A Dynamic General Equilibrium Model for Labour Market Reforms across Euro Area Countries

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Overview of the paper

- Labour (and product) market reforms across EA countries
  - cross-country differentials
- Quantitative assessment of structural reform policies
  - adjustment to shocks
- Evaluation of the *Lisbon Strategy for growth and jobs*

Labour Markets and the Euro Area Economy

- Are cross-country differentials related to labour market dynamics?

Table: Cross-country differentials, sample 1999 - 2008

Country	Inflation Rate	Real GDP Growth	Unit Labour Costs	Compensation per Employee	Avg. Lab. Producticity
Euro Area	2.2	2.2	1.8	3.2	1.4
Germany	1.7	1.6	0.3	2.2	1.9
Spain	3.2	3.6	3.3	3.9	0.5
France	1.9	2.2	2.2	3.5	1.2
Italy	2.4	1.4	3.0	3.6	0.5

Note: Annual growth rates over the period

Source: ECB Monthly Bulletin (2007, 2008)

- How can EA countries adjust to country-specific imbalances?

The Role of Labour Market Reforms

- Short-run dynamics: *resilience* to shocks and *asymmetric* effects
- Long-run patterns: labour market *institutions* and potential *growth*
- Enhancing the model's transmission mechanism

Why Labour Market Institutions

- Labour market institutions...
  - Benefits' generosity and duration
  - Employment protection legislation
  - Wage setting and Bargaining Power
  - Labour Taxes
- ...and their interrelations with shocks
  - productivity slowdown, commodity prices, tight money
  - industry reallocation, open-economy shocks

Some References:

Bentolila and Bertola ('90), Layard and Nickell ('99), Ljungqvist and Sargent ('98,'04) Mortensen and Pissarides ('99),

Blanchard and Wolfers ('00), Prescott ('04), Alesina et al ('05)

Modelling Strategy

- Setup a DSGE model following Merz '95, Andolfatto '96, SW '03, CEE '05
  - optimal consumption/saving decisions
  - capital accumulation and investment adj costs
  - non-competitive firms and price rigidities
  - matching and search frictions - exogenous destruction
  - featuring EPL specified as firing costs
  - wages rigidity follows Hall '05

Model's Features

- Job creation with EPL

$$\frac{\kappa}{q(\theta_t)} = \beta E_t \left[\lambda_{y,t+1} f_2(k_{t+1}, n_t) - w_{t+1} - \rho \Gamma_1 (n_t) + (1-\rho) \frac{\kappa}{q(\theta_{t+1})} \right]$$

- and the wage rule now reads

$$w_t = \eta \left(\lambda_{y,t} f_2 (k_t, n_{t-1}) - \Gamma_1 (n_{t-1}) \rho \right) + (1-\eta) \left[b + \tilde{U}_L + \frac{\eta}{1-\eta} \kappa \theta_t \right]$$

Model Implications

- See how labour market structural parameters affect equilibrium
- Labour market policy trade-off: *Flexicurity*
    - Two alternative insurance schemes: UBs vs EPL
    - *Flexicurity* (high UBs, low EPL) enhances labour market adjustments
- The *Labour Share* is a function of labour market policy parameters

Calibration of the Labour Market

Table: EA-4 Calibration and Steady-state Unemployment

Structural Parameters	DE	ES	FR	IT
κ	.1000	.1500	.1300	.1300
η	.5500	.5000	.5500	.6000
ρ	.0410	.0750	.0620	.0360
r	.7200	.7040	.6680	.4000
Γ	.4000	.2000	.4500	.7000
Labour Market Variables				
u	8.70	10.20	9.88	8.43

Model's sensitivity

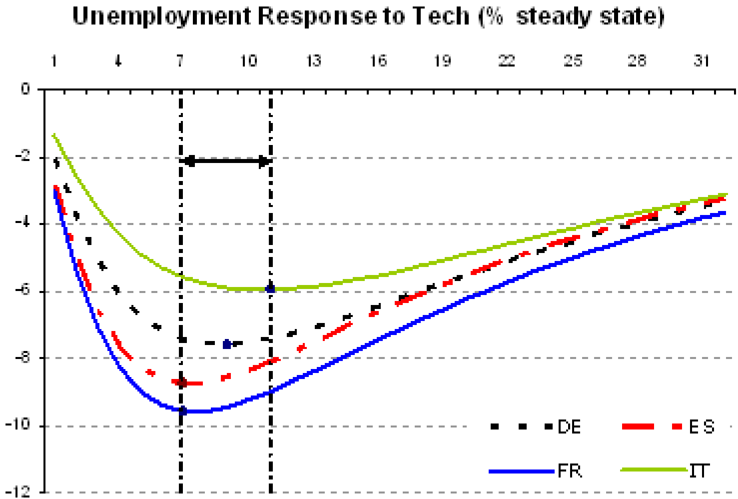
Table: Unemployment Rate and Benefits

EPL \ Benefits	$r = 0.60$	$r = 0.54$	Δu
Benchmark EPL	9.50	7.92	1.58
No EPL	7.39	6.35	1.04

