12-9-2014

Impact of Minimum Wages on Employment: Evidence from China

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Abstract

This paper examines the impact of minimum wage on employment in China using data from 2000 to 2005. We find the mixed effects of the minimum wage on the employment levels. Overall, the minimum wages have no significant adverse effect on the employment. In particular, the results in the eastern region of the China indicate a few significant negative effects, which is consistent with the minimum wage theory in the competitive market. In contrast, the middle and western region experience a few significantly positive effects, which is consistent with the theory in the monopsony model. The results are robust regardless of ownership (non-SOES, collective, private enterprises and other types), industry type (manufacturing, wholesale and retail trade, and accommodation and restaurant) and gender of the workers. We discuss that three factors—low real minimum wages, weak enforcement capabilities, and the buyer's labor market— may account for effects of minimum wages on employment in China.

1. Introduction

In 1993, the Chinese government issued "The Guideline of the Minimum Wage Legislation" and each province introduced a minimum wage with reference to the cost of living and other labor market conditions.[1] Over a decade later, there are still many debates on whether we should continue carrying out the minimum wage legislation. Many discussions against this policy argue that minimum wage has a negative effect on employment. This aggravates the existing excess labor market and decreases the international labor comparative advantage due to the increased labor costs (Wang 2004; Cheung 2006；Kong, 2006). On the other hand, supporters argue that the minimum wage will not increase the unemployment rate. Instead, it can protect labor's benefits and assist in the transition from a labor intensive industry to a capital or technical intensive industry （Liu 2006；Qiao，2006；Kang，2006）. Interestingly, there is no empirical work to verify whether minimum wages in China have a positive or negative effect on the employment. Obviously, the underlying facts are very important to the future labor market policy makers.

The conventional wisdom was that an increase in the binding minimum wage should reduce employment among low-skilled workers. Earlier work summarized in Brown, Gilroy and Kohen (1982; 1983) confirmed that a 10% increase in minimum wage leads to a 1-3% decrease in teenage employment. Neumark and Wascher (1998) found similar negative results using time series data. The results are also supported in panel data analysis (Aaronson and French, 2007; Kawaguchi and Yamada, 2007;

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[1] See Ministry of Labor PRC, 1993, Enterprise minimum wage legislation, file number: 333.

Campolieti et al, 2005a, 2005b; Neumark and Wascher 1992, Cunningham，1981; Freeman，1979；Welch and Cunningham，1978) and natural experiment methodology (Singell and Terborg, 2007; Neumark and Wascher 2000). However, subsequent empirical analyses provide mixed evidence on the employment impact of minimum wage. For example, Wellington (1991), using the same methodology as Brown et al., found the 10 percent increase in minimum wage only decreased teenage employment by about 0.6%, and there is no impact on young adults. Many other studies also find mixed evidence (Currie and Fallick, 1996; Burkhauser et al. 2000a,b; Neumark and Wascher 2001).

On the other hand, the minimum wage may have a neutral or positive impact on employment in a monoposony model (Stigler, 1946; Dickens, Machin and Manning 1999; Aaronson and French, 2007). Using industry-based British Wages Council data from 1975 to 1992, Dickens et al (1999) shows that minimum wage does not have a negative impact on employment. Katz and Krueger (1992) surveyed employment and wage changes in fast-food restaurants in Texas before and after the national minimum wage change in 1991. They found that the minimum wage increases employment more in those firms that are likely to have been most affected than in other firms that were unrelated to mandated wage changes. Several studies provide evidence that is consistent with the monopsony model that minimum wage has either no effect or a positive effect on employment (Card, 1992a，b; Katz and Krueger, 1992；Card, Katz and Krueger，1994; Card and Krueger, 1995；2000; Machin and Manning, 1994, Abowd, Kramarz, Margolis and Phillippon , 2000).

The purpose of this paper is to examine the impact of minimum wage on the employment rate using provincial panel data[2] from 2000 to 2005, controlling the other market factors including GDP, population aged 15 above, price levels of each province. We find the mixed effects of the minimum wage on the employment levels. We further exam the same issues over three regions (eastern, middle and western) in China. There exist some significant negative effects in the results of the eastern region, which is consistent with the minimum wage theory in the competitive market. In contrast, the middle and western region experience a few significantly positive effects, which is consistent with the theory in the monopsony model. The results are similar regardless of ownership (non-SOES, collective, private enterprises and other types), industry type (manufacturing, wholesale and retail trade, *and* accommodation and restaurant) and gender of the workers.

