

# **Firm-Size Effect on Wages: Evidence from China's Competitive Labor Market**

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# Introduction

- The existence of “*firm size wage premium*” has attracted a lot of attention from researchers for decades
  - In a perfect competitive labor market, wage should be equal to marginal productivity of workers
  - Identical workers should earn equal wages, regardless of the firm size
- By contrast, the literature has found considerable wage gap between large and small firms (e.g., Brown and Medoff, 1989; Troske, 1999; Barth et al., 2018)
  - Almost the same size as the gender wage gap
  - Larger than the wage gap due to union or race (Oi and Idson, 1999)

# Possible Explanations

- *Worker Quality/Productivity Difference* (Hamermesh, 1993; Dunne and Schmitz, 1992; Dunne and Schmitz, 1995)
  - Capital intensive and Complementarity between capital and skill
- *Rent Sharing in larger firms* (Brown and Medoff, 1997; Oi and Idson, 1999; Troske, 1999)
  - Monopoly profits shared partly by workers, due to labor unions
- *Efficient Wage in Larger Firms* (Brown and Medoff, 1989; Schaffner, 1998 )
  - To reduce monitoring, screening and recruiting cost
- None of the aforementioned hypotheses can completely explain the wage premium due to firm size

# A Potential Challenge

- The overwhelming evidence on firm size premium comes from the developed countries with strong regulations/labor unions or imperfections in the labor market (Brown and Medoff, 1997; Schaffner, 1998)
  - Make it impossible to replicate an environment with a perfect competitive labor market in which the underlying assumption for size premium hypothesis can be properly tested
- China's labor market may provide such an opportunity to test this underlying assumption

# What Do We Do

- We revisit the firm size wage premium among Chinese manufacturing firms
- Exploit the CEES data, a newly available employer-employee matched dataset collected in Guangdong and Hubei province in 2015-2016 with a rich set of firm level and worker level characteristics
- Take the *perfect competition assumption* seriously, and use Chinese competitive labor market as a unique opportunity to test the firm-size effect on wages

# Main Findings

- Our data confirm the existence of firm size wage premium, but only for the skilled worker sample
- The size wage premium disappears when we use the unskilled worker sample
  - Unskilled labor: high school and below education, accounting for 3/4 of the total employment in the sample
  - There is even no raw correlation for this group

# Dual Labor Market

- We proceed to look into the difference between skilled and unskilled labor within firms and in the labor market
- We find that the unskilled workers
  - perform standardized tasks
  - output is easy to measure
  - labor contracts are largely informal and less protected by the labor law
  - mobile across locations and firms
- The market for unskilled workers closely resembles a textbook style labor competitive market
  - By contrast, skilled workers have significant heterogeneity in jobs and more formal/inflexible labor relationships

# Contributions

- Our paper extends the size premium literature to a developing country context and challenges the argument about the size premium
  - The existing explanations are based on productivity and rent-sharing differences between large and small firms
  - We find size wage premium only for skilled labor , but not for unskilled labor, which cannot be explained by cross-firm differences in productivity and/or rent-sharing



# Contributions

- We also contribute to the large literature on informal sectors in developing countries which evade regulations and taxes (Fields, 1975; Schneider et al, 2000; World Bank, 2019)
  - The typical informal sector in developing countries consists of small firms hiring young workers and concentrating on construction and other services
  - We find that China's informal workers (mainly unskilled workers) are working with formal/skilled workers in both large and small manufacturing firms

# Data

- China Employer-Employee Survey (CEES)
- Two provinces: Guangdong (2015, 2016) and Hubei (2016)
- An unique **employer-employee matched** dataset in a important developing country:
  - Firms are randomly selected using a stratified sampling strategy
  - In each firm, 10 workers with 3 managers are randomly chosen
  - All analyses adjust for sample weights
- Sample size: 160 Manufacturing industries; 26 cities; 1200 firms; and 11k workers

# Data (cnt'd)

- Detailed individual level data
  - Demographics
  - Human Capital
  - Career History
  - Job Tasks
- Comprehensive firm level data
  - Production, Technical
  - Financial
  - Managerial

Table 1. Summary Statistics, Firm Level Attributes

	Overall	Small (emp≤200)	Large (emp>200)	Diff L-S
	(1)	(2)	(3)	(4)
Number of Firms	1695	857	838	
Size of Employment	907	77	1799	1722
	(2987)	(54)	(4120)	[143]***
Employee Composition				
% age≤30	35.68	28.12	43.65	15.53
	(24.00)	(23.12)	(22.29)	[1.12]***
% female	45.46	43.77	47.26	3.49
	(24.42)	(27.14)	(21.02)	[1.21]***
% college/univ.	17.45	14.45	20.61	6.16
	(18.46)	(17.54)	(18.88)	[0.93]***
Capital per labor	88.38	85.08	91.95	6.87
	(383.93)	(283.05)	(469.21)	[19.82]
Profit per labor	6.57	8.18	4.84	-3.34
	(204.14)	(282.89)	(20.79)	[10.14]
Firm Age	12.06	10.05	14.18	4.12
	(7.66)	(5.96)	(8.64)	[0.39]***
SOE	0.09	0.05	0.12	0.07
	(0.28)	(0.23)	(0.33)	[0.01]***

