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Study on the Poverty Reduction Effect of Pratt & Whitney's Financial Development

-- A Case Study of the Northern Part of Anhui Province

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Abstract

This paper measures Pratt & Whitney's Financial Index from 2015 to 2018 in eight cities in northern Anhui Province, and analyzes the poverty reduction effect of Pratt & Whitney's financial development by using threshold regression and panel model. The results show that: 1. A 1% increase in financial development in northern Pratt & Whitney will reduce the gap between rich and poor by 5.5% , and the marginal effect of Pratt & Whitney's poverty reduction will gradually diminish as his financial development increases. 2. By region, only the northern region has a threshold effect, with Pratt & Whitney's financial development having the strongest impact on poverty reduction in the northern region, followed by the Central and southern regions. Based on the above conclusions, some suggestions are put forward, such as promoting the reform of financial mechanism, balancing the financial development of Pratt & Whitney between Regions, further implementing the rural revitalization strategy and promoting the coordinated development between urban and rural areas.

Keywords

Pratt & Whitney Finance; Poverty Reduction Effect; Panel Data.

1. Introduction

The Grameen Bank was founded in Bangladesh in the 1970s. Its success in providing small loans to poor people and small businesses has been emulated in many countries, it has aroused the concern of the academic circles on the poverty reduction effect of microcredit. Pratt & Whitney's financial concept, introduced by the United Nations in 2005, is an extension of microfinance, pratt & Whitney Finance has been seen as an important mechanism for tackling poverty, promoting sustainable economic development and achieving inclusive growth. The third plenary session of the 18th CPC Central Committee in 2013 put forward the policy of "Developing Pratt & Whitney's finance" for the first time. In 2015, the No. 1 Central Government document once again proposed to"Strengthen inclusive finance in rural areas.". In 2016, the State Council released the "Plan for promoting Pratt & Whitney's financial development (2016-2020)", promoting "Inclusive finance" as a national development strategy. The first central government document of 2020 stressed the need to "Steadily expand Pratt & Whitney's financial pilot program in rural areas of our country, classify the credit ratings of rural residents and small and medium-sized enterprises at the county level, establish a more complete inclusive financial service system, and make Pratt & Whitney's financial products sustainable, collateral-free and able to maintain low interest rates.".

Pratt & Whitney Finance is characterized by its target-specific services, equal opportunities and business sustainability. Its main service targets are low-income residents and small and micro enterprises, and it is an important tool for financial poverty alleviation. Pratt & Whitney's theoretical approach to financial poverty reduction can be divided into direct and indirect

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aspects. The direct aspects include easing credit constraints on the poor and increasing the coverage of financial resources, the indirect aspect is to reduce poverty mainly through the spillover effect of economic growth. As one of our economic development areas, the study of the poverty reduction effects of the Pratt & Whitney Finance in the north of the province has certain implications for the developed areas of our country, it is also of great practical significance to the overall success of the current Xiaokang of our country and the fight against poverty.

How, then, to construct a rational dimension to measure the financial extent of Pratt & Whitney in the developed world? For the developed regions of our country, has the development of inclusive finance brought into play the effect of poverty reduction? Is there regional heterogeneity in the poverty reduction effects of financial development, Pratt & Whitney? These are the problems that this article tries to solve.

2. Literature Review

In recent years, the impact of financial development on poverty has become the focus of academic circles. Many scholars have explored the poverty reduction effect of Pratt & Whitney's financial development from both theoretical and empirical aspects.

