the most-favored sector, sustained by privileged access to loans from state-owned banks and government policies that enforce monopoly rights of state-run firms, the private enterprise economy was more profitable. And the relative numbers of registered private firms and workers employed by them continued to grow. The private enterprise sector has maintained this pattern of robust relative growth every year following the 2008 economic crisis, even though the private sector received a mere 1 percent of China's huge stimulus program launched to revive economic growth.

The plain numbers confirm the limitations of a top-down interpretation of institutional change initiated by the state. In China, proximate mechanisms built into ongoing social relations enabled private firms to compete and cooperate in an industrial economy where state owned enterprises not only benefit from formal rules, but are subsidized by government sponsored investment capital from state-owned banks. The bottom-up social construction of economic institutions in China is not context specific but shares broad similarities with other cases of capitalist transformation in the West (Weber [1905] 2006; Mokyr 2009). At the heart of this dynamic process are shifts in norms first emanating in networked business communities, which through positive network effects and accommodative action of the state lead to a broader institutional transformation (Della Posta, Nee and Opper 2014). This gradual process follows repeated feedback loops between bottom-up social innovations shared by a growing number of mutually connected societal subgroups, and adjustments of formal institutions enforced by the state.

Two mutually related institutional mechanisms combined to unleash and sustain self-reinforcing institutional change: First of all, the replacement of state bureaucratic allocation by market coordination involves a shift of power favoring direct producers relative to redistributors (Nee and Opper 2009). Almost imperceptibly, but accelerating following tipping points, self-reinforcing parameter shifts in the institutional environment caused state-owned industrial enterprises of the old redistributive economy to lose market share to hybrid and private ownership forms (Nee 1992). Further, the greater autonomy afforded by the emergence of decentralized markets enabled entrepreneurs to construct informal arrangements that build from ground-up the economic institutions of a private

enterprise economy. Second, with marketization, rewards became increasingly based on firm performance rather than the strength of political connections, which in turn stimulated productive entrepreneurial activity. At the same time, decline in relative rewards to political connections reduced incentives for unproductive and destructive rent-seeking (Baumol 1990). When reflecting on their experience in a founding private manufacturing firm, close to 67 percent of the entrepreneurs interviewed in our survey explain that hope in securing higher income influenced their decision to start a business.

As in the West, the seed of China's capitalist transformation was localized, and originated in densely populated centers of commercial activities in the Yangzi delta region. As in Manchester in England or Rhineland-Westfalia in Germany, it was traders and artisans, "men who had grown up in the hard school of life, calculating and daring at the same time," who innovated the modes of production and economic organization (Max Weber [1904] 2006: 69). Not unlike these historical cases, the diffusion of industrial clusters in the Yangzi delta region was the key driver of endogenous institutional change in the rise of the private enterprise economy. In the three provinces of the Yangzi delta region—Zhejiang, Jiangsu and Shanghai—extensive multilateral clusters of private firms self-organized in spatially concentrated production markets provide the institutional matrix of competitive advantage. Zhejiang province alone is home to more than 500 industrial clusters covering 175 different industrial niches. More than 50 percent of the provincial industrial output value is generated in spatially concentrated cluster locations.ⁱ These clusters are highly competitive manufacturing districts, producing substantive shares of the global production, especially in labor intensive industries.

The definition of industrial cluster—used widely in economics, geography and organizations—is a sectoral and spatial concentration of firms connected through vertical or horizontal relations (Porter 1990; Krugman 1991). Marshall (1920) pioneered the idea. that spatial concentration of specialized producers gives rise to endogenous economic growth. First, it ensures a constant market for skilled workers, drawing in and training continuously specialized human capital. Second, agglomeration of productive assets enables individual manufacturers to economize on investments through subcontracting arrangements with specialized subsidiary firms. Third, spatial concentration fosters network effects that facilitate innovative activity such that, “if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further new ideas.”

The defining feature of industrial clusters is that spatial concentration not only reduces the costs of factor exchange and improve information flows, but equally important, the spatial proximity in cluster locations provides fertile grounds for face-to-face interactions required to develop and enforce business norms. In industrial clusters, personalized exchange—mutual dependence in business relations and community-backed sanctions—provide the social glue that binds principals and agents to contracts, both implicit and formal. In this way, spatial concentration in clusters enables spillover effects of multiple networks and community sanctions of norms to sustain trust and cooperation. The industrial cluster is similar to the production market insofar as in both forms of economic institutions social structures enable and guide economic action. The difference turns on spatial concentration of industrial clusters. White’s (2002) production markets are constituted of relatively small number of firms that often span large distances.