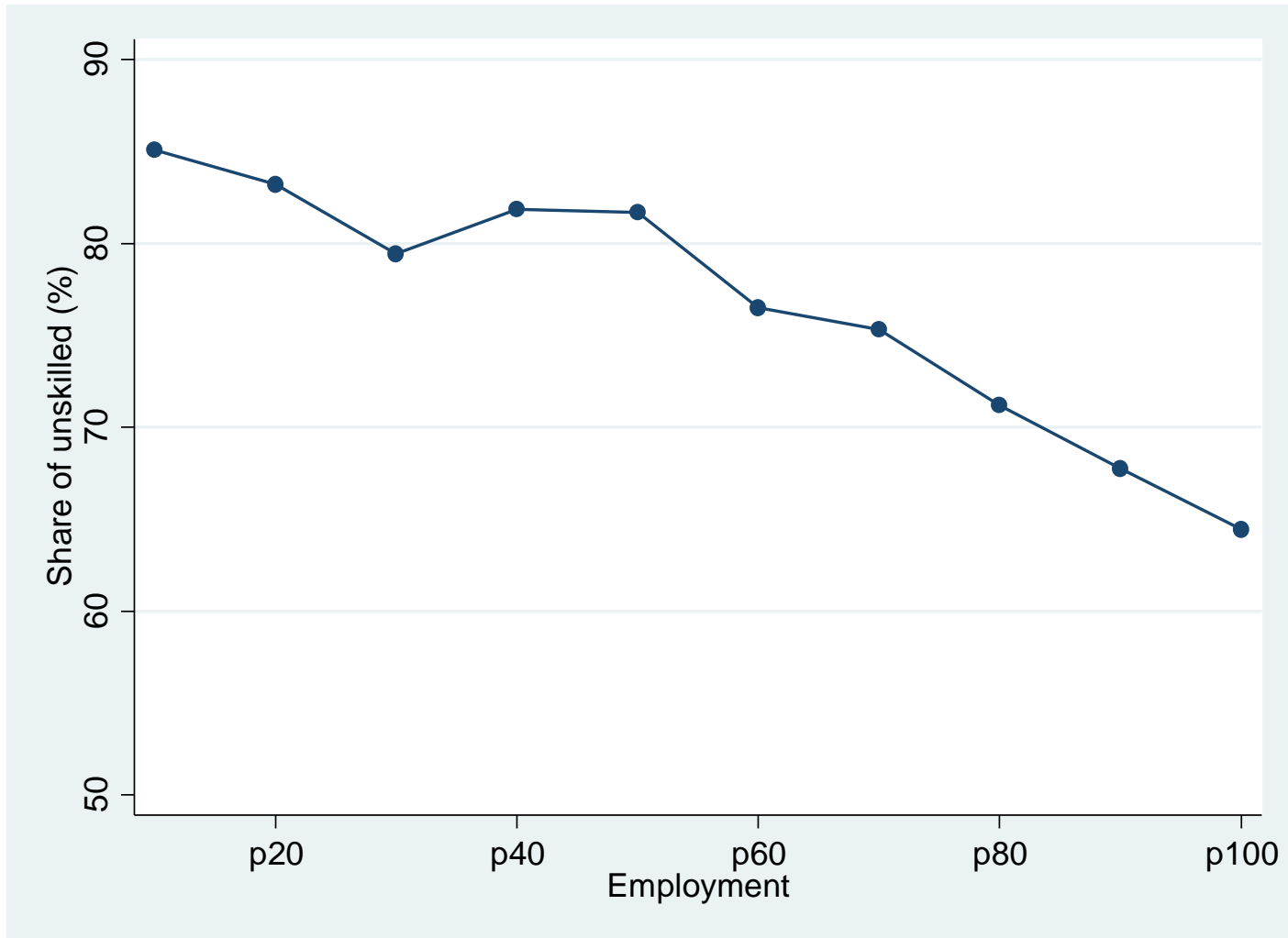
Table 2 Worker Level Attributes

	Overall	Small (emp≤200)	Large (emp>200)	Diff L-S
	(1)	(2)	(3)	(4)
Wage	19.43 (23.79)	17.55 (18.37)	21.58 (28.61)	4.03 [0.503]***
Age	36.00 (9.84)	37.54 (10.42)	34.24 (8.80)	-3.29 [0.432]***
Female	0.49 (0.50)	0.49 (0.50)	0.49 (0.50)	0.00 [0.020]
Married	0.76 (0.43)	0.78 (0.41)	0.73 (0.45)	-0.06 [0.020]***
Years of schooling	11.34 (3.07)	10.94 (3.03)	11.79 (3.06)	0.85 [0.083]***
Training (>10 days)	0.21 (0.41)	0.21 (0.41)	0.21 (0.41)	-0.01 [0.012]
Certificate	0.17 (0.38)	0.16 (0.37)	0.18 (0.38)	0.02 [0.010]
Working experience	14.14 (10.08)	15.77 (10.89)	12.29 (8.69)	-3.48 [0.440]***
Agr. Hukou	0.67 (0.47)	0.68 (0.47)	0.65 (0.48)	-0.03 [0.015]
Hukou location				
This city	0.54 (0.50)	0.63 (0.48)	0.43 (0.50)	-0.19 [0.023]***
This province	0.12 (0.32)	0.10 (0.30)	0.14 (0.35)	0.04 [0.009]***
Other province	0.34 (0.47)	0.27 (0.44)	0.42 (0.49)	0.15 [0.026]***

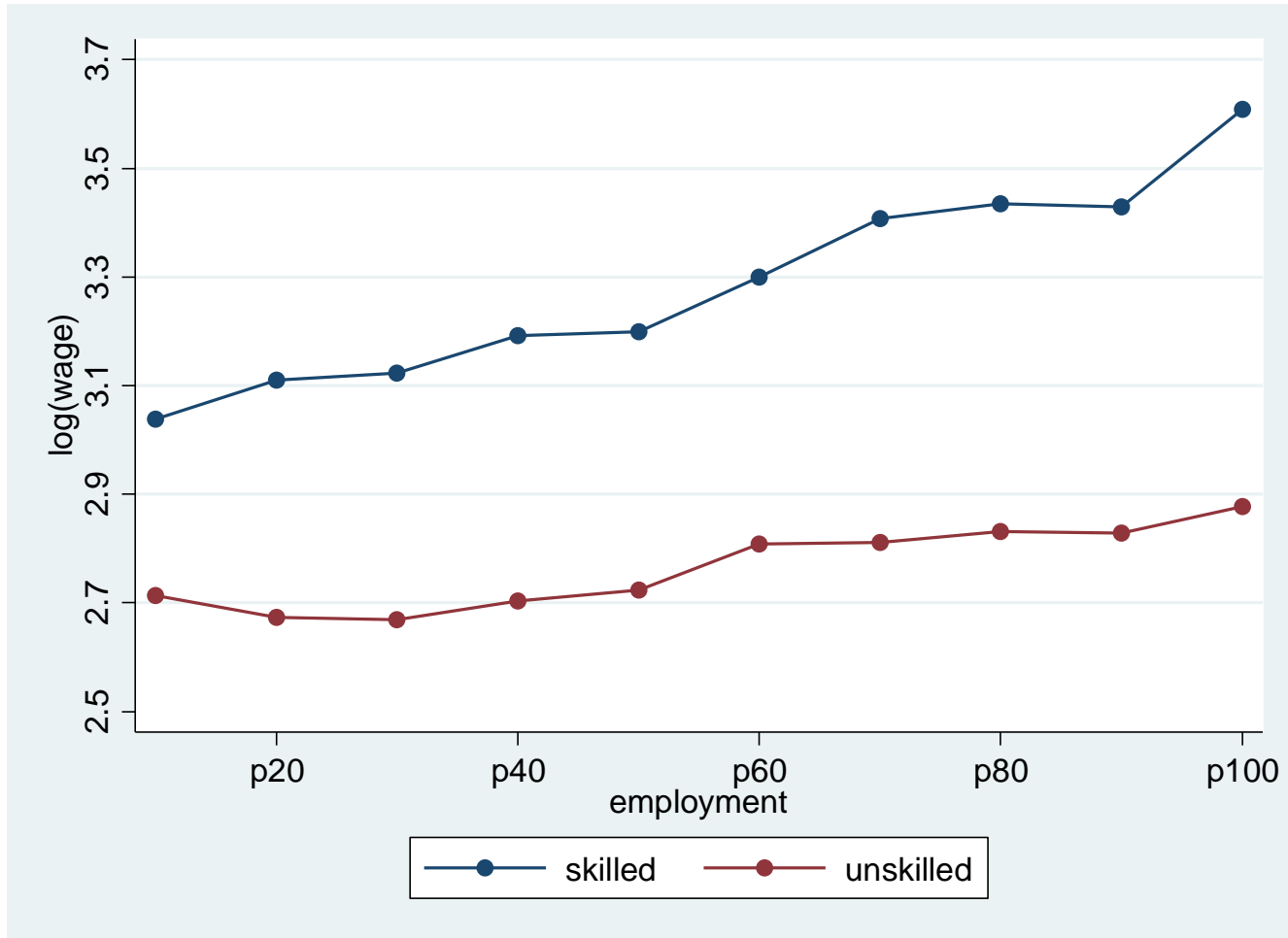
# Wage Regression: Overall Sample

Dep. Var. :	Raw	Fixed Effects	Schooling	Demo.	Capital	Profit	Firm Age	Productivity
ln(wage)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(Employment)	0.046	0.025	0.006	0.001	0.007	0.008	0.002	0.002
	[0.014]***	[0.008]***	[0.006]	[0.006]	[0.006]	[0.006]	[0.007]	[0.006]
Yrs of Schooling			0.064	0.06	0.058	0.059	0.06	0.06
			[0.003]***	[0.003]***	[0.003]***	[0.003]***	[0.003]***	[0.003]***
ln(K/L)					0.033			
					[0.007]***			
Profit/L						0.002		
						[0.000]***		
Firm Age							-0.006	
							[0.014]	
Technical Efficiency								0.318
								[0.112]***
City FE		Y	Y	Y	Y	Y	Y	Y
Industry FE		Y	Y	Y	Y	Y	Y	Y
Year FE		Y	Y	Y	Y	Y	Y	Y
Demo. controls				Y	Y	Y	Y	Y
Obs	10493	10493	10493	10493	10493	10493	10493	10493
R-squared	0.02	0.18	0.28	0.32	0.33	0.33	0.32	0.32

