Do Political Connection in China Influence Urban Land Supply?

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Abstract

This paper examines how the secretary of the prefecture-level municipal party committee affects land supply in Chinese cities. We found that the traditional urban economics framework also applies to China. Specifically, population and gross domestic product (GDP) are highly correlated with land supply. On this basis, we found that the secretary of the municipal party committee, who has worked at the provincial government level, significantly affects the land supply at the municipal level.

1 Introduction

Within Chinas communist political and legal system, all urban land belongs to the state. However, the market reform initiated in the 1970s led to increased economic development and a transition to a market economy. As a result, China's land policy gradually became market-oriented. The current land market system in China is based on lease rights: the state is still the ultimate landowner, but individuals and companies can purchase land use rights for a certain period of time. Residential use rights are generally 70 years, commercial use rights are generally 40 years, and use rights for industries are shorter, generally up to 20 years. Before 2004, there was no clear policy regarding the sale of the various types of land-use rights, and chaos frequently ensued. The reform of 2004, however, required that all land transactions be made public on the Internet. Such reform enabled researchers to collect data on land transactions from 2004 onwards, thereby making studies such as this one feasible.

Chinese cities have undergone rapid development in recent decades. The urbanization rate in 1979 was only about 20%, but now it exceeds 55%. As the urban population grows, so does the demand for land in cities. In a free market economy, economic power (as represented in the Alonzo-Muth-Mills model) can explain most of the expansion of urban land supply. According to this model, local governments can influence land supply through zoning, land-use regulations, and building permits. However, local ability to influence land supply in China is almost insignificant compared with the power of the Chinese central government.

To assess land supply, we collected data on land transactions in all prefecture-level cities in China. We also collected data on urban population and GDP from 2005 to 2013. The prefecture-level cities were selected as the research unit because municipal leaders have full control over the land supply. Conversely, provincial-level leaders and county-level leaders were either too high or too low in the political power hierarchy, and they did not control land supply directly.

Before studying the political factors that influence land supply, we first verified whether the variables in the traditional urban economics framework were related to China's urban land supply. In the Alonzo-Muth-Mills urban model, population and income growth are key factors influencing land demand. It is assumed

that local governments will supply land to meet this growth. Our results confirm that population and income have a significant positive impact on land supply.

Next, we examined the political factors mentioned earlier, which have additional influence on land supply. We explain why land supply can promote investment, which in turn fosters GDP growth. GDP growth is the key assessment indicator used in promoting local government officials in China, especially in relatively economically developed regions. Officially, the leader of a municipal government in China is the mayor. In practice, however, it is the secretary of the municipal party committee who has the real decision-making power. Therefore, in this study we focus on the secretary of the Municipal Party Committee in Chinese cities.

Although the soaring prices of land and housing in Chinas urban areas have attracted global interest, scholars have not studied this phenomenon from the perspective of land supply until recently. While some studies mention the central government's land use quota system (Liang, Lu, and Zhang, 2016), most literature focuses on the local government's land supply behavior. Based on the empirical analysis of 35 large and medium cities, Deng, Gyourko, and Wu (2012) pointed out that, although land supply at the national level followed a common trend, land supply at the local government level was significantly affected by local financial conditions. Local government officials' desire for promotion also plays an important role. Du and Peiser (2014) found that local governments deliberately manipulated land supply to maximize fiscal revenues from the land market. Li and Tang (2016) used a spatial equilibrium model to demonstrate how local governments make trade-offs between obtaining more income from land sales and controlling the living cost of local residents. In their empirical research, Wu, Feng, and Li (2015) found that local governments fiscal deficits affected their land supply behavior, and that land prices were mainly driven by demand-side factors. Their findings support the notion that population and income should be included as control variables when studying political factors.

Our study aims to contribute to this body of literature by studying land supply from a political perspective. There are five levels of government in China, and the municipal government represents the middle level. Municipalities therefore play a pivotal role in connecting the higher and lower levels of government. Specifically, municipalities are charged with the interpretation and implementation of government policies at the central and provincial levels. Furthermore, municipalities are charged with designing and overseeing the implementation of local macro policies for the grassroots county and township levels of government. In the field of economics, there is little research on the influence of the secretary of the Chinese Municipal Party Committee. Yet, in China, this secretary has the largest influence and control over the local government's economic development and on land allocation. Our paper fills this research gap by examining the role of the secretary of the Chinese Municipal Party Committee in land supply. In addition, our study covers three main types of land supply rather than just examining land supply for residential purposes. This paper is organized as follows. In Section 2, we provide a detailed explanation of the data used in this study, and we validate the conclusions of the traditional urban economics framework. In Section 3, we explore the influence of political factors on known key factors. Section 4 provides the conclusion.