In his ethnography of an industrial cluster of high-end garment manufacturers in New York City, Uzzi (1996: 176) details how on-going workaday connections between Italian, Jewish and Chinese firms give rise to trust and flow of fine-grain information across ethnic boundaries. “I found that embedded ties entail joint problem-solving arrangements that enable actors to coordinate functions and work out problems ‘on the fly.’ These arrangements provide more rapid and explicit feedback than do market-based mechanisms such as ‘exit’ (Hirschman 1970); they enable firms to work through problems and to accelerate learning and problem correction.” In the Yangzi delta region, early founders of private firms had no alternative but to rely on government sources for their supplies. As marginalized, semi-legal entities located at the low end of the pecking order in the manufacturing sector, private firms often experienced long delays and poor quality from government suppliers (*Jingji Yanjiu Cankao* 28/09/1994).

It was the rapid entry of new private start-up firms and bottom-up formation of integrated “industrial clusters” (*chanye jiqun*) and “production chains” (*chanyelian*) of specialty suppliers that enabled private producers to decouple from government-owned suppliers and firms to self-organize not only key input factors but also to develop the industry specific norms required to develop a sustainable business venture. Early founders recall, that the early days of business activities in the 1980s were characterized by cheating and dishonesty. “It was chaos, everybody wanted to make a quick profit,” and “everybody could get rich.” But for businesses to be sustainable, transactions have to be reliable and calculable. At this stage, it was not the state to step in and formulate a sophisticated contract law specifying all possible contingencies. It was through mutual cooperation and joint problem solving, that private producers gradually developed an

understanding of proper business conduct. The simple observation that “you can only cheat once”, led to the rapid development of mutually accepted business norms that were key to reduce uncertainties. Through these bottom-up processes from within discrete industrial clusters and networked business communities, entrepreneurs in the Yangzi delta region were able to construct stable and autonomous supply and distribution channels decoupled from the state-controlled industrial and commercial sectors of the transition economy.

Once an integrated industrial cluster and production chain is established, expected operational costs decline. More and more entrepreneurs and vendors in accessory industries are drawn in by the critical mass of specialized human capital and organizational resources. A great majority of the firms in an industrial cluster and production chain are private enterprise ranging in size from household firms to very sizeable private enterprises in the same niche that compete in the global economy. In the mountainous southwestern region of Zhejiang province, for example, when an entrepreneur starts up a new business in the city of Yong Kang, they are able to draw on an industrial infrastructure of specialized human capital resources, subcontractors, raw material suppliers and a distribution network of their industrial cluster. Manufacturers in industrial clusters strongly believe that they cannot find a better location for producing kitchenware and stainless steel products.

The competitive advantage of the manufacturing economy in the Yangzi delta region is rooted in multiple overlapping industrial clusters. No other region in China has a comparable density of multiple cluster productions. Oftentimes these clusters evolve from mimicking successful start-up firms in the industrial niche. In our sample, a strong

majority of entrepreneurs (64%) see themselves as part of this social process of entrepreneurship as either pioneer (inspiring others to follow their example to found a firm) or follower (mimicking a local role model). As more and more players enter into the market, a self-reinforcing, rapidly accelerating bottom-up process of specialization and differentiation gives rise to the formation of industrial clusters. This spatial proximity of hundreds, and often thousands, of producers operating in the same industrial niche oftentimes located in just one township or county allows for rapid pace in the production cycle from purchase order to manufactured product. Producers can count on all the needed component parts supplied rapidly by subcontractors ready to produce. Access to a multitude of small satellite firms allied to the mother firm as spin-offs of start-up firms—employees and friends—provides for a ready ensemble of subcontractors who are connected through long-standing personal ties and share the same business principles. As small firms, they are adaptive, flexible and capable of specialized production on a short time schedule.

The rise of the Yangzi delta cluster economy is far from unique or linked to China's specific historical context. There is a close parallel in the bottom-up institutional innovations that gave rise to industrial clusters and production chains in the Yangzi delta regional economy with the Emilia-Romagna region of Italy (Brusco 1982). The basis of regional competitive advantage is linked to the social structure of close-knit communities of manufacturers, suppliers and artisans and to the effectiveness of social norms in enabling, motivating and guiding cooperation. There is the additional parallel that both regional governments—Emilia-Romagna and the Yangzi delta region—are controlled politically by communist parties. In both regions, however, sustained, high levels of

economic performance do not rest on top-down central government measures, but on bottom-up dynamics of entrepreneurship rooted in local networks and norms.

