Institutional Reforms in European Labor Market

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Outline

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Motivations

- Huge literature on European type labor market institutions
- Reviewed up to 2000 in previous HLE volumes
- No survey to date on the very many Institutional Reforms taking place especially in Europe
- Reforms are widely used to identify the effects of LM institutions as natural experiments

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This rich empirical literature needs stronger guidance from economic theory.

- Because reforms rarely increase or reduce a one-dimensional institution for everybody as envisaged by models with institutions but create longlasting asymmetries
- Properties of these multi-tier regimes have yet to be fully understood
- Theory useful also in highlighting the relevant institutional interactions and the general equilibrium effects (multi-tier reforms as a device to implement larger reforms)

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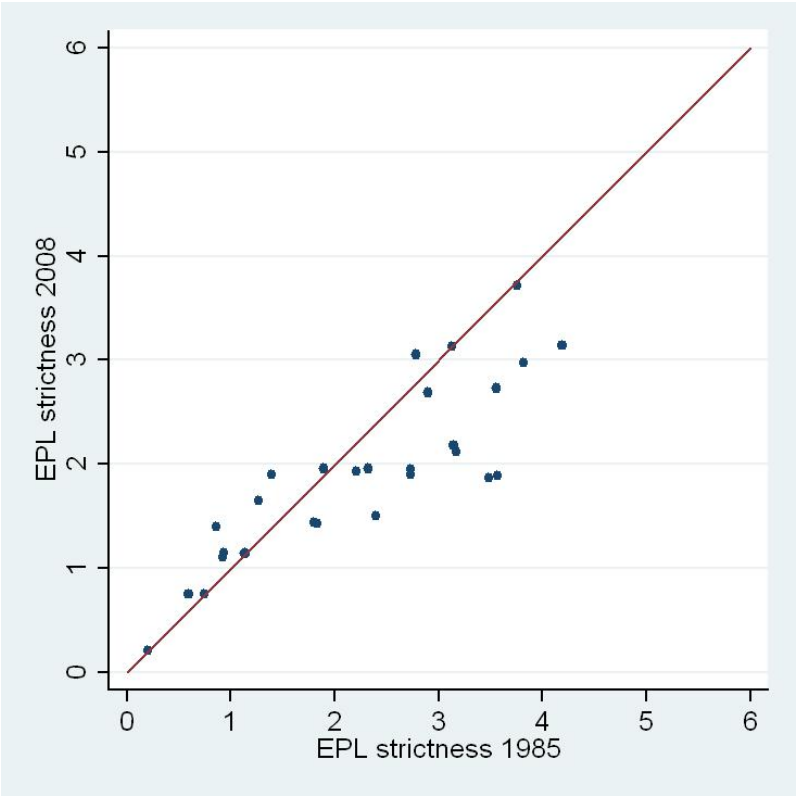
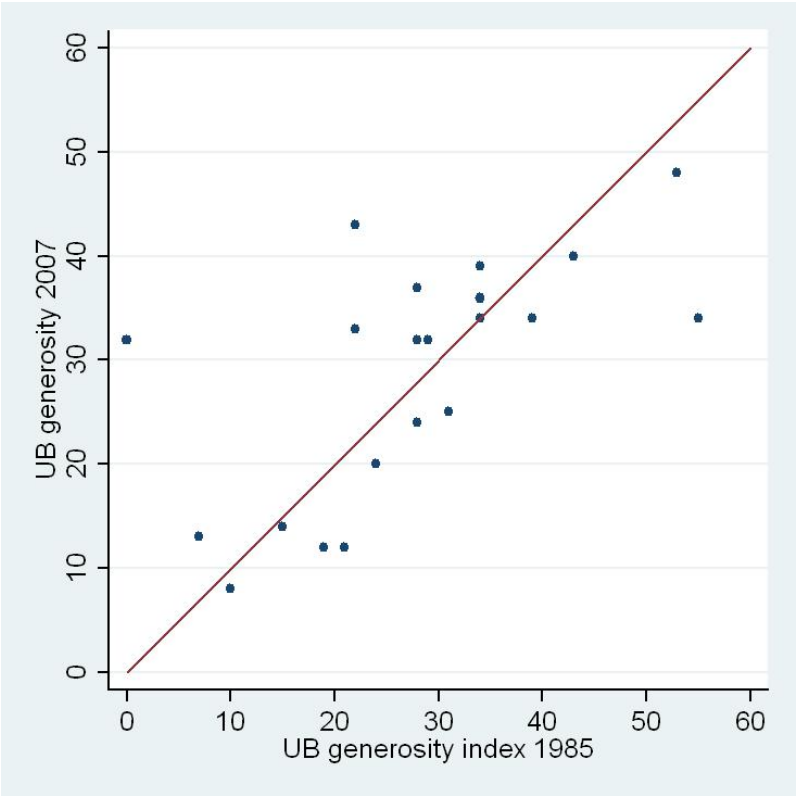
Institutional Activism

Level of Labor Market Institutions in mid 1980s and at the most recent observation available:

