

# Research on the Impact of Xizang's Inclusive Financial Service Capabilities on the Development of Agriculture and Animal Husbandry

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**Abstract:** In order to maintain the development of rural finance and small and micro enterprises, the state has introduced a series of policies, including loan interest rate differentials, tax exemptions and concessions, re-loans and other related control policies. Among them, inclusive finance has a significant effect, which is very good. It supports the development of rural economy, expands the scope of financial services, increases the convenience of rural financial services, reduces the cost of financial services, and allows rural residents to truly enjoy financial services. This paper mainly introduces the meaning of inclusive finance, financial services and related theories. On this basis, it elaborates on the mechanism of inclusive financial service capabilities on agriculture and animal husbandry, as well as the experience of Xizang's inclusive financial service capabilities and agricultural and animal husbandry development. Based on the impact of the Xizang's Autonomous Region's inclusive financial service capability index, the Xizang's Autonomous Region's industrial structure, and the Xizang Autonomous Region's fiscal expenditure proportion on the development of agriculture and animal husbandry. The experimental results finally provide policy recommendations for Xizang's inclusive financial service capabilities to support the sustainable and healthy development of agriculture and animal husbandry.

**Keywords:** Inclusive Finance; Agriculture and Animal Husbandry; Rural Finance

## 1. Introduction

The government always had preferential policies for the Xizang Autonomous Region,

with the purpose of promoting the development of the western region. The Xizang Autonomous Region actively responded to the call of the "Promoting Inclusive Financial Development Plan (2016-2020)" policy and the Xizang Autonomous Region's "Thirteenth Five-Year Plan" financial plan, in order to fundamentally eliminate the gap between urban and rural areas and the gap between rich and poor. Therefore, based on this background, it is of certain significance to study the impact of Xizang's inclusive financial service capabilities on the development of agriculture and animal husbandry.

The increase of farmers' income is of great significance to the economic development and social stability of our country. This paper mainly uses the linear model to study the influence of Xizang's inclusive financial service ability on the development of agriculture and animal husbandry, using data such as Xizang's Autonomous Region's per capita income in rural and pastoral areas, Pratt & Whitney's Financial Services Capacity Index, industrial structure and the share of fiscal expenditure, the Multicollinearity test, heteroscedasticity test and autocorrelation test of the linear model were used to analyze whether Xizang's inclusive financial services have a positive effect on the development of agriculture and animal husbandry, finally, find out the problems existing in Xizang inclusive financial services, and put forward relevant optimization suggestions with theory and practice.

Inclusive finance is mainly targeted at disadvantaged groups such as farmers, small and micro enterprises, and urban low-income groups. With the deepening of the reform of financial services, inclusive finance has played a positive role in the innovative development

of Xizang's agricultural and animal husbandry enterprises in terms of market and technology. At the same time, inclusive finance can improve the level of infrastructure, improve people's quality of life, and promote poverty alleviation and the realization of collective prosperity. It is difficult to develop financial services in poor areas due to constraints such as cost and insufficient physical outlets. Inclusive finance can solve this series of difficulties very well.

Inclusive finance allows small and micro enterprises, farmers, poor households, etc. who cannot enjoy traditional financial services to enjoy basic financial services, especially in remote areas like Xizang. The special geographical environment makes local financial institutions relatively single and weak infrastructure. The economic growth is slow and the gap with the national economic indicators is large. Therefore, under the traditional financial background, small and micro enterprises, farmers, animal husbandry and poor households have difficulty in accessing basic financial services due to constraints such as low single-household income and few physical outlets and inclusive finance is of great significance to the development of Xizang's agriculture and animal husbandry. Agriculture and animal husbandry account for the vast majority of Xizang's primary industry, and most farmers and herdsmen need inclusive finance to help them raise financing and improve their income levels. At the same time, inclusive finance promotes the improvement of people's livelihood, unites people's hearts and minds, and effectively safeguards the Xizang Autonomous Region. Social stability and unity are of great significance to achieving stable and sustainable economic development in the entire autonomous region.

