Minimum Wages in China

Li Shi · Carl Lin Editors

Minimum Wages in China

Evolution, Legislation, and Effects

palgrave macmillan *Editors* Li Shi Zhejiang University Zhejiang, China

Carl Lin Bucknell University Lewisburg, PA, USA

ISBN 978-981-15-2420-2 ISBN 978-981-15-2421-9 (eBook) https://doi.org/10.1007/978-981-15-2421-9

0 The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2020

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use. The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Palgrave Macmillan imprint is published by the registered company Springer Nature Singapore Pte Ltd.

The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

CONTENTS

1	Minimum Wages in China: Overview and Key Findings Li Shi and Carl Lin	1
2	Evolution and Effects Assessment of China's Minimum Wage Policy Xia Wang and Hainan Su	13
3	Minimum Wages in China: Standard and Implementation Yang Du and Peng Jia	39
4	Minimum Wages and Employment in China Tony Fang and Carl Lin	71
5	Impacts of Minimum Wages on Gender Wage Gaps in Urban China Li Shi and Xinxin Ma	113
6	The Impact of Minimum Wages on Migrant Workers' Wages Juan Yang, Morley Gunderson and Li Shi	145

vi	CONTENTS
	0011111110

7	The Effects of the Minimum Wage on Earnings Inequality: Evidence from China Carl Lin and Myeong-Su Yun	165
8	Effects of Minimum Wage Regulations on Wage Growth and Distribution in China Li Shi and Haiyuan Wan	197
9	Compliance with Legal Minimum Wages and Overtime Pay in China, Effects Across the Distribution of Wages Linxiang Ye, Tim Gindling and Li Shi	223
10	Estimating the Effect of Minimum Wages on Firm Profitability in China Quheng Deng	259
11	How Does the Minimum Wage Affect Firm Investments in Fixed and Human Capital? Evidence from China Tobias Haepp and Carl Lin	281
12	Regional Variation of the Minimum Wages in China Chunbing Xing and Jianwei Xu	315
13	Minimum Wage Competition Between Local Governments in China Ravi Kanbur, Yanan Li and Carl Lin	347
14	Minimum Wage Effects on Employment and Working Time of Chinese Workers Wenkai Sun, Xianghong Wang and Xiaoxi Zhang	371

LIST OF CONTRIBUTORS

Quheng Deng Institute of Economics, Chinese Academy of Social Sciences, Beijing, China

Yang Du Center for Human Resources Research, Institute of Population and Labor Economics, Chinese Academy of Social Sciences, Beijing, China

Tony Fang Memorial University of Newfoundland, St. John's, NL, Canada

Tim Gindling University of Maryland, Baltimore County, Baltimore, MD, USA

Morley Gunderson Centre for Industrial Relations, University of Toronto, Toronto, Canada

Tobias Haepp Institute for Employment Research (IAB), Nuremberg, Germany

Peng Jia Institute of Population and Labor Economics, Chinese Academy of Social Sciences, Beijing, China

