

# **Regional Variation of the Minimum Wages in China**

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# Summary

- Large regional variation in minimum wages exists.
- Regional variation in minimum wages declined continuously.
- Most of regional variation comes from the province level difference.
- Economic development levels, living standard explain a major part of the regional variation.
- Evidence suggests that competition between local governments plays a role in determining minimum wages.

# Introduction

- Under the central planning economy, no market determined wages, thus no minimum wages.
- Market reform was associated with increased inequality and the concerns about the incomes of the low paid workers.
- Emerging research on the impact of minimum wages on wages, inequality, employment, etc.

# Introduction

- Existing research uses regional and temporal variation to identify the effect of minimum wage policy on various aspects of the labor market.
- But, to what extent the minimum wage varies across regions (at different levels)? why the regional variation exist?
- We know very little 😞

# Introduction

- We first introduced the institutional background of China's minimum wage policy.
- Describe the regional variation of the minimum wage using detailed minimum wage data since the late 1990s.
- Large regional variation exist during the period studied.
- Economic development situation, including GDP, economic structure, consumption level, is the main driving force for the large regional variation in the MW.
- Weak evidence suggesting that the regional variation is influenced by political factors. ????

# Institutional background

- In late 1993, the former Ministry of Labor issued Provisions of Minimum Wage
- In 2004, the Provisions of Minimum Wage was amended substantially by the Ministry of Labor and Social Security.
- The minimum wages are different across regions. Local governments play a dominant role in the minimum wages adjustment process.

# Institutional background

- The department of human resources and social security of the provincial work out a minimum wage schedule for negotiation.
- This schedule is made according to the guidance of the central government (the Ministry of Human Resource and Social Security), which is usually a formula for calculating minimum wages taking into consideration of various factors.
- : factors influencing the living standard of people in poverty such as urban consumer price index; the minimum expenditure of the urban residents; average wage; employment situation.

# Institutional background

- The provincial government usually apply minimum wages of several levels according to the economic development level of different regions.
- This adjustment plan will then be negotiated between several parties, including the provincial government, provincial level unions, association of entrepreneurs/enterprises, chamber of commerce.
- The local government of the lower level can also influence the minimum wage schedule.



# Institutional background

- After reaching an agreement, the minimum wage adjustment plan will often be submitted to the provincial executive meetings for discussion.
- The minimum wage policy determined by the provincial government will be submitted to the Ministry of Human Resources and Social Security for approval. It should also be ratified by the All China Federation of Trade Unions and All China Federation of Industry and Commerce.
- This minimum wage adjustment policy should be publicized through the government gazette and at least one news paper covering the whole region within 7 days of approval.

# Institutional background

- A region's minimum wages influenced by those of other regions?
- Tournament model in official promotions (Zhou and Li, 2005)
- Minimum wage is a proxy for economic performance?
- Attracting labor or investment? Or both?

# Institutional background

- Shenzhen Special Zone Daily

The image shows a screenshot of the Shenzhen Special Zone Daily website. The main headline is "最低工资调高吸引高素质劳动力" (Raising Minimum Wage to Attract Skilled Labor). Below the headline, there is a sub-headline in English: "Raising Minimum Wage to Attract Skilled Labor". The article text is visible, mentioning that the Shenzhen government has approved a 2008 wage standard. It states that the minimum wage for full-time workers in the Special Zone will increase by 150 yuan per month, and for part-time workers, it will be 8.8 yuan per hour. The article also mentions that the minimum wage in the Special Zone is the highest among large and medium cities in China.

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查询2008年1月9日前 | 回深圳新闻网首页

# 深圳特区报

 多媒体数字版

版面导航 | 标题导航 | 深圳报业集团系列报刊

2008年06月03日 星期二 | 上一篇 | 下一篇 | 放大 | 缩小 | 默认

## 最低工资调高吸引高素质劳动力

### Raising Minimum Wage to Attract Skilled Labor

深圳市最低工资标准调整新闻发布会上获悉,深圳大幅度调高最低工资标准,特区内、外全日制用工最低工资均每月增加150元,特区内每月1000元的最低工资标准,在全国大中城市所公布的最低工资标准中最高。为确保最低工资标准贯彻落实,市劳动保障局近期将组织专项检查,曝光处理违反规定的用人单位。

特区内最低工资标准全国最高

市劳动保障局副局长李滔在新闻发布会上介绍,经市政府批准,我市2008年度全日制用工最低工资标准为:特区内1000元/月,较上年度增长17.6%;特区外900元/月,较上年度增长20%。非全日制用工小时最低工资标准为:特区内8.8元/小时;特区外8元/小时,以上最低工资标准从2008年7月1日开始执行。

# Data

- The minimum wage data is collected from the website as every province publish the minimum wage once new minimum wages are determined.

# Data

## 四川省人民政府关于调整全省最低工资标准的通知

2014年05月29日 来源:省政府办公厅

【字体: 大 中 小】

分享到:  更多

川府发〔2014〕32号

各市(州)人民政府,省政府各部门、各直属机构:

经研究,省政府决定对全省现行月最低工资标准和非全日制用工小时最低工资标准进行调整。现将调整后的标准通知如下:

### 一、调整后全省月最低工资标准

- (一) 每月1100元(每日50.5元);
- (二) 每月1250元(每日57.5元);
- (三) 每月1400元(每日64.4元)。

### 二、调整后全省非全日制用工小时最低工资标准

- (一) 每小时11.5元;
- (二) 每小时13.2元;
- (三) 每小时14.6元。

上述标准包含个人应缴纳的社会保险费和住房公积金。

本通知自2014年7月1日起实施。各市(州)应尽快重新选择适合本地实际的具体标准,经当地人民政府确定后于10日内报人力资源社会保障厅备案。

四川省人民政府

2014年5月29日

## Notice on the adjustment of the minimum wages for Sichuan Province

1. Newly adjusted monthly minimum wages
  - (1) 1100 RMB per month (50.5 daily)
  - (2) 1250 RMB per month (57.5 daily)
  - (3) 1400 RMB per month (64.4 daily)
2. Newly adjusted hourly minimum wages
  - (1) 11.5 RMB
  - (2) 13.2 RMB
  - (3) 14.6 RMB

City governments choose appropriate minimum wage levels according to local conditions.

# Data

- City level information from the Chinese City Statistical Yearbook, including the average wages for the urban workers, GDP growth rate, GDP per capita, employment, unemployment, actually utilized FDI, etc.
- We also used a dataset that has information of the local officials at the city level.