## **2. Observation on Xizang's Inclusive Financial Service Capabilities and Agricultural and Animal Husbandry Development Experience**

### **2.1 Experience Observation of Inclusive Financial Services Capability in Xizang**

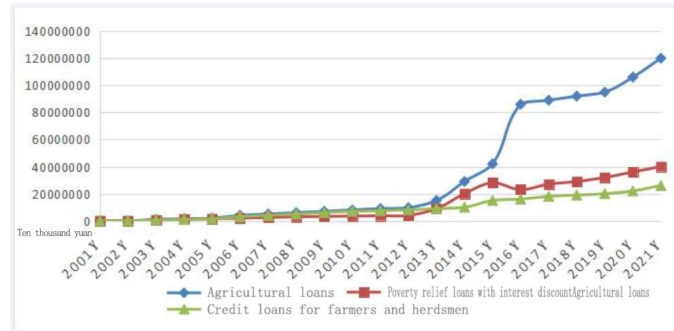
#### **2.1.1 Implementation of preferential policies**

In order to narrow the gap between the rich and the poor and better support the economic development of Xizang, the government has

been giving the Xizang Autonomous Region special, excellent and wide financial policies, especially in terms of interest rate policy. Full and effective financial supply has promoted the economic development of the Xizang Autonomous Region and the income of farmers and herdsmen. Since the liberation of Xizang, the People's Bank of China has issued interest-free loans for agriculture and animal husbandry and discount loans for poverty alleviation in order to encourage the development of trade enterprises. From 1980 to 1994, the interest-free policies of different time limits were implemented, showing systematic characteristics, but it did not form a complete system. The third Symposium on Work in Xizang held on July 20, 1994 made clear arrangements for preferential financial policies, set the loan interest rate of commercial banks lower than the national average level, and formed a modern special interest rate policy. From 2001 to 2015, the special interest rate policy was further refined, and commercial banks were subsidized for interest rate losses caused by preferential loan interest rate differences, and no penalty interest was added to lenders' loans to agricultural and pastoral areas. Since 2015, it has presented a sound and diversified financial industry, expanded its network layout, and encouraged commercial banks to allocate credit resources to Xizang [1].

#### **2.1.2 Coverage of credit services**

In order to solve the problem of difficult loans in Xizang's agricultural and pastoral areas, financial institutions in Xizang actively strive for policies and resources to the agricultural and pastoral areas of Xizang, and increase support for the development of Xizang's individuals' pigs, Xizang's individuals' sheep, Xizang's individuals' chicken, highland barley and other breeding industries. Can be seen from Figure 1 Xizang autonomous region agricultural loans, discount loans for poverty alleviation, Credit loans for farmers and herdsmen show the trend of rising, the financial institutions actively response to carry out the central issued the policy of supporting the development of the Xizang autonomous region, continuously optimize the credit structure of the Xizang region, make more farmers and herdsmen really enjoy the Pratt & Whitney financial service ability [2].



**Figure 1. Type of Agricultural and Animal Husbandry Loan Balance Growth Change Data (Source: Economic and Financial Statistics of Xizang Autonomous Region)**

Source: Public data collation

2.1.3 Network and channel construction

According to the statistics on Table 1, of institutions in Xizang by the People's Bank of China, by the end of 2020, there were 849 banking, insurance and securities and futures institutions in Xizang Autonomous Region, including 751 banking financial institutions and 751, and 8 banks and insurance companies covering the prefecture-level cities of enterprises in Xizang. The following table is a statistical table of the number of banking institutions in Xizang by 2020.

