Catastrophic Job Destruction
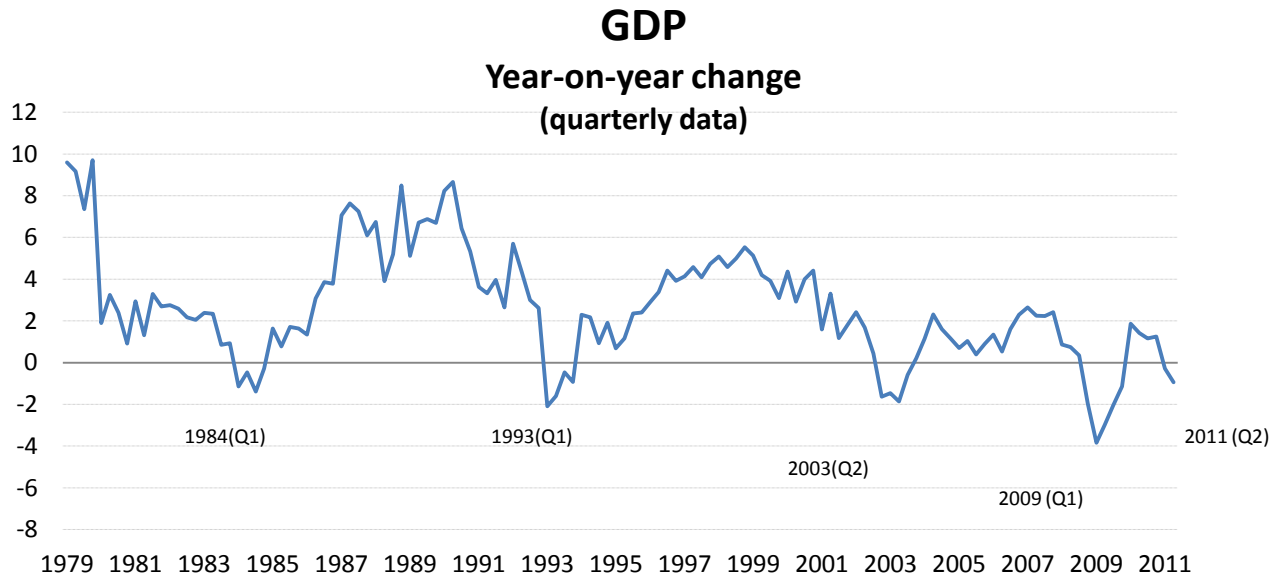
Anabela Carneiro, Pedro Portugal and José Varejão
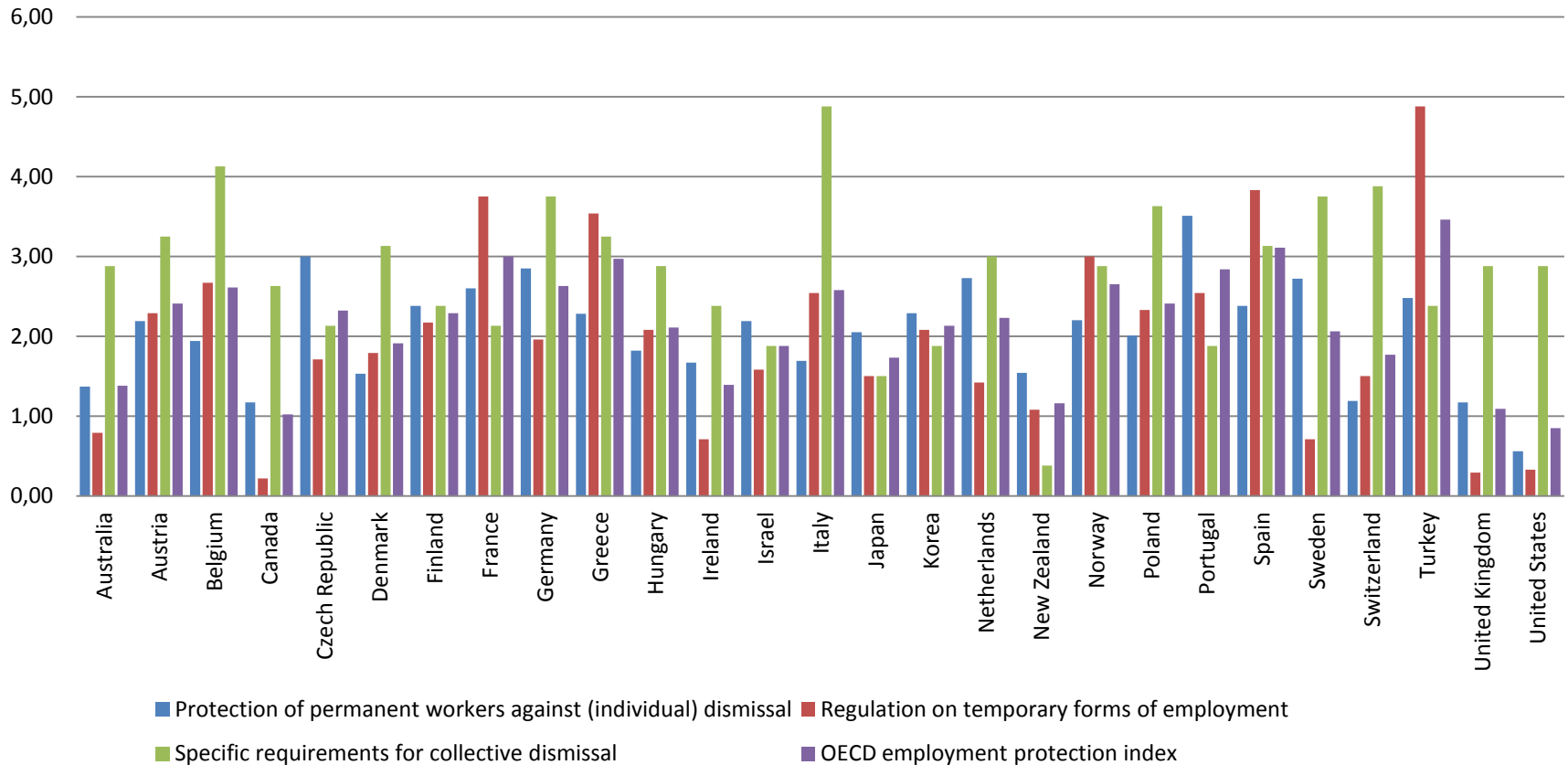
Background

