

Export, Enterprise Heterogeneity and Workers' Collective Bargaining Power

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Abstract:

This paper extends the McDonald & Solow model to measure the collective bargaining power of enterprise workers. Then, the micro data of Chinese enterprises examine the impact of exports on the collective bargaining power of enterprise workers. The results show that export can significantly improve the collective bargaining power of enterprise workers. This effect is more obvious in sustainable export enterprises, state-owned enterprises and high-tech export enterprises. This study is helpful to improve the internal labor relations of enterprises; promoting fair income distribution and formulating reasonable trade and income policies.

Keywords: *Export, Workers' collective bargaining power, Rent to share, Enterprise data*

I INTRODUCTION

Since the 1990s, with the availability of enterprise data, the research of international trade distribution effect has gradually stepped into microscopic development. Research on the impact of exports on corporate wages is endless. [1] first found that the wage level of export enterprises was significantly higher than that of non-export enterprises, —, thus starting the relevant research on the wage premium of export enterprises. At present, some research has focused on discussing the causes of the wage premium of export enterprises. The vast majority believe that the high wages of export enterprises are due to the relatively superior conditions of export enterprises, such as some studies believe that export enterprises have a more superior labor force composition; Some studies believe that the high wages of export enterprises are due to the larger scale of export enterprises [2]; Some studies also believe that the high wages of export enterprises are due to the better quality of export enterprises [3]; Other studies attribute the high wages of export enterprises to a higher investment rate and labor productivity [4]. In fact, wages, as the price of labor, also depend on the relative position of the workers in the internal distribution of the enterprise. [5] breaks corporate wages into retention wages, the lowest industry average and performance pay; the latter, —, the collective bargaining power. This study analyzes the wage decision mechanism from the perspective of trade and proposes the idea that export can improve the collective bargaining power of enterprise workers, which has great theoretical value and practical significance to improve labor relations, promote income distribution and formulate reasonable trade and income policies.

II MATERIALS AND METHODS

2.1 Literature Review

At present, some research has focused on the impact of exports on the collective bargaining power of enterprise workers. These documents take enterprises in different countries and different industries as sample data, and draw some empirical conclusions. [6] shows, together with agricultural industry data, that exports will improve the bargaining power of rural trade unions and benefit export farmers more. Domestic scholar [7] used the empirical analysis of industrial enterprise data in Zhejiang Province in 2004 to find that export changed the rent sharing process within enterprises, and then brings wage premium to non-export enterprises. [8] and [9] Then, the micro data of Chinese enterprises examine the impact of exports on the collective bargaining power of enterprise workers. The results show that export can significantly improve the collective bargaining power of enterprise workers. This effect is more obvious in sustainable export enterprises, state-owned enterprises and high-tech export enterprises. This study is helpful to improve the internal labor relations of enterprises; Promoting fair income distribution and formulating reasonable trade and income policies have important theoretical value and practical significance. used micro data of Chinese enterprises to prove that exports can significantly improve the collective bargaining power of enterprise workers. However, some studies believe that export does not promote the collective bargaining power of enterprise workers. For example, [10] compared the wage levels of export enterprises and non-export enterprises between 2006 and 2009, and found that exports did not significantly improve the collective bargaining power of enterprise workers. [11] also believe that although exports have increased corporate wages, the main reason is to increase the productivity of enterprises, but there is no obvious evidence to support the rent sharing process between workers and enterprises.

It can be seen that whether export can improve the collective bargaining power of enterprise workers is inconsistent with scholars. To further explore this issue, this paper first builds a model to measure the collective bargaining power of enterprise workers, then combines the joint data of Chinese industrial enterprises from 2000 and Chinese customs data for the period 2000-2014, and then draws main conclusions and policy implications.

2.2 Measurement of the Collective Bargaining Power of Enterprise Workers

The wage model of [5] first analyzed the wage decision process from the perspective of rent sharing. The model believes that the worker's salary depends on the retention salary and rent sharing, and the rent sharing ratio depends on the negotiating power comparison of the capital party and the labor party. The proportion of workers sharing corporate profits reflects the collective bargaining power of workers. However, the model does not say how to measure the sharing ratio. In fact, there are relatively few literature measuring the collective bargaining power of workers, and relatively few studies refining this measure to the enterprise level. Based on [12], [8] and other related documents, this paper constructs a theoretical model, and gives a measure of the collective bargaining power of enterprise workers.

