

Strategic New Industry Development in China:
A Critical Analysis of the Role of Local Government

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Abstract: Local governments in transition economies have been widely regarded as main drivers for economic development and regional innovation. In front of fierce competition among different regions and pressures from Central Government, local governments have motivations and willingness to take innovative measures to promote industrial upgrading and develop new industries. Considering the enabling role of government as change agency in transition economy, it could be expected that government could play an active role acting as ‘institutional entrepreneur’ in renewing and innovating institutional set-up for the aim of upgrading industrial structure and promoting regional innovation. Through comparison of the two adjacent cities of Suzhou and Wuxi in south China, this paper highlights regional government as institutional entrepreneur and tries to disclose varied government innovation activities under the mechanism of institutional learning and competition. This paper illustrates how two adjunct regions differentiate each other along different paths from initial institution imitation to institution competition to institution innovation. Through the comparison, it helps to understand the process as well as limitation of government innovation in different regions. It finds the contradiction of institutional entrepreneurship in the context of institutional transition. It concludes that in the process of promoting industrial upgrading and regional innovation local government should focus more on improving effectiveness of innovation and governance capability.

Key Words: new industry development, institutional entrepreneurship, government innovation, institutional innovation

1. Introduction

Within the last two decades, region is reemerged as a focus of innovation processes (Krugman 1991; Malmberg and Maskell 2002). In reality, some once-successful regions could be surpassed by other regions within short time due to innovative institutional set-up. Effective institutional innovation tends to become a more and more important source of competitive advantage in a region. In the context of “large scale institutional transition” together with bureaucratic political system in China, local government has motivation to take initiatives to engage in institutional learning and make institutional innovation (Yang and Li 2008).

Transition economies bear particular characteristics which influence the entrepreneurial behaviors and activities (Bruton, Ahlstrom et al. 2008). Scholars acknowledge that there are formal institutional voids in emerging economies (Yang, 2004; Puffer, McCarthy et al. 2010). Institutional theory has been used to investigate the entrepreneurship research (Bruton, Ahlstrom et al. 2010). Related research using institutional theory in the context of China are not in a few cases, such as legitimacy

building by private enterprises (Ahlstrom, Bruton et al. 2008). However, as Child and Lu (2007) pointed out that there is still relatively scant research from the perspective of institutional entrepreneurship in exploring transition economy.

The presented study is based on observation of local government innovation in China in recent years. The research settings are two adjacent cities in the eastern coastline of China. Since long time, Suzhou and Wuxi have been widely regarded as adjacent twin cities in China. Both have many common points in local culture, economic development level, experienced similar processes of regional development in terms of their path dependency and path creation. In recent two decades, both two cities have their ambitious plans to surpass the other, presenting fierce competition not only in economic field, but also including institutional competition, lobbying activities at Central Government level for kinds of resources and reputations. Yet, the two regions show divergent development paths under institutional competition. The dynamics, achievements and outcomes in the two adjacent regions show a good example of the power of institutional competition, learning and innovation driven by institutional entrepreneurs, which is argued in this paper as local government.

Our study makes contributions in two aspects. First, it sheds light on the few discussed role of government as “institutional entrepreneur”. Considering the increasing concerns about transition economy, we make response to the initiative of Child (2007) to investigate the mechanisms of institutional change and the co-evolution between government (as institutional change agent, public entrepreneurship) and innovative regional development. Second, it contributes to our understanding to the whole process of local government innovation through a comparative study of two regions with similar natural endowments in China.

The structure of the paper is as follows. The following section survey key elements of the literature on institutional entrepreneur and government innovation. The paper then discusses the methodology used in data collection and analysis, presenting our comparative case study that illustrates the activities of local government as institutional entrepreneurs. Next, we present our findings; and we conclude with a discussion of the implications from the study.

2. Theoretical background

2.1 Institutional entrepreneurship

Many institutional studies emphasize isomorphic change, paying less attention to the other side of non-isomorphic change as well as institutional competition in institutional fields. Scholars mainly from institutional school insist on the embeddedness of entrepreneur in specific institution environment (Zucker 1987). The willingness, action and rationality of actors are all restricted by the institutional environment which they embedded into, owing to greater freedom from regulative, normative and cognitive constraints (Garud, Hardy et al. 2007). As pointed out in DiMaggio’s (1988) research, less fully explored are endogenous sources of deliberate change. Institutional entrepreneurship defined as the “activities of actors who have an interest in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones” (Maguire, Hardy et al. 2004; Hardy &

Maguire, 2008), has been mostly recognized as a determined power to escape the constraint of institutions and to induce institution change by individual entrepreneurs. In fact, institutional entrepreneurs may be represented at different levels and patterns, not merely to be an individual person. Extant literature identifies a variety of institutional entrepreneurs who have initiated and contributed to the institutional change. They come from various organizations, communities, and sectors. For instance, it has been noted the importance of regulatory agencies, such as the Securities and Exchange Commission, and professional associations, in transforming accounting as an institutionalized field (Greenwood, Suddaby et al. 2002). In their study of institutional change in Big Five accounting firms, Greenwood and Suddaby (2006) demonstrated that central actors can become institutional entrepreneurs when they are aware of (and open to) alternatives and motivated to change the status quo. It is worth distinguishing the role of different actors in varied contexts.