Ravi Kanbur Cornell University, Ithaca, NY, USA

Li Shi Zhejiang University, Zhejiang, China

Yanan Li Beijing Normal University, Beijing, China

Carl Lin Bucknell University, Lewisburg, PA, USA

Xinxin Ma University of Toyama, Toyama, Japan

Hainan Su China Association of Labour Science, Beijing, China

Wenkai Sun Renmin University of China, Beijing, China

Haiyuan Wan Beijing Normal University, Beijing, China

Xia Wang Chinese Academy of Labour and Social Security, Beijing, China

Xianghong Wang Renmin University of China, Beijing, China

Chunbing Xing Beijing Normal University, Beijing, China

Jianwei Xu Beijing Normal University, Beijing, China

Juan Yang Beijing Normal University, Beijing, China

Linxiang Ye Nanjing University of Finance and Economics, Nanjing, China

Myeong-Su Yun Inha University, Incheon, South Korea

Xiaoxi Zhang Renmin University of China, Beijing, China

LIST OF FIGURES

Fig. 1.1	Contribution of the minimum wage to reducing gender wage gaps in China. <i>Note</i> The gender wage gap (100%) is decomposed (1) due to differences in endowments	
	and (2) due to differences in returns. The positive	
	number indicates that the factor contributes positively	
	to the gap and vice versa	6
Fig. 3.1	Minimum wage increase in China, 1995–2013	
	(Source China Minimum Wage Database [CMWD],	
	available from https://www.chinaminimumwage.org.	
	Note The nominal minimum wage is adjusted by CPI to	
	calculate the real minimum wage, using 1995 as the base year)	44
Fig. 3.2	Relative minimum wages: 2001, 2005, and 2010	
	(Source The average and median wages are from	
	the three waves of the China Urban Labor Survey	
	[CULS]. The minimum wage data are from the China	
	Minimum Wage Database [CMWD], available	
	from https://www.chinaminimumwage.org)	45
Fig. 3.3	The relationship between minimum wages and per capita	
	GDP (Source Per capita GDP is from the World	
	Development Indicator [WDI] database by the World Bank.	
	The 2012 data are used here. The latest available minimum	
	wage is from Wikipedia entry "List of Minimum Wages by	
	Country", available from http://en.wikipedia.org/wiki/	
	List_of_minimum_wages_by_country. Note Both minimum	
	wages and per capita GDP have been adjusted by purchasing	
	power parity [PPP], published by the World Bank)	46

X LIST OF FIGURES

Fig. 3.4	The increase of minimum wages and per capita GDP in China (Source Minimum wage data are from the	
	China Minimum Wage Database [CMWD] available	
	from https://www.chinaminimumwage.org: per capita	
	GDP is obtained from the <i>China Statistical Yearbook</i> 2013	
	Note All the data have been adjusted by GDP deflator)	47
Fig. 3.5	Coverage of minimum wages and social security (<i>Source</i>	17
11g. 0.0	Authors' computation based on CIIIS data. Note "III"	
	stands for unemployment insurance, while "WI" stands	
	for injury insurance)	53
Fig 4 1	Minimum wages in China 1995–2012 (Nate Nominal	55
11g. 1.1	minimum wages have been adjusted for inflation	
	and expressed in 2000 RMB)	73
Fig 4 2	Papel data with minimum wages in Mainland China	75
11g. 1.2	(<i>Nate</i> The papel data used in the analysis include	
	16 provinces [darker areas in the man] covering	
	three regions in Mainland China. The East includes	
	Liaoning Reijing Shandong Jiangsu Shanghai and	
	Guangdong: the Central region includes Heilongiang	
	Shanxi Henan Anhui Hubei and Jiangxi and the West	
	includes Gansu, Chongoing, Sichuan, and Yunnan)	79
Fig 51	Regional disparities of the MW levels (2004 and 2006)	
1.8.011	(<i>Source</i> Published information by each regional	
	governments)	116
Fig. 5.2	Proportions of males and females with wages below	
	MW levels (<i>Note</i> Calculated results shown in Fig. 5.1	
	are the ratios of the workers whose monthly wage is below	
	the MW level to the total workers in each group. <i>Source</i>	
	Calculated using CHIP1995, CHIP2002, CHIP2007)	126
Fig. 5.3	Gender gap and the difference between wage and MW	
U	levels (<i>Notes</i> 1. Calculated results shown in Fig. 5.2	
	are the gaps of wage level and the MW in each group. 2.	
	Wages in three periods are adjusted by CPI [based	
	on 1995 national level]. Source Calculated using	
	CHIP1995, CHIP2002, CHIP2007)	127
Fig. 5.4	Impacts of MW levels on males and females' wages	
-	(Notes 1. These are the simulation results showing	
	wage rise level if the MW rises 100 Yuan. 2. OLS based	
	on means, the results of 1–90 percentile are estimated using	
	quantile regression models. Source Calculated	
	using CHIP1995, CHIP2002, CHIP2007)	128