2.2.1 Modeling and derivation

Suppose that a company produces a product whose quantity is Q and the price is P . The total output value of an enterprise can be expressed as PQ . If the number of employees is N , the actual salary of the worker is W , and the retained wage of the worker entering the industry is W_0 . The total income of the worker is $N(W - W_0)$. On the other hand, if the profit of the enterprise is π ; then the joint profit maximization function between the worker and the enterprise can be expressed as:

$$\max_{(N, W, K, M)} \Pi = [N(W - W_0)]^\theta \pi^{1-\theta} \quad (1)$$

If N , M and K are used to represent the labor input, intermediate input and capital input of the enterprise respectively, the corresponding factor prices of these three production factors are W and P respectively as well as P_k . $\pi = PQ - WN - P_m M - P_k K$. Then the enterprise profit can be expressed as: Intermediate investment here refers to the working capital besides labor elements; capital input is the fixed capital value such as plant and equipment.

Find the first partial derivative of the employment quantity N of the joint profit function (1) and make it equal to 0. After sorting out, the expression about the enterprise salary can be obtained as follows:

$$\mu = \frac{1}{(1 + \frac{\partial P}{\partial Q} \cdot \frac{Q}{P})} \frac{\partial Q}{\partial P} \cdot \frac{P}{Q} \quad (2)$$

Count: $\mu = \frac{1}{(1 + \frac{\partial P}{\partial Q} \cdot \frac{Q}{P})}$, Because $\frac{\partial Q}{\partial P} \cdot \frac{P}{Q}$ is the demand elasticity of the products produced by the

enterprise, the economic meaning of μ refers to the marginal cost addition rate followed by the enterprise in pricing, so the formula (2) can be simplified to:

$$W = \frac{\theta}{1-\theta} \cdot \frac{\pi}{N} + \frac{P}{\mu} \cdot \frac{\partial Q}{\partial N} \quad (2')$$

Then find the first partial derivative of salary W of the joint profit function (1) and make the result is 0. After finishing, the expression about salary W is as follows:

$$W = \frac{\theta}{1-\theta} \cdot \frac{\pi}{N} + W_0 \quad (3)$$

The combined formula (2') and (3) can calculate the retained wages of workers entering the industry as:

$$W_0 = \frac{\frac{\partial Q}{\partial N} \cdot \frac{N}{Q}}{\frac{\partial Q}{\partial M} \cdot \frac{M}{Q}} \cdot \frac{P_m M}{N} = \frac{e_n}{e_m} \cdot \frac{P_m M}{N} \quad (4)$$

In Equation (4), e_n take part in e_m It represents the output elasticity of labor and the output elasticity of intermediate input respectively.

On the other hand, according to the formula (2 '), the wage level depends on the enterprise's output, employment level, profit, bargaining power and marginal cost bonus rate. [12] gives a calculation method: find the first derivative of the intermediate element input M at both ends of the critical conditions of the enterprise exit from the market: and continue to organize this equation to obtain the marginal cost addition rate: $PQ = P_m M$

$$\mu = \frac{1}{\left(1 + \frac{\partial P}{\partial Q} \cdot \frac{Q}{P}\right)} = \frac{\frac{\partial Q}{\partial M} \cdot \frac{M}{Q}}{\frac{P_m \cdot M}{PQ}} = \frac{e_m}{a_m} \quad (5)$$

Among them, e_m represents the output elasticity of intermediate input as mentioned above; a_m represents the proportion of intermediate input in the total output of the enterprise. Formula (5) (2 '), and formula (4) (3), together with two subtypes, can sort out the expression of workers' collective bargaining power as:

$$\theta = \frac{(W - W_0)N}{PQ - W_0N - P_m M - P_k K} \quad (6)$$

Equation (6) provides a feasible way to measure the collective bargaining power θ of workers at the enterprise level.

