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Fiscal Decentralization or Centralization: Diverging Paths of Chinese Cities

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Abstract

If fiscal decentralization promotes growth, why do some regions decentralize more than others? This article identifies the growing divergence of fiscal centralization among Chinese cities and explains it in a public finance framework. It argues that fiscal decentralization and its economy-liberalizing effect entail significant short-term fiscal risk. The more a locality relies on uncompetitive business ownership for fiscal revenue, the less likely fiscal decentralization is to occur. This article compiles a dataset of 20 provincial capitals between 1999 and 2016 to test for the connection between a city's tax base and its fiscal centralization level. It then pairs two "most similar" cities to trace how fiscal security concerns drove their fiscal and economic policies apart. This article adds a micro-level perspective to the literature on fiscal federalism. By pointing out the fiscal constraints confronting local governments, it offers a new angle to understand the different growth paths of Chinese cities.

Key words: developing country, economic growth, fiscal decentralization, state-owned enterprise

JEL codes: E62, H2, H7, O1

I. Introduction

Adjustment in intergovernmental power, usually manifested as political decentralization or centralization, is a major topic in political science. Since the 1980s, many emerging countries have embraced fiscal decentralization in the hope of spurring growth. According to fiscal federalism theories, fiscal decentralization empowers local governments to efficiently allocate resources for growth and encourages competition across sectors and regions. Numerous studies have explored the relationship between fiscal decentralization and economic development, testing whether fiscal decentralization leads to efficiency gains (Martinez-Vasquez and McNab, 2003; Martinez, et al., 2018).

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A less explored question, however, is: Why have some regions seen more fiscal decentralization than others? Moreover, why has fiscal decentralization prompted economic development in some regions but not others? Existing studies focused predominantly on the consequences rather than the causes of fiscal decentralization, and empirical studies on the growth-inducing effect of fiscal decentralization have produced no consensus (Martinez-Vasquez and McNab, 2003). This article contends that economies can vary markedly in their inclination toward fiscal decentralization, and that the success of fiscal decentralization largely hinges on the local conditions before these fiscal policies are implemented. Therefore, knowing when fiscal decentralization occurs can help infer its effect on the local economy.

In this paper I argue that fiscal security concerns may influence local government decisions on fiscal decentralization. Fiscal decentralization is essentially an economy-liberalizing policy. However, economic liberalization may introduce considerable risk to local fiscal revenue. Fiscal revenue directly affects governmental operation and the provision of public goods, and government is incentivized to choose a developmental strategy and corresponding fiscal policies that guarantee the uninterrupted flow of fiscal revenue. Hence, if the tax base of an economy is vulnerable to the destabilizing force of economic liberalization, the government is more likely to choose a conservative growth path. This paper hypothesizes that fiscal decentralization is less likely to occur if a given economy's tax revenue is primarily sourced from sectors that would be disadvantaged by economic liberalization.

This paper studies the variation in fiscal decentralization levels across provincial capitals in China. China has been a front-runner in the literature on fiscal federalism in developing countries. Scholars have attributed China's economic takeoff to the fiscal and administrative decentralization of central to local governments, which fostered a new group of growth-favoring "entrepreneurs" that built a market economy with Chinese characteristics (Oi, 1995; Montinola. et al., 1996; Lin and Liu, 2000). To this day, however, the growing divergence in fiscal decentralization across provincial capitals has yet to be recognized. Indeed, these growth centers of China are supposed to see the most fiscal decentralization, contrary to what we actually observe. Fiscal decentralization within these provincial capitals, therefore, presents a micro-level picture of fiscal federalism thus far absent in the literature. Moreover, unlike many studies that focused on the early stage of China's development (1978–2000), this article examines a more recent period starting after the central–local revenue sharing scheme was redefined in 1994, in which local governments and businesses face very different challenges than in the preceding period.

The contribution of this article goes beyond China and speaks to the experience of many developing countries that have used fiscal decentralization to liberalize

their economies, either from centrally planned to market systems, or from domestic to international competition. The outcome of these policies, nonetheless, varies considerably. Out of numerous cross-country empirical studies that test the effect of fiscal decentralization on economic growth, some find positive results, some negative, while others find no relationship at all (Martinez et al., 2018). This paper seeks to reconcile these otherwise conflicting empirical results by showing that fiscal decentralization comes at a cost. Fiscal decentralization does not always prevail, even in a country with a supportive national government. If carried out under adverse circumstances that devastate the existing tax bases without fostering new ones, fiscal decentralization can impede economic growth.

The paper unfolds as follows. It first reviews the literature on fiscal federalism and identifies knowledge gaps that it aims to bridge. The analytical framework introduces fiscal security as the factor behind a government's choice of economic and fiscal policies. It hypothesizes that local government is less likely to pursue fiscal decentralization if local tax revenues rely disproportionately on large businesses that may lose from market competition. The empirical section examines provincial capitals in China using a mixed-method approach. It tests the link between the tax base and fiscal decentralization of these cities in a regression model, followed by a qualitative comparative analysis of two cities that are similar in many aspects except for their tax bases. The case studies illustrate how the fiscal importance of business ownership has a dominant, albeit indirect, influence over local fiscal and economic choices. The concluding section discusses the implications of divergent fiscal policies on local economy.

II. Literature Review

This paper studies the interactions between the economic structure and the intergovernmental fiscal relationship. Political systems vary in power distribution across levels of government. Changes in intergovernmental relationships can occur in administrative, fiscal and electoral aspects. Political decentralization can be adopted to enhance economic development, public goods provision and governmental accountability. This paper focuses on the decentralization of fiscal power for economic growth purposes, a common practice carried out in developing countries. This section reviews theoretical and empirical studies on fiscal federalism, including its origin, design and implementation. It identifies the gaps in existing literature and how this paper proposes to address them.

Fiscal decentralization is defined as the devolution of fiscal responsibility from higher to lower level governments. It can take the form of revenue and expenditure redistribution, tax rate changes, additional fiscal revenue generation and other changes

that enrich the fiscal resources of lower-level government. Fiscal federalism theories propose several pathways by which fiscal decentralization affects economic growth. Oates (1993) argued that fiscal decentralization enables lower levels of government to allocate resources efficiently for growth. Weingast (1995), among others, posited "market preserving federalism," where budget constraints, a common market and the responsibility to regulate local economy would motivate subnational governments to improve economic efficiency in interjurisdictional competition (Montinola et al., 1996). The concept of yardstick competition also posits that interregional competition, with people "voting with their feet," would enhance public goods provision, improve the business environment and encourage innovation (Donahue, 1997).

