



Beyond new regionalism, beyond global production networks:
remaking the Sunan model, China

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Abstract

This paper attempts to advance the research on globalization and regional development in China through a study of Kunshan City. We investigate the restructuring process, the structure of FDI, and the nature of global-local networks to understand trajectories and models of regional development in the context of globalization. We highlight the interactions of the Chinese state, transnational corporations (TNCs) and regional assets in shaping the trajectories of regional development. We argue that Kunshan's pathway to globalizing regional development is state-centered and heavily dependent on global forces, which has made Kunshan a TNC satellite district and a dual city segmented between TNCs and domestic firms. We also argue that TNCs' local embeddedness has to be positioned in their global/external networks and that the assessment of regional development has to be conditioned upon a region's specific context. The findings suggest that neither new regionalism nor GPN perspectives can fully explain regional development in China with huge domestic markets and large regional disparities. We promote an alternative, middle ground perspective to regional development to better integrate global forces, state institutions, and local contexts. Such a third approach to regional development has the potential to hold down the global and develop indigenous capacities.

1. Introduction

Debates on the trajectories and mechanisms of regional development have been intensified in the context of heightened globalization and regional competition (Pike et al. 2006). While the literature of economic geography tends to promote regional development through the perspectives of new regionalism, there is an increasing voice arguing for globalizing regional development (Coe et al. 2004), echoed by the perspectives of global value chains (GVCs), global commodity chains (GCCs), and global production networks (GPNs). These perspectives or approaches, however, also have limitations since they tend to over emphasize global or extraregional processes in shaping the trajectories of regional development. While no place on earth has been untouched by globalization, the relations of regions with the global economy and the impacts of globalization on regions are sensitive to specific space and geographical contexts.

Since the late 1970s, China has restructured its development policies from egalitarianism and self-reliance towards growth, efficiency, and competitiveness through the triple process of decentralization, marketization, and globalization (opening up to the outside world) (Wei 2000). However, the impacts of reforms on regional development and the trajectories of regional restructuring vary over space. Three well-known models of regional development--the Sunan model, the Pearl River Delta (PRD) model and the Wenzhou model-- have drawn substantial attentions. The orthodox Sunan model attributes the development of Sunan (southern Jiangsu Province) to the local state-directed township and village enterprises (TVEs), which has been conceptualized as local state corporatism (Oi 1999) and development/urbanization from below (Ma and Fan 1994). However, since the early 1990s and with changing institutional environments, TVEs have been privatized and globalizing Sunan has become a new strategy of regional development. Kunshan City in particular has been transformed into a globalizing

production center driven by foreign direct investment (FDI) and foreign-invested enterprises (FIEs), and has become a symbol of the post-Sunan model of development in the context of globalization and institutional change (Wei 2002; Chien 2007).

This paper attempts to advance the research on globalization and regional development in China through a study of Kunshan, a county-level city under the jurisdiction of Suzhou Municipality and a prototype of the transformation of the Sunan model. We investigate the restructuring process, the structure of FDI, and the nature of global-local networks to understand the restructuring of regional development models in the context of globalization. We ask the following questions: How has the Sunan model been restructured? How have the mechanisms of regional development been changed? What is the structure of FDI and what is its role in the development of Kunshan? What are the theoretical and policy implications of the Kunshan experience? We highlight the interactions of the Chinese state, transnational corporations (TNCs) and regional assets in shaping the trajectories of regional development in the context of globalization. We argue that Kunshan's pathway to globalizing regional development is state-centered and heavily dependent on external forces, which has made Kunshan a TNC satellite district and a dual city segmented between FIEs and domestic firms. We also argue that FIEs' local embeddedness has to be positioned in their global/external networks and that the assessment of regional development has to be conditioned upon a region's specific context. The findings suggest that neither new regionalism nor GVC/GCC/GPN perspectives can fully explain regional development in China, and further theoretical development is needed. We promote an alternative, middle ground perspective to regional development to better integrate global forces, state institutions, and local contexts. This third way of regional development is focused on integrating global forces and local assets by holding down the global and developing indigenous

capacities.

Perspectives on Globalization and Regional Development

The field of economic geography has been experiencing an unprecedented divergence and fragmentation. While the neoclassical tradition has been sustained and even revitalized through innovations in GIS and spatial analysis and the rise of new economic geography (NEG), the geographical version of new economic geography, mainly institutional economic geography (IEG), especially new regionalism, through the processes of institutional, relational, and cultural “turns,” has emerged as a powerful alternative, and can even be considered the new mainstream of economic geography. NEG and IEG, despite different epistemological foundations, have something in common: they both criticize neoclassical assumptions such as constant returns to scale, perfect information, and static equilibrium. Changes can also be observed in regional science, which now highlights externality, agglomeration, networks, and dynamics. The New Regionalism highlights the significance of the region, city-region in particular (Rodríguez-Pose 2008), as an effective arena for situating the institutions of post-Fordist economic governance, and can be traced to earlier debates documenting the impact of high technology on regional development and a post-Fordist mode of flexible specialization (MacLeod 2001). It has been looking for agglomeration and territory as sources of regional development and championed the notions of Marshallian industrial districts, untraded independence, local/relational assets, regional systems of innovation, and learning regions, to name just a few (e.g., Storper 1997; Cooke and Morgan 1998; Scott 1998).

However, like the perspectives of development from below or bottom-up development, the notions of new regionalism clearly have limitations. New regionalism has been recently

criticized for ignoring the impacts of globalization and large firms, the role of nation states, and the dynamics of regional development (Amin and Thrift 1992; MacLeod 2001; Whitford 2001; Hadjimichalis 2006; Wei et al. 2007). For example, Italian industrial districts as symbols of the success of small-scale flexible capitalism have been challenged by globalization and changing national contexts, with intensified competition, the formation of delocalized firms and TNCs, and the replacement of local workers by migrants (Dunford 2006; Hadjimichalis 2006). Eraydin (2001) identifies three trajectories of change: loss of competitiveness, mergers and integration with global production networks, and innovation. Regions or industrial districts in developing countries are often characterized by the importance of family circles, active local states, frequent informal networks, the cohabitation of small firms and Fordist giants, and a lower degree of specialization (Rabellotti 1995; Pietrobelli and Barrera 2002; Miao et al. 2007).

The literature has proposed alternative notions of industrial districts and regional development, and scholars have called for “globalizing” or “scaling up” regional development (Coe et al. 2004; Wei et al. 2007). Research on clusters has also incorporated external networks and exogenous factors in the analysis of regional development and spatial change (Bathelt et al. 2004). Perspectives of GCCs, GVCs, and GPNs have drawn substantial attentions in research. The so-called Manchester School of GPNs moves beyond new regionalism and promotes globalizing regional development, especially through the notion of strategic coupling of firms’ GPNs and regional assets (Henderson et al. 2002; Coe et al. 2004; Hess and Yeung 2006). Their approach strives to incorporate all kinds of network configurations and encompass all relevant sets of actors and relationships (Coe et al. 2008), and views regional development as a translocal dynamic process of growth and change, where multiple actors operate in multi-scalar geographical spaces. This is an approach often used by geographers who tend to emphasize

comprehensiveness, inclusiveness, and multiscale. While the GVC/GCC/GPN schools have turned the study of regional development from the earlier focus on endogenous regional assets to the complex relationship between economic globalization and regional change, their perspectives or approaches tend to over emphasize global or extraregional processes in shaping the trajectories of regional development, although the GPN perspective tends to be multiscalar and sensitive to places.

Given the dynamic and diverse nature of economic geographies, a framework similar to a grand theory incorporating all kinds of network configurations and encompassing all relevant sets of actors and relationships as stated by the GPN perspective is an extremely ambitious task and encounters problems of situatedness and specificity. We do feel the GVC/GCC/GPN perspectives have limitations when applied to research on China and further theoretical development is needed. First, their approaches draw mainly from the experiences of more globalized sectors and countries. The most frequently studied sectors are textile and garment, automobile, ICT (information and communication technology), and retail industries located in highly globalized countries, mainly developed countries, East Asian NICs and Latin American export-oriented countries. East Asian NICs have some things in common: their domestic markets are small; their economic growth has been largely externally oriented; and their governments are active promoters of globalization strategies. These perspectives therefore have limitations when applied to China, with its huge domestic markets and large regional disparities. The three well-known models of regional development--the Sunan, PRD and Wenzhou models—are evidence of the multiple trajectories of regional development, which cannot be fully explained by the GCC/GVC/GPN perspectives, especially the orthodox Wenzhou model centered on family-owned small businesses embedded in thick local institutions (Wei et al. 2007).