- The global crisis hits an economy with problems of its own:
  - "Productivity growth is anemic. Growth is very low. The budget deficit is large. The current account deficit is very large." (Blanchard, 2005)

GDP
Year-on-year change
(quarterly data)

Background

- Ill-designed labour market institutions
  - Two reforms since the early 2000s
    - EPL strictness reduced – specially in terms of individual dismissals of permanent work and requirements for collective dismissals
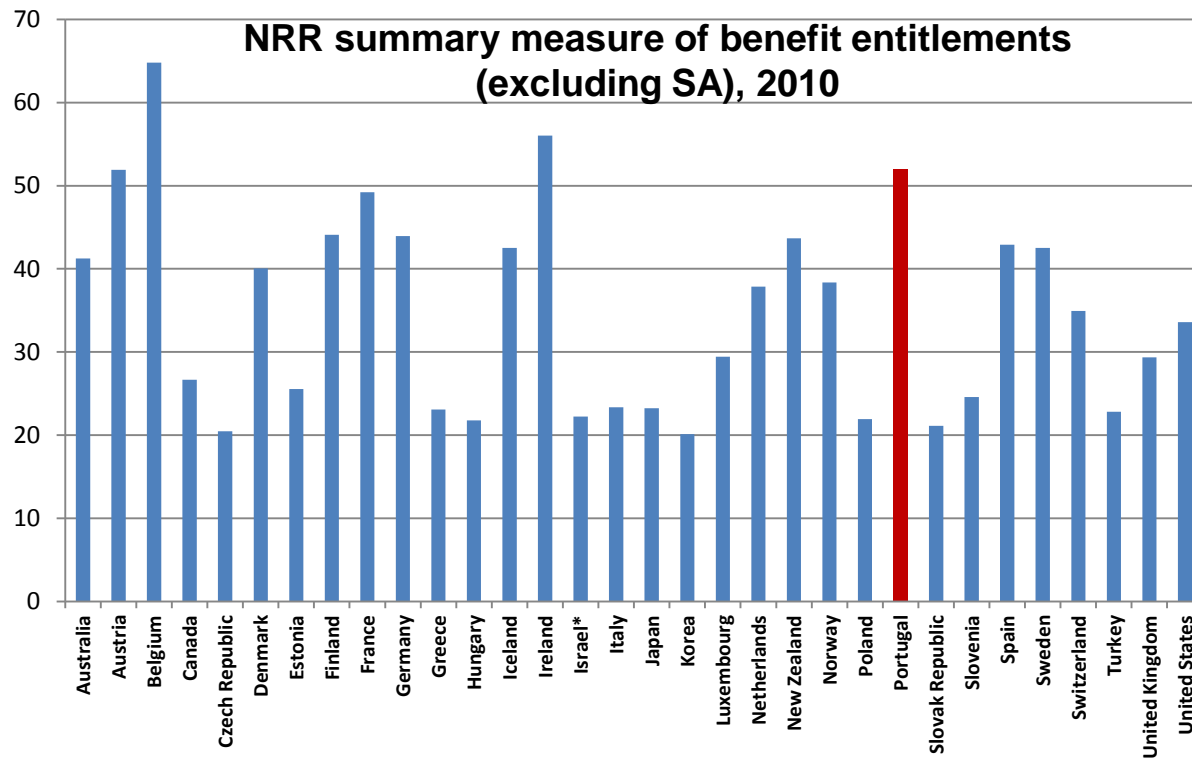   - 2010 not that different from 2000

Background
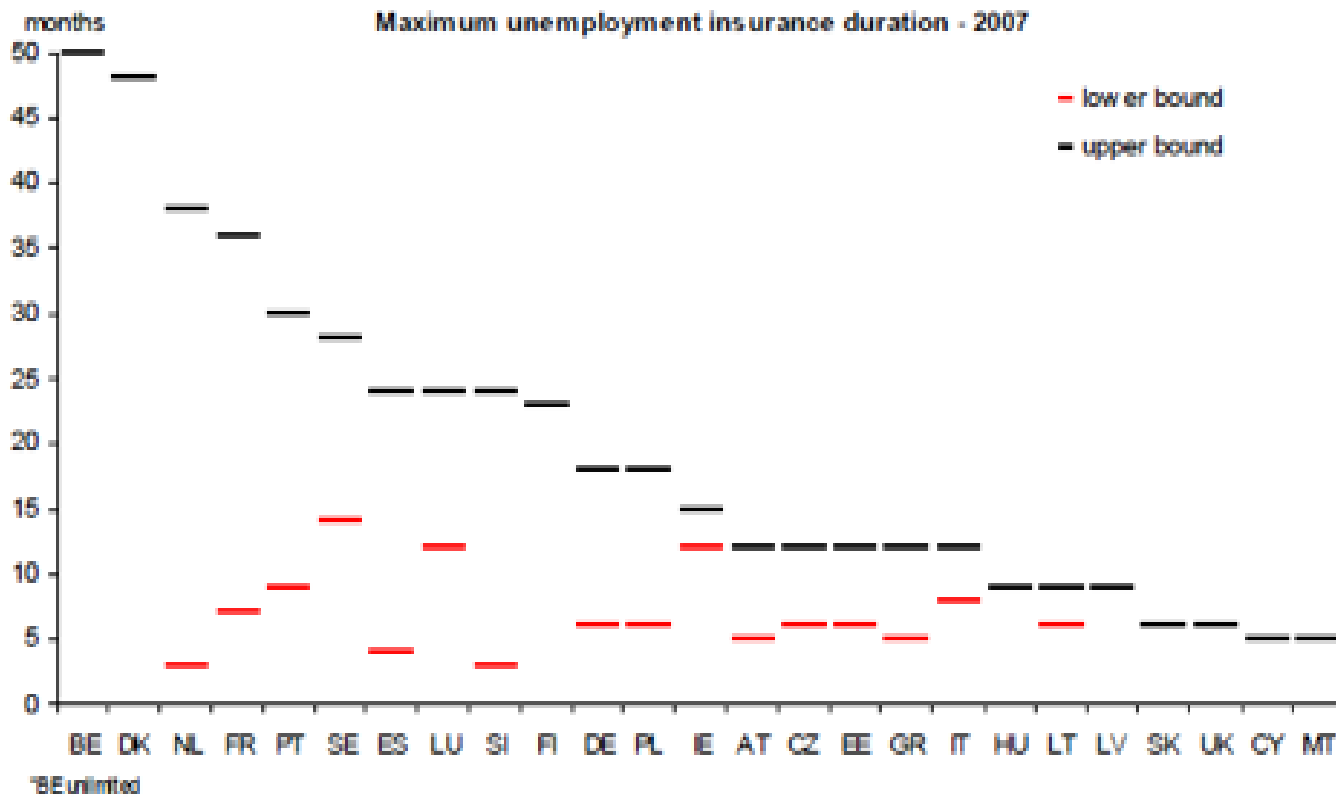

OECD EPL Strictness Index

Background

- High-protection of permanent workers coexists with below-average protection of temporary workers.