The perceived connections between fiscal decentralization, economic liberalization and growth have motivated many developing countries to pursue fiscal decentralization. A range of post-Soviet countries have used fiscal decentralization to liberalize the economy, and Russia recently granted expenditure autonomy to local governments (Bahl and Martinez-Vasquez, 2006; Rodríguez-Pose and Krøijer, 2009). Several East African countries have conducted fiscal decentralization, with mixed results (Smoke, 2000). In Asia, China, India, Indonesia and Vietnam have all conducted fiscal decentralization to various degrees. China represents a theory-validating case to illustrate the growth-inducing effects of fiscal decentralization (Montinola et al., 1996; Lin and Liu, 2000; Jalil et al., 2014). Vietnam is a similar case where fiscal revenue decentralization arguably contributes to economic liberalization from a planned economy (Nguyen and Anwar, 2011). Others also found that fiscal decentralization increases infant survival, basic need objectives and development (Lindaman and Thurmaier, 2002).

Despite its wide adoption in developing countries, the actual effect of fiscal decentralization is still under debate. Some studies have supported the positive association between fiscal decentralization and economic growth (Blöchliger, 2013; Sobel et al., 2013), while others have suggested the opposite (Davoodi and Zou, 1998; Zhang and Zou, 1998; Rodríguez-Pose and Krøijer, 2009). An analysis of Organisation for Economic Co-operation and Development (OECD) countries between 1990 and 2005, for example, found a negative effect of fiscal decentralization on economic growth (Rodríguez-Pose and Ezcurra, 2011). Another study of OECD countries from 1972 to 2005, however, found that spending decentralization is associated with lower economic growth while revenue decentralization is associated with higher growth (Gemmell et al., 2013). Other studies found no connection between fiscal decentralization and economic performance (Woller and Phillips, 1998; Bodman, 2011).

The existing research has two limitations. First, most studies on fiscal federalism examine the effect or consequence rather than the origin and precondition of fiscal

decentralization (Martinez et al., 2018). Second, despite practices and studies on fiscal federalism, there is no consensus as to whether it actually promotes growth. This debate is further complicated by the variety of political systems in which fiscal decentralization takes place. Intending to address these two limitations, this article compares subnational units within a single country to study the determinants of their fiscal policies.

III. The Analytical Framework

Fiscal decentralization can take many forms. In most cases, the lower-level government is granted greater tax rate setting power, or more commonly, a larger share of fiscal revenues collected. The level of fiscal decentralization varies significantly across economies. Subnational tax revenue makes up 49.9 percent of total tax revenue in Canada, 31.3 percent in Germany, 20.7 percent in Australia, 4.9 percent in the UK and 4.5 percent in Austria (OECD, 2015). Fiscal decentralization may serve two purposes: democratization or development (Martinez-Vasquez, 2011). This paper focuses on the latter. Since the late 20th century, many developing countries have pursued fiscal decentralization to liberalize their economies domestically or to the global market. These fiscal policies usually manifest as the delegator government's decreasing retention of tax revenue, as is considered in this paper. The lower the retention rate, the more decentralized its jurisdiction. In most cases, fiscal revenue is decentralized hand in hand with fiscal expenditure to maintain fiscal balance at each level of government. By devoluting fiscal revenue, the delegator government essentially surrenders its power to redistribute fiscal resources within the jurisdiction, while the delegated government is empowered to use these newly gained resources on local economic development.

This paper studies the use of fiscal decentralization from a perspective of governmental finance. For economic growth, governments seek higher GDP, investment and fiscal revenue, all of which are positively correlated with each other. However, in pursuing growth there is a more fundamental concern: fiscal security. Fiscal security means stable fiscal revenue from taxes. Such fiscal revenue finances public goods provision, welfare and other policies to attract investment. In particular, because economic reforms usually occur when local government is under financial stress, few governments would risk fiscal decentralization as local fiscal stability is essential under such economic conditions. In other words, a local government always compares the perceived benefit of a growth strategy against the fiscal risks associated with it. If multiple growth models seem to offer similar growth potential, it is more likely to choose the one with the smaller risk to fiscal security.

Property rights and business ownership compose an important dimension to

economic development, and many growth models can be examined from the perspective of different types of business ownership: private or public, domestic or foreign. In a given locality, types of business ownership may differ in importance to the fiscal revenue system. The greater the fiscal importance of a business ownership, the greater the local government incentive to choose the growth model that caters to this ownership, which leads to corresponding fiscal decentralization or centralization policies.

When choosing developmental strategies, some prefer economic liberalization, as asserted by the Washington Consensus, while others support more interventionist strategies with a strong state presence (Pankaj, 2007). Developing countries choose their growth models along the liberal planned spectrum. In general, the liberalization model favors more competitive business ownership, thereby increasing fiscal revenue by expanding the tax base. By comparison, the conservative model protects existing, usually less efficient, business ownership, thereby increasing fiscal revenue by maintaining those who pay taxes at higher rates and/or side payments. Fiscal decentralization is fundamentally an economy-liberalizing policy. Through fiscal decentralization, the delegator government divides its share of specific tax revenues to district governments. Suppose a municipal government decentralized α ($0 < \alpha < 1$) of its fiscal power (P) evenly among the n districts. The available resources to protect any tax-paying company in the less competitive business ownership (located in one district) would then be $(1 - \alpha \frac{n-1}{n}) P$, because only the municipal and district governments in which the company is located, and none of other districts, have the incentive to subsidize those companies. As a result, fiscal decentralization reduces the resources available to subsidize such companies. Fiscal decentralization also enhances inter-district competition, further shifting district governments' resources from inefficient ownerships/sectors in their districts.

In the eyes of the delegator government, the main difference between the two growth models lies not in their capacity to maximize growth or fiscal revenue, but in their potential to deliver uninterrupted fiscal revenue flows in the short term. Depending on its economic status quo, local government might consider the liberalization growth strategy too risky for its fiscal security. If an economy's fiscal revenue comes mainly from business ownerships that would lose in competition, such as large state-owned enterprises (SOEs) in primary manufacturing industries, economic liberalization has a high chance of killing old fiscal revenue streams before building up new ones, thereby devastating local public finance and eroding the potential efficiency gains those liberalization policies might have produced. Indeed, this occurred in many post-Soviet countries, where rapid decentralization and privatization brought stagnation rather than growth as a result of the non-functioning government. In short, the tax base largely

influences a government's willingness to commit to economic liberalization and fiscal decentralization. The main hypothesis of the paper is, therefore:

Hypothesis: All else constant, when an economy's fiscal revenue mainly comes from business ownerships that are more likely to lose in market competition, the delegator government is more likely to pursue higher levels of fiscal centralization.

The fiscal importance of business ownership concerns not only the aggregate size of that ownership but also the individual company size of the same ownership type. Large companies are of disproportionately greater fiscal importance than smaller ones. Many economies categorize a smaller number of large taxpayers contributing up to 75 percent of total revenue into a single segment which, for its fiscal importance, is under tight government control (Lemgruber et al., 2015). This means that business ownership has greater fiscal importance if it is comprised of several large companies than a myriad of small ones.