Second, the global-local relationship has been a key area of enquiry and scholars disagree over the role of TNCs in regional development. Yeung (2009) assessed that the novelty of the GPN approach rests with its emphasis on the strategic coupling process between local firms and global lead firms in GPNs, where strategic coupling is defined as a time- and space-contingent convergence of interests and cooperation between two or more groups of actors. Strategic coupling often takes place between TNCs and their local branches and strategic partners, including firms based in East Asian NICs where three relational processes and mechanisms can be met: (1) the emergence of transnational communities; (2) changes in industrial organization; and (3) initiatives by states and institutions (Yeung 2009). However, in many developing countries strategic coupling of local firms with global lead TNCs rarely exists and TNCs tend to network among themselves and form networks of TNCs, largely because of a lack of the three mechanisms. GPN promoters also found that in the case of Singapore, supplier upgrading has been limited although horizontal partnership arrangement might have more beneficial impacts (e.g., Coe and Perry 2004). We believe that strategic coupling is a special case of TNC-local firm relations and is stronger in East Asian NICs, which rely more heavily on global lead TNCs for local outsourcing and global marketing.

Even in the fast growing economy of China, there is a lack of local firms for strategic coupling with TNCs due to a series of technological, institutional and spatial mismatches. We found that the effects of TNCs could be positive mainly in two situations. One is that when local firms, rather than TNCs, have strong abilities to drive the global-local networks, such as the case of Beijing, where state-backed Chinese firms have benefited from the knowledge diffusion of TNCs (Zhou and Tong 2003; Liefner et al. 2006), and the case of Qingdao, which has established a strong, increasingly globalizing domestic electronics cluster (Kim and Zhang 2008).

The other condition is that TNCs seek to exploit the network reach and power of indigenous enterprises in host markets where the state has the power to bargain with TNCs and indigenous firms have the capacities to produce for TNCs, as evidenced by the local content requirement and embeddedness in the automobile industry in China, Shanghai in particular (Sit and Liu 2000; Depner and Bathelt 2005). This type of TNC embeddedness takes place mainly in the leading globalizing cities with provincial-level municipal authority--Beijing, Shanghai, and Shenzhen.

Last, the GVC/GCC/GPN perspectives are overly positive about the impact of TNCs on regional development, in contracting to the overly pessimistic perspectives of dependency and world system schools. The actual level of local embeddedness and the effectiveness of TNCs are contingent upon a number of factors, including local industrial environments, TNC network strategies, and the host-TNC bargaining relationship. The local effect may be limited and confined to subsequent inflows of follow-the-leader FDI in the absence of necessary indigenous support capabilities and corresponding local state intervention (Leahy and Pavelin 2003). In many developing countries global-local networks tend to be thin and dependent, especially when TNCs are export driven, as evidenced by the satellite industrial platform (Markusen 1996), the Cathedrals-in-the-Desert phenomenon in Central and Eastern Europe (e.g., Grabher 1994, Hardy 1998; Turnock 2001), the weak integration of local firms with TNCs' production networks existing widely in Latin America (e.g., Lowe and Kenney 1999), and the dominance of quiescent or branch plant-like subsidiaries in the Asia Pacific region (Poon and Thompson 2003). The recent financial crisis is another sign of the mobility of global capital and the devastating effects of capital flight on developing countries.

The extents of the integration of regions with the global economy and the impact of globalization on regions are sensitive to space or geographical contexts. These notions have also

been taken seriously by GVC, GCC, and especially GPN perspectives. But when it comes to theorization, it is a challenging task to include all those complicated drivers of development. Consequently, two treatments have emerged. One is what has been adopted by the GVC and GCC schools, which tend to emphasize value chains and power structures and downplay place and space. The other is adopted by the GPN school, which promotes a comprehensive and multiscalar approach, but when examining specific regions, such a grand theory-type framework has limited interpretative power in understanding the multiple trajectories of regional development. This problem is not GPN specific, but common to geographical theorizing. GVC/GCC/GPN perspectives therefore need further development to account for multidimensional regional development in China.

Regional Development in China: Conceptual Issues and Methodology

Rapid change and unique context make the study of regional development in China a challenging task. While in the 1980s China's reform was gradual, partial and characterized as "crossing the river by feeling the stones," since the early 1990s China has been undergoing more radical reforms towards globalization and marketization, followed by heightened efforts to reduce poverty and spatial inequalities. Scholars have debated intensely on the effects of reforms on regional inequality; they have found the multiscalar nature of regional inequality, the trend of spatial agglomeration, the formation of regional clubs and distinctive models of regional development, and the uneven impact of globalization and reforms (e.g., Fan 1995; Wei 2000; Wei and Kim 2000; Ye and Wei 2005).

China's regional development models have been undergoing restructuring. The Wenzhou model, a prototype of Marshallian industrial districts, has gone through two major rounds of

restructuring (from family enterprises to shareholding cooperatives to shareholding enterprises), including four major types of strategic response: institutional change, technological upgrading, industrial diversification and spatial restructuring (Wei et al. 2007). The PRD model is characterized by rapid industrialization and urbanization driven by inflows of manufacturing investment from Hong Kong and Taiwan. Its development trajectories are reshaped by “domesticating globalization” through embedding transnational corporations and developing endogenous capacities (Lu and Wei 2007), as well as the trans-local dynamics, e.g. the distinctive natures of TNCs from Hong Kong and Taiwan, respective changes in home-based advantages, and the interactions with host regions (Yang 2007).

The Sunan model, another case of New Regionalism, attributes the development of Sunan to the local state-directed TVEs and is viewed as development/urbanization from below (Ma and Fan 1994) (Figure 1). Popularized in the 1980s, TVEs were characterized by local official management, mobilized local populaces and flexible production and marketing (Wei 2004). However, with globalization and privatization, TVEs lost competitiveness and Sunan has moved “beyond the Sunan model” with the privatization of TVEs and infusion of global capital, directed by local states and well represented by the cities of Suzhou (Pereira 2003; Wei et al. 2009) and Kunshan (Wei 2002; Chien 2007). Kunshan’s pathway to post-Sunan development through local state-initiated globalization efforts has even been coined the Kunshan model (Wang and Lee 2007). Structurally, most of the FIEs in the ICT sector in Suzhou are coming from Taiwan, whose investment is characterized by network-based cross-border production (Yang 2007; Yang 2009). Taiwanese component suppliers stated “following the decision of system manufacturers” as the most significant reason for transplanting production to the Suzhou region (Yang and Hsia 2007).

Wang and Lee (2007) used the GPN approach, especially the notion of strategic coupling, to

study the development of the IT industry in Kunshan. They emphasize the local state's initiatives in institution building and the strategic coupling between GPNs and local institutions. They argue that Suzhou is a globally embedded but locally delinked economic region whose competitiveness lies in its providing focal FIEs with institutions that can fulfill their needs for low cost, speed, and flexibility, rather than in the localities' own specific assets. They provide a fresh perspective on the development of the ICT industry. But if we place the Kunshan story in the context of regional development, we have to be cautious on the adoption of GPN perspectives. First, the notion of strategic coupling is developed to describe the firm-firm relationship. State institutions in China are governed by the Communist Party and guided by their own principles beyond a firm-firm relationship. Second, Chinese states are transitional and their relationships with foreign investors are changing. Local states in Sunan followed the socialist ideology during Mao's era and backed the development of TVEs during the earlier stage of reforms, but privatized TVEs for their losing competitiveness. They see the utility of FDI to transform the economies of Sunan, but their coupling with TNCs is only temporary. Third, Kunshan's own specific assets play a significant role in the infusion of FDI and regional development, and local state initiatives are embedded with local geographies and institutions (Wei 2002). This is not a critique of Wang and Lee's work but rather pointing out the limits of applying the notion of strategic coupling in regional development in China, particularly in the Kunshan context.