In the context of emerging economy with “large scale institutional transition”, where there is the “paradox of embedded agency” (Seo & Creed, 2002; Battilana, Leca et al. 2009), government could be represented as an important actor of institutional entrepreneurship when facing cross-regional competition. In previous study, it has been illustrated how cross-regional competition shape the driving force behind China's transition toward capitalism (Li, Li and Zhang, 2000). As such, we argue that local government could act as ‘institutional entrepreneurs’ in renewing and innovating institutional set-up for the aim of promoting regional development in context of transition economy. In view of the lack of related researches in transition economy to the possible coincidence between economic transition and regional development, the key research question of this paper is to explore how local government can play the role of institutional entrepreneur and develop diversified institutional innovation under the pressure of institutional competition.

Scholars debated on how governments matter to the business practices and management research might need to be reframed to contribute to public policy (Ring, Bigley et al. 2005; Kochan, Guillen et al. 2009). Governments and states can encourage and foster industry creation as well as entrepreneurship by putting institutional structures in place (Spencer, Murtha et al. 2005). Government policies, such as tax breaks, financial subsidies, and industry policy, may offer the legitimatization for the emergence of new sector. A more recent study states need for innovation is a rationale for government involvement in entrepreneurship (Michael and Pearce II 2009). Child and colleagues (Child, Lu et al. 2007) examine institutional entrepreneurship in the development of China’s environmental protection systems over 30 years and propose the dominant roles of institutional entrepreneurs presumed by government.

Based on those previous definitions, our researches identifies and focus specifically on the enabling power of local government as institutional entrepreneur who acts with a “mindful deviation” to existing and once-successful path and make intentional efforts to renew and innovate institutions under political pressures in the context of “large scale institutional transition”.

2.2 Government innovation

Government innovation is an inexorable requirement from economic reform as well as political reform. In practices, many local governments play a positive role in creating and designing policies which are later adopted and implemented in national wide scope. This has historical heritage from reforming and opening-up since 1978 when local governments were emancipated and encouraged to try out new policy initiatives before national policy was formulated. In the past 35 years of reform, this unique “experimentation-based policy cycle” has been proven to be an important incentive encouraging and driving local government to conduct experiment-based policy innovation (Heilmann, 2008). Apart from this vertical diffusion of policy innovation from bottom to up, the increasing “political pressure” for measuring government officials’ merit and performance could cause institutional competition. A policy innovation at one region could be diffused horizontally to another region due to mimesis. This is particularly obvious during uncertain political environment when new institutional arrangements are not yet developed. In this case, local government would follow the routine and mimic adopted policies in other regions to avoid any possible political false in uncertain policy orientation. When political environment becomes transparent with clear signaling and orientation, local government would vie with each other to initiate institutional innovation for the sake of merit and performance.

Since 1980s, China experienced several rounds of government reform and innovation. The movement of government reform and innovation focuses on the administrative reform of core government functions and the building of government capacity. With the rapid and successful economic development in the past 35 years in China, government both at central and local level are undergoing serious challenges to remove the inherited bureaucracies from planning economy times and to initiate new institutional arrangement to pursue the establishment of a harmonious society. In the period of social transition, governments suffer great pressures for maintaining social stability, which is the most prioritized political task for local governments; meanwhile, local governments are challenged by seeking new development model to sustain regional economic growth and achieve a balanced development among economy, society and ecology. Recognizing that the continuously improving state capacity is the basis for regime legislation, governments in some regions, under those pressures, are transforming the functions of government towards service-orientation, injecting a culture of innovation into their mission of promoting social development. Thus, governments in transition economy have motivation to conduct ‘large scale innovation’, especially in transformative societal aspects. Out of the consideration of legitimacy, societal stability and new model of development, government officials in China are transforming their governing idea, from bureaucratic organization to service-oriented civil organization for citizenship community. The continuing shift to a service-based economy and reliance more on self-innovation-driven economic development is putting requirements for a turn of government function. It was not until 1998 that ‘public service’ was firstly put forwarded in official State Council document as a basic function of government in China. In 2004, former premier Jiabao

Wen proposed the objective of ‘building service-oriented government’ and incorporated this objective into his Government Work Report in 2005. In 2007, in the 17th CPC Conference, the highest rank of political decision agency in China, it was confirmed clearly that Central Government will ‘quicken reform on administrative system, build up service-oriented government’. In 2013, in the Third Plenum of the 18th CPC Conference, the tone of further deepening reform would aim “to push on with modernization of the country's governing system and capabilities, to speed up the transformation of government functions, and to establish a law-based and service-oriented government”.

It is reasonable to expect a more active leadership role of local governments in shaping the landscape of innovation in regions during the transformation process of government function. As the most important actor and provider of institutions, regulations, and public services, the management capacity and innovation capability of local government could impact a region’s global connectivity, ability to attract talents, and advances in technology and innovation. Therefore, the quality of a region’s innovation habitat is dependent on specific institutional context on which local government’s motivation and ability to renew and renovate institutional configuration impact.

