



Economic performance of industrial development on collective land in the urbanization process in China: Empirical evidence from Shenzhen



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The study investigates the economic performance of industrial development in the Chinese urbanization process under two different property rights arrangements. Industrial development contributes significantly to China's economic growth in the urbanization process. As one of the most fundamental institutional arrangements, the urban–rural dual land system is important in urbanization and industrial development in China. Two types of land system including state and collective ownership coexist in the current land administration system. According to the law, the state owns the urban land, whereas the village collective owns the rural land. State requisition is the only channel to convert rural land to urban land. Village collectives are not allowed to transfer their land for urban use. Therefore, the property rights on collective land are incomplete in the urbanization process. Do incomplete property rights cause unsatisfactory economic performance of industrial development on collective land? Based on community-level data from two districts with an area of 1557 km² in Shenzhen in 2006, a regression analysis shows that incomplete property rights have caused significant land use inefficiency in industrial development in terms of lower land rental value and lower industrial value added per unit of land. The findings suggest that monthly rental prices of industrial plants on collective land were approximately 57% less than those on state land in 2006. The industrial value produced on collective land was RMB 6.624 billion less than on state land per km².

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Introduction

In the past decades, China has experienced rapid and extensive urbanization. Considerable areas of agricultural land have been converted to urban land for development (Deng et al., 2010; Lin, 2007; Ma & Xu, 2010; Tan et al., 2005; Xiao et al., 2006; Yeh & Li, 1999). In 1981, the size of urban built-up area in China was 7438 km². In 2010, the area expanded to 40,058 km² (China Statistical Yearbook, 2011). Industrial use is one of the most dominant land-use categories in most Chinese cities. Shenzhen, originally an agricultural county with an urban built-up area of 3 km² in 1980, was transformed into a metropolis with an urban built-up area of 703 km² in 2006, with 36.2% of the urban land used for industrial development (Urban Planning, Land and Resources Commission of Shenzhen Municipality, 2007).

Land is a major and important asset in mainland China. Therefore, the efficient use of urban land is of paramount importance to China due to the limited land resource and the need to promote sustainable development. In practice, the issue of land-use efficiency in industrial development has elicited considerable attention. Almost all levels of government in China have made relevant policies and regulations to improve industrial land use efficiency. However, academic studies on efficient use of industrial land in China are much less satisfying. Although urban development and growth in China have gained significant interest in the past decades (Deng et al., 2010; Lin & Ho, 2005; Wei, 2012; Wu, 2001; Yeh & Wu, 2009; Zhang, 2000; Zhu, 2004), scant attention has been given to the economic performance of urban development in English literature.

Research on economic performance of industrial development stems mainly from Chinese literature. Numerous detailed studies have been conducted to develop the indicators of the efficiency of industrial land use (Ding & Tian, 2007; Hong, 2006; Sun, 2006), such as investment intensity, output intensity, and land development intensity. Some studies have applied these indicators to

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measure the extent of industrial land use efficiency in specific cities (Xiong & Luo, 2000; Zhen, 2004). Although this type of research provides us with important and useful measurements for industrial development performance on which to conduct empirical studies, previous studies failed to reveal the relationship of these interconnected indicators and the relationship between other deep-seated factors and the economic performance.

Different from other developed and developing countries, the industrial development of China in the urbanization process is based on a unique institution, which is called the urban–rural dual land system (Ding, 2007; Lin & Ho, 2005; Shen et al., 2006). Two types of land ownerships, namely, state and collective land coexist in the current land administration system. According to the law, the state owns urban land, whereas village collectives own rural land. State requisition is the only channel to convert rural land to urban land. Village collectives are not allowed to transfer their land for urban use. Therefore, the property rights over collective land are incomplete in the urbanization process. Property rights theory suggests that property rights arrangements have significant effects on economic performance (Coase, 1960). In the context of urbanization in China, do incomplete property rights cause unsatisfactory economic performance of industrial development on collective land?

To address this question, we first developed a conceptual framework based on existing literature to understand the role of land property rights in industrial development in the context of urbanization in China. Using Shenzhen as case study, a comparative analysis of the special economic zone (SEZ) area (with most of the land owned by the state) and non-SEZ area (with most of the land owned by village collectives) in Shenzhen City was conducted to examine the difference between the industrial development performance of state land ownership and collective land ownership. To measure the economic loss of industrial development on collective land due to the incomplete property rights, a regression analysis was performed based on a set of community-level data comprising all the 24 sub-districts with an area of 1557 km² in non-SEZ area of Shenzhen.