These analyses point to the fact that structure of FDI and the complex global-local networks in China in general, and Kunshan in particular, have not been thoroughly studied. There is also a need to assess Kunshan's experiences in development and explore their theoretical and policy implications. In this paper, we analyze the processes of globalization and restructuring of the Sunan model, through a study of Kunshan (Figure 1).

(Figure 1 about here)

Conceptually we promote a middle-ground, a third mode of regional development that moves beyond the divide of New Regionalism and GPN perspectives to guide our study of regional development in Kunshan. First, we intend to provide balanced analyses of roles and interactions of the state, foreign investors, and local agents for a better understanding of the processes of regional development in China. We consider regional development as a dynamic process influenced by forces operating at multiple scales, particularly the synergy among TNCs, nation states, and local/regional assets. Geographers working on China have argued that China's economic reform can be understood as a triple process of decentralization, marketization, and globalization, during which foreign investors, nation-states, and local agents have emerged as three sets of dominant forces driving the processes of regional development (Wei 2000; He et al. 2008). This conceptual framework seems in line with the recent geographical research that has identified the world economy, nation-state, and localities as critical to geographical enquiry (Taylor 1993; Agnew and Corbridge 1995). Regions winning the competition, such as London, which is conceptualized as a neo-Marshallian district (Amin and Thrift 1992), involve a synergy of local and global forces. Scott and Storper (2003) argue that regional development involves a mixture of exogenous constraints, the reorganization and build-up of local asset systems, and political mobilization focused on institutions, socialization and social capital. We place regional development in Kunshan in the broad context of China's triple transition, and investigate the fortune of regions through a study of the interactions among TNCs, the state, and localities, moving beyond the endogenous-exogenous divide. This framework also has important policy implications and promotes holding down the global while globalizing regional development.

Second, our third mode of development places the regional development process in the

nexus of local development conditions and the broad context of globalization and institutional change. The literature of globalization and regional development typically under-appreciates the role of the state in conceptualization. In East Asia, the market is “governed,” and state capacity lies in policy instruments and institutional links with private enterprises (e.g., Wade 1990). Local states in China have been actively involved in local economic development, and described as development and entrepreneurial states (Duckett 1998). However, the notion of the East Asian development state is static and aspatial. The state is transitional and the role of the state is defined by changing global and domestic contexts and varies with time and space. Development ideologies, policies, and instruments in China have been evolving with changing state relations with the global economy, markets, and regions. Research on China argues that states do not act in a vacuum and that local state initiatives are embedded with local geographies and institutions. The enormous bargaining power of local states in Shanghai and Beijing has its foundations in their strong local capacities and close ties with the central government (Yeung and Li 1999). Chien (2007) argues that the development of local state projects in Kunshan is an evolutionary process, consisting of complex mechanisms of state interactions. Again we view regional development as a dynamic process, and place Kunshan’s development in the nexus of local conditions and broad contexts of globalization and institutional change.

Last, our third mode perspective argues that the extent of local embeddedness and the role of FDI in regional development are contingent upon local assets and time dimensions. On one hand, regarding the globalist perspectives, the significance of endogenous determinants underlying the dynamics of differential regional development should not be underestimated (Scott and Storper 2003). On the other hand, in contrast to New Regionalism’s overly local perspectives, we hold that embeddedness is multifaceted, and is sensitive to the region to be investigated and

referenced, as well as the time frame in terms of development levels and structure. Local embeddedness and innovation spillovers are often considered the most important aspects of global-local linkages and serve as key indicators of the effectiveness of TNCs on regional development. For less developed regions, the primary goal is regional growth, largely driven by the quantity of capital and labor. In such a situation, FDI provides the capital needed for capital formation and economic growth, and to a lesser extent, job opportunities, tax revenues, and service development. The local states are less keen on developing FDI local embeddedness and innovative capacities so long as foreign capital inflow continues and the local capital accumulation process is sustained. Embeddedness and innovation are particularly important to more advanced regions, which are moving up the GVC and increasingly competing directly with TNCs. These regions also are more capable of reducing technological, institutional and spatial mismatches between TNCs and local firms, which improves local embeddedness and innovation activities. Also, the orthodox notion of embeddedness is partial and overly local. Kunshan is part of the YRD, which has established a highly developed ICT industry cluster, and FIEs in Kunshan are embedded within the YRD, rather than simply Kunshan itself. We will investigate production networks and R&D activities of FIEs in Kunshan, and analyze the role of FDI in regional development in Kunshan comprehensively, with the consideration of local needs and development conditions.

We have been following the development of Kunshan for more than twenty years, during which time we made numerous visits to update ourselves on local policies and understand new developments through interviews of local governments and firms. Besides local and provincial statistics and documents, we conducted a phone survey of the ICT industry in five Chinese cities. The Suzhou survey was conducted in May 2007 (hereafter the ICT survey or the surveyed ICT

firms) and included both domestic and foreign firms (Zhou et al. 2009). We study the ICT industry for its dynamics and role as the key sector in Suzhou. The sample was drawn from the database maintained by the China Bureau of Statistics from their 2004 economic census, which provides one of the most complete lists of ICT firms. Our survey was conducted by a highly professional national survey company affiliated with the Bureau. The survey followed a standard procedure and provided participating firms with an unpublished report on the ICT industry as an incentive. The survey was conducted by a mix of phone calls and on-site visits; the individual questionnaire usually took 1–1.5 hours to complete. The Suzhou survey has generated 160 hardware firms, which included 109 FIEs, with an estimated effective response rate of 12-15%, typical of survey returns in developing countries. The ICT sector in Kunshan is heavily dominated by foreign firms, especially Taiwanese firms, which was reflected in the survey results. The survey collected detailed data from 54 ICT firms, including 44 foreign firms, which serve as the basis for our analysis of the Kunshan case. We have also interviewed a dozen firms in the city to gain a better understanding of the decision-making process and the complicated network relations.

Kunshan: Economic Restructuring, Globalization and Development

Kunshan is located southeast of Suzhou City and northwest of Shanghai Municipality, and is connected with Suzhou and Shanghai, as well as Nanjing and Beijing, through one of China's major transportation networks (Figure 1). In 2007, Kunshan had a registered hukou population of 0.68 million and a land area of 928 square kilometers, including the city district and nine towns. Administratively, for years Kunshan was a county and was designated as a county-level city in 1989 due to significant achievements in urbanization and economic growth. From the late 1950s

to the early 1970s, Kunshan was mainly engaged in agricultural production, but some small-scale TVEs were established in the countryside under Mao's policies of decentralization and rural industrialization. With reforms in the early stage marked by struggling SOEs and limited private enterprises, TVEs blossomed in Sunan, and the result became known as the Sunan model.

However, TVEs' problems of property rights resulted in corruption, mismanagement, and declining profitability (Ho et al. 2003; Wei 2004). TVEs tend to be small in size, have less-trained labor forces, and lack economies of scale and agglomeration. With the radical reforms towards globalization and marketization in the early 1990s, foreign investment poured into China and private enterprises also received more state support. TVEs' structural problems made it difficult for them to compete with foreign and private enterprises. Also, as a major component of institutional reforms, the function of the state retreated from direct involvement in business towards guiding the market and providing regulatory frameworks. In 1993, restructuring of TVEs was initiated in Sunan under the policy of "grasp the large, reform the medium, and release the small," and was accelerated in the mid-1990s, to "clarify" property rights and improve efficiency by transforming TVEs into multiple ownership forms, including shareholding enterprises, limited liability corporations, private enterprises, and Sino-foreign joint ventures (Ho et al. 2003; Shen and Ma 2005).

