

## Motivation & Research Question

- ▶ **Research question:** Does the minimum wage reduce wage inequality?
  - ▶ Any differences between covered and uncovered sectors or formal and informal?
  - ▶ Compliance and Effectiveness of the law enforcement
- ▶ **Motivation:** Sizable literature on minimum wage in Latin America
  - ▶ Yet little evidence of the minimum wage effects on the wage distribution in East and Southeast Asian despite rising or persistent wage and income inequality

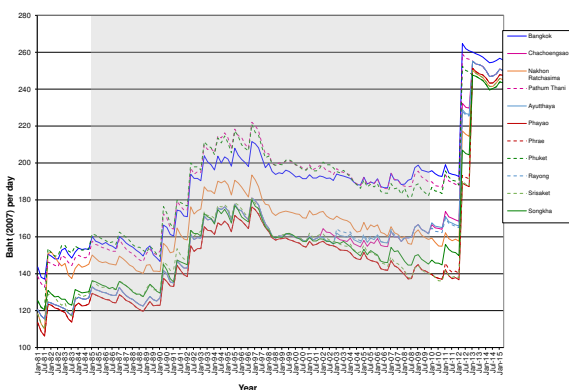
## Literature at a glance

- ▶ Most studies agree on the positive wage compression effect of minimum wages in the formal sector
- ▶ Results in the informal sector are rather mixed (see Maloney and Mendez, 2003; Neumark and Wascher, 2008)
- ▶ Several reasons why the minimum wage policy can affect the informal wage distribution:
  - ▶ **Relocation** of capital from formal to labour intensive informal sector
  - ▶ **'Lighthouse effect'**, a benchmark for 'fair' remuneration
  - ▶ **Changes in skill composition** between formal and informal sectors ⇒ sorting of workers by skill could lead to higher average skills of workers in the informal sector
- ▶ Conflicting results from Indonesia
  - ▶ Negative effect on wages in the informal sector (Bird and Manning, 2008)
  - ▶ Positive and significant impact on average wages for only the sub-sample of blue-collar workers (Rama, 2001; Suryahadi et al., 2001)

## Minimum wage and its enforcement in Thailand

- ▶ **Minimum wage**
  - ▶ Introduced in April 1973 as **minimum wage per day** (in general = 8 hours) for *private employees outside agriculture* in Bangkok and adjacent cities
  - ▶ Expanded to cover the whole country and classified into 3 zones by geographic region in October 1974
  - ▶ Since October 1981, it was set with respect to inflation, living standard, competitiveness, economic and labour market condition of each province
  - ▶ Number of zones increased dramatically from 3-4 zones during 1981-2001 to 8 in 2002 and 28 zones in 2010
  - ▶ In 2013, the minimum wage was set at 300 baht per day throughout the country!
- ▶ **Penalty & enforcement**
  - ▶ Violation could result in being fined or imprisoned
  - ▶ The maximum fine is sizable for small and medium firms
  - ▶ Yet the enforcement is questionable e.g. during 2006-2010, more than 94% of firms caught violating any labor law received only a warning while less than 0.3% of all wrongdoing establishments were fined or prosecuted

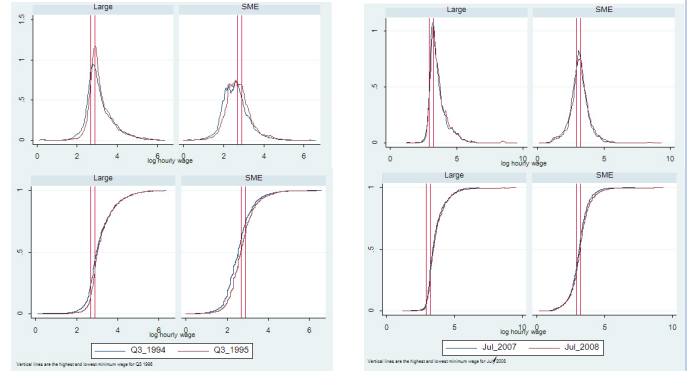
## Real minimum wages of selected provinces 1981–2015 (Baht 2007 / day)



## Data

- ▶ **Labor Force Survey (LFS)** of Thailand from 1985 to 2010 (only the 1<sup>st</sup> and 3<sup>rd</sup> quarters i.e., dry and rainy seasons)
- ▶ The sample covers all wage earners in private, public and state enterprises who report their wages and the number of hours worked in the week preceding the survey
- ▶ Kernel density plots of log hourly wages indicate a severe non-compliance problem in many provinces, especially in the low minimum wage zones