To the best of the authors' knowledge, this paper is the first one to provide an empirical examination of minimum wage on employment in the Chinese labor market. The results have an important implication to the current debate about minimum wage legislation. Our national data analyses indicate that current minimum wages overall have no adverse effect on the labor market. Furthermore, our regional analyses indicate that the minimum wage policy should vary across different regions in the future. In the eastern costal region, the effect of minimum wage on the employment is more consistent with the competitive market. In the future, we should concern that the minimum wage may have a negative effect on the employment level. However, in the

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[2] The wage division of the Ministry of Labor and Social Security provided the data starting 2000. According to their explanation, not all the provinces started the minimum wage until 1996. The data between 1996 and 1999 are not complete and they chose not to report the data.

middle and western regions, the minimum wage policy seems to increase social welfare without hurting the labor market. These two different results have important policy implication to reduce the current regional income inequality.

Our results are consistent with the findings in the developing countries. Current studies in developing countries found little or no evidence of negative impact of minimum wage on employment. Gindling and Terrell (1995) used family survey data in Costa Rica and found that minimum wage is not well implemented –one-third of workers are paid below minimum wage. Bell (1997) found that minimum wage had no impact on Mexico's employment in 1990; however, it did have a negative impact on employment in Columbia. The reason may be due to the fact that Columbia has a much higher minimum wage than Mexico. Rama（2001）found a very modest negative employment effect of minimum wage doubling in Indonesia, however, the results varied by the size of the enterprises –larger firms actually showed positive employment effects.

The paper is arranged as follows. The next section provides data and variable summarization. Section 3 provides model and regression analysis and the conclusion follows in the last section.

2. Model Setup and Variable Summarization

As we discussed in the introduction, there are two economic theories predicting the relationship between minimum wage and the employment rate. The first one is set up at the competitive market. If an effective minimum wage is introduced into a free labor market, then the workers get higher pay but there is an excess supply in the labor market-----the minimum wage leads to unemployment. The second theory is set up in a monopsony market where employers have certain powers on deciding wages and the labor supply is the increasing function of wage (Stigler, 1946; Dickens et al., 1999). In a monopsony labor market, Enterprises determine the labor quantities and wage rates where marginal cost is equal to marginal revenue. If a minimum wage is promulgated lower than the equilibrium result in a perfect competitive market, it will raise the average labor costs, reduce the marginal costs, increase the wage rates, and promote the employment level.

Both theories provide an empirical framework to test the impact of minimum wage on employment. Of course, many other factors need to be controlled such as GDP, population aged 15 above and price levels of each province. In particular, Burkhauser et al. (2000a) discuss the time effects on the simple model of minimum wage impact on employment. Their results suggested including one year lag of the minimum wage into the model, as well as the year dummies. The provincial data are used for our analysis of 30 provinces from 2000 to 2005.

Following the above discussion, our estimation model is:

$$E_{it} = \alpha + \theta * MW_{it} + \theta * \text{Lag}\, MW_{it} + \prod X_{it} + u_{it} \qquad (1)$$

where E_{it} is the employment level for province i at time t, which is defined as the log of the number employed. MW_{it} is the minimum wage levels, and $\text{Lag}\, MW_{it}$ is one year lag of the minimum wages, which indicate the lag effect of the minimum wages. As discussed earlier, minimum wage may have a positive or a negative effect on the employment rate. X_{it} is a vector of control variables, including the log of real GDP, log of population age 15 above[3] and price level of each province (CPI). The authors also control year dummies for each regression.[4]

The data for the number of employment and population aged 15 above are collected from the *China Labor Statistics Yearbook* (2001-2006), which are compiled and published by the Bureau of Labor in China. The aggregate average wage, GDP and CPI are collected from the *China Statistics Yearbook* (2001-2006). Minimum wage data are provided by the wage division of the Ministry of Labor and Social Security PRC (2001 - 2006).

Table 1 summarizes the above variables. As we can see, the current minimum wages in China are still relatively low. The average minimum wages in many countries are about 40 - 60 percent of the average wages. In China at 2000, there were only six provinces (Shanxi, Inner Mongolia, Heilongjiang, Anhui, Henan and Hainan) with minimum wages of about 40 percent of the average provisional wage. Among

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[3] The other option is to control labor force. We did both and got consistent results. We chose to report population age 15 above in the sense that minimum wage may cover more than labor force.

