

# The Long-Term Impact on Local Government Finance from the Perspective of Shrinking Cities-Taking Huaibei City as an Example

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**Abstract:** With the advancement of global urbanization, many cities are facing the challenges of population decline and economic decline, especially coal cities with a resource-based economy. Huaibei City, as a typical coal city in China, has gradually entered a stage of urban shrinkage in recent years, manifested by problems such as population decline, reduced economic activities, and aging infrastructure. This article systematically studies the specific impact of urban shrinkage on local government fiscal revenue and expenditure by analyzing Huaibei City's fiscal data and policy effects. The study found that urban shrinkage has led to a sharp decline in tax revenue and land transfer revenue, while fiscal expenditures on infrastructure maintenance and social security have continued to increase, putting tremendous pressure on local finances. On this basis, this article puts forward a series of policy recommendations to help local governments cope with the financial challenges caused by urban shrinkage and ensure the sustainable development of cities. This study not only enriches the theoretical research on urban shrinkage and local financial management, but also provides practical reference for policy formulation in similar cities.

**Keywords:** Urban Shrinkage, Fiscal Revenue, Population Decline, Economic Diversification, Local Government Finance.

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## 1 Introduction

shrinking cities, characterized by significant population decline and economic recession, is a global phenomenon affecting cities that have undergone peak industrialization phases. This phenomenon is particularly pronounced in cities whose economic foundations rest heavily on single industries, such as coal mining. [1] As industrial activities wane and resources deplete, these cities face severe economic transitions. Huaibei, located in the northern part of Anhui Province, China, exemplifies such a city. Historically known as a major coal production hub, Huaibei has experienced substantial economic growth driven by its abundant coal resources. However, with the gradual exhaustion of these resources and the national shift towards industrial restructuring, Huaibei now faces the daunting challenges of urban shrinkage.

The effects of urban shrinkage are multifaceted, impacting various aspects of city life, from population dynamics to economic activities, and placing considerable pressure on the fiscal health of local governments. The reduction in population leads to a shrinking tax base, while the economic downturn results in decreased business activity and lower land values, further straining fiscal revenues. Concurrently, local governments face rising expenditures to maintain aging infrastructure and provide social services to an increasingly elderly population. [2]

This dual pressure of declining revenues and rising expenditures creates significant challenges for sustainable urban management and development. [3]

This study focuses on the long-term fiscal impacts of urban shrinkage on local government finances, using Huaibei City as a case study. Through a comprehensive analysis of Huaibei's fiscal data and policy outcomes, this study seeks to deepen the understanding of urban shrinkage's fiscal implications and offer practical policy recommendations. The findings will not only contribute to the theoretical discourse on urban shrinkage and fiscal management but also provide actionable insights for policymakers in similar cities facing the daunting task of economic transition and population decline.

## 2 Population Shrinkage and Fiscal Revenue

The impact of population decline on society and the economy is widespread and far-reaching. Research by Manville and Kuhlmann (2018) shows that cities with declining populations fare worse in social and economic distress, with higher poverty and crime rates. These cities also have lower fiscal capacity, and the relationship is nonlinear, with both shrinking and fast-growing cities exhibiting lower fiscal capacity. Research shows that population decline not only increases social problems but

also reduces the resources to address them, causing cities to fall into a vicious cycle. This finding highlights the negative impact of population decline on fiscal conditions and suggests that these cities need more external assistance and internal policy adjustments to cope with deteriorating socioeconomic conditions. [4]

In terms of economic growth, research by Jones (2020) points out that fertility rates in high-income countries are already below replacement levels, which may lead to a long-term decline in the global population. This trend has far-reaching implications in traditional economic growth models: living standards will stagnate rather than continue to grow exponentially. If policy implementation is delayed, even optimal policy configurations can suffer from this adverse outcome. Population decline could lead to stagnant economic growth, further exacerbating fiscal challenges. This scenario highlights the need for policymakers to respond quickly and effectively to demographic changes to prevent long-term economic stagnation and decline in social welfare. [5]

The research by Honda and Miyamoto (2020) focuses on the impact of population aging on fiscal policy. They find that as the population ages, the output effect of fiscal spending shocks weakens. In particular, high-debt countries generally have weaker fiscal multipliers, and high-debt aging economies have even weaker fiscal multipliers. This finding suggests that population aging not only increases fiscal pressure but also weakens the effectiveness of fiscal policy, forcing governments to require larger fiscal stimulus during recessions. In addition, their research also pointed out that in aging and high-debt economies, the space for fiscal policy implementation is more limited, which requires the government to be more cautious and forward-looking when designing and implementing fiscal policies. [6]