Fig. 7.1	Growing Inequality in China. The NBS of China publishes the official Gini coefficients in 2013 for the first time.	
	The numbers of 2007, 2010, and 2013 are from the NBS	
	Web site, whereas those of 1988 and 1995 are from Wang	
	(2007), and the number of 2002 is from Li and Luo (2011)	166
Fig. 7.2	Log Earnings Differential (p10/p50) and the Effective	
	Minimum Wage across cities in 2003 and 2008.	
	The estimated coefficient on the quadratic term	
	for 2008 is statistically different from zero	
	at the 0.05 level, while it is insignificant for 2003	179
Fig. 8.1	Nominal monthly minimum wages before and after 2005	202
Fig. 8.2	Annual growth rate of the nominal minimum wage during	
	two periods (Note As the definitions of the minimum wage	
	in different provinces are not the same, we adjust some	
	cites' minimum wage standards into a unified frame, which	
	is similar to the definitions in Beijing, Shanghai, and Jiangxi)	203
Fig. 8.3	Kernel density of log-monthly wages (Note The figure	
	in the horizontal axis is the proportion of the monthly	
	wage to the city-level minimum wage, so the amount	
	of 1 in the horizontal axis is a key threshold to measure	
	the extent of the minimum wage)	207
Fig. 8.4	Kernel density of log-monthly wages (<i>Note</i> The figure	
	in the horizontal axis is the proportion of the monthly	
	wage to the city-level minimum wage, so the amount of I	
	in the horizontal axis is a key threshold to measure	
-	the extent of the minimum wage)	208
Fig. 9.1	The number of provinces which adjusted minimum wages	228
Fig. 9.2	The rate of change in the average real monthly wage	
	and monthly minimum wage (<i>Note</i> All wages adjusted	
T : 0.0	by urban CPI, base year = 1995)	229
Fig. 9.3	Average minimum wage as a percentage of the average wage	230
F1g. 9.4	I he Kdensity of Ln(Monthly Wage/Monthly MW) and Ln(Harris Maria (Harris d Harris MW) in 2007 (here 0.1)	227
E:- 0.5	Ln(Houriy wage/Imputed Houriy MW) in $200/(BW=0.1)$	237
Fig. 9.5	I he Kdensity of Ln(Monthly wage/Monthly MW) and Ln(Lloudy Wage/Leonated Lloudy MW) in 2012 (buy 0.1)	227
E = 0.6	Ln(Hourly wage/Imputed Hourly MW) in 2013 ($bw=0.1$) The Kdensity of Ln(Monthly Wage (Monthly MW))	237
Fig. 9.0	(here 0.1)	220
$E_{in} = 0.7$	(DW = 0.1)	230
1/1g. 9./	Average weekly working nours for different $Lin(Monthly Wage / Monthly MW) (bw = 0.1)$	220
Fig 0.8	The Kdensity of Ln (Hourly Wage /Imputed Hourly MW)	239
11g. 7.0	(bw - 0.1)	220
	(0w - 0.1)	237

xii LIST OF FIGURES

Fig. 9.9	The Kdensity of Ln(Hourly Wage/Imputed Hourly MW)	
	about urban workers and migrant workers in 2007 (bw= 0.1)	247
Fig. 9.10	The Kdensity of Ln(Hourly Wage/Imputed Hourly MW)	
	about urban workers and migrant workers in 2013 ($bw=0.1$)	248
Fig. 9.11	The Kdensity of Ln(Hourly Wage/Imputed Hourly MW)	
-	(bw=0.1)	251
Fig. 10.1	Steady increase in the minimum wage standard (Data source	
	Author's own calculation based on county level minimum	
	wage data)	264
Fig. 10.2	Estimates of current minimum wage across the whole	
	conditional distribution (Data source Author's own	
	calculation based on county-level minimum wage data	
	and firm-level panel data)	274
Fig. 12.1	Minimum wages and average wages for China, 2004–2010	322
Fig. 12.2	Regional variation of minimum wages within province	
-	and within China	323

