(III) Debating the Minimum Wage

Bocconi University, 2017-18

Outline

- Definition and cross-country comparisons
- Theory
  - Competitive labor market
  - Dual labor market
  - Noncompetitive labor market
- Empirical evidence
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  - Natural experiments
- Policy issues
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  - Does it reduce poverty?

Definition and examples

- Unlike other institutions, the minimum wage (MW) acts on minima. It sets a wage floor
- The first minimum wage was introduced in the US in 1938 and paid 25 cents per hour (coverage: 47% of nonsupervisory workers)
- In 2017, the federal minimum wage was $7.25 (but higher in 29 states, e.g., $11 in MA). Coverage has also been greatly expanded
- In Europe, 22 out of 28 countries have MW
- Usually, from 40% to 65% of median wage

Types of minimum wages

- National, government-legislated (perhaps after consultations with trade unions and employers' associations)
- National, outcome of collective bargaining agreements and extended to all workers
- Industry-level, resulting from industry-level collective bargaining and extended to all workers in that industry

Types of minimum wages (contd.)

- Can vary also within country:
  - cross-industry
  - cross-regional
  - age-dependent
- Can be hourly, daily, weekly, or monthly
- Can be indexed or not (*cycles*)

How to measure it (for cross-country comparisons)

- Ratio of the minimum wage (MW) to the average (or median) wage
- Coverage of the minimum wage: share of workers with jobs eligible for the MW
- Kaitz Index: minimum wage as a proportion of the average wage adjusted by the industry-level coverage of the MW

Problems with these measures

- Spillover effects.
  - Increase of MW may affect the average wage leaving the ratio unchanged
  - Increase of MW may reduce wages in the uncovered segment (absorbing more low-skilled workers)
- Earnings should not include bonuses and overtime premia
- Which minimum wage? (In Mexico 267!)

Cross-country comparisons

	Minimum wage to average wage ratio	Minimum wage	Minimum wage	Determination		Coverage
	(1) (%)	(€ per hour)	(€ per month) PPP	setting	level	(4)
Australia		7,25	1277	-	-	80
Austria				CB-L	P	95
Belgium	43	6,93	1220	CB	N	90
Canada	35	4,75	836	L	F-P	100
Czech Republic	39	1,58	278	L	N	100
Denmark				CB	-	80
Finland				CB	N	90
France	52	7,51	1322	L	N	100
Germany				CB	-	68
Greece		3,29	578	L	N	100
Hungary	38	1,28	225	L	N	100
Iceland				CB	-	-
Ireland	53	7,43	1308	CB	N	100
Italy				CB	N	80
Japan	40	4,15	731	L	P	100 (a)
Korea	27	2,64	464	-	-	10
Luxembourg				L	N	100 (b)
Netherlands	39	7,30	1284	L	N	100 (c)
New Zealand	48	4,98	877	L	N	25
Poland	40	1,35	237	L	N	100
Portugal	53	2,08	366	L	N	100
Slovak Republic				L	N	100
Spain	40	3,40	599	L	N	100
Turkey		2,78	489	L	-	100
United Kingdom	39	6,40	1127	L	N	100 (d)
United States	31	3,48	613	L	N	100

