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脫貧攻堅對中國社會救助（低保）的影響

The Impact of 2015-2020 Targeted Poverty Alleviation Campaign on the Implementation of Social Assistance (Dibao) in China

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脫貧攻堅對中國社會救助（低保）的影響

The Impact of 2015-2020 Targeted Poverty Alleviation Campaign on the Implementation of Social Assistance (Dibao) in China

本論文係駱又慈（學號：R10341034）在國立臺灣大學統計碩士學位學程完成之碩士學位論文，於民國 113 年 5 月 28 日承下列考試委員審查通過及口試及格，特此證明。

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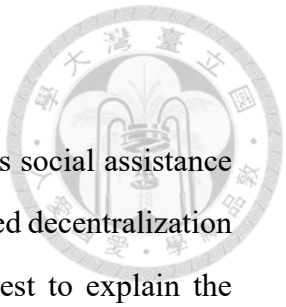

Abstract

Since the late 1990s, Dibao has been the cornerstone of China's social assistance system, closely linked to poverty issues. Previous literature has utilized decentralization theory, local budgets, bureaucracy, trade openness, and social unrest to explain the distribution and fairness of Dibao. Moreover, earlier studies highlighted an urban bias within the social assistance system, primarily targeting urban poverty while neglecting rural poverty. Although the Targeted Poverty Alleviation (TPA) campaign launched in 2015 was officially declared successful, leading to a significant reduction in the overall number of Dibao recipients, refer as the impoverished population, its effects on social welfare accessibility in underdeveloped regions remain a subject of debate, underscoring the need for more comprehensive research in this area.

In this context, this study aims to examine the impact of the TPA campaign on local social welfare development by evaluating Dibao policy. This research employs multiple period difference-in-differences (DiD) and difference-in-difference-in-differences (DDD) approaches, utilizing data collected from the Chinese government. The primary empirical results demonstrate that during and after the TPA campaign, the coverage of Dibao recipients decreased in urban areas while increasing in rural areas within the treated regions. Notably, Dibao thresholds in underprivileged areas significantly lag behind those in more prosperous regions during and after the TPA campaign, especially in rural regions. These findings support our central argument that while the TPA campaign may have alleviated overall poverty, it has also reinforced pre-existing regional and urban-rural inequalities. Based on empirical evidence, this research suggests that China's urban-oriented governance remains profoundly entrenched and perpetuated. The social integration goals of the TPA campaign are yet to be fully achieved.

Keywords: Dibao, Targeted Poverty Alleviation, Subnational Welfare Disparity, Crowding-out Effect, Local Financial Capacity

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摘要

1990 年代以來，最低生活保障制度（低保）是中國社會救助不可或缺的基石，與貧困問題的治理密切相關。過去文獻利用地方分權理論、地方官僚與地方財務能力，社會抗爭或集體行為等因素，來解釋中國各地方低保的分配和公平性。與此同時，早期中國社會福利相關研究多半指出，中國政府以城市為核心，卻邊緣化偏鄉農村的政策偏誤慣俗。其中，以往中國政府的貧困治理多半僅惠及城鎮，卻忽視農村同樣嚴峻的貧困問題。有鑒於 2015 年中國政府宣佈以消除農村貧困為目標的脫貧攻堅運動全面成功，貧困人口大幅降低，該運動對於邊陲省份、尤其是農村地區居民社會福利的作用，仍不明確。

此脈絡下，本研究旨在通過評估低保政策變化，來檢視脫貧攻堅作為中國政府所推動的農村貧困治理運動，對於中國地方社會福利發展的影響。本研究採用中國政府發布的低保數據，利用多期差異中差異（DiD）和三重差異（DDD）兩種方法進行實證分析。研究結果顯示，脫貧攻堅期間及之後，施行脫貧的省份城鎮低保覆蓋率減少，而農村地區低保覆蓋率則增加。值得注意的是，施行脫貧攻堅的中西部省份在運動期間與之後，低保門檻明顯落後於未進行脫貧攻堅的沿海富裕省份。另外，脫貧攻堅省份的城鎮低保線，成長幅度也明顯高於農村。也就是說，經歷脫貧攻堅的省份農村地區低保可及性有所提升，但是低保領受者總體福利水平卻相對下降。亦即，縱使脫貧攻堅運動有效降低總體貧困情形，卻可能亦同時擴大現有的地區和城鄉不平等。透過觀察脫貧攻堅運動對於地方社會救助政策施行的影響，本研究認為中國政府以城鎮為導向的治理慣俗，以及其導致的地方和城鄉差距，至今依然有強烈影響力。換句話說，以消除貧困與社會融合為目標的脫貧攻堅，實際上尚未完全成功。

關鍵字：低保、脫貧攻堅、地方福利差距、擠出效應、地方財務能力

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1. Introduction

From 1990 to 2005, the number of people lifted out of poverty in China accounted for 93.2% of the total number of people lifted out of poverty in the world (Wan et al., 2021), which demonstrates that the rapid economic development after the reform and opening up in 1978 has contributed to alleviating China's absolute poverty dilemma and gradually eliminate a considerable amount of the population trapped in absolute poverty. Nevertheless, the imbalance development speed after 1978 has already emerged; due to the export substitution strategy after 1978, foreign investment, jobs, public resources, and economic surplus are primarily allocated to the metropolitan regions in the coastal part of China. The Gini index demonstrates that wealth and income inequality in China have grown dramatically since the 1990s, while in 2022, it has remained high at 0.467 (NBS, 2024). Hence, regional disparities and social stratification issues have become the overriding challenge for the Chinese government (Lu et al., 2019). Besides, after conquering absolute impoverishment, the relative poverty issues in China still need to be solved.

After the millennium, to manage regional inequality and the relevant social problems, the Chinese government has emphasized improving social equality by publishing several national development campaigns such as "harmonious society," "targeted poverty alleviation," and "common prosperity." Those movements were

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embedded in the Chinese central government's corresponding 5-year governmental plan to empower underprivileged areas and raise the residents' well-being (Chinese Government Website, 2006; Washington Post, 2006; Xi, 2021; Reuters, 2021). Above all, the targeted poverty alleviation during 2015-2020, shortened as TPA, is the most predominant political campaign emphasizing poverty alleviation (Zhao,2022; People's Daily Online, 2021) since the goal of the TPA campaign was to reduce poverty and boost disadvantaged areas (Chinese Government Website, 2015). The consequence was approved to be contributory and well-publicized by the Chinese government. In February 2021, Chinese President Xi Jinping stressed that in the five years from 2015 to the end of 2020, a total of 98.99 million people in 832 poverty-stricken counties in China have all been lifted out of absolute poverty (BBC Chinese, 2021b).

However, western media pointed out that the effectiveness of China's social policies may not necessarily have substantive effects, nor may they be able to relieve regional disparities. First, the triumph of targeted poverty alleviation is open to question due to the setting of the income poverty line lower than the world standard. Furthermore, residents' health, education accessibility, and other related social welfare situations are not reviewed (BBC Chinese, 2021a). Second, although the treated provinces usually obtain more guarantees and resources to combat poverty during TPA, some areas with a weaker economic foundation may not be identified as national-level poverty-stricken

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counties in the campaign. Still, economic development is less sustainable and remains underdeveloped after the campaign (the Diplomat, 2021). Third, in addition to the income, the ability of residents to access public resources was unequal, and the campaign's social welfare distribution was unequal to some degree (The New York Times, 2020). Substantially, it is still questionable whether targeted poverty alleviation was simply propaganda or had some unignorable impact on development in deprived regions in China. Therefore, this research collects China's social welfare data before and after the targeted poverty alleviation campaign to investigate the efforts and efficiency of the TPA campaign.

1.1. Definition of the TPA campaign and Poverty

This research intends to discuss the TPA campaign's impacts on social welfare, especially social assistance. This section will focus on the definition clarification of the TPA campaign, viewed as the main political movement influencing China's impoverishment issues, by proposing the following questions. What is "targeted poverty alleviation" ("tuopingongjiang" in Mandarin, referred to as TPA or the TPA campaign)? What was the primary purpose of TPA? What does "targeted" mean? Moreover, while mentioning the standard of poverty exit, this research collects the poverty line applied by the Chinese government and compares it with the world's standards.

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Above all, this research collects the definitions settled by the Chinese government's governmental documents and interprets the contexts. The two fundamental public documents about the TPA campaign were *The Outline for Development-oriented Poverty Alleviation of China's Rural Areas (2011-2020)*, released in 2011, and *The Decision on Winning the Battle against Poverty*, issued in 2015 (Chinese Government Website, 2011; Chinese Government Website, 2015), both declared the confidence to reduce poverty and exceptionally emphasized "rural areas." Most predominantly, the two documents addressed the rural residents' income increase, the optimization of the rural residents' social welfare accessibilities, and the sustainable development of rural economics as the terminals.

The documents also targeted 832 counties in 22 provinces as poor-stricken areas and impoverished groups while proposing poverty reduction strategies like employment promotion, industrial upgrading, enhancing social welfare protection, and promising national special funds. Moreover, in the 2015 document, the deadline for poverty reduction was set for 2020, which means the poor counties labeled by the State Council Leading Group of Poverty Alleviation and Development had to reach the standard of poverty execution before 2020. As a result, the local government allocated resources to conquer the impoverishment issues in the labeled counties during the TPA period, and all poverty-stricken counties were delisted at the end of 2020.

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During TPA, prosperous coastal provinces were not included in the movement, while the poverty management led by distinct local governments yielded separate speeds. Figure 1-1 demonstrates each province's poverty conditions in China during the TPA campaign. The deeper the color refers to, the more severe the poverty conditions are. In the following chapter analysis, we apply this non-poverty level as a poverty index during TPA.

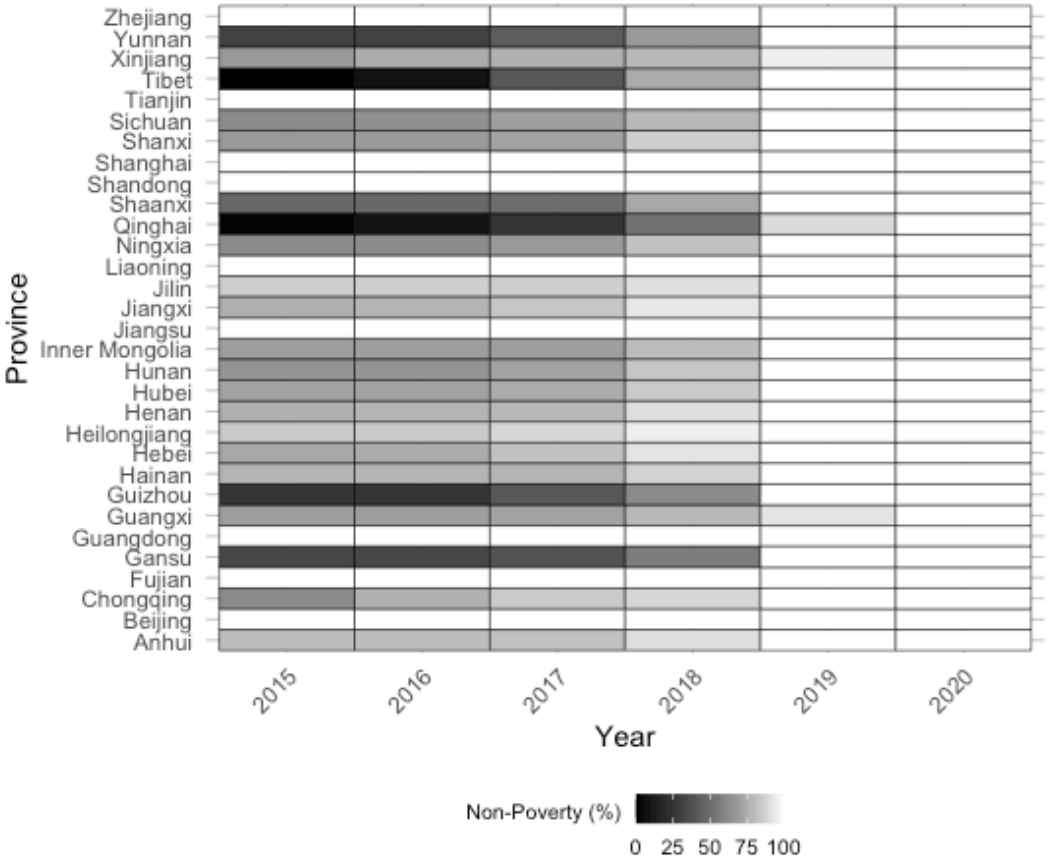

Figure 1-1 Non-poverty Situation in China During TPA

Resource: Author.

Data resource: National Rural Revitalization Administration, 2020.

Note: The non-poverty rate is calculated by the ratio of the non-poor counties in the provinces' total counties. Therefore, the non-poverty rates of those provinces that did not undergo TPA were 100%.

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Namely, the TPA campaign aimed to eliminate absolute poverty and relative deprivation, especially in rural areas. However, the announcement of TPA's triumph in 2021 primarily mentioned rural residents' income growth rather than their well-being, including social welfare and public resources accessiblities. Meanwhile, according to several studies and Western media mentioned in the previous paragraph, the Chinese government's definition of poverty differed from international standards. Hence, to clarify the meaning of poverty, this research files information on poverty standards by absolute or relative, as well as China and world comparisons, as shown in Table 1.

Table 1-1 Poverty Standard Comparison

	Absolut Poverty Standard		Relative Poverty Standard
Time	TPA period	Latest	Latest
China	RMB 2300 (2010) / per person per year	RMB 3218 (2019) / per person per year	♦ So far, there is NO relative standard in China. ♦ Dibao, primary social assistance, is provincially calculated by food, primary education, and medical expenses.
World	USD 1.9 (2011) / per person per day ≈ RMB 4296 / per person per year)	USD 2.15 (2022) / per person per day ≈ RMB 5287 / per person per year)	♦ OECD: Less than 50% of median income ♦ Taiwan: By counties, less than 60% of median income

Resource: Author

Data resource: BBC Chinese(2021), Ministry of Health and Welfare(2023), NBS(2023), OECD(2019), Chinese Government Website(2023), WB(2022a, 2022b, 2022c).