Clements et al. (2018) emphasized the long-term pressure on public finances caused by population aging. As the population ages, spending on age-related items such as pensions and health care has increased significantly, putting huge pressure on public finances. The study predicts that by 2100, spending on age-related programs will increase by 8.3 percentage points of GDP in developed countries and 11.5 percentage points in less developed countries. To address this challenge, policy measures must include reforms to pension and tax systems to ensure fiscal sustainability. Overall, population aging requires multiple policy measures to mitigate its negative impact on public finances, including promoting labor supply and improving the efficiency of public spending. [7]

Urban shrinkage leads to significant demographic changes, particularly characterized by population decline, which exerts profound effects on the fiscal revenue of local governments. In the context of Huaibei City, this decline has several critical implications. One immediate impact is the reduction in the tax base, affecting personal income tax, property tax, and sales tax. As residents move away, the number of individuals and businesses contributing to local

taxes diminishes, leading to decreased tax revenues. The migration of young families and workers has resulted in an increase in vacant properties and a corresponding drop in property tax assessments. Additionally, fewer consumers spending money locally leads to a decline in sales tax revenue, exacerbating the financial strain on the city. [8]

Moreover, the impact of urban shrinkage on land sale revenue is particularly significant for local governments, which often rely on this source of income to finance infrastructure projects and other public services. In Huaibei, the reduced demand for land and real estate due to population decline has led to a substantial drop in land sale revenues. This decline in demand is often accompanied by a decrease in property values, further compounding the problem. The economic downturn associated with urban shrinkage also reduces business activity, leading to fewer commercial real estate transactions and lower business tax revenues. As businesses close or relocate due to reduced local demand and workforce availability, the fiscal health of the city deteriorates further. [9]

The economic downturn linked to urban shrinkage perpetuates a cycle of fiscal decline. As the local economy contracts, the reduction in business activity diminishes the city's overall tax revenues. In Huaibei, the decline of the coal industry has had a profound impact on the local economy, leading to the closure of related businesses and a significant reduction in industrial activity. This reduction in economic activity not only affects current revenue streams but also deters new investments, creating a negative feedback loop that perpetuates economic stagnation. The resulting fiscal shortfalls limit the local government's ability to invest in necessary infrastructure and services, further diminishing the city's attractiveness to potential residents and businesses.

Taken together, population decline and aging have significant impacts on fiscal policy and economic growth. Policymakers must recognize these challenges and take appropriate measures to ensure the sustainable development and fiscal health of the economy. This includes adjusting fiscal policy to respond to the needs of an aging society, implementing structural reforms to promote labor market flexibility, and ensuring the efficiency and effectiveness of public spending.

### 3 Current Situation of Huaibei City

According to data from the Huaibei Municipal Bureau of Statistics, Huaibei City's permanent population has continued to outflow in recent years, especially the large outflow of young labor force. This not only affects the local labor market but also leads to a decline in consumer demand. The decline of the coal industry has directly led to a reduction in economic activities. The reduction in coal mining volume and related economic activities has directly affected local economic growth, resulting in reduced employment opportunities and reduced economic vitality. In

addition, due to the decrease in fiscal revenue, Huaibei City has insufficient investment in infrastructure maintenance and renewal, resulting in the gradual aging of urban infrastructure. Old infrastructure not only affects the quality of life of residents, but also restricts the further development of the city.

### 3.1 Changes in fiscal revenue and expenditure

According to the 2023 Statistical Yearbook of the Huaibei Municipal Bureau of Statistics, after the permanent population of Huaibei City reached a peak of 2.12 million in 2010, the population has continued to outflow. Judging from the financial data, Huaibei City has experienced a fiscal deficit since 2010, and then the situation of fiscal expenditure exceeding fiscal revenue has continued and gradually deepened. Although fiscal revenue has not decreased significantly, fiscal expenditures have continued to increase, leading to intensified fiscal pressure. Although major tax revenues such as personal income tax, property tax and business tax have remained relatively stable, land transfer revenue has plummeted due to the downturn in the real estate market. The decrease in land transfer revenue has had a significant impact on local finance, because land transfer revenue was one of the important sources of Huaibei City's fiscal revenue in the past. At the same time, Huaibei City's social security and public service expenditures have increased significantly, especially in medical and elderly care services, which have put great pressure on local finances.