Historical trends

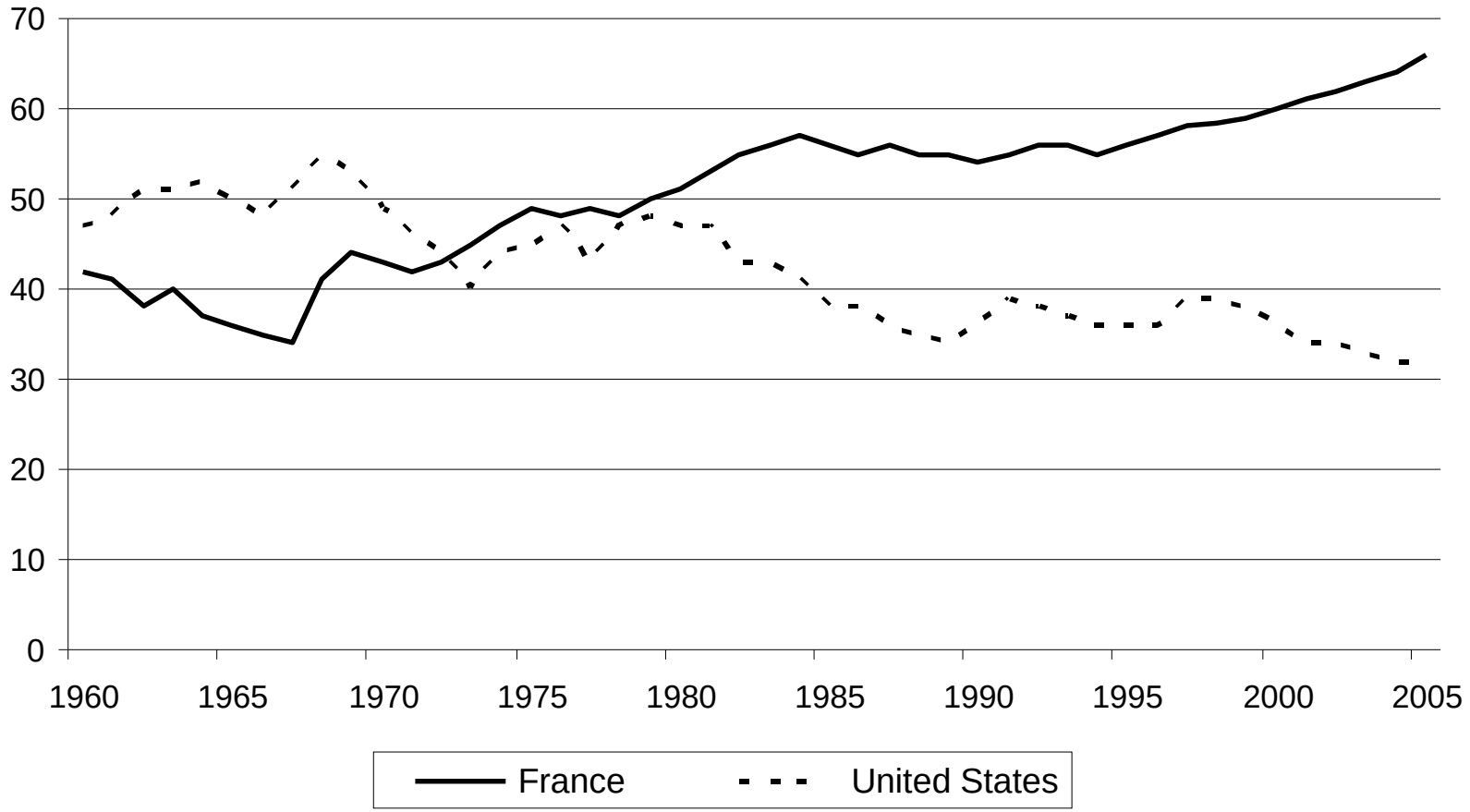


Figure 2.1 Ratio of Minimum to Median Wage
Source: OECD Minimum Wage Database.

