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Abstract: Using input-output tables in 2002 and 2007 and the extended input-output table in 2005 in Guangdong Province, the paper analyzes synchrony between average wages and labor productivity among different industries and growth potential, and applies Co-integration Analysis and error correction model to study the relationship between wages and labor productivity in the long term and the short term. Finally, on the basis of the above analysis, the paper proposes appropriate policy recommendations.

Keywords: remuneration of labor, productivity, input-output tables, Co-integration Analysis, Error Correction Model

Ⅰ preface

Since the year of 2007 when subprime mortgage crisis in the United States gradually evolved into a global financial crisis, the world economic situation has not been optimistic. In recent years, signs of a slow economic recovery in some western States appear, however, a series of problems, like European debt crisis and international oil price fluctuations, are still plaguing the world economic development, which shadow a bad prospect for global economic recovery. As a major export-oriented economy in the world, China's economy faces a lot of difficulties in the context of current weakness on consumption in foreign countries. At the same time, with the domestic competition in the labor market, companies improve worker ' salaries, and the country has a new round of salary surge, which will undoubtedly increase the companies' funding pressure, making the development of enterprises worse. In this case, there have been some enterprises who reduce investment in research and development or reduce expenditure on staff training in order to reduce expenses, which are bound to be prejudicial to the innovation capacity of enterprises, and are not conducive to the improvement of production efficiency. But, meanwhile, weak demand and rising costs of labor force some companies to rethink its cost structure and product quality, and weed out some enterprises with weak competitiveness, which is, at a certain extent, conducive to the improvement of productivity.

In recent years, the study on the relationship between wages and productivity becomes a focus topic among academic researchers. Taking into account the essence of the topic, most of the scholars in the study of this issue use productivity as the measurement of the efficiency of production, as does this paper. Predrag Trpeski and Biljana Tashevska (2010), based on the data between 1995 and 2007 in the Former Yugoslav Republic of Macedonia, studied the correlation and dependence between net wages and labor productivity on the overall and sectoral levels, and found that, overall, there was not a strong correlation between wages and labor productivity, the former only explained 32% of the productivity change. In certain sectors, such as agriculture, mining and water management, there is a strong correlation between net wages and labor productivity; in other sectors, such as industry, this correlation is not significant. Liu Guiwen and

Liang Yanjuan (2010) used Co-integration model to check the long-run equilibrium relationship between wages and labour productivity in the construction industry in China. The study showed that wages in the construction industry was a important factor affecting labor productivity. Wages of staff and workers in State-owned units had the most significant influence, wages of staff and workers in urban collective units had a certain influence, and other unit employees' wage effected on its weakest. Wang Zengwen (2010), at the basis of data about the overall labor productivity and industry wage between 1985 and 2008 in Zhejiang Province, built the VAR model, did impulse response analysis, combined with variance decomposition, systematically analyzed the influence of productivity and wages in different industries. The empirical results showed that, labor productivity was a decisive factor of the increasing wage. only if labor productivity had increased, there has been more labor jobs, and workers ' wages can be effectively promoted, and then the rural surplus labor is configured appropriately, and fundamentally the "migrant worker shortage" can be resolved. Li ping, and Gong Xuhong, and Zhang Qingchang (2011) did the relative test on China’s 29 provincial panel data with the method of GMM and endogenous threshold test. The results showed that the conclusion of high wage high labor productivity was suitable in China. Endogenous threshold regression showed that the wage labor productivity threshold value is the average annual 12693.05 Yuan in China. Only eight provinces, such as Shanghai, Beijing, had overcome this threshold. These scholars‘studies on wages and productivity agree that there is a certain relationship between wages and productivity, but there have differences on the specific effects. Considering comprehensive analysis of the relationship between the two at the micro-and macro level, such studies are lacking.

This study, a case study of Guangdong Province, aims to analyze synchronism and growth type of average wages and labor productivity with the input-output tables in 2002, 2005, and 2007 in Guangdong Province, and uses Co-integration test and error correction model to study the existence of the economic relationship between wages and productivity in Guangdong province and does quantitative analysis of the specific relationship between the two. We hope that this study can do good to us deeply understand the relationship between wages and productivity and can provide a certain level of academic inspiration and reference.

