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Study on the Effect of Minimum Wage Increases in China

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Abstract
This paper studies minimum wage increases in China since the implement of minimum wage guarantee system. This paper compares minimum wage with average wage, per capita annual consumption expenditure of urban households, and points out the defections in minimum wage increases. Then, based on the study above, this paper analyzes the effect of minimum wage increases from three aspects, including the cost of labor, labor productivity and industrial structure.

Key words: Minimum wage; Labor Cost; Labor Productivity; Industrial structure

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INTRODUCTION
Since 1994, China has begun to implement minimum wage guarantee system according to the international practice. Now, minimum wage has become a necessary means of government to intervene in the labor market and plays an important role in protecting the low-skilled laborers to get a reasonable payment in China. At the same time, minimum wage increases has effect on labor cost of some enterprises, and promotes the upgrading of industrial structure and labor productivity.

1. ANALYSIS ON MINIMUM WAGE INCREASES IN CHINA

1.1 Minimum Wage Changes of China (1994-2012)
Table 1 shows minimum wage changes in each area in China from 1994 to 2004 since 'Enterprise Minimum Wage Provisions' was implemented. In general, minimum wage can be calculated not only by hours, but also by days, weeks or months. The earliest enacted minimum wage is calculated monthly in China, and it can be inter-converted to hourly minimum rates. The data used in this study is monthly minimum wage.

Table 1
Data of Minimum Wage in Each Area (1994-2011)

Units: Yuan / month

Areas	1994	2008	2009	2010	2011	2012
Beijing	210	800	800	960	1160	1260
Tianjin	210	820	820	920	1160	1310
Hebei	180	750	750	900	1100	1320
Shanxi	200	720	720	850	980	1125
Neimenggu	170	680	680	900	900	1200
Liaoning	210	700	700	900	900	1100
Jilin	190	650	650	820	1000	1150
Heilongjiang	200	680	680	880	880	1160
Shanghai	220	840	960	1120	1280	1450

To be continued

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Areas	1994	2008	2009	2010	2011	2012
Jiangsu	210	850	850	960	1140	1320
Zhejiang	210	850	960	1100	1310	1310
Anhui	180	560	560	720	720	1010
Fujian	280	750	750	900	1100	1200
Jiangxi	190	580	580	720	720	870
Shandong	170	760	810	920	1100	1240
Henan	204	750	750	800	800	1080
Hubei	180	700	700	900	900	1100
Hunan	205	665	665	725	850	2012
Guangdong	320	860	860	1030	1300	1500
Shenzhen	338	1000	1000	1100	1320	1500
Guangxi	200	580	670	820	1100	1000
Hainan	280	580	630	830	830	1050
Chongqing	—	680	680	680	870	1050
Sichuan	180	650	750	850	850	1050
Guizhou	190	650	650	830	830	920
Yunnan	185	680	680	830	830	1100
Shanxi	200	600	600	760	760	1000
Gansu	180	620	620	760	760	980
Qinghai	200	460	600	770	900	920
Ningxia	180	560	560	710	900	1100
Xinjiang	180	670	800	960	960	1340

Note: Data in the table is the highest minimum rates in each area.

Data sources: Dong K.Y.(2003). Research on the issues of compensation during the transition period in China. Beijing: China's Labor and Social Security Publishing House

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Human resources and social security department (bureau) of labor wages in China

1.2 Comparative Analysis of Minimum Wage with Average Wage

One of the most important factors which should be considered is average wage of workers when drafting the minimum wage (Giuliano, 2013; Papps, 2012; Addison & Demet Ozturk, 2012). Therefore, the ratio of minimum wage to average wage is an important index for determining the level of minimum rate. This paper studies the data of minimum wage and average wage of workers in each area in 1994 and 2011, as shown in Table 2. Because average wage is figured on yearly basis, this paper will convert it to monthly average wage in order to facilitate comparison with minimum wage.