3. Research method

The process of investigating the dynamics and outcomes of government-driven institutional innovation required the gathering and analysis of data from multiple sources. We utilize historical case studies. We sought to reveal the underlying mechanisms and social dynamics by using several complementary sources of data.

It is acknowledged that historical case studies provide the opportunity to uncover the story behind the institutional evolution of many different phenomena (Nasra and Dacin 2010). For instance, scholars analyzed the transformations in cultural industries by integrating institutional logics and historical event sequencing (Thornton, Jones et al. 2005), examined the emergence and diffusion of innovations (Hargadon and Douglas 2001).

As for primary data, data collection was done mainly via the contacts and networks of the author and through local High-tech parks administration officers. Fine-grained case studies can provide insightful information (Eisenhardt 1989; Eisenhardt and Graebner 2007; Yin 2009). The secondary data is drawn from archives, searched archives from openly disclosed key policy documents in government agencies and departments in Suzhou and Wuxi (see Table 1, 2 and 3).

Taken together, this multi-faceted data collection approach allowed for the generation of a detailed and in-depth account of the impact of local government institutional innovation on new industry development.

Insert Table 1, Table 2 and Table 3 about here

4. Findings and results

In this section, we first take a narrative approach to depict the regional development of Suzhou and Wuxi in developing new industries. Then, we draw a comparative lens to synthesize our findings regarding the variation on institutional innovation practices. By applying narrative approach, we hope to uncover the underlying mechanisms of institutional change by resorting to institutional work. In the pre-formation of institutions, institutional entrepreneurs delegated the institutional work to entrepreneurs. Throughout the analysis we notify there was no obvious de-institutionalization process as observed by other studies typically in Western contexts (Greenwood & Suddaby, 2006), the failure of institutional innovation, i.e., the defeat of SunTech and the induced critics on the 530 Plan in the case of Wuxi, reminds us the contradictions of institutional entrepreneurship in immature institutional context.

4.1 Regional development in Suzhou and Wuxi

In 1978, before opening-up, Suzhou and Wuxi enjoyed similar economic development level. Wuxi, with the nickname of “small Shanghai” before 1949, had a good industrial foundation. Suzhou, however, with larger administrative territory than Wuxi, increased its economic power rapidly. In the whole period of 1980s, thanks to its pioneering practices on developing town and village enterprises, Wuxi, actually, enjoyed quicker economic development than Suzhou. The once famous “SuNan Model” reflected the successful experiences of Wuxi in that era.

In the wave of the second round opening-up in 1992, marked by the Central Government’s decision to quicken the development of Shanghai, Suzhou won out through its large scale planning of economic development zone (EDZ). In 1992, Suzhou was approved to build its first EDZ, named Suzhou New District with a total planning area of 52 square kilometer, which is nearly ten times larger than the planning area in Wuxi New District. In 1993, the historical opportunity was embodied in Suzhou with the visiting of ex ante Primary Minister of Singapore Lee Kuan Yew, the largest Sino-foreign collaboration project was finally selected to construct in Suzhou. Singapore government and China government decided to build up a world-class industrial park through introducing advanced technologies, industrial projects as well as management experiences from Singapore. The planning area for Sino-Singapore Industrial Park (SIP) has 70 square kilometer. Since the Central Government has approved eight Special Economic Zones (SEZ) in coastal regions in the first stage of opening-up, the Central Government wouldn’t approve another SEZ in Suzhou. But SIP could still enjoy many favorite policies authorized from Central Government. In this case, SIP was widely regarded as a high-level economic development zone, with the characters of “not being special economic zone, but with special characters”. In this period, Wuxi quickened its development too especially on introducing foreign direct investment (FDI). Under the political pressures of increasing FDI as main path to upgrade and improve regional economic development, FDI was the most important key performance indicator for governmental officials. In this background, Wuxi strived to attract more FDI as compensation in competing with

Suzhou.

In 2011, former Prime Minister Mr. WEN Jiabao, made a speech about the construction of ‘SuNan Self-Innovation Exemplary Region’, which put forward actually higher requirements for both Suzhou and Wuxi, achieving a transition from investment-driven growth model towards innovation-driven growth. The primary aim of this National Self-Innovation Exemplary Region is making SuNan Region (Southern Jiangsu Province, including mainly Suzhou and Wuxi) as a center for industrial scientific innovation and a highland of high-tech industries with global competitiveness.