Kunshan's transformation from TVEs came at the time when China intensified its efforts to open up to the outside world and provided numerous preferential policies for foreign investors. Based on its locational advantages and existing development zone, the Kunshan Government decided to adopt a strategy of development based on FDI and globalization. However, open door policies were first provided to national-level development zones in selected coastal cities, mainly provincial capitals and sea ports. Kunshan, as a county-level city, was not eligible for such

policies. Nevertheless, Kunshan charged ahead with its efforts to attract FDI through local reforms and investment policies centered on Kunshan Economic and Technological Development Zone (KETDZ), which, through intensive promotion and networking efforts, was named as one of the key development zones in Jiangsu province in 1990. The city networked intensely with provincial and central governments to gain preferential open door policies based on its locational advantages of closeness to Shanghai and the development of KETDZ (Wei 2002), building upon the Sunan tradition of local state-directed bottom-up development. In 1992 KETDZ became the only national-level development zone in China based on a county and received considerable autonomy and preferential policies in investment and trade. This helped to pave the way for the heavy infusion of FDI in the following years.

Kunshan's efforts to globalize its economy also came at a time when NICs were forced to restructure their economies and Taiwanese investors actively sought locations in China for their investment. Kunshan's locational proximity to Shanghai allowed Taiwanese investors to fully use Shanghai's advantages in headquarter functions and access to domestic and international markets, while avoiding the higher costs and sensitive politics associated with Shanghai. Its location at the core of the YRD, China's largest economic base, also allows FIEs to have easy access to local supplies and industrial bases of the region. Being part of Jiangsu Province, whose provincial capital Nanjing was the city where the Taiwan-based Kuomintang Government was formally located, also helps in networking with Taiwanese investors. Through a learning process based on the need and preferences of Taiwanese investors, the Kunshan government has reformed local institutions and provided preferential policies targeting Taiwanese investors since the mid-1990s (Chien 2007). The city is among the first in China to implement a series of preferential policies to better serving foreign investors, including establishing a foreign business association as early

as in 1989, awarding “Honorary Citizens of Kunshan” in 1995 to investor who can meet regularly with top city officials and be directly involved in local policy making, establishing the first county-level Taiwanese Business Association in 1998, and awarding “Friends of Kunshan” in 2001 to investors who even serve as special advisors to the Mayor. The establishment of Kunshan Export Processing Zone was heavily influenced by Taiwanese investors to fasten the import-export process. The strive to serve investors and bottom-up reforms have made Kunshan an innovative place in providing preferential policies and government services for foreign investors. Therefore, the Kunshan story is a product of the interaction of global capital, nation-states, and local assets. Kunshan’s active local state and geographical setting are essential for the infusion of FDI.

Kunshan's growth during the reform era has been spectacular, and it has become one of the richest county-level cities in China. The status of Kunshan in the economies of Jiangsu and China has risen dramatically, especially since the early 1990s. It has been consistently ranked among the fastest growing counties in both Jiangsu and China. In 1996, its GDP per capita was 19,656 yuan (about US\$2,400), ranked 4th among Jiangsu's counties (Wei 2002). By 2007, its GDP had reached 115.2 billion yuan with exports of 32.3 billion yuan, and its per capita GDP of 171,061 yuan made it the highest among the counties in Jiangsu (JSB 2008). Yushang Town, the city seat, was also ranked number one among the one thousand strongest towns in China (KSB 2008). Besides GDP, Kunshan ranked number one in Jiangsu in almost all of the major economic indicators, including per capita FDI, exports, and revenue. In 1991, Kunshan was ranked 24th among the 100 economically strongest counties in China (*bai qiang xian*), and grew to be ranked number one by 2005. The growth of FIEs has made Kunshan one of the largest places for Taiwanese investment, and known nationally for its ICT industry. Kunshan’s success has been

widely reported by the media, and many of its government officials have been promoted to higher positions, which can hardly be seen in other counties in China (Chien 2007).

FDI: Profiles and Structural Patterns

FDI has become increasingly significant in Kunshan over the years, reaching US\$505million in 1995 and US\$1.44 billion in 2007, ranked first among counties in Jiangsu (KSB 2008). The accumulative FDI was US\$13.13 billion, and Global 500 TNCs have invested in 55 projects. FDI is playing a significant role in the economy of Kunshan, and FIEs' industrial output accounted for 89.6% of total industrial output in 2007. Like other places in China, at the very beginning of the open door process, FDI was dominated by Hong Kong. In the mid-1990s, Taiwan replaced Hong Kong to become the largest source of investment in Kunshan. The other important sources are the United States, Japan, and Singapore.

Our surveyed FIEs were mainly established after 2000 (59.1%) and only one firm was established before 1992 (Table 1). This reflects the shifting focus of the open door policy from the PRD to the YRD, and also indicates the local nature of KETDZ before it became a national-level development zone in 1992. An overwhelming percentage of firms were WFOEs (95.5%), and only 4.5% were Sino-foreign joint ventures, a sign of the heavy foreign control over the ICT enterprises in Kunshan. Taiwan was the largest source of ICT investment, where 77.3% of the surveyed firms were headquartered, considerably higher than Suzhou Municipality (2.3%), followed by Japan (9.1%) and the United States (4.5%). No surveyed firm was headquartered in Kunshan, another sign of the dominance of FIEs in the ICT sector and the weak local firms.

(Table 1 about here)

With regard to sector composition, the surveyed FIEs are primarily in manufacturing of electronic parts and components (50%), ICT manufacturing (20.4%), and manufacturing of computer equipment (18.2%) (Table 1). Most domestic firms are manufacturers of electronic parts and components and tend to be labor intensive. In terms of firm size, a substantial proportion of the FIEs had investment of less than US\$5 million (56.8%), but still there are 15.9% of the firms that had investment over US\$25 million, quite large for a county-level city. A significant proportion of the firms had employment of less than 500 (59.1%), but again there were a few firms with large scales. While only one firm had negative profits, most of the FIEs had thin profit margins between 1-5% (38.6%), although 22.7% of the firms had profits over 10%. Profit rates for the surveyed firms in Kunshan were slightly lower than for Suzhou Municipality as a whole. This shows the heightened competition in the ICT sector and the generally low profit margins of ICT manufacturing. Our survey therefore reveals that for the ICT industry in Kunshan, most firms were WFOEs headquartered in Taiwan, with thin profit margins, bi-polar investment size, and mixed labor intensity.

Our survey finds that slightly over half (54.5%) of the surveyed FIEs had R&D facilities, considerably higher than non-FIEs (30%), although most of them are within engineering or facility departments and none are at the national level (Table 2). The most important functions of FIEs' R&D facilities are in product and process development for the Chinese market. The survey found the percentage of employees with a bachelor's degree or higher in FIEs was significantly lower than for Suzhou Municipality (67.6% vs. 82.6%), implying the county-level nature of Kunshan and the fact that FIEs located in Kunshan are mainly used as production bases. Most of the firms (84.1%) did not have a significant change in R&D spending between 2003

and 2006. Only 11.4% reported a significant increase, again significantly lower than Suzhou Municipality's (28.4%), and even lower than non-FIEs (18.4%). Regarding R&D spending, most of the firms had little change during 2004-06, although there were more firms having more significant increases than decreases. This again confirms the manufacturing nature of Kunshan for foreign investors.

(Table 2 about here)

Regarding the location choice questions, the sampled firms were asked to rank the five most important factors among a list of eleven for choosing to invest in Kunshan and selecting an intraurban location. Rankings were assigned scores ranging from five (the highest) to one (the lowest). As summarized in Table 3, all of the factors are larger than zero, indicating that all locational factors exerted certain influence on the decisions to invest in Kunshan. Regarding reasons for investing in Kunshan, labor supply, market potential, and firm agglomeration are among the top factors, and FIEs also consider investment incentives and infrastructure as important. Regarding specific site selection within Kunshan, FIEs cited major customers, industrial infrastructure and land use, and state policies as most important. Clearly, policy incentives are not the most important factor for investing in Kunshan, which indicates the declining policy gaps across cities in the YRD and the rising significance of industrial clusters and networks in location decisions, contrasting with location decisions of the 1990s and early 2000s when evidences point to the overwhelming significance of state preferential policies (Wei et al. 2009). State policies play more important roles in specific location choices within the city. The clustering of Taiwanese firms in Kunshan has drawn more investment from Taiwan. These findings are confirmed by our interviews of FIEs and government officials in Kunshan.