# Data

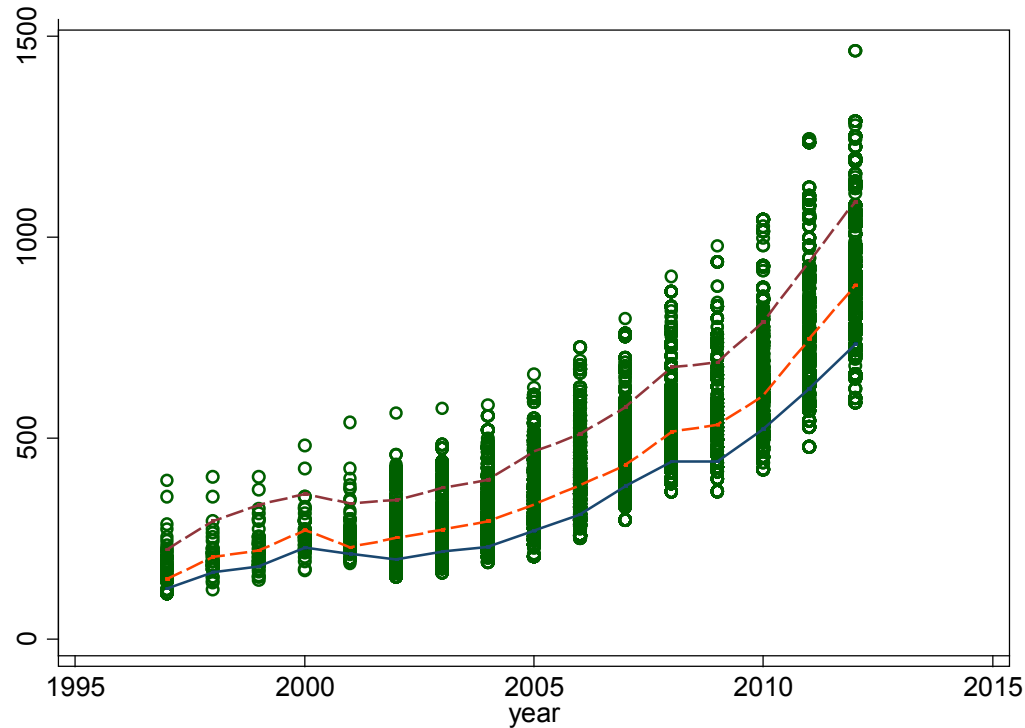
- Minimum wage for regions of higher administrative levels:

$$MW_{ct} = \frac{\sum_{j \in c} MW_{jct} * employ_{jct}}{\sum_{j \in c} employ_{jct}}$$

- Relative minimum wages

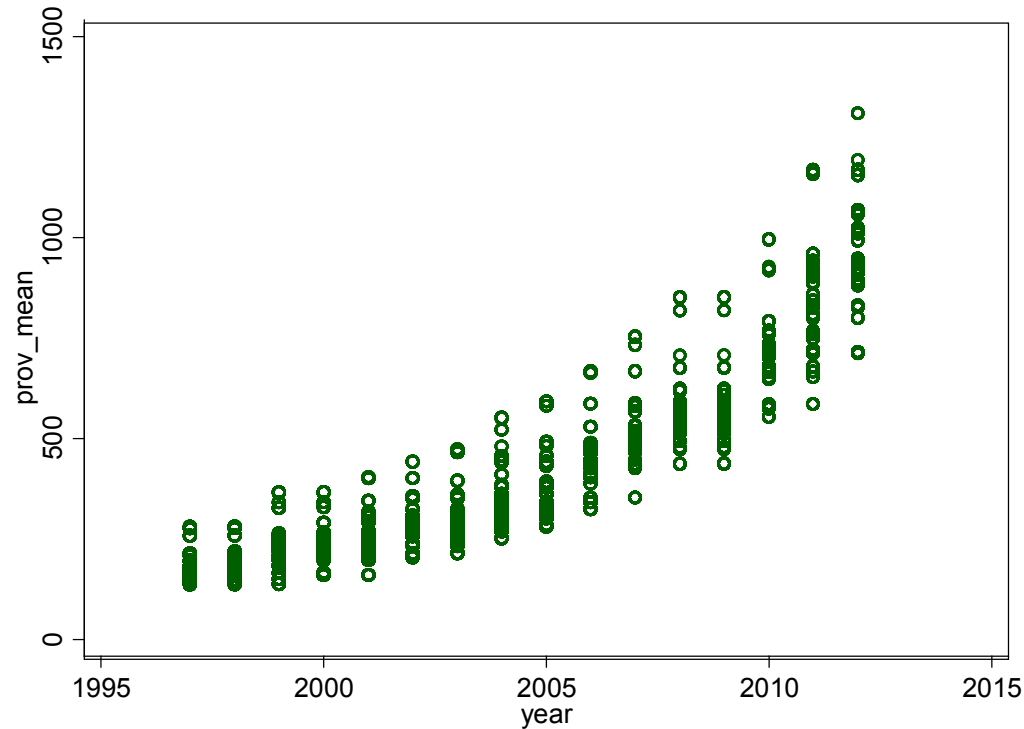
$$MW_{ct} = \frac{\sum_{j \in c} MW_{jct} * employ_{jct} / \sum_{j \in c} employ_{jct}}{AW_c}$$