Intergovernmental fiscal redistribution changes the local economy by signaling government preference for certain sectors and ownership over others. By keeping fiscal revenues centralized, the government signals its willingness and capability to subsidize inefficient large taxpayers, which may squeeze the resources available to the private sector. On the contrary, decentralizing fiscal revenue to lower levels of government signals its intention to stay neutral between ownerships and sectors, which levels the ground for competition. Each fiscal path generates its own path dependency that affects the local political environment, the ease of doing business and the income structure in the long run. Once a city gets on the path, it is hard to deviate from it without external forces, be it national policies, global economic shocks or a combination of both.

IV. Provincial Capitals in China: The Diverging Fiscal Paths

Since the turn of the new millennium, China has ascended to both an economic and a political power in its own right. The academic literature on China has proliferated in tandem with China' s phenomenal rise, and many studies have attributed its success to the cascading decentralization of administrative and fiscal power from central to local governments, which fostered competition and facilitated the privatization of SOEs (Montinola et al., 1996; Zhang and Li, 1998; Lin and Liu, 2000). However, current research has not recognized the increasing regional variations in the fiscal centralization level, which contrast sharply with the decentralizing trend at the provincial level. To account for this phenomenon, the empirical analysis of this paper studies provincial capitals in China and their fiscal divergence.

Provincial capitals play a substantial role in China's industrialization. They are the growth centers of each province, most of which contribute 20 to 45 percent of provincial GDP.[1] With relatively abundant physical and institutional infrastructure, manufacturing, construction and service sectors are concentrated in these cities. Not only are they fully incentivized to pursue growth through fiscal decentralization, their municipal governments also have substantial discretion to adjust fiscal revenue sharing with the district governments without much intervention from provincial or national governments.[2] Why, then, do some provincial capitals maintain and some even increase their fiscal centralization levels?

Despite their importance, provincial capitals have rarely been studied systematically as a distinct level of jurisdiction. To date, most studies have focused on central–provincial and provincial–prefectural fiscal relationships (Lin and Liu, 2000; Zhan, 2009; Feng et al., 2013; Ko and Zhi, 2013; Jalil et al., 2014). This is partly because of the lack of single-sourced data for provincial capitals. This paper compiles a dataset of economic and industrial indicators from city-level statistical yearbooks and fiscal indicators from budgetary reports. It covers 20 provincial capitals that have been exposed to similar central policies.[3] The dataset covers the period of 1999–2016, as the central–local tax-sharing scheme was not formalized until 1994, and the municipal governments did not report their tax-sharing arrangements with district governments until 1999. The final dataset contains 263–332 observations, depending on the variable.

The fiscal centralization level, the main dependent variable of the study, is measured as the retention rate of the city's budgetary revenues by the municipal government. The lower the retention rate, the more decentralized the city. In each city there are a number of districts that share proportions of budgetary revenue with the municipal governments. From 1999 to 2016, there is a general decentralizing trend of the fiscal power in the provincial capitals (Figure 1). Meanwhile, the extent of fiscal decentralization varies significantly across cities (Figure 2). Some cities have decentralized faster, more thoroughly and with less fluctuation than others.

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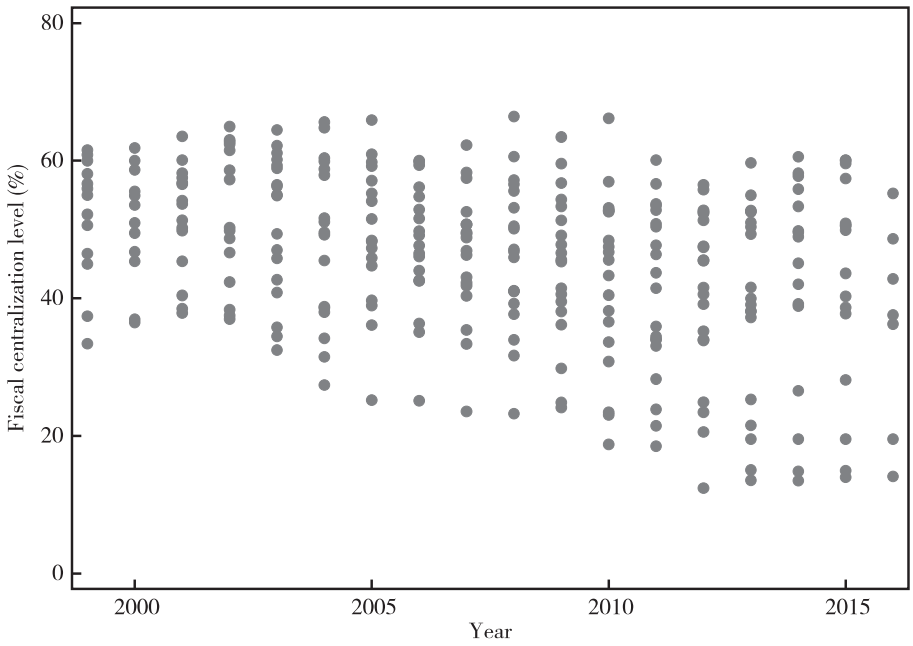
[1]Taking 2006 and 2013 as examples, provincial capitals contributed roughly 10–45 percent of provincial GDP in each year, with 15 out of 20 cities above 20 percent (data obtained from national and city level statistical yearbooks).

[2]In China, a fiscal revenue sharing arrangement usually takes place between two levels of government. To share the fiscal revenue of a provincial capital, for example, the district government (as the basic government level that generates fiscal revenue) submits a certain percentage of its revenue to the municipal government, who then shares a certain percentage with the provincial government, and so on. The district government only makes fiscal arrangements with the municipal government and not any level above it.