## Log hourly wage distribution (weighted) for the formal (Large firms) and the informal (SME) workers 1994/95 & 2007/8



## Methodology

- ▶ Follow Lee (1999) & modifications by Autor, Manning & Smith (2010)
  - ▶ Assume that level of wage inequality in province  $n$  at time  $t$  depends on the level of latent wage inequality and the minimum wage
  - ▶ Proxy 'the effective minimum' by the difference between the log median wage and the log of the statutory minimum wage in that province
  - ⇒ Assess the impact of 'effective minimum' on log wage gaps between different percentiles ( $P$ ) and the median ( $M$ ) after controlling for time dummies ( $t$ ), provincial fixed effects ( $n$ ) and provincial linear trends ( $T$ )
- $$w_{nt}^P - w_{nt}^M = d_{tP} + d_{nP} + d_{nP} \times T + \beta_1^P (MW_{nt} - w_{nt}^M) + \beta_2^P (MW_{nt} - w_{nt}^M)^2 + \varepsilon_{nt}^P$$
- ▶ To tackle division bias, (1) statutory minimum wage in each province and year is used as an instrument for the effective minimum or (2) use predicted instead of observed provincial median wage in the equation
  - ▶ All regressions are weighted by multiplication of sampling weight and number of total hours worked

## Main Results

Effect of the minimum wage on log wage gap, sub-sample adult male in private sector outside agriculture (1985–2010)

Percentile	All workers				Large firms			
	2SLS		Predicted Median		2SLS		Predicted Median	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
5	5.122 (3.556)	-0.912 (0.608)	-0.118 (0.198)	-1.178* (0.647)	0.551 (0.694)	0.519* (0.28)	0.33 (0.215)	1.354 (0.833)
10	0.787 (1.234)	-0.79 (0.507)	-0.055 (0.141)	-1.02** (0.493)	0.174 (0.652)	0.543** (0.22)	0.281 (0.196)	1.418** (0.603)
20	-0.655 (0.852)	-0.293 (0.301)	0.071 (0.089)	-0.376 (0.34)	0.443 (0.462)	0.352** (0.149)	0.23 (0.167)	0.92* (0.513)
25	-0.902 (0.893)	-0.227 (0.264)	0.066 (0.091)	-0.291 (0.308)	0.516 (0.377)	0.415*** (0.129)	0.282** (0.118)	1.084** (0.462)
30	-1.454 (1.227)	-0.209 (0.269)	0.092 (0.094)	-0.269 (0.322)	0.489 (0.312)	0.412*** (0.124)	0.274*** (0.09)	1.074** (0.432)
40	-1.111 (0.96)	-0.058 (0.211)	0.111 (0.068)	-0.073 (0.27)	0.468 (0.333)	0.433*** (0.096)	0.157** (0.07)	1.128*** (0.28)
75	1.944 (1.521)	-0.331** (0.149)	-0.086 (0.094)	-0.425* (0.256)	0.474 (0.394)	0.218 (0.171)	0.014 (0.068)	0.571 (0.436)
90	4.99 (3.832)	-0.411 (0.361)	-0.196 (0.243)	-0.533 (0.51)	0.042 (0.528)	0.098 (0.3)	0.121 (0.155)	0.258 (0.816)
95	4.918 (3.743)	-0.733 (0.456)	-0.173 (0.306)	-0.942* (0.566)	-1.004 (0.952)	-0.032 (0.562)	0.194 (0.196)	-0.088 (1.535)
F-test	2.565	18.458			3.494	10.884		
Prov. trend	No	Yes	No	Yes	No	Yes	No	Yes

Standard errors are in parentheses while significance levels: \* 10%, \*\* 5%, \*\*\* 1%

The sample for large firms does not include 1985, 1986 and 2001 due to a change in definition of a variable 'firm size'

## Conclusion & Possible extensions

- ▶ The difference in compliance rate between the *formal and informal* sectors (not between the covered and uncovered sectors) seems to be the prominent factor behind the fragmented effects of the minimum wage policy on wage inequality in Thailand
- ▶ Hence, without tackling the non-compliance issue, minimum wages will not be effective in creating a wage floor for low-paid workers in small firms (the informal sector)
- ▶ Possible extensions (work-in-progress)
  - ▶ Interesting to assess the effect of the two-step minimum wage hikes in 2012 and 2013
  - ▶ The movement coincides with a two-step reduction in corporate income tax from 30% to 23% and from 23% to 20% in January 2012 and 2013 respectively
  - ▶ Preliminary results indicate different employment effect of the minimum wage hikes before and after 2012!
  - ▶ Need to consider the differential compliance rate as well as the uneven benefit from tax reduction between large and small firms