2 Description of data and the traditional urban economics framework

2.1 Description of data

We collected data on land transactions that took place between 2005 and 2014 in prefecture-level cities. We obtained this information from the official website of the Ministry of Land and Resources. From a geo-

graphic perspective, there is not much difference between state-level municipalities like Beijing or Shanghai and prefecture-level cities at the provincial level like Guangzhou or Shenzhen in the Guangdong Province. Yet, they are completely different in terms of personnel appointments. In this paper, the municipalities at the state level are not considered. We focus on prefecture-level cities and the corresponding statistics were obtained from the China City Statistical Yearbook. Data on political factors are outlined in the sections below. For political factors, we do not use the registered population data in the City Statistical Yearbook.Instead, we use the resident population found in census data . We specifically looked at the fifth and sixth National Population Census of the People's Republic of China, comprising the years 2000 and 2010. We used interpolation to obtain the resident population data of prefecture-level cities in each year. In addition, the data in the City Statistical Yearbook is indicative of "urban areas" rather than "areas," the former of which better corresponds to the concept of "city." [1]

2.2 The urban economics framework

According to the urban economics framework, a growth in land demand is related to population growth and income growth (as well as to commercial and industrial activities, etc.). Column 1 in Table 1 shows the regression results of land supply (the area supplied for state-owned construction land), and its relationship to population and income growth.

Here, *pop incre* and *y incre* represent the annual growth of the population and GDP per capita, respectively. In all regressions, we controlled the year-fixed effects and cluster standard errors at the provincial level. Because the industrial structure may also affect land supply, we added in the regression the ratio of the output value of the tertiary industry to the secondary industry as a proxy variable of the industrial structure .

Table 1: Predictions of the traditional urban economics framework

	1	2
Variables	Land Supply	Land Supply
pop incre	0.03**	0.03**
	0.01	0.01
y incre	0.00006***	0.00005***
	0.000016	0.000017
service/manu		-0.12*
		0.06
Constant	6.27***	6.38***
	0.18	0.23
Observations	844	844
R-squared	0.16	0.17
Year FE	Yes	Yes

The numbers in parentheses are the standard errors of the cluster at the same provincial level
*** p<0.01, ** p<0.05, * p<0.1

As a proxy variable of the industrial structure to the regression, the (2) column in the table 1 is the regression results of adding this additional variable *service / manu*. As expected, the effects of population growth and per capita GDP growth are very significant, and the ratio of the service industry to the manufacturing industry also has an impact on land supply. Here we do not control the fixed effects of prefecture-level cities.This is because according to the theory, population growth is the main determinant of land supply and must always be placed in the regression, but the population variables in the regression are obtained by interpolation, so the population growth is a fixed value and does not change with time. The coefficient of land supply on population growth is about 0.03, indicating that each increase of 10,000 people brings a demand for 300 hectares of land. The coefficient of land supply on per capita GDP growth is around 0.00006, which indicates that each increase of 10,000 yuan in per capita income brings a

[1] The GDP used in the data is a nominal value. In the regression, we have controlled the fixed effect of the year. This is because monetary policy is unified throughout the economy. If we deflate the GDP, then we cannot control the year-fixed effect.

demand for 0.6 hectares of land. For the service sector divided by the manufacturing sector, we also observe a more significant negative impact on land supply.

As mentioned in the introduction, urban land supply in China is fully controlled by the local government. Therefore, in addition to standard urban economic factors, political factors are also likely to play a role. The section below shows how political factors affect land supply.