(Table 3 about here)

FIE Network Configurations and R&D Activities

Most of the surveyed foreign firms in Kunshan served as production sites for the Chinese market. Among the total functions reported from the surveyed firms, foreign ventures overwhelmingly served as production facilities for the Chinese market (45.5%), followed by product development facilities for the Chinese market (17%) and process development facilities for the Chinese market (11.4%) (Table 4). Only 8.2% and 6.8% of the functions were for production facilities and product development facilities for the world market respectively. Again, like other cities in China, very few of the firms provided basic R&D functions. Foreign firms in Kunshan therefore mainly serve as production and related development sites for China, including a large number of suppliers for OEMs which are located in Kunshan and the Yangtze River Delta. Only a few leading OEMs are producing mainly for the world market. Serving the world market, which is supposed to be the main function of FIEs in China, at least during the earlier stage of the reform, is no longer the main function. This reflects the drastic rise of the Chinese domestic market and represents a significant strategic change for foreign investors. Such change also provides more power for the Chinese government to regulate FDI based on its development strategies and for Chinese firms to seek potential network relations with foreign investors.

(Table 4 about here)

Domestic purchases of the surveyed FIEs are highly localized, with 50.3% of the purchases within a two hour driving distance (mainly within Kunshan and the nearby cities of Shanghai, Suzhou and Hangzhou) (Table 5). The YRD beyond a two hour driving distance only accounted

for 9% of the purchases, which indicates the highly localized nature of production networks. Most of the purchases are with FIEs. In terms of subcontracting linkages, we found they are even more localized, with 64.3% and 77% of the subcontracting from FIEs coming from Kunshan and the YRD respectively. Similarly high percentages can be found in the contracting to FIEs (63% and 75.6%). However, the subcontracting linkages are mainly with other FIEs. The surveyed FIEs subcontracted from and to FIEs were 57% and 26.6% respectively, significantly larger than non-FIEs (15% and 16.7% respectively). The larger percentage of subcontracting from FIEs indicates the dominance of manufacturers of electronic components and parts in the city (Table 1). The subcontracting linkages of FIEs were even more heavily concentrated in the YRD. Our fieldwork also confirms that production localization is favored by foreign firms, which can help them reduce production costs and adapt to the institutional and cultural environments of China. However, key supply and subcontracting relations are mainly among FIEs themselves, particularly other Taiwanese firms in the region. Production linkages with domestic firms are mainly for less significant parts, components, and materials. The half dozen domestic Chinese firms we visited in Kunshan all provided labor-intensive, low-skilled production for FIEs, mainly producing electronic parts and components such as electronic circuits in Zhouzhuang Town.

(Table 5 about here)

Our survey shows that most of the surveyed FIEs were involved in exports (81.8%), and FIEs maintained a significant proportion of products for export (45.3%) (Table 6). Foreign parent enterprises and partners played a dominant role in the export business, which accounted for 63.9% of the surveyed firms. For domestic sales, on the other hand, a high percentage (75%) was decided by the surveyed firms themselves. This is one of the strongest evidences of localization with FIEs, and our interviews indicate that the Chinese market is fragmented and inefficient, and

requires intensive marketing and networking, which can best be undertaken by TNCs' local subsidiaries in China. The clustering of FIEs in the YRD also requires regular contacts among firms, which can be more efficiently conducted by firms in China involved in production networks. Kunshan's ICT firms serve mainly as production sites for the Chinese market, which is similar to our finding based on Suzhou Municipality (73.4%). Most of the dominant sales were going to other FIEs (43.55%), mainly as supplies, while 26.5% of the sales went to domestic firms. For the products reaching consumers, the dominance of the YRD is also obvious (48.3%).

(Table 6 about here)

Our survey shows that most of the FIEs did not have significant changes in domesticating and localizing production during 2003-2006, indicating the dominance of FIEs and the nature of a satellite district (Table 7), although over time, foreign firms are more localized and embedded than a decade ago. There are signs of increasing domestic purchasing of key components, but such purchasing often takes place among FIEs themselves. FIEs in Kunshan have been increasingly purchasing key components from FIEs in China, particularly in the YRD. While the subcontracting relationship tends to be the most stable, in some cases such as subcontracting from the YRD to FIEs, more than 90% of the firms had not experienced much change. However, a trend of increasing subcontracting from and to the local and the YRD can be detected, indicating the rise of local clusters and production networks, and the networking of FIEs among themselves. As a result, FIEs in China have served as agents of import substitution to replace production components which were previously imported, further contributing to the rise of local clusters and increasing China's trade surplus with developed countries.

(Table 7 about here)

The survey found that 20.4% of the surveyed firms had patents, with a

significantly higher percentage for FIEs (22.7%) than non-FIEs (10%) (Table 8).

While over half of FIEs have both foreign and domestic patents, non-FIEs have had no foreign patents. FIEs also had more new products than non-FIEs and more sources of new product development from abroad and other FIEs, while non-FIEs are overwhelmingly based on internal development. Similar differences can also be found in terms of sources of new process development. These findings suggest the external and technological orientation of FIEs, while non-FIEs tend to be low tech and domestically oriented, again indicating the dualism between FIEs and non-FIEs.

(Table 8 about here)

For the most important drivers of technological change, customers rank first, with 36.4% reporting domestic customers and 27.3% reporting foreign customers, followed by technology change (11.4%), foreign suppliers (9.1%) and competitors (6.8%) (Table 9). Non-FIEs are overwhelmingly dominated by domestic customers (60%), followed by domestic suppliers (20%). The difference of FIEs between Kunshan and Suzhou is that Kunshan relies more on domestic customers and foreign suppliers, which reflects the nature of Taiwanese firms that tend to pay more attention to the Chinese market and their production networks. Regarding sources of core technology, our survey finds that FIEs have relied on both internal development (40.2%) and foreign sources (33.2%). Together, including those using both resources (10.2%), they accounted for 83.6% of the sources. Only 15.9% of the FIEs used domestic companies. However, domestic sources are the most important for non-FIEs (35%), followed by foreign sources abroad (30%). Internal development only accounted for 20% for non-FIEs.

(Table 9 about here)

The lack of cooperation between FIEs and domestic firms in R&D is also evident from our

survey (Table 10). The strongest linkages exist in personal and information exchange and technology advice. The weakest exchanges are in strategic alliance, cooperative R&D and technology transfer, which are more critical to business development and technological innovation. These findings are evidence of weak linkages in R&D between FIEs and domestic firms in China, and more generally, the lack of collaboration among firms in R&D in China, whether foreign or domestic.

(Table 10 about here)

State Institutions, Glocal Networks, and Regional Development

The weak local embeddedness of FIEs largely represents the situation in most developing countries. A much broader question concerns government's capacity to regulate the new industrial landscape in such a way as to develop linkages and enhance embeddedness in enterprises that are widely seen as 'cathedrals in the desert' (Turnock 2001). From our survey and interviews we found that core supply chains are the most stable between interfirm linkages. FIEs are very careful with local Chinese firms as key suppliers, which at times have been constrained by the problems of triangular debts, product deficiency and recalls. A similar phenomenon has also been reported in Dongguan, another hot spot of investment from Taiwan (Yang 2007). What makes it different from the strategic coupling of regional development in East Asian firms in the GPN is that local firms are absent from the coupling processes in Kunshan. This makes Kunshan a kind of dual city segmented between foreign and domestic sectors. We believe this is an important dimension of the dualistic structure widely observed in China, such as dual-track urbanization (e.g., Shen et al. 2006). Institutional, technological and spatial mismatches are underlying the weak local embeddedness of FIEs in Kunshan.

Institutionally, the Kunshan government has been eager to attract FDI and is committed to serve foreign investors, given intense regional competition for FDI. This is also because the Kunshan government is at the county level and has little bargaining power with foreign investors, facing intense competition from other counties in the region. The government emphasizes serving the foreign investors with local reforms and institutional changes, which was also the primary reason for the relocation of Taiwanese capital from the PRD to the YRD (Yang 2007). The local government believes that they should let FIEs decide on supply networks and innovation activities based on the market, and are reluctant to push for FDI embeddedness and spillovers, although they are well aware of the problems of local embeddedness and the dual economy of Kunshan. This is also linked to another institutional and spatial factor--that ETDZs in China are Greenfield developments in areas with few local firms. Such zones are developed to attract FDI with policies more favorable to foreign investors. Similarly, Kunshan ETDZ is where FDI is concentrated, but has few local firms to network with TNCs.