The underlying social exchange mechanism

Homans (1974: 76) identified social exchange as the mechanism of norm enforcement in close-knit groups: “The great bulk of controls over social behavior are not external but built into the relationships themselves, in the sense that either party is worse off if he changes his behavior toward the other.” Mutual dependence—on information flows, on access to scarce resources, on inter-firm collaboration in technology development, and on privately organized supply networks autonomous from state-controlled sources—can provide the glue that endogenously reinforces long-term stability of contractual relationships, without reliance on third-party enforcement. Even so, control via norms becomes more problematic the larger the size of the group and community (Taylor 1987, Elster 1989, Coleman 1990). Thus, stable cooperation is likely to depend on a complex set of design principles.

Following the theoretical and experimental literature on the rise of cooperative norms we highlight two central, and closely related social mechanisms shaping the emergence of norms within dense industrial cluster structures: One is personalized exchange with trading partners, which is widely believed to facilitate mutual observation and information exchange; the other is reputation, which operates as a selection mechanisms when choosing business partners, and thereby promotes the rise and diffusion of cooperative norms.

Personalized Exchange

Any business operation can be broken down into a diversified and multilayered structure of principal agent relations, each involving high levels of risk and uncertainty. Principals need to be confident that suppliers provide the agreed-up quality standard crucial for the production process and intended product quality. They need to be certain that suppliers will deliver the correct amount at a specified price. Entrepreneurs have to trust that their customers will pay on time, in order to manage a company's cash flow and to avoid liquidity constraints. Entrepreneurs take substantial risks when investing in an employee's technical training, if local job mobility and competition for trained staff is excessively high. And finally, they need to trust their staff and collaborators when investing in research and development, if technologies can be easily copied and transferred. Such general risks are most critical when legal recourse is expensive, the outcome of court rulings hard to predict, and the enforcement uncertain.

A standard response to reduce these types of business risks and uncertainties is the reliance on personalized exchange and cultivation of interconnected networks of suppliers and customers. Frequent social interactions improve information flows, they allow for mutual monitoring at low costs, and thereby strengthens mutual trust necessary for cooperative behavior. The more frequent the interaction between group members, the lower the cost of mutual monitoring, assuming group members are in close enough contact with one another that information about members' conduct is common knowledge (Axelrod 1984).

Entrepreneurs operating in China's Yangzi delta region confirm that personalized exchange plays an important role in developing mutual trust and cooperative behaviour.

Intense contacts with key suppliers often involve on site company visits, and joint training and technology development. Ongoing trends and development within industrial niches are discussed at frequent meetings of business associations, professional meetings and trade fairs. Also, less formal activities play a crucial role in updating network members on important development. Many rely on informal circles of friends and long-term business partners to exchange information, discuss market developments and cooperate on specific problems. This type of exchange is typically not limited to the local business community. The internet allows producers to cultivate and maintain personal ties across the regional and national economy. Widely used business-to-business websites provide open access to new business contacts, reinforcing the cross-cutting nature of business networks to combine closure and brokerage as stable features of entrepreneurship in industrial clusters. Through personal communications, producers gain timely market information, secure quality deliveries, timely payments and maintain a cooperative atmosphere for joint problem-solving.

Producers in the Yangzi delta region also emphasize personal contact in their customer networks. Importantly, information sought through personalized exchange allows producers to differentiate between financially stable and doubtful fly-by-night businesses, an important piece of information to guard the company against risk of late payments and default. It is also common for entrepreneurs to visit each others' firms to study specific customer needs and technical product requirements. Close and personalized relations with customers are seen as a prerequisite to arrive at satisfying solutions in case of future business conflicts.

The role of reputation

Informal norms arise in the course of social interaction as standards of expected behaviour and are maintained when reward is expected to follow conformity and punishment, deviance. Members of a group confer social rewards for conformity to norms through social approval and higher status. In more complex exchanges, the same processes hold, but the pressure to conform also takes on a collective action dimension (Hardin 1982; Gould 1993). As Axelrod (1984) shows, social reward and punishment in repeated exchanges—when actors take into account the weight of the future, as in ongoing relationships—motivates cooperative behavior. Cooperation in business communities rests on the entrepreneurs' reputation.

