

Does the Trade Union Promote the Employee Development in Tobacco Enterprise: Evidence from China

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Objectives: Based on the data of questionnaire collected from tobacco enterprise, this paper uses regression model to focus on the relationship between the trade unions and the employee development. Besides, causal stepwise regression is adopted to find out the influential mechanism. The results show that the trade union in tobacco enterprise can significantly promote employee development by the mediating effect of contract guarantee, and this effect is more obvious in female groups. It is important to strengthen the development of trade union, creating more self-development opportunities for employees in tobacco enterprise.

Key words: trade union; employee development; tobacco enterprise; regression model

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INTRODUCTION

In recent years, the number of trade union members in China has risen rapidly from 273 million in 2011 to 391 million in 2017. During the same period, with the trend of continuous expansion, the coverage rate of trade union members has reached more than 80%.¹ The trade union plays an important role in labor protection, wage premium and skill training. For instance, the number of reported cases accepted by labor protection organizations of trade union increased from 59,000 in 2011 to 92,000 in 2015 in China; during the same period, the number of special collective contracts for wages signed by trade unions above the grass-root level also increased from 92,000 to 1.4 million; and the number of inventions brought by skill training from trade

union increased rapidly as well.² At the same time, profound changes are taking place in the internal structure, overall quality and rights protection of the staff. The employee development is not only reflected in the increasing salary, but also comprehensively reflected in job satisfaction, skill training and working relationships. As the typical case, the employee development in tobacco enterprise has become an important issue nowadays. For instance, the employee in tobacco enterprise may have more possibilities of potential healthy risk and working pressure, which is closely relative with employee development.^{3,4} Therefore, through combining a review of extant literature, this article selects related indicators that can reflect the employee development and uses the principal component method to construct an

indicator system representing the level of employee development in tobacco enterprise, then uses the questionnaire data to explore the relationship between the trade union and the employee development in tobacco enterprise from the micro perspective as well as figure out the influential mechanism, providing useful reference with the current labor protection system and giving more full attention to the development of trade union.

LITERATURE REVIEW

In recent years, a review of extant literature has focused on the impact of the trade union on employees. The labour union can mainly promote the rights and interests of employees by guaranteeing wage premiums, offering additional benefits and improving labor relations. In related discussions on wage premiums, most research affirm that the positive effect of trade union.^{5,6} Relevant studies in China also provide theoretical and empirical evidence. For example, previous studies have found that the trade union can help employees promote the successful probability of contract signing, thereby increasing the wage rate of employees.⁷ The trade union can also bring about a significant increase in wages with an obvious premium effect. For instance, the latest empirical evidence shows that the trade union participation significantly improves the wage rate of migrant workers.^{8,9} In addition, the trade union can regulate additional benefits. For instance, the trade union can help employees significantly reduce working hours, strengthen skill training and increase the probability of participating in medical insurance.¹⁰ It has been found in the existing literature that the trade union have functions of reducing employees' working hours, strengthening job security and increasing the probability of obtaining commercial insurance and the scope of technical training for employee.¹¹ Additionally, the effectiveness of the trade union in reducing working hours has feature of heterogeneity.^{12,13} At last, some research indicate that the trade union in China have a significant positive "spillover effect" on the maintenance of employees' rights and interests.^{14,15} Through organizing collective negotiations and collective wage agreements, the

trade union have significantly improved the rights protection of employees.¹⁶

At present, China stays in a critical period of economic structural transformation¹⁷. Under the background of high-quality economic development, all sectors of society are paying more attention to the employee development. In recent years, the academic research on the employee development is mainly carried out from two perspectives: the influencing factors of employee development and the evaluating indicator. From the perspective of the research on the influencing factors, the employee development is not only reflected in the income, but also includes working participation and skill training.¹⁸ For example, some studies have found that employer-employee relations and active cooperative labor relations have significant impact on employee development, and the job satisfaction can also have the certain incentive effect.^{19,20} Besides, with regard to the evaluating indicator of employee development, some studies construct evaluation indicators by selecting influencing factors in quantitative approach as well.²¹

To sum up, most studies have discussed the impact of trade union on employee such as wage premium, labor relationship and skill training, but few studies pay attention to whether the trade union can promote the comprehensive employee development.²² At the same time, job security is not only the basic right and interest of employees, but also the prerequisite for own skill development and income improvement. Therefore, the trade union may protect the rights and interests of employees by strengthening contract security, thereby improving the employee development. Finally, because different types of employees have own characteristics, the role of trade union in promoting the employee development may be heterogeneous. Therefore, by selecting the tobacco enterprise as the case, this article proposes the following hypothesis:

Hypothesis 1: Trade union can significantly promote the employee development in tobacco enterprise;

Hypothesis 2:Contract guarantee plays an intermediary role in the impact of trade union on the employee development in tobacco enterprise.