[4] We also include one year lag of minimum wage in a separate regression model (see Singell and Terborg, 2007; Brown, et al., 1982; Neumark and Wascher, 1992). We do not report the results since the results are similar to the one without lag of minimum wage. The tables are available from authors upon request.

those provinces, Hainan had the highest minimum wage ratio, about 48.60 percent of its average wage. Shanghai had the lowest minimum wage ratio, about 27.51 percent of its average wage. The minimum wages in other provinces are about 30-40 percent. In 2001, only Anhui and Hainan had a minimum wage ratio over 40 percent, with the highest of 46.87 percent in Hainan. There are eight provinces with the minimum wage ratio lower than 30 percent of their average, with the minimum ratio of 22.32 percent in Qinghai. In 2002 and 2003, Hainan was the only province with the minimum wage of 40 percent of its average wage. The provinces with a minimum wage rate lower than 30 percent increased to 11 in 2002 and to 18 in 2003, with the minimum of 19.9 and 18.75 percent in Qinghai respectively. In 2004, all the provinces had a minimum wage of less than 40 percent of their average wages, and there were 20 provinces with a minimum wage to average wage ratio less than 30 percent.

The number of employment and the minimum wage data are redefined in the model due to the fact that the Chinese economy is still transitioning from a planned economy to a market-orientated economy. First, the number of employment in our model includes employee in urban and rural areas, excluding self-employed individuals and peasants (they have no wage and thus not affected by the minimum wage system), and state-owned units. The authors exclude employee in state-owned units because employment in SOEs is decreasing due to government policy. Since the 15th Central Committee of the Communist in 1997, the state-owned enterprises have been experiencing a big revolution in China. Chinese government reforms the state-owned enterprises strategically by invigorating large enterprises and relaxing

control over small ones. Therefore state-owned enterprises shrink in some competitive industries. Since then the number of employed in SOEs has been decreasing as shown in Table 2.

Table 2 indicates that, compared with 1997, the employment in state-owned enterprises decrease 41.25% in 2005, with an average of 5.16% each year. As discussed earlier, this reduction is due to economic system reform and is irrelevant to the minimum wage system. Therefore state-owned subgroup is excluded when estimating the impact of minimum wage on total employment.

In addition, the data for minimum wage have to be recalculated. Minimum wage data are provided by the wage division of the Ministry of Labor and Social Security PRC. In general, most provinces adjust the minimum wage on July 1st every year. However, there are several standards in one province and each province has the flexibility to change minimum wage within the year. Therefore, these standards need to be combined into one level for each province. The method for combining the minimum wage is similar to Rama (2001) which is time weighted average minimum wage. Take the example of Jiangsu province in 2002. There are four levels of minimum wage (430, 360, 300, 250; unit for wages and hereafter: Chinese Yuan per month) existing at different districts before July 1, 1992 and the levels are adjusted to new ones (460, 370, 320, 260) after July 1. The average minimum wage will be （430＋360＋300＋250）/4＝335 before July 1 and (460＋370+320＋260）/4＝352.5 after July 1. The minimum wage data for Jiangsu province in 2002 will be 335×6/12＋

$352.5 \times 6/12 = 343.75.$[5]

3. Regression Analysis

In this section, regression analyses are conducted based on the regression model (1). To do so, the authors first look at the aggregate effect of minimum wage on the employment using national wide data. To examine the different labor market effects due to different development levels across three regions, we decompose the national data into three regional analyses. Furthermore, we conduct subgroup analyses by ownership of the firms, by industry type, and by gender to check the robust of our findings.

The panel data are across 30 provinces over time, and thus we check the heteroskedasticity for each model and serial correlation. As expected, we detect both heteroskedasticity and serial correlation for each model. Therefore, each of the following models uses Generalized Least Square by correcting the heteroskedasticity and serial correlation.

3.1 Impact on aggregate employment

Table 3 reports the results of the impact of the minimum wage on aggregate employment. The first column estimates the full sample using all provinces. As shown in the model, the coefficients of the minimum wage and its lag are positive but not

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[5] There are five provinces (Liaoning, Zhejiang, Guangdong, Fujian, Shandong) that have several different district minimum wages and the adjustment times are not consistent with other districts of the province. For these provinces, the average minimum wage of the district is calculated at different time periods and then the average for the whole province is obtained. Take an example of Shenzhen city in Guangdong province, the minimum wages are 600 and 465 before May 1, 2004, and become 610 and 480 after that. The other districts' minimum wages are 480, 430, 380, 340, 310, 290, 270, respectively, before Dec. 1, 2004 and become 684, 574, 494, 446, 410, 377, 352 after that date. So the average minimum wage standard is 540.45 ((600 + 465) * 4/11 + (610 + 480) * 7/11 = 540.45) before Dec. 1 and is 545 ((610 + 480) / 2 = 545) in Shenzhen. The final minimum wage standard in Guangdong province is 388.83 ((480 + 430 + 380 + 340 + 310 + 290 + 270 + 540.45) /12 * 11 + (684 + 574 + 494 + 446 + 410 + 377 + 352 + 545) / 12 * 1 = 388.83).

significant, which indicates that in China the minimum wage has no adverse effect on employment. As expected, the employment level is significantly higher for higher GDP level. The population aged 15 above are also significantly associated with the employment level. Compared with the eastern region, we do find that the middle and western regions experience significantly low employment levels.