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Table 1 shows gaps between the world's and China's absolute and relative poverty standards. Notably, the absolute standard of China was much lower than the international poverty line proposed by the World Bank, which caused some critiques that the declaration of the TPA triumph was too early (BBC Chinese, 2021a). However, as mentioned in the form chapter and the following part, many past studies and research have reviewed residents' income in disadvantaged areas during and after the TPA campaign.

Therefore, this research emphasizes the importance of the relative poverty line and the social policies embedded in it. A specific proportion of median income usually defines relative poverty lines, while people's income below the lines can obtain social assistance. For example, the OECD recognizes 50% of the median income as the relative poverty line. Although the Chinese government has not disclosed the relative poverty regulation, 'Dibao' is the primary form of social assistance to eliminate relative poverty. Therefore, we consider 'Dibao', China's leading social assistance policy addressing impoverishment issues, a comparative target. In the following section, we introduce 'Dibao' and further explain our rationale for selecting it as the research focus.

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1.2. Research Object: Dibao

To explore the impacts of the TPA campaign on the well-being of people in disadvantaged areas, this research focuses on China's local social welfare situation. Indeed, many kinds of social welfare policies can help achieve equality's ultimate goal by redistributing wealth. Among these policies, the fundamental pillar of social assistance in China, the minimum living guarantee (Dibao for short), was chosen as the research object. Dibao is considered a suitable and appropriate research target for three reasons. First, social assistance would be the basic tier of social welfare, which is most relevant to poverty.

As the Chinese government recently announced that "the fight against poverty has been successful," intuitively speaking, social assistance should become more equitable after the TPA campaign to eliminate impoverished issues. Second, unlike health insurance or pension systems in China, which are separated by occupation and limited by personal contribution level, hukou, income, and property are the only qualifications to obtain Dibao (Chinese Government Website, 2023). Since Dibao's benefit criteria are fewer and more equivalent to other social policies, which can highlight other differences and eliminate noise, Dibao, as the proxy of social welfare, enables us to discern the power of the TPA campaign.

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Third, Dibao is China's most comprehensive social policy and has had a long development history since the 1990s, while fairly prevailing in cities and countryside all over China (Gao, 2017). As a result, comparing the possible Dibao distinction between regions allows this study to measure the local welfare gap and further examine the well-being level posterior to the TPA campaign.

1.3. Research Questions

From the perspective of social welfare development, this research examines social welfare performance before and after the Chinese central government's poverty alleviation initiatives. The primary research question investigates whether the Targeted Poverty Alleviation (TPA) campaign, implemented by the Chinese government from 2015 to 2020, effectively reduced absolute poverty and enhanced fair access to social welfare, thereby diminishing relative poverty. While the Chinese government has declared the elimination of absolute poverty, this study seeks to determine if the TPA campaign also mitigated relative deprivation and provided adequate social welfare resources to disadvantaged populations. Furthermore, given the typically disadvantaged status of rural regions, the influence of targeted poverty alleviation in these areas is essential. Therefore, this research focuses on assessing the impact of the TPA campaign in underprivileged regions, particularly rural areas.

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1.4. Research Implication

Since the planned economic period, the Chinese government implemented urban-rural dual tracks systems to social control. The urban-rural disparity and urban-biased policy-making logic shape social inequality in China, and the impact persisted to the present day. Although theories proved that the dual welfare system generated social exclusion and stratification, previous urban-rural studies mainly focused on the income gap and different economic development performances while neglecting the influence of social welfare distinction. This research aims to provide urban-rural inequal evidence from social welfare aspects rather than income or economic development in response to the equal society goal of the TPA campaign proposed by the Chinese government. Unlike previous studies that solely measured residents' income growth or local economic development influenced by the TPA campaign, this research offers new insights into the effectiveness of the TPA in terms of social welfare and its redistributive effects.

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2. Literature Reviews

In this chapter, we briefly sort out the reasons why the TPA campaign is imperative and compile previous studies that evaluated the consequences after TPA's implementation. First, we introduce the Chinese government's urban-biased tradition in practice, which results in urban-rural disparity and impoverishment in rural areas. Next, we recall the former studies that examined TPA, and manage to find the research gap. Last but not least, we review previous Dibao studies and learn the practice of Dibao research.

2.1. Poverty in Rural China and Urban-Rural Disparity

Poverty in China is highly associated with geographical location; impoverishment often happens in remote areas with fewer resources and is hard to reach (Liu et al., 2017). Meanwhile, resources were allocated to cities and non-agriculture departments during the planned economic period. Additionally, social welfare policies were only distributed to the urban population to enhance the development of secondary industry as a reward for industrial production (Naughton, 2007).

In this context, the hukou system was constructed to limit the population's flow and ensure sufficiency in urban regions (Cai, 2011). Therefore, unequal income, unfavorable treatment by the Chinese central government, and weak agricultural

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departments would lead to rural poverty in China (Chow, 2006). Simultaneously, due to the hukou limitation, the dual welfare system generates a new distinction between urban and rural, or even leads to social exclusion toward rural residents (Yan, 2017). Nevertheless, despite the steady growth rates compared to the metropolitan regions, the economy in rural areas also rose after the reform and opening, and overall poverty was somewhat relieved.

During the reform and opening, migrants flowed from the countryside to coastal regions to join the non-agriculture sector and increase their income. Migration could increase income per capita significantly (8.5%-13.1%), but the effect on poverty must be clarified since the poorest usually did not move (Du et al., 2005). In the meantime, the most relevant factors in the previous rural poverty research are income growth and distribution effect. Generally, poverty in rural China is mainly relieved by income growth, but the wealth gaps widen by the distribution effect (Zhang & Wan, 2006). Accordingly, poverty in China concentrates in the countryside, and research in China has mainly focused on rural regions (Luo et al., 2020).

Moreover, in the realm of social welfare in China, unlike their East Asian counterparts such as Japan, Korea, and Taiwan, which enforce inclusive social welfare systems, the Chinese government has shifted the responsibility of social protection primarily to the private sector or even to individuals (Peng & Wang, 2010). Meanwhile,

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in the planned economic period, the social welfare system in China is divided into two distinct sectors: the "secondary industry, urban" and the "primary industry, rural." China's social welfare primarily targets workers in the secondary industry. This division creates a clear separation between urban and rural areas, while the dual tracks' welfare systems result in discrepancies. Consequently, individuals in other occupations or those unable to find employment lack adequate social welfare protection, particularly residents in rural areas (Selden & You, 1997). Hence, considering both income and social welfare, an undeniable disparity exists between urban and rural areas.

2.2. Evaluation of the TPA Campaign

Given that poverty commonly occurs in the countryside, TPA's ultimate goal is to promote the prosperity of rural areas by boosting rural residents' incomes, guaranteeing them social welfare, and equipping them with local industries. Several previous studies have been devoted to investigating TPA's achievement and efficiency, which can be organized into the following points. The growth of rural residents' income was initially highly valued. For example, the promotion indicators for cadres have been changed. GDP growth once dominated the promotion system, but during TPA, the proportion of focus on "the income of the poor rural class" was significantly increased (He et al., 2023).

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Consequently, there are numerous studies implying the difference-in-differences approach and spatial Durbin model, dedicated to analyzing the evolution of rural residents' incomes after TPA (Tang et al., 2022; Yang et al., 2022; Zhou et al., 2023). Overall, the majority of the researchers agreed that TPA significantly bridged the gap between districts and urban-rural. Remarkably, several TPA studies addressed the evaluation of the rural economy after TPA by reviewing the impact of new economic policies and infrastructure on local people's incomes and the aggregate GDP. For example, Zhou et al. (2018) take land reform as an illustration, arguing that precise land policies such as the ex-situ poverty alleviation relocation were contributing to improving living standards and reducing poverty. Besides, as in other developing countries, the Chinese government also allocated resources to infrastructure construction in the countryside during poverty alleviation, such as green energy electronic infrastructure, to ensure stable and sustainable electronic power (Zhang et al., 2018). Case studies in marginal provinces also investigate TPA's influence (Zhou et al., 2018).

To enhance rural well-being in three dimensions, TPA includes income, social welfare, and industrial development. As mentioned above, the impact of the TPA campaign on income variation and the transition of the rural economy has been reviewed. However, there are rare TPA studies that mention the social welfare situation

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of rural residents. Hence, this research provides a glimpse into the welfare situation of rural residents after TPA by assessing local Dibao's evolution during TPA.

2.3. Dibao

Dibao, China's principal social assistance policy, was implemented by Shanghai in 1993 and gradually extended to all regions in China at the end of 2007 (Hammond, 2018). To understand the overall Dibao situation and Dibao's practical research method, we review several Dibao studies below. First, Dibao studies are usually conducted by the analysis of macro data from the Chinese government (Gao, 2017; Qian & Mok, 2016), while sometimes applied survey data (Xiao et al., 2023), and few studies used experiment as analysis tools (Chen et al., 2016).

Next, one of the most dominant issues of Dibao is the scarcity of funds (Golan et al., 2017; Solinger & Hu, 2012). Local financial capabilities, including financial autonomy and other government expenditures, may affect the effectiveness of local social policy implementation in China. For example, Qian & Mok (2016) found that Dibao and unemployment insurance may crowd out each other in practice. Since Dibao is means-tested social assistance, unlike unemployment insurance, which requires monthly payments, and Dibao recipients typically obtain additional aid, people may technically become Dibao recipients rather than join unemployment insurance.

Large recipient groups also result in a shortage of Dibao. By examining the urban

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Dibao situation, Xiao et al. (2023) found that because the number of people receiving Dibao is quite large, the amount of Dibao substitutes is low due to the local government's financial funds constraints. Given that Dibao's subsidy is insufficient, recipients must resist irregular jobs, making it challenging to enter typical employment fields. Therefore, those Dibao beneficiaries can barely exit Dibao while the possibility of escaping from low-income and poverty status remains low.

Notably, considering resource allocation, the development of regional social policies in China may be squeezed out due to the need for economic growth, and there may also be a negative relationship between different social welfare benefits by the local cadres' preference (Ratigan, 2017; Shi, 2012; Wan et al., 2021). Other research pointed out several factors that influence Dibao, for example, openness level and social mobility. Pan (2020) predict that social unrest is essential in shaping Dibao, while Chinese local government officials respond to social protests with Dibao. Furthermore, social mobilization coupled with openness level and regional funds may negatively impact Dibao (Hwang, 2022; Xu, 2021). Therefore, we can view local governments' financial constraints as the most critical factors that impact Dibao.

In conclusion, the natural disadvantage and historical urban-biased policy design, which emphasizes urban development while neglecting rural construction, result in rural poverty and regional disparity. Hence, the Chinese government implemented TPA

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and put more emphasis on the deprived areas. Although the urban-rural income gap was declared to shrink while announcing the rural revitalization strategies sufficiently promoted the rural economy, the rural residents' welfare situations remain unknown. Dibao, chosen as the research objective in this study due to its importance in China's social welfare system, provides evidence to examine the welfare situation in local regions.

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3. Research Design

In this chapter, we discuss the research design, methods and hypothesis. The main purpose of this research is to check the impact of the TPA campaign. As Figure 1 in Chapter One demonstrated, among 31 provinces in China, nine prosperous coastal provinces did not join the TPA campaign since their non-poverty rates were already 100% before 2015. In the meantime, the speed of progress in the TPA differs among provinces. Therefore, during the 2015-2020 TPA period, we could separate provinces in China into two categories: (1) a control group with no TPA and (2) a TPA-treated group. Comparing the Dibao situations in two groups enables us to investigate TPA's influence on regular social assistance while examining TPA's impact on underprivileged people's social welfare situation. Meanwhile, we also divided control and treated groups into smaller subgroups according to the urban-rural characteristics. The analysis units of this research is as the following Figure 3-1 demonstrated:

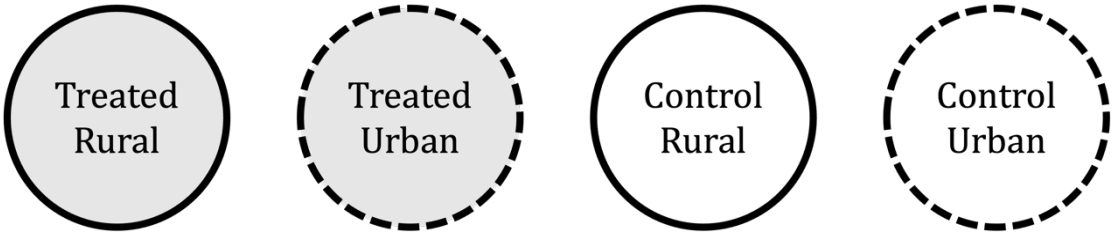

Figure 3-1 Research Design
Resource: Author.

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The following sections of this chapter present the methods involved in this research, while constructing models according to the research questions. Then, we propose the hypotheses based on previous research to examine the social assistance performance.

3.1. Methods

This research investigates the effects of the TPA campaign on social welfare by analyzing the evolution of Dibao during the period. Therefore, this research applies the difference-in-differences approach, hereafter referred to as DiD, to capture the dynamic of Dibao during TPA. In particular, we adopted the triple-differences approach, hereafter referred to as DDD, to study the situation further in the intended areas of TPA, which were the rural regions in the marginalized provinces. In the following sections, we present models constructed by the two approaches and their implications.