# % of Unskilled Workers by Firm Size



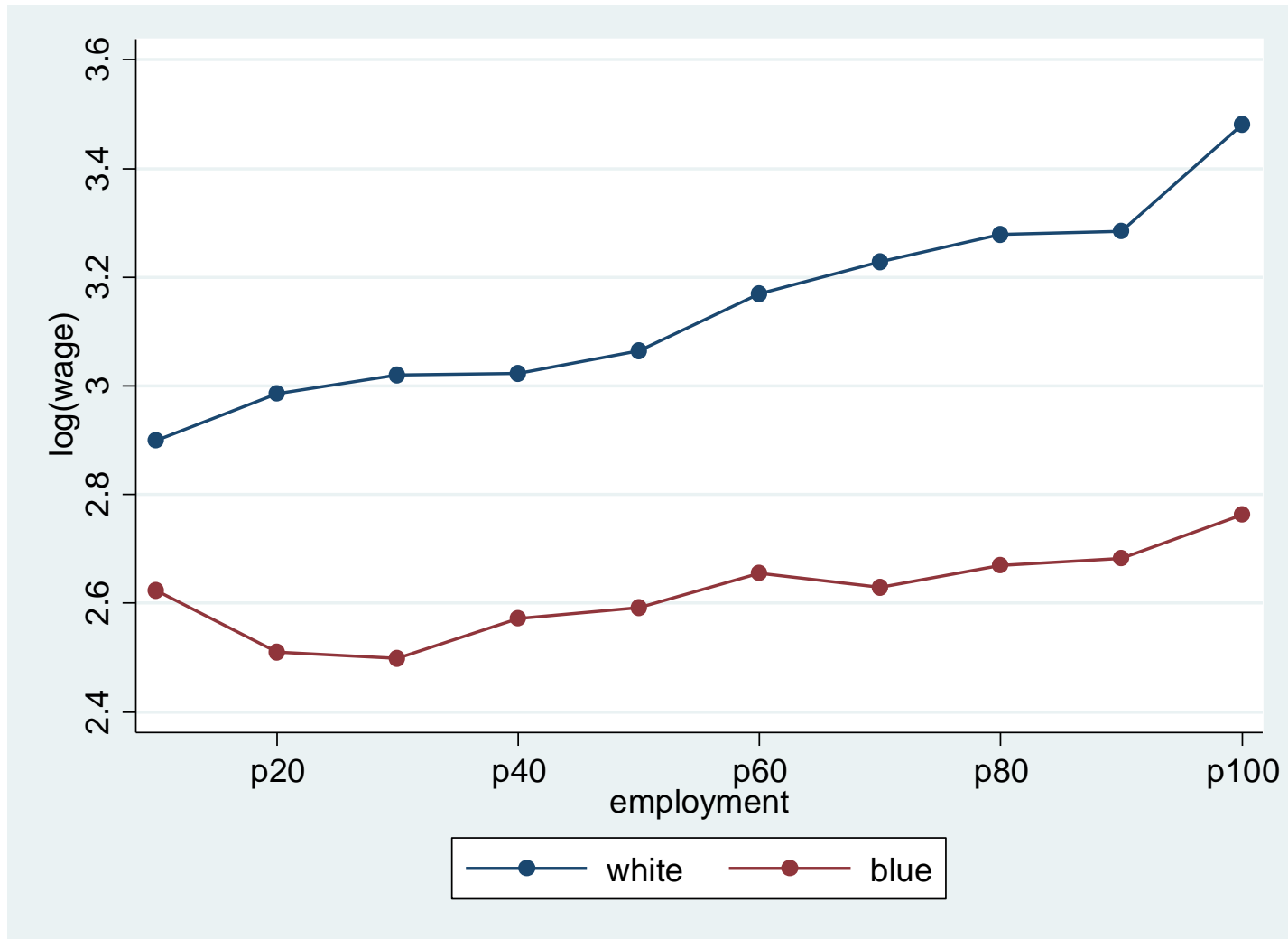
# Wage by Size of Employment



- Following Acemoglu and Autor (2011)
  - Skilled: College and above
  - Unskilled: High school and below



# Wage by Size of Employment



- Following Brown and Medoff (1989)
  - White: Manager, Administrative staff, Technicians, Sales Personnel
  - Blue: Front-line worker

# Wage Regression: Skilled Workers

	Raw	Fixed Effects	Schooling	Demo.	Capital	Profit	Firm Age	Productivity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(Employment)	0.088	0.035	0.023	0.021	0.021	0.021	0.024	0.023
	[0.014]***	[0.012]***	[0.011]**	[0.011]*	[0.011]*	[0.011]*	[0.011]**	[0.011]**
Yrs of Schooling			0.189	0.173	0.161	0.169	0.174	0.17
			[0.019]***	[0.019]***	[0.019]***	[0.019]***	[0.019]***	[0.019]***
ln(K/L)					0.065			
					[0.013]***			
Profit/L						0.001		
						[0.001]**		
Firm Age							-0.017	
							[0.020]	
Technical Efficiency								0.536
								[0.185]***
City FE		Y	Y	Y	Y	Y	Y	Y
Industry FE		Y	Y	Y	Y	Y	Y	Y
Year FE		Y	Y	Y	Y	Y	Y	Y
Demo. controls				Y	Y	Y	Y	Y
Obs	2849	2849	2849	2849	2849	2849	2849	2849
R-squared	0.06	0.28	0.32	0.41	0.42	0.41	0.41	0.41

# Wage Regression: Unskilled Workers

	Raw	Fixed Effects	Schooling	Demo.	Capital	Profit	Firm Age	Productivity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(Employment)	0.012 [0.015]	0.002 [0.007]	-0.003 [0.006]	-0.009 [0.006]	-0.005 [0.007]	-0.002 [0.007]	-0.008 [0.007]	-0.008 [0.006]
Yrs of Schooling			0.049 [0.003]***	0.042 [0.003]***	0.041 [0.003]***	0.04 [0.003]***	0.042 [0.003]***	0.041 [0.003]***
ln(K/L)					0.016 [0.007]**			
Profit/L						0.001 [0.000]***		
Firm Age							-0.017 [0.015]	
Technical Efficiency								0.179 [0.120]
City FE		Y	Y	Y	Y	Y	Y	Y
Industry FE		Y	Y	Y	Y	Y	Y	Y
Year FE		Y	Y	Y	Y	Y	Y	Y
Demo. controls				Y	Y	Y	Y	Y
Obs	7644	7644	7644	7644	7644	7644	7644	7644
R-squared	0	0.16	0.21	0.26	0.26	0.26	0.26	0.26