**Table 1. The Number of Banking Institution in Xizang**

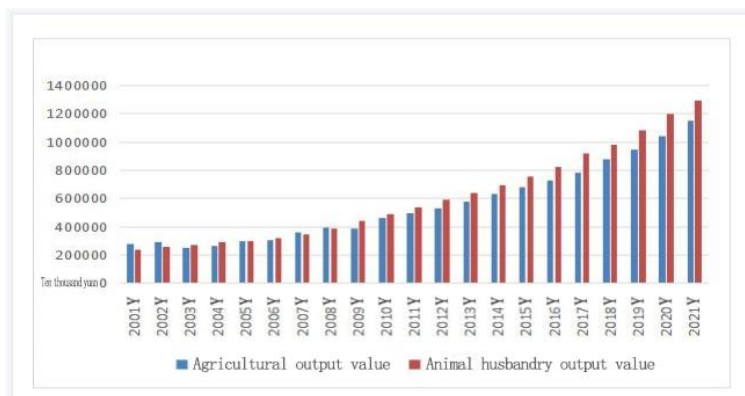
Organization name	Quantity
Agricultural Bank of China	532
Postal savings bank	106
China Construction Bank	35
Bank of China	33
Bank of Xizang	15
Industrial and Commercial Bank of China	8
Xizang Duilong Mintai village bank	7
Minsheng Bank	4
China CITIC Bank	3
Agricultural development bank	3
Everbright Bank	2
Nyingchi Minsheng rural Bank	2
China Development Bank	1

**2.2 Observation of the Experience in the Development of Agriculture and Animal Husbandry in Xizang**

2.2.1 Analysis of the overall output value of agriculture and animal husbandry

According to the data study of Xizang from nearly 20 years from 2001 to 2021, as shown in Figure 2, the output value of agriculture and animal husbandry in Xizang showed an upward trend. The growth rate of agricultural output was low, which all declined in 2003, but then showed a fluctuating growth trend. The output value of animal husbandry is a gradual growth, the growth rate is greater than the agricultural output value, and in 2009, its output value is higher than the agricultural output value 2020 [3].

As can be seen from Figure 3, although the proportion of agriculture and animal husbandry in the total output value of rural society has decreased, the proportion is still over 50%, indicating that the traditional agriculture and animal husbandry in Xizang still occupy a dominant position and is not dispensable, and it still plays the function of economic security.



**Figure 2. Data on the Change of Output Value of Agriculture and Animal Husbandry in Xizang (Source: Xizang Statistical Yearbook 2001-2021)**



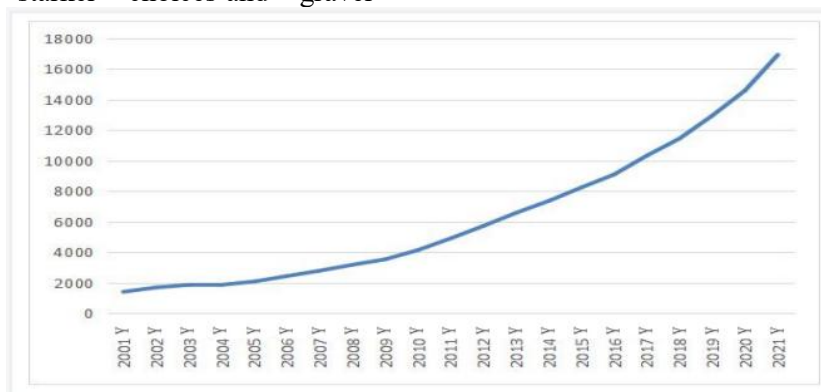
**Figure 3. Changes in the Proportion of the Output Value of Agriculture and Animal Husbandry in Xizang in the Total Output Value of Rural Society (Source: Xizang Statistical Yearbook 2001-2021)**