3.1.1. DiD Model

DiD is a quasi-experiment method that enables researchers to study causal inference (Wing et al., 2018). As a common alternative to a randomized control trial, DiD is frequently applied to compare the consequences of distinct policy imposition (ibid). DiD model is utilized to clarify the causal inference by determining the average outcome differences among the treated and comparison observations considering time

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and groups' traits. (Roth et al., 2023). To conclude if the TPA has influenced the local regular social assistance, Dibao, this research compares changes in Y_i, which refers to the three dependent variables of Dibao of provinces, in urban, rural regions, and the aggregate, respectively, in the provinces with or without TPA enforcement.

$$Y_{i,t} = \propto + \gamma_1 \cdot D_i + \gamma_2 \cdot T_t + \beta \cdot D_i \cdot T_t + \theta \cdot X_{i,t} + \varepsilon_{i,t} \quad , (1)$$

where γ_1 captures the differences between control and treated groups, γ_2 demonstrates the time effect, and θ draws the impact of control variable $X_{i,t}$. D_i is a dummy variable identifying whether the datapoint belongs to the TPA treatment group, while T_t functions as the time-fixed effect. Above all, the TPA is represented by multiplying the treatment group and the posterior period variable of two dummy variables $D_i \cdot T_t$. The TPA's influence on three Dibao indexes, sketched by β, is the most critical parameter in this model. The letters, together with their meaning and explanation, are in the following Table 3-1.

Table 3-1 Explanation of Variables in Equation (1)

Letter	Meaning	Explanation
$\propto$	-	Intercept
D_i	Treatment/Group	Treated = 1. Distinguish the treatment and control groups.
T_t	Time	Represent the time effect by dummy variables
$D_i \cdot T_t$	Pre-trend	$T_t < T_{treated}$: Examine the pre-treated parallel trend
	TPA effect	$T_t \geq T_{treated}$: Inspect the impact of TPA
$X_{i,t}$	Control variables	Investigate how provincial quarterly GDP, population, and urbanization rate influence Dibao
γ_1	coefficient	Evaluate the difference between control and treatment

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Letter	Meaning	Explanation
γ_2	coefficient	Capture time effects
β	coefficient	$T_t \geq T_{treated}$: Report TPA's impact
θ	coefficient	Measure the effect of control variables

Resource: Authors.

3.1.2. DDD Model

The logic behind the DDD model is similar to the DiD model. In the DiD case, we divide the observations into a control and a treated group; as for the DDD approach, the treated group is separated into smaller subgroups by the treated level. As highlighted in Chapter One, the TPA campaign addressed the terminals as the execution of rural impoverishment, empowerment of deprived rural residents, and rural economic development. Intuitively, the TPA should have more solid effects in the countryside to meet TPA's rural revitalization intention.

Therefore, we further divide data points that underwent TPA into the rural and the urban groups, and the rural subgroups are viewed as treated compared to their city counterpart. With this approach, we observe the impact of TPA on the implementation of Dibao, especially in the rural part. This research implies the triple differences approach to construct a model precisely capturing TPA's impact:

$$Y_{i,t} = \propto + \gamma_1 \cdot D_i + \gamma_2 \cdot T_t + \gamma_3 \cdot Rural_i + \beta_1 \cdot D_i \cdot T_t + \beta_2 \cdot D_i \cdot Rural_i + \beta_3 \cdot Rural_i \cdot T_t + \delta \cdot D_i \cdot T_t \cdot Rural_i + \theta \cdot X_{i,t} + \varepsilon_{i,t} \quad (2)$$

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$Rural_i$ is a dummy variable indicating the datapoint's urban or rural characteristics while forming cross variables with T_t and D_i. By checking the value of β_1, we can figure out TPA's overall influence as well. Notably, we can further investigate the rural situation by inspecting the cross variable $D_i \cdot T_t \cdot Rural_i$ and its parameter δ.

Table 3-2 Explanation of Variables in Equation (2)

Letter	Meaning	Explanation
$\propto$	-	Intercept
D_i	Treatment/Group	Treated = 1. Distinguish the treatment and control groups. Also measure dose level.
T_t	Time	Represent the time effect by dummy variables
$Rural_i$	Rural	Rural = 1. Indicate the datapoint's characteristic
$D_i \cdot T_t$	Pre-trend	$T_t < T_{treated}$: Examine the pre-treated parallel trend
	TPA effect	$T_t \geq T_{treated}$: Inspect the impact of TPA
$D_i \cdot Rural_i$	Rural treatmemt	Treated rural areas = 1. Investigate the effect in TPA rural regions.
$Rural_i \cdot T_t$	Rural time	Capture time effects in rural areas
$X_{i,t}$	Control variables	Investigate how provincial quarterly GDP, population, and urbanization rate influence Dibao
γ_1	coefficient	Evaluate the difference between control and treatment
γ_2	coefficient	Capture time effects
γ_3	coefficient	Represent the influence of rural features on Dibao
β_1	coefficient	$T_t \geq T_{treated}$: Report TPA's overall impact
β_2	coefficient	Estimate rural and treated effects on Dibao
β_3	coefficient	Capture time effects, especially in rural areas
δ	coefficient	Inspect TPA's impact in rural treated regions
θ	coefficient	Measure the effect of control variables

Resource: Authors.

doi:10.6342/NTU202401534

3.2. Hypothesis

To evaluate the impact of the TPA campaign on fundamental social assistance policies, specifically Dibao, this research proposes three hypotheses based on the quantitative and qualitative dimensions of Dibao's performance. The following sections discuss the anticipated effects of the TPA campaign on Dibao and then further focus on the situation in rural regions.

3.2.1. Quantitative Dimension: TPA's Impacts on Dibao Recipients and Coverage

According to previous studies, due to limited local resources, different social welfare policies may crowd out each other (Qian & Mok, 2016). Dibao, as means-tested social assistance, belongs to tier 0 of social welfare and represents the relatively impoverished population. Since TPA proposed to reduce poverty and enhance social welfare, the number of Dibao recipients would decrease for two reasons. First, the number of needy people should be reduced if the TPA campaign is successfully imposed. Second, more resources would be allocated to substitute other tiers of social welfare, such as pension and health insurance, rather than assigned to Dibao. Given the triumph of TPA, both demand and supply of Dibao would decrease. Accordingly, we could anticipate that the number of recipients would shrink after TPA. Meanwhile, the

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decrease in rural regions should be more significant than in urban counterparts.

Hypothesis 1: The number of Dibao recipients would decline after successful TPA.

Although we expect the Dibao population to shrink after the implementation of the TPA campaign, the Dibao coverage rate may vary due to the impact of the population urbanization rate. Recently, the Chinese government declared that the population urbanization rate had reached 65% (People's Daily Online, 2023), indicating the effectiveness of the government's efforts in industrial upgrading and the cultivation of non-agricultural human capital. Furthermore, due to the Chinese government's efforts to promote a more flexible hukou policy, both the population and hukou urbanization rates have increased (ibid). Intuitively, the rising urban hukou urbanization rate leads to a lower rural hukou population. Therefore, we can predict that the Dibao coverage rate will rise in rural regions while declining in urban areas due to population migration towards cities.

Hypothesis 2: After TPA, the Dibao coverage rate in urban areas would decrease while it might increase in rural areas.

3.2.2. Qualitative Dimension: TPA's Impacts on Dibao Thresholds

The local governments compute the Dibao thresholds with adjustments to local living standards. The local governments would guarantee Dibao, including direct

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money transfers, education, and health insurance aids, to people whose incomes are lower than Dibao thresholds (Chinese Government Website, 2023). Meanwhile, direct money transfers are used to top up the beneficiaries' income to meet the Dibao thresholds. Therefore, if the Dibao thresholds are raised, the number of people qualified to obtain Dibao would increase, and the benefit level of Dibao would also soar. Regarding that TPA guarantees underprivileged people a better-off life, the Dibao standard should grow, which is more advantageous for relatively poor people.

On the contrary, according to the theory of local financial capacity and resource scarcity, the Dibao thresholds may drop due to the influence of TPA. Given that the number of Dibao beneficiaries was raised to boost the overall welfare situation of the impoverished population, chances are that the benefit level may be reduced due to the funds' constraints. In this case, although more disadvantaged people could access Dibao, Dibao is obligated to a less favorable level.

Nevertheless, examining the descriptive statistic table in the following chapter, we can observe a consistent gap between the control and treated groups and a critical disparity between rural and urban subgroups. To fulfill TPA's purpose of rural revitalization, the disparity and gap of Dibao thresholds among distinct regions should gradually shrink. Therefore, if TPA met its terminal, we could predict that the increased amount of Dibao would be to the most considerable degree in the rural treated region.

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Hypothesis 3a: After successful TPA, the threshold of Dibao recipients would increase.

Hypothesis 3b: Due to the expansion of the Dibao population, each person's benefit level may be reduced.

In this chapter, we propose the research design, model, and hypotheses of this study. We classify the research objects into four groups based on the TPA implementation and urban-rural traits, formulate empirical models using DiD (Difference-in-Differences) and DDD (Difference-in-Difference-in-Differences) methods, and establish quantitative and qualitative dimensions of hypotheses to examine Dibao's performance. In the following chapter, we discuss the data situation and the measurement of variables applied in the empirical models.

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4. Data and Measurement

This chapter introduces the data used in this research. We collect data from the MCA website (Ministry of Civil Affairs), the Statistics Yearbook and the China Population Census Yearbook yearly published by NBS (National Bureau of Statistics), and the World Bank database to construct the dataset, which contains provincial quarterly Dibao data from quarter one in 2008 to quarter one in 2022 and related data, for example, population data and consumption information. There are 1736 observations in this dataset.[1]

Notably, this research primarily inspects the rural social welfare situation. Meanwhile, the root of the data, the MCA, divides all information into two parts, urban and rural, separately. Hence, the whole dataset is constructed with urban and rural labels. For example, while mentioning the Beijing Dibao standard in 2014 Q4, we find two data points, RMB 650 and RMB 632.3, respectively, representing urban and rural Dibao lines. While dealing with the Dibao threshold, this research involves the consumption price index as a control variable. Likewise, the consumption data is split into urban and rural, while the data of Dibao recipients and coverage rate are the same. In the following sections, we explain how each variable is calculated, including treatment measurement, dependent variables, and control variables.

[1] For the data of the Dibao standards, the 2009 Q4 data is missing. Hence, the data points for the Dibao line are 1705.

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4.1. Treatment

This part discusses the matching issue of treatment and the unit of research object. The treatment of this research is the implementation of the targeted poverty alleviation actions during 2015-2020. During this period, 832 poorest counties in 22 out of 31 provinces were labeled national poor targets, underwent the TPA campaign, and received plenty of funds from the central government to tackle the impoverished issues. Despite the TPA implementation targets being set by county levels, no county-level Dibao data has been released. Due to the lack of county-level Dibao information, these provinces with impoverished counties executing poverty alleviation would be counted as the treatment group in this research. In contrast, the ones without treated counties are the control group. In practice, we split control and treatment groups by dummy variable.

Meanwhile, to account for the varying speeds of poverty reduction across provinces, we utilize the "Non-poverty Rate" reduction calculated in Chapter One to generate a new variable, "weight." This variable serves as a proxy for the dose level, indicating the extent of the implementation of the TPA campaign in each province for each year. By employing this weight variable, we can more accurately measure and analyze the TPA campaign's impact on poverty reduction. Next, we discuss the measurement of dependent variables.

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4.2. Dependent Variables

To investigate the effects of the TPA campaign, this research examines Dibao's performance using three proxies: Dibao recipients, Dibao coverage rate, and Dibao thresholds. The three indices measure the overall situation of Dibao in both the control and treated groups, providing insights into the comparison between urban and rural areas. First, we measure the quantity of local Dibao by the number of Dibao recipients, which serves as the initial dependent variable. However, the distinct sizes of the normal and floating populations in different provinces may influence the number of Dibao recipients. To eliminate the influence of provincial population size and further analyze the impact of the population urbanization rate, we calculate the Dibao coverage rate using several procedures described in the following paragraph, "*Measurement of Dibao Coverage Rate.*"

Furthermore, Dibao thresholds in each group are included in this study to assess the quality of Dibao. These thresholds are calculated by local governments, and individuals whose income is lower than the Dibao threshold qualify to receive Dibao aid, which is a direct money transfer that tops up their income to meet the Dibao threshold (Chinese Government Website, 2023). Therefore, the higher the local threshold, the more substantial the money transfer granted. Consequently, we view Dibao thresholds as Dibao's benefit level.

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4.2.1. Measurement of Dibao Coverage Rate

This research portrays the local Dibao situation to investigate the change after the Chinese central government executed the TPA campaign. As for Dibao recipients and threshold, we directly enforce the original data from the MCA website. Nevertheless, since different provinces' populations vary sharply, judging the Dibao situation simply by the number of beneficiaries is risky. Consequently, this research considers the Dibao coverage rate. Since local criteria and the beneficiaries guarantee Dibao are limited to residents with local hukou (Chinese Government Website, 2023), it is pretty sophisticated to calculate convinced rural and urban coverage rates.

This research refers to two methods to analyze the Dibao coverage rates and check their robustness. The first practice is dividing the number of urban and rural Dibao recipients by the total provincial population. This method is easy to practice, but the drawback is that we cannot precisely portray the distinctions between urban and rural populations, only ensuring that the influence of different provincial population sizes is limited. Therefore, this research applies the second approach to computing the Dibao coverage rate, which allows us to keep information on the urban and rural populations. Unlike the former method, which uses the total province population as the dominator of the Dibao coverage rate for both urban and rural, the second approach applies further detailed data, including the urbanization rate and the number of floating populations.

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To generate the rural Dibao coverage rates, the second approach divided the rural Dibao recipients by the rural population, computed by multiplying the total population by one minus the urbanization rate. Meanwhile, calculating the urban Dibao coverage rate by urban population is proxied by the total population multiplied by the urbanization rate minus the floating population. Since data related to the floating population were only released in 2000, 2010, and 2020, the annual floating population is calculated based on the average increase proportion during these periods. Remarkably, this approach to computing the Dibao coverage rate is to appraise the influence of the provincial urban and rural population and deduct the floating population that is not eligible to obtain Dibao, as Figure 4-1 shows.