The close production linkages among Taiwanese firms reduce the time needed for delivery and cost in logistics, driven by the restructuring of global commodity chains. Many Taiwanese firms followed their leading firms and relocated their established production networks and personal relations to China. Their relations among themselves and between global lead firms are often at the level of strategic alliance. Taiwanese firms have the advantages of cultural closeness and trust, especially when they face similar economic and institutional challenges of investing in Kunshan. Domestic Chinese firms also tend to have less credential credit practice than Taiwanese firms. Moreover, Taiwanese firms tend to use Taiwanese employees for key positions in R&D, marketing, production, and personnel for job opportunities and protecting intellectual property rights, consequently making them the least localized among FIEs. Most of the

Taiwanese firms we visited do not have Mainland Chinese in the positions of managers and above. Such practice leads to high turnover rates of Chinese R&D and management personnel among Taiwanese firms. Taiwanese in charge of marketing and production certainly tend to purchase and sell to Taiwanese firms, which also limits production localization.

Technologically, Taiwanese investment is heavily concentrated in the IT industry and the notebook industry in particular, and requires higher levels of R&D, modern equipment, and professional management, which local firms do not have. The notebook industry is probably the most competitive industry in terms of quality control, and custom clearance and so on, evidenced by the previous '955' principle (95 % of quality products should be exported after five days the order has been placed) and the current '982' principle (98% of products and two days) (we thank the anonymous referee for this point). Due to the poor quality and slow production process of local firms, FIEs in Kunshan choose to network among themselves in order to fulfill the severe production requirement demanded by most branded companies. In short, production linkages in core production cannot be easily established because of the technological mismatch.

However, this does not mean that all Taiwanese firms network among themselves and exclude local firms. When asked about the weight of economic and cultural factors, many tend to weigh economic factors over cultural factors. After all, the firm is capitalistic, and its purpose is making profits, not friends. When it makes sense economically, they do use domestic firms. First, not all foreign firms are in the high-tech sector and are large in size; those small in size, low tech and in services tend to network more with domestic firms. Second, we found that for firms located in towns and villages where relations with the local are more complex and there is no Taiwanese cluster, there are tendencies for Taiwanese firms to network with local firms for economic reasons, as well as political and social reasons. Third, those at the bottom of the supply

chains tend to more frequently use raw materials and parts from Chinese firms, such as supplies of power cords (e.g., copper, plastic, rubber, and steel). Last, there are also cases where foreign firms deliberately hire local officials and establish production and marketing relations with local firms, often for political purposes.

Politically, disembeddedness has increasingly become a problem concerning local governments, which have recognized the importance of embeddedness to local development and are encouraging TNCs to network with local firms. Some even asked domestic firms in other cities, such as Panda in Nanjing, to establish their branches in Kunshan to promote global-local networks and local development. The investment goals of local government have also increasingly shifted to technology-intensive, locally-embedded, and environmentally-friendly industries to upgrade the local economy and integrate with the global economy.

Globalizing Regional Development: An Assessment of the Kunshan Model

While local embeddedness in supply chains and technological transfer are often considered the keys to regional development, we have to properly situate the role of embeddedness. For a county-level city like Kunshan, the primary goal is economic growth to provide income and reduce poverty. Kunshan has experienced dramatic development and transformation driven by inflows of foreign investment since the early 1990s. Kunshan's pathway of development based on FDI has clearly accelerated its economic growth in the context of heightened regional competition. Its growth rates and economic status as shown previously are evidences of such a success. It has become a well-known production hub of electronic components and laptop computers, although these industries are controlled by foreign companies.

FIEs have contributed to the growth and development of Kunshan in multiple ways. The

most important are the direct effects generated by FIEs, including capital formation, job opportunities, income growth, and tax revenues. Capital infusion was instrumental to the growth of local economies after the restructuring of TVEs. The growth in manufacturing also stimulates the growth of services, starting with basic services such as housing, food, clothing, and transportation. The diversity and internationalization of Kunshan's restaurants are hardly seen in county-level cities, and Kunshan is indeed a "little Taipei." Local governments have benefited greatly from tax revenues, land rents and transfer fees, and other extra-budgetary funds, and are able to invest heavily in public services such as infrastructure, education, health care, retirement, income subsidies, and the environment etc.

We are also aware of many positive spillover effects of FDI in the Kunshan economy. We do find evidences of improved supply linkages between foreign and domestic sectors, although mainly in low-end, labor intensive tasks. We see broad spillover effects in terms of providing services for TNCs and their related business, including human resources development; a substantial number of business owners and managers in Kunshan, as well as in Sunan, had experiences working with FIEs where they learned management experiences. It might be unrealistic to expect well developed global-local supply chains and a highly technologically innovative domestic sector in Kunshan, given its backward starting point and the status as a county-level city devoid of national R&D resources. Even in Singapore, scholars have found that supplier upgrading has been limited in the electronics sector, but that horizontal partnership arrangements may have more beneficial impacts (Coe and Perry 2004).

Kunshan has also provided income and job opportunities for migrants. For the migrant workers from poorer interior China, FIEs in Kunshan provide higher paying jobs and better working environments than private enterprises and household work available elsewhere in China.

The Kunshan government has also attempted to integrate migrant workers into Kunshan, making them “new Kunshanese.” The development of the high-tech industry also provides job opportunities for professionals, whether they are migrants or local residents. While many of the local residents are less willing to work on production lines, they have found employment in the service sector, and many of them have become small business owners and landlords.

Rapid growth has been accompanied by rural development as well, as per capita income of rural residents reached 10,615 yuan in 2007 (KSB 2008). We found that the income of rural households in 2007 mainly came from four sources; (1) industry; (2) construction and services; (3) property; and (4) agriculture. Wage income, rather than agricultural income, has become the dominant source of income, and all of the major sources of household activities are closely related to urbanization and economic growth. Income for household-based industrial activities is relatively small. Also, fishing and service incomes are mainly from the consumption choices of the urban population. Property income is another major income source, mainly coming from rents for migrants working in factories and businesses in operation. Also significant is transfer income, which is mainly provided by local governments and originates from foreign investment and economic growth. Clearly FDI infusion and economic growth have had some positive trickle-down effects on even rural households.

More broadly, globalization has had tremendous impact on local politics and institutional reforms. Foreign investors, especially Taiwanese investors, have directly and indirectly pushed for the bottom-up process of reforms in Kunshan, which has made Kunshan one of the engines of local reforms in Jiangsu and a learning model for other places to make local policies transparent and better serving to foreign investors. The improvement in the area of local politics and policies has also become the basis for the cadre advance in Kunshan, which is hardly seen in other

county-level units of China (Chien 2007).

On the other hand, besides TNCs' thin embeddedness with the local economy, the city is experiencing rising living costs and income gaps, and more opportunities should be provided for local residents and migrant workers. The government officials have benefited greatly from the growth, and the sizable administrative spending in Kunshan has raised concerns (Wei 2002). The local government could be more cautious with the land development and local embeddedness of FIEs. FIEs tend to build garden-like factories and occupy large spaces, with little policy guidance at the early stages of investment infusion. To a certain extent, the policy emphasis on FDI reduces the resources available to local firms. The farmers, who lost their land even though it belongs to the state, should have been better compensated and provided better job assistance.

Our overall assessment of the Kunshan experience is therefore positive. Despite the weak embeddedness in supply chains and technological innovation, Kunshan has benefited tremendously from the infusion and the multiple effects of FDI. Kunshan has improved income, provided job opportunities, reduced poverty rates, and enhanced social security. The benefits of FIEs outweigh their costs. Moreover, FIEs in Kunshan are part of the production networks of the YRD, and are more embedded with FIEs in the YRD than with Kunshan. Therefore, FIEs in Kunshan have also contributed to the rise of the YRD as the dragon's head of "Made in China."