Hypothesis 3:The impact of the trade union on employee development is heterogeneous.

DATA AND VARIABLES

Data

The survey process is further described below. We got approval from the 2 tobacco enterprise in Shandong province and then sent an invitation letter out through email. Because the research object is limited to the employee and the retirement age in China is 60 years old, the sample interval is between 16 and 60 years old. 325 respondents had finished and returned the questionnaires.

Variables

Referring to extent researches,this paper selects employee development index as the main explanatory variable by using principal component method. As shown in Table 1 below, the index is calculated by subjective evaluation and objective condition, which reflects important aspects of

employee development. The subjective evaluation includes job satisfaction, work relationship and the employer-employee relationship. The objective condition contains health condition, labor income and skill training. The indicator prediction score and the weight can be multiplied to construct the employee development index, and the relevance of the above indicators has been passed by KMO tests (0.92).Besides, Table 2 reflects the relevant questionnaire of employee development index. Referring to independent variable, we select trade union participationas the main explanatory variable, The question in the questionnaire is “Are you a trade union member?” if the answer is “Yes”, the paper assigns the value of this question is 1, the otherwise is 0.

According to the extent research, the control variables include individual and household levels.^{23,24} The individual factors include gender, age, years of education, political status, marital status. The household characteristics include the household income and urban family. The variables were also logarithmic-ally processed and extreme values of household income less than zero were excluded. Table 3 indicates the interpretation of above variables.

Table 1 The Employee Development Index					
Criterion level	Indicators	Feature value	Difference	Proportion of principal components	Cumulative proportion
Subjective evaluation	Job satisfaction	2.2049	0.9189	0.3675	0.3675
	Work relationship	1.1286	0.3118	0.2143	0.5818
		0.9742	0.2137	0.1624	0.7442
	Employer-employee relationship	0.7604	0.0469	0.1267	0.8709
Objective condition	Health condition	0.7135	0.6526	0.1189	0.9899
	Labor income	0.0608	0.3654	0.0101	1.0000
	Skill training	2.2049	0.9189	0.3675	0.3675

Table 2
Questions of the Employee Development Index

Criterion level	Indicators	Feature value
Job satisfaction	Are you satisfied with your job?	1-6 (very dissatisfied-very satisfied)
Work relationship	What is your opinion about the interpersonal relationship between your employers and employee?	1-5 (very bad-very good)
Employer-employee relationship	What is your opinion about the interpersonal relationship between the employee?	1-5 (very bad-very good)
Health condition	Please evaluate your health condition.	1-5 (very bad-very good)
Labor income	What was your personal labor income in last year?	Annual income
Skill training	In the past year, have you participated in training to improve your working skills in your workplace?	1: Have participated 0: Have not participated

Table 4 shows the results of descriptive statistics analysis on samples. It can be seen that the 24% of respondents in the sample are union members. The

average age and years of education are 38.05 years and 11.76 years, respectively. 82% of the samples live in urban areas.

Table 3
Interpretation of Control Variable

Criterion level	Variable	Variable interpretation
Individual level	Gender	Male=1, Female=0
	Years of education	Illiteracy=0, Elementary school=6, Junior high school=9, High school=12, College=15, Undergraduate=16, Postgraduate and above=19
	Age	2015-Date of birth
	Political status	CPC member=1, Other=0
	Marital status	Married=1, Other=0
Household level	Household income	Average annual household income
	Urban family	Urban family=1, Other=0

Table 4
Descriptive Statistical Analysis on Samples

Obs	Mean	Std.	Max	Min
Participation of trade union	0.24	0.43	1	0
Employee development Index	0.83	0.12	1	0
Gender	0.54	0.5	1	0
Education	11.76	3.79	19	0
Age	38.05	10.44	60	18
Political status	0.17	0.37	1	0
Married	0.75	0.43	1	0
Urban family	0.82	0.38	1	0
Household income	9.32	11.24	15.42	0

EMPIRICAL ANALYSIS

In order to study the impact of trade union on the employee development in tobacco enterprise, the regression model was constructed as below:

$$\text{Index}_i = \alpha_i + \beta \text{Union}_i + \gamma X_i + \varepsilon_i$$

Index_i is the employee development index in tobacco enterprise, Union_i means the participation of trade union, X_i denotes the control variables, ε_i represents the random perturbation term. Column

(1) in Table 5 is the regression result without control variables. Column (2) and (3) in Table 5 is the result of adding individual and household control variables respectively. As the control variable was gradually added, the estimated coefficient gradually increases and keeps significant at a significance level of 1%, indicating that the union participation has a significant impact on employee development in tobacco enterprise.²⁵ For the other control variables, the trade union has a stronger role in promoting the

development of male employee, which can be explained by the fact that male employees may take on more job responsibilities relatively. The

political status and the urban household have significant impacts on employee development as well.