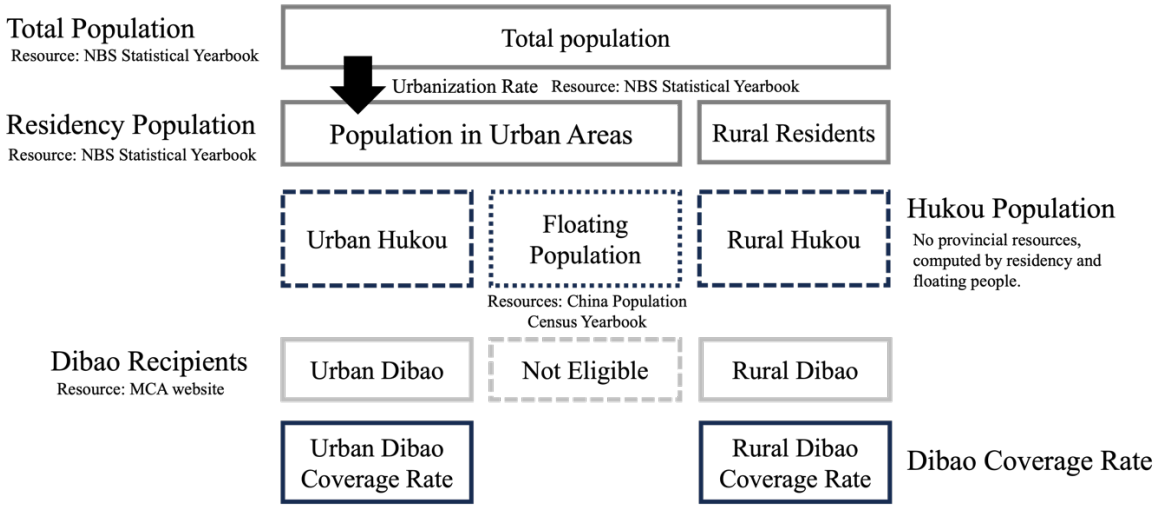

Figure 4-1 Calculate the Dibao Coverage Rate by Urban and Rural Population

Resource: Drawn by author.

Note: (1) The main composition of the floating population is migrant workers moving from inner areas to coastal cities to seek jobs. (2) Rural residents are viewed as eligible to obtain rural Dibao.

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This section discusses the measurement of dependent variables in this research. Next, we specify the control variables and their computation procedures.

4.3. Control Variables

While analyzing Dibao thresholds, we apply the Consumer Price Index (CPI) as a control variable. To account for inflation and the disparity in rural and regional price levels, we generate the CPI variable by multiplying the provincial CPI published by the Chinese government, which includes both urban and rural data points, with China's historical national CPI from the World Bank (WB).

In conclusion, this research utilizes three leading quarterly indicators, including the Dibao line, Dibao recipients, and Dibao coverage rate, to sketch the Dibao situation pre-treatment and post-period of the TPA campaign, with local consumption index as the covariants. Several indexes label the data: time, provinces, urban, and rural. In the next chapter, we discuss the preliminary empirical result.

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5. *Empirical Results and Discussion*

5.1. Data Resource and Descriptive Statistics

The data used in this research is collected from the MCA website, the China Statistic Yearbook, and the China Population Census Yearbook published by NBS. The dataset includes 31 provinces, 15 years, and 62 periods where urban and rural characteristics label data points. The basic descriptive table is below.

Table 5-1 Descriptive Statistics Table

Variables	Unit	Obs.	Min.	Max.	Med.	Mean
Rural Recipients	People	1891	1700	5354524	1197697	1380738
Urban Recipients	People	1891	1802	1895344	425095	546194
Rural Coverage	%	1891	0.0514	24.7434	6.1358	7.3687
Urban Coverage	%	1891	0.1219	10.8813	2.5368	3.1606
Rural Thresholds	RMB	1705	26.0	1330.0	257.0	306.3
Urban Thresholds	RMB	1705	137.2	1330.0	432.4	589.3
Rural CPI	-	465	-5.978	68.558	5.716	7.561
Urban CPI	-	465	-5.776	49.417	5.576	7.017

Resource: Authors.

Data resource: MCA(2008-2022), China Statistic Yearbook(2008-2023), China Population Census Yearbook(2000, 2010, 2020), WB.

Note: Datapoints for Dibao thresholds in 2007, Q2 of 2009, and Q3 of 2017 are missing.

By examining the figures presented below, one can discern the trend of Dibao from 2007 to 2021. The data has been partitioned into two distinct subsets to conduct a more detailed analysis of the disparate circumstances in urban and rural regions. Furthermore, control and treated groups have been graphed separately in two lines for comparison.

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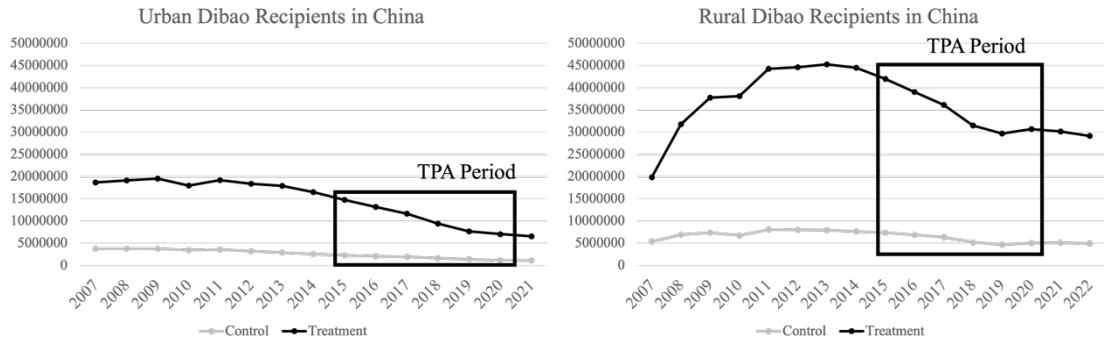
Upon scrutinizing the count of recipients, a conspicuous trend emerges, indicating a consistent decline in urban Dibao beneficiaries across both control and treated groups. Nonetheless, within the rural context, recipients of Dibao in the control group persist at a comparatively lower level. Conversely, those in the treated group experienced an initial increase during the initial five-year period, peaking in 2013, followed by a decline from 2015 to 2019, and subsequently maintaining a plateau in the subsequent years. Relying solely on descriptive tables, one might infer the efficacy of the TPA's influence in diminishing the number of Dibao recipients, commonly denoted as needy individuals. Nevertheless, it is imperative to acknowledge that a substantial disparity persists between the treated and control groups during and after TPA, indicating a continued gap between affluent coastal regions and less advantaged provinces.



(a) (b)

Figure 5-1-1 Dibao Recipients in China (a) Urban Areas (b) Rural Areas

Resource: Author.

Unit: Dibao recipients

A declining trend in urban areas' control and treatment groups is evident regarding

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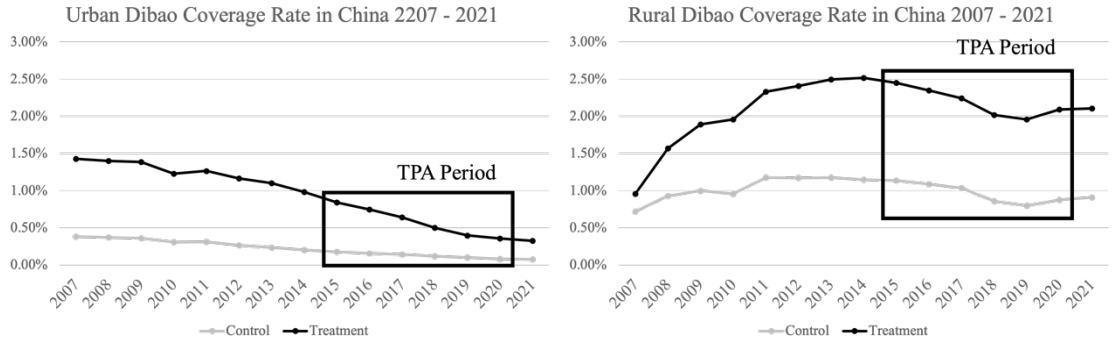
the coverage rate. The urban Dibao coverage rates in 2007 were 6% and 2%, respectively, dwindling to 1% and even fewer by 2022. Nevertheless, the coverage rates of rural Dibao not only surpass those of urban areas but also exhibit a consistent 1% disparity between the control and treatment groups. For instance, in 2022, the difference between the urban and rural subsets of the control group would be approximately 0.8%, whereas in the treated group, the gap widens to about 1.5%. Therefore, by reviewing the figures, we can conclude that both urban-rural disparity and district differences persist, with the most substantial gap observed between the rural treated group and other categories, even after the implementation of TPA.



(a) (b)

Figure 5-1-2 Dibao Coverage Rate in China (a) Urban Areas (b) Rural Areas

Resource: Author.

Unit: Dibao coverage rate.

In terms of Dibao thresholds, there is a noticeable upward trend. In the control group, close scrutiny of the two grey lines suggests that the initial gap between urban

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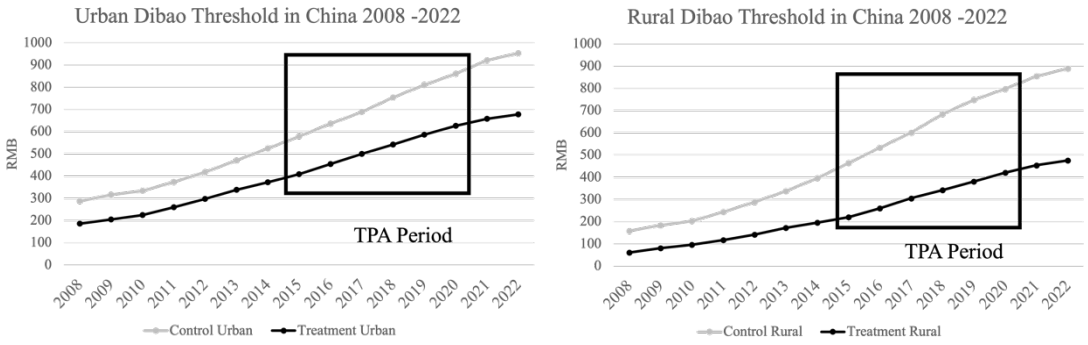
and rural areas was relatively small, nearly equalizing by 2022. This implies a lessening urban-rural disparity. Conversely, in the treatment group, the gap widens compared to the control, while a significantly increasing gap observed in rural areas is worth noting compared to urban areas. This suggests that the urban-rural gap in prosperous provinces is diminishing. In contrast, disadvantaged regions are distancing themselves from their more affluent counterparts and experiencing severe intra-provincial urban-rural disparities.



(a) (b)

Figure 5-1-3 Dibao Thresholds in China (a) Urban Areas (b) Rural Areas

Resource: Author.

Unit: RMB.

In conclusion, by examining descriptive statistics, we observe that the disparity within the control group is diminishing. However, within the treated group, it is becoming increasingly challenging for them to keep pace with the development of their wealthier peers. Furthermore, the intra-urban-rural gap within the treatment group appears to be worsening.

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5.2. Result: DiD and DDD Approaches

5.2.1. Visualization of the Result

This section explores whether the models in this research adhere to parallel trends and investigates the impact of rural characteristics and TPA treatment effects. We have generated the coefficient plot based on the regression model results.[2] By examining the coefficients of the interaction between the time and treatment variables, we can evaluate the validity of the parallel trend assumption in the pre-treat periods while simultaneously observing TPA's impact on the implementation of Dibao during and after TPA.

The coefficient plots are divided into three distinct periods, marked by two red lines: the first line corresponds to the implementation time, specifically season four in 2015, while the second line denotes season one in 2021 when the TPA campaign was declared victorious. Adherence to the parallel trend assumption is expected during the first period since the TPA campaign had yet to be enforced. The second period illustrates TPA's impact during the campaign period. Finally, the third period examines TPA's influence after the campaign. The vertical red lines indicate the start and end of the TPA period.

[2] The coefficient plot is generated by the R package "ggplot."

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Meanwhile, we mark the coefficients by points and apply a 95% confidence interval in the coefficient plots, depicted by lines. The data points are shown with error bars representing confidence intervals, and the blue dashed line represents the baseline level, allowing for a visual comparison of changes relative to the baseline.

For the DiD approach, we solely analyze the interaction between TPA (treated = 1) and time while studying the dependent variables across urban, rural, and all three categories. The dependent variables are categorized into all urban and rural recipients. Figures in the following sections illustrate the changes in the Dibao observation points over time, with separate lines representing the total number of recipients (gray), urban recipients (black), and rural recipients (light gray).

In contrast, for the DDD approach, we pool dependent variables into a single regression model and assess three cross variables. The first cross variable encompasses treated, rural, and time, capturing the situation of the rural treated group. The second cross variable comprises treated and time, gauging TPA's impact on the treated group. Finally, the third cross variable encompasses rural and time, examining the rural situation across different periods. In the following sections, we discuss each Dibao index in different groups by DiD and DDD approaches, respectively.

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First, we examine the evolution of the number of Dibao recipients using Difference-in-Differences (DiD) models. Figure 5-2-1 suggests that while the parallel trend assumption is upheld mainly in urban areas, indicating that the treatment and control groups had similar trends before the intervention, there was a slight decrease in the number of recipients during and after the TPA period. This observation raises the possibility that the TPA substantially impacted the number of Dibao recipients in urban regions.

However, in rural areas, the parallel trend did not hold. Instead, the number of Dibao recipients continued to rise since 2007 in the TPA-treated areas. Therefore, we can conclude that the TPA campaign reduced the number of urban Dibao recipients. At the same time, it is difficult to indicate that the TPA campaign influenced rural Dibao recipients, suggesting that further investigation into other factors is necessary to explain these trends.