4.2 Case I: New Industry Development in Wuxi

The latest event causing “mindful deviation” to create a new path for Wuxi’s development is the so called “**530 Plan**”. The origin of the “530 Plan” in Wuxi could be tracked back to the contingent opportunity searching by a returnee academic entrepreneur, Dr. Zhenrong Shi. In 2000, Dr. Shi came back to China searching possible investment to his technology on utilizing solar energy after decades of research in the field of solar photovoltaic in Australia. After many times failed contact and communication with local governments in other regions, Dr. Shi received luckily favorable support from Wuxi municipal government. With generous policy and enormous supports, Dr. Shi founded his company Suntech Power, manufacturing materials for solar energy utilization. The success of SunTech Co.Ltd which was published in New York in 2006 became a gold-lettered signboard for Wuxi. The highest decision-makers in Wuxi realized that a new path could be created to achieve a new round regional economic development through introducing talents with advanced professional technological know-how and industry experiences. In 2006, the Minister of DoOCCP (Department of Organization of Chinese Communist Party Central Committee), Mr. Yuanchao Li was encouraged and inspired by the successful entrepreneurship story of SunTech during his inspect in Wuxi, suggesting to spread the successful experience of Wuxi in attracting and introducing overseas talents to boost regional development to wider scope. Thus, the adventurous practices and ‘institutional innovation’ of Wuxi government was granted a status of legitimacy after being recognized by high rank officers in Central Government. Their experience and practices was labeled as “530 Plan”, which means within 5 years introducing 30 Chinese expatriates with impeccable credentials from overseas to start entrepreneurs in future-oriented industries, such as environment protection, new energy and biology as well as service outsourcing and culture creativity industry. The annual located corporations under the umbrella of “530 Plan” have witnessed an exponential increase. After being recognized by high level government officers, within short time, the model of “530 Plan” created in Wuxi was spilled over and imitated widely by other regions. Each province and region in China promulgates similar Plans as the model of Wuxi to join the war of competing overseas talents and their business projects. Finally, it evolved into the “**Thousand Talents Plan**” adopted by Central Government to promote industrial upgrading and self-innovation driven growth.

Generally speaking, the model of “530 Plan” created by Wuxi government marks

an important watershed for regional development, from FDI-focused institutional innovation to talents-focused institutional innovation.

Looking retrospectively at the case of SunTech, the once big name of the most successful example of regional new industry development, it suffered limitations from government innovation without an appropriate institutional arrangement to deal with the proper relationship between government and market.

When Wuxi government saw the success of IPO of SunTech in New York, their inspirations for further institutional innovation were loosened and replaced by impulsion for GDP and other political goals. The successful IPO of SunTech didn't bring new technologies and R&D power in its manufacturing base in Wuxi. However, SunTech was directed towards a large-scale expansion of production capacity through getting more credits from banks with support of local government. In 2007, Wuxi local government supported the construction of PV Industrial Park initiated by SunTech. According to the original plan, Wuxi would be reshaped by this park as the so called "Sun City" in 2012, with ambitious target of achieving annual sales of PV related products over 100 billion RMB Yuan in 2012 and over 150 billion RMB Yuan in 2015. Regardless of the dynamic changing industrial landscape, in 2012, the production capacity of SunTech reached 2.4 Giga Watt, becoming the largest PV manufacturer. Since 90% of its products were exported to abroad, SunTech could receive subsidies from government in the form of returned exportation-tax. It is reported that the total received exempted taxes of SunTech reached as high as 8.6 billion RMB Yuan from 2005 to 2011, while the tax revenues turned over to state has only 839 million RMB Yuan, less than one tenth of its received exemption. With this distorted model of growth, government policy restrained the innovation capacity of industry development. By putting more emphasis on creating quantitative exponential growth of new industry development and winning regional reputation for accumulating their political capital and attracting the attentions of upper level governments for their future personal promotion, local government officials pushed greatly the rapid expansion of PV industry in Wuxi without scanning external market environment and policy change in exportation destination countries. When the U.S. and the EU levied anti-dumping taxes on Chinese PV products, the marginal profit of this industry fell down dramatically. On March 20 of 2012, a local court in Wuxi announced the bankruptcy of SunTech due to debt crisis.

The model of Wuxi in developing new industry presents a character of self-reinforcing. When the model was recognized and institutionalized by central government, local government was encouraged to follow the created path in which the elements of path dependence with the risk of lock-in was embodied, such as the over reliance of SunTech on foreign markets without exploring domestic markets. The case of SunTech illustrated the harmful consequences of local government innovation, i.e., direct control and excessive interventions on industry development, distorted order of market competition, inefficient resource allocation, and opportunism of government officials pursuing their own managerial and political goals.

The bankruptcy of solar panel industry in Wuxi is not an occasional case, but mirrored the limitation of government entrepreneurship. To some extent, the over

production capacity in many industries in China today were caused by local governments in pursuit of GDP growth. In booting new industries, such as the case of solar panel industry, government entrepreneurship lacks judgmental decision making about investments under uncertainty. Direct engagement and over protection from local government caused unintended harmful consequences. Wuxi local government paid closer attention to the short-term returns from introduced talents, lacking comprehensive governance capability to last real innovation.