In the rest of three models, we look at sub-samples of three regions (eastern, middle and western region) separately due to their different development levels. In the column 2, the coefficient of minimum wage is negative but not significant. The coefficient of the lag of the minimum wage is significantly negative at 5% level. However, the coefficients of the minimum wages at other regions are all positive but not significant. The comparison across regions indicates that the eastern region is more competitive market economy and minimum wage reduces slightly the employment level with lag effect.

Recall that the employment number in this model excludes employed persons in state-owned units in urban areas because the employment in SOE is decreasing due to the government policy. This number includes the employment at collective enterprises, different types of non-state-owned or non-collective enterprises, and private enterprises. The collective enterprises are a special product of the economic system reform. With the gradual transforming to the socialist market economy, the collective economy is shrinking so that employment in collective enterprises becomes smaller and smaller. In contrast, the private enterprises and other types of enterprise are becoming larger and larger. Therefore, in the following subgroup analysis, the

authors further look at three types of ownership: the collective enterprises, private enterprises and other types.

3.2 Impact on employment by ownership

China is a socialist country and most of the economic resources are under the control of the central government. With the development of economic reform, the non-state-owned economy has developed quickly. So when the impact of minimum wage on the employment in China is studied, it is important to make clear the effect of minimum wage on enterprises with different ownerships. As the ratio of state-owned economy is becoming smaller, so does the employment number in state-owned enterprises as China's state-owned enterprise reform continues growing. The reduction of the employment number has very little to do with the minimum wage system. Therefore, we particularly examine the employment effect of minimum wage at collective enterprises, private enterprises and other enterprises.

Table 4 reports the results of the employment effect of minimum wage on collective enterprises. The first column indicates that the minimum wage significantly increases the employment level for collective enterprises in the country. The dummy effect indicates that the middle region has significant high employment at collective enterprises than eastern region. If we look at the three regions separately, we find that, in the western region, the minimum wage plays a significant positive role on the employment. In comparison, Table 5 and Table 6 report the employment effects of minimum wage on private enterprises and other types of enterprises. For both tables, the results show that there are no significant adverse effects of minimum wage

(except the eastern regions for other enterprises) on the employment. For the other types of the enterprises (e.g., foreign enterprises), it is expected to have insignificant effects in the other regions except eastern region as most of the other type enterprises are in the eastern region (see also the dummy effects in the first column). However, most of China's private enterprises are small and produce labor intensive products. If minimum wage reduces employment in China, it will have a significantly negative impact on the employment in private enterprises. The above results may indicate that China's minimum wage may not be well implemented in the private enterprises.

3.3 Impact on employment by industry

Previous literature have documented that the impact of minimum wage varies by firm size or industry type. Rama (2001), using the Indonesia's minimum wage doubling in real terms in the first half of the 1990s, indicates that the impact of minimum wage on employment differs with firm size: The impact of minimum wage on the employment of small firms may be negative since the small- and medium-sized firms better fits the competitive models. In addition, Singell and Terborg (2007) found different employment effects within and between low-wage industries such as the food industry and the hotel and lodging industry. In China, the manufacturing industry is composed of capital intensive large firms which have a stronger endurance against the minimum wage. In contrast, the firm size of China's wholesale and retail trade industry and accommodation and restaurant industry are usually small and the workers of those labor intensive industries are unskilled and low-paid. For the above reasons, the subgroup analyses in the manufacturing industry, the wholesale and retail

trade industry and the accommodation and restaurant industry are conducted respectively. The minimum wages are expected to have a larger impact on employment in the latter two industries since they are relatively low-wage industries.

Tables 7, 8 and 9 report the impact of minimum wage on employment in these three industries. For each industry, the state-owned employment is excluded from the dependent variable employment rate. The results from manufacturing industry indicate a positive effect of the minimum wage on the employment level overall. There is no significant difference in employment level across three regions. Interestingly, the minimum wage has a significant negative impact on the employment at eastern region, while it has a significant positive impact on the employment at western region. The employment effect of minimum wage at the wholesale and retail industry (Table 8) is not significant overall, and we find a significant positive lag effect on the western region. The employment effect of minimum wage at the accommodation and restaurant industry (Table 9) is significant positive overall, and the western region contributes significantly to this positive effect. In sum, across the industries, we find slight negative effects on eastern region, no significant results in middle region, and positive effects on the western region. These results indicate that the labor market from the eastern region to the western region is changing from a completive mode to a monopsony mode.