- A two-tier labour market developed:
  - Temporary employment peaked at 19.4 percent (>25% in the private sector) of total employment in 2010;
  - Fixed-term contracts account for:
    - 2/3 of all transitions from unemployment to employment;
    - 50 percent of all job losses

Background

- Generous unemployment benefits

NRR summary measure of benefit entitlements (excluding SA), 2010

Background

Maximum unemployment insurance duration - 2007

Background

- ## Nominal wage rigidity with falling real wage flexibility

The fall in the real wage cyclicality (N = 30 906 573)
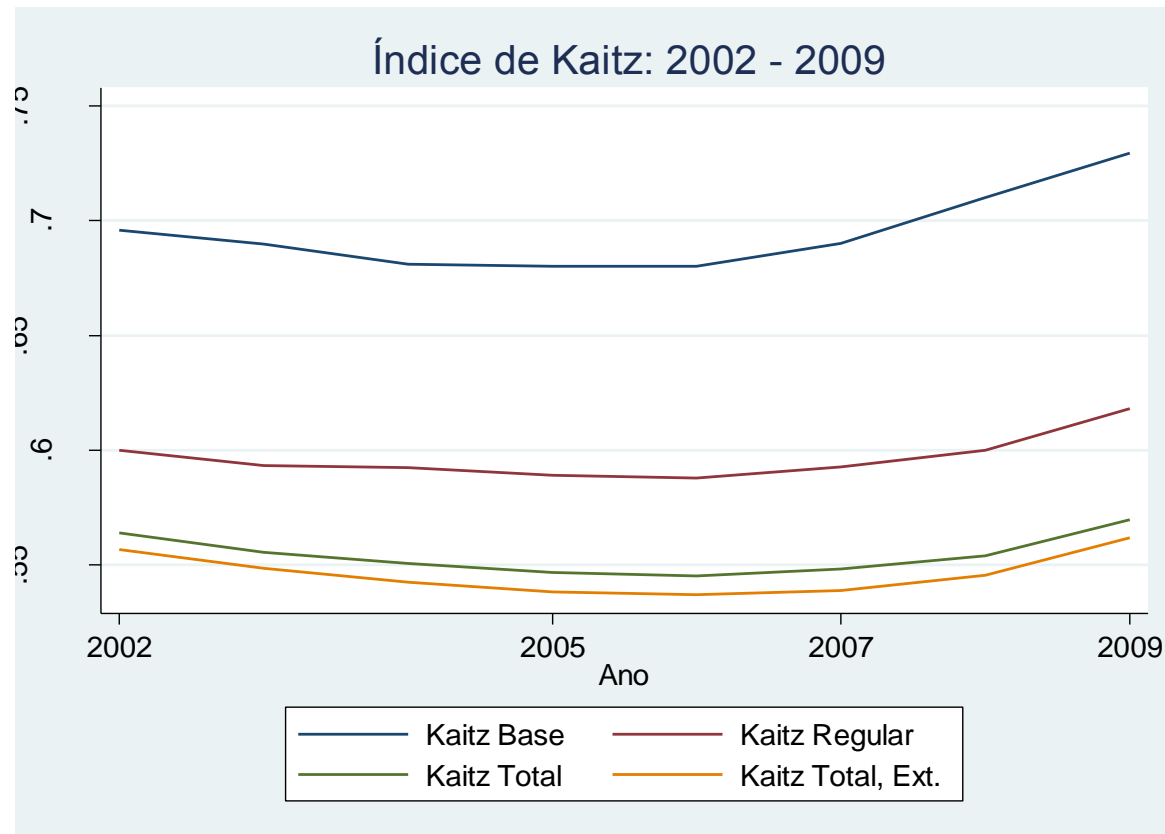
Cyclical variable	Worker, Firm and Job Fixed Effect			
	Stayers		New-hires	
	Coefficient	Change in coefficient	Coefficient	Change in coefficient
	1986-1998	1999-2007	1986-1998	1999-2007
Unemployment Rate	-2.612 (0.709)	1,808 (1.213)	-0.990 (0.175)	0.660 (0.215)
	1986-2000	2001-2007	1986-2000	2001-2007
Unemployment Rate	-2.460 (0.560)	2.462 (1.213)	-0.955 (0.117)	0.612 (0.165)