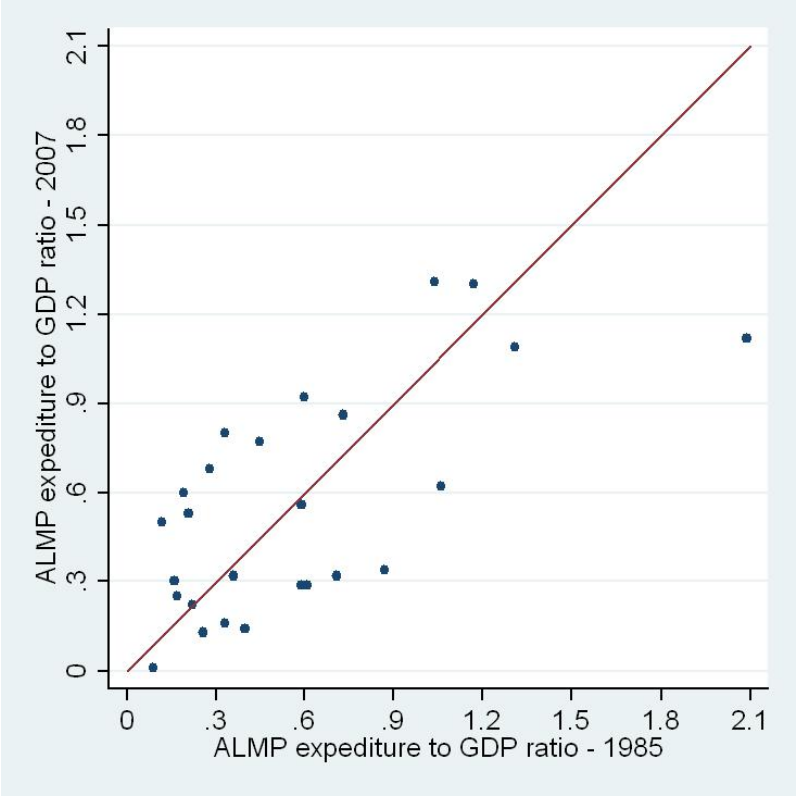


OECD Index of Strictness of EPL

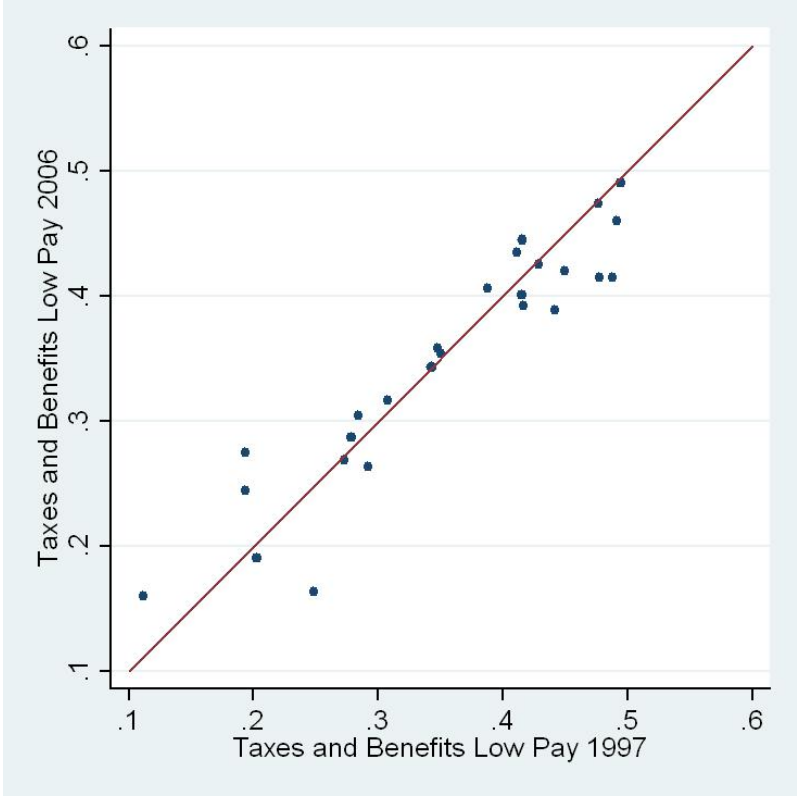


OECD Summary Generosity measure of UB

Institutional Activism



ALMP Expenditure to GDP Ratio (OECD)



Taxes and Benefits low wages (OECD)

Mostly in Europe

	EPL Index				UB Generosity measure			
	European		non-European		European		non-European	
	1985	2008	1985	2008	1985	2007	1985	2007
Mean	2.46	1.99	1.78	1.71	29.81	32.69	19.80	15.80
St. Dev	1.04	0.66	1.29	1.18	14.38	9.53	8.11	6.72
Average% variation	23.59%		17.39%		28.87%		19.91%	

	ALMP/GDP				Low Wages Tax (% points)			
	European		non-European		European		non-European	
	1985	2007	1985	2007	1997	2006	1997	2006
Mean	0.64	0.68	0.42	0.27	40.02	38.55	26.92	28.28
St. Dev	0.53	0.36	0.23	0.23	7.77	8.12	10.91	8.58
Average% Variation	79.36%		56.38%		6.79%		16.26%	

Evolution of Labor Market Institutions in OECD countries

Some Key Definitions

- Labor market institution: a system of laws, norms or conventions resulting from a *collective* choice, and providing constraints or incentives which alter individual choices over labor and pay
- Institutional reform: change in the design of an institution
  - Two-tier (vs. complete) reform: the reform is confined to a subset of the potentially eligibile population (alternatively its complete phasing in involves a very long transitional period). Focus on the scope/coverage.
  - Incremental (vs. discrete) reform: the reform involves a small change in the overall institutional level-indicator. Focus on the size.
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Examples of Two-Tier reforms:

- The battery of reforms of EPL carried out in Italy in the 1997-2003 period expanded the scope of fixed term contracts, introduced Temporary Work Agency, increased the potential duration of fixed-term contracts and introduced new types of atypical contracts leaving regulations on the dismissals of workers with open-ended contracts unchanged.
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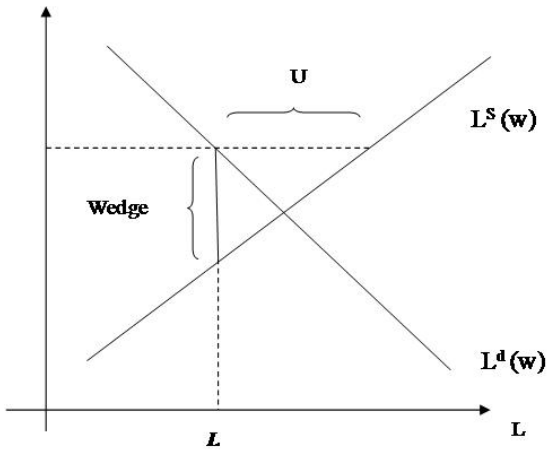
The Taxonomy