Reputation, however, is also a factor explaining the initial rise and diffusion of norms, as reputation serves as a selection mechanisms in choosing business partners as long as formal rules are not firmly established. This choice mechanism is still in place, even though formal laws have evolved considerably since China's early reform period. Asked about the selection criteria for choosing the supplier of a key input, the majority of the entrepreneurs in our Yangzi delta survey confirmed consistently in each of three survey waves from 2006 to 2012, that good reputation (as confirmed by long-term business partners, business administration or friends) is the single most important factor. Interestingly, even in the aftermath of the economic crisis, price, quality and supply time did not emerge as the single most important factor by 2012. What generally matters most to entrepreneurs in the Yangzi delta region is building good reputations in their business relations.

Reputation, or the assessment of a social entity by others, can refer to a whole variety of individual or organizational qualities. However, experimental research on the

rise of cooperative norms identifies an individual's willingness to contribute to the public good as a central determinant of an individual's reputation. Nowak and Siegmund (1998), Fehr and Fischbacher (2004), and Fehr (2004) show that those who are willing to contribute to the public good are more likely to benefit from community enforcement of cooperative norms than those who choose to defect).

This observation is very close to what entrepreneurs in the Yangzi delta region observe in their daily business life. As an entrepreneur in Wenzhou emphasizes, receiving help from other entrepreneurs depends on one's reputation: "Reputation is like a code of conduct in Wenzhou. Good reputation is needed if you want help from others; if you have good reputation, people will help you if you have problems."¹ A central feature in reputation building is therefore an entrepreneur's willingness to behave cooperatively.

That "you cannot survive just by yourself" is a common belief shared by all entrepreneurs. The search for ways to further develop or just to maintain the company in an increasingly competitive environment spurs an active search to assemble a group of strategically positioned business contacts. Central in these inter-firm alliances and informal types of cooperation are otherwise hard-to-secure resources, such as finance, market knowledge, and technology development. The emerging multiplex business relations turn into decisive factors explaining a company's capability development, success in product specialization and strategic positioning.

Network overlaps through multiplex activities increases the subjective value of each tie over and beyond the monetary value of bilateral contracts on sales and supplies. Building on data generated in our 2009 survey the average entrepreneur exchanges about 15 different activities often crucial for the survival of the firm within a network of the

¹ Nee and Opper, *Capitalism from Below*, Interview # 56.

five most valuable business partners, typically comprising customers, suppliers but also competitors. Figure 1 offers a stylized illustration of the diversity of exchange activities. Naturally, entrepreneurs make substantial efforts to cultivate and maintain these links. In close-knit communities, loans rarely default. “One default on one loan, this would ruin the entire reputation.”

Insert figure 1 about here

Cooperative behavior also extends beyond the boundaries of the close-knit networks of the most important business associates. Our field interviews confirm that reputation building rests on an individual’s behavior in a whole range of activities relevant for business survival. Among the fields mentioned as important to entrepreneurs is mutual exchange of business advice, mutual information on cheaters operating in their niche, and the provision of mutual help in the form of informal loan agreements, customer recommendations, and the willingness to help when someone in their social group experiences major technical problems. In the Yangzi delta region, a good business reputation rests very much on the willingness of an individual to help others, as long as such help is not associated with undue personal costs. Those who do not follow the norms of mutual help quickly face social and economic sanctions.² Most entrepreneurs are therefore anxious to maintain a good reputation.

Norm Compliance and Conflict Resolution

² The owner of a factory producing and trading specialized steel stated unequivocally, “I refuse to do business with someone whom I have heard from three people bad things about. I will not do business with that person even if they threaten to cut my head off.” Nee and Opper, *Capitalism from Below*, Interview # 37.

We take our analysis a step further to confirm the emergence of business norms as closely linked with the observed social mechanisms structuring and shaping the workings of business communities within China's Yangzi delta region. Here, as in other business networks, fluid information exchange and reputation effects foster broad norm compliance and individual efforts to solve problems through private means. "Good relations are based on trustworthiness, which involves not treating others as fools," explains one entrepreneur, "As time passes, others will find out about everything."³ Deviators from accepted business norms generally have to calculate the costs of community sanctions. Almost 50 percent of the respondents in each of our three surveys conducted between 2006 and 2012 are confident that they would find out if one of their suppliers cheated on another client. This is independent of the type of networks entrepreneurs maintain. Producers organized in formal business networks such as industrial associations (or guilds) or local branches of the *Association of Private Entrepreneurs* do not score differently than those producers who rather rely on informal arrangements. Through the interconnectedness of small-scale groups of producers, information exchange is apparently equally effective in informal as in formal producer networks. Also spatial proximity is not a critical requirement. Information on supplier malfeasance seems to be equally available to producers who source their supplies outside their home province as to those relying on local suppliers. In Shanghai, where private producers typically rely on supplier networks located outside their province, intra-community information exchange seems even slightly higher than in other locations, for 55 percent of the respondents interviewed in 2012 believe they would learn about supplier malfeasance, whereas in Wenzhou, a city with strong reliance on cluster

production of small-and medium-scale producers, only 47 percent of entrepreneurs expressed similar confidence.