Table 5
The Impact of the Trade Union on Employee Development

	(1)	(2)	(3)	(4)
Trade union participation	0.284*** (0.066)	0.207*** (0.051)	0.153** (0.064)	1.122*** (0.413)
Education		0.642 (0.394)	0.546 (0.368)	0.773 (0.521)
Gender		0.124** (0.058)	0.111* (0.059)	0.081 (0.072)
Age		-0.004 (0.004)	-0.004 (0.004)	-0.012** (0.005)
Political status		0.175** (0.086)	0.165** (0.067)	-0.026 (0.148)
Married		0.150 (0.185)	0.139 (0.187)	0.104 (0.102)
Household income			0.700 (0.673)	0.091 (0.087)
Urban family			0.182* (0.097)	0.049 (0.120)
Constant term	-0.322* (0.176)	-0.376* (0.225)	-0.381* (0.215)	-0.159 (0.287)
Obs	325	325	325	325
Wald chi2				78.86***
Wald endogenous values				32.17***
First-stage F-value				132.24***
R²	0.132	0.137	0.139	0.294

Note: Standard errors are in parenthesis; *** p<0.01, **p<0.05, *p<0.1.

ROBUSTNESS TEST

In order to avoid the endogenous problems caused by the reverse causality or missing variables in regression model, this paper conducts robustness test. The endogenous problems may mainly origin from omitting variables such as personal characters and subjective desires, and incentives to participate trade union may be influenced by the awareness of all-round employee development, which may lead to self-selection. Based on previous research, in order to solve the endogenous problems, this paper adopts the instrumental variable method to use the ratio of long-term employment as the instrumental variable of union participation.²² The ratio of long-term employment equals to the number of employees who have signed a long-term employment contract divided by the total number of employees in one company. Generally, the higher proportion of long-term employment contracts leads to the stronger labor-capital relationship, which offers

stronger incentives for companies to form trade union, thereby increasing the probability of trade union participation. In addition, the long-term employment ratio is the inherent feature of company's labor structure, which is relatively independent of other control variables. As shown in Column (4) in Table 5, Wald test and weak instrumental variable test are also performed to improve the reliability of instrumental variables, and the estimated result after using instrument variable is still unchanged. With the instrumental variable test, the conclusion of the paper is further verified. This paper also uses sample tailing to perform robustness test. After narrowing the sample in the level of 5% and 1% respectively, the regression result remained unchanged. To sum up, the previous estimation results are basically robust.

MECHANISM ANALYSIS

In order to examine the mediation effect of the contract guarantee, this paper uses the hierarchical regression analysis proposed by Baron to verify

the mediation effect.²⁶ The question of contract guarantee in the questionnaire is “Please rate the degree of your work contract guarantee”. The following formula is used to verify the mediation effect:

$$\text{Index}_i = \alpha_i + \beta \text{Union}_i + \gamma X_i + \varepsilon_i(1)$$

$$\text{Contract}_i = \alpha_i + \beta \text{Union}_i + \gamma X_i + \varepsilon_i(2)$$

$$\text{Index}_i = \alpha_i + \beta \text{Union}_i + \delta \text{Contract}_i + \gamma X_i + \varepsilon_i(3)$$

Column (1) in Table 6 shows that the regression of the trade union on employee development in tobacco enterprise and Column (2) in Table 6 is

the regression of the trade union on contract guarantee. In the case where the regression results of the above two equations are significant, it is possible to verify the equation (3). After the contract guarantee is added in Column (3), the regression coefficient becomes smaller, which indicates that the contract guarantee plays a part of the mediation effect further validated the previous hypothesis 2 that contract guarantee plays an intermediary role in the impact of trade union on the employee development in tobacco enterprise.

Table 6
Regression Results of Mediation effect

	(1)OLS	(2)OLS	(3)OLS
Trade union participation	0.147** (0.067)	0.032* (0.018)	0.125** (0.054)
Contract guarantee			0.131*** (0.038)
Control variables		Controlled	
Constant term	-0.382* (0.217)	-0.187* (0.099)	-0.185* (0.102)
Obs	325	325	325
R²	0.140	0.252	0.178

Note: Standard errors are in parenthesis; *** p<0.01, **p<0.05, *p<0.1.