Size \ Scope	
Discrete Two-tier	Structural
Incremental Two-tier	Incremental Complete

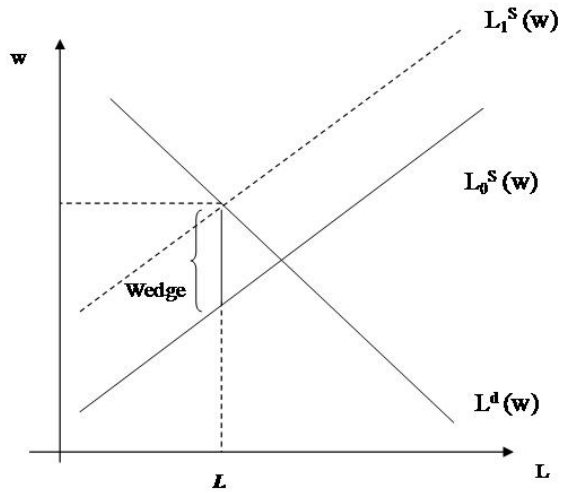
Orientation of Reforms

Every institution creates a wedge between labor's marginal productivity and opportunity cost.

Reforms increase or reduce the wedge



Price-Based Institutions and the Wedge



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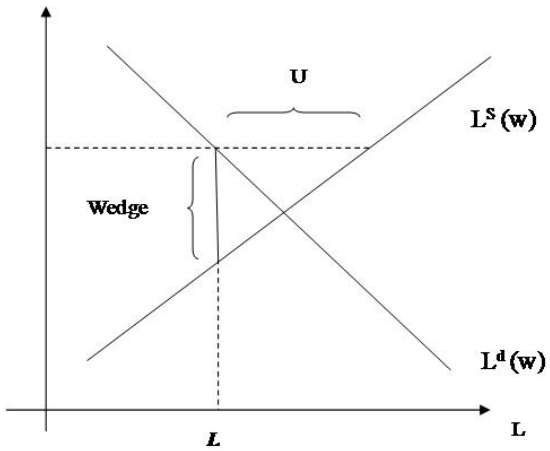

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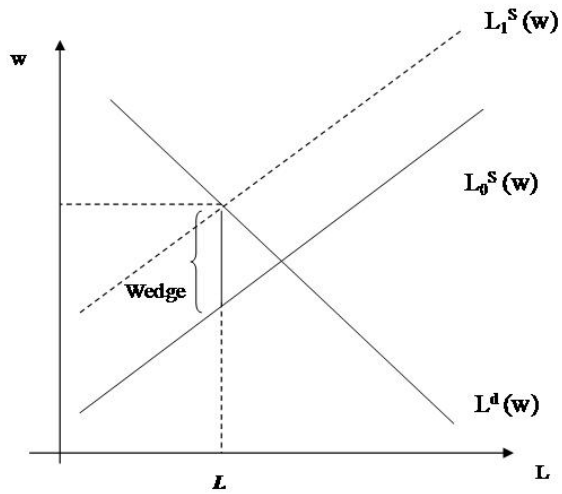

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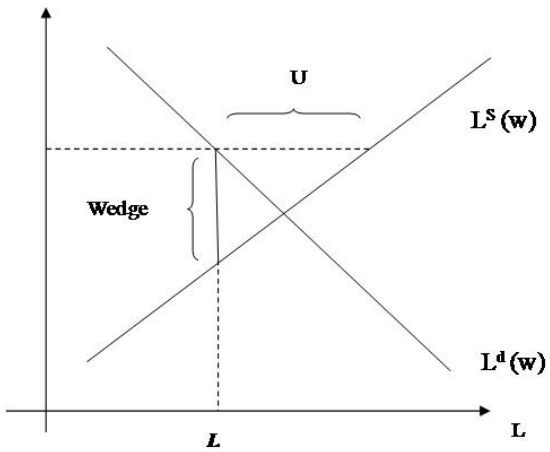

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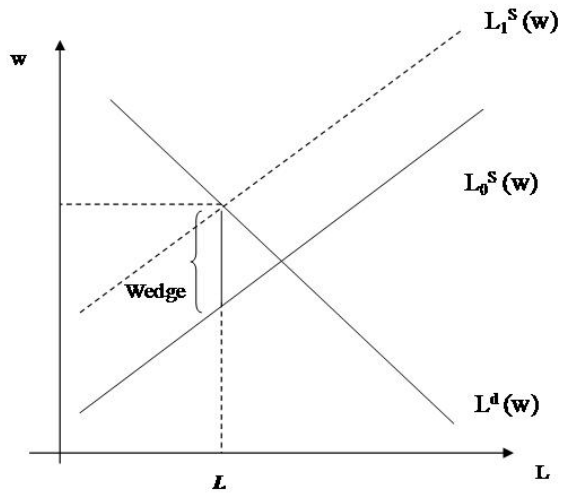

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Tracking Reforms in Europe

The FRDB Social Policy Reform Inventory

- EPL, Employment Protection Legislation
- UB, Unemployment Benefits
- AP, Activation Programmes
- ECI, Employment Conditional Incentives
- ER, Early Retirement plans

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A snapshot from Fondazione Debenedetti database (1):

Spain - EPL database

Year	Month	id	Number	Law	Description	Topic	Target
1980	3	ES077	1	Ley 51/1980, Basic Employment Law (Ley Básica de Empleo)	Regulations governing the contract of employment, making contracts of employment more flexible; permanently established workforce representatives as a way to regulate workers' participation; and consolidated the status of collective agreements, as opposed to Labour Ordinances , as the principal source of industry-wide and occupational provisions.	Trade union rights	employees
			2		Regulation on termination of employment contracts.	Individual dismissals - Procedural obligations	employees
1981		ES078	1	Real Decreto 1362/1981	Regulation of fixed-term contracts	Fixed-term contracts	Fixed-term contracts
1984	8	ES001	1	Ley 32/1984	Restrictions for fixed-term contracts are substantially relaxed. Legal norms that established the circumstances under which a fixed term contract could be stipulated are practically over rided by the principle of promoting employment through the extension of its use. The so called "Contrato temporal de fomento del empleo" (Temporary Employment Promoting Contracts - TEPC) has a maximum duration of 3 years and a minimum of 6 months. The limit to the maximum number of TEPC to be signed is eliminated.	Fixed-term contracts	Fixed-term workers