2.2.2 Measurement method

It can be seen from formula (6) that the collective bargaining power of workers is affected by the total output value of enterprises, the input level of various production factors, the actual wages of workers and the retained wages of workers. PQ represents the total industrial output value of the enterprise in that year; $P_m M$ is the intermediate element input; $P_k K$ is the fixed asset of the enterprise, W is the salary payable by the enterprise; N represents the number of employees. Only the worker's retention wage, the W_0 The corresponding indicator can not be found directly. According to formula (4), if the retention wage is

required, the elasticity of the intermediate input e_m should be used to be obtained by the production function regression. And the output elasticity of labor e_l . For this study, the production function beyond the logarithmic form is set as follows:

$$Y_{it} = a_1L_{it} + a_2M_{it} + a_3K_{it} + a_4L_{it}^2 + a_5M_{it}^2 + a_6K_{it}^2 + a_7L_{it}K_{it} + a_8L_{it}M_{it} + a_9K_{it}M_{it} + a_{10}L_{it}K_{it}M_{it} + \omega_{it} + \varepsilon_{it} \quad (7)$$

Among them, Y_{it} representing the actual output of an enterprise. L, M and K are the natural logarithm of labor input, intermediate input and fixed assets, respectively. In the double logarithm model, the coefficients a_1 , a_2 and a_3 are the estimators of labor output elasticity e_l , intermediate input-output elasticity e_m and fixed factor output elasticity e_k , respectively. After estimating equation (7), substitute the obtained a_1 and a_2 into equation (4), and calculate the retained wage W_0 by combining the intermediate input and the number of employees.

However, the square term and cross term of production factors exist in equation (7), which shows that the model itself may have serious multicollinearity. Although the direct estimation can get the unbiased estimator, the variance makes the observation value far from the real value. In order to overcome multicollinearity and obtain more accurate estimates of output elasticity, this study conducted ridge regression on equation (7), and the resulting labor output elasticity and intermediate input-output elasticity estimators are calculated (4) to calculate the retained wage W_0 . Finally, the salary W_0 will be retained substitution type (6) can calculate the collective bargaining power of enterprise workers.

2.3 Empirical Test of the Impact of Export on the Collective Bargaining Power of Workers

2.3.1 Data source

The data in this chapter are from the combined data of China Industrial Enterprise database and Customs database from 2000 to 2014, The database contains the provinces and counties, industries, registration types, industrial output value, fixed and current assets, employment, wages, and welfare, capital types and other more comprehensive enterprise financial indicators, as well as export quantity, trade methods, export destination, product quality and other more detailed trade indicators, To obtain the high-quality samples, In order to obtain higher-level samples, the following screening is carried out in this paper. First, excluding enterprises with missing or negative export delivery value in any year; Second, excluding enterprises with negative salary level, fixed assets, total industrial output value, industrial sales income, number of employees, total profits, wages payable, benefits payable, etc., or 0 or missing; Third, delete enterprises with a total fixed assets of less than 100,000 yuan and enterprises with a total output value of less than 5 million yuan; Fourth, delete companies with fewer than 8 employees. In addition, according to the analysis requirements, samples with wages payable less than retained wages and workers with collective bargaining power less than or equal to 0 or equal to 1 were excluded. Finally, there were 7,894 companies that lasted from 2000 to 2014, including a sample of 95,000 observations.

2.2.2 Description of the statistics

According to the different years, this study calculates the collective bargaining power of exporters and non-export enterprises from 2000 to 2014. As shown in TABLE I, the collective bargaining power of exporters and workers is higher than that of non-export enterprises in any year; but the collective bargaining power shows overall decline with the increase of the year. First of all, the collective bargaining power of workers in export enterprises in any year exceeds that of non-export enterprises, indicating that export has a role in increasing the proportion of workers sharing in corporate profits, or that exports improve the status of workers in distribution. In addition, it can be seen from the fact that the collective bargaining power decreases with the increasing year that as time goes by, advanced technology is reflected in the production of enterprises through the update of machines and equipment, resulting in the phenomenon of "crowding out" of machines for people. In the case of enterprise production is more and more capital intensive, the overall proportion of workers in corporate profits is bound to decline.