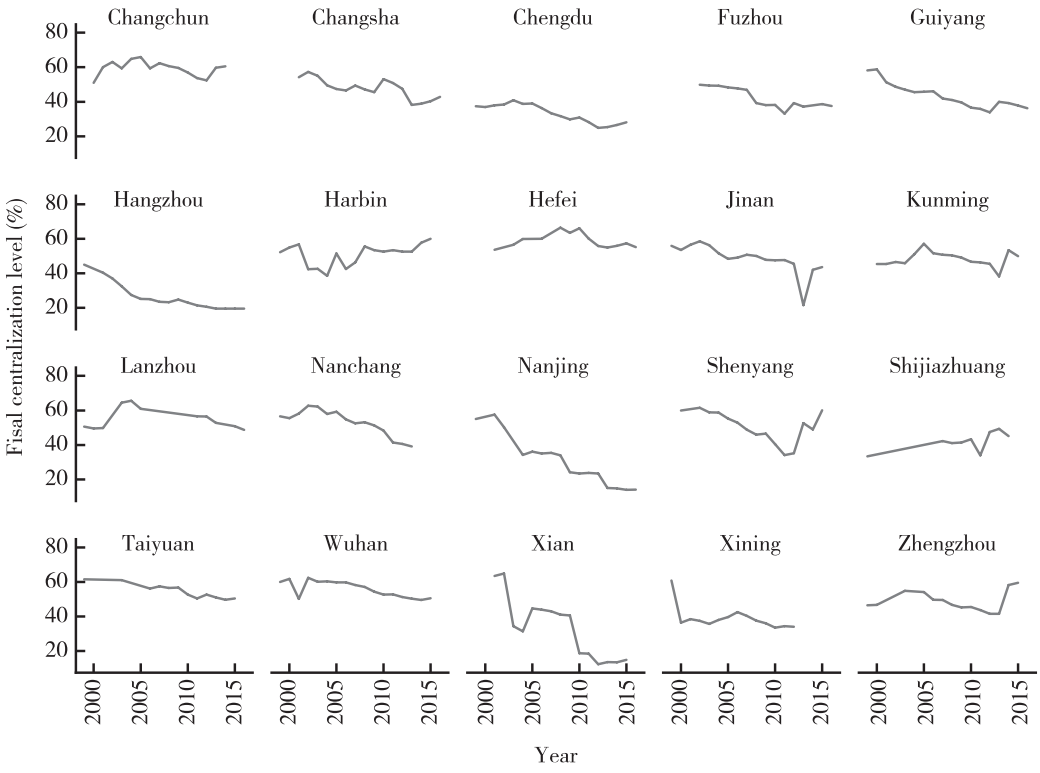
[3]That is, excluding capitals of autonomous regions, municipalities directly under the central government and Guangzhou.

Figure 1. Fiscal Centralization Levels of Provincial Capitals, 1999–2016



Source: Budgetary reports of provincial capitals, 1999–2017.

Figure 2. Fiscal Centralization Levels of Individual Provincial Capitals, 1999–2016



Source: Budgetary reports of provincial capitals, 1999–2017.

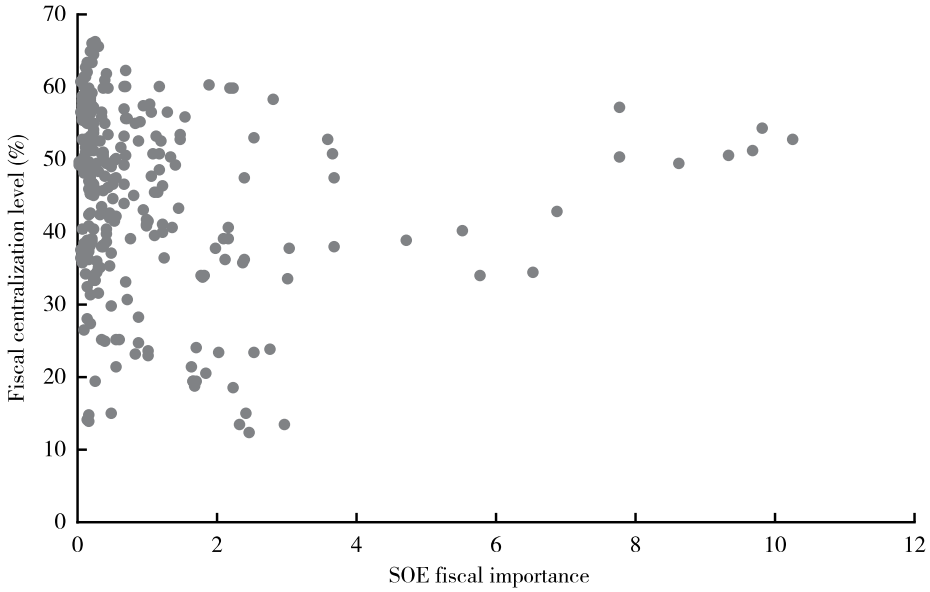
This paper takes a mixed-method approach. To identify the association between the tax base and the fiscal decentralization level, it runs a regression model with the dataset

to test for associations between the independent and dependent variables. To compensate for the limitations of the regression model and explore the dynamics behind local fiscal decentralization, it then compares two "most similar" provincial capitals in inland China that implemented divergent fiscal policies after 2000.

1. Regression Analysis

The purpose of the regression is to establish the link between the tax base and fiscal centralization levels, taking into account several control variables derived from existing studies. Assuming that large taxpayers enjoy disproportionally greater fiscal importance than small ones, I measure the relative fiscal importance of certain ownership (in this case, the state-owned sector) through a composite indicator, which equals the product of the average firm size (*SZ*), measured by industrial output, and the share of the business ownership in the economy (*SR*), which ranges between 0 and 1. The larger the composite indicator, the more fiscally important this ownership. This indicator effectively differentiates, for example, two cities that have similar sized public sectors, because the one with larger SOEs would score higher on this fiscal importance indicator. For measuring convenience, this analysis focuses on the secondary sector, as it is the largest sector and the focus of China's industrialization. Figure 3 shows the association between SOE fiscal importance and the fiscal centralization level of a city.

Figure 3. State-owned Enterprise (SOE) Fiscal Importance and the Fiscal Centralization Level of Provincial Capitals, 1999–2016



Source: Author's calculations based on the statistical yearbooks of provincial capitals (2000–2017).

Notes: Changchun is excluded as an outlier because the fiscal importance of its SOE is extremely high and thus can diminish the pattern of the remaining data.

This paper uses a fixed-effect panel model, as it controls geography, municipal leadership and other time-invariant variables. The model includes three control variables. The existing literature posits that economic development, measured by *GDP*, is believed to affect fiscal decentralization.[4] For example, economic development may raise the demand for diverse and quality local public services, which contributes to fiscal decentralization, or it may lead to fiscal centralization as a result of the increasing emphasis on income redistribution (Tanzi, 2000; Letelier, 2005). Foreign direct investment (*FDI*) inflow might also make fiscal decentralization more likely, as it may offer alternative tax revenue that might reduce the city's fiscal dependence on the public sector. One last variable controls for the time (*Y*), which aims to capture the decentralizing trend, probably as a result of national encouragement. The estimation equation is written as follows:

$$FC_{it} = \alpha + \beta SZ_{it} \times SR_{it} + \chi GDP_{it} + \gamma FDI_{it} + \delta Y_t + \varepsilon_{it}, \quad (1)$$

where FC_{it} denotes the fiscal centralization level of city i at year t, and ε_{it} is the error term.[5]

The result is reported in Table 1. Model (1) shows that the fiscal importance of the state-owned sector has a positive effect on the fiscal centralization level of a city, accounting for a 10.67 percent variation in fiscal centralization level (that varies between 12.18 and 66.42 percent). Because *FDI* and *GDP* are highly correlated, model (2) excludes *GDP* and model (3) *FDI*. The effect of fiscal importance of the SOE sector remains stable across the models, with model (2) at the 5 percent significance level, followed by model (1) and then model (3) at 10 percent.