Ⅱ On the Basis of input-output tables, the analysis of synchronism and growth potential for average wages and labor productivity.

The input-output table，also known as balance sheet of contact between different industries, is a balance sheet showing the interrelated relationship and balanced proportion between any two industries in a certain period. Leon watchful， an economist in the United States, based on the predecessors' studies on the interdependence of economic activities, created the first input-output table in the 1930s. The paper, based on the data of the 2002 and 2007 input-output tables and the 2005 extended input-output table in Guangdong Province, researches the synchronization of average wages and labor productivity and their growth potential. In view of the needs of this study, 42 departments in the input-output tables and extended table are merged into 19 departments. This section deals with the three basic variables, labor compensation, value added of various industries and practitioners. The data of labor compensation and value added is from the 2002 and 2007 input-output tables and the 2005 extended input-output table, but the data of tourism is adjusted according to the Statistics Yearbooks in Guangdong Province in 2003 and 2008. The data of practitioners are the number of the employed by the end of 2002, 2005, 2007, which is from the Statistical Yearbooks of Guangdong Province in 2003, 2006 and 2008. Labor productivity is showed by per capita increased value.

2.1 growth analysis of synchronization

From 2002 to 2007, per capita growth rate of wages was 6.22% in Guangdong Province, at the same time, the growth rate of labor productivity reached 10.13%, which showed that the gap between per capita growth rate of wages and the growth rate of labor productivity was sharp. Therefore, synchronicity of the growth of wages and labor productivity in Guangdong Province is in urgent need of attention.

According to the growth of average wages and labor productivity between different industries, the industries can be divided into three categories. The first, whose labor productivity grew at a significantly faster than average growth rate of remuneration, includes information transmission,

computer service and software industry, mining industry, wholesale and retail industry, traffic transport, warehouse and postal industry, production and supply of power, gas and water, finance, real estate industry, residents service and other social services, accommodation and restaurant, manufacturing. We notice that productivity of information transmission, computer service and software industry is growing faster than that of per capita labor remuneration by 9.4%, and manufacturing is 2.8%.The second, whose labor productivity growth rates and per capita growth rate of remuneration are similar, fluctuating in between -0.02-0.02. These industries include farming, forestry, animal husbandry and fisheries, construction, leasing and business services, tourism, education, culture, sports, and entertainment, public management and community organization. The third, whose labor productivity growth rate is lower than the per capita growth rate of remuneration. These industries include health and social security and social welfare, scientific research and technical services and geological exploration industry.

2.2 growth space analysis of per capita labor compensation

At present, there is no exact definition of per capita income space; therefore, following these articles, such as Zhao Denghui (2011), we see the difference in per capita Labor remuneration and labor productivity as the measurement of per capita income space, to approximately represent the increasing income space. In 2002, real estate, power, gas and water production and supply industry, extractive industry, whose space to increase income were biggest, respectively reached 226151.8123 Yuan and 212171.9007 Yuan, and 137040.9077 Yuan. In contrast, the space to increase income of Farming, forestry, animal husbandry and fisheries were at a minimum of 164.2057769 Yuan. In 2005, there were six industries whose space of income growth is greater than the provincial average, in which electricity gas and water production and supply industry, real estate industry, extractive industry owned the largest room to increase income, respectively 294606.2365 Yuan, 272678.0591 Yuan and 269548.5821 Yuan. However, the space to increase income of farming, forestry, animal husbandry and fishery decreased, reaching 72.86086105 Yuan. In 2007, there were five industries whose space exceeds the provincial average. These industries were electricity gas and water production and supply industry, finance, mining, real estate and information transmission and storage and the postal industry, whose space to increase income

were as follows: 388053.5191 Yuan, 383906.6955 Yuan, and 300861.9685 Yuan, and 289055.7686 Yuan, and 172738.7888 Yuan. Judging from the situation in these three years, real estate, power, gas and water production and supply industry and the mining industry had the larger space to increase income, and in 2007, the space of financial sector rose faster, following the production and supply of electric power, gas and water.