### 2.2.2 Analysis of the overall income situation of farmers and herdsmen

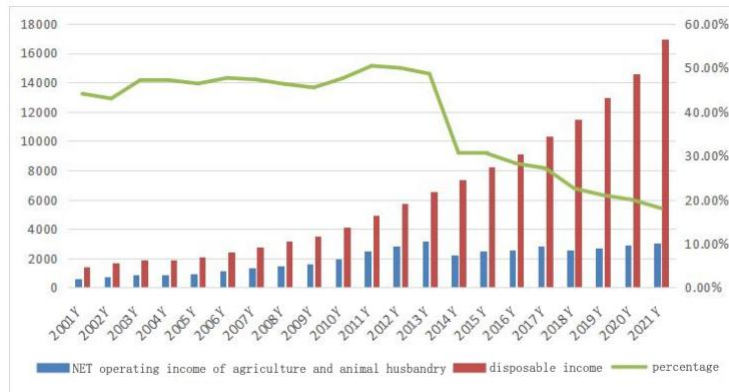
According to the data shown on Figure 4, the past 20 years capital disposable income of farmers and herdsmen in Xizang is on the rise. From 2001 to 2005, the per capital disposable income of farmers and herdsmen in the five years only increased by 542 yuan, relatively slow, mainly because of the backward infrastructure in Xizang's farming and pastoral areas, which hindered the development of agriculture and animal husbandry. From 2006 to 2011, it was in a period of low growth, and the income increase increased by twice, mainly due to the influence of the 11th Five-Year Plan, which promoted industrial development with superior resources. Since 2012, during this period the Xizang's farmers and herdsmen disposable income growth is very fast, the average annual increase is very significant, since "much starker choices-and graver

consequences-in", "the western development" strategy to strengthen the western region of all kinds of resources, the development and utilization, greatly promote the economic development of Xizang, at the same time, this stage emerged many Internet platform, promote the sales of Xizang characteristic products, drive the income of farmers and herdsmen in Xizang.

The first industry operating income includes agriculture and animal husbandry, as can be seen from Figure 5, agricultural operating income growth trend on the whole, including volatility, in 2013 agriculture operating net income is 2001 to 2021, agriculture operating net income as the proportion of disposable income is gradually decline, but the proportion is still larger, it shows that agriculture farmers family operating income is still the main part of operating income.



**Figure 4. Changes in the Proportion of the Output Value of Agriculture and Animal Husbandry in Xizang in the Total output Value of Rural Society**



**Figure 5. Proportion of Operating Net Income of Agriculture and Animal Husbandry in Xizang (Data source: Xizang Statistical Yearbook 2001-2021)**

### 3. Empirical Analysis of the Impact of Xizang's Inclusive Financial Service Capacity on Agriculture and Animal Husbandry

This section through the root of variance, multiple collinear analysis, regression analysis to understand the west Pratt & Whitney financial service ability to the agricultural development factors analysis, to judge the Xizang autonomous region Pratt & Whitney financial service ability for agriculture development, how the effect, through the Xizang autonomous region Pratt & Whitney financial service ability influence factors for empirical analysis [4]. Selection of Xizang autonomous region of farmers and herdsmen per capital income as the explanatory variable, the Xizang autonomous region Pratt & Whitney financial services ability index as an explanatory variable, through multi-index comprehensive calculation method to build, select the basis of the index is: agricultural loans, discount loans for poverty alleviation, NongMuHu credit loans, comprehensive index synthesis key steps to determine the index weight, this section using the coefficient of variation method weight, formula is:

$$X_i^* = \frac{X_i - X_{MIN}}{X_{MAX} - X_{MIN}} \quad (1)$$

Through decentralized processing, the standard deviation of the inclusive financial service index is calculated, and then the weight is determined by the coefficient of variation method, and finally the inclusive financial service ability index. The inclusive financial service ability index can be calculated:

$$IFI_{it} = (\sum_{i=1}^3 W_i * X_i^*) * 100\% \quad (2)$$

According to the experience, the model is based on the index of inclusive financial services, the industrial structure of the Xizang

Autonomous Region and the proportion of financial expenditure of the Xizang Autonomous Region, in order to make the model have higher operability. Among them, the industrial structure mainly refers to the proportion of the added value of the secondary industry and the tertiary industry in the GNP. The higher the proportion, it proves that Xizang has made full use of the idle resources existing in rural areas and can create greater value. The proportion of fiscal expenditure mainly refers to the proportion of regional fiscal expenditure in Xizang in the current GDP. By analyzing this indicator, we can find the role that local governments play in social regulation. The higher the local fiscal expenditure, the faster the local economic development and the higher the agricultural output value.