Table 2
Minimum Wage and Average Wage in 1994 and 2011

Unit: Yuan / month

1994				2011				Average annual growth rate of minimum wage	Average annual growth rate of average wage
Areas	Minimum Wage	Average Wage	Ratio	Areas	Minimum Wage	Average Wage	Ratio		
Beijing	210	534.58	39.28%	Beijing	1160	6319.50	18.36%	10.58%	15.64%
Tianjin	210	447.00	46.98%	Tianjin	1160	4706.42	24.65%	10.58%	14.85%
Hebei	180	348.75	51.61%	Hebei	1100	2997.75	36.69%	11.24%	13.49%
Shanxi	200	333.08	60.05%	Shanxi	980	3325.25	29.47%	9.80%	14.49%
Neimenggu	170	306.25	55.51%	Neimenggu	900	3456.75	26.04%	10.30%	15.32%
Liaoning	210	355.75	59.03%	Liaoning	900	3226.08	27.90%	8.94%	13.85%
Jilin	190	305.50	62.19%	Jilin	1000	2849.75	35.09%	10.26%	14.04%
Heilongjiang	200	281.25	71.11%	Heilongjiang	880	2791.92	31.52%	9.11%	14.46%
Shanghai	220	617.08	35.65%	Shanghai	1280	6419.25	19.94%	10.91%	14.77%
Jiangsu	210	414.5	50.66%	Jiangsu	1140	3832.25	29.75%	10.46%	13.98%
Zhejiang	210	466.42	45.02%	Zhejiang	1310	3815.00	34.34%	11.37%	13.16%
Anhui	180	316.08	56.95%	Anhui	720	3386.67	21.26%	8.50%	14.97%
Fujian	280	407.42	68.73%	Fujian	1100	3249.08	33.86%	8.38%	12.99%
Jiangxi	190	287.5	66.09%	Jiangxi	720	2841.83	25.34%	8.15%	14.43%
Shandong	170	361.5	47.03%	Shandong	1100	3166.00	34.74%	11.61%	13.61%
Henan	204	295.5	69.04%	Henan	800	2850.25	28.07%	8.37%	14.26%

To be continued

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1994				2011				Average annual growth rate of minimum wage	Average annual growth rate of average wage
Areas	Minimum Wage	Average Wage	Ratio	Areas	Minimum Wage	Average Wage	Ratio		
Hubei	180	337.58	53.32%	Hubei	900	3094.50	29.08%	9.93%	13.92%
Hunan	205	342.00	59.94%	Hunan	850	2960.00	28.72%	8.73%	13.54%
Guangdong	320	593.08	53.96%	Guangdong	1300	3762.67	34.55%	8.60%	11.48%
Guangxi	200	372.33	53.72%	Guangxi	1320	2838.67	46.50%	11.74%	12.69%
Hainan	280	374.00	74.87%	Hainan	1100	3059.67	35.95%	8.38%	13.16%
Chongqing	180	335.67	53.62%	Chongqing	830	3160.33	26.26%	9.41%	14.10%
Sichuan	190	322.50	58.91%	Sichuan	870	3110.92	27.97%	9.36%	14.26%
Guizhou	185	367.17	50.39%	Guizhou	850	2919.25	29.12%	9.38%	12.97%
Yunnan	200	316.92	63.11%	Yunnan	830	3253.58	25.51%	8.73%	14.68%
Shanxi	180	399.67	45.04%	Shanxi	830	2727.00	30.44%	9.41%	11.96%
Gansu	200	414.67	48.23%	Gansu	760	3541.08	21.46%	8.17%	13.45%
Qinghai	180	355.83	50.59%	Qinghai	760	3714.50	20.46%	8.84%	14.79%
Ningxia	180	354.42	50.79%	Ningxia	900	3235.00	27.82%	9.93%	13.89%

Data sources: China Labor Statistical Yearbook

As Table 2 shows that during the seventeen years (1994 - 2011), the growth rate of minimum wage is lower than that of average wage throughout the country. Compared with 1994, the ratio of minimum wage to average wage in all areas decreased differently in 2011(26.23% in average) One of the biggest declines was in Henan Province, a decrease of 40.97 percentage points. In 1994, there were only two cities in which ratio of minimum wage to average wage are below 40% (Shanghai and Beijing). But in 2011, Guangxi province is the only one in which the ratio is over 40%. Furthermore, the ratio of Beijing and Shanghai are under 20%. It should be noted that minimum wage in Beijing and Shanghai are in the forefront in China--all in top five. Nevertheless, due to the high level of average wage in these two cities, the ratio of minimum wage to average wage is relatively low. Generally, minimum wage accounts for 40%-60% of average wage in most countries in the world, and there are fewer countries are less than 40%. It is obviously that the ratio of minimum wage to average wage is well below international norms in China.