# Brown and Medoff (JPE, 1989)

TABLE 1  
ESTIMATES OF THE SIZE-WAGE EFFECT USING CROSS-SECTION DATA

DATA SET AND YEAR (Sample Size)	DEPENDENT VARIABLE	OTHER INDEPENDENT VARIABLES*	SIZE VARIABLE <sup>†</sup>	COEFFICIENT OF SIZE VARIABLE <sup>‡</sup>			
				TOT	WC	NUBC	UBC
Individual Analyses							
1a. May CPS, 1979 (13,829; 6,901; 4,591; 2,337)	Ln(usual hourly earnings)	Union coverage, sex, race, schooling, experience and its square, tenure and its square, SMSA (2), region (3), industry (41), occupation (8)	E	.027 (.002)	.028 (.003)	.026 (.003)	.013 (.004)
1b. Same	Same	Same	E	.015 (.002)	.018 (.003)	.011 (.005)	.001 (.005)
			C	.013 (.002)	.012 (.002)	.013 (.003)	.016 (.004)
2. QES, 1973 cross- section of 1973-77 panel (921; 451; 251; 219)	Ln(hourly earn- ings)	Same as CPS except union member instead of union coverage, SMSA (1), industry (40)	E	.038 (.007)	.059 (.010)	.028 (.014)	.019 (.013)
Establishment Analyses							
3a. WDS, 1979 data for nonsuper- visory workers only (1,440;—; 1,243; 197)	Ln(hourly earn- ings)	Union coverage, sex (2), <sup>§</sup> age (4), SMSA, region (3), industry (40), pay type (2), average production work- week	E	.032 (.005)	...	.032 (.005)	.030 (.011)

# Fox (JLE, 2009)

**Table 1**  
**U.S. Employer-Size Wage Gaps by Occupation**

Comparisons	Establishment Size					
	Size 25–100 vs. Size 1–24			Size 100+ vs. Size 1–24		
	Wage Gap	SE	Test Gap Constant	Wage Gap	SE	Test Gap Constant
A. Blue and white collar:			.005			<.001
Blue collar	.074	.005		.140	.006	
White collar	.096	.006		.197	.007	

# Evidence of Firm Size Premium

- Workers in a firm 1 sd above the mean size receive 14% higher wages than those in a firm 1 sd below the mean
  - Magnitude comparable to those observed in the literature (mainly the US)
  - Across city and industry difference can explain 46% of the overall firm size premium
- All of the observed firm size premium concentrates on the skilled workers
- For unskilled worker sample, there is no size premium (even in the raw correlation)

# A Perfect Competitive Labor Market

- *Numerous buyers and sellers who can buy and sell freely*
- *Homogenous products*
- *Symmetric information between buyers and sellers*
- *No transaction costs*
- *No market distortions*

# A Competitive Labor Market for Unskilled Workers

1. Standardized labor and jobs
  - ✓ *Homogenous products*
2. Easy to measure outputs
  - ✓ *Symmetric information*
3. Spot transaction
  - ✓ *Freely buy and sell*
4. "Unregulated" market
  - ✓ *No distortion*
5. Mobility across firms and locations
  - ✓ *Low traction cost*



# A Competitive Labor Market for Unskilled Workers

1. Standardized labor and jobs
  - Human capital attributes
  - Job tasks and computer usage

## Demographics by Skills and Firm Sizes

Worker type	Unskilled		Skilled		Difference	
	Small	Large	Small	Large	Large-Small	Unskill-Skill
Years of schooling	10.05 (2.48)	10.42 (2.31)	15.35 (0.62)	15.52 (0.73)	0.93 [0.080]***	-5.25 [0.055]***
Worker's Age	38.46 (10.36)	35.03 (9.16)	32.42 (8.42)	31.12 (6.60)	-3.52 [0.393]***	5.47 [0.352]***
Male	0.51 (0.50)	0.50 (0.50)	0.51 (0.50)	0.55 (0.50)	0.00 [0.018]	-0.02 [0.018]
Married	0.81 (0.39)	0.77 (0.42)	0.65 (0.48)	0.60 (0.49)	-0.07 [0.019]***	0.17 [0.018]***
Experience	6.15 (6.23)	6.23 (6.30)	4.86 (5.00)	5.48 (5.28)	0.09 [0.180]	0.99 [0.178]***
Rural Hukou	0.74 (0.44)	0.75 (0.43)	0.40 (0.49)	0.39 (0.49)	-0.03 [0.014]**	0.35 [0.015]***
Migrant	0.42 (0.49)	0.64 (0.48)	0.31 (0.46)	0.44 (0.50)	0.18 [0.020]***	0.12 [0.018]***

# Human Capital Attributes

- Unskilled workers compared to skilled workers
  - 5 years less years of schooling
  - 5 years older in age
  - 30% more likely to have a rural Hukou
  - 15% more likely to be an migrant worker
- Small vs large firms
  - Large firms hire workers with better attributes
  - These attributes difference (eps. Education) explain some of the size premium in the skilled sample, but not all

### Worker Tasks by Skills and Firm Sizes

Worker type	Unskilled		Skilled		Difference	
	Large	Small	Large	Small	Large-Small	Unskill-Skill
<b>Task Indices (standardized value):</b>						
Abstract	-0.45	-0.28	0.29	0.40	0.24	-0.74
	(0.90)	(0.95)	(0.87)	(0.77)	[0.028]***	[0.028]***
Routine	0.42	0.26	-0.32	-0.40	-0.23	0.72
	(1.08)	(1.02)	(0.79)	(0.69)	[0.042]***	[0.035]***
Manual	0.33	0.32	-0.52	-0.59	-0.13	0.88
	(1.04)	(1.00)	(0.74)	(0.70)	[0.042]***	[0.038]***
Some usage of computer	0.40	0.49	0.93	0.97	0.14	-0.52
	(0.49)	(0.50)	(0.26)	(0.18)	[0.018]***	[0.015]***
Time of training needed to qualify current job	2.48	2.50	2.94	3.13	0.13	-0.56
(Value 1-5: the higher the longer)	(1.22)	(1.15)	(1.17)	(1.10)	[0.033]***	[0.037]***

# Job Tasks

- Tasks: unskilled compared to skilled workers
  - Less abstract
  - More routine
  - More manual
  - Fewer computer usage (50% for unskilled; 90% for skilled)
- Small vs large firms
  - Tasks in larger firms are more sophisticated
  - But the task difference cannot fully explain the size premium among the skilled workers (Table 8)

Table 8. Wage Regressions with Workers' Tasks as Controls

	Dependent variable: log monthly earnings				
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Skilled</i>					
ln(Employment)	0.02 [0.011]*	0.019 [0.011]*	0.02 [0.011]*	0.019 [0.011]*	0.018 [0.011]*
Task: Abstract	0.085 [0.018]***				0.064 [0.018]***
Task: Routine		-0.106 [0.017]***			-0.07 [0.018]***
Task: Manual			-0.127 [0.018]***		-0.101 [0.019]***
Computer Usage:				0.255 [0.064]***	0.066 [0.067]
Year FE	Y	Y	Y	Y	Y
City FE	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y
Demographics	Y	Y	Y	Y	Y
Obs	2849	2849	2849	2849	2849
R-squared	0.42	0.42	0.42	0.41	0.44