# Regional variation of minimum wage and its evolution

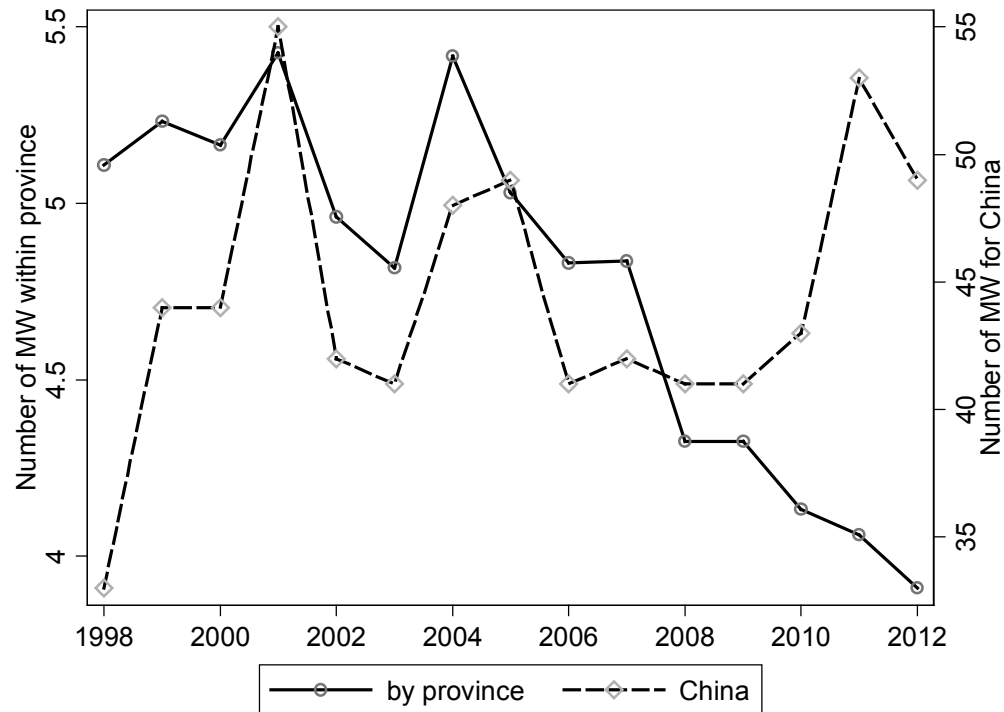




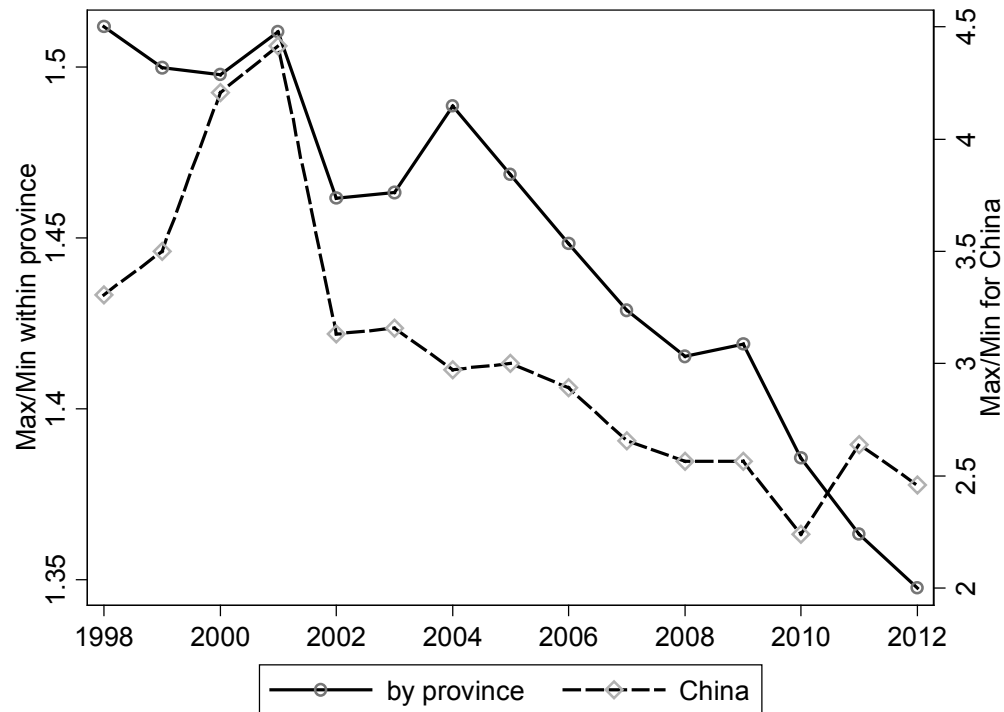
# Regional variation of minimum wage and its evolution



# Regional variation of minimum wage and its evolution



# Regional variation of minimum wage and its evolution



# Regional variation of minimum wage and its evolution

Table 1 Minimum wages by province, 2004 and 2012.

Province	2004					2012				
	Average	Max	Min	# of mw	Max /Min	Average	Max	Min	# of mw	Max /Min
Anhui	312	410	290	10	1.52	712	1010	680	7	1.49
Beijing	495	495	495	1	1.00	1260	1260	1260	1	1.00
Fujian	324	480	280	7	1.71	897	1200	830	4	1.45
Gansu	304	340	300	3	1.13	839	980	860	4	1.14
Guangdong	369	684	330	14	2.07	925	1500	850	6	1.76
Guangxi	330	460	320	4	1.44	819	1000	690	4	1.45
Guizhou	309	400	320	3	1.25	801	930	740	3	1.26
Hainan	358	500	350	3	1.43	788	1050	900	3	1.17
Hebei	376	520	420	3	1.24	1058	1320	1040	4	1.27
Henan	257	380	240	3	1.58	913	1080	820	3	1.32
Heilongjiang	288	390	235	7	1.66	677	1160	850	4	1.36
Hubei	277	400	240	5	1.67	827	1100	750	3	1.47
Hunan	346	460	320	7	1.44	885	1160	870	4	1.33
Jilin	323	360	300	3	1.20	919	1150	950	3	1.21
Jiangsu	425	620	360	4	1.72	997	1320	950	3	1.39
Jiangxi	253	360	270	4	1.33	715	870	610	5	1.43

# Regional variation of minimum wage and its evolution

Jiangsu	425	620	360	4	1.72	997	1320	950	3	1.39
Jiangxi	253	360	270	4	1.33	715	870	610	5	1.43
Liaoning	288	440	230	11	1.91	891	1100	780	5	1.41
Inner Mongolia	344	420	380	3	1.11	962	1200	900	4	1.33
Ningxia	342	380	320	3	1.19	960	1100	950	3	1.16
Qinghai	264	370	330	4	1.12	924	1070	1050	3	1.02
Shandong	356	410	290	5	1.41	1044	1240	950	3	1.31
Shanxi	355	520	400	4	1.30	906	1125	855	4	1.32
Shaanxi	275	320	245	4	1.31	881	1000	790	4	1.27
Shanghai	603	635	635	1	1.00	1408	1450	1450	1	1.00
Sichuan	270	450	230	7	1.96	891	1050	800	4	1.31
Tianjin	501	530	510	2	1.04	1273	1310	1310	1	1.00
Tibet	306	495	445	3	1.11	1171	1200	1150	2	1.04
Xinjiang	325	480	300	9	1.60	949	1340	980	4	1.37
Yunnan	304	470	350	3	1.34	949	1100	830	3	1.33
Zhejiang	491	620	440	4	1.41	1170	1310	950	4	1.38
Chongqing	342	400	330	4	1.21	931	1050	950	2	1.11
Average				4.81	1.40				3.48	1.28