4.3 Case II: New Industry Development in Suzhou

At its first beginning, the development path of Suzhou shows strong capabilities on imitation, learning and institutional borrowing. The establishment of Suzhou Industrial Park in 1996 is a good example to display the precautions of Suzhou comparing to other competitive regions such as Wuxi. During the process of imitation and learning, however, a region could also possibly be trapped into a track of “lock-in” by leaning too much on FDI, technologies, equipment and the configuration of international industry division. To avoid this, Suzhou has developed its special capability on promoting regional development, summarized as the sensitivity and spirit of “borrowing, integrating and innovating”. The creation and development of Higher Education Town (HET) in Suzhou Industrial Park is such an example. After several years of attracting FDI and growing based on large manufacturing for MNCs, SIP realized the emergence and importance of storing, introducing and cultivating talents. In 2002, a special zone was planned and developed in the territory of SIP, aiming to nurture regional innovation through introducing and establishing higher education institutions and research institutes and bridging links between research and local industries. At its first stage, the HET was established aiming to attracting domestic top universities to set up research institutes, which as a kind of incubator for commercialization of universities’ scientific and technological research outcomes and patents. Since 2005, 16 top universities in China have been attracted to establish their off-campus research institutes in HET, recruiting and transferring more than 2,000 researchers. Apart from this, SIP Administration Committee (SIPAC) as actual capital investor, promoted the establishment of the first Sino-foreign joint university in China which is located in the central area of HET in SIP. In 2006, after the first-round introduction of research institutes from domestic universities, SIP quickened its pace and broadened its selection to attract more advanced and international famous universities to set up research institutes, such as the establishment of research institute of National Singapore University and the establishment of advanced research institute of Dayton University from the U.S. Accompanied with the second-round development of HET in SIP, some specified functional zones were planned to develop new emerging industries such as Nano Park, BioBay, Media Zone, etc.

It is reasonable to expect that a region, with great support from government to bridge organizations between the world of industry and that of research institutes and higher education, could develop and cultivate well its knowledge-base and sustained competitive advantage. Figure 1 below elaborates the role of government innovation in shaping regional innovation habitat.

Insert Figure 1 about here

Through these efforts, the regional profile of SIP and the whole Suzhou city was improved greatly towards an open and innovative learning region. Since universities and research institutes have been recognized as important entity for knowledge production, transfer and distribution in knowledge-intensive region and economy, the development of HET in SIP laid a good foundation for sustained competitive advantage for SIP and Suzhou. Compared to the emerging homogenous industrial investment as well as over dependence on overseas expatriates in Wuxi, Suzhou has more diversified sources of innovation and entrepreneurship activities. In the process of achieving regional innovation, Suzhou, especially in SIP, broader actors could be motivated and leveraged to make innovative activities, including the returnee talents pouring into new emerging industries such as biomedicine, Nano technology, academic entrepreneurs from introduced research institutes who have bridged good connections and communications with local partners from industries and industry associations. Apart from these, large amounts of young students as source for next-generation entrepreneurs participate also positively into entrepreneurship activities. These diversified actors comprise the most powerful backup for regional innovation. Compared to the model of innovation in Wuxi where resources are pored too much in overseas returnees while lacking enough and diversified support from local actors, Suzhou offers better atmosphere for entrepreneurs including both exogenous (i.e., returnee talents) and endogenous actors (i.e., academic entrepreneurs from local research institutes and universities) which could be expected producing long lasting impacts on regional development and innovation.

To identify and promote the development of a specified new industry, Suzhou local government keeps good communications with Central Government, to take advantage of the dual benefits of both bottom-up and top-down policy process. The development of Nano technology industry is a good example of this dual policy process. At early stage of developing the SIPHET, Suzhou local government has aimed to introduce a national-level research institute to pave the way for future industry development. In 2006, Chinese Academy of Sciences (CAS) finally agreed to set up a new research institute in Suzhou after long time persuasion and encouragement by local government. As the first cross-disciplinary research institute of CAS, the newly established Suzhou Institute of Nano- Tech and Nono-Bionics (SINANO), Chinese Academy of Sciences, received full support from Suzhou municipal and Jiangsu provincial government. In 2007, when China's Ministry of Science and Technology (MoST) signed a strategic collaboration plan with the Finnish Funding Agency for Innovation (TEKES) on launching Nano technology development, Suzhou local government was nominated by MoST as National Nano Tech International Innovation Park. With the name of CAS and the nomination from MoST, Suzhou local government acted rapidly to build up a special zone within the

area of HET, named as Nanopolis. As a flagship of developing strategic industry in future, Nanopolis aims to attract small, specialized technology driven firms, engineering companies and returnee entrepreneur companies, to promote the accumulation venture capitals and entrepreneurial start-ups as well as linkages between research institutes and industries in the field of Nano technology and related industries. With well-developed research infrastructure and favorite policies to attract returnee talents, SINANO and Nanopolis have achieved great development. Currently, there are more than 7,000 researchers, engineers and technicians working in Nanopolis. More than 200 start-ups operate in Nano technology related businesses among which 9 companies have grown to very successful stage with annual revenues over 100 million RMB Yuan. After years' consistent collaborations with TEKES and MoST, the Sino-Finish Nano Tech Innovation Center is permanently located in Suzhou. Nanopolis won also more honorable nominations from MoST, including National Base for Nano Technology Commercialization, National Demonstration Zone for Nano Technology Industry Standardization and National Sci & Tech Park of Nano Technology.