# Summary

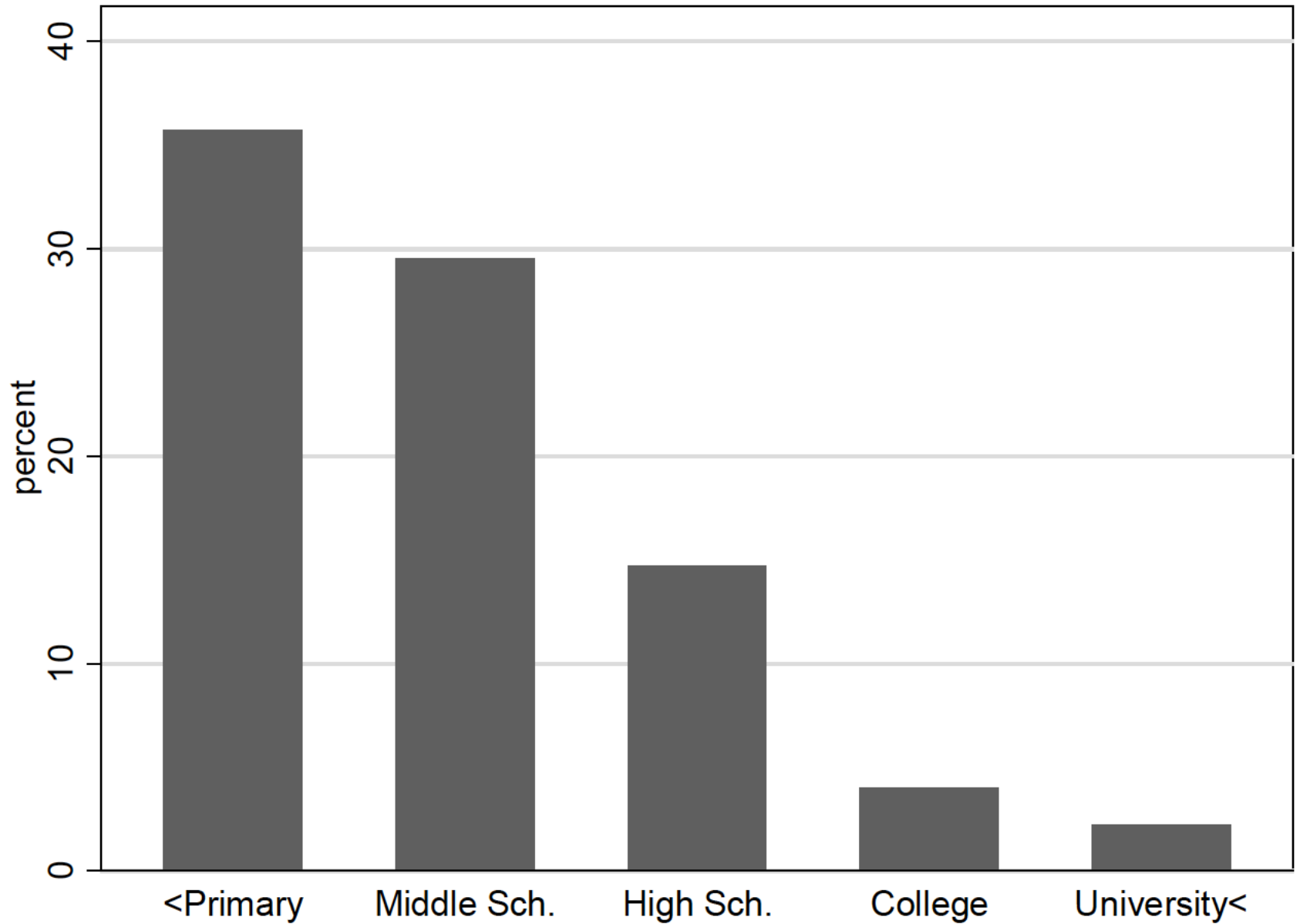
1. Standardized labor and jobs
  - Relative low human capital
  - Simple job tasks and low computer usage
  - Homogenous in labor quality
  - Highly *substitutable*

# A Competitive Labor Market for Unskilled Workers

1. Standardized labor and jobs
2. Easy to measure outputs
  - Inability to precisely measure labor output may force firms to pay efficient wages



Figure 2. Percentage of Piece Rate Compensation by Workers' Education



# Summary

1. Standardized labor and jobs
2. Easy to measure outputs
  - Inability to precisely measure labor output may force firms to pay efficient wages
  - A higher proportion of unskilled workers' compensation involves *piece-rate payment*
  - This means their productivities are easy to measure and easy to contract

# A Competitive Labor Market for Unskilled Workers

1. Standardized labor and jobs
2. Easy to measure outputs
3. Spot transaction

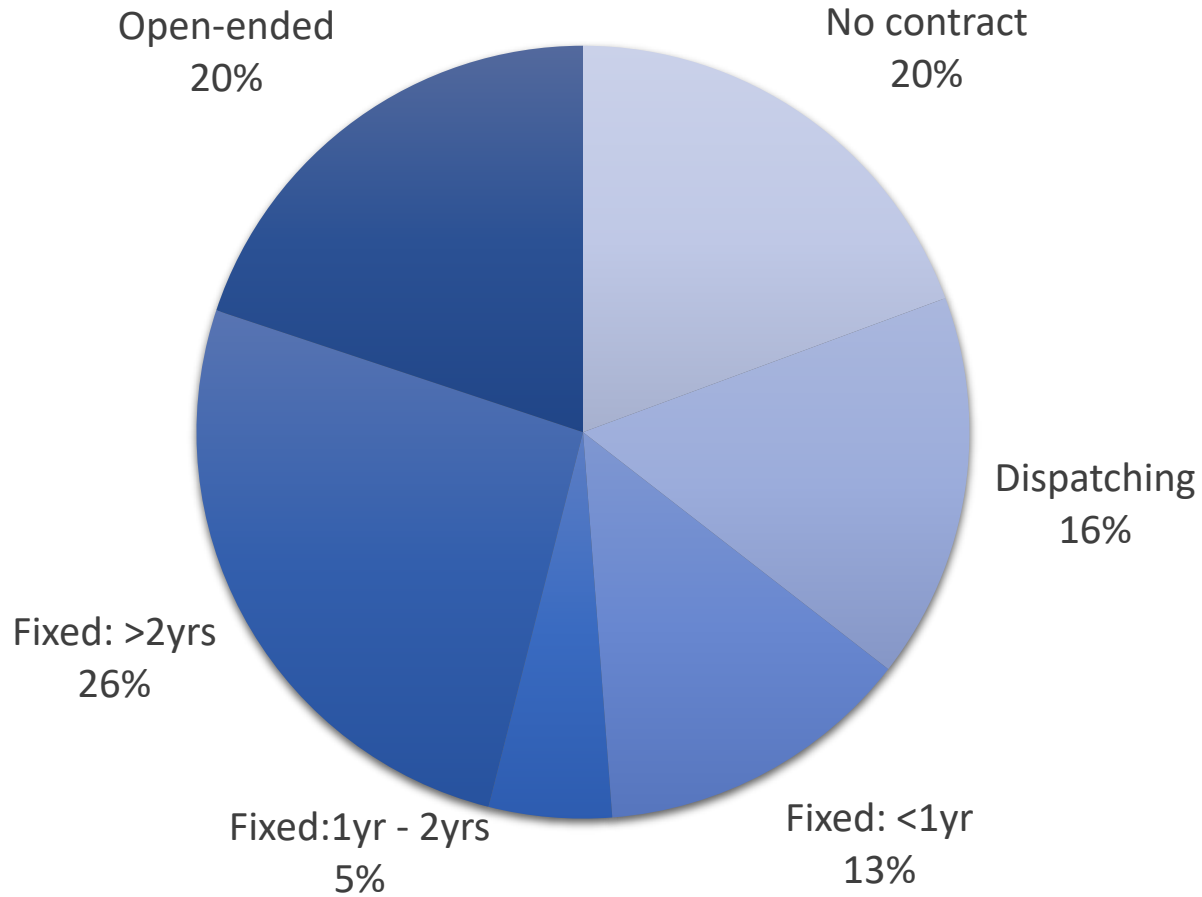
# “A Spot Market”