In the theoretical research, scholars mainly focus on the definition and connotation of Pratt & Whitney's finance, the direct poverty reduction role of inclusive finance, and the indirect poverty reduction role of inclusive finance. Rothstein and others (2016) suggested that the main focus of financial poverty alleviation should be on the development of Pratt & Whitney Pratt & Whitney's financial sector, so that the development of Hong Kong's financial sector can effectively achieve the goal of lifting all people out of poverty. Based on the spatial structure of poor families, Lu panpan and Zhang Changquan (2017) set up a theoretical framework to analyze how poor families with access to Pratt & Whitney Financial Services can cross the poverty line and lift themselves out of poverty, poor families who can not access financial services because of financial exclusion will fall into the"Poverty trap". Bai Dangwei and others (2018) believe that Pratt & Whitney Finance can promote the income growth of individuals, families, small and micro enterprises, improve the financial situation, and enhance the resilience of the poor and vulnerable groups. In terms of empirical research, most of the results show that Pratt & Whitney's financial development has a positive effect on poverty alleviation. Han Xiaoyu (2017) by measuring the Pratt & Whitney Financial Index of our provinces from 2006 to 2014, using the PVAR model, we find that the financial development of Pratt & Whitney in the East, Middle and west of our country can effectively alleviate poverty, the marginal effect size was west > middle > East. (2019) based on panel data from 30 provinces of our country, empirical tests show that Pratt & Whitney financial development has a significant poverty reduction effect on the rural poor, it shows the"U"-shaped feature of first decreasing and then enlarging.

On the whole, there are a lot of domestic and foreign literatures on the poverty reduction effect of Pratt & Whitney Pratt & Whitney's financial development. Most of them think that the financial development can effectively alleviate poverty, which provides some reference for this paper. However, there are still some problems to be improved in the existing literature. In the literature of domestic and foreign scholars, most of them focus on the national level and the provincial panel, and do not discuss the poverty reduction effect of inclusive financial development in developed areas And there is no discussion of the non-linear effects of Pratt & Whitney's financial poverty reduction. Based on the existing literature, the innovation of this research is mainly embodied in: first, taking Anhui Province, one of the developed regions of our country, as an example, the poverty reduction effect of Pratt & Whitney's financial

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development is analyzed; The second is to use a combination of linear and nonlinear models to study the poverty reduction effects of financial development in Pratt & Whitney Province.

3. Pratt & Whitney's Theory that Financial Development Works to Reduce Poverty

Pratt & Whitney the poverty reduction effect of finance can be considered both directly and indirectly. At a direct level, Pratt & Whitney Finance works to reduce poverty in two main ways:

(1) reducing poverty by easing credit constraints on the poor

The development of Pratt & Whitney finance can lower the "Threshold" of financial services, thus making the rural residents less constrained by credit and increasing the rural residents' access to financial services. Traditional financial systems tend to favour large, economically powerful customers, isolating low-income groups from credit markets and thus concentrating credit assets in financial markets. But the growth of Pratt & Whitney Finance has spread credit assets and reduced credit constraints, providing financial services such as loans, savings and insurance to poor families, vulnerable family-run workshops and small and micro businesses. This not only smoothes the consumption of low-income groups and promotes the benefits of their participation in investment, but also provides low-income groups with safeguards such as insurance, which disperses the uncertainty in investment and thus has a poverty-reducing effect.

(2) Reduce poverty by increasing the coverage of financial resources

The high-income group can pay the cost to enjoy the financial service, can invest the high-return project, and obtain the higher income by virtue of the economic strength and the social resources; However, low-income people can not meet the conditions of bank credit service because of weak economic strength, poor credit environment and less mortgage assets, and can not access financial services as smoothly as high-income groups. It is difficult for traditional financial institutions to lower the"Threshold" of financial services because of their comprehensive consideration of cost and profit when providing financial services. Pratt & Whitney's financial development can improve the financial accessibility of the poor, reduce the cost of financial products and services, and provide access to financial services for the poor, thereby alleviating poverty through the high return of financial services. With regard to the allocation of financial resources, the traditional financial system prefers to allocate financial resources to regions with high user activity, in order to reduce the cost of services, risk control and profitability, this has led to regional inequalities in financial resources. Pratt & Whitney's financial development focuses more on disadvantaged groups such as poor residents and small and micro enterprises. With the development of Pratt & Whitney's financial sector, financial resources and capital elements will be tilted towards the poor areas by relying on Pratt & Whitney's financial business, so as to reduce financial exclusion in poor areas and effectively alleviate poverty.