The highlight of this policy and practices of SIPAC is that local government pays attention to looking for advantages from diversity and integration of technological knowledge in different innovative actors, not only limited to returnee talents, introduced high level research institutes with affiliated researchers but more integrations and interactions between and among broader local companies and other innovation actors. Since 2007, 12 enterprises in Suzhou have been identified successfully and nominated as 'National Corporation Technology Center' (NCTC), which benchmarks those most successful companies in R&D, technology and product innovation capabilities. In Jiangsu Province, Suzhou has long positioned at the first place in terms of the amount of 'National Corporation Technology Center'. These Centers reflects the focus and efforts on strengthen establishment of knowledge-base and cultivation of endogenous innovation capabilities in Suzhou. In fact, this point could be regarded as one of the most significant reasons for the gap between Wuxi and Suzhou in these years. The path of Suzhou pursues more solidified foundation on knowledge base, local supply of high--skilled labor and access to scientific excellence. The far-sighted and well established knowledge and technology infrastructure, such as SIPHET, SINANO and NCTCs, is the result of institutional innovation of local government in Suzhou and makes up the sustained regional competitive advantage over Wuxi.

The institutional competition, learning and innovation between Suzhou and Wuxi could also be reflected in the bidding for more recognitions and supports from Central Government to attract more talents and entrepreneurs from overseas. Although Wuxi has taken the first step to attract talents and entrepreneurs through innovating institutions, Suzhou goes faster and farther, with more innovating institutional set-up. The case of "Taihu Summit" is another good example. Through holding the right to hold the Summit in Wuxi forever, Wuxi, without doubt, could increase the city's reputation and attractiveness among returnee entrepreneurs; however, Suzhou, would not lose this important event. Through the efforts of Suzhou government, State

Council decided to set up the “National ‘Thousand Talents’ Entrepreneurship Investment Center” in Suzhou in July 2011, before the opening of the Second “Taihu Summit of ‘Thousand Talents’ Plan” in Wuxi in September 2011. This is out of the consideration of making a balance of political competition. However, in this case, in the aspect of attracting more talents and entrepreneur projects to locate in Suzhou, Suzhou government set up more innovative institutions. The creation of the “National ‘Thousand Talents Plan’ Entrepreneurship Investment Center” could offer more favorable support for those returnee entrepreneurs with more innovative business projects. This Center aims to launch the so called “2241 Project”, meaning investing 2000 entrepreneur projects, nurturing 200 entrepreneurs to be listed in national “Thousand Talents Plan”, supporting refinancing for 400 entrepreneurs of national “Thousand Talents Plan”, and cultivating and developing 100 public listed companies from the “Thousand Talents Plan” enterprises in ten years. This ambitious capital investment mechanism would leverage effectively the power of science and technology innovation activities, promoting the development of new industries enormously. Thus, a positive loop among professionals, technology and capital could be created and strengthened forming a good foundation for sustained competitive advantage.

4.4 Comparison of regional innovation in Suzhou and Wuxi

Suzhou pioneered in initiating and implementing the Foreign Direct Investment (FDI) policy with the highlight of the establishment of Singapore Industry Park (SIP) in 1996. Alongside this national-level initiative, Suzhou successfully attracted many multinational companies (MNC) to open their manufacturing factories in SIP. This arrival of MNCs offers the opportunity for local firms to learn amid the knowledge spill-over effect. By collaborating with Singapore government, Suzhou was able to learn advanced management practices and institutional work, introducing and transferring institutional arrangements innovatively in local context. Both path reorientation and path stabilization of Suzhou centered on implementing the FDI policy. The interplay of higher education institutions and industrial firms cultivated a dynamic environment and laid a solid foundation in terms of intellectual infrastructure. The first-mover advantage on FDI in Suzhou outperformed Wuxi. However, the self-reinforcing mechanism of attracting FDI didn't lead to a lock-in on low value-added manufacturing. Suzhou created a distinguished path by introducing research institutes and developing higher education to solid its knowledge base and competitive advantage in new industries.

Wuxi did not seize the FDI trend as successfully as Suzhou. The urgent need from local government to upgrade local economic structure and improve human capital composition was the prerequisite for institutional innovation. A specific investment case of SunTech Power illustrated an alternative path for regional economy. Courageous institutional innovation and actions undertaken by institutional entrepreneurs, embodied as local government, initiating an innovative and instrumental program – 530 Plan. The 530 Plan is essentially the precedent of “Thousand Talent Plan” across regional and national-levels. The focus on attracting

overseas talents in Wuxi manifested the path divergence from the FDI model, which was successfully bolstered by Suzhou. Amid the success of SunTech Power in Wuxi, the policy of attracting overseas Chinese talent to found their technology venture was emulated by other surrounding regions. However, we have to realize that the weak knowledge and research infrastructure in Wuxi inhibited its sustained competitive advantage when being positioned as a manufacturing base of PV materials for global markets. Apart from this, the policy innovation of Wuxi, aiming to achieve leap-frog development on a few high-tech industries by means of introducing talents or talents team, is problematic if not naïve. Industrial structure upgrading and innovation is a long process requiring input and participation from various actors. The short temporal horizon of Wuxi government on developing industries composes the embedded risk.