- Unskilled workers: 50% migrants; 74% with rural Hukou
- Usually work for 11 month, then return to village for Chinese New Year break
  - 30% of the migrant workers leave the factory every year
  - when they return from the break, they may not go back to the same factory
- Most of the unskilled workers find their jobs through *informal channels*
  - Nearly half (46%) of them find their jobs through relative or friends
  - 38% walked in the factory to see if jobs are available

# Method of finding the current job

	Skilled (1)	Unskilled (2)	S-U (3)
<b><i>Informal Channels</i></b>	<b>0.55</b> <b>(0.50)</b>	<b>0.84</b> <b>(0.36)</b>	<b>-0.29</b> <b>[0.027]***</b>
Directly to the firm	0.24 (0.43)	0.38 (0.49)	-0.14 [0.017]***
Relatives	0.12 (0.33)	0.19 (0.39)	-0.07 [0.013]***
Friends	0.18 (0.39)	0.27 (0.44)	-0.09 [0.015]***
<b><i>Formal Channels</i></b>	<b>0.40</b> <b>(0.49)</b>	<b>0.12</b> <b>(0.32)</b>	<b>0.28</b> <b>[0.028]***</b>
Recruitment agencies	0.01 (0.11)	0.01 (0.10)	0.00 [0.003]
Talent markets	0.05 (0.21)	0.04 (0.20)	0.01 [0.019]
Job fairs	0.10 (0.30)	0.02 (0.13)	0.08 [0.008]***
Online	0.24 (0.43)	0.05 (0.21)	0.19 [0.022]***
<b><i>Others</i></b>	0.05 (0.22)	0.04 (0.20)	0.01 [0.008]

# Contract Types



## Attributes of Labor Contract

	Unskilled (1)	Skilled (2)	U-S (3)
Signing a labor contract	0.72 (0.45)	0.83 (0.38)	-0.106 [0.015]***
Labor dispatching	0.23 (0.42)	0.17 (0.38)	0.063 [0.021]***
Fixed term contract	0.71 (0.45)	0.74 (0.44)	-0.025 [0.017]
< 12 months	0.38 (0.49)	0.24 (0.43)	0.143 [0.024]***
< 24 months	0.49 (0.50)	0.36 (0.48)	0.133 [0.028]***

# Flexible Labor Contract

- China has one of the most strict labor contract law in the world, but the implementation is loose
  - No formal contract: 28% (unskilled)
  - Usage of labor service company: 23% (unskilled)
  - Average contract length: 27 month
  - Contract less than a year: 40% (unskilled)
- By law, employers can fire the workers with 1 month of notice or pay 1 month salary ahead, and workers can leave the firm with 1 month of notice.



# Low Insurance Coverage

- Payroll tax is high in China
  - 29% compared to 8% in the US
  - Rank the third in the world (next to France and Slovakia)
- The “full package”
  - Five insurance: pension, medical, unemployment, work injury, maternity leave
  - One funding: housing

## Insurance Coverage

	Skilled	Unskilled	S-U
	(1)	(2)	(3)
<b><i>Full Package</i></b>	<b>0.35</b>	<b>0.11</b>	<b>0.24</b>
	<b>(0.48)</b>	<b>(0.31)</b>	<b>[0.013]***</b>
Pension	0.82	0.57	0.25
	(0.39)	(0.50)	[0.018]***
Medical Insurance	0.85	0.68	0.17
	(0.36)	(0.47)	[0.015]***
Unemployment	0.78	0.54	0.24
	(0.42)	(0.50)	[0.018]***
Work Injury	0.83	0.71	0.12
	(0.38)	(0.46)	[0.015]***
Maternity	0.68	0.36	0.32
	(0.47)	(0.48)	[0.017]***
Housing Fund	0.44	0.17	0.27
	(0.50)	(0.38)	[0.014]***

# Low Insurance Coverage

- Payroll tax is high in China
  - 29% compared to 8% in the US
  - Rank the third in the world (next to France and Slovakia)
- Workers receiving the “full package”
  - 11% for the unskilled workers
  - 30% if excluding housing fund

# Summary

1. Standardized labor and jobs
2. Easy to measure outputs
3. Spot transaction
  - *Informal* channels to find jobs
  - *Flexible* labor contract
  - *Low insurance & benefits* coverage

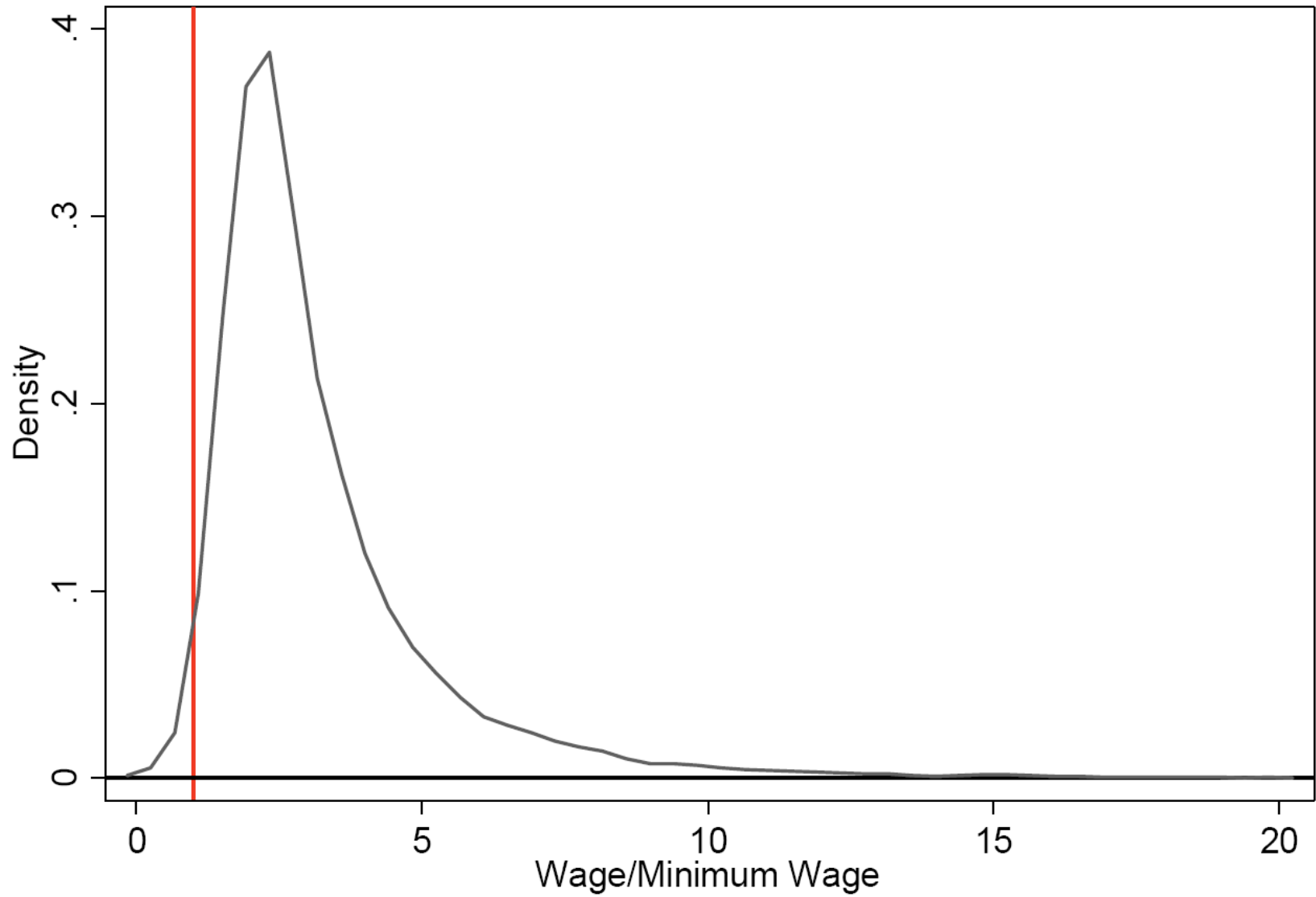
# A Competitive Labor Market for Unskilled Workers