Kunshan is facing new challenges in terms of insufficient capacity of industrial upgrading and development of local firms, weak ties with global production networks of the local economy, and shortage of labor and land, etc. In recent years, rising production costs are pushing some cost-sensitive, labor-intensive manufacturing factories out of Kunshan to cheaper places in China such as North Jiangsu and interior China, and to other countries in Asia, such as Vietnam. In such a situation, the Kunshan government has been cautious not to push FIEs to localize their

production. As a county-level city, Kunshan will continue to lag behind in the development of research institutions, which are required for R&D and innovation activities. Kunshan is also located in the fragmented Yangtze Delta and experiences intense competition with Suzhou City in the west and Shanghai in the east. The local revenue base does not allow the government to invest heavily in R&D infrastructure, and the small city environment also makes it hard to keep highly-skilled professionals in Kunshan. These challenges, especially the lack of R&D facilities and rising production costs, are hurting the economic growth of Kunshan.

Conclusion

This paper has analyzed the transformation of Kunshan and the structure of FDI in the city. Like Suzhou City, Kunshan has been transformed from a region known for the Sunan model of development towards an externally-driven manufacturing center. With the decline of TVEs, the local state of Kunshan has shifted its center of action towards attracting FDI, especially investment from Taiwan. Kunshan's active local state is instrumental in making KETDZ a national-level development zone, which enjoys locational advantages of proximity to Shanghai and Suzhou and being part of the Yangtze Delta. The Kunshan case well represents the legacies of the Sunan model where local governments act within the reform framework and use policies that are consistent with the direction of national reform policies. Its particular nature has helped Kunshan to remake itself into an attractive place for foreign investment.

FDI has made Kunshan one of the richest counties in China and sustained its growth after the failure of TVEs. FDI not only provides capital formation, job opportunities, and tax revenues, it also stimulates the development of the service sector and provides income for migrants and rural residents. Local governments have benefited greatly from the infusion of FDI, and have invested

heavily in public services and social security for their people. However, FIEs in Kunshan focus on manufacturing and tend to network among themselves, with weak local embeddedness. FIEs' linkages with local firms in terms of R&D and innovation are especially thin.

Weak local embeddedness has concerned the local government of Kunshan, which is increasingly recognizing the importance of FDI local embeddedness and endogenous innovative capacities, and has been making efforts to hold down the global and to localize TNCs. However, with rising production costs and increasing regional competition for FDI, the local government is facing a policy dilemma and has to carefully balance the need for local embeddedness and the autonomy of TNCs in its decision making. This is a dilemma faced by many other counties and small cities, which lack strong industrial bases and state power to bargain with TNCs. To change Kunshan's satellite district nature takes a long time, although we have observed some signs of improved local embeddedness and innovative capacities.

The Kunshan case suggests that globalizing regional development has the danger of leading to satellite districts, and that "holding down" the global is another aspect of the globalization process that localities must pay particular attention to. Kunshan might be better off if the government had given higher priority to business services and private enterprises. We feel establishing supply chains with TNCs as promoted by the GVC/GCC/GPN perspectives is a challenging task for county-level cities like Kunshan. We believe places like Kunshan should put more efforts into developing business services for TNCs.

Our study of Kunshan indicates that regional development solely based on either endogenous regional assets from the New Regionalism perspective or exogenous factors of development in the GVC/GCC/GPN frameworks cannot provide satisfactory explanations of regional development in China. We argue that it is essential to, on the one hand, "scale up" from

the New Regionalism perspective, and on the other, “scale down” the GPN perspective on regional development. Therefore, an integrated paradigm, or a “third mode” of regional development, is needed to integrate the essence from both perspectives to better understand the dynamics of regional development in the context of globalization. We also call for GVC/GCC/GPN scholars to adapt their theories to the context of China, for riding the surging tide of China could make their work even more influential.

Finally, we have to point out that Sunan is a vast region with diverse trajectories to post-Sunan model development. The development of Suzhou Municipality tends to be more externally driven, and Kunshan is probably the most globalized county among Sunan’s counties. Changzhou, for example, has much less FDI than Suzhou, and its development path is therefore more endogenous. A study of other places in Sunan would provide a fuller picture of the restructuring of the Sunan model.

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Table 1. Profile of the Surveyed ICT Firms, 2006

Attribute	Category	# Cases (All)	Percent (%)	# Cases (FIEs)	Percent (%)
Year Established	Before 1992	3	5.6	1	2.3
	1992-1995	8	14.8	6	13.6
	1996-2000	13	24.1	11	25.0
	After 2000	30	55.5	26	59.1
Type	Joint Ventures	2	3.7	2	4.5
	WFOEs	42	77.8	42	95.5
	SOEs	0	0.0	0	0.0
	Private Enterprises	10	18.5	0	0.0
Headquarter	Taiwan	34	63.0	34	77.3
	Japan	4	7.4	4	9.1
	USA	2	3.7	2	4.5
	Suzhou City	4	7.4	1	2.3
	Suzhou Counties	5	9.3	0	0.0
	Others	5	9.3	3	6.8
Sectors	Communication equipment (401)	1	1.9	1	2.3
	Computer equipment (404)	8	14.8	8	18.2
	Electronic parts/components (405, 406)	31	57.4	22	50.0
	Semiconductor wafer (4052)	5	9.3	4	9.1
	IC manufacturing (4053)	9	16.6	9	20.4
Asset (\$ millions)	Less than 1	12	22.2	6	13.6
	1 to 5	23	42.6	19	43.2
	5 to 10	8	14.8	8	18.2
	10 to 25	4	7.4	4	8.1
	Over 25	7	13.0	7	15.9
Employee (persons)	Less than 100	11	20.4	8	18.2
	100 to 199	7	13.0	3	6.8
	200 to 499	17	31.5	15	34.1
	500 to 1000	15	27.7	14	31.8
	Over 1000	4	7.4	4	9.1

Source: The 2007 ICT Survey.

Table 2. Profiles of R&D Activities: FIEs vs. Non-FIEs, 2006

	All Samples		FIEs		Non-FIEs	
	#	Percent (%)	#	Percent (%)	#	Percent (%)
Having R&D Facility	27	50.0	24	54.5	3	30.0
Belongs to						
National R&D	0	0.0	0	0.0	0	0.0
Provincial R&D	3	11.1	3	12.5	0	0.0
Local R&D	3	11.1	2	8.3	1	33.3
Firm Self	21	77.8	19	79.2	2	66.7
Employment Structure			# of Employees	Percent (%)	# of Employees	Percent (%)
Bachelor Degree or Higher	3422	10.0	3344	10.3	78	4.3
R&D Employee	714	2.1	632	2.0	82	4.6
Bachelor Degree or Higher	452	63.3	427	67.6	25	30.5
Recruited Abroad	43	6.0	43	6.8	0	0.0
Average R&D Expenditure	(US\$ Millions)	Percent of Total Cost (%)	(US\$ Millions)	Percent of Total Cost (%)	(US\$ Millions)	Percent of Total Cost (%)
	0.2 (10.63*)	7.3 (5.8 [^])	0.24 (10.36*)	7.0 (5.7 [^])	0.026 (0.26*)	8.5 (12.3 [^])
R&D Change (2003-06)	#	Percent (%)	# of FIEs	Percent (%)	# of non-FIEs	Percent (%)
Increase Significantly	7	13.0	5	11.4	2	20.0
Decrease Significantly	2	3.7	2	4.5	0	0.0
Little Change	45	83.3	37	84.1	8	80.0

Note: * Total; ^ Total R&D / Total cost
 Source: The 2007 ICT Survey.