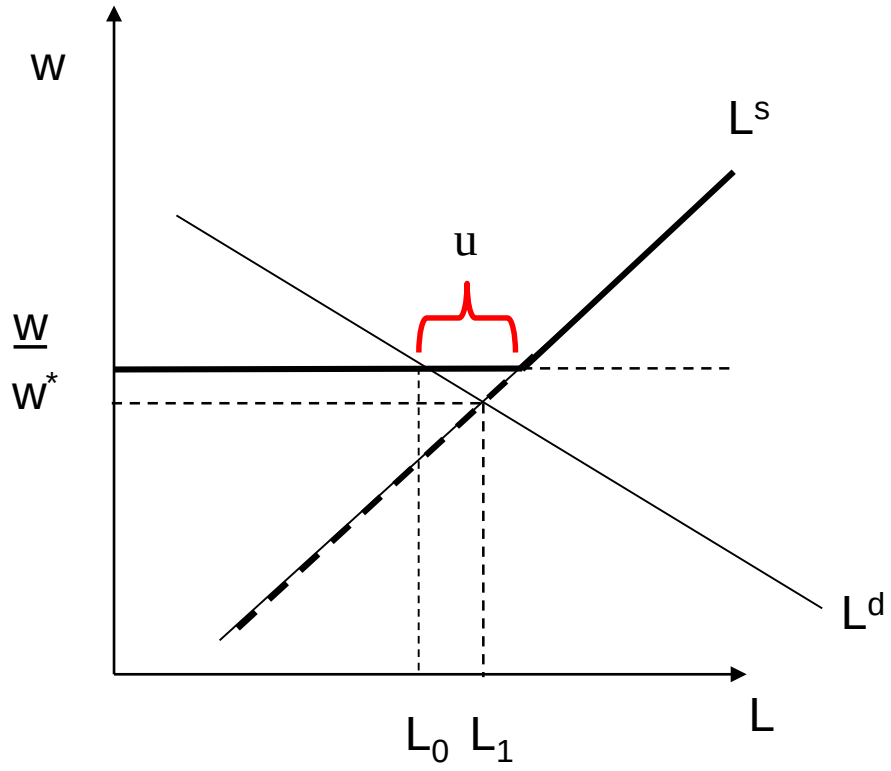
To sum up

- Lower in US, Canada, and Japan than in Europe
- New members of the EU at the low end of the European MW distribution
- Asymmetries related to diverging historical developments (i.e., increasing in Europe, decreasing in the US)

Theory: MW in a competitive market

- **Positive perspective**:
  - MW reduces employment (displaced workers)
  - It increases unemployment (displaced workers plus new unemployed)
  - It increases the equilibrium wage
  - The unemployment cost depends on demand/supply elasticity
- **Normative perspective**:
  - MW favors insiders and hurts outsiders/firms
  - It reduces total surplus (deadweight loss)