Indirectly, Pratt & Whitney finance reduces poverty through the spillover effects of economic growth. Pratt & Whitney financial development can raise the level of economic growth and exert the spillover effect of economic growth on low-income groups in rural areas, thus narrowing the income gap between urban and rural areas. Pratt & Whitney Finance is an important force to promote economic growth. Inclusive financial development can increase the income of low-income groups, largely due to the intermediary effect of economic growth. Pratt & Whitney finance has a “Trickle-down effect” on development in poor areas, increasing consumption and investment by high-income groups in poor areas and increasing resource allocation and economic growth in poor areas. Economic growth in poor areas can increase the income of low-income residents to a certain extent, thus reducing the gap between the rich and the poor. But economic growth does not necessarily narrow the gap between rich and poor.

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Only when economic growth is inclusive can more rural residents change their endowments and enjoy the fruits of economic growth, to narrow the gap between the rich and the poor.

Taken together, Pratt & Whitney's financial development can reduce poverty by having an impact on the living standards of the poor, both directly and indirectly. But our country is vast, the economic situation of each region has a big gap, the stock of inclusive finance in each region has its own height, and the marginal poverty reduction effect of inclusive finance is also different. Based on this, this paper proposes the following hypothesis:

H1: Pratt & Whitney, the poverty reduction effect of financial development will vary according to the region's financial inclusion stock.

H2: Pratt & Whitney Financial Development reduces poverty both directly and indirectly, and in general, Pratt & Whitney Finance.

Development can effectively alleviate poverty.

4. The Pratt & Whitney Financial Development Index

Based on the measurement methods of Sarma (2016) and Yang Mingwan (2019) , this paper constructs three dimensions to evaluate Pratt & Whitney's financial development: the quality of financial services, the use of financial services, and the availability of financial services. Considering that our country is a big agricultural country and a big population country, this paper adds some variables with our characteristics, such as small and micro-enterprise loan balance, agriculture-related loan balance. On this basis, 20 cities above the prefecture-level cities in Anhui Province were selected as samples, and divided by region 1, because Shenzhen has fully achieved urbanization, there is no rural data, therefore, Shenzhen City is not included in the sample. The original data used in this paper are from the past years, “Anhui Province Statistical Yearbook”, the city statistical yearbook, the People's Bank of China, Guangzhou Branch official website. This paper uses the following methods to measure the financial index of Pratt & Whitney from 2015 to 2018.

4.1. Design Index System

This paper selects the above three dimensions and ten measurement indicators, of which the specific measurement indicators are:

Dimension 1: Quality of financial services. In accordance with the requirements of the Pratt & Whitney Pratt & Whitney Financial Development Plan (2016-2020)(the plan) , we should enhance the efficiency of the use of financial instruments in the course of promoting the financial development of Hong Kong, at the same time, it is necessary to improve the loan access rate of farmers and micro-enterprises, so the specific indicators chosen in this dimension are the loan balance/total loan balance (i 1) and the agricultural loan balance/total loan balance (i 2) .

Dimension 2: financial services ge. The extent to which financial services are used can reflect the breadth and depth of financial coverage.

The plan calls for improving financial support for entrepreneurs such as the disadvantaged and the rural poor, and increasing the coverage of credit insurance for small and micro enterprises and loan guarantee insurance, to increase the coverage rate of insured farmers to more than 95% . Residents' savings and loans can directly reflect the degree of financial services, this paper uses the loan-deposit and insurance status of financial institutions to measure the use of financial services dimension. The specific indicators are: financial institution deposits/regional GDP (I 3) , financial institution loans/GDP (I 4) , insurance income/regional permanent population (I 5) , insurance income/regional GDP (I 6) .

Dimension Three: availability of financial services. “The plan” mentioned that to achieve the township and township institutions, village and village services, township.

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In order to achieve full coverage of the physical branches of banks and insurance services, the town must increase the number of branches and service personnel of financial institutions in order to make financial services available to a wider range of residents. The geographic coverage and population coverage of finance can reflect a country's Pratt & Whitney Financial Development level, therefore, the specific measurement indicators of the financial service accessibility dimension are: number of business outlets/area (square kilometers)(i 7) , number of employees/area (square kilometers)(i 8) , number of business outlets/area resident (I 9) , number of employees/area resident (I 10) .