TABLE I. Statistics of the collective bargaining power of the workers of export enterprises and non-export enterprises

Year	export enterprise		Non-export enterprises	
	The number of enterprises	Collective bargaining power	The number of enterprises	Collective bargaining power
2000	2590	0.378	3586	0.372
2001	2712	0.381	3730	0.380
2002	3026	0.379	3999	0.371
2003	3384	0.374	4178	0.370
2004	3761	0.367	3985	0.355
2005	3749	0.367	4352	0.350
2006	3988	0.357	4649	0.339
2007	4109	0.344	5019	0.325
2011	6382	0.302	2876	0.298
2012	6095	0.305	2762	0.286
2013	5538	0.319	2645	0.305
2014	5317	0.322	2559	0.317

2.3.3 Regression equation design and variable selection

According to the description statistics, the collective bargaining power of workers in export enterprises exceeds that of non-export enterprises. However, the impact of exports on the collective bargaining power of enterprise workers still needs to be verified through further analysis. Based on the existing research, the regression equation for the influence of export on the collective bargaining power of enterprise workers is designed as follows:

$$\begin{aligned}
 \text{BAR}_{it} = & \beta_1 + \beta_2 \text{EX}_{it} + \beta_3 \text{TFP}_{it} + \beta_4 \text{CAP}_{it} + \beta_5 \text{EMPLOY}_{it} + \beta_6 \text{STOCK}_{it} \\
 & + \beta_7 \text{FD}_{it} + \beta_8 \text{GENDER}_{it} + \text{CV} + \varepsilon_{it}
 \end{aligned}
 \tag{8}$$

In this model, the worker collective bargaining power BAR is the explained variable, and the calculation method is given by the previous section formula (6) The core explanatory variables are export variables: including export or not, export scale and export intensity. Other control variables affecting workers' collective bargaining power include: ① total factor productivity (TFP), which represents the production efficiency of enterprises. Most relevant studies show that when the proportion of high-tech personnel in enterprises is relatively large or the total factor productivity is higher, the collective bargaining power of workers is stronger. ② Capital intensity (CAP) refers to the ratio of fixed assets to employees. Relevant studies believe that if the enterprise capital intensity will significantly affect the collective bargaining power of enterprise workers. ③ Employee refers to the natural logarithm of the number of employees in an enterprise. Relevant research shows that enterprise size has an important impact on employees' bargaining power. The larger the enterprise, the larger the total number of employees, and the stronger the collective bargaining power of employees. ④ The stock ratio of an enterprise refers to the ratio of the enterprise's inventory to the industrial sales value. Generally speaking, if the inventory rate of an enterprise is high, the profit sharing degree of enterprise workers will be low. ⑤ Foreign capital entry dummy variable (FD) refers to whether an enterprise introduces foreign capital. The research shows whether the introduction of foreign capital will have a significant negative impact on the bargaining power of enterprises. ⑥ Gender ratio of enterprise employees refers to the ratio between the number of male employees and the number of employees. The variable definition is shown in TABLE II.

TABLE II. Variable names, symbols and statistical characteristics

variable	symbol	sample number	mean	standard error	least value	crest value
Collective bargaining power of the workers	BAR	95000	0.342	0.266	0.002	0.993
Export status	EX	95000	0.533	0.498	0	1
Export scale	EXPOR	42080	10.571	2.081	0	18.671
Export intensity	T	86306	0.207	0.356	0	1
Total factor productivity	INTEN	94673	0.389	0.877	0.154	6.739
capital-intensity	TFP	94939	5718.071	386.667	15.918	4503.153
scale	CAP	95000	5.725	1.200	0	11.972
Enterprise	EMPLOY	94455	0.159	0.523	0.034	134.915
	STOCK					

inventory rate						
Foreign capital into	FD	95000	0.384	0.486	0	1
Corporate gender composition	GENDE R	94940	0.612	0.211	0	1