3 The political influence of the secretary of the Municipal Party Committee

Starting in the 1980s, the scholars Zang Xiaowei and Li Cheng considered provincial and municipal cadres as research objects and outlined the political-technical dichotomy hypothesis of Chinese cadre groups. They demonstrated that changes had taken place because some party and government leadership positions were held by professional and technical specialists instead of by revolutionaries and political figures. By the end of the 1990s, cadres undertaking economic work had a higher chance of being appointed or promoted to more important positions than cadres working in politics. Since the beginning of the 21st century, economic development in China led to various social conflicts. If the technically-oriented government bureaucracy only emphasizes the value of technology without paying attention to communication with the masses, social conflicts may arise. Yizhi (2008) analyzed the resumés of the secretaries of the Provincial Party Committee from 1979 to 2007. The author argued that in the 1990s, secretaries career specializations changed from being revolutionary to focusing on economics. He also argued that secretary resumés havd shifted from an economic emphasis to a social development emphasis. Weiping and Yongda (2011) analyzed the characteristics of the Municipal Party Committees secretaries from 1998 to 2007. They concluded that most secretaries initially worked in the municipality or in provincial functional departments and they were promoted or reassigned to working in the Municipal Party Committee specifically. Although many Municipal Party Committee secretaries have previous work experience in central government departments, state enterprises, and universities, most were employed at the municipal or provincial level before they became secretaries. In their jobs at the municipal and provincial levels, they acquired a keen understanding of the workings of local city government, and were often assigned important leadership positions in the city. The typical career path of the Municipal Party Committee secretary can be divided into three categories. The first category is the grassroots growth path. That is, the worker starts at the township, county, or other grassroots work unit, and is then promoted to a position in a municipal department. This is the standard career path leading to the position of Municipal Party Committee secretary. The second path is that of high-level subordinates. These employees do not have basic work experience at the county level or below, but have worked in provincial functional departments and central government departments for a certain period of time. They are then assigned to a position at the municipal level and then are promoted to be the party secretary of the city. The third type is the mixed path. That is, employees have both county-level and provincial or central government work experience before serving as the Municipal Party Committees secretary. In contrast, Cheng (1986) only analyzed the work experience of mayors, which was measured only based on three levels, namely township, county, and city. This study did not consider work experience at the provincial level, which shows that it was only after the 1990s that the high-level employee route and the mixed route became the mainstream career paths for municipal-level party leaders. Weiping and Yongda (2011) also pointed out that as a grassroots government with relatively complete government functions, the county level has always been an important training-ground for Municipal Party Committee secretaries. They also suggested that previous work experience in county-level departments allowed secretaries to familiarize themselves with the grassroots political decisions-making. The work at the provincial level is relatively

macro, and mostly involves decision-making. It is necessary to consider and balance the situation of every city in the province. This kind of work experience enables leaders to gain a macro strategic thinking abilities. At the same time, being familiar with the operating characteristics of provincial-level government departments also helps the Municipal Party Committee secretary better acquire and allocate resources and to work more effectively. Nevertheless, there is a decreasing number of Municipal Party Committee secretaries who are promoted from grassroots positions. Kostka and Yu (2015) examined the professional experience of Municipal Party Committee secretaries in the last ten years. They found that many secretaries spent their careers at the provincial and municipal levels, and fewer rose from the county level. According to this study, the obstacles to the promotion of grassroots employees include age, education, limited work experience at the municipal level, lack of relationships with provincial leaders, and the personal preferences of provincial leaders. China's market reform led to a transition from "centralization" to "decentralization." The goal was to facilitate a transition from a planned economy to a market economy, but the Communist Party still maintained control through different levels of government. The key lies in the organization of personnel appointments. In this paper, we examine whether provincial-level working experience in his or her province of residence is important for the secretary of the Municipal Party Committee.

In table 2, we added a dummy variable to the regression - whether the secretary of the Municipal Party Committee has provincial government work experience - as a new explanatory variable. As we can see, the influence of political factors in Columns 1 and 2 is significant. If the Municipal Party Committee secretary has worked at the provincial level in the province where his or her city is located, then this city supplies an additional 0.3 hectares of land. This indicates that political factors do have an impact on land supply.

Table 2: Political factors and land supply

	1	2
Variables	Land Supply	Land Supply
politics	0.33***	0.32***
	0.09	0.08
pop incre		0.03***
		0.01
y incre		0.00005***
		0.00001
service/manu		-0.18**
		0.12
Constant	6.39***	6.29***
	0.16	0.22
Observations	844	844
R-squared	0.08	0.19
Year FE	Yes	Yes

The parentheses show the standard errors of the cluster at the same provincial level
*** p<0.01, ** p<0.05, * p<0.1

4 Conclusion

In this paper, we first tested whether the predictions of the traditional urban economics framework were applicable to China. Specifically, we inquired whether an increase in population and income per capita increases the demand for land. We demonstrated that the frameworks predictions were valid. Next, we added new political factors as explanatory variables in our regression model. We found that Municipal Party Committee secretaries with work experience at the provincial government level had a significant positive impact on land supply. This study contributes to the literature by demonstrating the link between the secretary of the Municipal Party Committee and land supply. Municipal Party Committee secretaries have played a very important role in China's economic development. However, previous studies have either focused on personnel appointments and career paths in the political field, on "political tournaments" in the economic field, on the cycle of party congresses, or on fiscal expenditures, among many

other factors. It is in the area of land supply where the leaders of prefecture-level cities have the greatest control over the urban economy. There have been many studies on how the land market drives China's industrialization, urbanization, and wealth accumulation. For example, Xiaoyu and Liutang (2014) found that local governments in China were selling residential land at high prices but industrial land at low prices to attract investment, engage in infrastructure construction, and accelerate urban expansion. The main contribution of this paper is in demonstrating that political factors play a very important role in China's urban land supply.

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