3.4 Impact on employment by gender groups

Previous literature have documented that there are differences between the effects of minimum wage on genders (see detail summarize at Brown et al., 1982).

Because of physiological factors, most firms are willing to employ male workers if the wage rate is the same for both genders. Similarly, female workers are the first to be dismissed when higher wages requires firm lay offs. Therefore, there is a certain degree of discrimination regarding female employment in labor markets and minimum wage may have a larger effect on the female group as compared with the male group.

To examine if the same effect occurs in the Chinese labor market, similar data by gender group was obtained. The number of employment for males and females includes those in urban area firms (excluding those at the SOEs) and private sectors. Table 10 indicates that, overall, there is no significant effect of the minimum wage on the employment level. Across regions, the effect of minimum wage on the employment level is from insignificant negative sign at eastern region, to insignificant positive sign in the middle region, and the significant sign in the western region.

The results at Table 11 indicate that there is no significant gender employment discrimination. Overall, this table indicates a negative but not significant effect of minimum wage on female employment. Similarly, the effect of minimum wage on the employment level is from insignificant negative sign at eastern region and middle region to insignificant positive sign in the western region.

All of the above regression results indicate that the minimum wages in China have mixed effects on the employment. The results vary across three regions, indicating the labor market segment in China. The eastern region experiences slight negative effects, while the western region experiences slight positive effect. The

former case is more consistent with the results in the completive market while the latter case is more consistent with the results in the monopsony model, which are summarized in the introduction. Even though we do not report the year dummy effects, we notice that the year variables are all significant in all the regression. This indicates that the either the macro-policy or even globalization events have a significant effect on the employment.

There are several reasons that may explain this mixed result. First, the minimum wages in China are still relatively low. As can be seen in Table 1, the minimum wage increased from an average of 287 Chinese Yuan per month in 2000 to 408 Chinese Yuan per month in 2005, however, the ratio of minimum wages to average wages are actually declining from 36 percent to 28 percent, with an average decreasing rate of 1.99 percent each year. Both the competitive model and monopsony model indicate that when the minimum wage is lower than the market wage, there is no effect on employment.

Second, the national minimum wage system was initiated but poorly executed, which led to a small effect on the whole labor market. There are many cases reported but only a few will be shown here. In 2005, the Labor Union in Hebei province administered a four-month long survey about minimum wage in all types of firms. Among the 1,021 enterprises they investigated, 42% enterprises did not execute a minimum wage and 76 percent of the workers could not get legal payment for additional work time on holidays. Among 267 the SOEs, 82 percent paid the

minimum wage. About 49 percent of the 754 non-SOEs paid the minimum wage.[6]

Another questionnaire for home service in 2005 in Beijing indicated that half of the workers' earnings were below the legal minimum wage of 580 Chinese Yuan per month.[7] From January to August in 2006, Shanghai Municipal Labour Inspection Teams received 647 complaints regarding minimum wages, handled 907 cases violating minimum wage rules, reimbursed minimum wage differential 6,650,000 Chinese Yuan for approximately 28,000 labor force participants.[8] In May 2006, Harbin Municipal Bureau completed interview investigations on 1,000 workers in eight industries and found that overtime work, sordid work environment, and low wage levels were very common. Except in the construction and stone material processing enterprises, all other investigated industries' minimum wage levels were lower than 590 Chinese Yuan per month.[9] The situations before 2006 were even worse. In fact, many enterprises take the overtime payments, retirement pensions, social security funds, doles and allowances into account when setting minimum wages. According to the "Regulations on Enterprise Minimum Wage," the punishments for violating minimum wage rules will be a fine from 20% to 100% of the difference between the minimum wage and the previous payment.[10] Later on, a new rule increases this number to five times the earlier punishment.[11] However, the enterprises are not really impacted by this rule due to weak enforcement by the local department of the Bureau of the Labor. Therefore, the weak enforcement might be another factor

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[6] People's Daily, 06-22-2006.
[7] Beijing Daily Messenger, 04-14-2006.
[8] http://www.cyol.net/rencai/content/2006-09/08/content_1504836.htm.
[9] http：//news.acftu.org.
[10] Ministry of Labor PRC, 1993.
[11] Ministry of Labor and Social Security PRC, 2004.

accounting for the insignificant negative effect on employment in China.