2.4 Regression Methods and Results

2.4.1 Preliminary regression results

Combining the combined data of Chinese industrial enterprise and customs data from 2000 to 2014, the regression equation (8) is estimated. To overcome the possible bidirectional causality between the explained and explained variables, the panel tool variable method is used here, and the tool variables selected by the first three regression processes are the two-order lag value of the enterprise export state EX. The fourth and fifth regression processes selected the second order lag term of export scale and the second order lag term of export density as instrumental variables. ¹The regression results are shown in TABLE III: After controlling for the fixed effects of enterprises, industry and year and the main explanatory variables, exports can still significantly improve the collective bargaining power of workers within enterprises. The regression result of the first column indicates that the collective bargaining power of workers of export enterprises is significantly higher than that of non-export enterprises; the second and third columns show that the collective bargaining power of new import and export enterprises is lower than that of continuous export enterprises. Among the enterprises that continue to export, the regression coefficient of EX is 6.1%, which means that export enterprise workers get about 6.1% more enterprise profit share than non-export enterprise workers, and export promotes the improvement of labor relations within enterprises. The fourth and fifth columns change the measure of the export variable, and also get robust conclusions.

Looking at the factors affecting the collective bargaining power of workers in other enterprises, the coefficient of total factor productivity TFP is significantly positive below the 1% level, indicating that the internal workers of enterprises with higher technical standards have a higher profit sharing. The EMPLOY coefficient of enterprise scale is significantly positive at the 1% level, indicating that the larger the number of workers, the various "alliances" formed by it will have the more say on the profit distribution of enterprises. The estimated coefficient of capital intensity CAP is significantly negative at 1%, which means that the higher the ratio of technology to labor force, the lower the enterprise depends on labor force. In this case, the bargaining force in profit sharing will also decrease with the contribution rate of factors. The regression coefficient of whether foreign capital enters FD is significantly negative, which reflects that the collective bargaining power of workers of foreign enterprises is lower than that of domestic enterprises. The possible reason is that most foreign enterprises are engaged in technology-intensive or capital-intensive, so the bargaining power of their internal workers will decrease correspondingly. The coefficient estimation symbol of STOCK and that of gender composition are completely consistent with the previous literature. That is to say, when the inventory of an enterprise is relatively small or the

¹This variable passed the weak tool variable test and was omitted from the text of the report results.

proportion of male workers is relatively high, the collective bargaining power of the enterprise workers is strong.

TABLE III. Analysis of the influence of exports on the collective bargaining power of workers

BAR	(1) Whether to export	(2) New import and export	(3) Continuous export	(4) Export scale	(5) Export intensity
EX	0.031*** (2.90)	0.021*** (8.76)	0.061*** (8.04)		
EXPORT				0.003*** (2.78)	
INTEN					0.047*** (10.31)
INTEN ²					-0.004 (-6.06)
TFP	0.145*** (67.97)	0.136*** (100.84)	0.119*** (22.56)	0.170*** (62.19)	0.137*** (110.13)
EMPLOY	0.014*** (6.08)	0.021*** (18.83)	0.023*** (6.13)	0.000 (0.31)	0.019*** (19.18)
CAP	-0.071*** (-47.71)	-0.073*** (-81.41)	-0.065*** (-19.34)	-0.081*** (-44.69)	-0.078*** (-95.01)
STOCK	-0.009*** (-2.73)	-0.005*** (-3.58)	0.027 (1.30)	-0.011*** (-2.70)	-0.005*** (-3.11)
FD	-0.012*** (-2.53)	-0.015*** (-5.50)	-0.004 (-0.29)	-0.008*** (-2.51)	-0.006*** (-2.32)
GENDER	0.032*** (4.47)	0.041*** (6.78)	0.068*** (2.30)	0.033*** (4.18)	0.040*** (7.17)
Time effect	control	control	control	control	control
Industry effect	control	control	control	control	control
Ownership effect	control	control	control	control	control
cons	0.625*** (9.65)	0.633*** (25.21)	0.622*** (13.61)	0.667*** (10.92)	0.704*** (75.36)
adj-R ²	0.274	0.337	0.335	0.314	0.344
sample value	47982	72300	3459	41930	13669

Each bracket is reported by the t-statistic of the estimated coefficients, * * *, * *, * representing the

regression coefficients being significant at the 1%, 5%, and 10% levels, respectively.