The determination of the index weight of each dimension.

There are many methods to determine the index weight, mainly including subjective weight, objective weight, combination weight of three methods.

This paper uses the method of Chi Guotai et al. (2012) for reference, and uses different weighting methods for the same index system.

Spearman rank correlation coefficient was used to test the robustness of different weighting methods. Because the index system chosen in this paper has no authoritative subjective scoring reference in academic circles, this paper chooses three objective weighting methods: coefficient of variation method, deviation method and entropy method to compare, in order to ensure the robustness of different objective weighting methods.

1. Coefficient of variation method. The coefficient of variation VI is determined by the ratio of the standard deviation to the average of each index, that is, by dividing the coefficient of variation of each index by the sum of the coefficient of variation of all the index dimensions, the weight of each dimension index is obtained, namely:

2. Deviation maximization weighting method. The deviation maximization weighting can reflect the difference of each evaluation object according to the characteristics of the actual data among the indicators, but the disadvantage is that if the sample is not representative, the weighting is not reasonable. The principle is from the impact of the evaluation results from the perspective of the evaluation object, the degree of deviation of the value of indicators to determine the weight of indicators should be given. The weight of each dimension is obtained by dividing the deviation of each dimension by the sum of the coefficient of variation of all dimensions. Represents the deviation of the first indicator.

3. Entropy weight method. The entropy weight method is a concept of thermodynamics, which has been widely used in the field of social economy. In general, the smaller the information entropy EJ of an index is, the more information the index value provides, the greater its weight. The entropy weight formula is as follows:

$$E_j = -(\ln n)^{-1} \cdot \sum P_{ij} \cdot \ln P_{ij}$$
$$W_i = \frac{1-E_j}{m-\sum E_j} \quad (1)$$

Where EJ is the information entropy of the J Index, n is the number of evaluation objects, M is the number of evaluation indicators.

4. Spearman rank correlation test. In this paper, the Spearman rank correlation coefficients of the three weighted methods are tested, and the coefficients of the three results are very close to 1, three objective weighting methods have little influence on the result of weight calculation. Therefore, in these three methods, no matter which method we choose to calculate the weight of the index is reasonable. The method of coefficient of variation (CV) is very popular in the literature on the measurement of Pratt & Whitney's Financial Index, and many authoritative literatures have adopted this method. Therefore, this paper also chooses the CV method to measure Pratt & Whitney's Financial Index.

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the measurement of the index values of each dimension

After converting the values of each dimension index into the standardized data between 0 and 1, the values are converted by the weight. The concrete formula is: the calculated value of the first dimension index, which represents the weight of the first dimension index, and 0 < wi< 1, the greater the WI, the greater the weight of the dimension in the quantification of financial inclusion. Mi and MI represent the maximum and minimum values of the first indicator, respectively.

5. Econometric Model Setting and Empirical Analysis

(1) variable selection

1. Explained variable: the GAP between rich and poor (GAP) . Since there is no uniform international definition of poverty and our families spend a lot on health and education, Engel's coefficient measures of poverty are not appropriate in our country. The disposable income ratio method is simple and easy to obtain, but it can not reflect the impact of urban-rural population change on the wealth gap The Keeny coefficient measures the gap in total income by dividing the population into income groups, but it is only sensitive to changes in the income of the middle class and does not reflect changes in income at either end. As a province with a large income gap between the rich and the poor, the income gap between the rich and the poor mainly reflects changes in both ends of the income, while the Tyre index is more sensitive to changes in the income of high-income and low-income groups. So this article adopts the practice of Wang Shaoping and Ouyang Zhigang (2008) , using the Tyre index to measure the gap between the rich and the poor. The formula is:

$$GAP_{it} = \sum_{j=1}^{2} \frac{p_{jt}}{p_t} \ln \left(\frac{\frac{p_{jt}}{p_t}}{\frac{Z_{jt}}{Z_t}} \right) \quad (2)$$

In the upper form, J is for urban and rural areas, J = 1 is for urban areas, J = 2 is for rural areas, J is for urban or rural population at time t, and J is for total population at time T, it represents the total income of a town or country during t period, and it represents the total income during t period.