Source: Quadros do Pessoal (1986-2007)
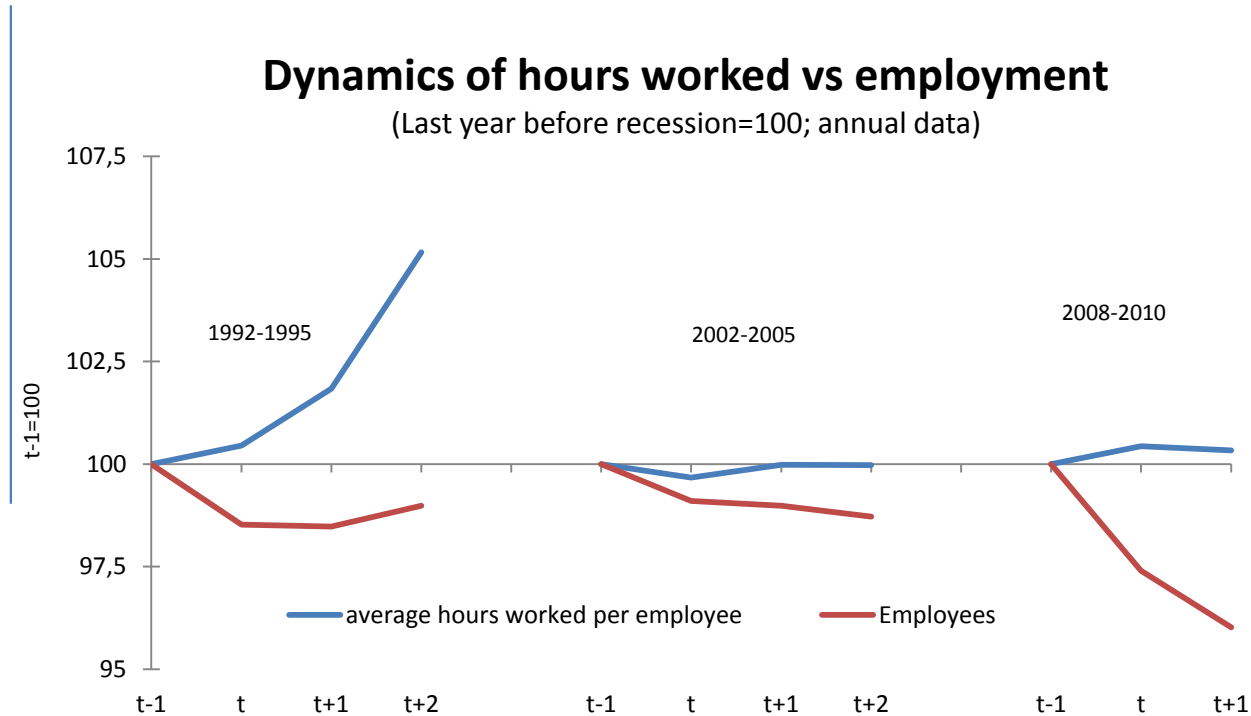*Robust standard errors in*
parenthesis

$$\ln w_{it} = X_{it}\beta + \gamma_1 u_t + \gamma_2 u_t d_{1t} + \gamma_3 u_t d_{2t} + \gamma_4 u_t d_{1t} d_{2t} + u_{it}$$

Background

- Minimum wage is high in relative terms

The response to the crisis

Dynamics of hours worked vs employment

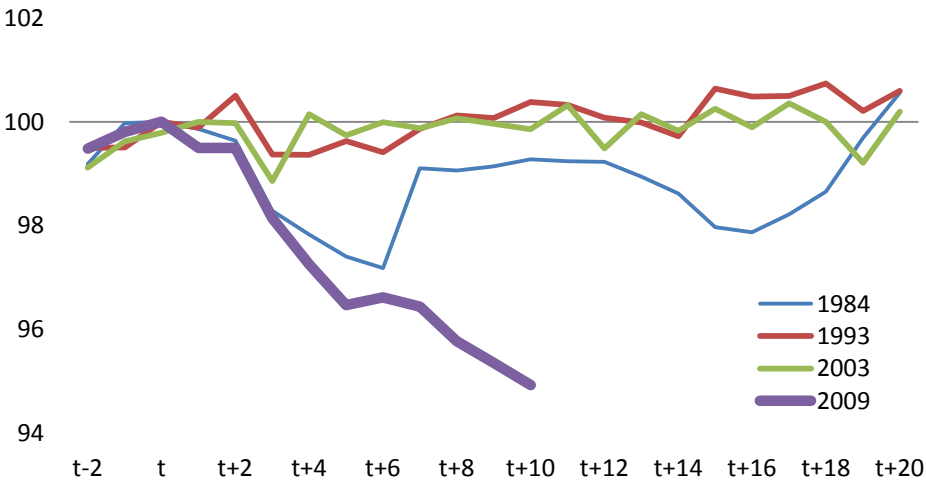(Last year before recession=100; annual data)

Source: European Commission (AMECO).

In the last 2 recessions, most of the adjustment was made at the "extensive margin" (average hours worked per employee were very stable)
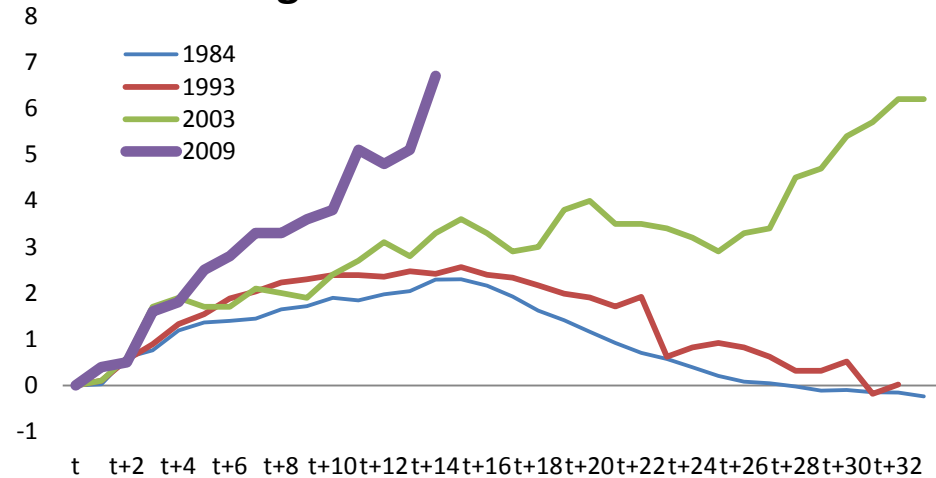
The response to the crisis