2.4.2 Results of subsample regression

The following verifies the impact of export on the bargaining power of enterprise workers under different ownership ships, industries and years. All the following regressions used exit status as explanatory variables, and the regression methods used the panel instrumental variable method that selected the second-order lag term of exit status, which has been detected by weak instrumental variables.

First of all, according to the types of enterprise registration, enterprises are divided into four types: public enterprises (including state-owned and collective types), private enterprises, Hong Kong, Macao and Taiwan enterprises and foreign-funded enterprises. TABLE IV reports the relationship between export and enterprise wage bargaining power under different ownership types. It can be seen that under different ownership structures, export plays a significant role in promoting the bargaining power of enterprise workers. However, the collective bargaining power of workers of public enterprises has the highest collective bargaining power and those of private enterprises have the lowest. The regression coefficient of EX under public export enterprises is 0.046, which means that the profit sharing ratio of workers of public export enterprises is 4.6% higher than that of workers of public non-export enterprises. Similarly, workers from export private enterprises accounted for 3.1% higher profits than similar non-export enterprises; 3.5% for Hong Kong, Macao and Taiwan companies and 3.2% for foreign companies. The possible reason here lies in the nature of the public economy itself. — enterprise assets are jointly owned by all the owners, the ultimate owner of the enterprise profits is the laborer, and the ultimate goal of the development of the enterprise is also for the overall improvement of the welfare of employees.

TABLE IV. Analysis of Ownership Differences on the Impact of Export on Workers' Collective Bargaining Power

BAR	(1) Base return	(2) Public-owned enterprises	(3) Private business	(4) Hong Kong, Macao and Taiwan enterprises	(5) Foreign Enterprise
EX	0.031*** (2.90)	0.046*** (6.13)	0.031*** (5.57)	0.035*** (2.66)	0.032*** (5.88)
TFP	0.145*** (67.97)	0.128*** (84.36)	0.134*** (58.88)	0.126*** (30.34)	0.127*** (84.14)
EMPLOY	0.014*** (6.08)	0.023*** (18.43)	0.019*** (9.87)	0.025*** (7.39)	0.023*** (18.57)
CAP	-0.071*** (-47.71)	-0.069 (-70.63)	-0.076 (-51.57)	-0.072*** (-26.56)	-0.069*** (-70.43)

STOCK	-0.009 ^{***} (-2.73)	-0.008 (-2.58)	-0.010 (-2.90)	0.044 ^{***} (2.94)	-0.008 ^{***} (-2.53)
FD	-0.012 ^{***} (-2.53)	-0.022 (-7.66)	-0.013 (-2.22)	-0.007 (-1.05)	-0.012 ^{***} (-3.41)
GENDER	0.032 ^{***} (4.47)	0.035 (5.43)	0.055 (5.22)	0.023 ^{***} (2.44)	0.036 ^{***} (5.64)
Time effect	control	control	control	control	control
Industry effect	control	control	control	control	control
cons	0.625 ^{***} (9.65)	0.484 ^{***} (16.84)	0.483 ^{***} (18.71)	0.484 ^{***} (15.48)	0.488 ^{***} (18.93)
adj-R ²	0.274	0.325	0.324	0.353	0.328
sample value	47982	21459	6251	7204	13095

Each bracket is reported by the t-statistic of the estimated coefficients, * * *, * *, * representing the regression coefficients being significant at the 1%, 5%, and 10% levels, respectively.