Table 7
The Impact of the Trade Union on Social Insurance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	Basic medical insurance		Basic pension insurance		Commercial medical insurance		Commercial pension insurance	
	Probit	Probit+IV	Probit	Probit+IV	Probit	Probit+IV	Probit	Probit+IV
Trade union participation	0.101*** (0.021)	2.641*** (0.104)	0.113** * (0.045)	2.537*** (0.082)	0.084*** (0.019)	2.197*** (0.214)	0.043** (0.021)	2.107*** (0.246)
Individual control variable				Controlled				
Household control variable				Controlled				
Obs	287	287	318	318	165	165	133	133
R²	0.0905	0.2320	0.1086	0.2134	0.0388	0.1967	0.0314	0.1387

Note: Standard errors are in parenthesis; *** p<0.01, **p<0.05, *p<0.1.

FURTHER DISCUSSION

Social insurance is an important part of contract guarantee. In order to further explore the role of trade union in increasing contract guarantee, this paper takes different types of social insurance as the proxy variable of contract guarantee. Table 7

shows that the trade union can significantly promote the possibilities of purchasing social insurance for employees. Besides, the impact of trade union on employees' purchase of basic insurance is greater than that of commercial insurance, which proves that there is a significant difference in contract protection between trade union members and non-unionized employees.

In order to further study whether there is group heterogeneity in the impact of trade union on the employee development, this paper classifies the samples according to gender. Table 8 shows that the participation of trade union can significantly promote the development of both male and female employees, and this effect is more obvious after adding instrumental variable. However, the impact

on female employees is higher than that on male employees, which can be explained by the fact that women have more possibilities to facegender discrimination in the workplace. Therefore, trade union can pay more attention to the development needs from female employees and strengthen their protection of labor rights.

Table 8
Heterogeneity Analysis Classified by Gender

Variable	Male		Female	
	OLS	2SLS	OLS	2SLS
Trade union participation	0.167* (0.096)	0.820** (0.358)	0.176* (0.095)	0.928** (0.461)
Individual control variable	Controlled			
Household control variable	Controlled			
Obs	175	175	150	150
R ²	0.112	0.145	0.101	0.162

Note: Standard errors are in parenthesis; *** p<0.01, **p<0.05, *p<0.1.

CONCLUSION

Based on the data of questionnaire collected from tobacco enterprise, this paper constructs a comprehensive index system of employee development by using the principal component methodand analyzes the impact of trade union on the employee developmentin tobacco enterprise by using the regression equation; in order to solve the endogenous problem, the long-term employment ratio of the enterprise is introduced as an instrumental variable, and the robustness test is carried out. Additionally, this article studies the intermediary role of contract guarantee. In the heterogeneity discussion, this article conducts classification discussions according to contract guarantee, region and gender.It is found that trade union can significantly promote the employee development of tobacco enterprise, and the result remains steady after adding instrumental variable; from the perspective of mechanism, contract guarantee plays an intermediary role. At last, the impact of the union is heterogeneous. Therefore,the recommendations of this article are shown as followed:

First, it is important to improve the organization construction of trade union in tobacco enterprise

and give full attention to the role of trade unionin ensuring the employee welfare. Considering the rapid increasing diverse needs from employees, the trade union in tobacco enterprise should establish a lifelong learning and employment training system for employees and improve the recognition policy for the vocational skill level of skilled talents, giving play to the role of trade unions in rights protection, income promotionand job security. Additionally, it is necessary to strengthen the protection of the rights from female employees relatively by strengthening the construction of infrastructure, improving relevant laws and increasing financial investment.

Besides, it is essential to strengthen the protection of labor rights and interests of employees in tobacco enterprise by strengthen the supervision and investigation of labor security law enforcement. Labor security supervision departments at all levels need to strictly follow the relevantprovisions of the new Law of the People's Republic of China on Employment Contracts to further strengthen the coordination and cooperation between labor security supervision and legal supervision of trade unions.

Study Limitations

Our study has some limitations about which readers should be cautioned. First, the concept of employee development contains many contents, and the development indicators we build may be difficult to fully explain to some extent. Additionally, the study sample is relatively small. Third, this paper uses cross-sectional data, which may lead to the neglect of some time-varying factors such as work habits. Thus, future research is recommended in a more heterogeneous and larger group. Moreover, it is recommended that panel data combined with fixed effects can be used to make the results more accurate.

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Author Declaration

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Conflicts of Interest Disclosure Statement

The authors declare no conflict of interest in the authorship or publication of this work. The authors declare no sponsored financial sources for the undertaken study.

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