Through the empirical analysis of the influencing factors of inclusive finance service capacity in Xizang Autonomous Region, the data of 2012-2021 is used to make the analysis of the impact of inclusive finance service capacity index shown as Table 2, industrial structure and the proportion of fiscal expenditure on the per capita income of farmers and herdsmen, so as to provide reference opinions for the development and implementation of inclusive finance in Xizang Autonomous Region [5].

The model is a linear model, with the per capita income of farmers and herdsmen in the Xizang Autonomous Region as the explained variable, including the industrial structure of the Xizang Autonomous Region and the proportion of financial expenditure in the Xizang Autonomous Region [6]. Let the model expression be given as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu \quad (3)$$

Among them:

Y: per capita income of farmers and herdsmen in Xizang Autonomous Region (unit: Yuan)

X1: Inclusive Financial Service Capacity Index of Xizang Autonomous Region

X2: Industrial structure of Xizang Autonomous Region (unit: %)

X3: proportion of fiscal expenditure of Xizang Autonomous Region (unit: %)

$\mu$ : Random interference items

**Table 2. Xizang Autonomous Region 2012-2021 Partial Data Review Table**

A given year	Per capita Income of farmers and herdsmen in Xizang Autonomous Region (Yuan)	Index of inclusive financial services in Xizang Autonomous Region x1	Industrial structure of Xizang Autonomous Region x2 (%)	Proportion of financial expenditure of Xizang Autonomous Region x3 (%)
2012	5697.8	0.2131	13.12	127.48
2013	6553.4	0.3180	13.53	122.47
2014	7359.2	0.4101	11.13	126.16
2015	8243.7	0.5527	9.37	132.45
2016	9093.8	0.7336	9.64	135.38
2017	10330.2	0.8783	12.48	124.68
2018	11449.8	0.9912	12.22	127.27
2019	12951	0.9932	8.22	128.86
2020	14598.4	0.9956	10.13	116.03
2021	16935	0.9989	7.87	97.44

Source: Open information collation

### 3.1 Research Hypothesis

Hypothesis 1: The inclusive financial service capacity index is significantly positively correlated with the per capita income of farmers and herdsmen in Xizang Autonomous Region.

Hypothesis 2: The industrial structure of Xizang Autonomous Region is significantly positively correlated with the per capita income of farmers and herdsmen in Xizang Autonomous Region

Hypothesis 3: The proportion of fiscal expenditure in Xizang Autonomous Region is significantly and positively correlated with the per capita income of farmers and herdsmen in Xizang Autonomous Region

### 4. Experimental Analysis Report

The final experimental results show that the financial service index and the proportion of fiscal expenditure are positively related to the per capita income of agricultural and pastoral areas of Xizang Autonomous Region. The linear model is as follows:

$$Y_t = 22278.95 + 146.8566 * X_3 + 8788.453X_1$$

$$t = (6.223246) (9.623504) (-5.520511)$$

$$R^2 = 0.962995 \quad \bar{R}^2 = 0.952422$$

$$F = 91.08189 \quad DW = 1.654124$$

From the above regression test results, we can know that the inclusive financial service capacity index, the industrial structure of the Xizang Autonomous Region, and the proportion of financial expenditure in the Xizang Autonomous Region are correlated, and the change trend remains basically consistent, Change range are smooth, but the regression also need to pass multicollinearity inspection, test the Xizang autonomous region Pratt & Whitney financial services, ability index, the Xizang autonomous region industrial structure, the Xizang autonomous region fiscal spending than whether there is a long-term relationship, found that there will be regression between the three variables, so that they are long-term relationship. From the regression analysis, we can conclude that

the  $R^2$ ,  $\bar{R}^2$ , Both had significant positive effects, The increase of the Inclusive Financial Services Capacity Index x1 in the Xizang Autonomous Region, Will cause an increase in the per capita income of farmers and herdsmen in the Xizang Autonomous Region Y, That is, the inclusive financial services capacity index of Xizang Autonomous Region will change before the per capita income of farmers and herdsmen in Xizang Autonomous Region, Changing the per capita income of farmers and herdsmen in the Xizang Autonomous Region,