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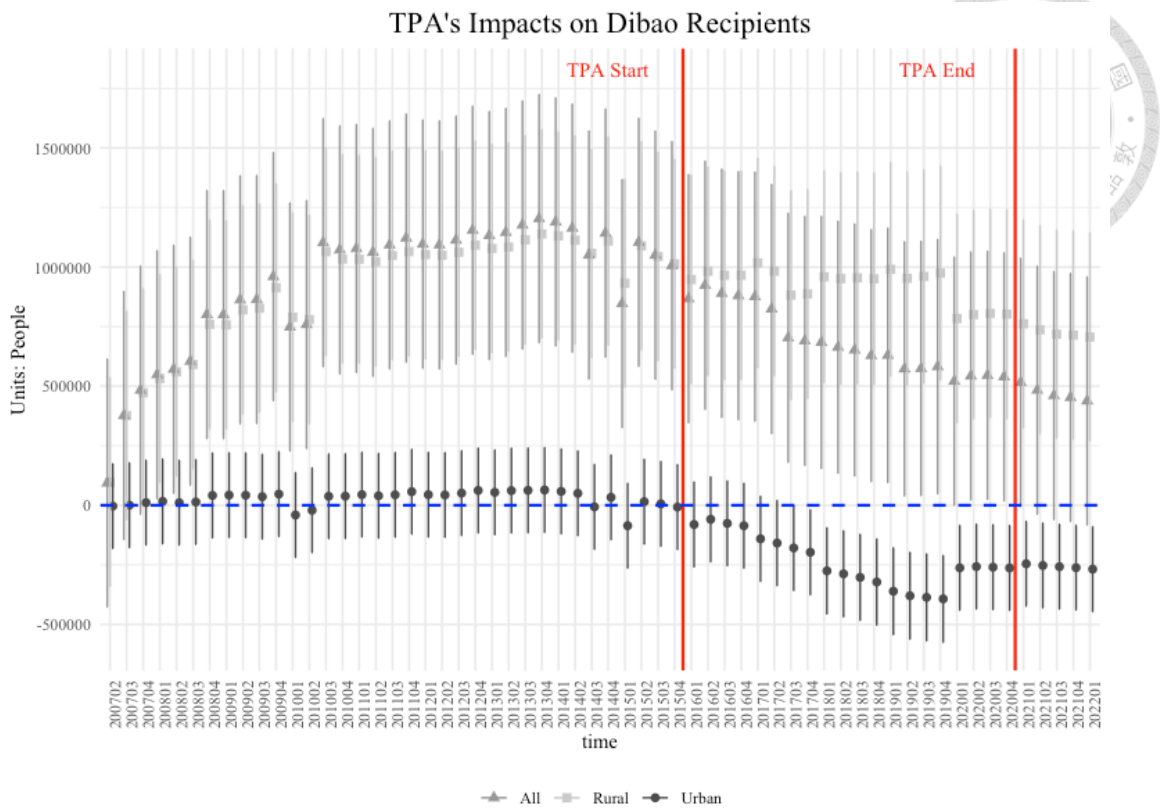

Figure 5-2-1 TPA's Impact on Dibao Recipient – FE DiD

Resource: Drawn by author.

Note: (1) We apply province-fixed effect. OLS and lag version models are demonstrated in appendix.

(2) Confidence intervals are 95%.

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The coverage rate mirrors that of the recipients. Upon reviewing the urban and rural coverage rates separately (Figures 5-2-2), we observe a decline in the urban coverage rate during and after the TPA period. Conversely, there has been an increase in the rural coverage rate since 2007, indicating that the parallel trend was not maintained. Therefore, we can conclude that the TPA campaign reduced Dibao coverage in urban areas, while it did not have the same effect in rural regions.

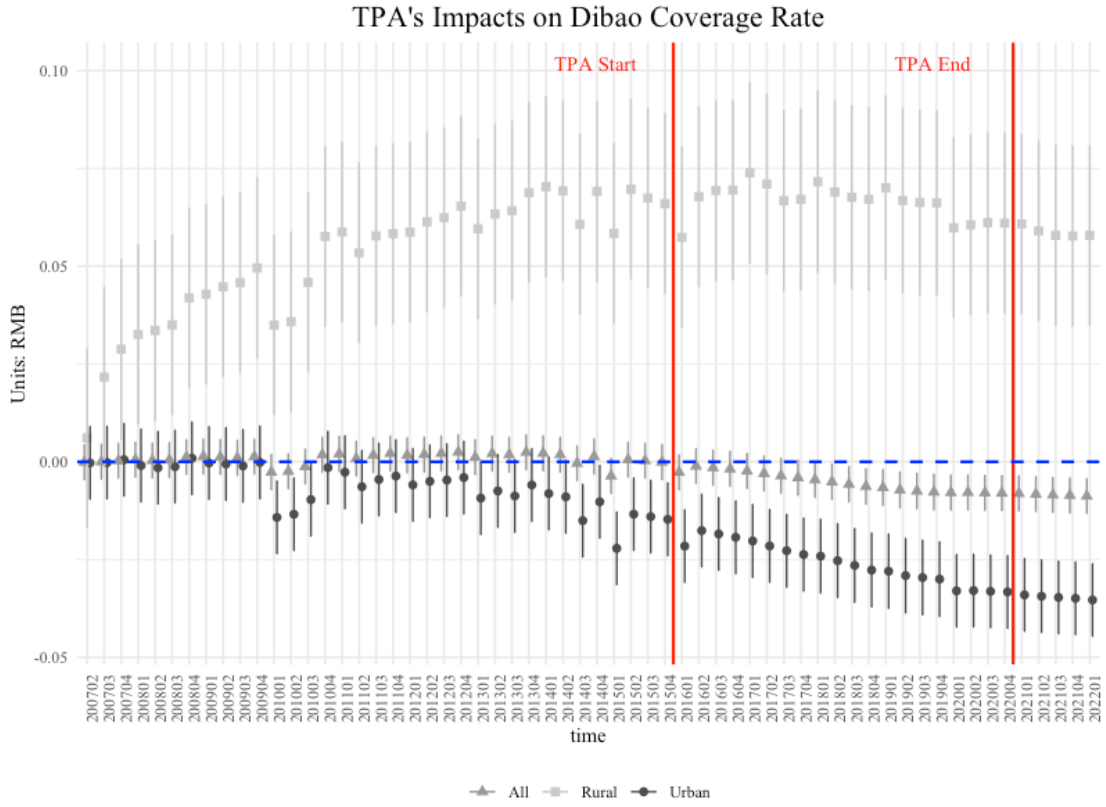

Figure 5-2-2 TPA's Impact on Dibao Coverage Rate –FE DiD
Resource: Drawn by author.

Note: (1) We apply province-fixed effect. OLS and lag version models are demonstrated in appendix.
(2) Confidence intervals are 95%.

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Next, we estimate the Dibao trends in urban and rural areas using the DiD approach. The parallel trend assumption was mostly met. We observe a notable decrease in both urban and rural Dibao trends during and after TPA. This suggests that Dibao's benefit levels decline in the treatment group in both rural and urban areas. Notably, the decreasing trend in the rural regions is more prominent in scale than in the urban areas.

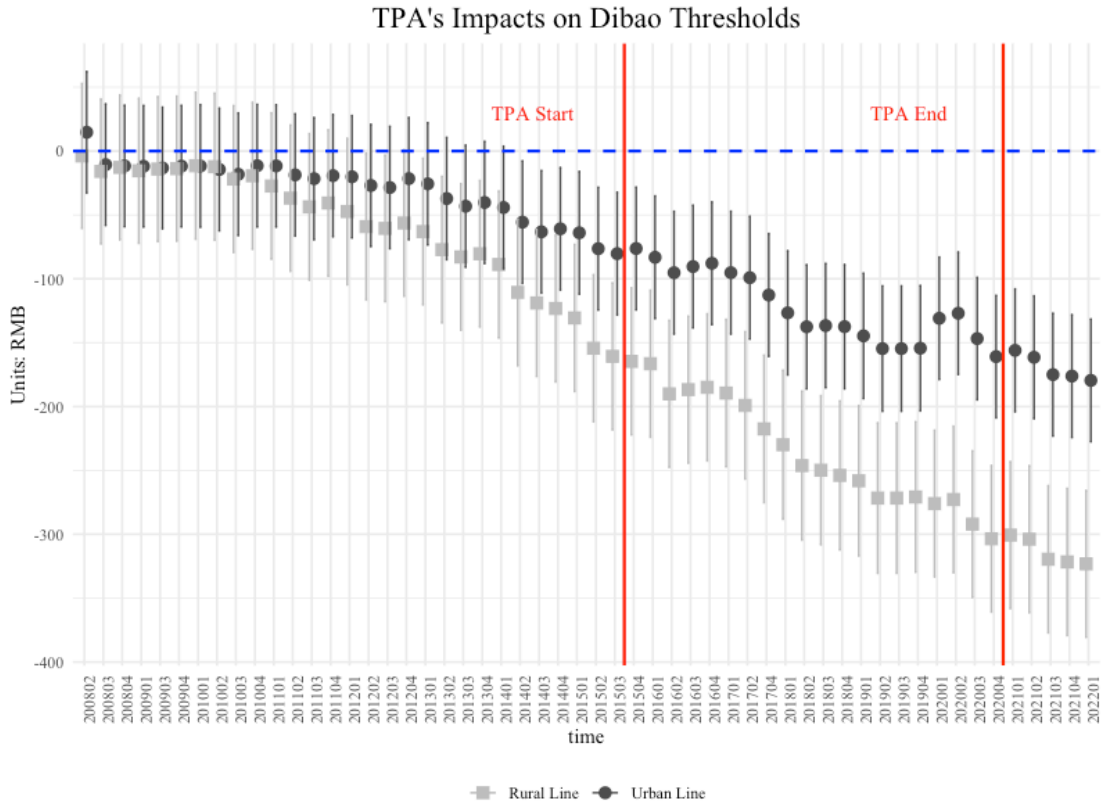

Figure 5-2-3 TPA's Impact on Dibao Thresholds –FE DiD
Resource: Drawn by author.

Note: (1) Datapoints for Dibao thresholds in 2007, Q2 of 2009, and Q3 of 2017 are missing.
(2) We apply province-fixed effect. OLS and lag version models are demonstrated in appendix.
(3) Confidence intervals are 95%.

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After discussing the DiD models, we apply the DDD approach to analyze Dibao's recipients, coverage rate, and thresholds. First, we focus on Dibao's evolution in rural areas of TPA provinces. Second, we examine the overall situation in the TPA group, encompassing both rural and urban areas. Third, we investigate the temporal evolution in rural regions within both TPA and non-TPA groups. Concerning the coverage rate, the DDD model yields a similar outcome to the DiD approach. Specifically, the number of recipients is not influenced by TPA or its rural characteristics, according to Figure 5-2-4.

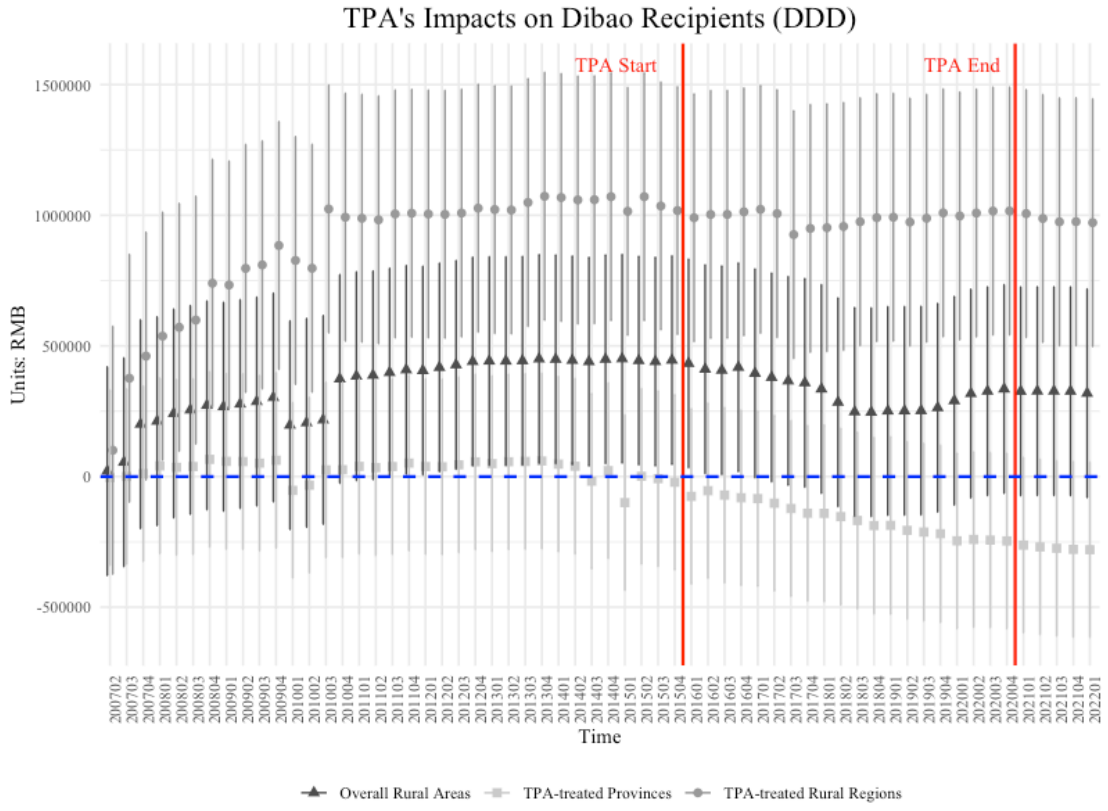

Figure 5-2-4 TPA's Impact on Dibao Recipients – FE DDD
Resource: Drawn by author.

Note: (1) We apply province-fixed effect. OLS and lag version models are demonstrated in appendix.
(2) Confidence intervals are 95%.

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In the context of the coverage rate, the DDD approach yields a result equivalent to that of the DiD model. When considering the rural group in the treatment provinces, the Dibao coverage rate rises during the TPA period, as shown in Figure 5-2-12. However, the increasing trend began earlier than the initiation of TPA. However, for the TPA treated group, the coverage rate decreases during the final stage of TPA and continues to decrease afterward as shown in Figure 5-2-13. Conversely, for rural regions, the coverage rate did not change significantly as depicted in Figure 5-2-13.