Tracking Reforms in Europe

A snapshot from Fondazione Debenedetti database (2):

Spain - EPL database

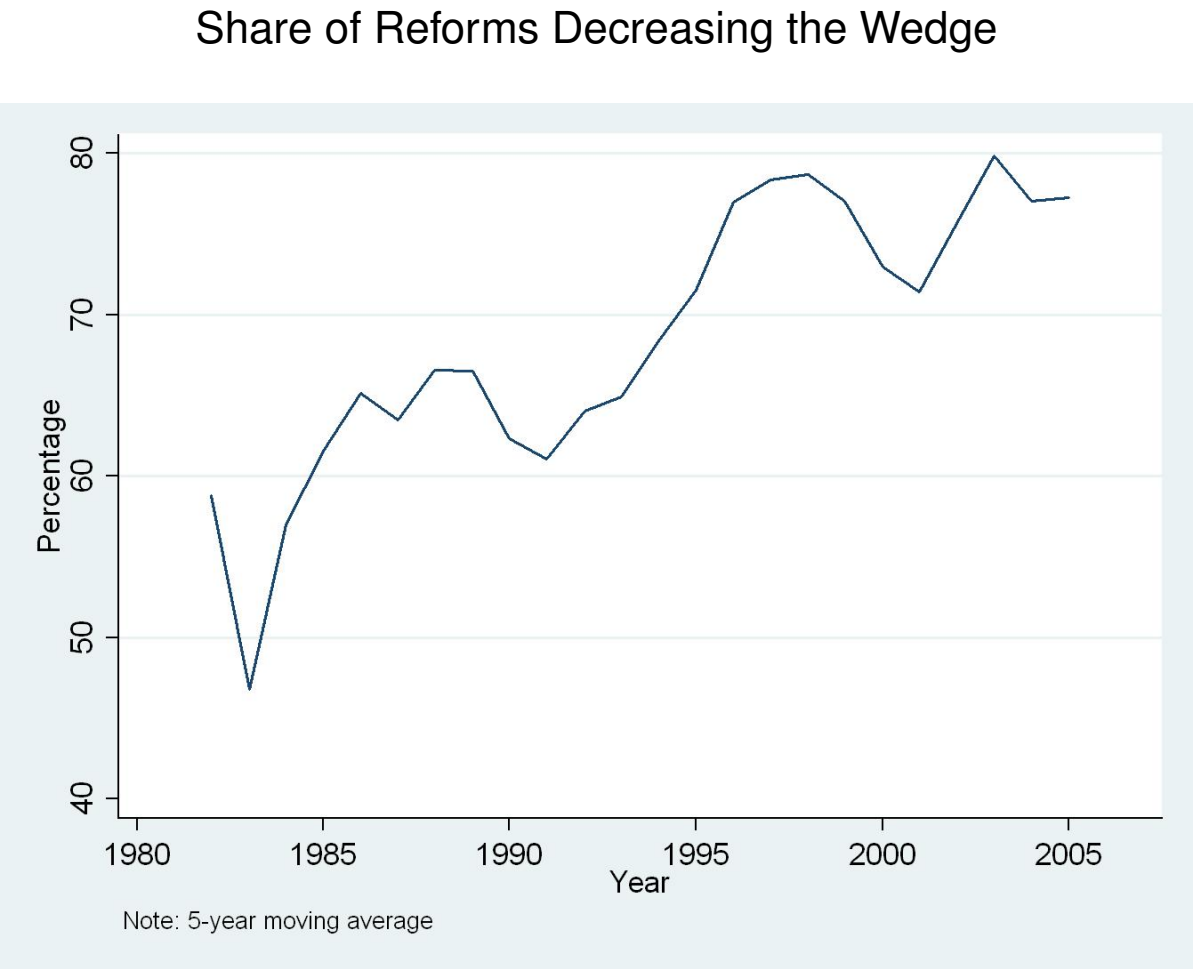
Topic	Target	Sign	Overall sign	Two-Tier vs. Complete	Two-Tier vs. Complete - Overall	incremental vs. discrete	Source	Other policy area?
Trade union rights	employees	increasing	increasing	complete	complete	incr	EMIRE	
Individual dismissals - Procedural obligations	employees	increasing		complete				
Fixed-term contracts	Fixed-term contracts	decreasing	decreasing	two-tier	two-tier	incr	NATLEX	
							IBERLEX - Base de datos -	

Reforms and the Wedge

Reforms by Institution and Direction in 7 European Countries (France, Germany, UK, Spain, Italy, Netherlands, Denmark) in the 1980-2007 period.

Reform area	Decreasing the Wedge	Increasing the Wedge	Total per row	Of which decreasing
EPL	68	44	112	61%
UB	78	61	139	56%
AP	97	7	104	93%
ECI	60	6	66	91%
ER	21	22	43	49%

Reforms Decreasing the Wedge



Packaging of Reforms

Distribution of reforms by number of policy areas involved

Number of Reform Areas involved by Reform	Number of Reforms	Percentage on total
1 area	361	81.86%
2 areas	59	13.38%
3 areas	19	4.31%
4 areas or more	2	0.45%
Total	441	

Two-Tier Reforms

- Two-tier involve less than 50% of potentially eligible population

Reform area	Two-tier	Complete	Total per row	Of which two-tier
EPL	57	55	112	51%
UB	57	82	139	41%
AP	62	42	104	60%
ECI	35	31	66	53%
ER	35	8	43	81%

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- Incremental reforms involve change in relevant institutional indicator of less than 10% of the average period cross-country standard deviation in the indicator

EPL reforms by size and scope as a percentage of the total

Size		Scope	
		Two-tier	Complete
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Incremental	40.18%		48.21%

