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Analysis on the Main Influence Factors of China's Revenues

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Abstract

Revenue is a very important index to measure a country's financial resources and to a large extent, it determines what kind of public goods and services a country can provide. In this paper, we are going to analyze the fiscal revenue and expenditure as well as some data over these years of our country to establish a regression model. We shall determine two factors that have obvious influences on revenue through a gradual regression and then do some relevant tests. Finally, we shall study and analyze its economic significance, so as to put forward some interrelated suggestions.

Key words: Financial revenue and expenditure; Gradual regression; Tax revenue

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INTRODUCTION

Fiscal revenue means the total capital of a government who collects some money to perform its function, implement public policies, and provide public goods and services. Revenue has a great influence on the operation of national economy and the development of society. First of all, it's the material insurance of all incomes of a nation. The size of a country's revenue is an important index when judging its economic power. Secondly, revenue is an important economic lever for the nation to carry out the macro-control system. The growth situation of revenue is closely related to the economic development and social progress. Studying influence factors of revenue is of great meaning to determine a reasonable scale for our country.

In recent years, the revenue of our country is in the trend of rapid growth. In all these factors, what is the key influence factor of revenue has also drawn attention of many scholars. From the analysis of this paper, we can provide a certain reference for present principles and policies as well as the strategies of the economic development in the future through vertical and landscape contrast; and we can also regard it as the main basis of revenue scale. Revenue belongs to macroeconomic regulation and control, but it is also closely related to people's daily life. This paper aims to analyze the influence factors and its different impacts, interpret the pertinent policies to provide reference for the development of the future economy.

1. LITERATURE REVIEW

We have applied to many model methods to study the influence factors of revenue. Liu et al. (2015) have established SVAR (Structural vector and auto-regressive model) to study and confirm how the fiscal policies affect revenue. He (2014) has proved the synergic relationship between economic development level, industrial structure, the quantity of employment, investment in the fixed assets, tax and revenue. Xu (2011) uses Granger Causality to analyze variables and then sets up a linear regression model. Zhou et al. (2011) use OSL to go on their regression analysis, who have confirmed that tax and GDP are the largest influence factors of revenue. Kan (2013) applies principal component analysis to reduce dimensions of many explanatory variables, and then build a linear model. Chatagny and Soguel (2009) and some

other foreign scholars have put forward log-linear model to study fiscal growth.

As for the explanatory variables influence revenue, many scholars have adopted different independent variables. Hayes (2011) of Yeshiva University chooses tax, gross industrial output value, total value of agricultural output, and population as explanatory variables to study revenue. Chen and Shan (2013) chooses gross domestic product and inhabitant consumption level to analyze considering tax influence revenue. Kroken (2007) chooses total tax, gross domestic product, other incomes and the quantity of employment as the explanatory factor. Wang and Song (2015) make tax, total energy consumption and extra-budgetary funds as the main factors that influence revenue.

2. MODELS PRESUMPTION

2.1 Assuming That There Are the Following Main Factors Influencing China's Revenue

2.1.1 Tax

Tax is the most frequently-used and most common form in revenue. The process of countries' organizing and raising revenue and the process of distribution of the national incomes are presented by it. Tax needs to play a certain role in order to ensure the stable growth of tax and the proper distribution of national incomes.

2.1.2 Overall Economic Growth

Economic growth means the continuous growth of per capita output in a certain period of a country or area, and usually, GDP is the principal index to measure economic growth. Whether there is an stable interdependent relationship between revenue and GDP growth shall greatly influence the economic sustainable development of the nation or area.

2.1.3 Public Finance

In order to promote economy growth and adjust industrial structures and demands, public finance especially aims to improve people's livelihood, which needs enough fiscal expenditure as its guarantee. Therefore, the changing demand of public finance has a great influence on revenue.

2.1.4 Price Level

Price change influences income level in two aspects. One is the price change itself; the other is the change of price, which will lead to the changing demands of products. Only when price changes while the demands of products won't change can income be consist with the price change.

2.2 Explanatory Variables

(a) Regarding revenue *Y* as the explanatory variable to study how does the tax, economic growth, public finance and price affect it.