Third, the Chinese labor market is in a very special stage as the economy is transitioning from a planned economy to a market-oriented economy. From the perspective of the market economy, the labor market is competitive as employers have the freedom to offer wages based on the market information. However, the reform of SOEs leads to large numbers of unemployment in the cities. In addition, the rural laborers are transitioning from the farm to industries in the cities or suburb areas. These two effects make the labor market have the feature of the monopsony market. In such a labor market, employers have obvious advantages over employees. Therefore, enterprises have certain market power over wages. The recent shortage of rural workers is the evidence that when wages are lowered to their reserved price, rural workers will work on the farm rather than working the city.[12]

4. Conclusion

This paper examines the impact of minimum wage on employment in China using data from 2000 to 2005. Our results indicate that the minimum wage in China have mixed effects on the employment. The results vary across three regions: The eastern region experiences slightly negative effects, while the western region experiences slightly positive effect. The former case is more consistent with the results in the completive market while the latter case is more consistent with the results in the monopsony model. The results are robust regardless of ownership (non-SOES, collective, private enterprises and other types), industry type

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[12] Ministry of Labor and Social Security PRC, 2004. The Survey Report of the Shortage of Migrant Workers. 2004-9-9.

(manufacturing, wholesale and retail trade, and accommodation and restaurant) and gender of the workers. We argue that three factors—low real minimum wages, weak enforcement capabilities, and the buyer's labor market— may account for the above effects of minimum wages on employment in China.

The results have an important implication to the current debate about minimum wage legislation. First, current minimum wages overall has no adverse effect on the labor market. This implies that current minimum wages can protect the minimum income of the unskilled labor without further damaging the labor market. Given the current huge gap of income inequality, it may be wise to keep the current minimum wage policy. Second, our different results across regions indicate that the minimum wage policy should vary across different regions in the future. In the eastern costal region, the effect of minimum wage on the employment is more consistent with the competitive market. In the future, we should concern that the minimum wage may have a negative effect on the employment level. However, in the inner regions, the minimum wage policy seems to increase social welfare without hurting the labor market. These two different results have very important policy implication to reduce the current regional income inequality.

In future research, it would be helpful in looking at particular sample that is directly affected by the minimum wage policy. Due to the data limitation, our analysis stays at more macro-level data analysis. To detect precisely an effect of the minimum wage, survey data are needed among low-skilled labors.

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Table 1: Summarize Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Minimum Wage (Chinese Yuan/month)	180	327	82	185	663
Total Employment (unit: persons)	180	7301607	5716544	409000	25600000
GDP(unit:100 million Chinese Yuan)	180	4540	3884	111	22367
Population Aged 15 above (unit: persons)	179	857144	594314	43446	3333340
CPI	180	101	2	97	106

Summarize Minimum Wages by Year

	Obs	Mean	Std. Dev.	Min	Max
year=2000					
Minimum Wage(Chinese Yuan/month)	30	272.56	57.54	185	424.83
Minimum Wage/Average Wage	30	0.36	0.05	0.28	0.49
year = 2001					
Minimum Wage(Chinese Yuan/month)	30	287.57	64.49	220.00	467.50
Minimum Wage/Average Wage	30	0.33	0.05	0.22	0.47
year = 2002					
Minimum Wage(Chinese Yuan/month)	30	310.09	65.55	220.00	512.50
Minimum Wage/Average Wage	30	0.31	0.05	0.20	0.44
year = 2003					
Minimum Wage(Chinese Yuan/month)	30	324.75	66.43	220.00	552.50
Minimum Wage/Average Wage	30	0.29	0.05	0.19	0.40
year = 2004					
Minimum Wage(Chinese Yuan/month)	30	357.91	72.59	251.67	602.50
Minimum Wage/Average Wage	30	0.28	0.04	0.19	0.36
year = 2005					
Minimum Wage(Chinese Yuan/month)	30	408.49	84.13	306.40	662.50
Minimum Wage/Average Wage	30	0.28	0.04	0.20	0.38

Table 2: The Employment in State-Owned Enterprises (1997 - 2005)

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Employed number (unit: 10 thousand persons)	11044	9058	8572	8102	7640	7163	6876	6710	6488
Annual growth	-	-18%	-5.40%	-5.50%	-5.70%	-6.30%	-4.00%	-2.4%	-3.31%

Table 3: Impact of the Minimum Wage on Total Employment
(Dependent Variable: Log of Total Employees without SOE)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.098	-0.067	0.321	0.176
	(0.073)	(0.138)	(0.184)*	(0.141)
Lag(Minimum Wage)	0.050	-0.234	0.094	0.105
	(0.076)	(0.107)**	(0.204)	(0.184)
Log(GDP)	0.536	0.901	-0.315	0.117
	(0.057)***	(0.046)***	(0.176)*	(0.093)
Log(Population age 15 and above)	0.526	0.261	1.416	0.868
	(0.053)***	(0.055)***	(0.166)***	(0.088)***
Log(CPI)	-0.003	-0.024	0.017	-0.002
	(0.006)	(0.012)**	(0.023)	(0.007)
Dummy Variable for Middle Region	-0.101			
	(0.043)**			
Dummy Variable for Western Regio	-0.195			
	(0.048)***			
Constant	5.439	14.217	-12.788	-1.238
	(1.274)***	(1.899)***	(3.766)***	(2.033)
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Note: we include year dummies in the regression but not reported for space efficiency.