2. Explanatory variable: Pratt & Whitney Financial Index (IFI) as measured above.

3. Control variables: the urbanization rate, industrial structure, government expenditure, education level, economic development level and opening level are selected as the control variables.

(1) urbanization rate (UR) . Hu Rongcai and Feng Changzhang (2011) believe that increasing the level of urbanization in cities and towns can reduce the gap between the rich and the poor. In this paper, the ratio of urban population to total population is used to calculate the urbanization rate.

(2) industrial structure (IS) . Xu Yuanhua (2014) believes that industrial structure will have an impact on the gap between the rich and the poor. This paper uses the sum of the output value of the secondary and tertiary industries and the proportion of GDP to calculate.

(3) government expenditure (PAY) . Wang Yiming and Cai Xiang (2010) believe that local finance can have an impact on the wealth gap. In this paper, the local general, the financial expenditure take logarithm (LnPAY) to indicate the government financial expenditure.

(4) education level (Edu) . Sun Jiguo and Zhao Junmei (2019) found that education level can affect the gap between the rich and the poor. This paper uses the number of high school students per 100 person-miles (including only the general high school) to measure the educational level.

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(5) the level of economic development (PGDP) . Li Zhijun (2015) through panel data, the analysis found that the level of economic development and the degree of openness to the outside world has an impact on the gap between the rich and the poor. This paper uses the per capita GDP index and the logarithm (LNPGDP) to measure the level of regional economic development.

(6) level of openness. This paper uses the ratio of total import and export to GDP to measure the level of regional opening-up.

(2) descriptive statistical analysis of variables

Table 1 is a descriptive statistical analysis of the variables, and according to Table 1, the explained variables had a maximum of 0.0559 and a minimum of 0.0055, with an average of 0.0331 and a standard deviation of 0.0143, respectively, this shows that the gap between the rich and the poor in Anhui province is large. The maximum value of Pratt & Whitney Financial Index is 0.54, the minimum value is 0.018, the average value is 0.1788, and the standard deviation is 0.1254. This shows that the overall level of inclusive financial development in Anhui province is not high, and there are great differences among cities. Among the controlled variables, the urbanization rate, fiscal expenditure and the level of opening to the outside world have great differences in different regions.

Table 1. Descriptive statistical analysis of variables

Variable classification	Variable	Average	Median	Standard deviation	Minimum	Maximum
Dependent variable	Gap	0.0331	0.0356	0.0143	0.0055	0.0559
Independent variable	If	0.1788	0.121	0.1254	0.018	0.54
Control variables	UR	0.6221	0.5507	0.1811	0.4002	0.9498
	LS	O. 9039	0.907	0.0639	0.8141	O. 9970
	LnPAY	3.6003	3.543	0.6138	2.359	5.4718
	EDu	0.6886	0.6914	0.1916	0.3068	1.2092
	LNPGDP	4.6658	4.6677	0.0162	4.621	4.6977
	Open	0.4129	0.2344	0.4067	0.0396	1.6449

Model establishment and regression analysis

This paper constructs a nonlinear and a linear panel model to analyze the reduction and poverty effects of Pratt & Whitney Finance. The concrete models are as follows:

Nonlinear Model (Threshold Model)

$$\mathrm{GAP}_{\mathrm{i},t} = \alpha_{\mathrm{i}} + \beta_1 \mathrm{IFI}_{\mathrm{i},t} \mathrm{I}\left(\mathrm{IFI}_{\mathrm{i},t} \leqslant \gamma\right) + \beta_2 \mathrm{IFI}_{\mathrm{i},t} \mathrm{I}\left(\mathrm{IFI}_{\mathrm{i},t} \geqslant \gamma\right) + \lambda i\, X_{i,t} + \varepsilon_{i,t} \tag{3}$$

The threshold variable is the intercept term of the model, the elastic coefficient of different threshold interval is the threshold value, and the coefficient of other control variables is denoted.