# Regional variation of minimum wage and its evolution

Table 2 Explaining the number of minimum wage levels and the high/low ratio within province

	Number of mw			Max/min		
	(1)	(2)	(3)	(4)	(5)	(6)
	1995-07	1995-1999	2000-07	1995-07	1995-1999	2000-07
Ln(population)	0.810*** (0.223)	0.226 (0.396)	1.043*** (0.310)	0.121*** (0.0229)	0.0587 (0.0422)	0.150*** (0.0295)
Ln(GDP per capita)	1.276* (0.712)	2.231* (1.158)	0.783 (0.966)	0.0782 (0.0730)	0.169 (0.124)	-0.00300 (0.0917)
Tertiary sector share in GDP	-5.765* (2.995)	-3.995 (5.997)	-6.981* (3.678)	-0.291 (0.307)	0.471 (0.640)	-0.817** (0.349)
Urban-rural income gap	0.759** (0.327)	1.574*** (0.546)	0.369 (0.426)	0.0574* (0.0335)	0.145** (0.0583)	0.000945 (0.0405)
Ln(average wage)	-2.437* (1.292)	-3.066 (2.114)	-1.463 (1.752)	-0.419*** (0.132)	-0.743*** (0.226)	-0.121 (0.166)
Trade share in GDP	1.218* (0.656)	2.159 (1.335)	0.986 (0.769)	0.327*** (0.0673)	0.719*** (0.143)	0.202*** (0.0730)
Fiscal expenditure in GDP	2.618 (2.526)	-1.328 (6.004)	3.573 (3.171)	0.503* (0.259)	0.689 (0.641)	0.496 (0.301)
Fixed investment/GDP	-1.542 (1.511)	-8.145** (3.564)	-0.750 (1.951)	-0.215 (0.155)	-0.988** (0.381)	-0.203 (0.185)
N	365	141	224	365	141	224
Adj-R2	0.146	0.136	0.153	0.284	0.299	0.349

# Regional variation of minimum wage and its evolution

Table 3 Minimum wages relative to average wages by province, 2004 and 2010.

	2004					2010				
	Min	Max	Mean	Media	S.D.	Min	Max	Mean	Media	S.D.
Anhui	0.195	0.368	0.292	0.292	0.044	0.161	0.264	0.207	0.207	0.028
Beijing	0.198	0.198	0.198	0.198	0.000	0.173	0.173	0.173	0.173	0.000
Fujian	0.208	0.311	0.245	0.245	0.032	0.212	0.335	0.259	0.259	0.042
Gansu	0.183	0.459	0.303	0.303	0.077	0.184	0.370	0.283	0.283	0.067
Guangdong	0.197	0.420	0.286	0.286	0.067	0.205	0.344	0.260	0.260	0.040
Guangxi	0.261	0.373	0.320	0.320	0.038	0.216	0.502	0.274	0.274	0.073
Guizhou	0.307	0.342	0.324	0.324	0.016	0.263	0.303	0.280	0.280	0.017
Hainan	0.341	0.411	0.376	0.376	0.050	0.291	0.298	0.295	0.295	0.005
Hebei	0.310	0.439	0.375	0.375	0.037	0.234	0.298	0.262	0.262	0.022
Henan	0.184	0.378	0.269	0.269	0.056	0.226	0.378	0.295	0.295	0.039
Heilongjiang	0.186	0.529	0.314	0.314	0.091	0.215	0.458	0.289	0.289	0.078
Hubei	0.171	0.589	0.310	0.310	0.100	0.244	0.651	0.332	0.332	0.109
Hunan	0.257	0.473	0.315	0.315	0.058	0.201	0.331	0.268	0.268	0.039
Jilin	0.204	0.441	0.326	0.326	0.082	0.253	0.411	0.319	0.319	0.057
Jiangsu	0.220	0.359	0.299	0.299	0.040	0.199	0.245	0.222	0.222	0.015
Jiangxi	0.228	0.433	0.303	0.303	0.053	0.213	0.303	0.255	0.255	0.030
Liaoning	0.177	0.351	0.234	0.234	0.047	0.172	0.335	0.261	0.261	0.040
Inner Mongolia	0.268	0.422	0.347	0.347	0.058	0.196	0.350	0.268	0.268	0.045

# Decomposing the regional variation

$$\begin{aligned}
 \ast \text{ var}(mw) &= \text{var}\left(\sum_{P_i \in A} \sum_{d_{ij} \in P_i} \sum_{c_{ijk} \in d_{ij}} mw_{ijk}\right) = \frac{1}{N} \frac{1}{M} \frac{1}{K} \sum_{P_i \in A} \sum_{d_{ij} \in P_i} \sum_{c_{ijk} \in d_{ij}} (mw_{ijk} - \overline{mw})^2 \\
 &= \frac{1}{N} \frac{1}{M} \frac{1}{K} \sum_{P_i \in A} \sum_{d_{ij} \in P_i} \sum_{c_{ijk} \in d_{ij}} [(mw_{ijk} - \overline{mw}_{ij}) + (\overline{mw}_{ij} - \overline{mw}_i) + (\overline{mw}_i - \overline{mw})]^2 \\
 &\approx \frac{1}{N} \frac{1}{M} \frac{1}{K} \sum_{P_i \in A} \sum_{d_{ij} \in P_i} \sum_{c_{ijk} \in d_{ij}} (mw_{ijk} - \overline{mw}_{ij})^2 + \frac{1}{N} \frac{1}{M} \sum_{P_i \in A} \sum_{d_{ij} \in P_i} (\overline{mw}_{ij} - \overline{mw}_i)^2 + \frac{1}{N} (\overline{mw}_i - \overline{mw})^2 \\
 &= VAR_p + VAR_d + VAR_c
 \end{aligned}$$

Table 5 Decomposing the regional variation of minimum wages

	Variation across province	City variation within province	Country variation within city
Minimum Wage	60.40%	30.75%	8.86%
Average Wage	39.23%	60.77%	0.00%
Minimum Wage/Average Wage	33.93%	58.13%	7.93%



