Research Article
Study on the Relationship between Business Industry Human Resources and Business Economy Growth

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Abstract: Based on human resources theory at home and abroad and the theory of economic growth, this article analyzes the internal mechanism of the exploitation and utilization of business industry human resources from the perspective of competition mechanisms, incentive mechanisms, market allocation mechanisms and protection mechanisms. On the basis of statistical analysis of business industry human resources situation in Zhejiang, it studies empirically the term cointegration relationship between business industry human resource and business economic growth through the establishment of econometric model, and analyzes the output elasticity of business industry human resources to business economic growth. The paper draws some conclusions and puts forward corresponding countermeasures.

Keywords: Business economic growth, business industry, econometric model, human resources, internal mechanism

INTRODUCTION

The concept "human resources" was first proposed in 1954 by famous management scientist (Peter, 2006) +at the beginning of study on the human resources development, western economics made the concept of human capital. Human capital theory's origins can be traced back to the famous classical economists Adam Smith and modern economists Marshall. They suggested that the investment in people is the most valuable in various capital investments. During 1929-1957 of the research on United States economic growth source, (Schultz, 1961) measured that the contribution rate of the most major education investment growth in the human investment to economic growth was 33% in the United States. This conclusion was later widely cited around the world, and many governments had greatly increased investment in education, which enhanced the momentum for the economic development of these countries. Denison (1962) also provided an analysis of the factors of economic growth during the 1929-1957 and thought that the contribution rate of education investment growth to the national income growth was 23%.

In the middle of 1950s, the human resources development theory began into China, and its research activities received quickly attention and development. In recent years, more and more people have researched this area. Human resources were a production capacity included in human body and were the resources represented by the quality and quantity of workers (Zhao, 2002). The actual role of human resources for economic growth or development depended not only on the level of quality also on the size of their actual utilization efficiency (Li, 2006). Analysis results indicated that the major drivers of economic growth in the western region of China lay in the physical capital investment, but the contribution ratio of human capital investment was greater than physical capital (Li, 2009). The system game analysis of human resources typical development and optimization showed that improving the efficiency of human resources development and optimization need the support of relevant systems (Wang, 2010).

Western human capital theory investigates and uses concept of human capital from three aspects: macroscopic, microcosmic and enterprise theory. In the domestic, most of studies tend to focus on human resource development and economic growth at the macro level, and study on human resource development and business industry growth has not appeared. Theoretical research related to human resources is mostly from the perspective of management science based mainly on qualitative analysis, and quantitative research using statistical methods and econometrical model is less.

INTERNAL MECHANISM OF BUSINESS INDUSTRY HUMAN RESOURCES EXPLOITATION

Business industry human resource development involves every stage of life from birth, growth, work to finally retire. It is associated with the economy, education, science and technology, population and other

factors, and its inner mechanism manifests specifically the following four parties.

Competition mechanism: In the commercial marketplace, business practitioners give full play to their competition under economic stimulus, and practitioners with high quality are in a good position in the competition, but business practitioners with lower-quality will face laid off, transfer, await job assignment, and will even become unemployed. For business enterprises, they enhance the competitiveness for their own survival and interests by improving business industry human resources efficiency. Both competitions use rationally human resources in business industry, allowing competition to become an engine for business industry human resources development.

Incentive mechanism: By paying wages, business enterprises get their essential production factors, that is, business labor force. Commercial practitioners receive appropriate remuneration through alienating their labor's right. Therefore, a reasonable incentive mechanism should be virtuous cycle of a reflection of "good job-high wage".

Market allocation mechanism: Under the role of business market allocation mechanism, commercial enterprises have personnel autonomy. Business practitioners have their own choice right. According to their own interests, volunteer, expertise, they can choice employment position where they can use their talents and get satisfaction paid, so as to stimulate initiative and creativity of business industry personnel, and achieve the best combination of business industry human resources and material resources.

Protection mechanisms: Commerce market economy is the legal economy. In commerce market, the commerce market risk, interest orientation, fierce competition of both business industry labor supply and demand will give commercial relations many problems and contradictions. The rights, obligations and commerce market order of commerce labor relation subject must be established, regulated and maintained by law.

EMPIRICAL STUDY ON BUSINESS INDUSTRY HUMAN RESOURCES AND BUSINESS ECONOMY GROWTH-EVIDENCE FROM ZHEJIANG PROVINCE

Statistical analysis of business industry human resources:

- Situation of business professional and technical personnel:
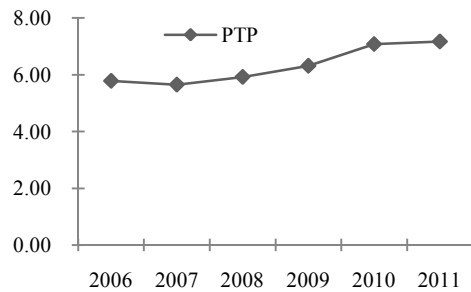

