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VAT Sharing Reform and Regional Income Disparities in China: Pathways to Common Prosperity

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Abstract: The purpose of this report is to analyze the impact of VAT sharing reform on the income gap between urban and rural areas in China. The VAT sharing reform, a significant fiscal policy, aims to address fiscal decentralization and revenue distribution. This report highlights the importance of this reform in narrowing the urban-rural income gap, which is crucial for achieving common prosperity. The key issues analyzed include the disparities in income levels, access to public services, and employment opportunities between urban and rural areas. The methodology involves case studies, data analysis, and literature review. The primary findings suggest that while the reform has contributed to revenue redistribution and improved infrastructure in rural areas, it also presents challenges such as fiscal imbalances and inefficiencies. The report offers practical suggestions to enhance the effectiveness of the reform, including targeted revenue redistribution, incentive structures for local governments, and integrated fiscal policies.

Keywords: Urbanization Roads, Real Estate Prices, Income Gaps.

1. Introduction

The pursuit of common prosperity has become a central objective in China’s socio-economic policy framework. The concept of “Common Prosperity” in China was prominently re-emphasized by President Xi Jinping in 2021 [1], although its roots can be traced back to the early days of the People’s Republic of China and the reform era under Deng Xiaoping. This goal aims to reduce income inequality and ensure equitable economic growth across different regions and demographics, promoting high-quality economic growth to ensure that the benefits of development are shared more equitably among all citizens and encourage innovation and entrepreneurship to improve social mobility. Current studies show that one of the pivotal fiscal policies influencing this objective is the Value-Added Tax (VAT) sharing reform, which represents a significant shift in the country’s tax policy. This reform was initiated to address several key economic and administrative objectives, such as economic growth and tax neutrality. This reform has also evolved over several decades, with major milestones including the introduction of VAT in 1979 [2], the comprehensive VAT reform in 1994, and the more recent VAT sharing reform which was implemented to streamline the tax system and improve the efficiency of tax collection [2].

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1.1. Main Objectives of the VAT Reform

1.1.1. Economic Growth

One of the primary goals of the VAT reform is to stimulate economic growth by reducing the tax burden on businesses. By shifting from a business tax to a VAT system, the reform aims to lower the overall tax rates for businesses, thereby encouraging investment and consumption [3].

1.1.2. Tax Neutrality

The reform seeks to create a more neutral tax system that does not favor one industry over another. This is achieved by applying the VAT uniformly across different sectors, including manufacturing and services, thus eliminating the distortions caused by the previous business tax system [4].

1.2. Different ways of Measuring Income Inequality

1.2.1. The way to measure the Income Inequality in a society or country

The Engel coefficient, named after the German statistician Ernst Engel, is a measure used to assess the proportion of household income spent on food. It is calculated as the ratio of food expenditure to total household expenditure. The formula is:

Engel Coefficient=Total Expenditure /Food Expenditure

The Engel coefficient is an important economic indicator that reflects the living standards and economic well-being of a population. According to Engel's Law, as household income increases, the proportion of income spent on food decreases, even if the absolute amount spent on food increases. It can be used to describe income disparity within a society. A higher Engel coefficient indicates that a larger portion of income is spent on basic necessities like food, suggesting lower disposable income and higher economic strain. Conversely, a lower Engel coefficient suggests higher disposable income and better economic conditions. An Engel Coefficient which is above 59% generally indicates poverty and the Engel coefficient below 30% usually means being wealthy [5].

1.2.2. The way to measure income inequality between urban areas and the countryside

The Urban-Rural Income Gap Ratio is a metric used to compare the average disposable incomes of urban and rural residents. This ratio provides insights into the economic disparities between urban and rural areas, reflecting the extent of income inequality within a country.

The Urban-Rural Income Gap Ratio is calculated as follows equation (1):

$$\begin{aligned} &Urban\ Rural\ Income\ Gap\ Ratio \\ &\qquad = (Average\ Rural\ Disposable\ Income) \\ &\qquad /(Average\ Urban\ Disposable\ Income) \end{aligned} \tag{1}$$

Economic Disparities: This ratio highlights the economic disparities between urban and rural populations. A higher ratio indicates a larger income gap, suggesting that urban residents have significantly higher incomes compared to their rural counterparts. In recent years, China has made significant efforts to reduce the urban-rural income gap. According to the National Bureau of Statistics, the ratio has been gradually decreasing, indicating progress towards more balanced economic development. For example, in 2021, the urban-rural income gap ratio was approximately 2.50, down from 2.88 in 2012. This reduction reflects the success of various policies aimed at improving rural incomes and living standards [6].

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1.3. The Mechanism of VAT Sharing Reform

The VAT sharing reform ensures a more equitable allocation of VAT revenues between the central and local governments. By increasing the share of VAT revenues allocated to local governments, the reform addresses the fiscal imbalances that often disadvantage rural areas. This equitable allocation is crucial for providing local governments with the financial means to invest in development initiatives.