Is an indicative function, 1 when the conditions in parentheses are met, or 0 otherwise. Where I is the location and T is the time.

Linear panel model

$$\mathrm{GAP}_{\mathrm{i,t}} = \alpha_{\mathrm{i}} + \beta_1 \mathrm{IFI}_{\mathrm{i,t}} + \lambda i\, X_{i,t} + \varepsilon_{i,t} \tag{4}$$

It is the intercept term of the model, the coefficient of the core explanatory variable, the coefficient of the other control variable, denotation, I for the specific region, T for the time.

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Analysis of the whole regression result in the north of Anhui Province

Threshold effects were tested for the northern Anhui population sample using STATE15 non-dynamic threshold regression, and Table 2 shows the results of the threshold regression, which can be found for the northern Anhui population sample without the threshold, effect, and therefore, only linear panel model was used to analyze the whole sample in the north of Anhui Province.

Table 2. IFI threshold effect test results

Models	F value	P value	BS Times	1% threshold	5% threshold	10% threshold
Single Threshold	7.16	0.551	1000	25.8725	20.8674	16.3318

First, f-test and Hausman-test were used to Regression analysis the model to determine whether the mixed estimate, the fixed-effect model or the random-effect model was used. The results of the tests are shown in Table 3, where the statistical value of the f-test was 111.56, P = 0.0000, so the selection, fixed-effects model was better than the mixed estimate, and the statistical value of the Hausman test was 22.28, P = 0.0023, respectively, so the fixed-effects model is used.

Table 3. Results of F test and Hausman test

Test method	Statistics	Prob	Conclusion
F Test	111.56	0	Fixed effects model
Hausman test	22.28	0.0023	Fixed effects model

Table 4. Regression results of the whole sample in the north of Anhui Province

	Coefficient value	Standard error	P value
Ifi	-0.0552 * * *	0.0198	0.007
UR	-0.0664 * * *	0.0171	0
LS	0.0778 * *	0.0285	0.008
LnPAY	0.0065 * *	0.0021	0.003
EDU	-0.0223 * *	0.0111	0.048
LNPGDP	0.0398	0.0803	0.622
Open	- 0.0095 * *	0.0039	0.019
c	0.1701	0.376	0.652
PROB > f = 0.000O r2 = 0.7070			

From the regression results of the model in table 4, it can be seen that all variables except the level of economic development (LNPGDP) are significant. To explain the variable of financial inclusion, the IFI has a significant negative correlation with the gap between the rich and the poor. That is, for every 1% increase in Pratt & Whitney's financial development, the gap between the rich and the poor may decrease by 5.5% . This shows that the development of Pratt & Whitney's finance has weakened the effect of financial exclusion and promoted the reduction of poverty and increase of farmers' income, which is also in line with the theoretical analysis of

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this paper, pratt & Whitney's financial development aims to reduce the gap between rich and poor by reducing credit constraints in rural areas, increasing the coverage of financial resources in rural areas, and promoting economic growth. Among the controlled variables, the level of economic development was not significant, and the urbanization rate, education level and opening level were negatively correlated with the gap between the rich and the poor. The increase of urbanization rate and education level can increase the opportunity for rural residents to work in cities, raise the income level, and the level of economic opening can improve the economy and development level of regions, the industrial structure and government financial expenditure have a positive correlation with the gap between the rich and the poor. This may be due to the fact that the development of the secondary and tertiary industries and government financial expenditures are more inclined to urban areas, and that the development of the secondary and tertiary industries requires more skilled personnel, while the rural and rural poor residents lack the corresponding educational qualifications and skills, this has led to a widening gap between rich and poor.