The remainder of the paper is organized as follows: based on existing literature, Section 2 develops a conceptual framework to understand the role of land property rights in the industrial development of China under the current urban–rural dual land system, followed by two testable research questions concerning the effects of incomplete property rights on economic performance of industrial development on collective land. Section 3 introduces the research methodology and data to address the research questions. Empirical findings are presented in Section 4. The study concludes with a discussion of certain future changes that are likely to improve the performance of industrial development in China.

Literature review

Property rights and land development

Property rights critically affect decision making regarding resource use, in turn affecting economic behavior and performance (Libecap, 1989). The existence of property-rights institutions and their impact on investment and resource use has become a central issue in explaining the differences in economic growth (Alston et al., 1996). A property right is the exclusive authority to determine how a resource is used; whether that resource is owned by government, collective bodies, or by individuals (Alchian & Demsetz, 1973). Property rights are viewed as an attribute of an economic good referred to as a bundle of rights including the right i) to use the good, ii) to earn income from the good, iii) to transfer the good to others, and iv) to enforce property rights (Eggertsson, 1990).

The effects of land property rights structure on agricultural development have received significant attention in the past decades. From the theoretical perspective, the most obvious effect of land insecurity is the uncertainty of obtaining benefits from the investment that the farmers make on the farms to retain or improve productivity (Feder, 1987). The importance of secure and transferable land rights to provide incentives for long-term investment has been recognized and scientifically examined in agricultural sectors (Alston et al., 1996; Besley, 1995; Brasselle et al., 2002; Deininger & Jin, 2005; Do & Iyer, 2008; Li et al., 1998). Studies concerning urban land structure and development are fewer, and attention has been given to individual household investment incentives and behaviors (Field, 2003, 2005, 2007; Galiani & Schargrodsky, 2010). Although most of the studies are set in the agricultural sectors or urban squatting in developing countries, their findings provide insights to understand industrial development in the urbanization process of China.

Having reviewed the relevant literature, we contend that land property rights may affect urban development via different channels. First, secure land rights could enhance investment incentives by limiting expropriation risk and reduce the need to divert private resources to protect property rights (Alston et al., 1996; Besley, 1995; Deininger & Jin, 2005; Do & Iyer, 2008; Field, 2005; Galiani & Schargrodsky, 2010). Second, well-defined property rights over land could facilitate the transfer of assets, and assists in efficient land resource allocation (Besley, 1995; Galiani & Schargrodsky, 2010). Third, the formal rights over land can improve the ability of landowners to use land as collateral to increase landowner access to credit markets (De Soto, 2000). Although the security of tenure increases the willingness of landowners to invest, the collateral rights boost the ability of landowners to do so.

In sum, different property rights arrangements may lead to different performance in land development. However, empirical studies on land property rights in several developing countries come with different conclusions. For instance, De Soto (2000) argues that capital is the engine of a market economy. What prevents poor countries from becoming rich is the lack of property rights system that enables individuals to transform their fixed assets including land and real estate into capital. Nevertheless, Galiani and Schargrodsky (2010) rejected De Soto's (2000) argument by showing that squatters in Argentina could not obtain access to the capital market although formal property rights had been granted. The specific institutional context matters for the different effects of land property rights on development. The institutional settings for urbanization and industrial development in China are illustrated in the subsequent part of this section.

Urbanization and industrial development in China under the dual land system

The institutional context of urbanization and land conversion in China is essential to understand the role of land property rights in China's industrial development. Urbanization in China in the past decades involves extensive land conversion from agricultural to urban land use (Deng et al., 2010; Li & Wang, 2003; Lin, 2007; Xu, 2004). Land conversion in China is based on its unique urban–rural dual land system. Two types of land ownership, state and collective, coexist in the current land administration system. According to the law, the state owns urban land, whereas rural collectives own rural land. Urban land ownership and land use rights are separate. Therefore, urban land use rights could be transferred (Ding, 2007; Qian, 2008). However, collective owned land could not be sold, transferred, or leased for non-agricultural use. Therefore, land ownership is substantially changed in the land conversion process under the current urban-rural dual land

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