Competitive labor market

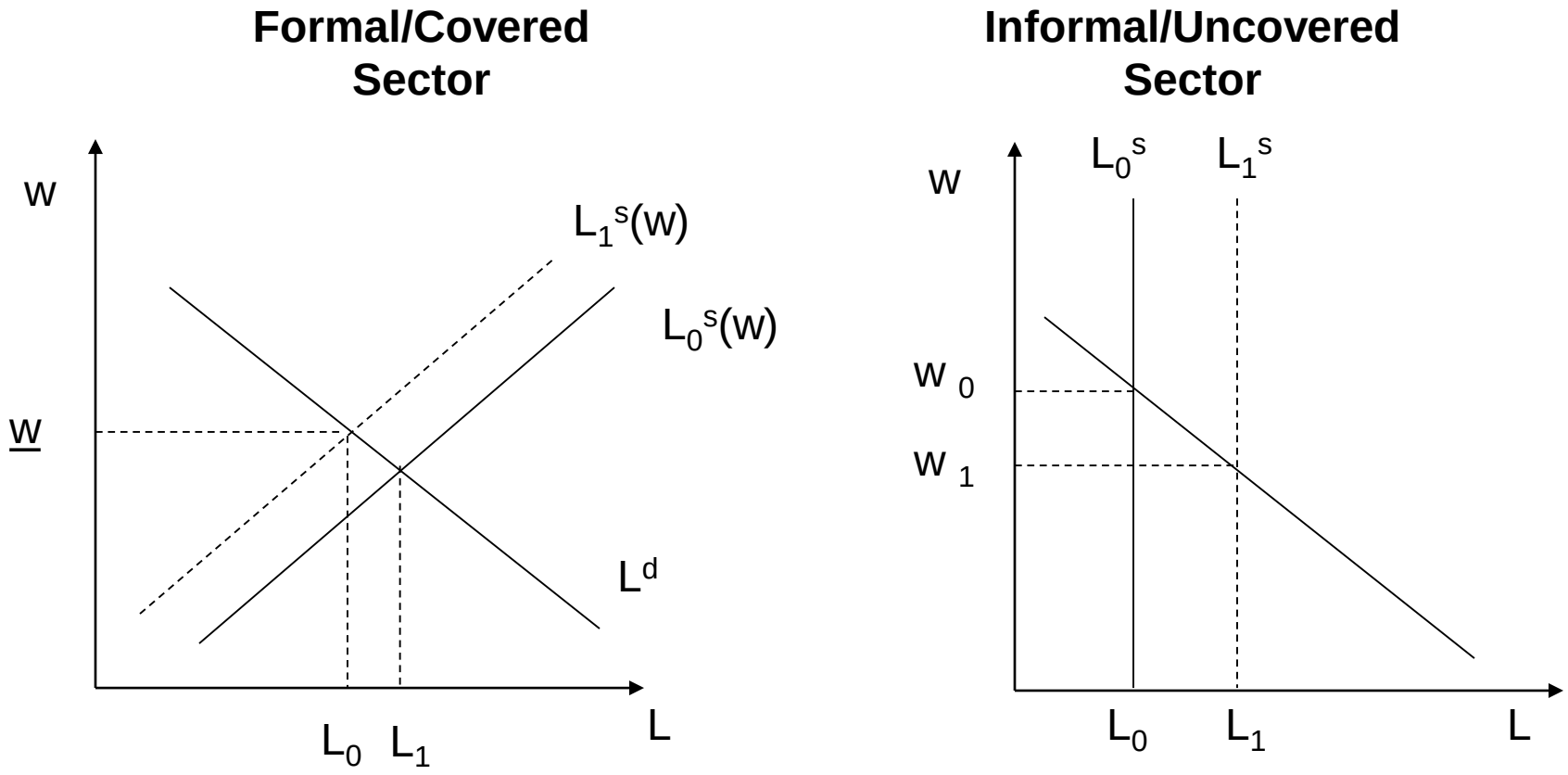


Source: Tito Boeri and Jan van Ours (2008), *The Economics of Imperfect Labor Markets*, Princeton University Press.

Theory: MW in a dual market

- If an informal/uncovered sector exists, displaced workers may decide to go there
  - This would increase labor supply and decrease the wage in the informal sector
  - It would also decrease unemployment in formal sector
  - The overall effect on employment could be zero
- But some workers could decide to move to the formal sector and queue for better paid jobs
  - With complete mobility: $\Pi \times \underline{W} = W_I$
  - Turnover in the formal sector (Π) is a crucial determinant of the decision to move