1.3.1. Targeted Investments in Rural Areas

The additional VAT revenues received by local governments can be specifically targeted towards rural development. This includes investments in infrastructure, education, healthcare, and social services. These targeted investments are essential for improving the quality of life in rural areas and creating more balanced regional development.

1.3.2. Reduction of Fiscal Disparities

The reform helps to reduce fiscal disparities between urban and rural areas by ensuring that rural areas receive a fair share of fiscal resources. This reduction in fiscal disparities is crucial for addressing the structural inequalities that have historically favored urban areas. By providing rural areas with the financial means to develop and grow, the reform helps to level the playing field and promote more inclusive economic growth [7].

1.3.3. Support for Local Development Initiatives

The increased fiscal capacity of local governments supports a wide range of local development initiatives. These initiatives can include infrastructure projects, public service improvements, and economic development programs. By supporting these initiatives, the reform helps to create a more conducive environment for sustainable development in rural areas.

1.3.4. Enhanced Public Services and Infrastructure

With more financial resources, local governments can enhance public services and infrastructure in rural areas. This includes building and maintaining roads, schools, hospitals, and other essential services. Improved public services and infrastructure are critical for attracting investment, creating jobs, and improving the overall quality of life in rural communities**,** This paper dives into the impact of VAT sharing reform on common prosperity, with a particular focus on the urban-rural income gap. By synthesizing findings from various studies, this review provides a comprehensive understanding of the reform's implications for income distribution and economic equity [8].

2. Literature Review

2.1. VAT Sharing Reform and Income Distribution

The VAT sharing reform, initiated in 2016, was designed to adjust the central-local VAT sharing ratio, thereby enhancing local governments' fiscal capacity and incentivizing economic development. Yang and Hu conducted an empirical analysis using panel data from 2010 to 2021, revealing that the reform significantly widened the urban-rural income gap. Their study employed a difference-in-differences (DID) model, which allowed for a robust comparison of regions affected by the reform against those that were not. The findings indicated that the reform's impact was more pronounced in western and northeastern China, regions that historically lagged in economic development [9].

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2.2. Mechanisms of Income Disparity

Several studies have explored the mechanisms through which VAT sharing reform influences income disparity. The reform encourages local governments to adopt industrial-biased development strategies and urban-centric expenditure policies, which exacerbate the urban-rural divide. For instance, the reform has led to increased investment in urban infrastructure and industrial projects, often at the expense of rural development. This urban bias in fiscal expenditure has contributed to the widening income gap between urban and rural areas. Additionally, the reform has incentivized local governments to prioritize sectors with higher tax revenues, typically located in urban areas, further marginalizing rural economies [10].

2.3. Regional Heterogeneity

The impact of VAT sharing reform on income inequality is not uniform across China. Studies have shown that regions with higher pre-reform income disparities experienced more significant increases in the urban-rural income gap post-reform. In contrast, regions with relatively smaller pre-reform disparities saw less pronounced effects. This heterogeneity suggests that local economic conditions and pre-existing income structures play crucial roles in determining the reform's outcomes. For example, coastal regions with more diversified economies and better infrastructure were able to mitigate some of the adverse effects of the reform, whereas inland regions struggled to adapt.

2.4. Policy Lag and Long-term Effects

The literature also highlights the policy lag associated with VAT sharing reform. The effects on income distribution are not immediate but unfold over time. Yang and Hu noted that the reform's impact on the urban-rural income gap became more evident several years after its implementation. This lag underscores the importance of considering long-term effects when evaluating fiscal policies aimed at promoting common prosperity. The delayed impact can be attributed to the time required for local governments to adjust their fiscal strategies and for the economic effects of these adjustments to materialize [11].

3. Data and Methodology

3.1. Research Methods, Technical Route, and Feasibility Analysis

3.1.1. Research Methods

This study employs a quasi-experimental design using the Difference-in-Differences (DID) approach to evaluate the impact of VAT stratified reform on urban-rural income disparities. The DID method is particularly suitable for this analysis as it allows for the comparison of changes in income disparities before and after the reform across different regions, thereby isolating the effect of the reform from other confounding factors [12,13].

3.1.2. Technical Route

Data Collection: The study will utilize panel data from 2010 to 2023 for a selected city in China, such as Chengdu. The data will be sourced from the National Bureau of Statistics, local government reports, and other relevant databases. Key variables will include urban and rural income levels, VAT revenue, government expenditure, and other socio-economic indicators. Model Specification: The DID model will be specified as follows equation (2):

$$\mathrm{Yit} = \alpha + \beta 1\mathrm{PostReformt} + \beta 2\mathrm{Treatmenti} + \beta 3(\mathrm{PostReformt} \times \mathrm{Treatmenti}) + \gamma\mathrm{Xit} + \epsilon\mathrm{it} \quad (2)$$

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Where:

(Y_{it}) represents the income disparity between urban and rural areas in region (i) at time (t).
{PostReform}_t) is a binary variable indicating the period after the VAT reform.
Treatment} _i) is a binary variable indicating whether the region is affected by the reform.
{PostReform}_t {Treatmentii)) is the interaction term capturing the effect of the reform.
(X_{it}) is a vector of control variables.
ϵit{it}) is the error term.