2.3 analysis of industry growth in labor compensation type

Depending on the differences in growth rate of labor productivity and per capita growth rate of remuneration and space of per capita remuneration growth,19 industries is divided into six different combinations. The first category is combined by the industries whose labor productivity growth is faster than per capita wages growth and which have the larger space of per capita reward growth. These industries are production and supply of electric power, gas and water, the financial industry, extractive industry, real estate, traffic transport warehousing and postal service, and information transfer software and computer services industry. These industries have been equipped with strong ability of improvement of remuneration. The sixth category is combined by the industries whose labor productivity growth is significantly lower than the growth in per capita remuneration and which own the smaller space of per capita growth, including health and social security and social welfare, scientific technical and geological exploration industry. These industries are lacking the ability to improve their labor remuneration. The other four combinations lie between the above two combinations. Specific situation is showing in the following table:

Table 2-1 Industry classification according to the growth type of labor compensation in Guangdong Province

	the growth space of per capita wages greater than the provincial average	the growth space of per capita wages smaller than the provincial average
Growth rate of productivity significantly greater than that of the per capita labor	production and supply of electric power, gas and water, finance, mining and quarrying industry, real estate industry, communications,	Wholesale and retail trade, resident services and other social services, accommodations and restaurants, manufacturing

remuneration	transport warehousing and postal service, information transmission, computer services and software industry	
Growth rate of productivity significantly similar to that of the per capita labor remuneration	Leasing and business services	Farming, forestry, animal husbandry and fisheries, construction, tourism, education, culture, sports and entertainment, public management and community organization
Growth rate of productivity significantly slower than that of the per capita labor remuneration		Health, social security and social welfare, scientific research, technical services and geological prospecting

Through the analysis of wages and labor productivity in Guangdong Province, it is easy to find that Guangdong Province labor productivity and wages in recent years are maintained at high levels of growth, and at the same time, both are at the similar pace of growth, with early fluctuations and in recent years, growth rates stabilized, probably about 10%. Although differences in wages and labor productivity change in different industries is significant, but faster-growth industries are both concentrated in the service sector, while labor advantages of services rise significantly. The highest wages and labor productivity appear at Guangzhou and Shenzhen. Compared to other regions, Guangzhou and Shenzhen have clear advantages. With the acceleration of the industrial transformation and upgrading and further supporting the economic development of the western and northern Guangdong Province, the regional disparities will be gradually reduced.

Based on input-output tables, analyzing synchronization potential analysis of per capita labor wages and productivity, we find the production and supply of electric power, gas and water, finance, mining industry, real estate industry, traffic transmission warehouse and postal industry, and information transmission computer service and software industry has strong ability to improve labor wages, whose productivity growth is clearly faster than per capita labor wage growth, and

space of per capita labor wage growth is also greater than the average level in the province. In contrast, health, social security and social welfare, scientific research, technical service and geological exploration don't have the ability to raise wages.

Ⅲ Analysis of correlation between remuneration and productivity in Guangdong Province

Econometric model can reveal the quantitative relationships between various factors in the economic activities and do effectiveness analysis of economic activity. The research, based on the relevant time-series data from 1979 to 2010 in Guangdong province, uses dynamic econometric methods, applies Co-integration test and ECM (Error Correction Model) to study the relationship between wages and labor productivity in Guangdong Province. In the establishment of the Co-integration relationship between the two, the paper analyzes the causal relationship between the two.