Institutional innovations in the two regions have some convergence in developing high-tech industries, such as on introducing talents and showing the posture of service-oriented government.

5. Discussion and conclusion

The institutional innovation might start firstly from mimic successful practices and policies of advanced and model region. It could also be ignited and created by insightful leader in local government. In China, government dominates still large resources. Under pressures for government official performance and pressures from institutional competition, that makes it possible for ambitious and far-sighted government officials to leverage resources to implement innovative plans in a region. The creation and development of SIP, Stock Option Investment Center and many other institutes in Suzhou, for example, could be tracked back to some initiatives by local government leaders. Thus, the development path of local region shows the characters of both evolutionary way with the impact from local culture, history and its past and deterministic way with the impact from direct intervention and participation of local government (officers).

The preceding sections have analyzed governmental policy-driven regional development and innovation in the context of transition period in Suzhou and Wuxi, both were listed among “National Experimental Cities of Innovation” in 2010. This article focuses specifically on the important role of local government as institutional entrepreneur in promoting regional innovation. In the environment of institution homogeneity, local government officers, under political pressures for winning out local performance, are prone to take the role of institutional entrepreneur in renewing, innovating institutional arrangements to favor entrepreneur activities in local region. Currently, a wave of making start-ups by returnee entrepreneurs is booming around China. That could be attributed to the change of institutional field in both domestic and abroad environment. In recent decade, especially after the breaking of dot com bubble and the latest financial crisis, lots of good educated talents with professional knowledge and tactic experiences in business, service industry and research institutes in oversea countries, such as U.S., U.K., Japan, Germany, and etc., have returned to China to pursue their dreams of being entrepreneur which they could not achieve in host countries. In this process, local government plays a big role in attracting returnee

entrepreneurs by renewing, making, and creating many favorable institutions to support the business and operation of those returnee entrepreneurs. By designing institutional arrangements that are uniquely attractive for a particular sector of the economy, a region can carve out a niche to attract returnee entrepreneurs and high-level professionals and talents from overseas to gain a superior competitive position. Thanks to governments' favorable and innovative institutional arrangements, currently many regions in China are experiencing large scale entrepreneur activities. Through designing and providing an especially attractive institutional environment, start-ups and new technologies and industries with participation of returnee entrepreneurs could be developed successfully within short time in a region. This has been proven in some regions in China, such as the Photovoltaic Solar Energy industry in Wuxi and Nano technology industry in Suzhou.

There are at least three avenues for further research presented by some of this study's limitations. First, while this study illustrates the mechanisms of new industry development from the insights of local government innovation, this study does not underpin the micro-processes of the institutional change process, such as the power struggle among entrepreneurs and governmental officials. This suggests that it would be valuable to consider the power play among different parties and symbolic management (Zott and Huy 2007). Considering the vulnerable change of local government officials, research on exploring the relationship between official's tenure and the continuity/fluctuation of institutional innovation might be interesting. Second, while this study comparatively illustrate the variation of institutional innovation, it is difficult to measure the effectiveness of the entrepreneurship policy given the relatively short time span. In the two cases of Suzhou and Wuxi, for example, it is worthy to explore further the co-evolution between institution and industry under the interaction of government and returnee entrepreneurs with a more holistic and systemic perspective. This study responds to the call for research to treat contextual factors explicitly in investigating industrial policy and the creation of new industries in emerging economies (Mingo and Khanna, 2014). We believe our study can shed some light on the relationship between entrepreneurs, entrepreneurship policy, and government in the context of emerging economies. Third, the recent rethinking on regional path dependence from lock-in to evolution advocates an understanding of the composite nature of institutions (Martin, 2010). This study, taking an inside-out perspective to explore the evolving process of new industry development landscape in two regions, demonstrates future scholars to explore the internal heterogeneity and endogenous change in institutions by concerning the multiple interactions among institutional entrepreneurs, involved collective actors as well as other exogenous forces.

In consideration of the long-term and large-scale investment on developing strategic new industries, local government itself could not sustain the requirement of innovation. More efforts should be paid on developing effective interrelations of research-government-industry ecosystem. The case of Wuxi showed us the dark side of local government innovation in promoting new industry development, while the effectiveness of the case of Suzhou has to be verified in future. In terms of the

patterns of institutional innovation practices in the two cases, Wuxi has a more direct way on developing new industries, by allocating resources over much on one industry; while Suzhou has a long-term planning on developing new industries, with well accumulation in advance from infrastructure to introduction of research institutes, from venture capital fund to well coordination with central government.