Table 4: Impact of the Minimum Wage on collective Enterprises Employment

(Dependent Variable: Log of collective Enterprises Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.248	-0.025	0.147	0.390
	(0.094)***	(0.159)	(0.189)	(0.178)**
Lag(Minimum Wage)	0.043	0.073	-0.099	0.148
	(0.101)	(0.131)	(0.170)	(0.245)
Log(GDP)	0.242	0.578	0.336	-0.001
	(0.069)***	(0.079)***	(0.228)	(0.076)
Log(Population age 15 and above)	0.726	0.354	0.643	0.979
	(0.066)***	(0.080)***	(0.214)***	(0.082)***
Log(CPI)	0.010	0.019	0.004	0.002
	(0.008)	(0.014)	(0.020)	(0.012)
Dummy Variable for Middle Region	0.235			
	(0.070)***			
Dummy Variable for Western Regio	-0.190			
	(0.085)**			
Constant	-3.161	3.734	0.322	-7.674
	(1.635)*	(2.483)	(4.559)	(2.440)***
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: we include year dummies in the regression but not reported for space efficiency.

Table 5: Impact of the Minimum Wage on Private Enterprises Employment

(Dependent Variable: Log of Private Enterprises Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.209	-0.370	0.051	-0.120
	(0.154)	(0.498)	(0.264)	(0.281)
Lag(Minimum Wage)	0.043	0.346	0.083	-0.470
	(0.161)	(0.446)	(0.264)	(0.326)
Log(GDP)	0.742	1.343	-0.686	0.424
	(0.090)***	(0.171)***	(0.223)***	(0.151)***
Log(Population age 15 and above)	0.111	-0.409	1.108	0.292
	(0.102)	(0.194)**	(0.204)***	(0.145)**
Log(CPI)	-0.026	-0.050	0.026	-0.007
	(0.012)**	(0.044)	(0.026)	(0.017)
Dummy Variable for Middle Region	-0.348			
	(0.079)***			
Dummy Variable for Western Reg	-0.047			
	(0.080)			
Constant	12.476	24.477	-8.025	12.045
	(2.548)***	(6.767)***	(4.988)	(3.624)***
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: we include year dummies in the regression but not reported for space efficiency.

Table 6: Impact of the Minimum Wage on Other Enterprises Employment
(Dependent Variable: Log of Other Enterprises Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.096	-0.094	0.337	0.158
	(0.080)	(0.155)	(0.205)	(0.148)
Lag(Minimum Wage)	0.044	-0.245	0.113	0.117
	(0.082)	(0.120)**	(0.228)	(0.191)
Log(GDP)	0.551	0.920	-0.438	0.118
	(0.058)***	(0.050)***	(0.195)**	(0.097)
Log(Population age 15 and above)	0.513	0.249	1.520	0.870
	(0.055)***	(0.060)***	(0.186)***	(0.092)***
Log(CPI)	-0.004	-0.027	0.014	-0.003
	(0.007)	(0.013)**	(0.024)	(0.007)
Dummy Variable for Middle Region	-0.119			
	(0.044)***			
Dummy Variable for Western Region	-0.196			
	(0.055)***			
Constant	5.795	14.862	-14.425	-1.167
	(1.348)***	(2.099)***	(4.223)***	(2.093)
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Note: we include year dummies in the regression but not reported for space efficiency.

Table 7: Impact of the Minimum Wage on Manufacturing Employment
(Dependent Variable: Log of Manufacturing Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.270	-0.467	-0.168	0.475
	(0.135)**	(0.279)*	(0.188)	(0.234)**
Lag(Minimum Wage)	0.006	-0.247	-0.397	0.372
	(0.143)	(0.262)	(0.188)**	(0.277)
Log(GDP)	0.948	1.554	1.101	0.190
	(0.078)***	(0.131)***	(0.102)***	(0.090)**
Log(Population age 15 and above)	0.069	-0.457	-0.361	0.717
	(0.077)	(0.138)***	(0.090)***	(0.091)***
Log(CPI)	-0.005	-0.025	0.013	-0.006
	(0.011)	(0.022)	(0.026)	(0.017)
Dummy Variable for Middle Region	0.042			
	(0.061)			
Dummy Variable for Western Region	-0.087			
	(0.067)			
Constant	9.754	25.931	20.045	-3.977
	(2.115)***	(4.063)***	(3.091)***	(2.939)
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Note: we include year dummies in the regression but not reported for space efficiency.