3.1 Index selection and data description

On the basis of existing research, we know that wage growth could improve productivity through technological innovation and accelerating factor substitution. Considering that physical capital and technology innovation may affect labor productivity, the study will add them in the account. Therefore, this study selects labor productivity (LS), labor remuneration (LB), the stock of physical capital (WZ), the total funding of scientific and technological activities (KF) to test the relationship between labor remuneration and labor productivity. Labor productivity is indicated by value added per capita, that is, productivity is equal to the quotient of actual value and the average annual number of employees; labor remuneration, based on consumer price, is adjusted into comparable remuneration; the stock of physical capital, according to the perpetual inventory method created by Goldsmith (1951), is estimated, and the basic formula is Kt=It+ (1-) Kt-1, where Kt is stock of capital in the t year , Kt-1 is capital stock in the t-1 year, It is new investment in the t year, and is in the t year, which we select 9.6% in this article. Stock of physical capital

(WZ) and the total funding of scientific and technological activities (KF) are converted into the actual value according to the consumer price index. The selected data in this section are all from or adjusted form the Statistical Yearbooks in Guangdong province. The selected time interval is from 1979 to 2010.

3.2 Stationary tests

We can apply diagram method to test time-series data's stability. Generally, the stationary time series data in the graph represents a process of fluctuating around its mean line, but non-stationary time series data is often shown at different times with different mean values (rising or falling).At the same time, for the sample autocorrelation function and its graphic falling speed, stationary series appear much faster than non-stationary series. Through study on the variables' time series, we preliminarily determine that labor productivity (LS), labor remuneration (LB), the stock of physical capital (WZ) the total funding of scientific and technological activities (KF) are all non-stationary series.

Besides diagram method to intuitively judge stationary of the time-series data, more accurately, we use statistics to make statistical test. Unit root test is a general statistical test, such as DF (Dickey-Fuller) test, pp (Phillips-Perron) examination and the ADF (Augmented Dickey-Fuller) examination. In order to ensure the effectiveness of unit root tests, this article use the augmented DF test, that is the ADF to test whether there is a unit root. The paper uses the Econometrics software, Eviews6.0, to make LS, LB, WZ, KF stability test. The testing results are shown in table 3-1.

Table 3-1 ADF testing results

Variables	(C，T，L)*	ADF statistics values	5% threshold	Conclusion
LS	(C,T,2)	2.819347	-3.562882	Cannot reject the null hypothesis
DLS	(C,T,2)	-0.942818	-3.580623	Cannot reject the null hypothesis
D^2LS	（C,T,1）	-7.039984	-3.580623	reject the null hypothesis

LB	（C,T,0）	4.303200	-3.562882	Cannot reject the null hypothesis
DLB	（C,T,0）	-2.901854	-3.568379	Cannot reject the null hypothesis
D^2LB	(C,T,0)	-5.964978	-3.574244	reject the null hypothesis
WZ	(C,T,7)	4.859025	-3.612199	Cannot reject the null hypothesis
DWZ	(C,T,2)	2.374199	-3.580623	Cannot reject the null hypothesis
D^2WZ	(C,T,7)	-3.729413	-3.632896	reject the null hypothesis
KF	(C,T,0)	7.892012	-3.562882	Cannot reject the null hypothesis
DKF	(C,T,1)	1.468909	-3.574244	Cannot reject the null hypothesis
D^2KF	(C,T,0)	-8.284697	-3.574244	reject the null hypothesis

*****in the test form (C,T,L), c, t, l separately represent if the test equation own constant, trend, and lag order, and lag order selected by the SIC code is automatically generated.

The testing results can be seen in table 2-1, the variables LS, LB, WZ, KF at 5% significant levels cannot be refused with the original hypothesis of having a unit root, which indicate that these variables' time series is non-stationary; After the first order differential of the variables, DLS, DLB, DWZ, DKF at a significant level of 5% also can't be resisted the original assumptions, which describes the first order differential of the variable sequence is non-stationary; while the second-order difference sequences D2LS, D2LB, D2WZ, D2KF at the significance level of 5% rejected the original assumptions, which shows that each variable of the second-order difference sequences is stationary, which are sequences with the second-order form, we can make the Co-integration test.

