



Impacts of land finance on urban sprawl in China: The case of Chongqing

Yong Liu^{a,*}, Peilei Fan^b, Wenze Yue^{c,*}, Yan Song^d



^a School of Construction Management and Real Estate, Chongqing University, Shapingba, Chongqing 400045, PR China

^b School of Planning, Design, and Construction & Center for Global Change and Earth Observation, Michigan State University, Human Ecology Building, East Lansing, MI 48824, USA

^c Department of Land Management, Zhejiang University, Hangzhou 310029, PR China

^d Department of City and Regional Planning, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA

ARTICLE INFO

Keywords:

Urban sprawl
Land finance
Land market
Local governments

ABSTRACT

Uneven land reform and entangled land-use regulations are extensively regarded as the key to urban sprawl in large cities in China. Although the significance of land issues has been substantially recognized, conflicts regarding land finance seem to be a generally under-evaluated factor in explaining the phenomenon of urban sprawl. This study conducted an extensive literature research and proposed a conceptual framework to demonstrate the effects of land financial incentives on urban sprawl in China. Urban sprawl in China manifests in multiple forms, such as leapfrogged industrial parks, low-density residential communities that are discontinuous from existing urban centers, and chaotic peri-urban informal development. These forms of urban sprawl may be closely associated with failures in government and market forces under the land financial incentives. We used this framework to analyze the experiences of Chongqing and found that local governments have heavily relied on land finance through the proactive approach of land leasing. Stimulated by the incentives, Chongqing has accelerated its urban development beyond the existing restrictions of natural barriers and sprawled toward the peri-urban areas. The causes of urban sprawl were highlighted from the inherent impulses and conflicts of land finance, such as the oversupply of underpriced industrial land at the current loss of land finance, overreliance on the continuously increasing land finance from residential land, and fierce competition on slicing the pie of land finance through formal and informal means. The proposed framework and the challenges of anti-sprawl policies were also discussed.

1. Introduction

Urban sprawl, a prevalent phenomenon in cities of Western countries, have long attracted considerable attention from scholars and policymakers (Ewing et al., 2016; Gillham, 2002). Empirical studies also illustrated that urban sprawl has emerged in Chinese cities, such as Beijing, Shanghai, Guangzhou, Hangzhou, and Wuhan (e.g., Jiang et al., 2007; Yu and Ng, 2007; Yue et al., 2013; Yue et al., 2016). Similar to the West, the negative consequences of urban sprawl are acknowledged in China, such as rapid loss of farmland, excessive rural–urban land conversion, inefficient land use, increased traffic jam, and degraded ecological system function (Yew, 2012; Zhao, 2010). However, in contrast to the extensive literature on Western cities, the study of urban sprawl in Chinese cities has not received sufficient attention.

Despite the debate on the definition and measurement, urban sprawl is generally defined as low density, leapfrog (i.e., scattered, or noncontiguous), and single-use urban development that reduces open space in cities in the US and Europe (Ewing et al., 2002; Galster et al.,

2001). Urban sprawl in China has been used to describe the phenomenon of urban expansion even with a lack of clear definition in early studies (Fung, 1981; Zhang, 2000). Some scholars simply referred to urban sprawl as disproportional or inefficient urban expansion into undeveloped land (e.g., Davis et al., 1995; Fung, 1981; Lin, 2001; Wu and Yeh, 1999). An increasing number of studies tends to characterize urban sprawl as an inefficient or excessive urban expansion (e.g., low-density and single-use), as well as leapfrogged or scattered development at the fringes of an urban built-up area (Yue et al., 2013; Zhang, 2000). Chinese cities have demonstrated different characteristics of urban sprawl from the US cities, such as the coexistence of high-density housing projects and low-density development zones with plenty of open space, and peri-urban (or semi-urbanized) informal development with limited open space and basic services (Deng and Huang, 2004; Tian, 2015; Wei and Zhao, 2009; Yue et al., 2013).

While urban sprawl in the western countries, such as the US, appears to be caused mainly by market failures, such as undervaluation of external costs of traffic congestions and undervaluation of open spaces,

* Corresponding authors.

E-mail addresses: ly6505@163.com (Y. Liu), fanpeilei@msu.edu (P. Fan), wzyue@zju.edu.cn (W. Yue), ys@email.unc.edu (Y. Song).

along with extensive use of private vehicles (Brueckner, 2011; Galster et al., 2001), scholars have not yet reached a consensus for main causes of urban sprawl in China. A few researchers argued that government actions, such as massive relocation, frequent administrative annexation, and compulsory land expropriation, should be blamed for the sprawl (Davis et al., 1995; Fang and Pal, 2016; Yew, 2012). Some scholars emphasized that institutional forces that distort the market system, such as undervalued price of land purchased from farmers, ambiguous property rights, and illegal transfers of land use rights, were responsible for the sprawl (Zhu, 2005). Other studies have generally attributed China's urban sprawl to the market-oriented land reform and redistribution of land development power (Zhang, 2000). For instance, uneven land reform and entangled land use regulations that arbitrarily segregate “urban” and “rural” land were regarded as the key to understanding sprawl in China due to the tax-sharing system reform and decentralization process since the mid-1990s (Deng and Huang, 2004; Wei and Zhao, 2009; Zhang, 2000).