LIST OF TABLES

Table 1.1	Decomposition of earnings inequality and contributions	
	of the minimum wage, 2004–2009	8
Table 2.1	Adjustment to minimum wage standard by various	
	provinces and cities from 1994 to May 2013	20
Table 2.2	Adjustment to minimum wage standards of various	
	provinces from 1994 to 2013 Unit: RMB/Month	22
Table 2.3	Relations between the minimal living guarantee standard	
	of urban residents and the minimum wage standard	
	in provincial capitals	27
Table 2.4	Comparison of the growth rates of the minimum	
	wage standard and the CPI	30
Table 2.5	Comparison of the highest grade of minimum	
	wage standards and average wages of urban	
	employees in some cities	34
Table 3.1	Relative minimum wage and per capita GDP	
	(by the end of 2013)	45
Table 3.2	Minimum wages during the three waves of CULS	48
Table 3.3	Weekly working hours of different labor forces	49
Table 3.4	Compliance of minimum wages by demographic	50
Table 3.5	Coverage of minimum wages: local workers and migrants	52
Table 3.6	Compliance of minimum wages by sector, occupation,	
	and ownership	54
Table 3.7	Compliance of minimum wages by informality	56
Table 3.8	Determinants of the minimum wage coverage	59
Table 3.9	Social protections of local and migrant workers (%)	64

xiv LIST OF TABLES

Table 3.10	Minimum wage standards during the CULS surveys (SPI adjusted)	65
Table 3.11	Decomposition of changes in the minimum wage coverage	66
Table 4.1	Means and standard deviations of the minimum	
14010 111	wage using county-level information: by region	
	and by province, 2004–2009	81
Table 4.2	Summary statistics, 2004–2009	83
Table 4.3	Characteristics of workers earning the minimum	
	wage, 2004–2009	85
Table 4.4	Estimates of minimum wage effects on wages	87
Table 4.5	Estimates of minimum wage effects on the	
	employment-to-population ratio	89
Table 4.6	Estimates of minimum wage effects on employment	
	by age cohort	92
Table 4.7	Estimates of minimum wage effects on employment	
	by educational attainment	95
Table 4.8	Estimates of minimum wage effects on the employment	
	(non-normalized minimum wage variable)	99
Table 4.9	Representativeness of the 16-province sample:	
	summary statistics, 2005 Census	102
Table 5.1	Regional classification by the MW levels	123
Table 5.2	Statistical descriptions	124
Table 5.3	Decomposition results of the gender wage gaps	129
Table 5.4	DID analysis results—based on OLS estimations	134
Table 5.5	DID analysis results-based on quantile regression	
	estimations	136
Table 6.1	Summary statistics for research sample	151
Table 6.2	Effect of MW increase on migrant worker employment	
	probability (clustered at prefecture level)	152
Table 6.3	Effect of MW increase on migrant worker employment	
	by region	154
Table 6.4	Effect of MW increase on migrant workers'	
	(ln)monthly earnings	155
Table 6.5	The impact of MWs on migrant workers'	
	employment in each area	156
Table 6.6	Effect of MW increase on migrant workers' monthly	
	working hours	157
Table 6.7	Effect of MW increase on migrant workers' monthly	
	working hours by region and sex	158
Table 6.8	Propensity score estimates of the effect of MW	
	increases on migrant workers' employment, wages,	
	and working hours	160