3.3 Co-integration test

The above testing results indicate that the time series are all non-stationary, but after doing the second-order difference, they are all stationary, so we can further verify if there is a long-run equilibrium relationship among the variables, that is Co-integration relationship. The Co-integration can find the long-run equilibrium relationship between two or more variables. But

to study the Co-integration between two variables, we usually use Engel-Grainger test. Aim to study the long-term equilibrium relationships of more than two variables, E-G two step test can also be used, but appears a little more complex, so in this situation, we usually use Johansen test. The number of explanatory variables in this study is more than two, but the main issue is to explore the relationship between labor remuneration (LB) and labor productivity (LS), so we can do Engle-Granger test. Engle-Granger test checks if there is a unit root with residual series of the regression equation to judge if there is a Co-integration relationship between the variables. If the residual sequence is stationary, we can determine the Co-integration relationship exists between variables, otherwise, not Co-integration relationship. Because the original sequence is second-order form, the original sequence cannot be made Co-integration test. In order to study whether exists long-term equilibrium relationships between variables, the first-order difference sequence could be made Co-integration test. Using ordinary least squares (OLS), we do regression about DLS, DLB, DWZ and DKF. The results are as follows:

DLS=0.251764*DLB+0.270933*DWZ-0.0000254*DKF+259.4675

(1.919878) （1.717671） (-0.198956) （4.549568）

R^2=0.759964 SE=224.2948 DW=1.293498 F=28.49442

We see new variable RES in the Eviews6.0 as resid, so that it is equal to the resid. To test the stability of sequence of residuals, we make ADF test. The results are as follows:

Table 3-2 Stability test of regression residual

Variables	**(C，T，L)***	**ADF statistics values**	**5% threshold**	**Conclusion**
RES	（0,0,3）	-2.457062	-1.953858	reject the null hypothesis

***in the test form (C,T,L), c, t, l separately represent if the test equation own constant, trend, and lag order, and lag order selected by the SIC code is automatically generated.

From the above table, we can see that, at the significance level of 5%, we deny the original hypothesis that there is a unit root in RES series, which indicates that the regression residuals sequence is a smooth sequence, and Co-integration relationship is established. So, from 1979 to 2010, there is a long-term equilibrium relationship between labor remuneration, stock of physical capital, the total funding of scientific and technological activities and productivity in Guangdong

Province. This long-term relationship in the short term may be corrupted, but deviation is stable for a long time. From the regression equation, we can see that in a long term, labor remuneration increases by 100 million Yuan in Guangdong Province, which will provide an impetus to labor productivity by 0.251764 Yuan. At the same time, we also see, between the stock of physical capital and labor productivity shows a positive relationship, and the stock of physical capital has a relatively strong impact on productivity. The stock of physical capital has a growth of 100 million Yuan, which could result productivity has a growth of 0.270933 Yuan. There is weak negative correlation of the total funding of scientific and technological activities and labor productivity.

3.4 error correction model

Co-integration reflects the long-run equilibrium relationship between the variables, which does not reflect the short term fluctuations of the time series. In order to seek short-term dynamic characteristics of the time series, we build error correction model. Error correction model's basic idea is: If there are long-term and stable relations between the variables, and this kind of long-term and stable relationship is maintained under continuous adjustment of short-term dynamics process. Error correction mechanism works in the process of mutual coordination, and reflects the dynamic behavior in the short term to prevent expanding deviations of long-term relationships in terms of size or quantity. Error correction model is also considered a constrained Co-integration test, which is a complement to Co-integration which reflects the long-run equilibrium relationship. Building the long-term equilibrium equation, the paper establishes error correction model between productivity and the other factors:

$D^2LS=0.552551*D^2LS$（-1）-0.349783*D^2LS（-2）+0.575332*D^2LS（-3）+

（1.858555） (-1.193333) （2.039211）

0.296157*D^2LB(-1)-0.000226*D^2KF-0.000138*D^2KF（-1）+0.000327*D^2KF（-2）

(-0.296157) （-1.871699） (-0.925716) （2.535552）

-0.088267*D^2WZ(-1)+0.425875*D^2WZ(-2)-0.0348486*RES（-1）

(-0.541099) （2.13656） (-1.515673)

R^2=0.809192 S.E. =121.0038 F=4.240868 DW=1.589551

D2LS (-1) represents a period of delay of the second-order difference of DLS, D2LS. D2LS (-2),

D2LS (-3) separately represent D2LS' two-stage and three-stage delay, as do the other variables.