To reverse the development of fiscal expenditure in Xizang Autonomous Region in x3, This conclusion can be verified by the decomposition of the variance factor enlargement method, As seen in the experimental results of the variance expansion factor method, VIF values for x1 and x3 were slightly higher than the other variables, The experimental results were also obtained by the regression test. Combined with the purpose of this paper, the following conclusion:

The Xizang autonomous region Pratt & Whitney financial service ability of the income of farmers and herdsmen, although the Xizang autonomous region Pratt & Whitney financial service ability is lower than the national average, but there is obvious relationship, when Pratt & Whitney financial service ability, the higher the income level of farmers and herdsmen is higher. In addition, with the resource and policy advantages of Xizang, the wealth has gradually gathered, attracting more finance to conduct business in Xizang and promoting the economic development of the Xizang Autonomous Region.

## 5. Recommendations

### 5.1 Expand Financing Channels to Improve the Mortgage Guarantee System for Farmers and Herdsmen

The root cause of the difficulties in the development of agriculture and animal husbandry is the lack of funds, and there has been an outflow of funds from the original agriculture and animal husbandry, it is only by taking specific measures to provide stable and sufficient financial resources for rural areas, and by further expanding rural financing channels in policy, that we can effectively solve the problems of difficult and expensive financing for the development of agriculture and animal husbandry [7]. Now our country rural finance organization quantity is few, financing channel is unitary, and often faces the bigger risk in the financing process, therefore, we should further expand financing channels in the following aspects: first, we should further increase the issuance of agricultural bonds and raise funds from the open market through Macroeconomic regulation and control policies; The second is to increase the government's financial support, and the last is through the central bank's

regulation, borrowing from other financial institutions, and constantly enrich financing channels to avoid excessive capital outflow [8].

### 5.2 Increased the Support for Rural Areas

Xizang's Autonomous Region is a vast territory with geographical factors affecting all aspects. Its population density is not evenly distributed, its development is relatively backward and its per capita GDP is relatively low. Through the empirical analysis of this paper, we can see that Pratt & Whitney's financial service ability has a positive impact on the income of Xizang's farmers and herdsmen [9]. Therefore, we need to strengthen the support to rural areas, let Pratt & Whitney's financial services capabilities contribute to regional economic growth. First of all, we need to expand the coverage of financial services, increase the number of financial institutions, and put more suitable financial products and services to support the expansion of agriculture and animal husbandry; The second is to strengthen the financial information infrastructure, the level of financial services to enhance the need for a strong information infrastructure as a support, such as the construction of online banking and other diversified payment channels, at the same time, it can simplify the approval process of agriculture-related loans and control the internal risks, for the different needs of a greater degree of preferential treatment [10].

### 5.3 Improving Xizang's Autonomous Region's inclusive Financial System and Services

With the advent of Pratt & Whitney's financial sector, there are more and more branches of financial institutions in Xizang's Autonomous Region, but some insurance and trust institutions are still relatively backward, the government has introduced a series of preferential policies for Xizang [11]. Therefore, institutions in Xizang should lower the financing threshold and make the beneficiary group more extensive. At the same time, financial institutions should clarify the responsibilities of various departments, make full use of the advantages of each department, make the network distribution more reasonable, achieve the true meaning of financial services, "Three rural" to promote economic development in Xizang, reducing the urban-



rural gap. In addition, we should speed up the development of a credit system in Xizang's Autonomous Region's agricultural and pastoral areas, with the agricultural development bank and the Agricultural Bank of China as the core, so as to make contributions to the development of agriculture and animal husbandry.

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