Analysis of regional regression results within the province

The threshold regressions were carried out in the northern, central and southern areas of Anhui province. It is found that there is no threshold effect in other regions, while there is a double threshold effect in northern regions. Therefore, in the regression analysis, other areas only use linear panel model for analysis, for the northern areas using non-linear threshold regression and linear panel, model analysis.

Table 5. Sub-regional Threshold Effect Test

	Single Threshold			Double Threshold			Triple threshold		
	F value	Value	Threshold	F value	P value	Threshold	F value	P value	Threshold
Northern Guangdong	29.08	0.278	0.064						
Pearl River Delta	7.86	0.406	0.32						
Western Guangdong	8.01	0.468	0.057						
East Guangdong	72.19	0.005	0.103	38.76	0.063	0.196	16.82	0.378	0.097

Table 6. Regression results in northern Anhui Province

	Threshold effect	Fixed effect
LFL	-0.0159 * * * (0.0033)	-0.0112(0.0096)
IFL	-0.0288 * * * (0.0035)	
IFL	0.0122 * * * (0.0026)	
IFL	0.0201 * * * (0.0024)	
UR	-0.0290.0223)	-0.0817 * * * (0.0107)
LS	0.7588 * * * (0.0240)	0.0249 * * (0.0099)
lnPAY	-0.0080 * * * (0.0005)	-0.0060 * * * (0.0016)
EDU	-0.0129 * * * (0.0017)	-0.0003(0.985)
LNPGDP	0.0899 * * * (0.0092)	0.0001 * * * (0.3627)
Open	0.0642 * * * (0.0010)	0.0366 * * (0.0161)
c	-1.0577 * * * (0.0527)	0.03970.2078)
R 2	O. 9995	0.9643
Hausman		Chi2 = 25.03 = 0.0008
		Fixed effect

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Table 6 shows the regression results for the northern region of Anhui province. Through the threshold regression model, we can find that when the IFI value is below 0.097, the elasticity coefficient of Pratt & Whitney Finance is significantly negative; When the IFI value is between 0.097 and 0.103, the elasticity coefficient of Pratt & Whitney's finance is still significantly negative, indicating that with the development of Pratt & Whitney's finance in Pratt & Whitney, the income gap between urban and rural areas will decrease When the IFI value is greater than 0.196, the elasticity coefficient of the variables increases and is positive significant, indicating that with the further improvement of Pratt & Whitney's financial level, the elasticity coefficient of the variables becomes positive significant, pratt & Whitney Finance is starting to widen the income gap between urban and rural areas. The Hausman results show that the fixed-effect model is better than the random-effect model. After regressing the fixed effects, we found that the Pratt & Whitney financial coefficient in the northern region of Anhui is negative, but not significant. In general, Pratt & Whitney's financial development has a "U"-shaped pattern of first narrowing and then widening poverty alleviation. In controlling variables, industrial structure, economic development level and opening-up level have negative effects on poverty alleviation, while urbanization rate, government expenditure and education level can alleviate poverty.

Table 7. Regional regression results

	South	The Middle	North
IFL	0.0111 * * * (0.0031)	-0.0498 * * * (0.0032)	-0.2646 * * * (0.0026)
UR	-0.1150 * * (0.0421)	-0.1731 * (0.0558)	-0.3674 * * * (0.0245)
LS	-0.1319 * * * (1.2093)	0.5905 * * * (0.0210)	-0.0216(0.0371)
lnPAY	-0.0034 * * (0.0014)	-0.0091 * * * (0.0009)	-0.0006(0.0019)
EDU	-0.0428 * * * (0.0499)	-0.0370 * * * (0.0026)	-0.0204 * (0.0101)
LNPGDP	0.0009(0.0068)	0.0971 * * * (0.0150)	-0.0217(0.0195)
Open	-0.0012 * * (0.0022)	-0.1148 * * * (0.0095)	0.0289 * * (0.0083)
c	0.2680 * * * (0.0605)	-0.7591 * (0.00910)	0.3526 * * (0.0898)
R 2	0.8389	0.9941	0.9458
Hausman	Chi2 = 23.72 p = 0.0013	Chi2 = 7.9 p = 0.0481	Chi2 = 63.12 = 0.000O
	Fixed effect	Fixed effect	Fixed effect