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Scope

Labor market vs. Financial and Product Market Reforms

Reforms of Product, Financial and Labor Markets

Product Mkt Reforms	Decreasing the Wedge	Increasing the Wedge	Total	Of which Increasing
Discrete	31	0	31	100%
Incremental	8	14	22	57%
Total	39	14	53	74%
Of which discrete	79%	0%	58%	

Financial Mkts Reforms	Decreasing Wedge	Increasing Wedge	Total	Of which Decreasing
Discrete	52	0	52	100%
Incremental	42	0	42	100%
Total	94	0	94	100%
Of which discrete	45%	0%	45%	

Labor Mkt Reforms	Decreasing Wedge	Increasing Wedge	Total	Of which Decreasing
Discrete	16	12	28	57%
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- Sometimes undoing previous reforms: net changes in the values of the indicators conceal a lot of action
- Two-tier reforms majoritarian
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Gross Job Flows in the MP model

Equilibrium job search. Labor market tightness, $\theta \equiv v/u$. Aggregate matching function is $m = m(u, v)$, unconditional probability of a vacancy to match with an unemployed worker is $q = \frac{m(u,v)}{v} = m(\theta, 1)$, with $q'(\theta) < 0, q''(\theta) > 0$, and $\lim_{\theta \longrightarrow 0} q(\theta) = \infty$, the probability of an unemployed worker meeting a vacancy is $\frac{m(u,v)}{u} = \frac{\theta m(u,v)}{v} = \theta q(\theta)$.

Unemployment

- Endogenous job destruction.
- Match productivity hit by shocks at frequency λ (Random draw from $F()$)
- If it falls below an (endogenously determined) reservation productivity level R, the job is destroyed.
- The evolution of unemployment is governed by

$$\Delta u = \lambda F(R)(1-u) - \theta q(\theta) u \tag{1}$$

where the constant labor force is normalized to one, so that $(1-u)$ denotes employment.

- Equating (1) to zero and solving for u obtains the steady state u:

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Introducing Institutions

Four types of Institutions:

1. an exogenous firing tax T (not transfer) levied on termination of job-worker matches
2. an unemployment benefit $b = \rho\bar{w}$ offered as a replacement of the average wage, $\bar{w}$, at the rate $0 < \rho < 1$ throughout the entire unemployment spell (ρ measures the generosity of unemployment benefits)
3. an employment subsidy (or tax credit), $e < b$ also provided on a flow basis at continuing jobs.
4. a hiring-recruitment subsidy, $h < c$, reducing the flow costs of unfilled vacancies, c

Job creation and destruction margins are affected by these institutions either directly and indirectly, that is, via their effects on wages-wedges. Govt budget constraint not considered.

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3. an employment subsidy (or tax credit), $e < b$ also provided on a flow basis at continuing jobs.
4. a hiring-recruitment subsidy, $h < c$, reducing the flow costs of unfilled vacancies, c

Job creation and destruction margins are affected by these institutions either directly and indirectly, that is, via their effects on wages-wedges. Govt budget constraint not considered.

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Institutions in Partial Equilibrium

Wages set according to a bilateral bargaining process between each worker and each employer. The institution-free and match-specific wage obeys the Nash bargaining rule:

$$w(x) = \beta(x + c\theta)$$

where $0 \leq \beta < 1$ measures the relative bargaining strength of workers vis-a-vis employers. Size of the wedge related to match frictions. Sharing of rents to bargaining power.

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Institutions and the Wedge

Introducing now the three sets of institutions described above and solving again the Nash bargaining problem we obtain the institution-weighted wage equation:

$$w(x) = (1-\beta)(\rho w - e) + \beta\left[x + (c-h)\theta + rT\right]$$

Showing how institutions affect the size of the wedge and the way in which rents are split between workers and firms

- When $\beta = 0$, wages equal the reservation wage of the unemployed net of employment subsidy
- When instead $\beta = 1$, the workers will appropriate the entire match surplus.(Labor market shuts down; we need to impose $\beta < 1$)

Wages increasing in UB generosity and EPL strictness. Decreasing in ECI and AP. Notice that the effects of θ on w interact with institution hiring subsidy.

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General Equilibrium Effects of Complete Reforms

Allowing macrovariables to vary (totally differentiate the two equilibrium gross job creation and gross job destruction conditions, implicitly providing the equilibrium values θ^* and R^*).

Comparative Statics Results of Complete Reforms

Effect of an increase in $\Longrightarrow$ / *on* $\Downarrow$	ρ	T	e	h
R^*	+	−	−	+
θ^*	−	−	+	+
u^*	+	?	−	?
Probability of job loss	+	−	−	+
Job finding rate	−	−	+	+
Average wage	+	?	?	?

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R^*	$+$	$-$	$-$	$+$
θ^*	$-$	$-$	$+$	$+$
u^*	$+$	?	$-$	?
Probability of job loss	$+$	$-$	$-$	$+$
Job finding rate	$-$	$-$	$+$	$+$
Average wage	$+$	?	?	?

Economics behind these results

An increase in the replacement rate offered by unemployment benefits moves up the reservation productivity at which matches are dissolved by increasing the outside option of workers. The new equilibrium features a higher job destruction *rate* $\lambda F(R^*)$.The higher outside option of workers also positively affects δ the average wage in continuing jobs (second round effect on UB).

As gross job destruction increases, the equilibrium unemployment rate unambiguously increases, bringing down the equilibrium level of market tightness, θ^*

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An increase in firing taxes reduces the gross job destruction rate. Also job creation declines. Ambiguous effect on unemployment.

An increase in employment subsidies reduces R^* and increases job creation. Ambiguous effects on average wages as market tightness increases but decline in average productivity. Unemployment falls.

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Two-tier Reforms in the MP model

A two-tier reform of EPL reduces firing taxes for entry jobs ($T_0 = 0 < T$), while leaving employment protection unaltered for continuing jobs.