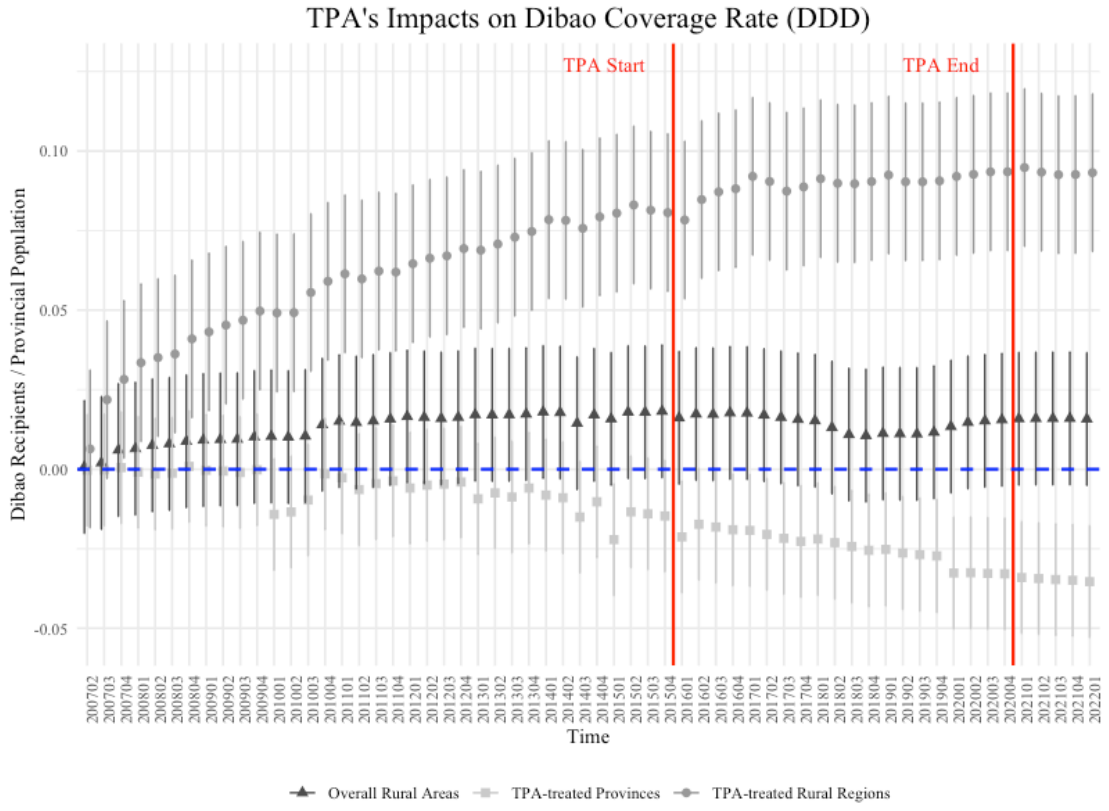

Figure 5-2-5 TPA's Impact on Dibao Coverage Rate – TWFE DDD
Resource: Drawn by author.

Note: (1) We apply province-fixed effect. OLS and lag version models are demonstrated in appendix.
(2) Confidence intervals are 95%.

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Regarding the Dibao lines, the parallel trend assumptions are basically valid. Consistent with the results generated by the DiD model, we also observe a decreasing trend in both the TPA group and rural regions within the treatment provinces through the DDD method. There is a rising trend regarding the rural situation, although it is not statistically significant (Figure 5-2-6).

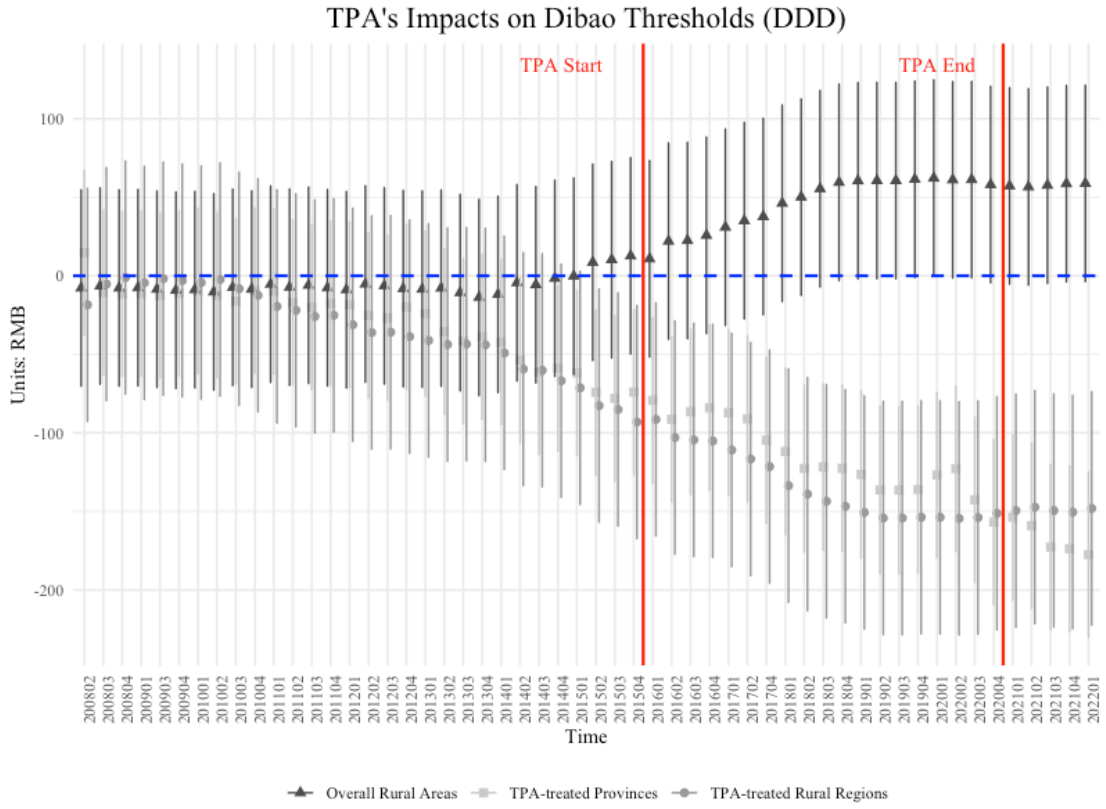

Figure 5-2-6 TPA's Impact on Dibao Thresholds – TWFE DDD
Resource: Drawn by author.

Note: (1) We apply province-fixed effect. OLS and lag version models are demonstrated in appendix.
(2) Confidence intervals are 95%.

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5.2.2. Overall Outcome of Empirical Models

In Table 5-2 we conclude the overall outcome of the empirical models and discuss the TPA's impact on local Dibao.

Table 5-2 Overall Table of Empirical Result

	Recipients	**Coverage**	**Thresholds**
DiD	Decrease After TPA	Decrease After TPA	-
DiD rural	Significantly Increase Since 2007	Significantly Increase Since 2007	Significantly Decrease After TPA (Larger Scale)
DiD urban	Significantly Decrease After TPA	Significantly Decrease After TPA	Significantly Decrease After TPA (Smaller Scale)
DDD TPA*rural	Significantly Increase Since 2007	Significantly Increase Since 2007	Significantly Decrease After TPA
DDD TPA	No Significant	Slightly Decrease After TPA	Significantly Decrease After TPA
DDD Rural	No Significant	No Significant	Increase After TPA

Resource: Author.

5.2.3. Discussion

The analysis reveals a decline in Dibao recipients and coverage rates in urban regions. In contrast, the number of rural Dibao recipients and the coverage rate in rural areas increased earlier than the TPA campaign started. This suggests that the reduction in relative poverty is occurring primarily in metropolitan areas rather than in the

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targeted rural regions. However, there is an appreciation for the increase in Dibao's coverage, indicating progress in social welfare coverage. Nevertheless, while Dibao increasingly covers rural residents, there is a reduction in the number of Dibao recipients among the relatively poor urban population. We can interpret that resources in urban areas are gradually shifting towards other, more impactful social welfare policies. Importantly, this indicates a persistent and potentially widening gap between urban and rural areas even after the implementation of TPA, which was initially intended to revitalize rural regions.

Meanwhile, the Dibao thresholds decreased when TPA was implemented in both urban and rural regions. Instead of attributing this to enhancing the Dibao benefit level by TPA, it is more reasonable to infer local government financial capacity limitations. Considering the constraints on local funds, the increase in the total number of beneficiaries in rural areas leads to an overall decrease in the Dibao benefit level. In this context, regional disparities become more tangible and undeniable. Given that the gap in the benefit level of social assistance between the treated and control groups is widening, the disparities among other social welfare policies may be even more significant and contentious.

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6. Conclusion

The development of social welfare in disadvantaged areas in developing countries is highly valued. The significant transformation during the post-Mao era has propelled China to become an economic powerhouse in East Asia, with a formidable presence in the global market. However, the reform and opening-up policies have not only spurred economic development but also led to widening income gaps and regional disparities, eroding social cohesion and future confidence.

To address the challenges faced by those left behind in the wake of rapid development, the Chinese government has implemented numerous campaigns aimed at addressing relevant social issues. However, the effectiveness of these intended campaigns in benefiting the needy population remains a subject of debate. Although previous research offers opinions from many perspectives supported by ample evidence, these studies primarily focused on evaluating income and economic development in deprived regions. Still, they overlooked the evolution of social welfare, which is equally crucial for the prosperity of residents.

Therefore, this study investigates the impact of the 2015-2020 targeted poverty alleviation campaign on the development of social welfare. We select Dibao, the fundamental regular social assistance policy in China, as the research target, as Dibao is the most relevant social welfare policy concerning impoverishment. This study

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assesses the dynamic evolution of Dibao across various regions using three key indexes: Dibao recipients, coverage rate, and thresholds, collected from data published by the Chinese government and empirical approaches. Notably, the rural regions are further inspected since TPA was devoted to promoting underprivileged rural areas. We categorized all observations based on two factors, treated or control and urban or rural, while comparing their performance over the years using multiple-period DiD and DDD approaches.

Based on the results of empirical analysis, we observe distinct variations in Dibao performance across different regions. In urban areas, both the quantity of Dibao recipients and the coverage rate are declining. However, it is unclear whether the TPA campaign influences the increase in Dibao recipients and coverage rate in rural areas. Regarding the Dibao thresholds, perceived as a measure of the quality of Dibao, there was a significant decline during the TPA period. Compared to the control group, the Dibao thresholds in provinces undergoing TPA were relatively lower. This trend is observable in both urban and rural areas, with a larger decrease in the rural TPA-treated regions.

This result carries several implications. Firstly, the disparity in the quantity of Dibao recipients between urban and rural regions suggests a slight expansion of social protection in rural areas while indicating a potential decline in the number of needy

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individuals in urban areas. More recipients in rural areas benefit from Dibao assistance, while an increasing number of urban residents do not rely on Dibao. Although this reflects progress in social welfare development, it also underscores the persistent influence of the urban-rural gap. Secondly, we can discern the impact of population urbanization. As people migrate from rural to urban areas, the situation of the floating population warrants further examination and discussion.

Lastly, descriptive statistics and regression models demonstrate that the Dibao lines in the treated provinces are lower than those in their more prosperous counterparts. Moreover, the Dibao thresholds in the rural areas of treated regions are even lower during and after TPA. Intuitively, the declining Dibao threshold, indicative of a lower benefit level, may stem from the increasing number of beneficiaries in vulnerable areas. This result resonates with previous Chinese local welfare literature highlighting local fiscal constraints.

In conclusion, this study provides a novel perspective on social welfare, evaluating the impact of the targeted poverty alleviation campaign on the well-being of underprivileged districts, particularly rural regions. Based on the empirical findings, we conclude that (1) there may be an increase in the number of rural individuals benefiting from Dibao while urban poverty rates decline; however, (2) the overall level of Dibao benefits decreases in TPA-treated regions, (3) especially in the targeted rural areas.

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Therefore, despite previous studies arguing that rural residents' income and the rural economy have significantly grown during and after TPA, according to the preliminary results of the study, TPA may not effectively narrow the gap between urban and rural areas nor alleviate disparities between prosperous and needy provinces from the perspective of social welfare.

In future research on China's local social welfare disparity, a comprehensive examination of additional social policies, including pension schemes, health insurance coverage, and access to public resources such as education, could yield valuable insights. Furthermore, enhanced elucidation of the nuanced mechanism governing local government resource allocation between urban and rural domains is paramount. Such clarification is essential for facilitating future advancements. Additionally, it would be valuable to assess the effectiveness of social cohesion policies in enhancing social protection while also considering the situations faced by migrant workers and addressing issues specific to women.