Business conflicts remain rare within these networked communities. Only 5 percent of the interviewed entrepreneurs recall notable conflicts with their suppliers over a three year period preceding our 2012 survey. Due to well-established personal relations and pronounced mutual interest, those conflicts can typically be resolved between both business partners without any outside involvement (78 percent of the cases). An additional 20 percent of the cases are solved with the help of business associates and friends, who step in to mediate between the conflicting parties. None of the cases was brought to court suggesting the strong reliance on intra-group norms and informal mediation processes. Effective *ex ante* screening of business partners and monitoring of business transactions partly explain the rare occurrence of critical conflicts. Particularly those producers, who rather rely on local suppliers and customers are less likely to encounter business disputes. In contrast, dependence on international supplies and customers is associated with a substantively higher risk to encounter business disputes. While we cannot rule out that higher international quality standards may play a role too, cross-country business networks certainly lack the type of informal exchange mechanisms and social foundation, supporting local norms.

To confirm quantitatively the existence or absence of certain behavioral business norms within the Yangzi delta cluster economy, we apply the relatively simple definition, that “the total absence of enforcement actions against detected violators of a guideline is conclusive evidence that the guideline is not a rule” (Ellickson 1991:128). In our 2009 survey, the 700 participating entrepreneurs were asked to assess likely outcomes within

their community, in response to a list of seven conflict scenarios. These scenarios described cases of business conflicts on a range of typical business transactions involving 1) provision of an informal loan, 2) mutual help within business networks, 3) repayment of an informal loans, 4) late deliveries of orders, 5) deliveries of sub-standard quality products, 6) late payments for goods and services, and 7) unfair competition. Scenarios 1 and 2 refer to pre-contractual disputes and informal favors exchanged between two business partners. Scenarios 3 to 7 specify standard conflicts common in business transactions.

For each of these scenarios, we have asked the respondents to identify the most likely individual or social response in their local business community. Choices given were: a) nothing will happen, b) gossiping about the incident, c) a bilateral tit-for-tat response between both contract partners, d) a general change in the quality of the business relation between both partners, and finally, e) community sanctions by those who learn about the incident. Following Ellickson's definition choice a) signals the absence of norm-based behavior.⁴

Business norms are most pronounced in standard cases of contract breach involving product quality, delivery time, and payment. In each of these cases, contract breach can lead to substantial economic consequences. Economic losses due to warranty issues caused by faulty supplies, loss of orders due to late delivery of inputs, and liquidity problems due to late payments all can pose a critical threat to the economic survival of a business. Mutual information sharing is therefore a natural response to guard against

⁴ To avoid a method response bias, the different scenarios were not presented together, but were distributed across a detailed questionnaire covering various aspects of personal information, firm information and assessments of the firm's environment (for exact wording refer to Appendix I).

future economic losses of group members.⁵ More than half of the respondents would alert others if they encounter problems with sub-quality deliveries and the supplier rejects to settle the problem either through a discount or new delivery. A third of the respondents even expect that leaking out such information would lead other firms to cut business ties or reduce the contract volume with the respective producer. Losing one's reputation as a producer of quality deliveries can therefore be a costly threat. Notwithstanding, this form of community sanction depends on spatial proximity and close-knit cluster structures. Producers who rely on less localized sourcing strategies, such as manufacturing firms in Shanghai, are less certain that information exchange on quality concerns provides an equally powerful sanctioning mechanism.

Still, most entrepreneurs are confident that quality issues can be settled through joint negotiations. Companies mindful of their reputation set up internal guidelines to respond to quality issues within a certain period of time, and make sure that major quality issues are always solved by timely replacements. At the same time, entrepreneurs need to make sure that there is no abuse of the reputation-mechanism. If clients become known for making unjustified complaints in an effort to achieve undue price reductions of their deliveries, word is quickly out blacklisting these customers as dishonest business partners.⁶

Norms on how to deal with late deliveries of supplies appear similarly strong.

About 42 percent of the respondents would inform others in cases of late deliveries of

⁵ When asked about this in a slightly more general form, 74 percent of respondents in Shanghai and Nanjing (2002-2004) believe that also other firms would learn about potential business disputes with suppliers (Clarke, Murrell and Whiting, 2008).