New jobs last until they are hit by a productivity shock, occurring, as for the other types of jobs, at Poisson frequency λ. If the new realization is below a reservation productivity specific to entry jobs, R_0 , the match is dissolved and ends with a flow into unemployment. If instead the new productivity realization is above R_0 , jobs are costlessy converted into permanent contracts, covered by the standard firing taxes, T

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The expected duration of a fixed-term job is $\frac{1}{\lambda}$ whilst the rate at which these jobs are converted into permanent jobs is $\lambda[1 - F(R_0)]$ where R_0 is endogenously determined at the equilibrium

Insofar as firing taxes are higher for long-tenured than for entry jobs (a standard feature of employment protection in all countries), the reservation productivity at entry jobs will be higher than the reservation productivity at continuing jobs, that is, $R_0 > R$.

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Insider and Outsider Wages

We now have two job destruction conditions implicitly defining the two thresholds (R and R_0), and two wage equations. The first wage equation determines workers pay in entry jobs or the wage of *outsiders*, denoted by the subscript 0.

$$w_0 = (1-\beta)\left(\rho_0 \bar{w} - e_0\right) + \beta(1 + (c-h)\theta - \lambda T)$$

The second applies to continuing jobs and provides *insider* wages at all productivity levels above the reservation productivity level, R

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Even for lower x, $w(x) > w_0$ in this setting. Continuing jobs have lower average productivity, but higher average wages than entry jobs.

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Job flows and two-tier reforms

The job creation and job destruction condition for the two-tier regimes can be derived by imposing that $V = 0$, $J(R_0) = 0$ and $J(R) = -T$ and using the Nash bargaining rule. This yields the job creation condition

$$\frac{(1-\beta)(e_0 - R_0)}{r+\lambda} - \frac{\beta}{r+\lambda}(1-\lambda T) = \frac{c-h}{q(\theta)}$$

The job destruction condition for temporary jobs

$$R_0 + \frac{\lambda}{r+\lambda}\int_{R_0}^{1}(z-R_0)dF(z) + e_0 - \lambda T = \rho_0 w + \frac{\beta(c-h)\theta}{1-\beta}$$

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Job flows and two-tier reforms

Comparative Statics of Two-Tier Reforms

Effect of an increase in $\Longrightarrow$	ρ	T	e_0
on $\Downarrow$			
R_o^*	0	$+$	$+$
R^*	$+$	$-$	0
θ^*	0	$+$	$+$
u^*	$+$	$-?$	$-?$
Job loss rate (from entry jobs)	0	$+$	$+$
Job loss rate (from continuing jobs)	$+$	$-$	0
Job finding rate	0	$+$	$+$
Tenure (wage premium)	$+$	$+$	$+$
Conversion temporary-permanent	0	$-$	$-$
Entry jobs as % of total employment	$+$	$+$	$+$

Comparing Two-tier and Complete Reforms

Comparative Statics of Reforms	**Two-tier**			**Complete**			
Effect of an increase in $\Longrightarrow$	ρ	T	e_0	ρ	T	e	h
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R_o^*	0	$+$	$+$				
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Comparing Two-tier and Complete Reforms

Key differences with respect to complete reforms:

- $\rho \Uparrow$ accompanied by reduction of ρ_0 does not necessarily increase u (important in pathways to flexicurity)
- $T \Uparrow$ increases turnover
- $\rho \Uparrow$ may increase job destruction (for entry jobs)
- Less ambiguity in signing effects of reforms on u.

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Complete Reforms with a long phasing-in

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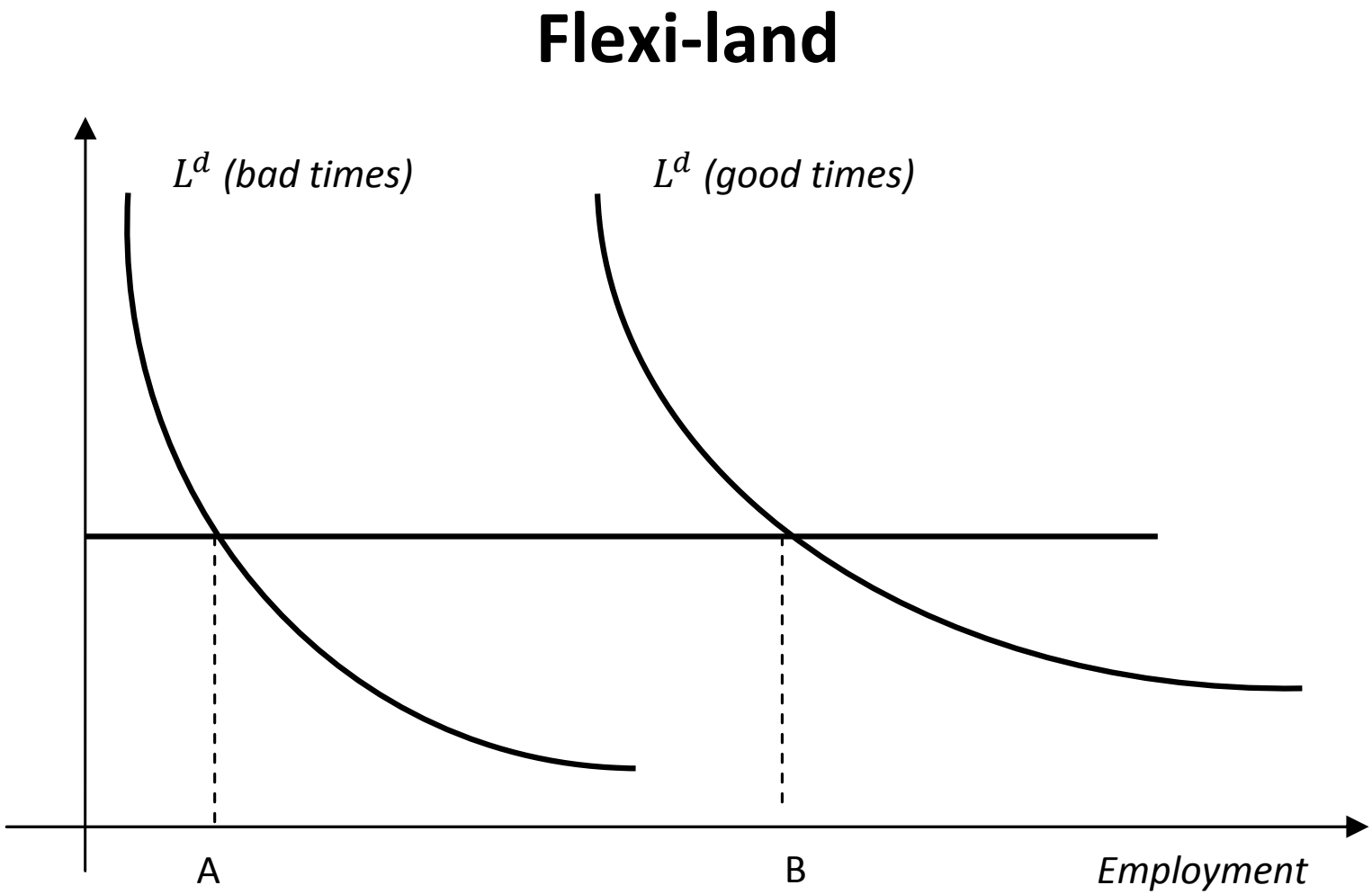
Example of two-tier reforms of EpI (Boeri and Garibaldi, 2007)