Table 1. Regression Result

Variable	(1)	(2)	(3)
SOE fiscal importance	0.0694*	0.0709**	0.0636*
	(1.95)	(1.99)	(1.79)
GDP	–0.000793	—	–0.00115***
	(–1.49)		(–3.02)
FDI	–0.00000676	–0.0000119***	—
	(–1.34)	(–3.12)	
Y	–0.484***	–0.681***	–0.509***
	(–2.63)	(–5.69)	(–3.05)
Constant	1021.2***	1415.2***	1070.4***
	(2.77)	(5.89)	(3.20)
Number of observations	263	264	276

Notes: ***, ** and * represent significance at 1, 5 and 10 percent levels, respectively. *t*-statistics are in parenthesis. FDI, foreign direct investment; SOE, state-owned enterprise.

[4]This model uses GDP instead of GDP per capita, because some cities calculate GDP per capita using "hukou population" (household registration of the particular city), some using "residents" and others using both but with different temporal coverage. To avoid further shrinkage of observations and new uncertainties, this model uses GDP of the city.

[5]*SZ* unit: RMB10,000; *GDP* unit: RMB100m; *FDI* unit: US$10,000.

These regression results should be interpreted with caution, as the imperfect measurement of the variables and the small observation size limit the model's ability to capture the complex interactions between local actors. First, while the data used in the regression does not have a sampling bias, the number of observations is small. Second, the average SOE size is a crude measure of large SOEs. It does not effectively separate a city with several large and numerous small SOEs from a city with similarly medium-sized SOEs. Third, changes to the fiscal revenue-sharing scheme are not the only reason for fluctuations in the fiscal decentralization level. For example, governments are incentivized to inflate or deflate their fiscal revenue prior to changes in the fiscal revenue-sharing scheme, with the purpose of minimizing fiscal revenue loss and maximizing gain. Indeed, the game between different levels of government in maximizing their share of fiscal revenue is always on (Tao and Yang, 2008). Also, because fiscal revenue sharing between delegator and delegated governments differs across taxes, a small amount of variation in fiscal decentralization results from revenue fluctuation of specific taxes rather than fiscal policy changes. With these measurement issues, the regression model alone is insufficient to pin down how fiscal dependence on the SOE sector affects local fiscal policies. To better understand the factors a city considers when deciding whether or not to proceed with fiscal decentralization, I compare two cities that are similar in many aspects except for the fiscal importance of the SOE sector, and trace the process of their fiscal divergence.

2. The Comparative Case Study

While the regression confirms the association between the large SOEs and the fiscal centralization levels of a city, a qualitative comparative analysis of two "most-similar" provincial capitals was further conducted to compensate for the limitations mentioned above. The two cities were similar in macro-economic, industrial and fiscal indicators. Their largest difference lies in the fiscal importance of their similar-sized state-owned sector, which is only observable through a close look at the specific industries in each city. It traces the process of how their fiscal policies drifted apart, even though they may have implemented similar developmental policies. The policy choices contributing to their fiscal paths are not always intentional or even explicit, which make them difficult to observe via interviews or surveys. This comparative case study, instead, examines the specific governmental policies that would follow from the theory.

The most-similar design is based on the administrative level, central policy treatment, geography, initial fiscal centralization level and industrial structure. The size of governmental organizations, urban area and industrial sectors in different administrative levels vary as permitted by the central government. Most provincial

capitals are at the deputy provincial level. The central policy treatment controlled in this paper is the reform and opening up policy, as coastal cities tend to open up earlier than inland ones.

These selection criteria led to the choice of Xi'an and Wuhan as the "most similar" pair. They are two typical provincial capitals in inland China. Both are more than 1000 kilometers from the coast, but are reasonably close to each other. They are "old industrial bases" with a balanced light-heavy industry structure before 1978. Their economies were dominated by the public sector until they accessed the reform and opening up policy in the same batch in 1992. The SOE reform in the mid-1990s hit both cities hard, forcing many SOEs to privatize, bankrupt or restructure, leaving hundreds of thousands unemployed. By 2000, the share of the state-owned sector (Wuhan: 45 percent; Xi'an 39 percent) and the fiscal centralization levels of the two cities (approximately 60 percent) were also very close.[6] To summarize, the economic trajectories of Wuhan and Xi'an remained similar in a range of aspects until 2000, and they represent the bulk of provincial capitals in inland China that, compared to their peers in coastal provinces, had limited access to foreign investment and preferential central government policies until the 1990s. Typical as they are, neither Wuhan nor Xi'an is the main driver of the regression model, at least in the early years. As Table 2 shows, while the average sizes of SOEs and state-holding enterprises in Wuhan were larger than those in Xi'an, much of this difference is explained by differences in the size of their economies (GDP).

Table 2. Selected Indicators for the Secondary Industry in Wuhan and Xi'an, 2000 (RMB100m)

City	GDP	Total output	Mean firm size	Mean SOE size	Mean SHD size
Wuhan	1206.84	908	0.742	0.916	1.096
Xi'an	646.13	417.97	0.512	0.52	0.719

Sources: *Wuhan Statistical Yearbook, 2001* and *Xi'an Statistical Yearbook, 2001*.
Notes: SHD, state-holding enterprise; SOE, state-owned enterprise.

What really sets them apart, however, is the distribution of large SOEs. To determine the size and ownership details of each city without available firm-level data, I looked into aggregated data for specific industries in each city. In both cities, the five largest industries combined account for roughly 55 percent of the total industrial output. Detailed information of these pillar industries in each city is reported in Tables 3 and 4.

[6]Unless noted otherwise, data were obtained from statistical yearbooks and the budget reports of each city.

Table 3. Pillar Manufacturing Industries in Wuhan, 2000 (RMB100m)

Industry	Output (all)	Output (public)	Firm size (non-SOE)	Firm size (SOE)
Ferrous metal smelting and processing	162.8	158.1	0.246	17.57
Transport equipment manufacturing	125.9	113.7	0.33	1.90
Electronic communication equipment manufacturing	83.9	75.9	0.499	1.81
Petroleum processing	68.8	68.6	0.0865	22.9
Pharmaceutical manufacturing	53.7			
Electricity, steam and hot water production and supply		33.37		2.22

Source: *Wuhan Statistical Yearbook, 2001*.

Note: SOE, state-owned enterprises.

Table 4. Pillar Manufacturing Industries in Xi'an, 2000 (RMB100m)

Industry	Output (all)	Output (public)	Firm size (non-SOE)	Firm size (SOE)
Transport equipment manufacturing	74.4	35.9	2.02	1.16
Electronic and communication equipment manufacturing	58.6	10.18	1.86	0.926
Pharmaceutical manufacturing	41.3			
Electrical machinery manufacturing	36.05	25.4	0.193	2.12
Special equipment manufacturing	24.6			
Textile		11.5		0.765
Printing and press		9.98		0.554

Source: *Xi'an Statistical Yearbook, 2001*.

Note: SOE, state-owned enterprises.