Dual labor market

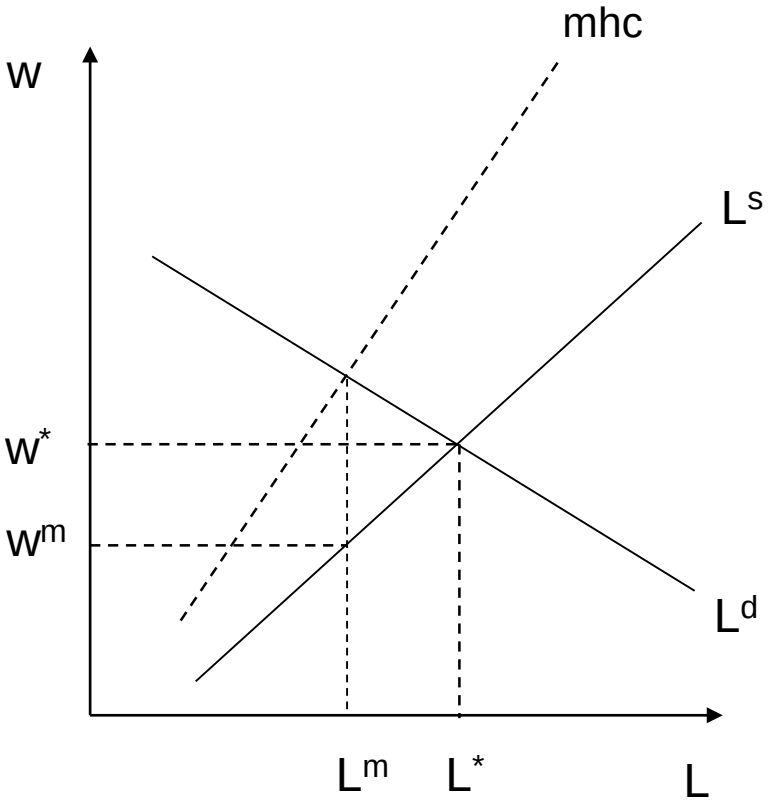


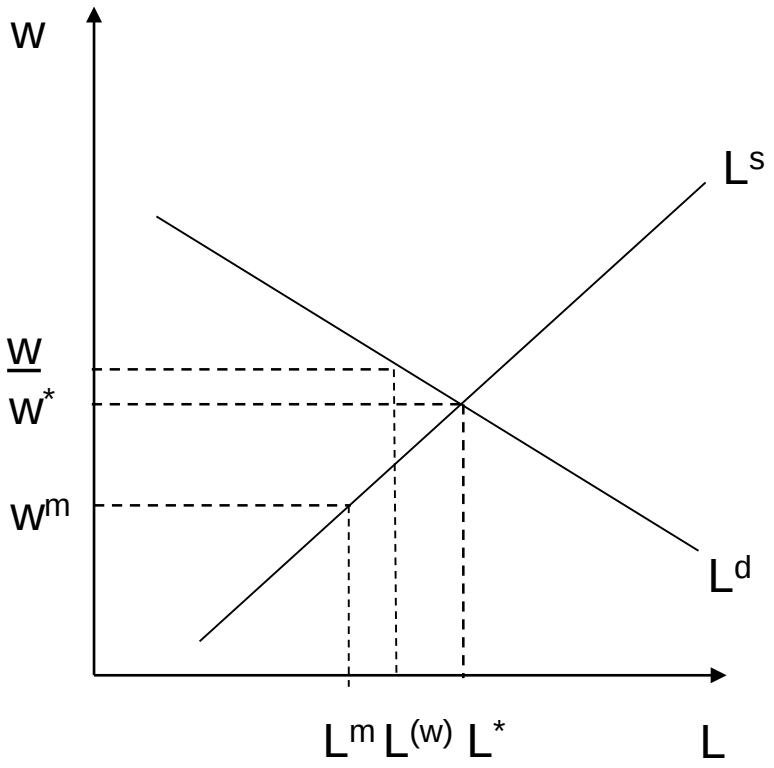
Source: Tito Boeri and Jan van Ours (2008), *The Economics of Imperfect Labor Markets*, Princeton University Press.

Theory: MW in a monopsonistic market

- **Positive perspective**:
  - MW may increase employment (as it flattens the labor supply faced by the monopsonist)
  - But non-monotonic relationship between MW and employment (reverse U-shaped)
  - It increases the equilibrium wage
- **Normative perspective**:
  - MW favors insiders/outsiders and hurts firms
  - As long as it raises employment, it increases total surplus (efficiency gain)

Monopsonistic labor market





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Other cases in which the MW may increase employment/productivity

- *Switching costs*: if relevant, labor supply not completely horizontal also with many firms
- *Efficiency wages*: when imperfect monitoring, wage may act as a discipline device (and, with diseconomies of scale in monitoring, hiring implies wage increase)
- *Productivity effect*: as the productivity of a job depends on the investment in human capital, MW induces workers to acquire education in order not to be crowded out

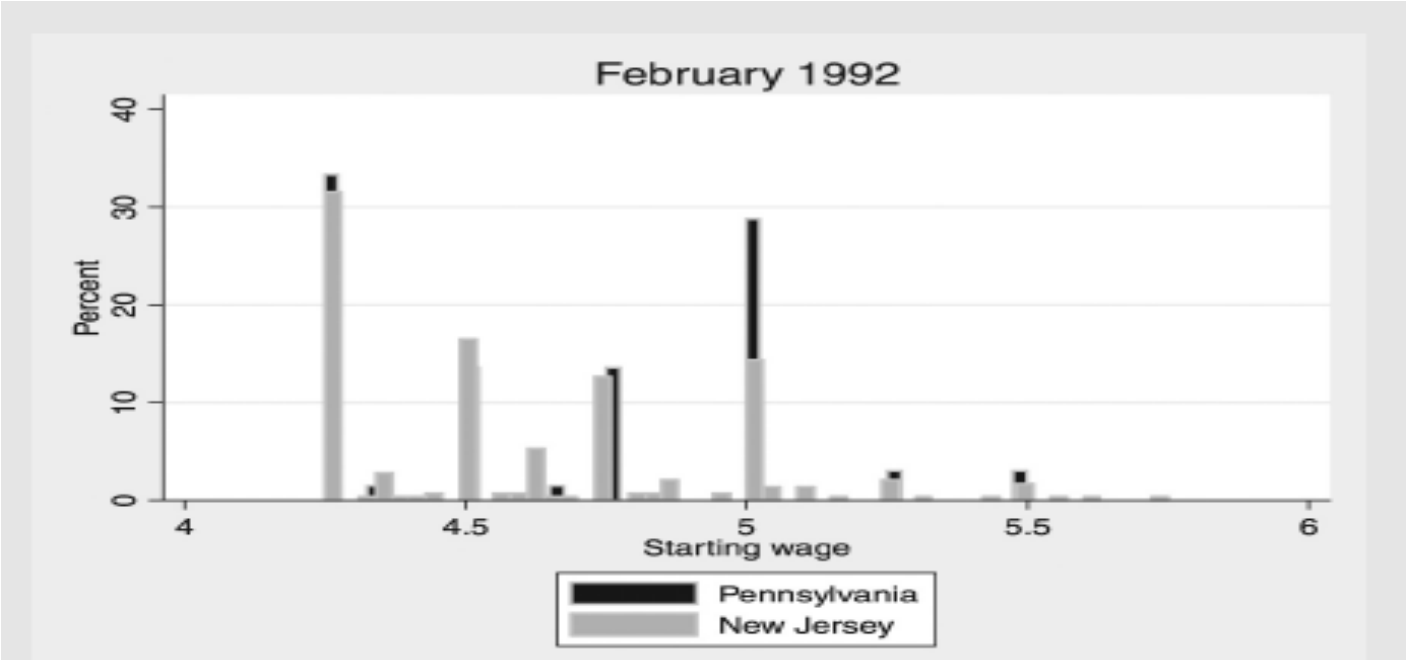
Empirical evidence: studies based on firm-level data