⁶ A ball-bearing manufacturer in Nantong describes the case of one of his business associates, who has an output value of 10 million a year but faces requests of 1.5 million RMB for refunds. These refund cases, however, are anything but clear. "Bearings are usually made of alloy and axles are of metal... Alloy is soft and metal is stiff and therefore there are many reasons for damage such as low-quality gasoline or impurities on the parts. But the engine producer always blames us for low-quality bearings."

supplies and an even slightly larger share of 47 percent would discuss problems with delayed payments with business friends and associates. The likelihood of ensuing community sanctions further increase the threat for deviators. 26 percent of respondents expect that deviators would face a loss of business with other community members, if word gets out that a supplier does not try to compensate the customer in case of late product deliveries. Even more respondents (31 percent) expect sanctions from the broader business community if a debtor does not promptly honor financial commitments.

While gossiping and community sanctions are powerful mechanisms to enforce cooperative behavior, they do not safeguard against the rise of conflicts. Payment issues arise quite frequently given the tight liquidity constraints of private companies, but they can generally be internally handled in a satisfying manner. Most entrepreneurs emphasize that it is always possible to renegotiate and to mediate. Hard-and-fast rules are seen as counter-productive as they do not reflect the specific circumstances. Community sanctions are therefore reserved for those cases where the contracting parties are either unwilling or unable to arrive at a mutually acceptable agreement. A Nanjing-based machinery producer summarizes, “Of course problems with payments do exist, but we will always talk with the firm. The good ones will tell us when they can eventually pay. The bad ones will just delay us longer and longer....I then decide on a case-by-case basis whether I will continue to deal with them. For me it is important to know whether they really were in a financially difficult situation and could not make their payment on time.”⁷ Others confirm the importance of transparency and communication in upholding local business norms.

⁷ Nee and Opper, *Capitalism from Below*, Interview # 92.

Figure 2 gives an overview over the varied expectations respondents have concerning the different conflict scenarios. As can be expected, the highest proportion of respondents not expecting any particular norms to be in place is observed in the case of informal favors exchanged between two parties (scenario 1 and 2). In contrast, fewer entrepreneurs fear the absence of norms in the remaining types of contractual conflicts. Only 12 to 22 percent of the respondents expect the lack of norms. The absence of norms is least pronounced, when suppliers are not delivering the agreed upon quality standards (scenario 5), followed by general rules of fair competition (scenario 7). With other words, norms are most likely to emerge, if the wrongdoing of defectors does not only reduce private benefits within a bilateral relationship, but if general principles of a rule-based (often contract-based) market exchange are affected. Hence, norms arise where individual interests are aligned in enforcing mutually beneficial guidelines protecting interests of group members.

Insert figure 2 about here

A review of the intra-group differences in norm expectations confirms our assumption that personalized exchange and reputation building provide key mechanisms in securing a certain level of norm enforcement. Initial test relying on standard mean comparisons confirm that entrepreneurs who rely to a greater extent on personalized relations within their local business networks (measured by self-assessed *guanxi* reliance and share of customers known in person) are more likely to expect the enforcement of community norms. Similarly, entrepreneurs who are more mindful of their reputation as

cooperative agents are also more certain that community sanctions would follow malfeasance in business transactions.

Insert table 1 and 2 about here

CONCLUSION

The networks and institutions approach examines the link between social relationship and economic institutions. It differs from the new institutional economics in its focus on the workings of networks and norms in providing the glue that cements principal-agent relationships in economic institutions. The mechanisms that connect networks to institutions are intrinsic to social exchange, and are self-enforcing in on-going social relationships. Networks are universal features of human societies wherein all actors are nodes in networks that include both strong and weak ties. What differentiates networks are the content of the norms sustained by mechanisms intrinsic to social action of like-minded members of multiplex networks. In explaining the emergence of private manufacturing economy in the Yangzi delta region, our focus is on the working of private orders of economic actors. We show that business norms enforced through community sanctions provide effective governance structures in principal-agent relations, in an institutional environment where enforcement of legal rules are unreliable and often capricious. The emergence of economic institutions embedded in networks and norms explain the successful rise and growth of the private manufacturing economy in competition with protected and privileged state-owned enterprises.