(b) Tax receipt embodies the tax level of that year.

(c) GDP represents the overall economic growth level.

(d) Fiscal expenditure shows public finance.

(e) Using CPI to indicate price level.

3. ESTIMATIONS AND TESTS OF MODELS

3.1 Least Square Method

Assuming that random terms in the model meet elementary assumption, then we can use OLS to estimate its parameters. Specific operation: The outcomes of EVIEWS are as follows:

Table 1
The Outcomes of Evaluating OLS Parameters

Variable	Coefficient	Std. error	*t*-statistic	Prob.
C	3855.147	1665.137	2.315213	0.0342
*X*1	0.212948	0.099927	2.131038	0.0489
*X*2	0.118534	0.050697	2.338081	0.0327
*X*3	0.305904	0.140360	2.179425	0.0446
*X*4	-22.71119	7.973011	-2.848508	0.0116
R-squared	0.998827	Adjusted *R*-squared		0.998533

Note. a) The Adjustable *R*-squared is 0.998768, which means that the goodness of fit is very high.

b) When significant level α=0.05, $t(15)$=1.753. *T* values of *X*1, *X*2, *X*3, *X*4 are all beyond the critical value, so *X*1, *X*2, *X*3, *X*4 have great influence when under 95%, which shows that it has passed the significance test.

3.2 The Correlation Test of Explanatory Variable

Table 2
The Outcomes of Correlation Test

	Y	*X*1	*X*2	*X*3	*X*4
Y	1.000000	0.994540	0.994287	0.997815	0.735021
***X*1**	0.994540	1.000000	0.992843	0.989318	0.755088
***X*2**	0.994287	0.992843	1.000000	0.993519	0.798976
***X*3**	0.997815	0.989318	0.993519	1.000000	0.737643
***X*4**	0.735021	0.755088	0.798976	0.737643	1.000000

Because the correlation coefficient of explanatory *X*1, *X*2, *X*3 is larger than 0.9, we believe that there exists multicollinearity between *X*1, *X*2 and *X*3.

3.3 Step-Wise Regression Tests

Table 3
The Outcomes of Step-Wise Regression Test

Variable	*X*1	*X*2	*X*3	*X*4
C	-1778.278	-5893.969	-282.5328	-50750.19
R-squared	0.989109	0.988607	0.995634	0.540256

According to the information of *R*-squared, the order of these explanatory variables is *X*3, *X*1, *X*2, and *X*4.

(a) Adding *X*3, the results are in Table 4

Table 4

Variable	Coefficient	Std. error	*t*-statistic	Prob.
C	-282.5328	504.6133	-0.559900	0.5821
*X*3	0.940920	0.014294	65.82547	0.0000

(b) Adding *X*1, the model goodness of fit has raised and the symbols of parameter is reasonable; what's more, variables have passed the *t* test, so it should be retained. As in Table 5 shows.

Table 5

Variable	Coefficient	Std. error	*t*-statistic	Prob.
C	-921.0139	355.9704	-2.587333	0.0186
*X*3	0.616759	0.064690	9.534016	0.0000
*X*1	0.364163	0.071897	5.065072	0.0001

(c) Adding *X*2, the model goodness of fit varies little and the parameter of *X*2 doesn't pass t test and the symbols of parameter doesn't agree with its economic significance, so it should be eliminated. As it shows in Table 6.

Table 6

Variable	Coefficient	Std. error	*t*-statistic	Prob.
C	-608.9911	670.1547	-0.908732	0.3762
*X*3	0.647853	0.086624	7.478898	0.0000
*X*1	0.394600	0.091627	4.306580	0.0005
*X*2	-0.013531	0.024428	-0.553910	0.5869

(d) Adding *X*4, the model goodness of fit varies little and the parameter of *X*4 doesn't pass *t* test, so it should be eliminated. As it shows in Table 7.