# Explaining regional minimum wage

Table 6 The determinants of the minimum wages at the city level, OLS

	Dep var.=							
	Log(highest minimum wage within a city)				Log(lowest minimum wage within a city)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln(GDP per capita)	0.138*** (0.0239)	0.103*** (0.0328)	0.0389*** (0.0138)	0.00738 (0.0216)	0.128*** (0.0229)	0.0711** (0.0311)	0.0147 (0.0205)	-0.00956 (0.0298)
Employment rate	-0.120 (0.162)	-0.152 (0.191)	0.0292 (0.0879)	0.0314 (0.174)	-0.212 (0.138)	-0.234 (0.168)	0.0365 (0.116)	0.0433 (0.229)
GDP growth rate	-0.221* (0.113)	-0.272** (0.115)	-0.118* (0.0675)	-0.00639 (0.0832)	-0.0390 (0.145)	-0.174 (0.163)	-0.0834 (0.0950)	0.0120 (0.0920)
Tertiary sector share	0.280*** (0.0672)	0.225*** (0.0731)	0.0680** (0.0287)	-0.136 (0.0897)	0.262*** (0.0919)	0.181* (0.0941)	-0.0252 (0.0551)	-0.102 (0.117)
Private employment share	-0.137 (0.0934)	-0.244** (0.0922)	0.0378 (0.0459)	-0.0249 (0.0580)	-0.105 (0.127)	-0.196 (0.120)	0.0150 (0.0629)	0.0259 (0.0535)
FDI share in GDP	0.515* (0.276)	0.394 (0.316)	0.401* (0.198)	0.166 (0.124)	0.429 (0.384)	0.173 (0.400)	0.361 (0.265)	0.299 (0.190)
Fiscal expenditure/GDP	-0.138 (0.161)	-0.0891 (0.154)	-0.119* (0.0656)	-0.0815 (0.111)	0.164 (0.174)	0.191 (0.159)	0.114* (0.0604)	-0.0433 (0.133)
Service sector/GDP	0.867 (1.184)	0.663 (1.073)	0.0892 (0.586)	-0.203 (0.684)	0.327 (1.361)	0.675 (1.334)	-0.0169 (0.538)	0.178 (0.844)
Per capita number of enterprises	0.0159*** (0.00360)	0.00916*** (0.00303)	0.00186* (0.00102)	-0.00475 (0.00400)	0.0200*** (0.00437)	0.00944*** (0.00336)	0.00323 (0.00208)	-0.00573 (0.00546)
Ln(consumption per capita)_rural		0.00858 (0.0434)	0.0323 (0.0194)	0.00291 (0.0370)		0.110** (0.0468)	0.0993*** (0.0292)	0.0643 (0.0519)
Ln(consumption per capita)_urban		0.258*** (0.0712)	0.217*** (0.0394)	0.0491 (0.0682)		0.252*** (0.0796)	0.151*** (0.0361)	0.0407 (0.0773)
Province dummies	no	no	yes	no	no	no	yes	no
City dummies	no	no	no	yes	no	no	no	yes
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes
N	2042	1866	1866	1866	2042	1866	1866	1866
Adj. R-sq	0.846	0.858	0.933	0.951	0.791	0.819	0.909	0.940

# Explaining regional minimum wage

Table 7 The determinants of minimum wages in 2003 and 2009, OLS

	2003				2009			
	max	max	min	min	max	max	min	min
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln(GDP per capita)	0.109** (0.0409)	0.0494** (0.0209)	0.0818* (0.0479)	0.0230 (0.0239)	0.115*** (0.0287)	0.0502** (0.0183)	0.0802** (0.0297)	0.0307 (0.0217)
Employment rate	-0.484* (0.274)	-0.203 (0.169)	-0.612* (0.318)	-0.141 (0.124)	0.0778 (0.177)	0.140 (0.0876)	0.193 (0.199)	0.167 (0.142)
GDP growth rate	-0.448 (0.322)	-0.232* (0.129)	-0.260 (0.352)	-0.00420 (0.133)	-0.666*** (0.197)	-0.221*** (0.0708)	-0.570** (0.220)	-0.318* (0.183)
Tertiary sector share	0.0458 (0.0981)	-0.00792 (0.0582)	0.0403 (0.135)	-0.0464 (0.0486)	0.367*** (0.0948)	0.155*** (0.0558)	0.324** (0.126)	0.0729 (0.105)
Private employment share	-0.104 (0.272)	0.0834 (0.132)	-0.260 (0.341)	-0.209** (0.0867)	-0.278** (0.109)	-0.0547 (0.0688)	-0.134 (0.135)	0.0402 (0.0923)
FDI share in GDP	0.524 (0.387)	0.656*** (0.206)	0.330 (0.415)	0.700*** (0.234)	-0.266 (0.383)	0.113 (0.205)	-0.818* (0.415)	-0.0560 (0.327)
Fiscal expenditure/GDP	-0.197 (0.314)	-0.154 (0.144)	0.349 (0.313)	0.133 (0.114)	-0.0715 (0.104)	-0.0678 (0.0940)	0.130 (0.0990)	0.0892 (0.0873)
Service sector/GDP	0.612 (2.133)	0.811 (0.809)	-0.500 (2.090)	0.737 (0.597)	0.599 (0.806)	-0.362 (0.799)	-0.501 (1.350)	-0.768 (1.056)
Per capita number of enterprises	0.0109 (0.00869)	0.00512 (0.00405)	0.00890 (0.00884)	0.00940** (0.00454)	0.0101*** (0.00345)	0.00331** (0.00142)	0.0108*** (0.00391)	0.00490* (0.00264)
Ln(consumption per capita)_rural	0.0135 (0.0429)	-0.00786 (0.0303)	0.119** (0.0519)	0.103** (0.0437)	0.00467 (0.0428)	0.0415 (0.0248)	0.100* (0.0529)	0.0944** (0.0381)
Ln(consumption per capita)_urban	0.245** (0.109)	0.192*** (0.0602)	0.293** (0.124)	0.0563 (0.0607)	0.110 (0.0736)	0.157*** (0.0381)	0.0690 (0.0869)	0.0572 (0.0488)
prov	no	yes	no	yes	no	yes	no	yes
N	240	240	240	240	262	262	262	262
Adj. R-sq	0.513	0.881	0.479	0.899	0.591	0.853	0.460	0.763

