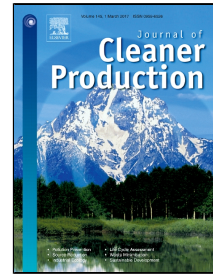


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# Urban economic structure, technological externalities, and intensive land use in China

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**Abstract:** Based on theories about the influences of urban economic structure on intensive land use, this study analyses the impacts of two main types of urban economic structure in China—specialized economy and diversified economy—on intensive urban land use using spatial panel techniques and large-scale urban panel data. The results indicate that there is significant spatial correlation in urban economic structure, as well as intensive land use in every city. A diversified economy has a significant positive effect on the improvement of intensive land use, whereas the effect of a specialized economy is not significant. The effects of the diversified and specialized economies on intensive land use through technological externalities are either negative or positive, depending on city size, while the “threshold effect”—the minimum threshold population for the economy to stimulate intensive land use—is about 496,700 people for the specialized economy and about 546,000 people for the diversified economy.

**Keywords:** agglomeration economies; intensive land use; spatial panel model; technology externalities

## 1. Introduction

Urbanization in China has been developing rapidly since the 1990s, bringing significant changes to spatial forms and industrial structure in cities to achieve unsurpassed economic growth. However, undesirable effects of rapid urbanization, such as imbalanced land use structure and low land-use efficiency, have occurred as unavoidable consequences. With continuous deepening of urbanization in China, scarcity of land resources has gradually failed to accommodate the “rigid demands” of fast urbanization. There has been a surge in land investment and funding alongside rational thinking about the target of achieving 1.818 billion mu of farmland given the prospect of land pollution. In addition,

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