Employment behaviour in Portugal over the last recessions
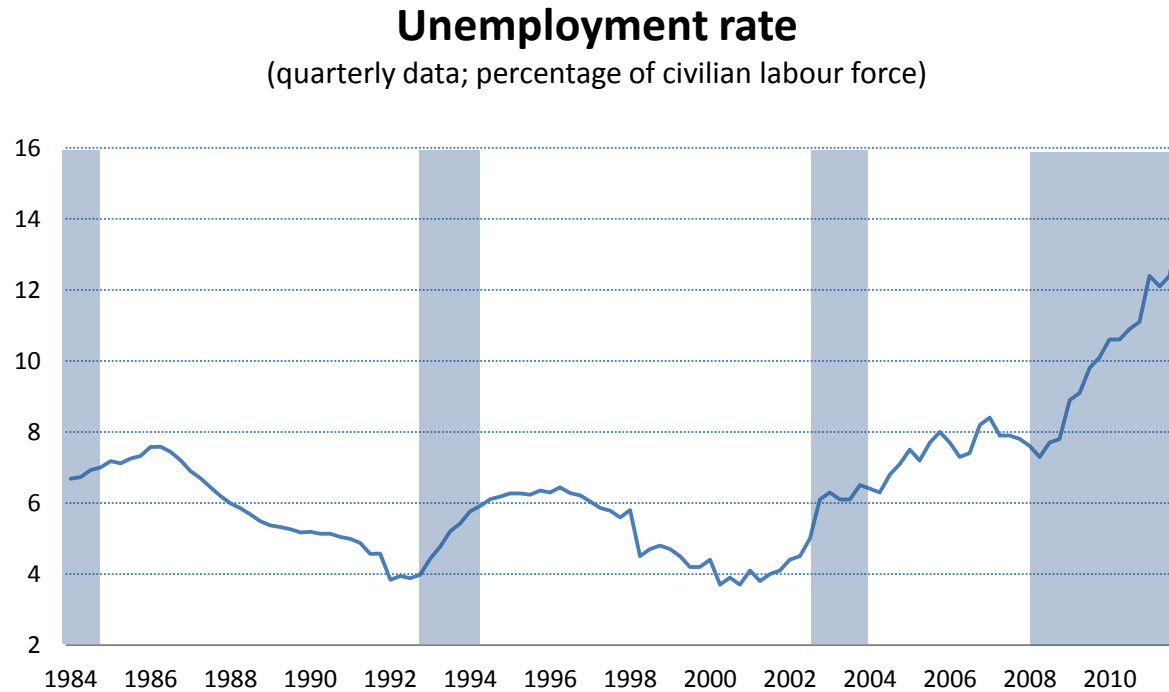

Source: INE and Banco de Portugal estimates.

Unemployment rate behaviour in Portugal over the last recessions

Source: INE and Banco de Portugal estimates.

- Massive employment decline;
- Sharp increase in unemployment without subsequent recovery.

The response to the crisis - unemployment

Unemployment rate
(quarterly data; percentage of civilian labour force)

Source: INE

The response to the crisis - wages

- Wage responsiveness to the business cycle comes from establishment turnover
  - Wages are lower and vary more in the groups of establishments that go in and out of activity.

Monthly (Regular) Wages
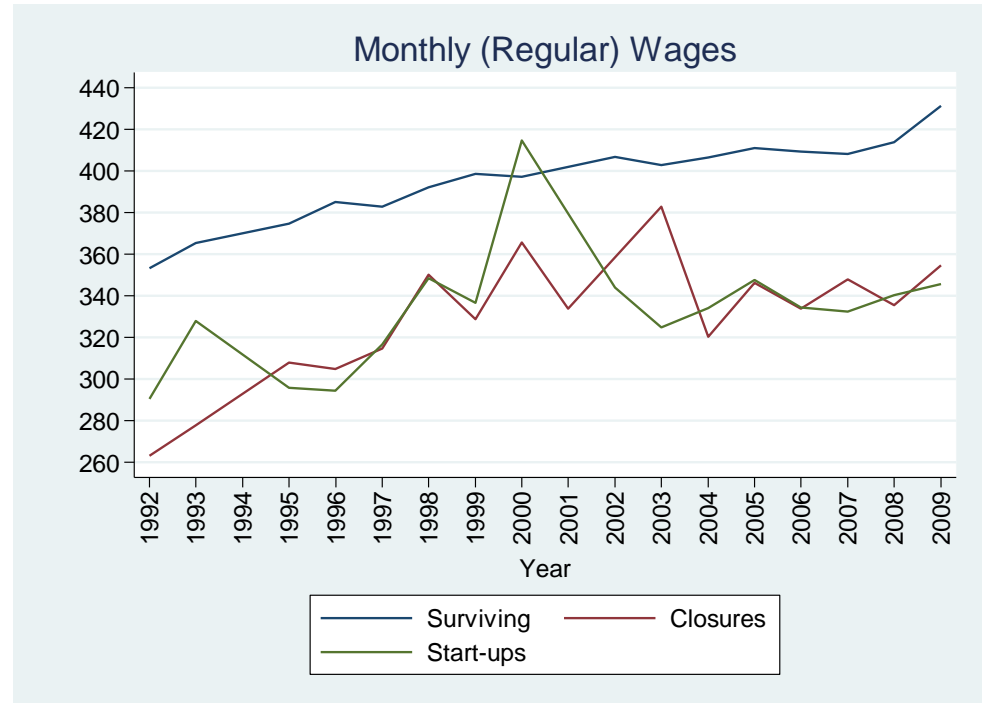
The response to the crisis - wages

- And, the share of job flows (job destruction) due to the turnover of establishments (shutdowns) increased since 2007.

	% JC accounted for by		% JD accounted for by	
	Startups	Expansions	Shutdowns	Downsizings
1995-2009	36.9	63.1	37.5	62.5
2007-2009	32.1	67.9	43.9	56.1

The response to the crisis - wages

• Incidence of nominal wage freezes on the rise (35% of matches surviving from one year to the next (despite the large mandatory increase of the legal minimum wage)