# Explaining regional minimum wage

Table 9 The determinants of the relative minimum wages in 2003 and 2009, OLS

	2003				2009			
	max	max	min	min	max	max	min	min
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln(GDP per capita)	-0.0000853 (0.00131)	-0.00216** (0.00101)	-0.000730 (0.000992)	-0.00257*** (0.000732)	-0.00241** (0.000877)	-0.00374*** (0.000869)	-0.00280*** (0.000723)	-0.00368*** (0.000792)
Employment rate	-0.0242** (0.0104)	-0.0163** (0.00744)	-0.0224** (0.00847)	-0.0111* (0.00561)	0.00448 (0.00517)	0.000359 (0.00615)	0.00641 (0.00518)	0.00170 (0.00531)
GDP growth rate	-0.0109 (0.0118)	-0.00231 (0.00807)	-0.00476 (0.0103)	0.00356 (0.00706)	0.000781 (0.00827)	0.00807 (0.00748)	0.00361 (0.00852)	0.00534 (0.00719)
Tertiary sector share	-0.00402 (0.00317)	-0.00193 (0.00319)	-0.00290 (0.00297)	-0.00164 (0.00247)	-0.00279 (0.00453)	-0.00529* (0.00293)	-0.00296 (0.00369)	-0.00583** (0.00263)
Private employment share	0.00403 (0.00745)	0.000513 (0.00348)	-0.000623 (0.00717)	-0.00600** (0.00288)	-0.00886*** (0.00245)	-0.00528* (0.00259)	-0.00493* (0.00274)	-0.00291 (0.00272)
FDI share in GDP	0.0223 (0.0135)	0.0104 (0.00958)	0.0162 (0.0118)	0.0101 (0.00717)	0.00870 (0.0123)	0.00822 (0.0113)	-0.00162 (0.0101)	0.00441 (0.00866)
Fiscal expenditure/GDP	-0.0260*** (0.00821)	-0.0218*** (0.00748)	-0.0123* (0.00671)	-0.0140** (0.00554)	-0.00689 (0.00467)	-0.00537 (0.00417)	-0.00301 (0.00411)	-0.00215 (0.00436)
Service sector/GDP	0.0935 (0.0574)	0.0833* (0.0415)	0.0534 (0.0433)	0.0675* (0.0336)	0.0998* (0.0516)	0.106*** (0.0358)	0.0595 (0.0471)	0.0810** (0.0331)
Per capita number of enterprises	0.000392 (0.000238)	0.000558* (0.000287)	0.000312* (0.000168)	0.000602*** (0.000175)	0.000330*** (0.0000752)	0.000270*** (0.0000770)	0.000295*** (0.0000761)	0.000272*** (0.0000682)
Ln(consumption per capita)_rural	-0.000874 (0.00180)	-0.000248 (0.00187)	0.00172 (0.00173)	0.00235 (0.00181)	-0.00288** (0.00115)	-0.00153 (0.00116)	-0.000929 (0.00129)	-0.000476 (0.00129)
Ln(consumption per capita)_urban	-0.0125*** (0.00336)	-0.0102** (0.00381)	-0.0104*** (0.00313)	-0.0123*** (0.00299)	-0.00152 (0.00175)	0.000929 (0.00240)	-0.00160 (0.00202)	-0.000933 (0.00212)
prov	no	yes	no	yes	no	yes	no	yes
N	240	240	240	240	258	258	258	258
Adj. R-sq	0.251	0.488	0.234	0.529	0.135	0.450	0.095	0.401

# Explaining regional minimum wage

- It is worth mentioning that we are less successful in explaining the relative minimum
- The adjusted R squared is only around 10 percent in the regression for 2009 when the province dummies are not controlled for. Even with the province dummies being controlled for, the explaining power is only around 40-45 percent.

# The time to adjust the minimum wages

- Whether the timing of the minimum wage adjustment is related to regional characteristics, and more importantly to minimum wage levels.
- Two alternative stories can be told:
  1. *Race to the bottom*
  2. *Keep up with the Joneses*

# The time to adjust the minimum wages

## *1. Race to the bottom*

Local governments have incentives to set minimum wages levels lower than competing regions. The results might be that a province that adjusts its minimum wage later would choose lower levels than a similar province that adjusts the minimum wage earlier.

# The time to adjust the minimum wages

## 2. *Keep up with the Joneses*

Local officials do not want to have minimum wages lower than competing provinces.

- a. Higher minimum wage is itself an indicator for better economic performance
- b. Higher minimum wage may help a region attract quality workers

# Month when new minimum wage implemented

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
January	12	7	8	8	4	4	3	5	6	6	5	1	3
February	1	1	0	0	0	0	0	0	0	1	1	0	0
March	0	0	1	1	1	3	4	3	3	0	1	2	1
April	2	2	1	1	0	0	1	2	0	0	0	1	1
May	4	5	4	3	3	2	3	3	1	3	2	3	2
June	1	1	1	0	0	0	0	0	0	0	0	0	0
July	7	10	9	11	15	15	14	11	11	10	10	7	5
August	0	0	0	0	0	0	0	0	0	0	0	2	2
September	0	2	4	4	4	2	0	2	3	2	3	6	4
October	1	1	2	2	3	3	4	4	6	8	6	7	7
November	0	0	0	0	0	0	0	0	0	1	2	1	3
December	0	0	0	0	0	1	1	1	1	0	1	1	3
Total	28	29	30	30	30	30	30	31	31	31	31	31	31



# Time adjusted and the level of minimum wages (coefficients on the month of adjustment)

	(1)	(2)	(3)	(4)	(5)
Dependent var. =					
A: the highest level of mw within a city	2.368 (1.664)	2.811* (1.602)	1.310 (1.163)	1.957* (1.106)	1.543 (1.203)
B: Ln (the highest level of mw within a city)	0.00662* (0.00339)	0.00761** (0.00323)	0.00575** (0.00269)	0.00734*** (0.00258)	0.00621** (0.00291)
C: The highest level of mw within a city relative to average wage	0.0000377 (0.0000878)	0.0000794 (0.0000767)	0.000190** (0.0000803)	0.000218*** (0.0000791)	0.000224** (0.0000890)
D: the lowest level of mw within a city	0.145 (1.943)	1.187 (1.751)	1.106 (1.178)	1.952* (0.999)	1.712* (0.996)
E: Ln(the lowest level of mw within a city)	0.00207 (0.00455)	0.00431 (0.00428)	0.00583** (0.00273)	0.00767*** (0.00249)	0.00688** (0.00279)
F: The lowest level of mw within a city relative to average wage	-0.0000740 (0.0000927)	-0.00000654 (0.0000705)	0.000166** (0.0000712)	0.000195*** (0.0000699)	0.000205** (0.0000761)

## **Time adjusted and the level of minimum wages (coefficients on the month of adjustment)**

- Results indicate that local government want to keep-up-with-the-Joneses, but at the same time, they do not want to raise minimum wages too much higher than other provinces with the risk of damaging its economic growth.