Appendix

Table 1: Policy Documents Analyzed (Suzhou)

Policy Document	Document Issue Time	Key Aspects
“The 11th Five-Year Plan of Professionals Development in SIP”	(2006.3)	Aiming to create more sustained mechanisms to attract professionals and talents working, living, studying in Suzhou
“Decision to revise ‘SIPs Favorite Policies’ to attract and introduce high level talents and professionals in short supply”	(2008.11)	To update new favorite policies to attract talents to start-up in Suzhou.
“Decisions to deepen the role of professionals in transferring and upgrading”	(2010.12)	To establish comprehensive environment to attract high-level talents, to strengthen link between industry and education,
“Creation of National Entrepreneurship Mother Fund”	(2010.12)	60 billion RMB Yuan for option investment
“Establishment of National ‘Thousand Talents’	(2011.7)	to provide finance solution for returnee high-level expatriates, cultivating new

<p>Entrepreneurship Investment Center”</p>		<p>industry development,</p>
<p>“Decisions to propel innovation and commercialization of Nano technology in SIP”</p>	<p>(2011.10)</p>	<p>To leverage further success of Nano technology in Suzhou through attracting more high-level academia, strengthening technology innovation and commercialization, providing seed fund to Nano programs, and bridging industry-research link.</p>

Table 2: Policies to support the development of Nano technology in Suzhou

Policy	Action
Decision to build up SINANO	Suzhou Government and Chinese Academy of Sciences reached the agreement in March 2006
SIP as a signatory of China-Finland Nano Technology Strategic Collaboration Plan	In alignment with the MoU between MoST (Ministry of Science and Technology) of China and TEKES, Finland in 2007. Renewed the MoU in 2010
SIP Nanopolis	2007, developed by Suzhou local government and got support from MoST, Ministry of Commerce and Jiangsu Government
National Nano Technology International Innovation Park	2007.11, nominated by MoST
National Sci & Tech Park of Nano Technology	2010.11, nominated by MoST and MoE (Ministry of Education)
National Base for Nano Technology Commercialization	2011.7, nominated by MoST
National Demonstration Zone for Nano Technology Industry Standardization	2011.7, nominated by National Standardization Administration
Sino-Finland Nano Innovation Center	2012.11, nominated by MoST of China and Ministry of Employment and the Economy of

	Finland
National Nano Technology Professional Industry Alliance	2013.8, nominated by MoST
Suzh Nano Sci&Tech Collaboration Innovation Center	2013.8, nominated by MoE under the umbrella of "2011 Program"

Table 3: Policy Documents Analyzed (Wuxi)

Policy Document	Document Issue Time	Key Aspects
“Decision on implementing ‘530 Plan’ in 2008”	(2007.12)	Aiming to attract overseas expatriates to start-up businesses with their special technology know-how
“Plans of Propelling Commercialization of Pioneering Returnee Entrepreneurs’ Projects”	(2008.10)	Industrialization and commercialization of technologies from overseas expatriates
“Approval of Development Planning of Wuxi as National High-Tech Industries Base”	(2008.11)	Aims to get another reputation as a national ‘Base’
“Decision on setting up ‘530 Plan’ Experts Consulting Committee”	(2009.7)	Setting up consulting committee to facilitate ‘530 Plan’ investment decisions
“Action Plan to Achieve Agriculture Modernization in 2009-2012”	(2009.10)	Aiming to develop modern agriculture industry in Wuxi

“Policies to Support the Development of Carton & Game Industries”	(2010.2)	Aims to develop a new industry on carton and game
“Planning to Introducing Pioneering Bio-Agriculture Professionals”	(2010.4)	Aims to attract professionals in bio-agriculture field to support the planned modern agriculture industry
“Policies to Quicken Modern Service Industry Development”	(2010.11)	To encourage the development of modern service industry with favorite policies
“General Planning and Action Plan to Develop National Physical Network Innovation Demonstration Zone in (2010-2015)”	(2010.8)	Aims to get state support to approve and set up ‘National Physical Network Innovation Demonstration Zone’ in Wuxi
“Taihu Summit of ‘Thousand Talents’”	(2010.9)	To set up the reputation of Wuxi as an attractive location for ‘Thousand Talents’, cultivating and attracting strategic new industries, bridging entrepreneurs and venture capitals

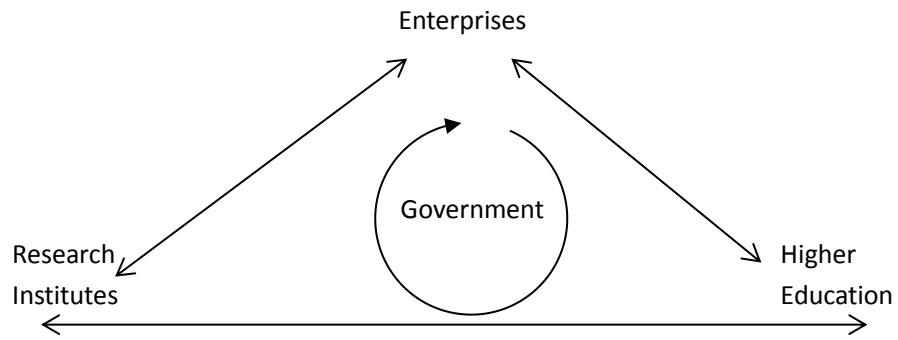


Figure 1: Government as a nexus of Innovation Triangle

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