Through error correction equation, we can see the error coefficient is negative, subject to reverse correction, which indicates 3.48% of deviation with the long-run equilibrium value is amended to make the relationship between labor productivity and the other factors too much deviate from the long-term equilibrium status. Observing equation coefficients, we know that previous labor productivity in Guangdong Province has very different effects: productivity of the previous period and the period of the first three has positive effects on labor productivity in the current period; the first two periods have a negative impact. One period Lagged wages have a negative effect on labor productivity, that is, when the remuneration changes 1% in the current period, it will cause the next issue of labor productivity with 0.296% to change. The stock of physical capital and the total funding of scientific and technological activities have negative effects on productivity, but as the lag order increases, such negative effects fade, and turned to positive effects.

3.5 Stewart Granger causality test

By the above analysis, there are Co-integration relationships between labor productivity (LS), remuneration (LB), the stock of physical capital (WZ) and the total funding of scientific and technological activities (KF), so Stewart Granger causality test can be used to test if there is a causal relationship between factors. the basic idea of Stewart Granger causality test is that if a variable can help to predict another variable, that is, if there are two variables x, y, according to past values of y we do auto regression to y, and then if we join in past values of x, it can significantly enhance the explanation of the regression equation. Now we say x is a Grainger reason of y, and vice versa. Stewart Granger causality relationships of Labor productivity, labor remuneration, the stock of physical capital and the total funding of scientific and technological activities are as follows:

Table 3-3 Stewart Granger causality test results

Null Hypothesis	F statistics	Probability	Conclusion*

	values		
D^2LB does not Granger Cause D^2LS	3.56844	0.0447	reject the null hypothesis
D^2LS does not Granger Cause D^2LB	3.94417	0.0337	reject the null hypothesis
D^2WZ does not Granger Cause D^2LS	2.85135	0.0783	reject the null hypothesis
D^2LS does not Granger Cause D^2WZ	0.91704	0.4138	Cannot reject the null hypothesis
D^2KF does not Granger Cause D^2LS	2.14509	0.1399	Cannot reject the null hypothesis
D^2LS does not Granger Cause D^2KF	2.33083	0.1197	Cannot reject the null hypothesis
D^2WZ does not Granger Cause D^2LB	1.67001	0.2103	Cannot reject the null hypothesis
D^2LB does not Granger Cause D^2WZ	1.38196	0.2712	Cannot reject the null hypothesis
D^2KF does not Granger Cause D^2LB	4.26718	0.0265	reject the null hypothesis
D^2LB does not Granger Cause D^2KF	6.68479	0.0051	reject the null hypothesis
D^2KF does not Granger Cause D^2WZ	6.79006	0.0048	reject the null hypothesis
D^2WZ does not Granger Cause D^2KF	1.78952	0.1895	Cannot reject the null hypothesis

* taking the significance level of 10%.

Stewart Granger causality test results indicate that labor remuneration (LB) and labor productivity (LS) interact as both Stewart Granger cause and effect relationships; the stock of physical capital (WZ) is Stewart Granger cause of productivity; the total funding of scientific and technological activities (KF) and productivity (LS), the stock of physical capital (WZ) and labor remuneration (LB) have no Stewart Granger causality relationship; the total funding of scientific and technological activities (KF) and remuneration (LB) interact as both Stewart Granger cause and effect relationships; the total funding of scientific and technological activities (KF) is the Stewart Granger causality of a stock of physical capital (WZ). Thus, we can conclude that the stock of physical capital and labor remuneration which are under the influence of the total funding of scientific and technological activities could influence productivity, but the total funding of scientific and technological activities is not the Stewart Granger causality of labor productivity. For this, we do not believe that the total funding of scientific and technological activities has no

effect on labor productivity. Because the Stewart Granger causality test conclusions is only meaningful in statistics, and may not show the true cause-effect relationship. Although the Stewart Granger causality test can be a support of the true cause-effect relationship, it cannot be an evidence to totally deny or support a cause-effect relationship. Of course, even if the Stewart Granger causality does not equal the actual cause and effect relationships, it does not disturb its reference values. Because the cause-effect relationship is statistically meaningful, it still plays an important role in economic forecast and other realms.