Estimation and Inference: The model will be estimated using Ordinary Least Squares (OLS) with robust standard errors to account for heteroscedasticity. The significance of the interaction term (\beta_3) will be tested to determine the impact of the VAT reform on income disparities.

3.1.3. Feasibility Analysis

The required data for Chengdu is readily available from national and local statistical agencies, ensuring the feasibility of data collection. Historical data on income levels and VAT revenue is well-documented, facilitating a comprehensive analysis.

3.1.4. Methodological Robustness

The DID approach is widely recognized for its robustness in policy evaluation studies. By comparing treated and control regions before and after the reform, the method effectively controls for time-invariant unobserved heterogeneity and common trends, enhancing the credibility of the findings.

3.1.5. Policy Relevance

As a rapidly evolving city with marked urban-rural income disparities, Chengdu serves as an essential case study for evaluating the impacts of VAT reform. The insights derived from this analysis can provide valuable guidance for policymakers committed to fostering equitable economic growth and addressing income inequality.

3.1.6. Source of Data

This study selects panel data from Chinese prefecture-level cities for the period 2010-2021 as the research sample. The original data is sourced from the CEIC database, the “China City Statistical Yearbook,” the “China Regional Economic Statistical Yearbook,”and various provincial and municipal statistical. This paper will conduct a Difference-in-Differences (DID) analysis on data from 2016 to 2024, as 2016 marks the commencement of the Value-Added Tax (VAT) reform policy. To provide a robust comparison, we will use data from the period prior to the implementation of this policy, specifically from 2008 to 2016, as the control group. This approach allows us to effectively isolate the impact of the VAT reform by comparing the pre- and post-reform periods.

3.1.7. Control Variables

The most significant control variable used in this model is “Economic Development”, (represented as ED in this paper) measured by the logarithm of GDP per capita. The second variable is the “Ratio of Added Value of the secondary industry to GDP”. In this paper we use RSG to represent this variable. Next is “the level of opening up”, measured by the ratio of total imports and exports to GDP. We use OU to represent this variable in this paper. This is followed by the level of human capital (represented by HC) There are many ways to measure human capital, The method of measurement I

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use in this paper is number of students enrolled. The last variable we need to control is" financial development" (Represented by FD), which is measured by the ratio of total loans from financial institutions at the end of the year to GDP.

3.1.8. The Final Model After Adding Control variable

After adding the control variables to the model, the final model we get is shown below equation (3):

$$\text{Yit} = \alpha + \beta 1\text{PostReformt} + \beta 2\text{Treatmenti} + \beta 3(\text{PostReformt} \times \text{Treatmenti}) + \text{ED} + \text{RSG} + \text{OU} + \text{HC} + \text{FD} + \gamma\text{Xit} + \epsilon\text{it} \tag{3}$$

4. Comparative Analysis with Other Fiscal Reforms

Comparative studies have examined the VAT sharing reform alongside other fiscal policies to assess their relative effectiveness in promoting income equity. For example, research by the Chinese Taxation Association (2024) found that reducing VAT rates for specific industries had a more substantial redistributive effect compared to the VAT sharing reform. These findings suggest that targeted tax reductions may be more effective in achieving common prosperity than broad-based fiscal adjustments. Additionally, policies such as direct income transfers and subsidies for rural development have been shown to have more immediate and pronounced effects on reducing income inequality.

4.1. The novelty of this study

The primary innovation of this research is its detailed examination of panel data from prefecture-level cities across China. This study conducts a thorough comparative analysis of data collected before and after the implementation of the VAT sharing reform policy. By doing so, it provides a clear and insightful depiction of how the reform has influenced the income disparity between urban and rural areas. The findings offer significant contributions to the understanding of fiscal policy impacts on regional economic inequality, highlighting the nuanced effects of tax policy changes on different demographic segments.

5. Conclusion

The VAT sharing reform in China has had profound implications for income distribution and the pursuit of common prosperity. Initially designed to bolster local fiscal capacity, the reform has inadvertently exacerbated the urban-rural income gap, particularly in regions already grappling with significant disparities. This widening gap can be attributed to several mechanisms, including industrial-biased development strategies that favor urban areas and expenditure policies that prioritize urban-centric projects.

Moreover, the reform's impact is not uniform across the country; it exhibits considerable regional heterogeneity. Areas with robust industrial bases have benefited more, while less developed regions have struggled to keep pace. Additionally, there is a notable policy lag, where the intended benefits of the reform take time to materialize, further complicating efforts to achieve equitable income distribution.

Comparative analyses suggest that alternative approaches, such as targeted tax reductions and direct income support measures, may be more effective in promoting income equity. These measures could help mitigate the adverse effects of the VAT sharing reform by providing more immediate and direct support to disadvantaged populations.

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Future research should continue to delve into the long-term impacts of fiscal policies on common prosperity. It is crucial to identify strategies that can mitigate unintended consequences and ensure that fiscal reforms contribute positively to reducing income inequality. By doing so, policymakers can better align fiscal policies with the overarching goal of achieving common prosperity for all citizens.

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