Wage Freeze
Share of Workers with Zero Nominal Wage Variation
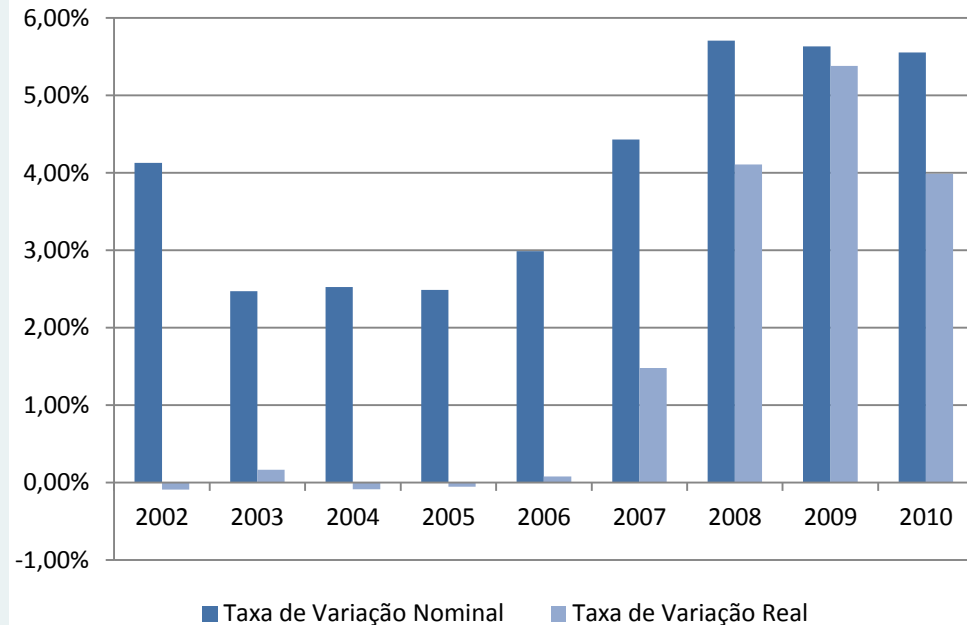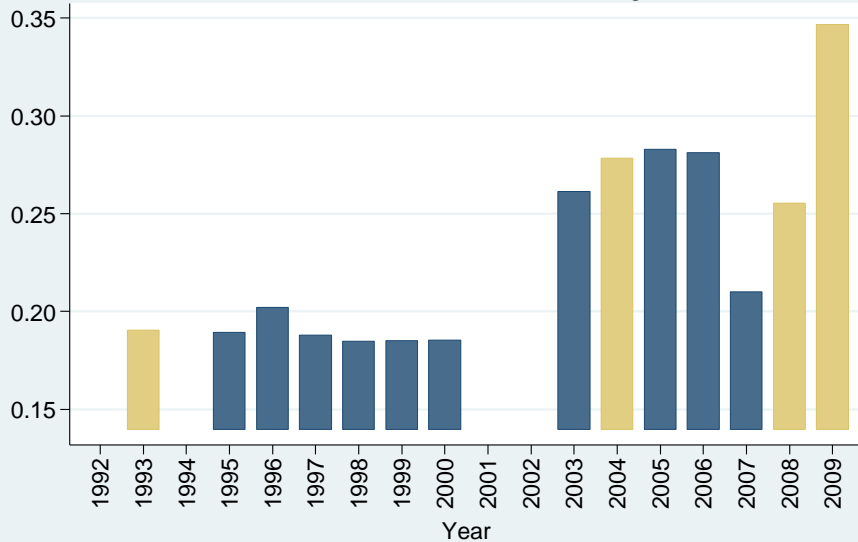
The response to the crisis - ΔE

Elasticity of employment changes to output shocks

|	Positive regime (β^p)	Negative regime (β^n)	Constant	# obs	R^2
Full sample	0.0608 (0.0008)	0.0100 (0.0010)	-0.0026 (0.0003)	1,169,473	0.071
Restricted sample	0.1160 (0.0121)	0.0813 (0.0126)	-0.0013 (0.0006)	479,251	0.0009

- Very low elasticities in both regimes
- Stronger reaction in the positive regime (full sample and restricted sample)

The response to the crisis - WT

- At zero net employment change, yearly hiring and separation rates above 5 percent.
- More churning in the positive growth regime than in the negative (but worker-initiated separations)

The response to the crisis - WT

Sales growth rate
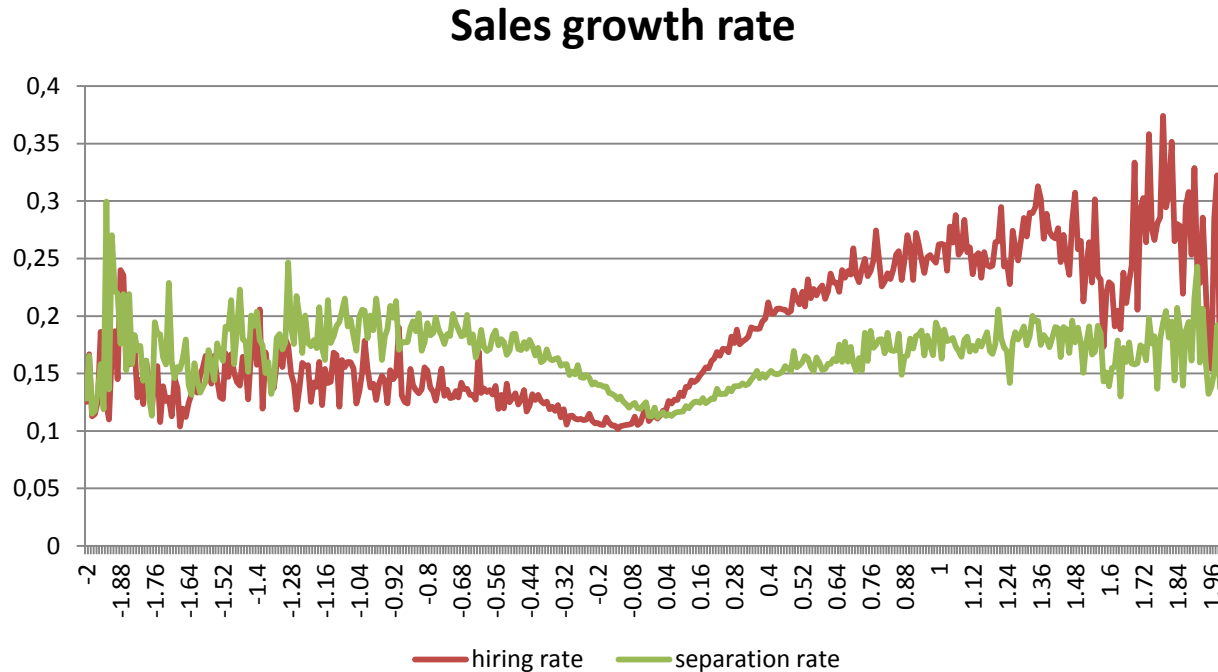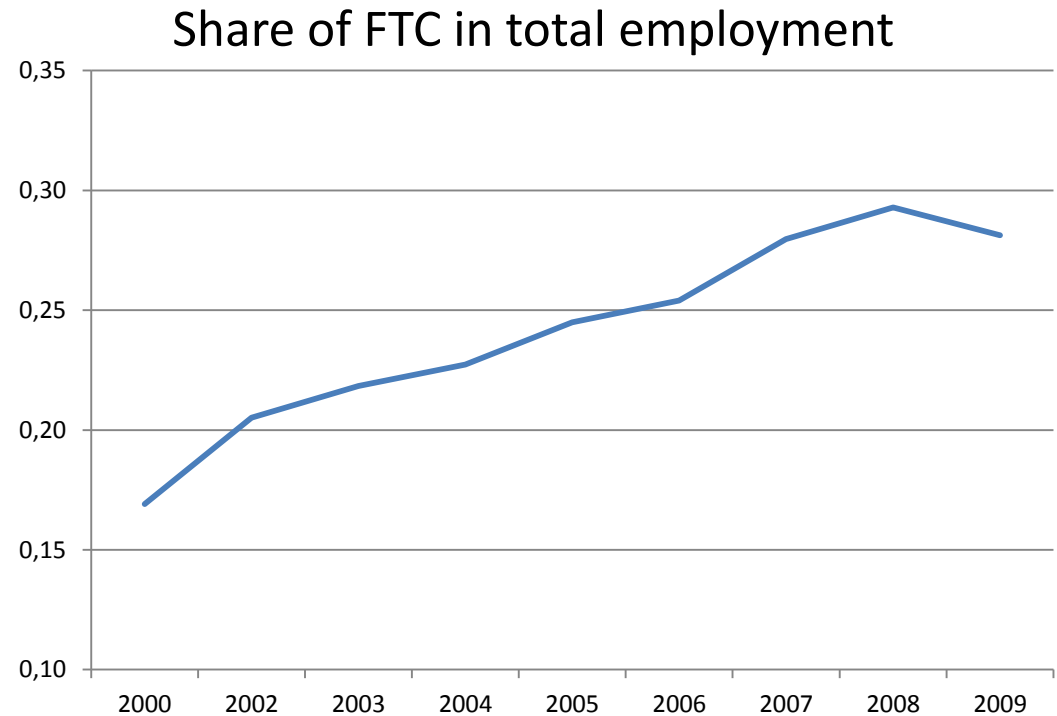