IV conclusions and recommendations

4.1 research conclusions

First, based on input-output table data in Guangdong province, the paper does synchronization and potential analysis of per capita remuneration and labor productivity, and in accordance with the growth of industry types, 19 industries are divided into six categories which reflect the industry's ability to raise wages. Given the labor productivity is the guarantee of remuneration growth, for different sectors, the governors in Guangdong province can take different ways of improving labor remuneration which allows people to fully enjoy the fruits of development, and also can improve people's lives and enthusiasm for work, and finally promotes labor productivity, thus forming a virtuous cycle.

Second, the co-integration test shows there is long-term dynamic balance of the relationship between labor productivity and labor remuneration in Guangdong Province, and the two in the long run is with the same change direction, that is increasing remuneration is in favor of efficiency and productivity. In the short term, changes in the remuneration could cause labor productivity change in the same direction, while productivity lagged has effect on labor productivity in the current period. Granger causality test results shows that there are reciprocal causation between wages and labor productivity.

4.2 The suggestions

4.2.1 Improve the labor market, further perfect the system of minimum wages and establish and improve the system of Trade Union and other measures, to raise the level of workers ' wages.

For ordinary workers, wage income is the most important part of their income, but due to inadequate labor market in China now, there are some bad phenomenon existing, such as malicious arrears of wages and slow wages growth, which need to solved by the improving legal system, and at the same time, appropriate measures according to the actual situation in various localities should be taken to safeguard the workers ' legitimate rights and interests. The minimum wage system, as a complementary system of the protection of the rights of workers, also needs to be based on reality to make the appropriate adjustments. The minimum wage system maintains workers compensation line, and requires to be made the appropriate adjustments under the local prices and levels of economic development. At the same time, the trade union organization, as a legitimate organization to safeguard the interests of workers, is in urgent need for being reformed, to make the trade unions have play important role in wage negotiations, bargaining and truly become of the strong backing to safeguard workers' interests.

4.2.2 Establish a reasonable wage floating mechanism.

For a long time, the reform of wage system has been lagged in China, and wages has been generally lower, which maintained the product's competitive edge in the world and helped us to open up the international market, but on the other hand, low wage system is against the legitimate rights and interests of domestic workers. We need establish reasonable floating wage system so that wages are linked to productivity, wage growth rate can be unpleasant in labor productivity growth, but its growth should not be lagging far behind the growth rate of labor productivity. In this context, the measures can be tried in Guangdong Province to improve the wage mechanism and largely develop effective incentive to maximize wages on productivity.

4.2.3 For the development of different industries, Guangdong province could adopt a differentiated approach.

Industries who own the ability of improving payments should be encouraged to raise workers' wages, and to enhance the sense of responsibility. For industries who do not have the capabilities of improving labor compensation, government departments can reduce their tax burden, and at the

same time, can take the efforts of transferring payments to these industries. For farming, forestry, animal husbandry and fishery sector, we should further increase investment in science and technology to improve their productivity, and increase the intensity of its subsidies. For monopoly industries, although they satisfy the objective conditions of increasing payments, in order to prevent excessive income gap among industries, we does not encourage their increasing payments.

Ⅴ Encourage and support technical innovation.

In recent years, higher wages and shortages of workers come together in Guangdong Province, which indicates that the comparative advantages of using cheap labor in Guangdong Province is lost. Therefore, relying on technological innovation to enhance productivity becomes a necessary choice for economic development. The empirical results show that technological advances play a more and more important role in improving labor productivity, but on the whole, Guangdong provincial technological innovation strength is not strong, and the technology and products with independent intellectual property rights are still lacking. While technological progress improves the efficiency of resource allocation, it can also rapidly improve the remuneration of workers, which have a positive impact on both enterprises and workers. Therefore, a variety of measures to protect and encourage technological innovation should be taken in Guangdong province to enhance the competitiveness of enterprises.

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