Table 8: Impact of the Minimum Wage on Wholesale and Retail Trade Employment
(Dependent Variable: Log of Wholesale and Retail Trade Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.160	0.068	0.114	0.269
	(0.137)	(0.229)	(0.177)	(0.255)
Lag(Minimum Wage)	0.121	-0.117	-0.074	1.163
	(0.149)	(0.220)	(0.160)	(0.309)***
Log(GDP)	0.772	1.183	0.012	0.239
	(0.092)***	(0.117)***	(0.271)	(0.123)*
Log(Population age 15 and above)	0.154	-0.401	-0.289	0.787
	(0.093)*	(0.120)***	(0.821)	(0.116)***
Log(CPI)	0.006	0.040	-0.022	0.001
	(0.010)	(0.018)**	(0.018)	(0.016)
Dummy Variable for Middle Region	0.184			
	(0.082)**			
Dummy Variable for Western Region	0.140			
	(0.091)			
Constant	5.388	13.302	0.000	-10.551
	(2.327)**	(3.635)***	(0.000)	(3.404)***
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Note: we include year dummies in the regression but not reported for space efficiency.

Table 9: Impact of the Minimum Wage on accommodation and restaurants Employment
(Dependent Variable: Log of accommodation and restaurants Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.544	0.563	0.276	1.442
	(0.279)*	(0.879)	(0.442)	(0.492)***
Lag(Minimum Wage)	1.208	1.327	0.517	1.925
	(0.318)***	(0.921)	(0.454)	(0.499)***
Log(GDP)	0.290	0.098	1.477	0.338
	(0.146)**	(0.343)	(0.411)***	(0.110)***
Log(Population age 15 and above)	0.506	0.164	-0.309	0.616
	(0.144)***	(0.410)	(0.379)	(0.107)***
Log(CPI)	-0.010	0.006	0.079	-0.072
	(0.019)	(0.052)	(0.038)**	(0.025)***
Dummy Variable for Middle Region	-0.294			
	(0.143)**			
Dummy Variable for Western Region	-0.242			
	(0.170)			
Constant	-8.030	-4.188	0.668	-12.723
	(3.970)**	(12.514)	(7.410)	(3.875)***
Observations	129	55	37	37
Number of id	30	12	9	9

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Note: we include year dummies in the regression but not reported for space efficiency.

Table 10: Impact of the Minimum Wage on Male Employment

(Dependent Variable: Log of Male Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	0.190	-0.224	0.174	0.624
	(0.149)	(0.330)	(0.145)	(0.355)*
Lag(Minimum Wage)	0.236	-0.049	0.113	1.033
	(0.156)	(0.304)	(0.145)	(0.371)***
Log(GDP)	0.627	0.915	0.204	0.385
	(0.095)***	(0.173)***	(0.171)	(0.092)***
Log(Population age 15 and above)	0.209	-0.191	0.597	0.559
	(0.094)**	(0.169)	(0.209)***	(0.085)***
Log(CPI)	-0.014	-0.028	0.008	-0.029
	(0.014)	(0.023)	(0.011)	(0.028)
Dummy Variable for Middle Region	0.196			
	(0.075)***			
Dummy Variable for Western Region	0.147			
	(0.097)			
Constant	7.937	20.020	0.448	-3.120
	(2.612)***	(4.999)***	(4.306)	(3.675)
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: we include year dummies in the regression but not reported for space efficiency.

Table 11: Impact of the Minimum Wage on Female Employment

(Dependent Variable: Log of Female Employees)

	Full Sample	Eastern Region	Middle Region	Western Region
Log(Minimum Wage)	-0.032	-0.263	-0.044	0.562
	(0.167)	(0.380)	(0.196)	(0.349)
Lag(Minimum Wage)	0.282	-0.251	0.072	0.807
	(0.181)	(0.360)	(0.203)	(0.381)**
Log(GDP)	0.931	1.185	1.022	0.462
	(0.085)***	(0.173)***	(0.154)***	(0.117)***
Log(Population age 15 and above)	-0.038	-0.331	-0.251	0.446
	(0.088)	(0.178)*	(0.137)*	(0.110)***
Log(CPI)	-0.020	-0.041	0.025	-0.002
	(0.016)	(0.030)	(0.025)	(0.026)
Dummy Variable for Middle Region	0.172			
	(0.062)***			
Dummy Variable for Western Region	0.032			
	(0.070)			
Constant	13.076	24.454	13.387	-3.016
	(2.681)***	(5.561)***	(3.769)***	(3.985)
Observations	150	60	45	45
Number of id	30	12	9	9

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Note: we include year dummies in the regression but not reported for space efficiency.