# Summary

- Large regional variation in minimum wages.
- Regional variation in minimum wages declined continuously.
- Most of regional variation come from the province level difference.
- Economic development levels, living standard explain a major part of the regional variation.
- There is evidence suggesting that competition between regions plays a role in determining minimum wages.

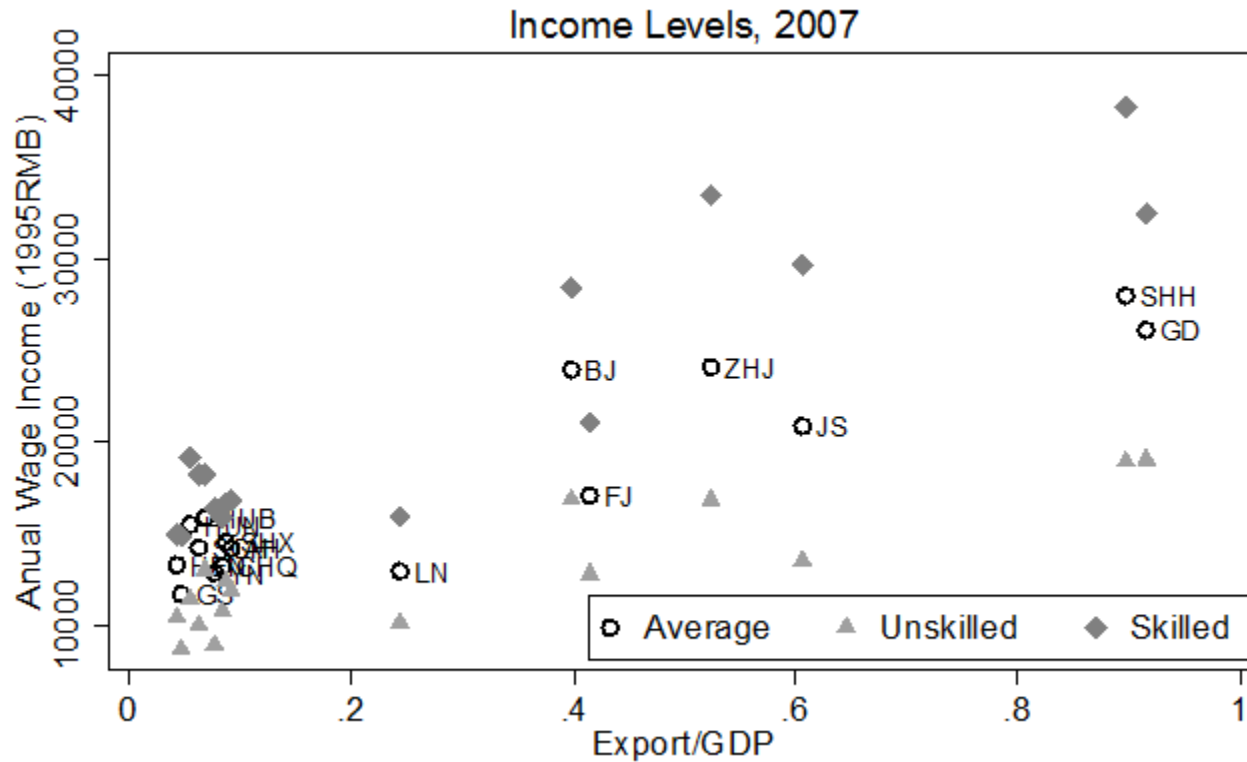
# Implications

- What will the regional variation be like in the future?
  1. Service sector will increase.
  2. Rural-urban income gap will decrease.
  3. Trade share in GDP will decrease.
- 
- Max/Min will decrease.

# Implications

- Do we need the minimum wage to vary so much across regions?
- Probably NOT in the future.
- Local government will play a minor role?