The key message from Tables 3 and 4 is that the state-owned sector held greater fiscal importance in Wuhan than in Xi'an. The state-owned sector was highly concentrated in Wuhan, where four of the five largest industries were dominated by SOEs. In the ferrous metal smelting and processing industry, for example, the average SOE was 70 times larger than a non-SOE. In the transport equipment manufacturing industry, the SOEs were five times larger than non-SOEs. This is in sharp contrast to Xi'an. Only three out of the five largest industries in Xi'an had a significant SOE presence, and were not nearly as large as their counterparts in Wuhan. Moreover, in the two largest industries,[7] the non-SOEs were twice as large as the SOEs. Thus, even in the pillar industries with a significant SOE presence, SOEs had no fiscal advantages over non-SOEs.

The SOE reform and ensuing massive layoffs put the municipal governments of

[7]That is,transport equipment manufacturing, electronic and communication equipment manufacturing.

Wuhan and Xi'an under tremendous financial strain.[8] With shrinking tax bases and plunging employment rates, the municipal governments of both cities craved stable fiscal revenue sources to fund relief programs for the unemployed on the one hand, and to compete with other cities in an increasingly open market on the other. Severe budget constraints led them to take risk-averse development strategies and support large taxpayers to survive as long as they showed some promise. Consequently, fiscal dependence on uncompetitive ownership narrowed down the policy options of the municipal governments – which is what happened in Wuhan and Xi'an. The secondary sector in Wuhan was dominated by giant SOEs in primary heavy industries. By supporting those enterprises, the municipal government was basically supporting the state-owned sector, and it had to centralize fiscal resources for this purpose. The state-owned sector in Xi'an was not as fiscally important as other types of ownership, with small SOEs scattered in light industries and downstream heavy industries. As a result, the Xi'an municipal government's preferential policies for its key industries had less ownership implications, and fiscal decentralization was adopted smoothly to encourage industrial growth.

(1) Wuhan

In the 1980s, Wuhan's developmental strategy prioritized commerce and transportation industries. However, building the largest trading market in central China led goods from coastal provinces to flood the city, hitting local light industries hard. The light industries' share in the secondary sector plummeted from 55 percent in 1984 to 29 percent in 1993.[9] The collapse of light industries left Wuhan with heavy industries as the main source of tax revenue. By the late 1990s, these heavy industries were dominated by a few state-owned tycoons, such as Wuhan Steel, Sinopec, Wuhan Tobacco Group, and Dongfeng Motor Corporation. More than two thirds of the 50 largest industrial enterprises were SOEs. In 2000, the municipal government implemented eight preferential policies for large enterprises with prospective sale revenues of RMB2–3bn. Understandably, large SOEs benefited more from these preferential policies than small and medium sized SOEs and the private sector.

The existence of these large SOEs had several consequences. First, they were the main contributors to the city's fiscal revenue. In 2002, for example, only three out of the 23 main industrial taxpayers were non-SOEs (Hubei National Tax Bureau, 2002). These large SOEs made fiscal decentralization less likely. Their large size, once decentralized into any district, can unbalance the fiscal power among districts. District governments

[8]This reform was unveiled in 1997, with the purpose of modernizing large/medium-sized SOEs. It proposed a three-year plan (1998–2000); however, large-scale layoffs in many regions continued into 2005.

[9]*Wuhan Statistical Yearbooks, 1984, 1993*.

often do not have sufficient administrative levels and resources to support these SOEs. As a result, the municipal government kept its fiscal resources centralized to subsidize these SOEs as it saw fit, and these SOEs paid back with tax and profit, creating a cycle of financial resources between the municipal government and the largest SOEs. To alleviate the financial stress of Wuhan Steel, for example, the district government of Qingshan returned over RMB1.38bn of value-added tax (VAT) revenue in 2008 and another RMB1.2bn in 2009 (Jiang, 2009). To put this in context, the total tax relief for all companies in the Donghu high-tech district between 2008 and 2011 amounted to a merely RMB4bn (*Changjiang Times*, 2012). From 2000 to 2007, the municipal government kept approximately 60 percent of fiscal revenue and, through tax adjustments regarding large enterprises and specific citywide preferential policies, further drained the fiscal resources of the district governments (Wuhan Academy of Social Sciences, 2006).

With the local economy hinging on them, Wuhan's municipal government was incentivized to protect these large SOEs from the competing private sector and SOEs from other regions. These SOEs were perfect borrowers for the banks. With public ownership and huge fixed assets, these SOEs could obtain cheap credit much more easily than non-SOEs. As a result, the gap in size between SOEs and non-SOEs more than quadrupled between 2000 and 2007.[10] The expansion of some large SOEs was achieved through production expansion and buyouts/mergers, which were supported by municipal government policy documents. Take Wuhan Steel, the largest SOE in Wuhan, as an example. Its efficiency gaps with newer steel SOEs, such as BaoSteel and private steel companies, had threatened the survival of this largest single taxpayer in Wuhan. To avoid acquisition by BaoSteel, Wuhan Steel acquired a series of smaller steel SOEs, including Ezhou Steel in 2004, Liuzhou Steel in 2005 and Kunming Steel in 2007, in addition to a number of international buyouts after 2007. Between 2003 and 2004, the Wuhan Tobacco Group bought out two tobacco SOEs in Hubei Province and merged another two. A similar government-directed case is the Wuhan Industrial Holding Group Co. Ltd. The fiscal importance of the SOE sector was maintained and grew after 2000, and by 2006, the four largest SOEs contributed over a third of Wuhan's budgetary revenue (Wang and Huang, 2007).

The Wuhan municipal government's attitude toward large SOEs contrasted with that toward smaller ones. Since the early 1990s, increasing market competition over consumer goods made many medium-small SOEs in light industries unprofitable. One objective of the national SOE Reform was to "maintain the big ones and marketize the smaller ones." Wuhan, like other cities, implemented this policy. In 1997, the municipal government decentralized 1845 medium-small sized SOEs (with fixed assets no greater

[10]Relative size (SOE/non-SOE): 6.10 (2007)/1.45 (2000).

than RMB15m) to district-level governments. By 2003, 1732 were decentralized or had transformed ownership. Rather than "empowering" the district-level governments, this move by the municipal government was more likely a plan to get rid of unprofitable, costly and heavily indebted smaller SOEs, as most of these were at the edge of insolvency and did not survive long (if not privatized) after decentralization. In other words, the municipal government did not decentralize much fiscal revenue to district-level governments. This remained the case even after 2008, when the municipal government modified the municipal–district sharing ratio of the business income tax as 4:6 (*Twenty-first Century Economic News*, 2008).[11]

The municipal government's preferential treatment of large SOEs limited the space for businesses in the private sector. They had no advantages in finance or land, or any relationship with the government. This situation was even more acute in times of crisis. Responding to the global financial crisis, the Chinese government implemented the RMB4tn stimulus plan to boost domestic demand. However, most of these funds went to SOEs rather than the private sector that provides far more jobs (Yuan, 2009). From 2007 to 2009 alone, the gap between SOEs and non-SOEs grew wider, from 4:1 to 11:1.[12] Indeed, the share of SOEs in Wuhan's industrial economy rose rapidly in 2008 and 2009 and dropped equally fast afterwards (Figure 4a). Unequal access to financial resources in times of difficulty further hurt the private sector, and by 2014, nine of the 10 largest enterprises in Wuhan were still state-owned (Wei, 2014). As the global market remained in recession and financial subsidies drained, Wuhan Steel was acquired by BaoSteel in 2015 and up to 50,000 Wuhan Steel workers were laid off (Zhang and Yang, 2016).