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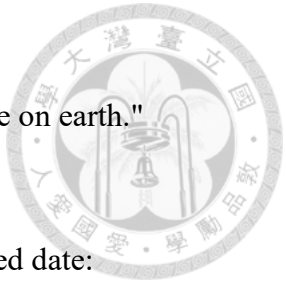

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Appendix

Other Measurement and Models

1. DiD x OLS Model

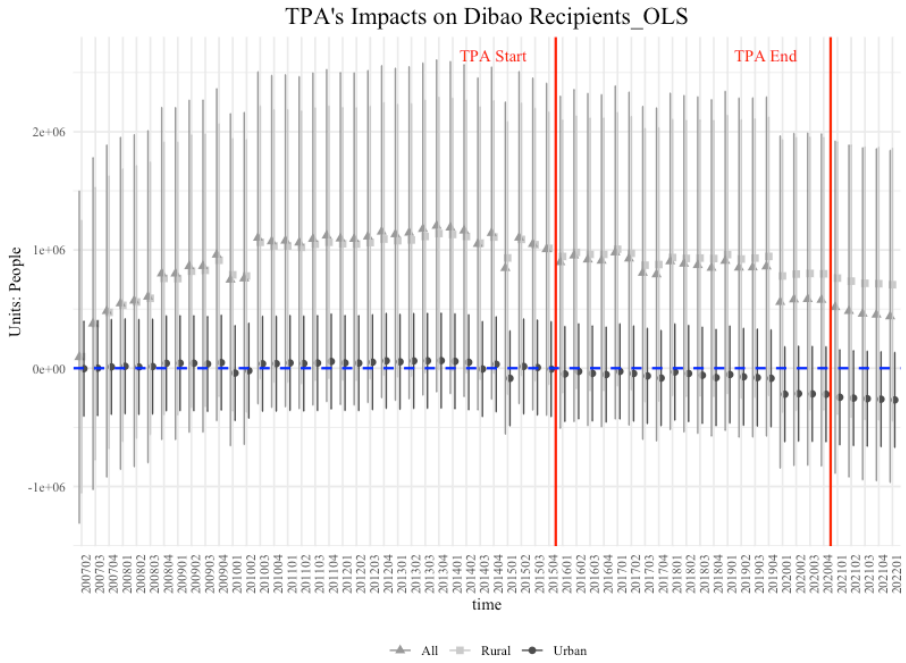

Figure A-1 TPA's Impact on Dibao Recipient – OLS DiD

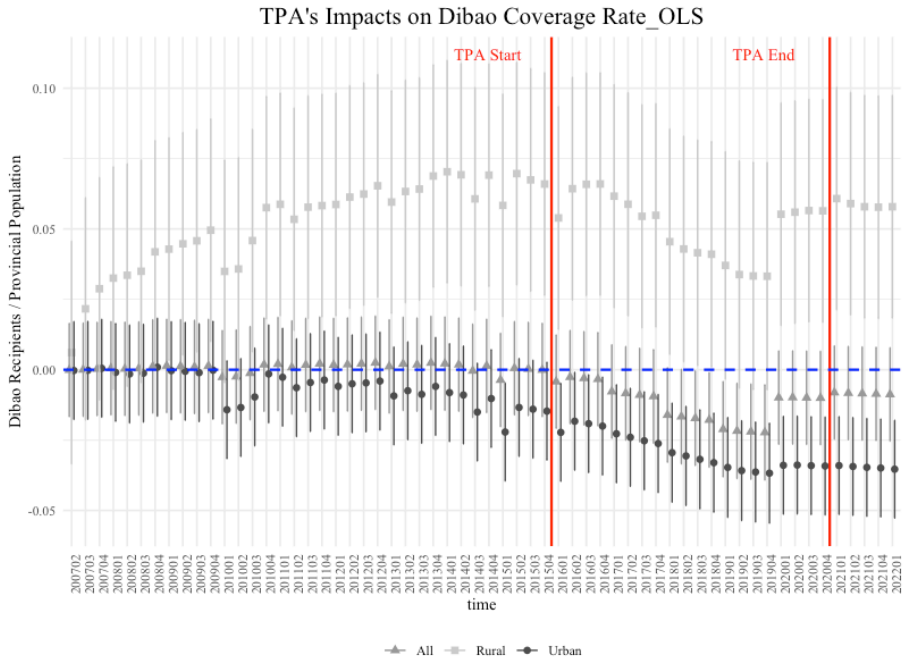

Figure A-2 TPA's Impact on Dibao Coverage Rate – OLS DiD

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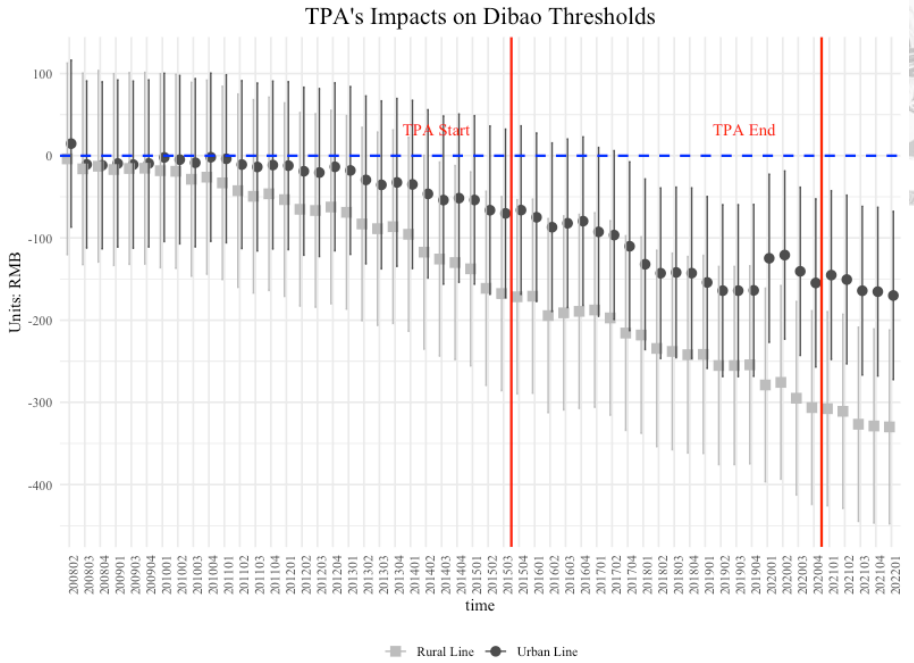

Figure A-3 TPA's Impact on Dibao Thresholds – OLS DiD

2. DiD x Lag Model

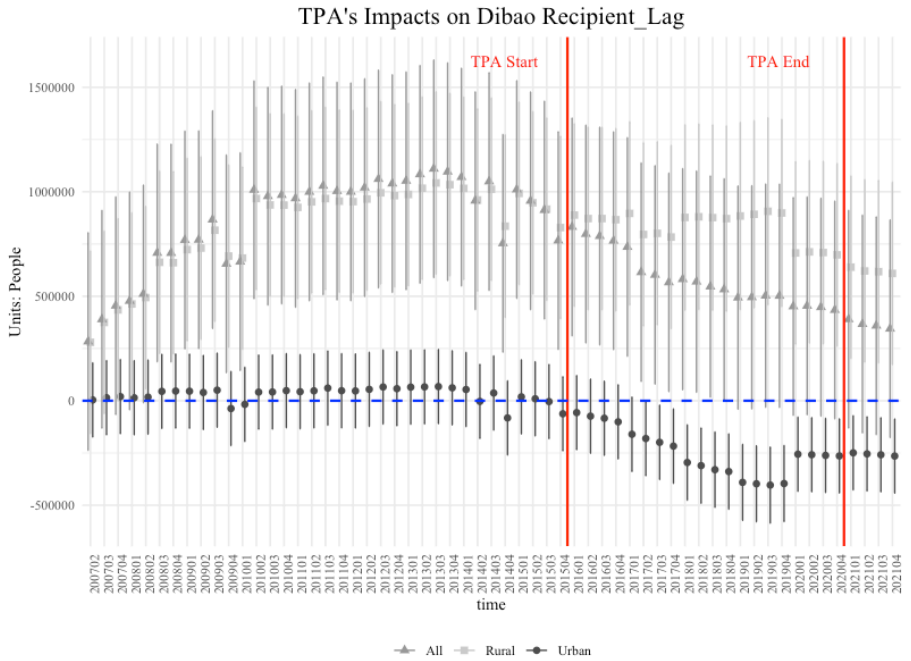

Figure A-4 TPA's Impact on Dibao Recipient – Lag DiD

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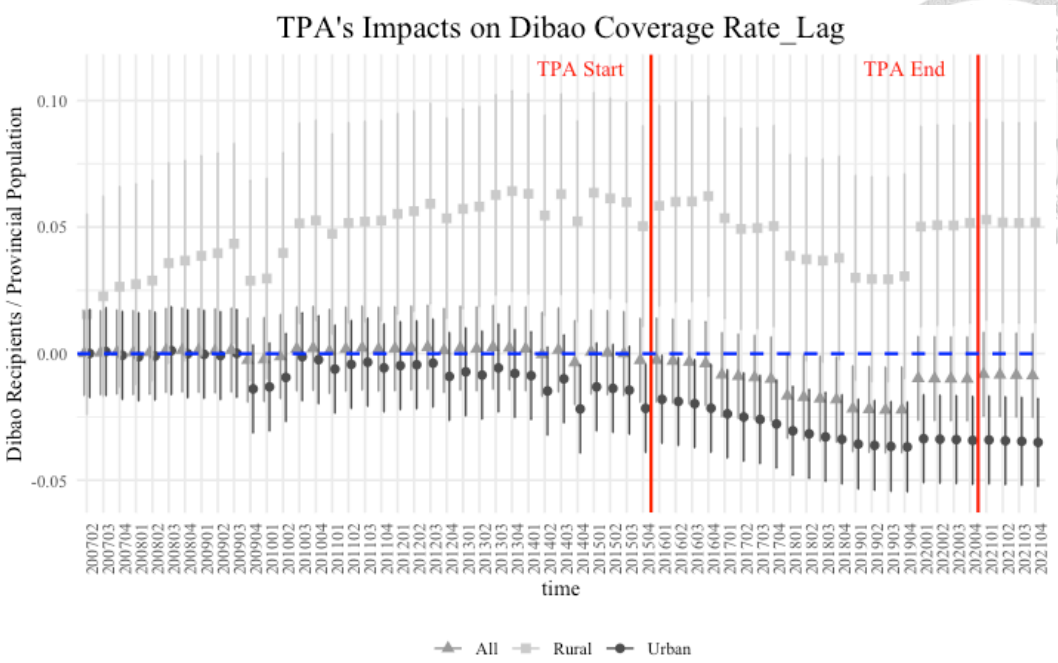