Pre-Reform EPL Strictness and Post-Reform Temporary Employment

Country	Time Period	EPL strictness (Overall Index)	EPL Strictness (Temporary Empl.)	Temporary Emp. Growth ΔETt (000)	Contribution of Temporary Jobs $\Delta ETt / E_0$
Belgium	1987-1996	3.15	4.63	22.7	0.66
	1997-2005			135.3	3.54
	Δ			112.6	2.89
Italy	1987-1997	3.54	5.31	402.9	0.02
	1998-2005			823.2	4.11
	Δ			420.3	4.09
The Netherlands	1987-1995	2.73	2.38	340.1	5.79
	1996-2005			288.8	3.80
	Δ			-51.3	-2
Portugal	1987-1996	3.95	3.34	-168.9	-4.10
	1997-2005			431.8	10.09
	Δ			600.6	14.19
Spain	1981-1984	3.9	3.75	0	0
	1985-1995			3377.1	28.5
	Δ			3377.1	28.5
Sweden	1987-1996	3.08	3.28	-138.9	-3.22
	1997-2005			189.2	4.82
	Δ			328.1	8.04

What do we need to know about the reforms: a checklist

- What are the relevant institutional interactions involved by the reform?
- Are the control and the treatment groups initially homogenous also in terms of these additional institutions?
- Is the reform packaged with other reforms? If so, how can they affect the outcomes of the reform?
- How large is the reform with respect to the initial level of the institution? How tightly is the regulation enforced to start with?
- How large is the segment not involved by the reform?
- Does the reform have relevant spillovers on the unreformed segment(s)?
- How many different regimes does it involve?
- Is the reform large enough to have macro significance?

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- Are the control and the treatment groups initially homogenous also in terms of these additional institutions?
- Is the reform packaged with other reforms? If so, how can they affect the outcomes of the reform?
- How large is the reform with respect to the initial level of the institution? How tightly is the regulation enforced to start with?
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Outline

Review

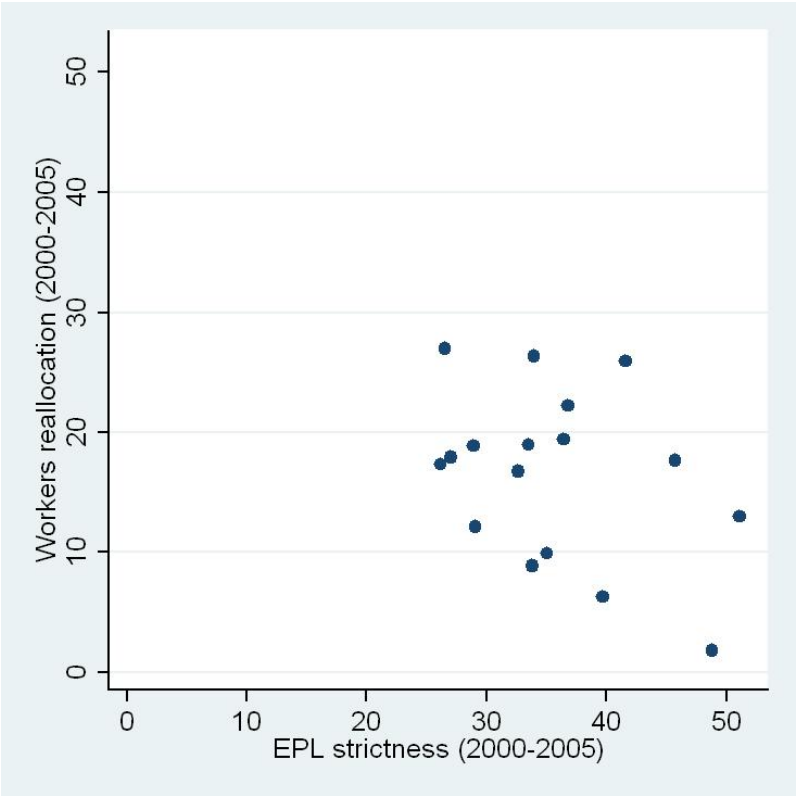
Literature based on cross-country variation in the OECD EPL strictness indicator: why there is not less employment turnover with strict EPL?

	STOCKS		FLOWS	
Author(s)	Employment	Unemployment	Employment	Unemployment
Emerson (1988)	?	?	–	–
Lazear (1990)	–	+		
Bertola (1990)	?	?	?	–
Grubb & Wells (1993)	–			
Garibaldi, Koening & Pissarides (1994)	?	?	?	–
Addison & Grosso (1996)	?	?		
Jackman, Layard & Nickell (1996)	?	?	–	–
Gregg & Manning (1997)	?	?		–
Boeri (1999)	?	?	+	–
Di Tella & McCulloch (1998)	–	+		
OECD (1998)	?	?	+	–
Kugler & StPaul (2000)			+	–
Belot & Van Ours (2001)		–		
Nickell, Nunziata & Ochel (2005)	?	?		
Garibaldi & Violante (2005)	+	-		

The Effects of Employment Protection on Labor Market: Empirical Results

It does not seem to be a measurement problem

Workers Reallocation and Epl strictness (2000-2005)
Revised series - OECD(2009)



Is it Two-tier Reforms?