(2) Xi'an

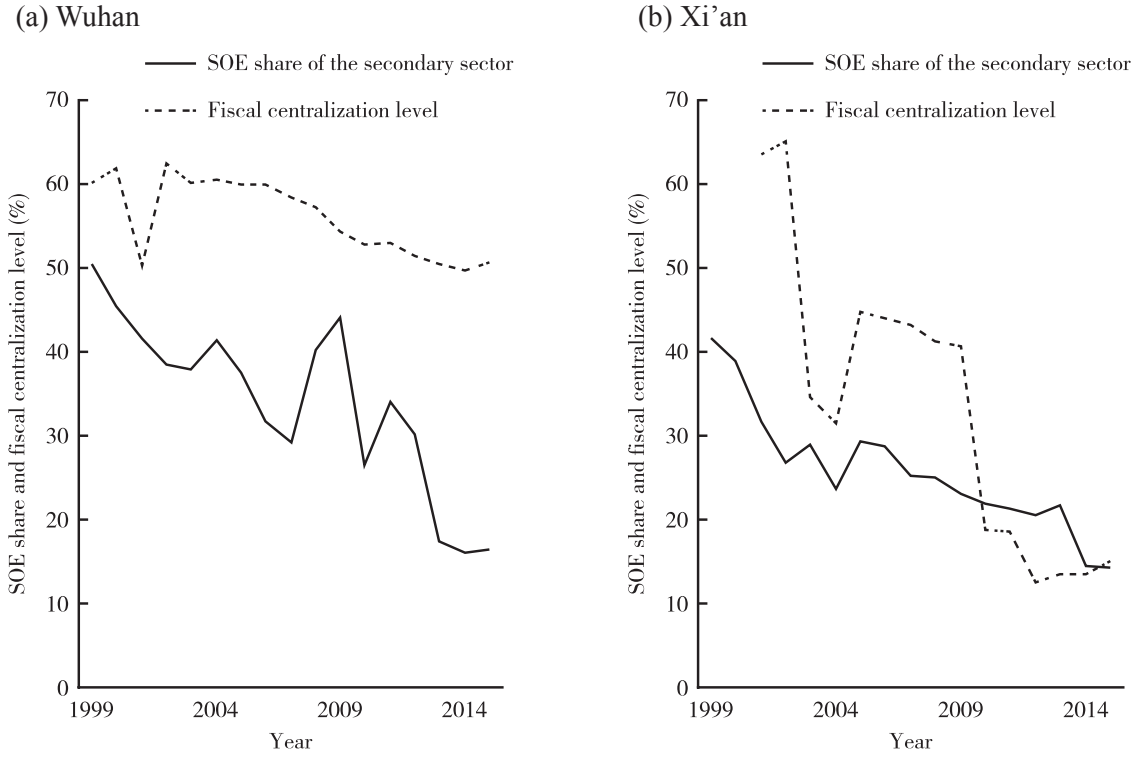
Xi'an's light industries were also in decline during the 1990s, albeit less rapidly than in Wuhan. By 2000, its light industries consisted of 38 percent of the secondary sector. The heavy industries in Xi'an were predominantly processing rather than primary industries. The steel, tobacco and petroleum processing industries that represented the lion's share in Wuhan's secondary sector had a minimal presence in Xi'an (Table 4). Because the SOEs were of no greater fiscal importance than the non-SOEs, the municipal government's developmental policies had little ownership implications. Like Wuhan, Xi'an also focused on developing the key enterprises and marketizing the smaller ones. But as there were at least as many large non-SOEs as SOEs, this policy did not discriminate against the private sector. Actually, the "Industry Revival Plan" of 2003 even proposed to list and sell 60 SOEs with assets worth RMB50bn over three years (*China Youth Daily*, 2003).

[11]This policy applies only to additional tax revenues, with 2007 as the base year.

[12]*Wuhan Statistical Yearbooks* (2007, 2009).

The seven pillar industries listed, which the municipal government planned to prioritize with preferential policies, were also not dominated by SOEs.

Figure 4. SOE Share and Fiscal Centralization Levels in Wuhan and Xi'an, 1999–2015



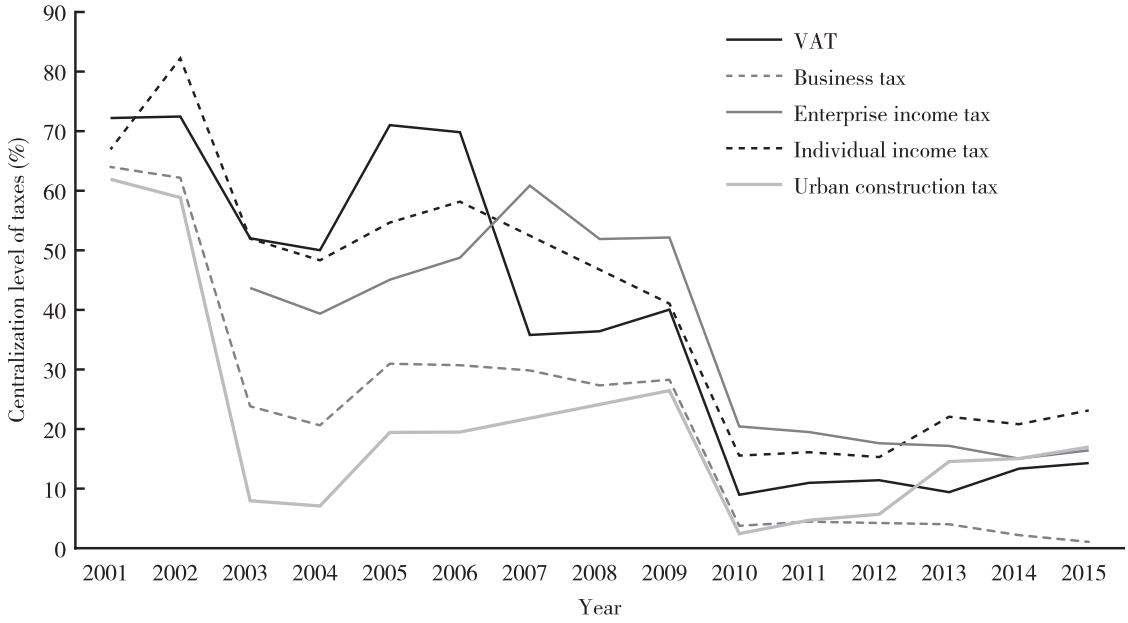
Source: Author's calculations based on *Wuhan Statistical Yearbooks* and *Xi'an Statistical Yearbooks* (2000–2016).
Note: SOE, state-owned enterprise.