There are few attempts to link the causes of urban sprawl and the land financial incentives despite the extensive literature in the fields of land finance and urban sprawl in China respectively (Cartier, 2001; Deng and Huang, 2004; Zhang, 2000). Land finance (*tudi caizheng* in Chinese), as one tool of capturing the increase in urban land value, is generally regarded as a fiscal phenomenon that local governments heavily depend upon from the off-budgetary Land Conveyance Fees (LCFs) and budgetary land-related taxes in their fiscal systems (Lin et al., 2015). Among diverse factors, the failure of the land market and problematic institutions embedded in land finance might be the root causes of urban sprawl in China. The land financial incentives necessitate the overextension of cities and extensive conversion of rural land, which would trigger a land-centered process of sprawl (Yew, 2011). Although previous literature provides a general understanding of the causes of urban sprawl from land issues in China, it is not clear how land financial incentives of local governments may have affected the detailed process and forms of urban sprawl at local levels following the establishment of the land market. Thus, we would like to propose a conceptual framework to investigate the distinctive features of urban sprawl and land financial incentives in China. We will testify the framework by studying a specific case of Chongqing, the largest city in the Western China that has experienced accelerated urban sprawl since it pursued abundant land financial incomes.

The rest of this paper is organized as follows. Section 2 reviews the research on land finance and urban sprawl in China and provides a conceptual framework to analyze the role of land finance on multiple forms of urban sprawl in China. Section 3 introduces the study area, methods and the data sources. Section 4 presents the findings on land financial strategies and urban sprawl outcomes in Chongqing, and explains urban sprawl from the incentives of land finance in Chongqing. Section 5 reflects our conceptual framework and discusses the main issues of anti-sprawl policies for Chongqing. The final section summarizes the main findings.

2. Analytical framework

2.1. Literature review

(1) Land finance in China

Land finance has become prominent in China since the 1994 tax-sharing system reform. The reform is designed to increase the central government's share of taxes and simultaneously decrease the local governments' revenue capacity and increase their expenditure responsibilities, thereby leading to severe fiscal deficits at local scales. Local governments are enticed to use land finance as an important revenue-making mechanism as they retain the entire incomes from land leasing as an off-budgetary revenue base (Xu et al., 2009). Since land is the most valuable asset under the control of local governments, generating revenue from leasing land use rights and charging LCFs has become the

most popular practices (Zhang, 2000). Among the various methods of value capture, the transfer of land use rights can easily and immediately produce revenue than property-based taxes and user fees (Peterson, 2008). Chinese local governments have heavily relied on land finance to compensate for fiscal expenditure and expand off-budgetary incomes. They further use the abundant incomes and “inexhaustible credit” from the land to raise revenue and attract investment (Liu et al., 2016). Thus, China's land finance is deeply rooted in the local governments' monopoly of land development rights and the associated revenues owing to public land ownership. Local governments propelled urban development by land finance, thereby changing their behavior from being “assisting-oriented” in the central planning era to “grabbing-oriented” in the market-oriented era (Wu et al., 2015).

The heavy dependence on land finance among local governments in China has raised considerable public concern and research attention. Critics of land finance argued that overreliance on this method led to the volatility of land revenue, encroachment on farmland, inter-generational and inter-regional inequities, possible housing bubbles, corruption, inadequate compensation, and social unrest (Ye and Wang, 2013). While others alleged that land finance provided an alternative method for immediate revenue generation, accumulation of sufficient investments for infrastructural facilities, and acceleration of capital formation with a high re-investment rate (Zhao, 2014).

Several studies attempt to explain the formation of land finance from the political and fiscal perspectives, such as central–local governments relationship, intergovernmental tax arrangements, state entrepreneur, cadre evaluation and promotion system, regional competition, and land value capture (Cao et al., 2008; Pan et al., 2015; Wang and Ye, 2015; Wu et al., 2015; Ye and Wang, 2013; Zhao, 2014). Wu et al. (2015) concluded that fiscal decentralization and competition among city governments to promote economic growth are two major causes of land finance. Wang and Ye (2015) analyzed the impacts of fiscal incentive in land on the behaviors of local governments, including land grabbing, building infrastructure, and attracting investment. Existing studies extensively employed econometric models to disclose the effects of land finance on the rural–urban land conversion based on provincial- or prefectural-level cities panel data sets (Cao et al., 2008; Pan et al., 2015; Wu et al., 2015; Ye and Wu, 2014). The findings confirm that the amount of LCFs had significantly positive relationship with the pace of urban land conversion and rate of economic growth.

Although researchers have realized the risks and made abundant research of land finance from a variety of perspectives, the systematic study on its implication on urban sprawl is still missing in the literature. This paper endeavors to fill this gap by examining the impacts of land finance on urban sprawl in China. In order to demonstrate the complex mechanism, we explore the different incentives of land finance under different forms of urban sprawl, based on the institutional foundation in China.

(2) Urban sprawl in China

Urban sprawl in China is one of the most noticeable effects of urbanization (Lin, 2007). Davis et al. (1995) observed the spillover of previous urban activities into peripheral areas to create new districts of undifferentiated urban sprawl. Deng and Huang (2004) regarded that development zones and semi-urbanized villages are the major types of urban sprawl in terms of inefficient patterns of urban expansion. Wei and Zhao (2009) further distinguished “urban spillover” and “local urban sprawl” as follows: the former refers to prefecture-level development zones and gated communities that are well-equipped with infrastructure; the latter refers to local development zones and semi-urbanized villages that lack infrastructure.

Early studies in China employed a single metric to measure urban sprawl, such as the growth ratio of urban land consumption relative to population change, similar to the studies in the US (e.g., Fulton et al., 2001; Lopez and Hynes, 2003). However, an increasing number of studies has adopted multidimensional components to assess sprawl in China (Gao et al., 2016; Jiang et al., 2007; Tong et al., 2017; Yue et al.,

Download English Version:

<https://daneshyari.com/en/article/6546675>

Download Persian Version:

<https://daneshyari.com/article/6546675>

[Daneshyari.com](https://daneshyari.com)