Problems

Identification of causal effects in a differences-in-differences framework requires that the two segments of the labor force taken as the "treatment" ($s = 1$) the "control" ($s = 0$) groups would have had the same trends in the outcome variable, had the reform not occurred. Assuming for simplicity that EPL reform simply adds a constant δ to the conditional mean of some outcome variable (e.g., employment, N), i.e.:

$$N_{it} = \beta_t + \gamma_i + \delta s_i + \varepsilon_i$$

where i denotes the labor market segment (temporary vs permanent contracts), t is time, β is a common time trend, γ is a segment-specific fixed effect, s is a dummy variable taking value one after the reform limited to the treatment group.

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In this case differences in differences identify δ as follows:

$$\{E[N_{it} \mid s_i = 1, t = 1] - E[N_{it} \mid s_i = 1, t = 0]\} + \\ -\{E[N_{it} \mid s_i = 0, t = 1] - E[N_{it} \mid s_i = 0, t = 0]\} = \delta \quad (2)$$

If the reform of EPL also affects the "control" group, by adding δ_2 to its conditional mean, the first difference in (2) identifies $\delta_1 + \beta + \gamma$ while the second difference $\delta_2 + \beta + \gamma$. And double diff obtains differential effect $\delta_1 - \delta_2$.

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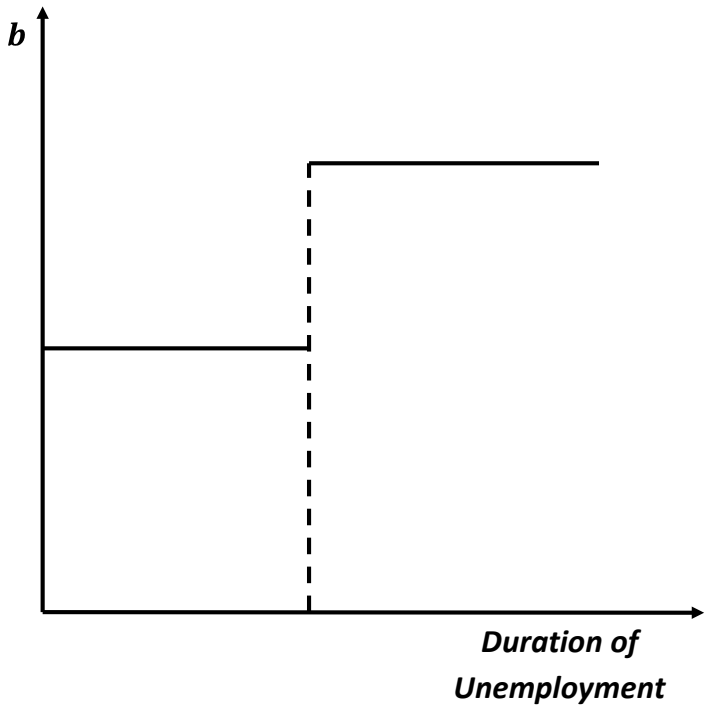
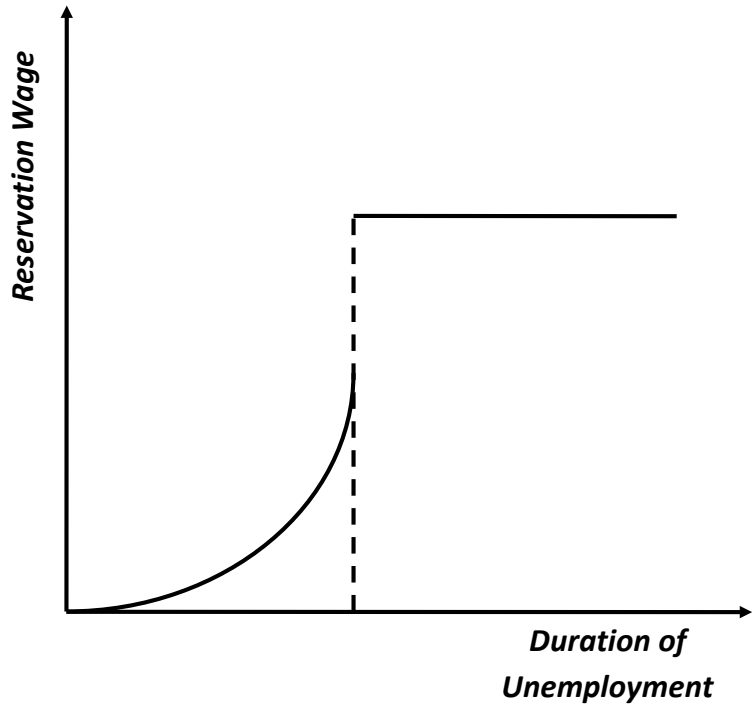
Problems: Neglected Interactions with other institutions

Example of Social Assistance





Employment Conditional Incentives

- Narrow targets. Goals: not only employment, but also poverty reduction.
- Literature mostly on US and UK.
- A few randomized experiments (mainly in Us and Canada)
- Partial equilibrium analysis.
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Final Remarks

Theoretical literature on labor market institutions evaluates complete reforms, but the bulk of reforms involves the introduction of two-tier regimes. Empirical research draws mainly on these two-tier reforms, but has received little theoretical guidance. Extensions of a general equilibrium model of the LM suggest that two-tier reforms are different than complete reforms, have important reallocative effects and interactions with other institutions. Rarely these effects and interactions are taken into account in micro evaluation studies. More theoretical work on two-tier reforms is warranted. Better descriptions of reforms in applied work (see the checklist) would help the development of a theory of labor market reforms.