The absence of large SOEs allowed for smooth and thorough fiscal decentralization in Xi'an. The municipal government decentralized its fiscal power from 63 percent in 2001 to 40.6 percent in 2007. This contrasts with Wuhan, where the municipal government quickly took back the fiscal power lost to the central government from its subordinate district governments (Figure 2).

Figure 5 shows the details of Xi'an's fiscal decentralization. Between 2001 and 2009, approximately half of the VAT and business tax revenues were decentralized to the district-level government. These are the largest taxes for the manufacturing and service industries. Decentralizing them granted the district governments greater resources and flexibility to support competitive companies to grow. In 2008, the central government unveiled the "Big Ministry Reform" with the goal of streamlining governmental organizations and decentralizing power to lower levels of government to increase efficiency. To adopt this policy and also to boost growth in the midst of the global financial crisis, the Xi'an municipal government further decentralized its revenues

to district, Economic Development Zone and High-tech Industry Development Zone administrations. Enterprise income tax was decentralized for the first time in 2010. The fiscal decentralization level in Xi'an dropped from 40.6 percent in 2009 to 18.7 percent in 2000 and by 2015 had stabilized at 14.9 percent.

Figure 5. Fiscal Decentralization of the Budgetary Revenue in Xi'an, 2001–2015



Source: *Xi'an Statistical Yearbooks* (2002–2016).
Note: VAT, value-added tax.

As the large SOEs were neither of fiscal importance nor preferred by local economic policies, their role in the local economy has been contained. From 2000 to 2007, the relative size (measured in total industrial output) of the SOEs (over non-SOEs) only moderately increased, from 1.02 in 2000 to 2.64 in 2007. Meanwhile, the share of the SOE sector steadily decreased, from 40 percent in 2000 to a stable 20 percent by 2013, and was not disrupted by the RMB4tn stimulus plan (Figure 4b).

To summarize, the diverging fiscal and growth paths adopted in Wuhan and Xi'an after 2000 show that the tax base they started would play important roles in their subsequent fiscal and economic policies. Prior to 2000, Wuhan and Xi'an were similar in a number of economic, industrial and fiscal aspects, except for the size distribution of their state-owned sectors. Wuhan's state-owned sector was dominated by large SOEs concentrated in primary heavy industries, while Xi'an's industrial SOEs were smaller and were scattered across light and heavy processing industries. Notwithstanding that both cities were exposed to similar national policies and adopted similar development strategies – developing the large SOEs, marketizing the smaller ones, and prioritizing

key industries and large enterprises – their operationalization and outcomes are different because fundamentally they favored different types of business ownership. The Wuhan municipal government kept the fiscal revenue centralized to subsidize large SOEs, who survived and grew at the expense of non-SOEs, and even more so in times of crisis. On the contrary, Xi'an's municipal government was relatively free to decentralize its fiscal revenue to district governments, leading to smoother economic liberalization and a fairer environment for different types of business ownership.

V. Conclusion

This paper examined why fiscal decentralization prevails in certain regions but not others. Scholars debate whether fiscal decentralization boosts or impedes growth, as empirical studies have produced conflicting findings. A variety of developing countries in Africa, Asia and Latin America have implemented fiscal decentralizing policies in the hope of transforming their economies; however, some have been more successful than others. This distinction results partly from a lack of understanding of the risks fiscal decentralization entails. In this paper I argue that subnational governments only decentralize fiscal revenues if they prefer economic liberalization, which they do not always prefer because their risk aversion to fiscal shocks may trump their risk-seeking of productivity gains. If fiscal decentralization jeopardizes fiscal security in the short term, it is less likely to be adopted. Thus government is less likely to devolve fiscal resources if large taxpayers come from sectors that would lose in economic liberalization. This explains why some local governments are less incentivized than others to transfer fiscal resources to lower-level governments.

An examination of 20 provincial capitals in China supports this argument and reveals the complicated interactions between fiscal and developmental policies. China, a major case for validating fiscal federalism theories, also offers a compelling opportunity to study the interregional variations of intergovernmental fiscal arrangements. Quantitative analysis identified a link between the fiscal importance of a state-owned sector and the fiscal centralization level of a city. This relationship is further explored in the fiscal divergence of two otherwise very similar provincial capitals: Wuhan and Xi'an. In Wuhan, the unrivaled fiscal importance of several large SOEs significantly raised the fiscal risks of fiscal decentralization. In Xi'an, the balanced fiscal importance of different types of business ownership kept the fiscal risks of economic liberalization relatively low, leading to fiscal decentralization in sequence. The analysis suggests that the probability of fiscal decentralization is largely predetermined by the tax base, and the municipal government has limited liberty in designating the growth path than

commonly perceived. The divergent fiscal paths and the accompanying industrial ownership structure have long-term influence on the competitiveness and resilience of the local economies in Wuhan and Xi'an, as manifested by the cities' responses to the global financial crisis and the RMB4tn stimulus.

The experiences of Wuhan and Xi'an can be used to examine the fiscal paths taken by other provincial capitals in this study, ranging from Changchun, whose economy rests on a single SOE, to Chengdu, which had few large SOEs and low fiscal centralization, even before 2000. Applying the findings of this paper to those provincial capitals, hence, explains why fiscal decentralization occurs in certain cities rather than others, and helps us to understand the distribution of industries and business ownership across cities.

The main implication of this paper is that not all regions and countries are fit for fiscal federalism because the anticipated economic liberalization involves significant fiscal risk to certain economies. An emerging economy in its early stage of industrialization, limited in private capital, tends to invest heavily in capital-intensive industries with public capital, resulting in large SOEs in these heavy industries. This generates resistance against economic liberalization, particularly at subnational levels where regional governments face significant tradeoffs between growth strategies. For a locality with a strong presence of sectors that would lose in a market economy, fiscal decentralization is unlikely to occur and even less likely to stimulate growth. This is why fiscal decentralization only takes place in certain areas and periods, and with mixed results.

This paper also offers a new perspective to examine economic development. Fiscal policies are tools of developmental strategies. As the comparative analysis shows, Wuhan and Xi'an shared the developmental policy of "maintain the big ones and marketize the smaller ones," but their divergent fiscal revenue structures grant completely different meanings to this policy. In this case, fiscal arrangement sheds light on the actual developmental policies being implemented. Different from other macro-economic indicators, such as GDP and investment, fiscal centralization levels reveal a nuanced aspect of development: the business ownership structure behind economic growth. Growth models driven by different types of ownership may be similar in terms of some macro-economic indicators, but their systematic resilience against external shocks, long term economic sustainability and welfare implications within the locality are bound to deviate.

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