### 3.2 Impact of financial stress

As the permanent population continues to decrease and the population ages, Huaibei City's financial pressure further deepens. This financial pressure not only limits local governments' ability to invest in infrastructure construction and public services, but may also restrict economic transformation and urban development. Tight financial resources have left local governments stretched to cope with various problems caused by urban shrinkage. The aging problem is becoming increasingly serious, and the proportion of the elderly population is increasing year by year, increasing expenditures on social security and medical services. The decline in economic activity has also led to a further reduction in local fiscal revenue, especially the reduction in land transfer revenue and corporate tax revenue, making fiscal pressure more obvious. Under this circumstance, Huaibei City's financial situation faces severe challenges and needs to be addressed through effective policy measures to ensure the sustainable development of the city.

## 4 Conclusion and Response Policies

As a typical resource-based city, Huaibei City is facing severe economic transformation and urban shrinkage problems after experiencing the rapid development and utilization of coal resources. The continued decrease in the

permanent population and the intensification of population aging have further deepened this financial pressure, restricted the ability of local governments to invest in infrastructure construction and public services, and also caused major constraints on economic transformation and long-term urban development. As Huaibei City copes with urban shrinkage and economic transformation, financial pressure is a key challenge. In order to ensure the sustainable development of the city, it is necessary to continue to pay attention to and study the financial dynamics of Huaibei City, and through scientific and reasonable policy measures, strive to alleviate financial pressure and promote economic diversification and social harmony and stability. Through a detailed analysis of the specific situation of Huaibei City, we can better understand the profound impact of urban shrinkage on local finance, thereby providing useful reference for other similar cities.

### 4.1 Promote economic diversification

Huaibei City should actively promote the adjustment of industrial structure, reduce dependence on the coal industry, and focus on the development of high-tech industries, green energy industries and modern service industries. Through policy incentives and financial support, attract high-tech enterprises to settle down and form an industrial agglomeration effect; increase investment in green energy projects such as solar energy and wind energy to promote the optimization of the energy structure; and encourage the development of modern service industries, such as financial services and information technology services, and health industries, and increase the proportion of the service industry in the economy. These measures will help enhance economic vitality, cultivate new economic growth points, and achieve economic diversification and sustainable development.

### 4.2 Attract and retain a young workforce

Huaibei City needs to formulate attractive talent policies, provide high-quality employment opportunities, improve the living environment, enhance the quality of life, and provide education and training. Through investment promotion and policy support, create more high-quality jobs and attract non-local talents; build high-quality housing and community supporting facilities to improve the attractiveness of the living environment; strengthen vocational education and skills training to improve the quality of the labor force to meet the needs of emerging industries Demand for highly skilled personnel. These measures will help reduce the outflow of young labor, optimize the population structure, and promote urban development.

### 4.3 Strengthen the construction of social security system

In order to deal with the problem of population aging, Huaibei City should increase financial investment, optimize

the allocation of social security resources, and improve the quality and coverage of medical and elderly care services. Ensure that the elderly and vulnerable groups can enjoy basic living security by expanding social security coverage; increase investment in medical and health care to improve the service capabilities and levels of grassroots medical institutions; build more elderly care institutions and community elderly care service centers to provide diversified services Elderly care services. These measures will improve residents' sense of happiness and security and ensure social harmony and stability.

#### **4.4 Optimize the allocation of financial resources and improve the quality of infrastructure**

In the context of reduced fiscal revenue, the Huaibei Municipal Government needs to optimize the allocation of financial resources, improve the efficiency of fund use, and increase investment in the maintenance and update of old infrastructure. By establishing a strict budget management system, we will prioritize funding needs in key areas such as infrastructure, public services and social security and reduce unnecessary administrative expenses; use performance evaluation and audit supervision to improve the transparency and efficiency of the use of fiscal funds; increase Invest in the maintenance and renewal of old infrastructure to ensure the normal operation of urban functions, promote the construction of smart cities, and improve the level of urban management and the intelligence of public services. These measures will ensure that financial resources are directed where they are needed most, supporting the city's sustainable development.

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### **Conflict of Interest**

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