In multiplex networks, shifts in the content of reciprocity and spillover from interacting networks drive endogenous emergence of new organizational forms and

economic institutions. The greater benefits of institutional innovations through the network effects, the more rapid the diffusion of new organizational forms and institutional arrangements. In endogenous institutional change, economic institutions first emerge through shifts in the content of norms and spillover effects of interacting networks combining and recombining existing repertoires of beliefs and norms. When institutional innovations generate economic advantages and diffusion of new organizational forms is widespread, the state acts to accommodate changes that have already occurred in the real economy. This is not only true for the rise of capitalism in China. England's industrialization for instance seems to a substantial extent associated with changes of social norms, a novel business culture, and local trading conventions rather than with formal property rights regimes (Clark 1996; Mokyr 2010). The same line of reasoning is clearly reflected in Weber's description of the rise of a capitalist spirit (Weber [1904] 2006) that gradually changed the economic system from below. Thus, in the rise of capitalism formal rule changes implemented by the state often follow the endogenous emergence of capitalist economic institutions.

The network and institutions approach offers a research program in economic sociology that revitalizes the study of economic institutions, and where they come from and how they change and evolve over time. This approach links advances in network analysis with the comparative analysis of institutions and institutional change. Already work is in progress, offering a broad canvass of problems of fundamental interest across the social sciences. Padgett and Powell's (2012) focus on positive feedback from interacting networks as a source of organizational innovation is consistent with the network and institutions approach. The underlying mechanisms in these approaches are

intrinsic to social action. The insights from the foundational studies of institutions and institutional change of classical work in economic sociology have diffused across the social sciences (see also Dobbin (\$\$\$) in this volume. It is time for economic sociology to reclaim the view that institutions matter by advancing a networks and institutions approach in the study of economic life.

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TABLES

Table 1: Standard mean comparison tests of reflexive reputation and norm enforcement

	Average reliance on guanxi in customer relations, if respondents (Mean / std. err.)		Average share of customers known in person of respondents who (Mean / std. err.)	
	do not expect community sanction	do expect community sanction	do not expect community sanction	do expect community sanction
Scenario1	4.64*** (.044)	4.96*** (.099)	53.07 (1.035)	50.41 (2.908)
Scenario2	4.82*** (.045)	5.02*** (.086)	52.19* (1.058)	56.161* (2.478)
Scenario3	4.59*** (.048)	4.94*** (.074)	51.37*** (1.125)	56.56*** (1.928)
Scenario4	4.57*** (.047)	4.99*** (.078)	51.02*** (1.143)	57.65*** (1.823)
Scenario5	4.55*** (.050)	4.93*** (.065)	50.45*** (1.208)	57.38*** (1.611)
Scenario6	4.59*** (.049)	4.89*** (.070)	50.59*** (1.157)	57.55*** (1.769)
Scenario7	4.58*** (.050)	4.91*** (.065)	52.32 (1.171)	53.76 (1.765)

*p < .10; ** p < .05; *** p < .01.

Source: Yangzi survey 2009

Table 2: Standard mean comparison tests of reflexive reputation and norm enforcement

	Average reputation score of respondents who (Mean / std. err.)	
	do not expect community sanction	do expect community sanction
Scenario1	4.84 (.033)	4.87 (.073)
Scenario2	4.82*** (.033)	5.03*** (.068)
Scenario3	4.77*** (0.036)	5.07*** (.052)
Scenario4	4.77*** (.036)	5.08*** (.054)
Scenario5	4.69*** (.038)	5.17*** (.044)
Scenario6	4.78*** (.037)	4.99*** (.052)
Scenario7	4.68*** (.036)	5.24*** (.047)

*p < .10; ** p < .05; *** p < .01.