Secondly, there are industry differences in the influence of export on the collective bargaining power of enterprise workers. According to GB / T4754-2002 industry code, 8 industries including nuclear fuel processing, pharmaceutical manufacturing, medical instrument manufacturing and communication equipment manufacturing are defined as high-tech industries; two industries codes 21-23,25-26-28,32,34 and 38 are defined as medium-technology industries; and two industry codes 13,14,16-20,25 and 33 are defined as low-technology industries. The collective bargaining power of export and enterprise workers is tested in the high, medium and low industries respectively. The results are shown in the second to fourth columns in TABLE V: the impact of export on the collective bargaining power of enterprise workers is the most significant in the high-tech industries, the second in the middle industries and the least in the low-technology industries. Among them, under the regression of high-tech industry sub-sample, the coefficient of EX of 0.42 is significant at the 1% level, which indicates that in high-tech industry, workers of export enterprises get 4.2% more corporate profits than workers of non-export enterprises. The possible explanation here is that due to the complementary effect of learning, the number of highly skilled workers and skilled workers in high-tech industries is much higher than that in low-tech industries. Export will further deepen this biased learning effect and make more and more high-quality labor force gather in high-tech and medium-technology industries. In addition, from the perspective of workers themselves, workers with high technology or rich production experience face more social choices, and the supply elasticity of such talents is greater, so they have a strong "bargaining power" over the salaries of enterprises. In contrast, low-tech companies have a large number of unskilled labor or low skilled people who can do relatively single jobs and make limited contributions. The small opportunity of employment choice causes a nearly vertical labor supply curve of such workers, which has a very low "bargaining power" in the profit negotiation, and is almost completely subject to the demand side of labor.

TABLE V. Industry Difference Analysis of the Impact of Exports on the Collective Bargaining Power of Workers

BAR	(1) High technology industry	(2) Medium technology industry	(3) Low technology industry
EX	0.042 ^{***} (4.64)	0.031 ^{***} (3.45)	0.023 ^{***} (2.03)
TFP	0.137 ^{***} (56.18)	0.132 ^{***} (49.84)	0.131 ^{***} (36.84)
EMPLOY	0.031 ^{***} (14.66)	0.019 ^{***} (9.05)	0.018 ^{***} (6.46)
CAP	-0.075 ^{***} (-45.19)	-0.074 ^{***} (-44.31)	-0.073 ^{***} (-31.31)
STOCK	-0.026 ^{***} (-3.52)	-0.006 [*] (-1.68)	-0.007 (-0.56)
FD	-0.018 ^{***} (-3.36)	-0.010 [*] (-1.76)	-0.010 (-1.35)
GENDER	0.032 ^{***} (3.35)	0.024 [*] (1.88)	0.022 (1.60)
Time effect	control	control	control
Ownership effect	control	control	control
cons	0.522 ^{***} (26.22)	0.639 ^{***} (30.71)	0.618 ^{***} (21.26)
adj-R ²	0.335	0.319	0.322
sample value	18728	16309	8408

Each bracket is reported by the t-statistic of the estimated coefficients, * * *, * *, * representing the regression coefficients being significant at the 1%, 5%, and 10% levels, respectively.

III. CONCLUSION

This paper presents a measure of the collective bargaining power of enterprise workers, and then combines the joint data from 2000 to 2014 to verify the impact of exports on the collective bargaining power of enterprise workers. Considering the possible "endogenous" problem, specific regression adopts the panel tool variable method, three important conclusions: first, in the control of the time, industry and ownership fixed effect and other influencing factors, exports still significantly enhance the collective

bargaining power of enterprise workers, it shows that exports can effectively promote the workers of enterprise profit sharing, has the role of improving the relationship between labor and management. Second, the relationship between export and the collective bargaining power of enterprise workers does not change with the export state, but the collective bargaining power of workers of new import and export enterprises is lower than that of workers of continuous export enterprises. Third, the impact of export on the collective bargaining power of enterprise workers varies according to the ownership and industry factors. In terms of ownership, the export of public enterprises has the greatest impact on the bargaining power of workers, the export of private enterprises has the least impact on the bargaining power of workers, and the influence of Hong Kong, Macao, Taiwan enterprises and foreign-funded enterprises is in the middle. From the perspective of industry, exports in high-tech industries have the biggest impact on the collective bargaining power of enterprise workers, followed by medium-technology industries and low-technology industries. The research conclusion of this paper provides a new explanatory perspective and empirical support for encouraging more enterprises to "go global" and obtain more wage dividends.

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