1. Homogenous labor productivity
2. Homogenous output
3. Freedom to buy and sell
4. No price/quantity distortion

Table A3. City Level Minimum Wage, 2016

Province	Cities	Monthly	Hourly
		MW	MW
		(Full-time, RMB/month)	(Part-time, RMB/hour)
Guangdong	Guangzhou, Shenzhen	1895	18.3
	Dongguan, Foshan, Zhongshan, Zhuhai	1510	14.4
	Huizhou, Jiangmen, Zhaoqing	1350	13.3
	Chaozhou, Jieyang, Yangjiang, Zhanjiang	1210	12
Hubei	Wuhan	1550	16
	Xiangyang, Yichang	1320	15
	Ezhou, Huanggang, Huangshi, Jingzhou, Qianjiang, Shiyan, Suizhou, Tianmen, Xiaogan, Xiantao	1225	14

Figure 3. Kernel Density of Wage to Minimum Wage Ratio



kernel = epanechnikov, bandwidth = 0.2500

# Unbinding Minimum Wage

- Unlike the developed countries, minimum wage (MW) in China is set at a much lower level relative to workers' wages in manufacturing industries
- Monthly MW in Guangdong is 1,895 RMB (\$270), while the median value for unskilled worker is 4,408 RMB (\$630)
- For a median worker, the monthly wage is 260% of the minimum wage level in the city; Even the bottom 5 percentile of workers earn 50% more than the minimum wage.
- Only about 2% of workers in the sample report a monthly income lower than government-set minimum wage



# Percentage of Working Overtime

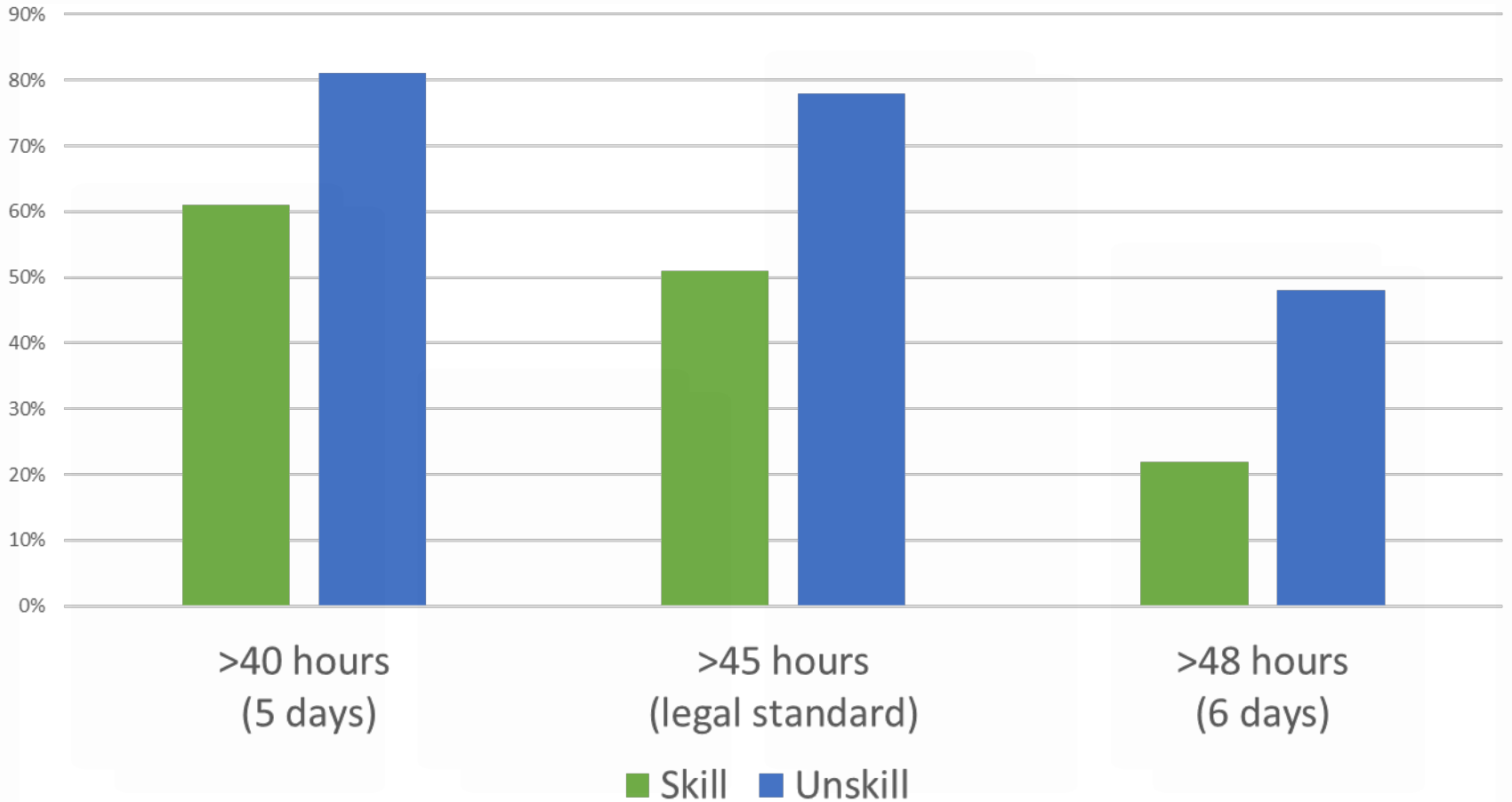




Table 11. Effects of Union

Dependent variable: log monthly earnings				
	(1)	(2)	(3)	(4)
<i>Panel A: Skilled</i>				
ln(Employment)	0.026 [0.012]**	0.022 [0.011]**	0.026 [0.012]**	0.031 [0.013]**
Unionization (Firm)	-0.04 [0.041]		-0.054 [0.055]	-0.028 [0.044]
Collective Bargaining		-0.014 [0.031]	-0.027 [0.059]	
Unionization (Firm) x Collective Bargaining			0.029 [0.069]	
Union Member (Individual)				0.075 [0.032]**
Obs	2849	2849	2849	2447
R-squared	0.41	0.41	0.41	0.41