Source: Yangzi survey 2009

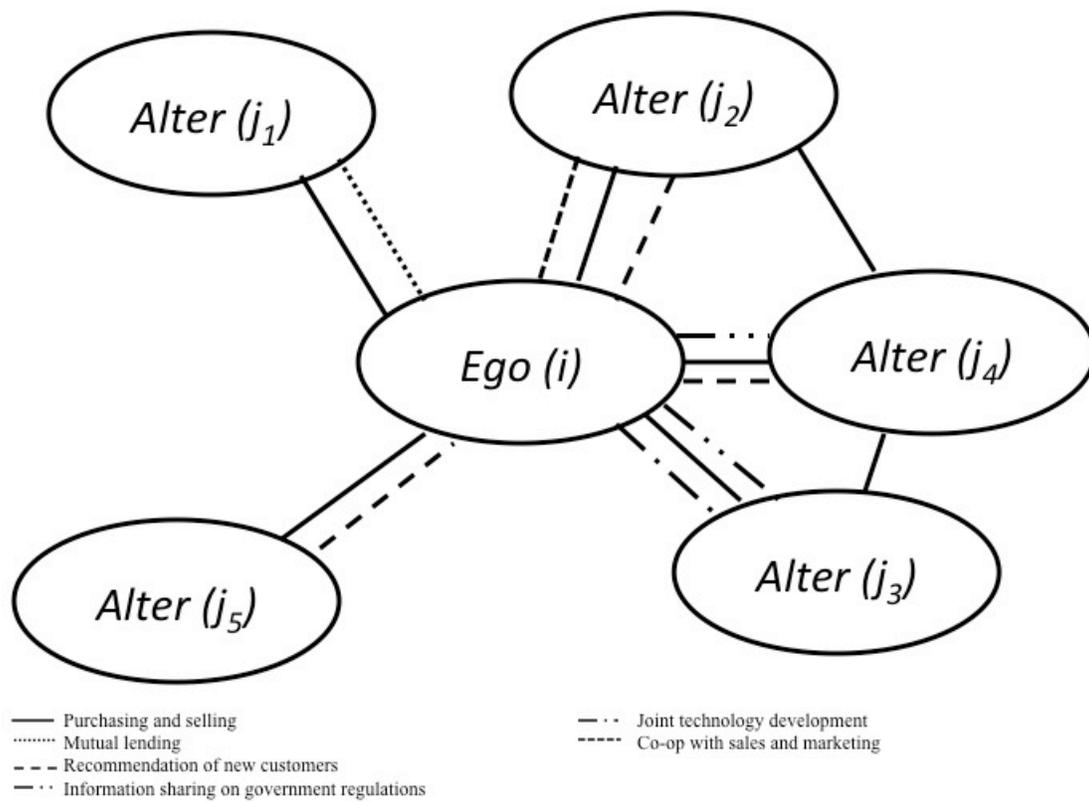


Figure 1: Multiplex network relations

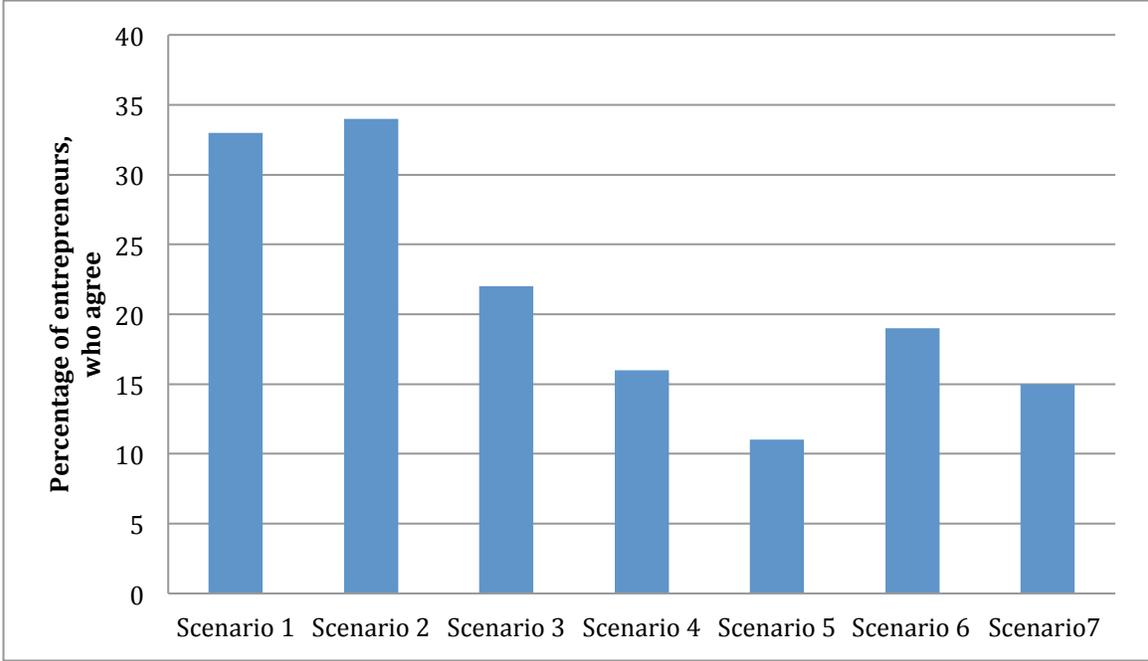


Figure 2: Absence of norms

Source: Yangzi delta survey 2009.