Figure A-5 TPA's Impact on Dibao Coverage Rate – Lag DiD

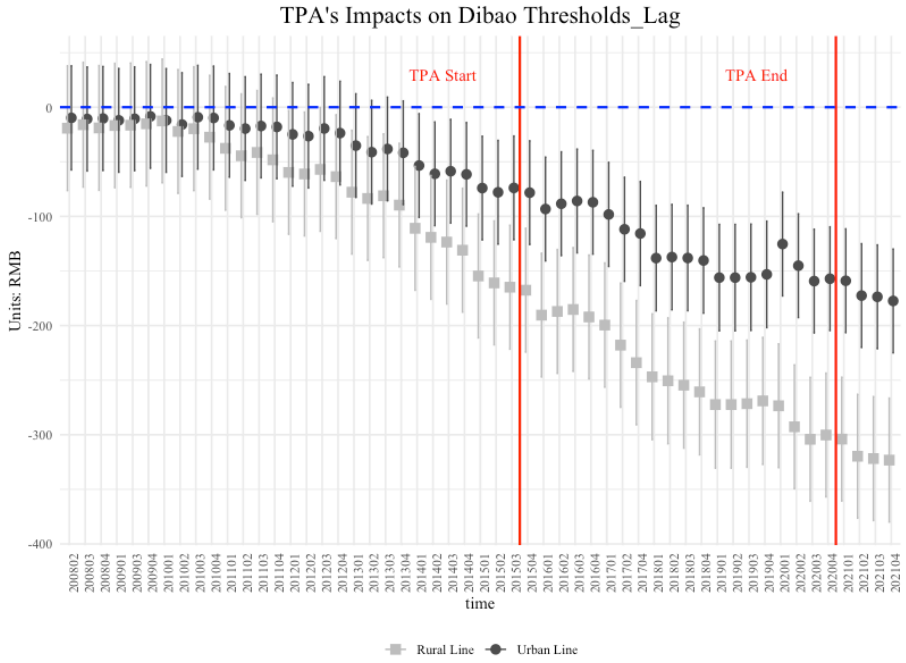

Figure A-6 TPA's Impact on Dibao Thresholds – Lag DiD

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3. DDD x OLS Model

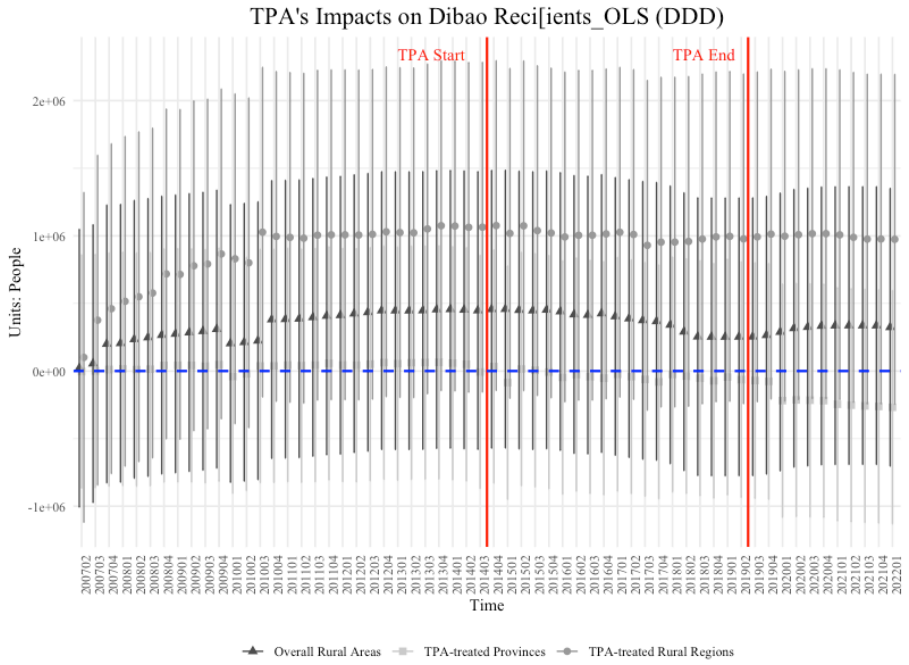

Figure A-7 TPA's Impact on Dibao Recipient – OLS DDD

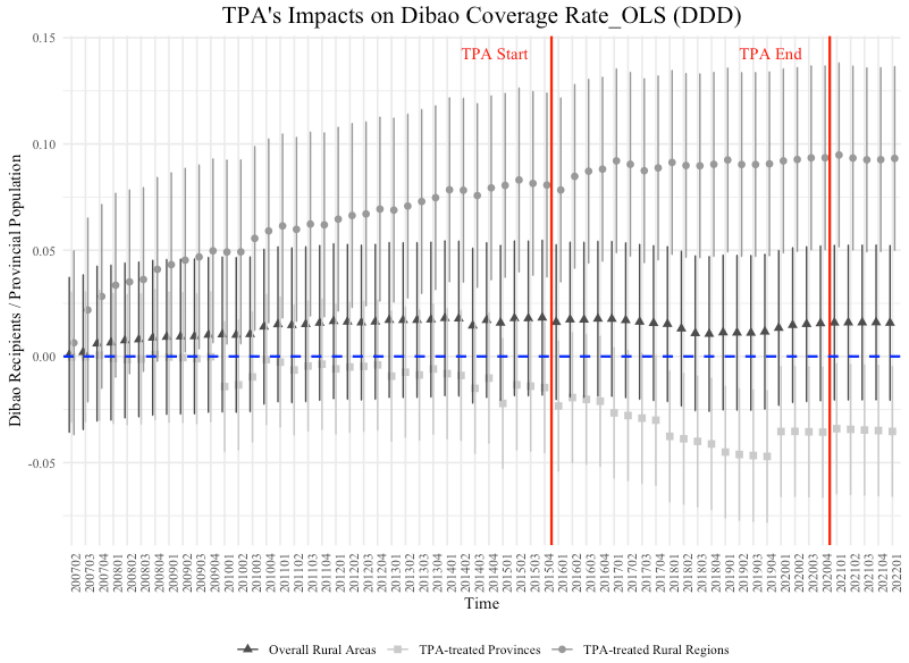

Figure A-8 TPA's Impact on Dibao Coverage Rate – OLS DDD

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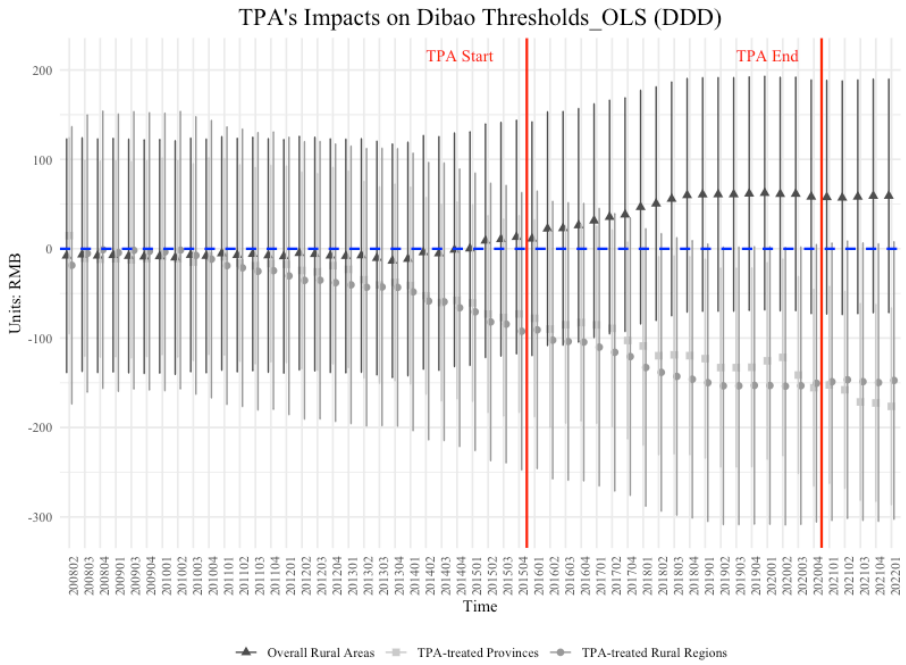

Figure A-9 TPA's Impact on Dibao Thresholds – OLS DDD

4. DDD x Lag Model

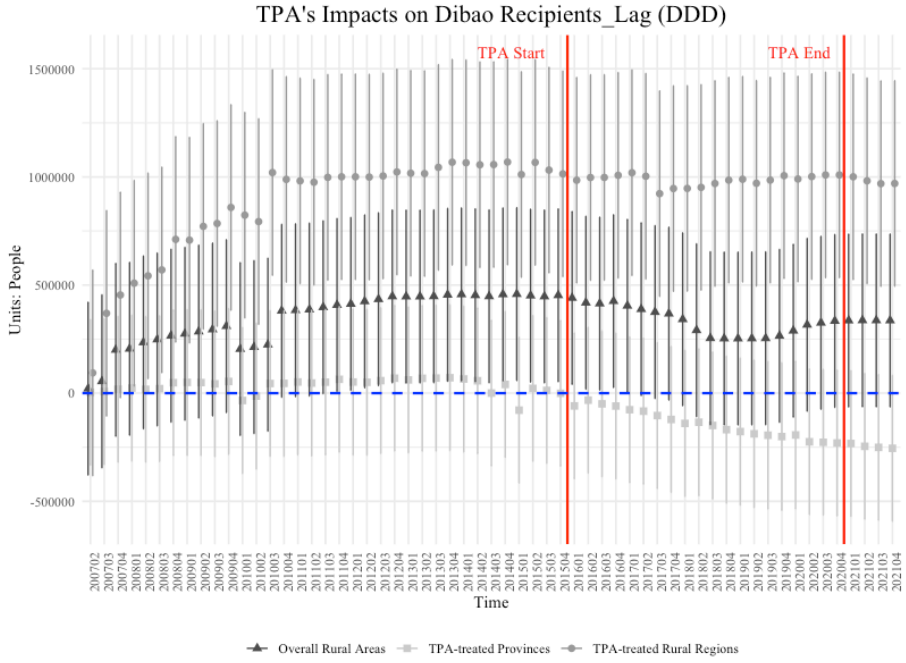

Figure A-10 TPA's Impact on Dibao Recipient – Lag DDD

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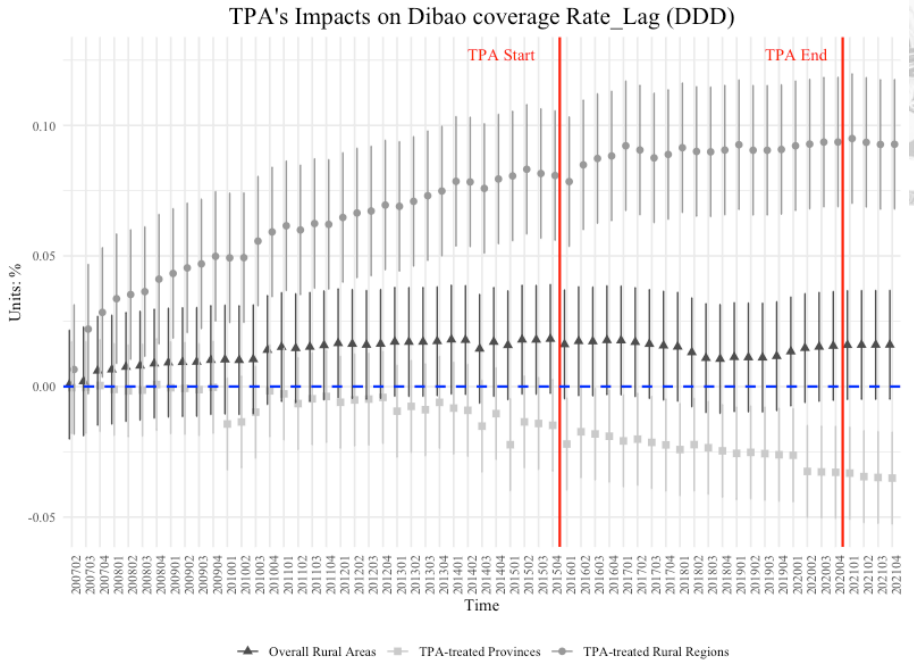

Figure A-11 TPA's Impact on Dibao Coverage Rate – Lag DDD

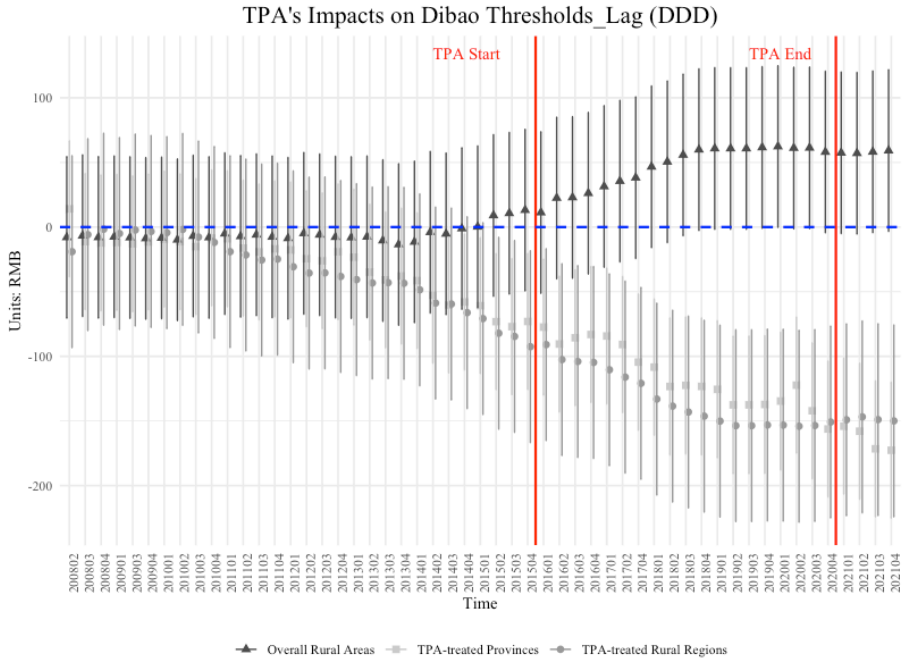

Figure A-12 TPA's Impact on Dibao Thresholds – Lag DDD

By reviewing the plots above, we observe that the fixed effects situation demonstrated in Chapter 5 is largely consistent with the OLS and Lag models.

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TPA Impacts on Income

We also gathered annual income data from the Statistic Yearbook published by NBS and analyzed the empirical data using the DDD approach. The results are illustrated below. It is evident that while income increases over the years (as shown in Figure B-1), both rural characteristics (Figure B-2) and TPA treatment (Figure B-3) are detrimental to residents' income. Notably, in rural regions within the TPA-treated group, residents' income increased during the TPA period (Figure B-4).

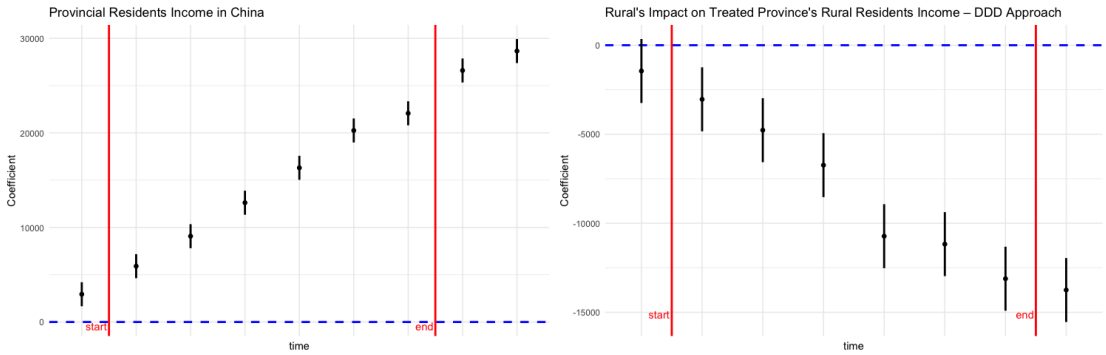

Figure B-1 Overall Residents' Income Evolution – DDD (Left)
Figure B-2 Rural Residents' Income Evolution – DDD (Right)

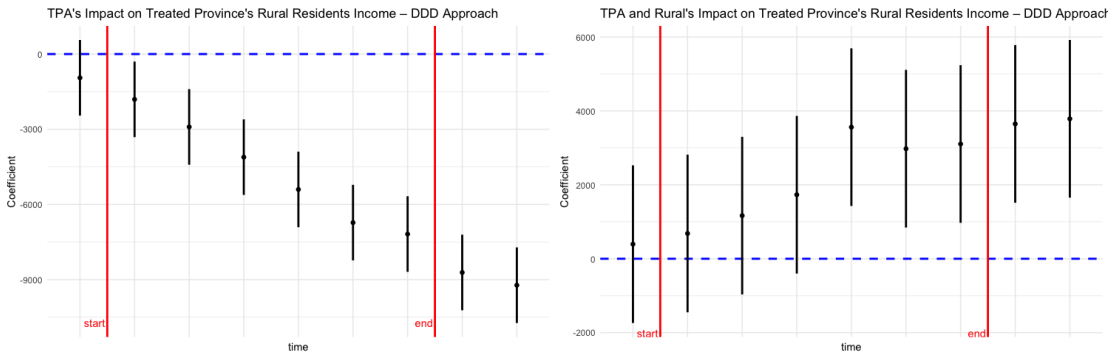

Figure B-3 TPA's Impact on Residents' Income – DDD (Left)
Figure B-4 TPA's Impact and Rural Effect on Residents' Income – DDD (Right)

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Supplementary Table

For the estimate result of control variables "CPI," we prepare Table C-1 below.

Table C-1 Estimate of CPI

Model	CPI x Urban		CPI x Rural		CPI	
	B	S.E.	B	S.E.	B	S.E.
DiD Urban Model	-0.1770	0.4699				
DiD Rural Model			0.3972	0.4403		
DDD Model					-0.1121	0.3510

*Note: +: p<0.1; *: p<0.05; **: p<0.01; ***: p<0.001*

To capture the strength of the TPA implementation and evaluate its impacts on Dibao, we measure dose levels by variable "weights." The estimated result refers to the tables below.

Table C-2 Estimate of Weights

DV	Model	weighted	
		B	S.E.
Recipients	DiD All	-412117.0	355441.9
	DiD Urban	842953.08 ***	121353.7
	DiD Rural	-1255070.1***	298259.5
	DDD	-206058.52	161957.5
Coverage Rate	DiD All	-0.0017	0.0030
	DiD Urban	-0.0192**	0.0063
	DiD Rural	-0.0519***	0.0157
	DDD	-0.0355***	0.0084
Thresholds	DiD Urban	249.9060***	65.51
	DiD Rural	-186.5095*	75.01
	DDD	45.4370+	26.33

*Note: +: p<0.1; *: p<0.05; **: p<0.01; ***: p<0.001*

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