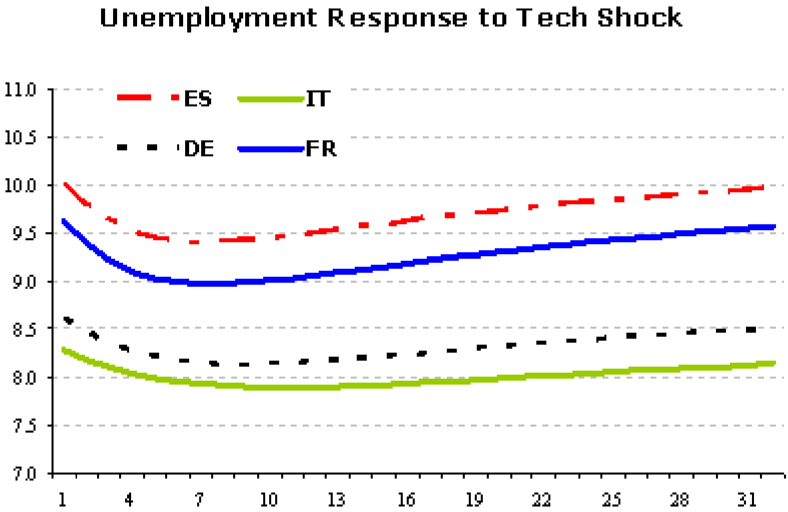
Note: The Benchmark EPL case is calibrated such that expected firing costs are four percent of the quarterly wage bill; r is decreased by ten percent.

Duval and Bassanini (2006) - panel on 21 OECD countries - $\Delta u \mid \Delta r = 1.2$

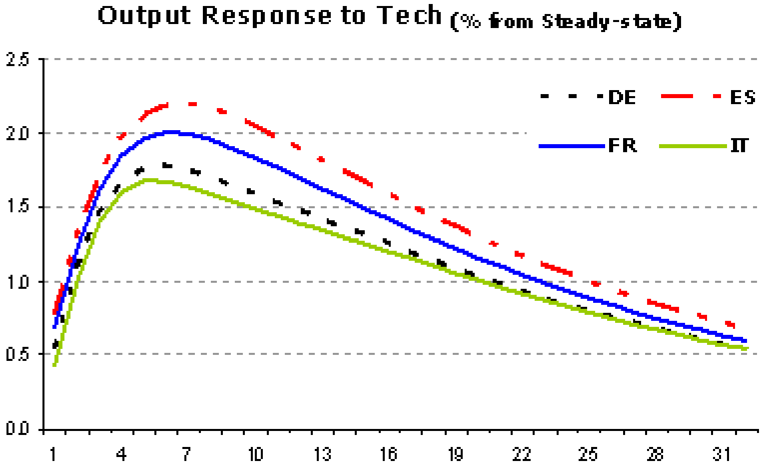
A View on the dynamics



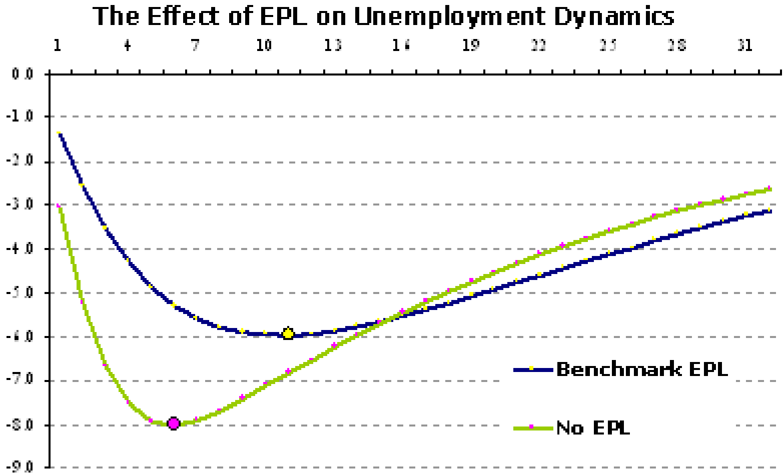
...and on the differentials



The effect on output



Labour Market Institutions and Shocks



Interactions of Labour Market Institutions

- Can the interrelation of labour market institutions explain cross-country differentials?

Table: Complementarity btw EPL and Bargaining power

	$\eta = 0.4$	$\eta = 0.5$
Benchmark EPL	6.45	9.50
No EPL	4.91	7.39
$\Delta u \mid \Gamma$	1.54	2.12

Summing Up

- The model aims at embedding labour market institutions and
- quantifying the effects of labour market reforms

- The sensitivity analysis provides a preliminary robustness check for the model's use as a tool for policy evaluation

- Focus on the importance of the interrelation
  - between labour market institutions and shocks,and
  - among different labour market institutions