Fig. 1: Situation of business Professional and Technical Personnel (PTP) in Zhejiang (Unit: 10000 persons)
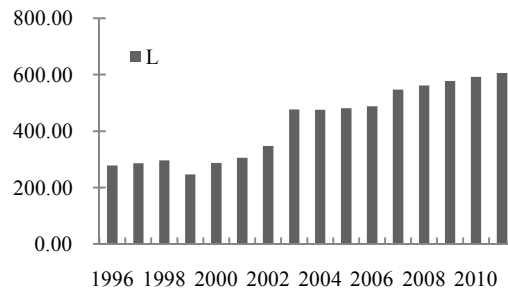

Fig. 2: Situation of business employed total persons (L) in Zhejiang (Unit: 10000 persons)

From "Zhejiang Statistical Yearbook", we can know the situation of business Professional and Technical Personnel (PTP) of 2006-2011 in Zhejiang (Fig. 1). Figure 1 show that business professional and technical personnel had the stable increasing trend from 2006 to 2011, which indicates that, along with the social development and technical progress, Zhejiang commerce industry pays more and more attention to the professional and technical personnel training.

- Situation of business labor input:
  In modern business, the number of practitioners represents commerce labor input. From "Zhejiang Statistical Yearbook", we can know the situation of business employed total persons (L) of 2006-2011 in Zhejiang (Fig. 2).

As you can see from Fig. 2, business practitioners are generally increasing in the quantity. From 277.54 million in 1996 to 606.26 million in 2011, the number of business practitioners increased more than 1 times during 16 years. These show that along with the development of social economy, Zhejiang commerce industry is growing.

ANALYSIS ON THE CONTRIBUTION OF BUSINESS HUMAN RESOURCE TO BUSINESS ECONOMIC GROWTH

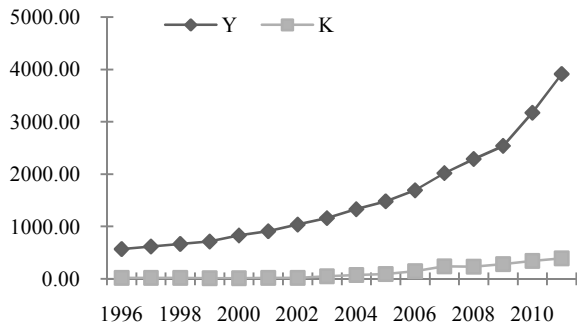- **Econometric model:** Here we use Cobb-Douglas production function model:

Fig. 3: Business gross domestic product (Y) and physical capital investment (K) in Zhejiang (Unit: 100 million yuan)

$$Y_t = A_t e^\mu K_t^\alpha L_t^\beta \tag{1}$$

where, Y_t, A_t, K_t and L_t express respectively business industry output, technology progress, capital investment and labor input, α, β are respectively elasticity coefficient of capital investment, labor input to output growth, μ is Random error. In order to eliminate the presence of heteroscedastic in the variable data, we take the natural logarithm for each variable. The model deformation is as follows:

$$\ln Y_t = \ln A_t + \alpha \ln K_t + \beta \ln L_t + \mu \tag{2}$$

So that we can use E-views 6.0 software to estimate output elasticity of human resource input.

- **Index definition and data processing:**
  o The measure of business output indicator: According to macroeconomics, the measure indicators of the commerce industry total output have mainly commerce industry gross domestic product and commerce personnel income. This paper chooses business gross domestic product (Y) as a measure of output indicator. According to "Zhejiang Statistical Yearbook", we can obtain business gross domestic product of 2006-2011 in Zhejiang (Fig. 3).
  o The measure of business output indicator: This study adopts business fixed capital investment (K) to replace physical capital investment. According to "Zhejiang Statistical Yearbook", we can get business physical capital investment (K) of 2006-2011 in Zhejiang (Fig. 3).
  o The measure of business labor input indicator: Due to the lack of statistical data, business labor input will be calculated by the total number of employees at the end of the year, and assuming that the labor is homogeneous. Relevant data is shown in Fig. 2.

- **Results of regression and analysis:** We use Eviews6.0 software and ADF method to test whether there are unit roots in time series of In Y_t, In K_t and In L_t. From the test results, we know that the second order of the variable difference in a significant level of 1% rejected the original assumption about having unit roots. There may be long-term balanced relations in these variables (Sun, 2009). Using OLS method as cointegration regression, we can get the following equation:

$$\ln Y_t = 1.457 + 0.395 \ln K_t + 0.586 \ln L_t$$
$$t = (1.937)\ (2.432)\ (3.138)$$
$$Adj - R^2 = 0.968, \quad F = 105.38, \quad DW = 1.76 \tag{3}$$

Regression results show that the model passes the significance test and its goodness-of-fit is high. In accordance with DW value, we can determine there does not exist the correlation in the model, and residual passing ADF test confirms that the long- term equilibrium is true.

According to the above results, we can see that business gross domestic product will have respectively growth of 0.395 and 0.586% for every increase of one percentage point of capital investment and one percentage point of labor investment.

COUNTERMEASURES AND SUGGESTIONS

The study obtained the following basic conclusion: labor inputs has a more significantly influence on business economic growth than the material capital inputs. Therefore, the government should allocate reasonably business resources and strengthen human resources mechanism innovation. They should also establish a talent flow channel through establishment of the relevant policies to attract modern business talent, accelerate the development of talent training plan to further improve business education training system, intensify the education training and improve the quality of business labor force.

ACKNOWLEDGMENT

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