1.3 Comparative Analysis of Minimum Wage with per Capita Consumption Expenditure of Urban Households

Per capita consumption expenditure of urban households also influences minimum wage (Wang & Gunderson, 2012). This paper analyzes the data of minimum wage and per capita annual consumption expenditure of urban households in each area in 1994 and 2011. The data of per capita consumption expenditure of urban households was calculated annually, and we convert them into monthly per capita consumption expenditure of urban households.

Table 3
Minimum Wage and per Capita Consumption Expenditure of Urban Households (1994-2011)

Unit: Yuan / month

1994				2011				Average annual growth rate of minimum wage	Average annual growth rate of Per capita consumption expenditure of urban households
Areas	Minimum Wage (m)	Per Capita consumption expenditure of urban households (c)	Difference (m-c)	Areas	Minimum Wage (m)	Per capita consumption expenditure of urban households (c)	Difference (m-c)		
Beijing	210	344.51	-134.51	Beijing	1160	1491.11	-672.03	10.58%	10.33%
Tianjin	210	275.11	-65.11	Tianjin	1160	1233.45	-375.34	10.58%	12.14%
Hebei	180	217.77	-37.77	Hebei	1100	806.56	132.56	11.24%	10.45%
Shanxi	200	170.28	29.72	Shanxi	980	779.59	33.81	9.80%	12.11%
Neimenggu	170	175.91	-5.91	Neimenggu	900	1030.82	-423.17	10.30%	14.40%
Liaoning	210	215.65	-5.65	Liaoning	900	1027.05	-332.47	8.94%	12.32%
Jilin	190	174.70	15.30	Jilin	1000	909.54	-84.22	10.26%	12.94%
Heilongjiang	200	180.28	19.72	Heilongjiang	880	802.47	-124.52	9.11%	12.13%
Shanghai	220	389.08	-169.08	Shanghai	1280	1749.36	-811.85	10.91%	11.87%
Jiangsu	210	256.65	-46.65	Jiangsu	1140	1096.08	-258.48	10.46%	11.97%
Zhejiang	210	339.92	-129.92	Zhejiang	1310	1390.29	-393.12	11.37%	11.34%
Anhui	180	212.58	-32.58	Anhui	720	852.83	-378.46	8.50%	11.57%
Fujian	280	279.26	0.74	Fujian	1100	1120.88	-288.42	8.38%	11.28%
Jiangxi	190	183.42	6.58	Jiangxi	720	811.67	-258.93	8.15%	11.81%
Shandong	170	221.10	-51.10	Shandong	1100	1001.06	-113.39	11.61%	12.02%

To be continued

Continued

1994				2011				Average annual growth rate of minimum wage	Average annual growth rate of Per capita consumption expenditure of urban households
Areas	Minimum Wage (m)	Per Capita consumption expenditure of urban households (c)	Difference (m-c)	Areas	Minimum Wage (m)	Per capita consumption expenditure of urban households (c)	Difference (m-c)		
Henan	204	179.60	24.40	Henan	800	797.25	-228.04	8.37%	12.33%
Hubei	180	227.76	-47.76	Hubei	900	857.84	-196.98	9.93%	11.05%
Hunan	205	261.52	-56.52	Hunan	850	902.35	-266.91	8.73%	10.16%
Guangdong	320	431.78	-111.78	Guangdong	1300	1404.79	-387.65	8.60%	9.51%
Guangxi	200	278.85	-78.85	Guangxi	1320	862.70	249.30	11.74%	9.38%
Hainan	280	251.17	28.83	Hainan	1100	840.55	46.44	8.38%	10.03%
Chongqing	180	233.83	-53.83	Chongqing	830	905.02	-311.36	9.41%	11.15%
Sichuan	190	219.32	-29.32	Sichuan	870	754.02	-76.07	9.36%	10.24%
Guizhou	185	236.98	-51.98	Guizhou	850	850.15	-170.67	9.38%	10.22%
Yunnan	200	187.17	12.83	Yunnan	830	892.14	-318.56	8.73%	12.86%
Shanxi	180	184.09	-4.09	Shanxi	830	740.90	-102.38	9.41%	11.42%
Gansu	200	199.37	0.63	Gansu	760	732.21	-152.96	8.17%	10.68%
Qinghai	200	206.50	-6.50	Qinghai	760	856.67	-314.67	8.84%	11.62%
Ningxia	180	206.46	-26.46	Ningxia	900	777.30	-86.62	9.93%	10.99%