- Focus on *fraction affected* (workers earning wage between old and new MW) or *spikes* (workers earning exactly MW)
- In OECD countries, MW usually found to have negative impact on employment, but magnitude depends on country and/or category. Stronger (negative) effect on youngsters
- In 2001, in US, 10% of 16-19 earned MW (vs. 2% of over 25). For them, elasticity of employment to MW -0.1/-0.2
- Surprisingly positive effect on wage in the informal sector. Explanation: movers to formal sector or *lighthouse effect*?

Studies based on policy experiments (e.g., Card & Krueger 1994)

- Impact of increase in the MW in New Jersey (*treatment group*) in April 1992 from $4.25 to $5.05. In Pennsylvania (*control group*), MW unchanged at the federal level of $4.25
- New Jersey and Pennsylvania are bordering states with very similar economic structures
- Data on employment in 410 fast-food restaurants in the two states in February 1992 (*before* the MW increase) and in November 1992 (*after*)
- They control for store closings, but not openings

Card and Krueger (1994)



Difference-in-Differences estimator

- Assume the employment in state *i* is determined by an equation of this type:

$$L_i = \alpha w_i + X_i \gamma$$

where w_i is the level of the MW and X_i contains all the other variables that affect L_i

- If we have two observations which refer to two dates for the same state:

$$\Delta L_i = L_{i2} - L_{i1} = \alpha(w_{i2} - w_{i1}) + (X_{i2} - X_{i1})\gamma$$

Difference-in-Differences estimator (contd.)

- If we have also data for another State *j* which is identical to *i* in each characteristic except for *w*, which is not changed, so:

$$\Delta Li - \Delta L_j = \alpha(w_{i2} - w_{i1})$$

- If we think that NJ e PA are enough similar, we can obtain an estimation of α simply calculating the difference of the differences
- Crucial assumption: **common trend**

Diff-in-diff results

- Table: average employment per store, full-time equivalent
- Result: the increase of the minimum wage has increased the number of employees
- Explanation: imperfect competition in American fast-food industry or imperfect data/econometric strategy (Neumark & Washer 2000)?

	NJ	PA
Before	20.4	23.3
After	21.0	21.2
Diff	0.6	-2.1
Diff-in-diff	**2.7**	

Policy: why does the MW exist?

1. *Efficiency*: to correct market failures, e.g., deriving from excessive monopsonistic power or asymmetric information
2. *Equity*: to reduce earnings inequality by supporting income of low-earning workers, e.g., low-skilled individuals

Policy issues

- Should the MW be increased or reduced?
  - Difficult fine-tuning
- Does the MW increase or reduce poverty?
  - Trade-off between earnings and unemployment
  - In dual labor market, earnings inequality may rise
  - Problem of *target efficiency* (are all MW earners poor?)