Table 7

Variable	Coefficient	Std. error	*t*-statistic	Prob.
C	951.6050	1246.514	0.763413	0.4557
*X*3	0.607168	0.062548	9.707178	0.0000
*X*1	0.392944	0.071591	5.488722	0.0000
*X*4	-5.663379	3.624727	-1.562429	0.1366

In conclusion, *X*2 and *X*4 are unnecessary. So the best function of revenue is $Y=f(X1, X3)$. The fitting outcome is bellow:

$$Y = -921.0139073 + 0.3641631555*X1 + 0.6167588425*X3.$$

4. ECONOMIC ANALYSIS

(a) In this model, $\beta 1$, $\beta 2$, $\beta 3$ and $\beta 4$ are respectively 0.212948, 0.118534, 0.305904 and -22.71119. The estimated parameter symbols are in accordance with the analysis of economic theories, which means that when other explanatory factors don't change, each increase of 100 million in tax, revenue will increase 21.2948 million on average; each increase of 100 million in gross domestic product, revenue will increase 11.8534 million on average; each increase of 100 million in fiscal expenditure, revenue will increase 30.5904 million; each increase by one unit in consumer price index, revenue will decrease 22.71119 units averagely.

(b) Tax, GDP, fiscal expenditure and revenue are in positive correlation, so we can increase revenue by increasing tax, improving GDP, and expanding fiscal expenditure. However, CPI index is in negative correlation with revenue, that is to say, the higher CPI index is, the lower revenue is.

(c) Through step-wise regression analysis, we can know that only these two explanatory variables of tax and fiscal expenditure are kept in the model, which means that these two influence revenue most and they should be regarded as the important means. So we should emphasize on them and regulate revenue by adjusting tax and fiscal expenditure.

CONCLUSION AND SUGGESTION

Financial functions can be concluded as four parts: resource allocation function, the income distribution function, economic stabilization function, and the economic development function. While China is still in the developing stage: relative lack of capital, reinforcing managements of market, needing to adjust economic structure and not formed entrepreneur class, so it is finance's responsibility to boost the economic development.

While under the socialist market economy system, our government can completely use effective fiscal policies to accelerate the economic development, promote the economic structure, and achieve economic development.

The key to realize fiscal functions is to analyze the influence factors of revenue and adjust them. Through the analysis, we know that tax, GDP, and financial expenditure have significant influences on revenue, so our government should work out a reasonable financial income amount, adjust tax and financial expenditure to stabilize prices and promote economic growth. To be more specific, they can increase revenue through adding more taxes, promote economic growth of the whole society, enlarge the scope and number of financial expenditure, and stabilize prices. Thus they can play government's economic function and social function in order to adjust economic structure, transform economic development ways and promote sound and rapid economic development.

REFERENCES

Chatagny, F., Nils C., & Soguel, N. C. (2009). The analysis of relevant influence factors of revenue. *International Tax and Public Finance,* (19), 110-112

Chen, Y. R., & Shan, M. (2013). The quantitative analysis of influence factors of our country's revenue. *China Management Informationization,* (19), 38-40.

Hayes, T. J. (2011). The analysis of main influence factors of revenue. *Political Research Quarterly,* (12), 27-27

He, D. J. (2014). The empirical research of influence factors of Guangzhou city's revenue—In view of VAR model analysis. *Economic Research Guide,* (15), 104-106.

Kan, Y. (2013). The analysis of main factors influence Jiangsu province's revenue. *Jiangsu Institute of Commerce Journal,* (5), 9-12.

Kroken, P. (2007). The analysis of influence factors of China's revenue. *Journal of Economic and Management Studies, 17*(26), 140-142

Liu, J. M., Wang, B., & Wu, J. G. (2015). The research of regional variation of fiscal policies influence income distribution—In view of SVAR Model Tests of 29 Provincial Panel Data. *China Soft Science,* (02).

Wang, H., Song, X., & Zhuang, Y. (2015). The empirical research of influence factors of our country's revenue. *Economy of Hon Kong and Macao,* (29), 16-17.

Xu, Q. (2011). The economic analysis of influence factors of revenue. *Economic Manager, Manager Journal,* (10), 31-32.

Zhou, Z. H., Ding, J. X., & Wang, L. L. (2011). The empirical research of influence factors of our country's revenue. *Contemporary Economics,* (8), 16-17.