Data sources: China Statistical Yearbook and China Labor Statistical Yearbook

As can be seen from Table 3, in Shanxi, Jilin, Heilongjiang, Fujian, Jiangxi, Henan, Hainan, Shaanxi and Qinghai province, minimum wage is higher than per capita consumption expenditure of urban households in 1994. But in 2011, minimum wage was lower than per capita consumption expenditure of urban households in all areas except Heibei, Shanxi, Guangxi and Hainan province, and the difference actually increased. In particular, the difference between minimum wage and per capita consumption expenditure of urban households in Beijing and Shanghai was biggest. These two cities are relatively economically developed areas, and per capita monthly consumption expenditure of urban households is higher. We can see that the situation of workers getting their salary in accordance with minimum wage in these two cities gets worse. The Table 3 also shows that average annual growth rate of minimum wage was slightly higher than that of per capita consumption expenditure of urban households in only 11 areas from 1994 to 2011 As we can see, minimum wage is very low, and some low-skilled workers who get their salary in accordance with minimum wage will get more and more poverty than other residents in these areas.

2. EFFECT OF MINIMUM WAGE INCREASES

2.1 Raising Labor Cost

To some extent, the level of employees' salary reflects the relative value of their job in the firm. We use U to represent the relative value of a job, and p * MERGEFORMAT to represent function pay. From the principle of internal equity of salary system, we can get formula (1)

$$\frac{U_1}{p_1}=\frac{U_2}{p_2}=\frac{U_3}{p_3}=.....=\frac{U_m}{p_m} \quad (1)$$

U_m refers to the relative value of the job of low-skilled employees who get salary in accordance with minimum wage, and p_m refers to the function pay of these low-skilled persons. When minimum wage increases, low-skilled workers can get more salary. At the same time, salary of other employees rises too according to formula (1). Therefore, labor cost increases. (Card, 1992; Smith & Vavrichek, 1992) An abundant of cheap labor is a comparative advantage in China, which is an important motive force to China's economic growth. The comparative advantage will be lost by raising the minimum wage. Labor-intensive enterprises have to face the rising level of labor cost and loss of profits, and some of them will feel difficult to survive

2.2 Improving Labor Productivity

In social economical activities, improving labor productivity depends on the human resource management and maximizing its efficiency. According to the efficiency wage theory, minimum wage increases will raise the overall wage level of enterprises, which helps the enterprise to improve labor productivity (Akerl, 1986; Janet, 1984) Paying high wages has advantages in four aspects. The first one is workers' health, which means higher wage can provide nutrient-rich food to make workers healthier. When workers become healthier, their productivity will rise. The second one is workers' mobility, which will decline when wage rises. The third one is the effort of workers. When workers find they will lose the higher wage if they are fired as a punishment of being lazy, they will do their best to preserve their job. The last one is the quality of workers. High-quality

workers will be attracted by higher wage, so higher wage is an effective method to recruit high-quality workers. Minimum wage increases will raise the overall salary level of Chinese enterprises, which will contribute to a better staff motivation, and change the present situation of low labor productivity in Chinese enterprises.

2.3 Promoting the Upgrading of Industrial Structure

Labor is the most important production factor, and the wage of laborers has a significant impact on the industrial structure. In the case of the low cost of labor, enterprises always take the advantage of it to develop labor-intensive industries, and lack of technological innovation. Many Chinese enterprises have depended on the cheap labor resources for a long time. The aim pursued by these enterprises is the low cost rather than technological innovations. Many enterprises are unwilling to spend money on updating technology or improving the overall quality of the workers. Instead, they prefer to hire more cheap labor force and less advanced technology, which causes the weak desire for technological progress and the low capability of independent innovation. The result is that Chinese industry structure has been in a lower level for a long time, and in the bottom of the international industry division. Minimum wages increases will force Chinese enterprises to get out of the "low-technology trap" and update industrial structure.

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