As can be seen from table 7, the coefficient for financial development in the Central and northern regions of Pratt & Whitney is negative, indicating that Pratt & Whitney's financial development can reduce the gap between the rich and the poor, the effect of inclusive financial development on narrowing the gap between the rich and the poor is the largest in the northern

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region, followed by the Central Region. Because the northern region is part of the underdeveloped region of Anhui Province, the gap between the rich and the poor is wider, and Pratt & Whitney financial can promote the income of the poor residents, increase their willingness to participate in financial services, and alleviate the poor, in order to effectively alleviate the poverty level in these areas, we should exert the leverage effect of financial support to the vulnerable groups. On top of that, the government's obvious role in helping Pratt & Whitney Finance make a bigger difference in reducing poverty. It can also be concluded that the greater the degree of financial development in the region of Pratt & Whitney, the lower the marginal impact on narrowing the gap between the rich and the poor.

6. Conclusion and Suggestion

Based on the financial data from 2015 to 2018 in eight cities in northern Anhui province, this paper empirically analyzes the poverty reduction effect of Pratt & Whitney's financial development with panel model. The results of the total sample show that there is a significant negative correlation between Pratt & Whitney's financial development and the gap between the rich and the poor. That is, an increase in the level of financial development in Pratt & Whitney can reduce the gap between the rich and the poor. For every 1% increase in the level of financial development in Hong Kong, the gap between rich and poor could narrow by 5.5 per cent. The regression results of the regional sub-sample show that there are clear regional differences in the impact of Pratt & Whitney's financial development on the gap between the rich and the poor. Moreover, as Pratt & Whitney's level of financial development increases, its marginal impact on narrowing the gap between the rich and the poor will be weaker. In addition, the urbanization rate, education level, the degree of regional opening to the outside world can reduce the gap between the rich and the poor to a certain extent. According to the Tyre index calculated in this paper, the average Tyre index of the whole province in 2015 was 0.0348. In 2018, it has dropped to 0.0309, indicating that with the continuous development of Pratt & Whitney's finance, the gap between the rich and the poor in urban and rural areas is gradually narrowing. Therefore, for the economically developed areas of our country, we can draw on the experience of Anhui Province in developing Pratt & Whitney's finance, adapt to local conditions, and narrow the gap between the rich and the poor by promoting the development of Pratt & Whitney's finance, and can achieve the income growth of rural residents, improve the living standards of rural residents, to achieve an all-round well-off ambitious goal. In view of the analysis and conclusion of this paper, the following countermeasures are put forward: first, to promote the reform of financial mechanism and lower the threshold of financial services. At present, there is a serious capital outflow from rural areas, and some farmers are excluded from financial services, so it is difficult to access financial services. The government should deepen financial reform, lower the threshold for financial access, expand the scope of financial development, strengthen the construction of the credit system, adequately address the Information asymmetry problem in the financial market, so that low-income groups in rural areas can also, access to financial services to raise the income level of the poor and achieve poverty reduction. The second is to balance Pratt & Whitney's financial development across regions. Encourage Financial Sunac in Pratt & Whitney's more financially developed regions to broaden the audience for financial services, thereby promoting financial development in other regions. To Pratt & Whitney's relatively low level of financial development, the region should increase investment in financial infrastructure, reduce the inter-regional, Pratt & Whitney's level of financial development. Reducing the cost of financial services through measures such as subsidies, so that more residents enjoy the benefits of financial services, thereby alleviating poverty. Third, to further implement the strategy of rural revitalization, to achieve urbanization and rural revitalization, revitalization and coordinated development. According to the regression results, increasing the level of urbanization can effectively reduce the wealth gap

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between urban and rural areas, so it can be achieved by promoting urbanization, Pratt & Whitney said. In addition, rural revitalization should provide development opportunities for returning migrant workers, college students and technical personnel, attract more enterprises and public resources to the countryside, and raise the income of poor rural residents, to alleviate poverty in rural areas.

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