# Implications

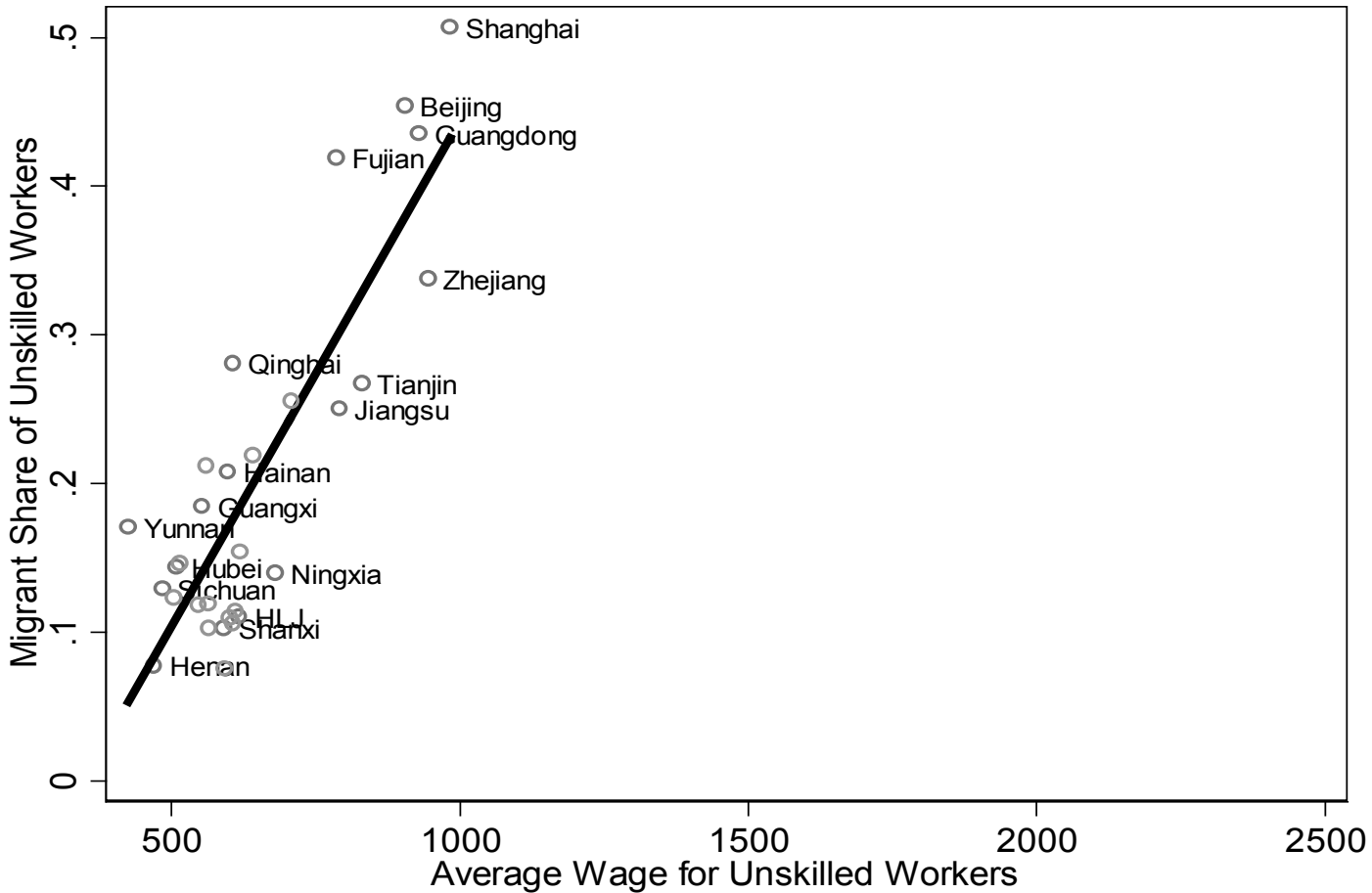


# Implications



Data sources: authors' calculation using 2005 1% population survey.

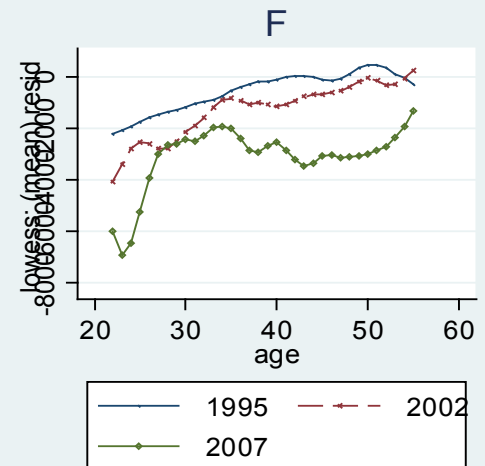
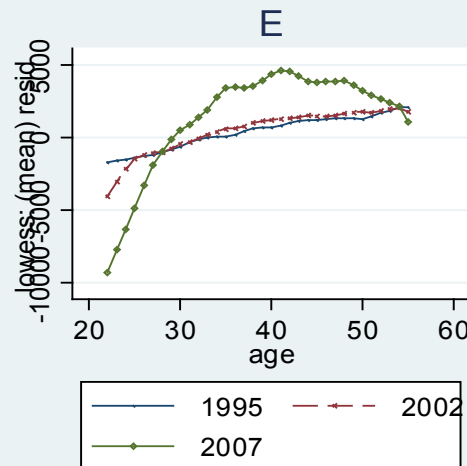
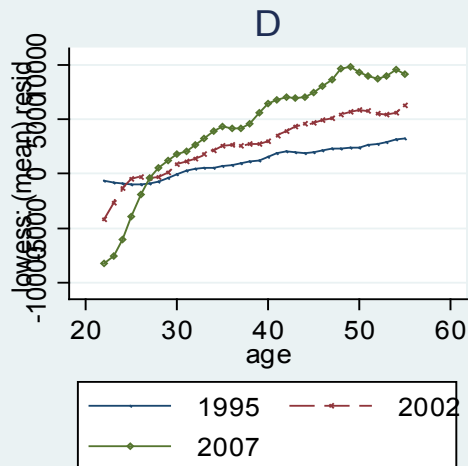
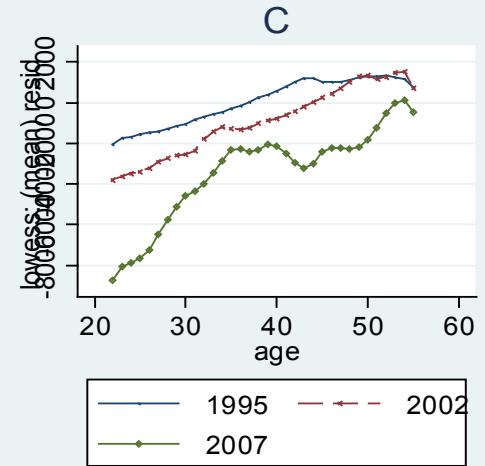
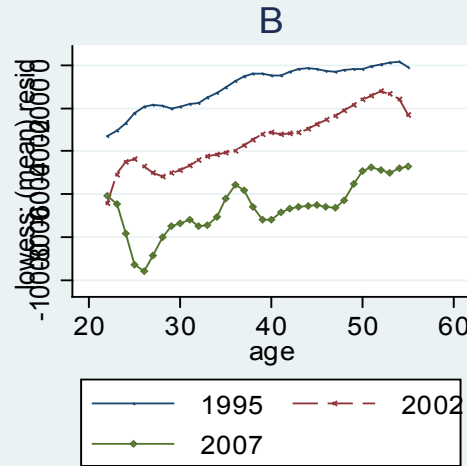
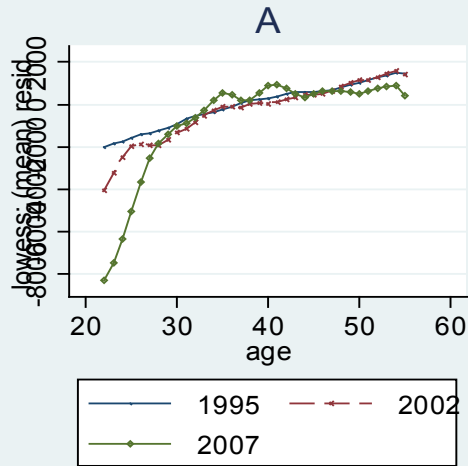
# Implications



Data sources: authors' calculation using 2005 1% population survey.



# If not regional, then what?



# If not regional, then what?

- By
  1. Education?
  2. Gender?
  3. Industry?

# Conclusion?

- The significant increase in the minimum wage is mainly a reflection rather than a cause of the rapid increase in wages, a conclusion seems to be supported by our empirical evidence.

Thank you!