Table 7.1	Minimum wages across various jurisdictions	174
Table 7.2	Summary statistics of salaried worker aged 16–59	1/4
14010 7.2	2004_2009	175
Table 7.3	Characteristics of minimum wage standards	175
14010 7.0	in China 2004–2009	176
Table 7.4	Marginal effects of the minimum wage on earnings	1,0
14010 / 11	differentials, 2004–2009	182
Table 7.5	Actual and latent changes in earnings differentials,	
	2004–2009	185
Table 7.6	OLS and 2SLS estimates of minimum wages	
	on p50-p10 earnings differential: 2004–2009	191
Table 7.7	OLS and 2SLS estimates of minimum wages	
	on p50-p25 earnings differential: 2004–2009	192
Table 8.1	The effect of minimum wages on wage levels (DID)	209
Table 8.2	The effect of a minimum wage on wage levels (DID)	211
Table 8.3	Robustness check across ownership types	
	and industries (DID)	213
Table 8.4	Heterogeneous effect of minimum wages	
	on wage distribution (DID)	215
Table 8.5	Definition of variables	218
Table 9.1	Estimates of the proportion of workers earning	
	below the minimum wage, 2007 and 2013	235
Table 9.2	Average weekly working hours, 2007–2013	236
Table 9.3	Estimates of the proportion of workers earning	
	below the minimum wage, 2007 and 2013	240
Table 9.4	Estimates of the index of violation in 2007 and 2013	250
Table 9.5	Statistical description of variables	254
Table 10.1	Variation of minimum wage standards at the county	
	level from 1999 to 2009	263
Table 10.2	Summary statistics	265
Table 10.3	Estimation results	270
Table 10.4	Regression results of the quantile regression dynamic	
	panel model	273
Table 11.1	Chinese provincial minimum wages over time	
	(in RMB per month)	290
Table 11.2	Summary statistics for key variables over time	293
Table 11.3	Change in log wage for treated vs. control group firms	294
Table 11.4	Change in log wage for treated vs. control group	
	firms by ownership type	296
Table 11.5	Employment regression results	298
Table 11.6	Fixed capital investment regression results	299

xvi LIST OF TABLES

Table 11.7	Human capital investment regression results	300
Table 11.8	Fixed capital investment regression results	
	by firm ownership	302
Table 11.9	Human capital investment regression results	
	by firm ownership	303
Table 11.10	Robustness checks: alternative treatment measure	305
Table 11.11	Effects of labor market conditions on the minimum	
	wage, 2004–2009	307
Table 12.1	Minimum wages by province, 2004 and 2012	325
Table 12.2	Explaining the number of minimum wage levels	
	and the high/low ratio within province	327
Table 12.3	Minimum wages relative to average wages	
	by province, 2004 and 2010	328
Table 12.4	Decomposing the regional variation of minimum wages	330
Table 12.5	The determinants of the minimum wages	
	at the city level, OLS	333
Table 12.6	The determinants of minimum wages in 2003	
	and 2009, OLS	336
Table 12.7	The determinants of the <i>relative</i> minimum wages, OLS	337
Table 12.8	The determinants of the relative minimum wages	
	in 2003 and 2009, OLS	338
Table 12.9	Month when the new minimum wage implemented	341
Table 12.10	Time adjusted and the level of minimum wages	
	(coefficients on the month of adjustment)	342
Table 13.1	Trend of minimum wage standards, 2002–2012	351
Table 13.2	Results of race on minimum wage standards,	
	2004–2012	356
Table 13.3	Results of race on minimum wage enforcement,	
	2002–2009	358
Table 13.4	Results of race on minimum wage standards	
	by different weighting matrices	359
Table 13.5	Results of race on minimum wage enforcement	
	by different weighting matrices	360
Table 13.6	Results of race on minimum wage standards from SDM	361
Table 13.7	Results of race on minimum wage enforcement	
	from SDM	362
Table 13.8	Trend of minimum wage standards and violation in	
	2002–2009	365
Table 13.9	Descriptive statistics, 2002–2009	366
Table 14.1	Minimum wage effects on employment (by region)	380
Table 14.2	Minimum wage effects on employment	
	(by gender and hukou)	381

Table 14.3	Minimum wage effects on employment	
	(by enterprise type)	382
Table 14.4	Minimum wage effects on employment	
	(by employment type)	383
Table 14.5	Minimum wage effects on income (by region)	383
Table 14.6	Minimum wage effects on income (by income level)	384
Table 14.7	Minimum wage effects on income (by gender and hukou)	385
Table 14.8	Minimum wage effects on work time (by region)	386
Table 14.9	Minimum wage effects on work time	
	(by gender and hukou)	386
Table 14.10	Spillover effects of minimum wages on working hours	
	(by firm type)	388
Table 14.11	Robustness check	389