Table 3: Location Decision Factor Scores of the Surveyed FIEs

Factors for Investing in Suzhou	Scores	Factors for Intraurban Location	Scores
Local States/Infrastructure		Local States/Infrastructure	
Better investment incentives	47	Better investment incentives	67
Better attitude toward FDI	10	Better attitude toward FDI	75
Better infrastructures	38	Better industrial infrastructures	111
Better urban amenities	3	Sophisticated and efficient administration	16
Professional service	12	Advised/requested by municipal government	7
University& institution	4		
Labor and Supplies		Labor and Supplies	
Lower labor cost	105	Lower land cost or land use fees	101
Better availability of skilled labor	70	Better land availability	71
Better access to material supplies	68	Location of Chinese parent firms	13
Location and Market Access		Location and Market Access	
Better local/regional market potential	90	Closer to downtown	24
Closer to major seaports/airports	54	Closer to seaports or airports	57
Location of major customers	76	Closer of major customers	118
Agglomeration of similar enterprises	83		

Note: FIEs were asked to identify and rank five most important location factors, which were given scores of 5, 4, 3, 2, 1; the higher the score, the more important the factor.

Source: The 2007 ICT Survey.

Table 4. Functions of FIEs in Kunshan

Venture Functions	Number	Percent (%)
Regional headquarters for China	1.9	4.3
Regional headquarters for Asia-Pacific	0.1	0.23
Production facility mainly for China market	20	45.5
Production facility mainly for world market	2.9	6.6
Marketing facility mainly for China Market	1.7	3.9
Product development facility for China market	7.5	17.0
Product development facility for world market	3.6	8.2
Process development facility for China market	5.0	11.4
Basic R&D facility for world market	1.0	2.3
Others	0.3	0.7
Total	44.0	100

Source: The 2007 ICT Survey.

Table 5. Production Networks of FIEs vs. Non-FIEs, 2006

	All Samples	FIEs	Non-FIEs
Domestic purchase as % of total purchase	46.9	40.9	73.5
% purchase of domestic firms	37.3	57.0	32.8
% local purchase (within two hour driving distance)	49.2	50.3	44.0
% Yangtze River Delta purchase	58.4	59.3	54.5
Key components purchase: % from FIEs	49.1	50.1	44.5
Equipment purchase in recent three years: % domestic	32.8	29.7	46.5
Subcontracting Relations			
% of firms with subcontracting relations (from)	51.9	50.0	60.0
% subcontracting from FIEs	48.0	57.0	15.0
% subcontracting from the local (within two hour driving distance)	62.7	64.3	56.7
% subcontracting from the YRD	73.6	77.0	60.8
% from FIEs	43.8	53.2	9.2
% of firms with subcontracting relations (to)	44.4	47.7	30.0
% subcontracting to FIEs	25.3	26.6	16.7
% subcontracting to the local (within two hour driving distance)	63.0	63.0	63.3
% subcontracting to the YRD	74.1	75.6	63.3
% to FIEs	33.8	37.2	10.0

Source: The 2007 ICT Survey.

Table 6. Marketing Activities of FIEs, 2006

	All Samples	FIEs	Non-FIEs
% Firms involved in export	77.8	81.8	60.0
% Exported	44.9	45.3	43.2
% Export directed by foreign parents	40.5	47.2	0.0
% Export directed by foreign partners	14.3	16.7	0.0
% Domestic sales directed by the surveyed firms	79.6	75.0	100.0
% Domestic sales: Among which			
% Consumers	17.6	17.5	18.0
% Domestic firms	25.3	26.5	20.0
% FIEs	41.2	43.5	31.0
% Governments/Institutions	1.1	1.1	1.0
% Yangtze Delta			
% Pearl River Delta	10.3	9.5	13.5

Source: The 2007 ICT Survey.

Table 7. Change of FIEs's External Linkages in the Last Three Years (2003-2006)

Proportion of	Total		Significant		Significant		Not Much	
	Firms (#	%)	Increase (#	%)	Decrease (#	%)	Change (#	%)
Imports	44	100	4	9.1	5	11.4	35	79.5
Domestic Purchase	44	100	5	11.4	5	11.4	34	77.2
From FIEs	44	100	5	11.4	6	13.6	33	75.0
Domestic Key Components								
From FIEs	44	100	6	13.6	1	2.3	37	84.1
Subcontracting from								
FIEs (%)	22	100	3	13.6	1	4.5	18	81.9
The local (within two	22	100	3	13.6	1	4.5	18	81.9
hour driving distance) (%)								
The YRD (%)	22	100	2	9.1	0	0.0	20	90.9
FIEs (%)	22	100	2	9.1	0	0.0	20	90.9
Subcontracting to								
The local (within two	21	100	3	14.3	1	4.8	17	80.9
hour driving distance) (%)								
The YRD (%)	21	100	3	14.3	0	0.0	18	85.7
FIEs (%)	21	100	0	0.0	0	0.0	21	100.0

Source: The 2007 ICT Survey.

Table 8. Patents and New Product Development, 2006

	All Samples		FIEs		Non-FIEs	
	#	Percent (%)	#	Percent (%)	#	Percent (%)
Firms with patents	11	20.4	10	22.7	1	10.0
Firms with foreign patents, 2004-06	6	11.1	6	13.6	0	0.0
	(Million\$)	Percent (%)	(Million\$)	Percent (%)	(Million\$)	Percent (%)
Firms with new products (2005-06)	19	35.2	16	36.4	3	30
Sales income of new products (as% of total sales)	2.2 (121*)	10.3 (6.2 [^])	2.7 (119.4*)	9.6 (6.2 [^])	0.15 (1.5*)	13.6 (3.7 [^])
Sources of new products	Score	Percent (%)	Score	Percent (%)	Score	Percent (%)
Internal development	10.3	54.2	8.3	51.9	2.0	66.7
Companies in China	1.5	7.9	0.5	3.1	1.0	33.3
Abroad and FIEs	2.3	12.1	2.3	14.4	0.0	0.0
Internal development based on abroad and FIEs	4.9	25.8	4.9	30.6	0.0	0.0
Domestic univ. and institutions	0.0	0.0	0.0	0.0	0.0	0.0
	#	Percent (%)	#	Percent (%)	#	Percent (%)
Firms with new processes (2005-06)	27	50.0	21	47.7	6	60.0
Sources of new process development	Score	Percent (%)	Score	Percent (%)	Score	Percent (%)
Internal development	13.5	50.0	10.5	50.0	3.0	50.0
Companies in China	1.5	5.6	1.0	4.8	0.5	8.3
Abroad and FIEs	4.3	15.9	3.3	15.7	1.0	16.7
Internal development based on abroad and FIEs	6.3	23.3	5.8	27.6	0.5	8.3
Domestic univ. and institutions	1.0	3.7	0.0	0.0	1.0	16.7
Others	0.4	1.5	0.4	1.9	0.0	0.0

Source: The 2007 ICT Survey.

Table 9. Drivers of Technological Change: FIEs vs. Non-FIEs

Drivers of Technological Change	All Samples		FIEs		# of Non-FIEs	
	#	Percent (%)	#	Percent (%)	#	Percent (%)
Most Important Reasons						
Foreign customers	13	24.1	12	27.3	1	10.0
Domestic customers	22	40.7	16	36.4	6	60.0
Foreign suppliers	4	7.4	4	9.1	0	0.0
Domestic suppliers	4	7.4	2	4.5	2	20.0
Foreign partners	1	1.9	1	2.3	0	0.0
Domestic partners	1	1.9	1	2.3	0	0.0
Competitors	3	5.5	3	6.8	0	0.0
Technology	6	11.1	5	11.3	1	10.0

Source: The 2007 ICT Survey.

Table 10. Cooperation of FIEs with Domestic Firms in R&D.

	# of Firms	Percent (%)
Cooperation with Domestic Firms	17	38.6
Importance of Alliance		
Non & Not Important	39	88.7
Average	2	4.5
Important & Very Important	3	6.8
Importance of Cooperative R&D		
Non & Not Important	34	77.3
Average	6	13.6
Important & Very Important	4	9.1
Importance of Technology Transfer		
Non & Not Important	38	86.4
Average	4	9.1
Important & Very Important	2	4.5
Importance of Technology Advise		
Non & Not Important	35	79.6
Average	9	20.4
Important & Very Important	0	0.0
Importance of Personal Exchange		
Non & Not Important	32	72.7
Average	10	22.7
Important & Very Important	2	4.6
Importance of Information Exchange		
Non & Not Important	32	72.7
Average	8	18.2
Important & Very Important	4	9.1

Source: The 2007 ICT Survey.

Figure 1. Location of Kunshan