# Role of the Union

- In 36% of the firms, union officials are actually appointed by the upper level union organization or firm management, rather than elected by workers
- 61% of the firms have labor union
- 73% of the unionized firm report to have some bargaining power for wages, only 2% (Table 10) play a decisive role in the personnel and human resource related decisions
- 45% of the unskilled workers do not know whether the firm has a union

# Summary

1. Homogenous labor productivity
2. Homogenous output
3. Freedom to buy and sell
4. No price/quantity distortion
  - *Unbinding* minimum wage level
  - *Limited* role of union

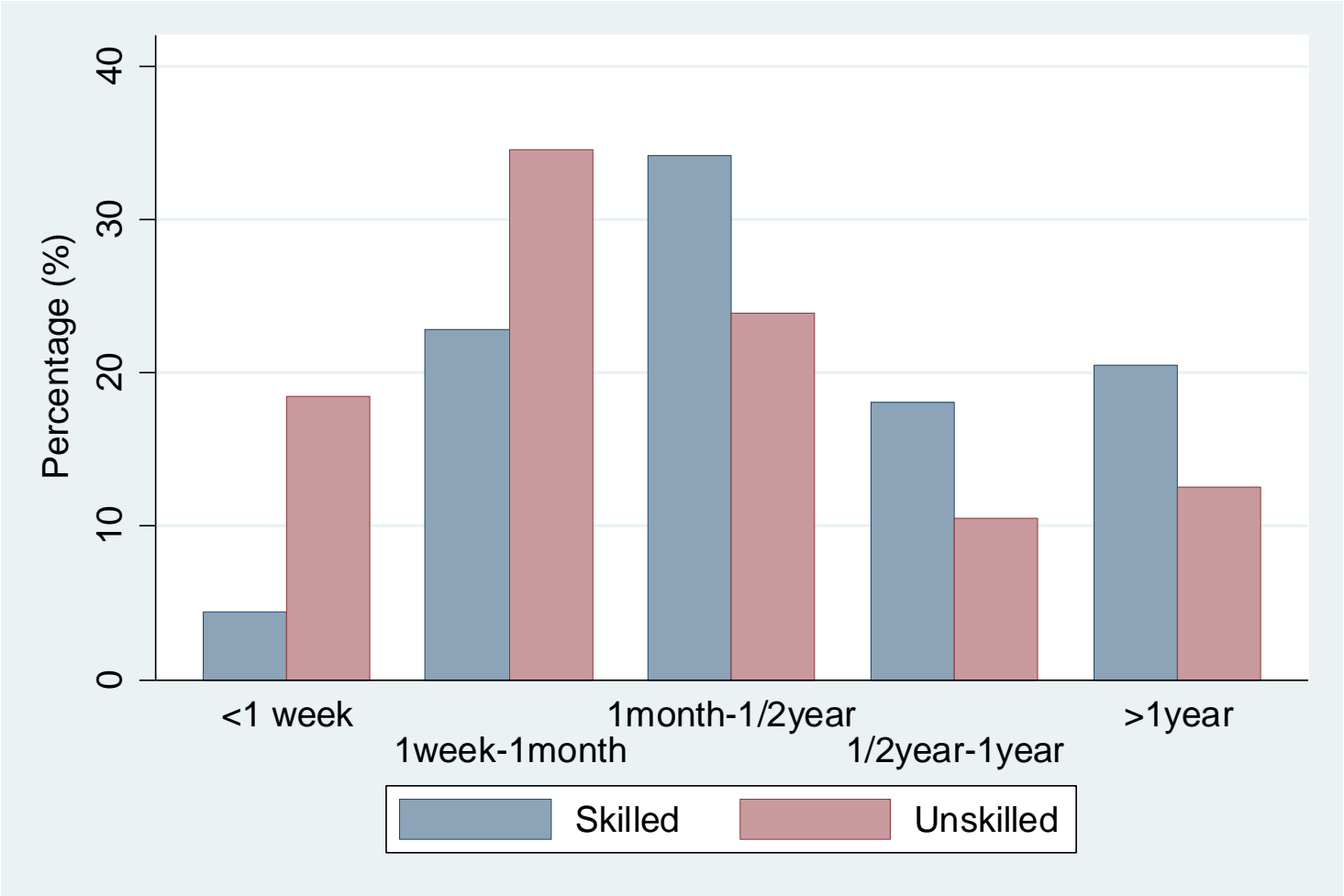
# A Competitive Labor Market for Unskilled Workers

1. Homogenous labor productivity
2. Homogenous output
3. Freedom to buy and sell
4. No price/quantity distortion
5. No transaction costs
  - Migrant workers have low residence costs
  - Low direct family burden in migration
  - Low transition cost across firms/industries

# Low Transaction Costs

- Migrant workers have low residence costs
  - Half of the unskilled workers come from other places; 40% of them come from other provinces
  - Employers pay a significant proportion of migrant workers' housing expenses: 37% of them live in subsidized or free dormitory
- Low direct family burden in migration
  - More than half of the migrated workers do not carry their children with them (30% for skilled workers)

# Time To Qualify for Current Job





Other than the current job,  
the # of \_\_\_\_\_ ever worked

	Unskilled (2)	Skilled (1)	U-S (3)
City	1.31 (1.52)	1.07 (1.24)	0.24 [0.052]***
Job	2.42 (2.03)	1.81 (1.70)	0.61 [0.057]***
Occupation	1.65 (1.56)	1.13 (1.34)	0.53 [0.052]***

# Low Transaction Costs (cnt'd)

Low transition cost across firms/industries

- Less than one fifth of the unskilled ever receive training longer than 10 days
- Half of the jobs performed by unskilled workers only require less than a month for a freshman to reach full productivity; by contrast, almost 40% of skilled workers' jobs need more than half a year before full qualification.
- Unskilled workers in our sample are very mobile
  - On average, they have worked in 2.3 cities, for 3.4 jobs and 2.7 occupations (aged 37)

# Conclusion

- We find that in a competitive labor market consisting of *low-skilled workers*, there is no systematic wage difference across firms with different sizes
  - Size wage premium remains for the skilled workers even with a full set of controls
  - We need to go beyond across-firm productivity and/or rent-sharing, as in the existing literature, to explain size wage premium

# Further Implications of Our Study

- How to understand *the international competitiveness* of Chinese manufacturing industry?
  - Dual labor market for skilled and unskilled labor
  - Exists not only across sectors or firms, but also within firms
- *Cheap* labor for both large and small firms
  - Save extra cost due to regulations, rent sharing, and asymmetric information in labor qualities
  - Large firms pay the same (low) labor cost as the small ones
  - If unskilled workers enjoy the same degree of size premium as the skilled workers, larger firms (above median) will have to pay 20% more in their wages
- *Flexible* labor relationships
  - Easy to work overload with short-term contracts
  - Adjust production capacity in time to cope with demand shocks