- Hard to interpret (too much noise in sales data?)
- Intense churning/heterogeneity at large variations of sales
- More similarities with previous chart in the restricted domain

The response to the crisis – FTC

- Increase of the share of temporary contracts

Share of FTC in total employment

The response to the crisis – FTC

Worker Turnover, 2002-2009

	All Firms	**Firms with FTC employees**
HR	16.1	26.7
SR	18.1	22.7
WT	34.2	49.4

- Worker turnover is especially high in firms that use FTC
- The difference is larger for hires than for fires

Data

- Most of the evidence so far, derived from Quadros de Pessoal data:
  - Linked employer-employee longitudinal administrative data
  - 1986-2009 (type of contract: 2000-2009)
  - Cover all firms and establishments with at least one wage-earner
  - Detailed information on firms, establishments and workers

Who is displaced?

- Analysis of match destruction (separations)
- Three types of separations: job-to-job transitions (quits?), mass layoffs, and plant shutdowns
- Wage differences related to permanent unmeasured differences between employees, firms, and job titles – three-way high-dimensional regression model of wage determinants
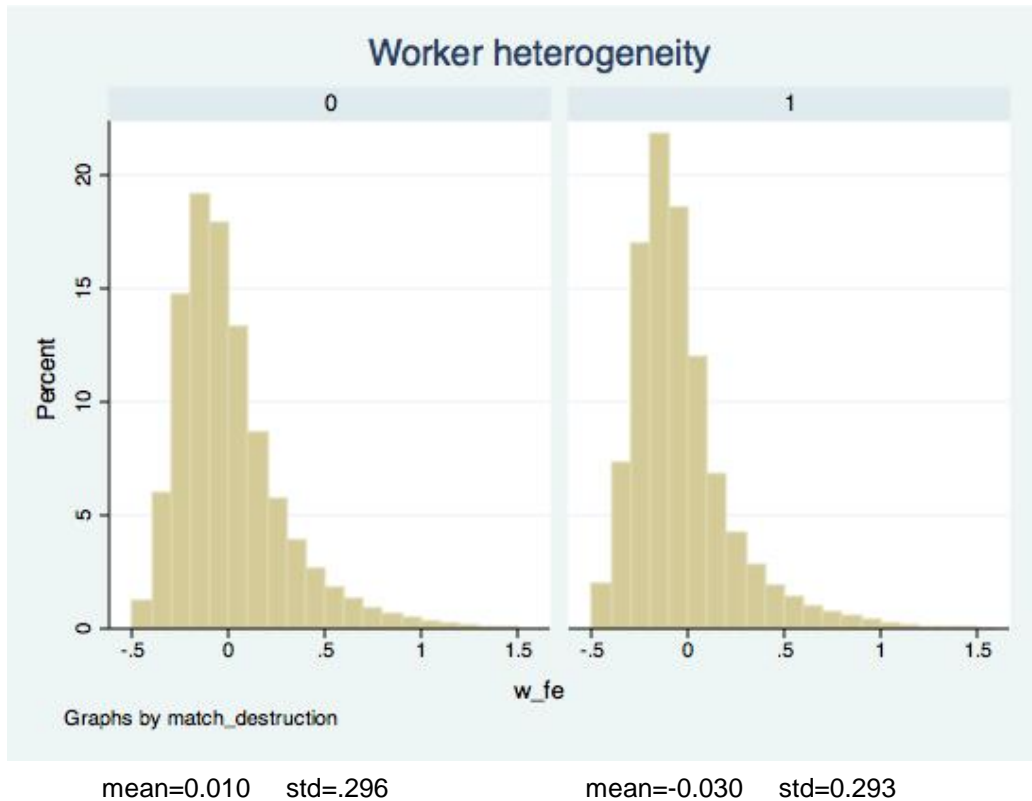
Who is displaced?

- Wage equation: $\ln w_{ifjt} = X_{ifjt}\beta + \theta_i + \varphi_f + \lambda_j + \varepsilon_{ifjt}$
  (i = worker, f = firm, j= job title, t=date)

- Wage variation due to:
  - Observed time-varying characteristics of workers and firms
  - Worker fixed-effects
  - Firm fixed-effects
 - Job-title fixed-effects
  - Residual

Who is displaced?

- Analysis based on the empirical distribution of the three fixed-effects – continuing matches (coded 0) and destroyed matches (coded 1) considered separately

Who is displaced?

mean=0.010   std=.296   mean=-0.030   std=0.293

- On the right-hand side panel, the distribution of worker fixed-effects is shifted to the left;

- Workers that left their jobs have permanent unmeasured characteristics associated to lower wages

Who is displaced?

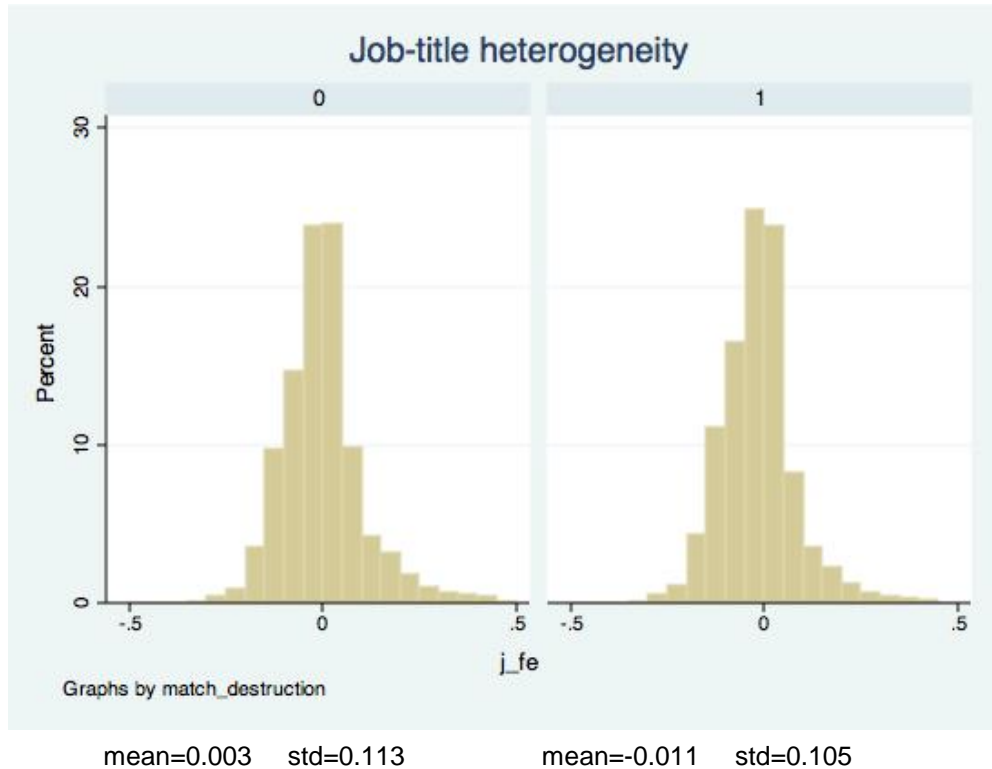firm heterogeneity
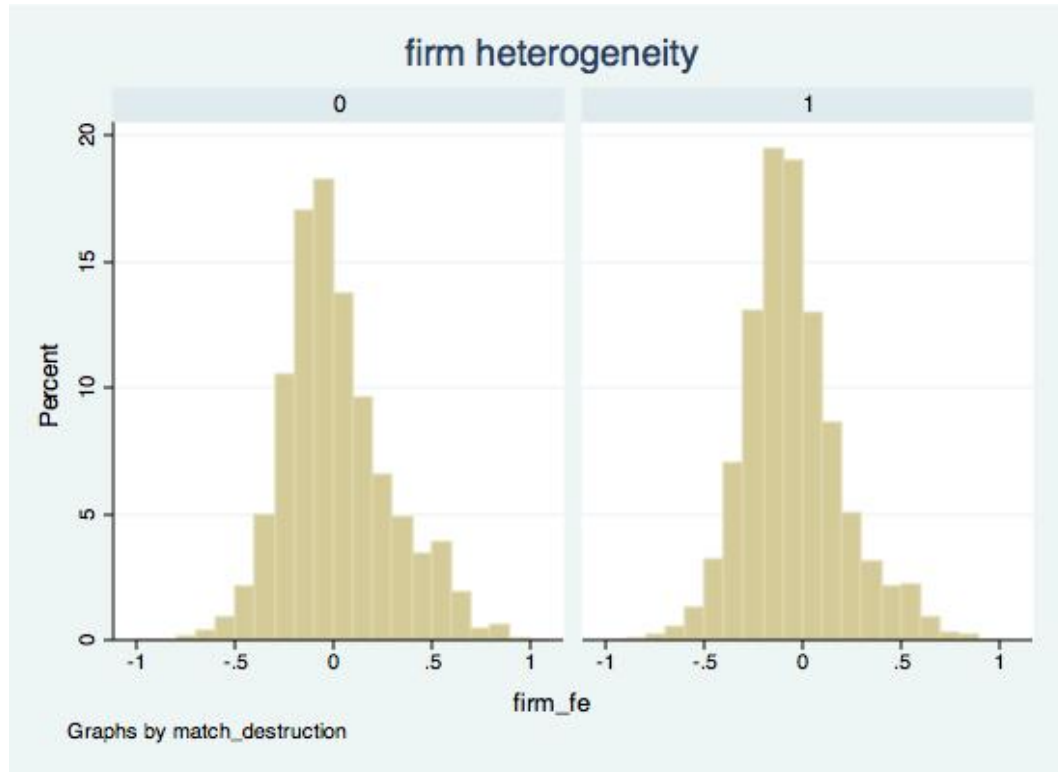
mean=0.017   std=0.275   mean=-0.043   std=0.257

- Workers that left their jobs received lower wages because they worked for firms that pay (paid) lower wages

Who is displaced?

Job-title heterogeneity

mean=0.003   std=0.113   mean=-0.011   std=0.105

- Workers that left were in worse paid occupations.

Job title: occupational categories within collective agreements

Who is displaced?

- Except in the case of job-to-job transitions, workers who leave their jobs received wages that were lower than those of stayers

- Differences by type of separation:
  - firm closure: -0.15
  - mass layoff: -0.049
  - job-to-job: +0.012
  - all: -0.089

Who is displaced?

- Gelbach's conditional decomposition method
  - unambigously disentangles the contribution of each fixed-effect to the difference between workers that left and remained with their employers, by type of separation

Fixed effect	Match destruction	Firm closure	Mass-layoff	Job-to-job transition
Worker	-0.031	-0.045	-0.026	0.015
Firm	-0.052	-0.100	-0.020	-0.004
Job-title	-0.006	-0.005	-0.003	0.001
Sum	-0.089	-0.150	-0.049	0.012

Who is displaced?

- The main driver of the wage differential received by displaced workers is the firm fixed-effect (especially if the separation is due to a firm closure).

- In case of mass layoffs and job-to-job transitions, worker fixed-effects are more relevant (negative effect in the former case, positive in the latter).

- Preliminary evidence indicates that, if anything, better matches and matches with better firms are currently being destroyed.