

# **Unemployment Dynamics in the Greek Crisis**

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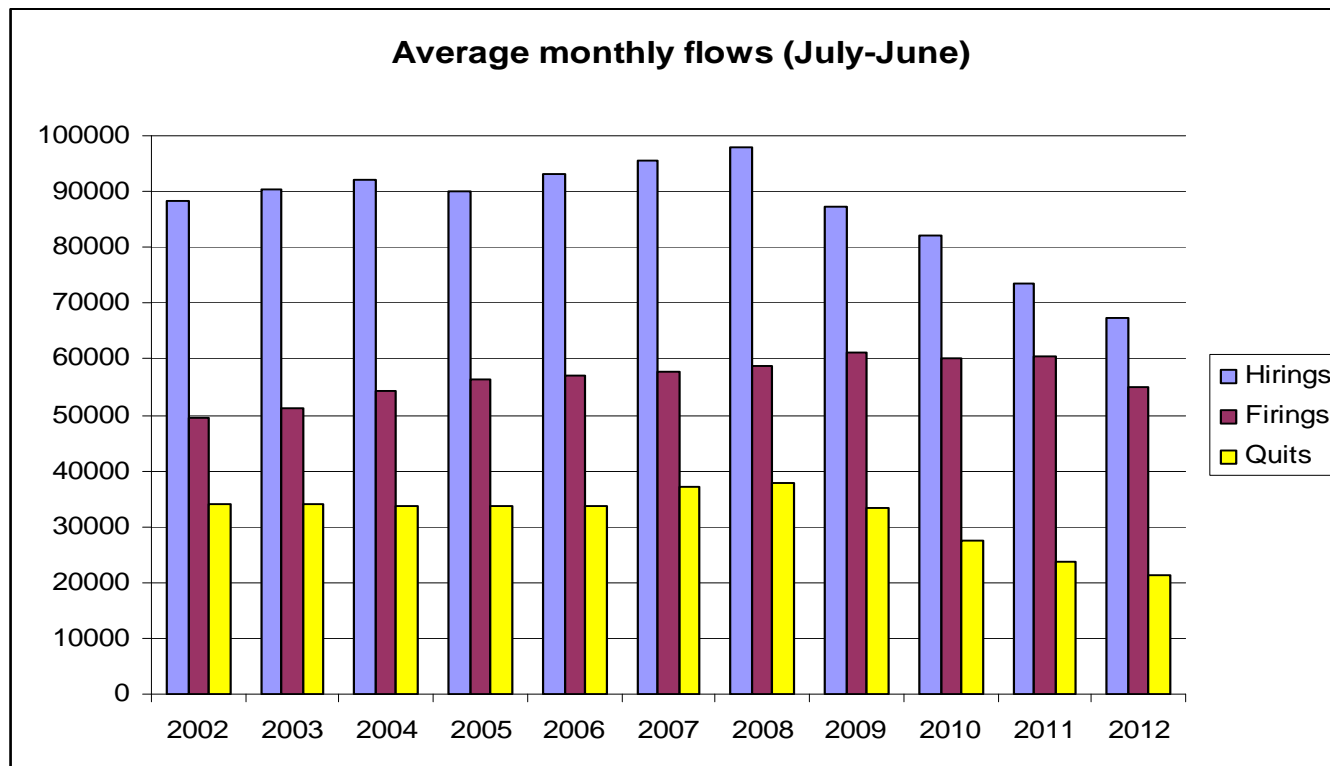
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## Introduction

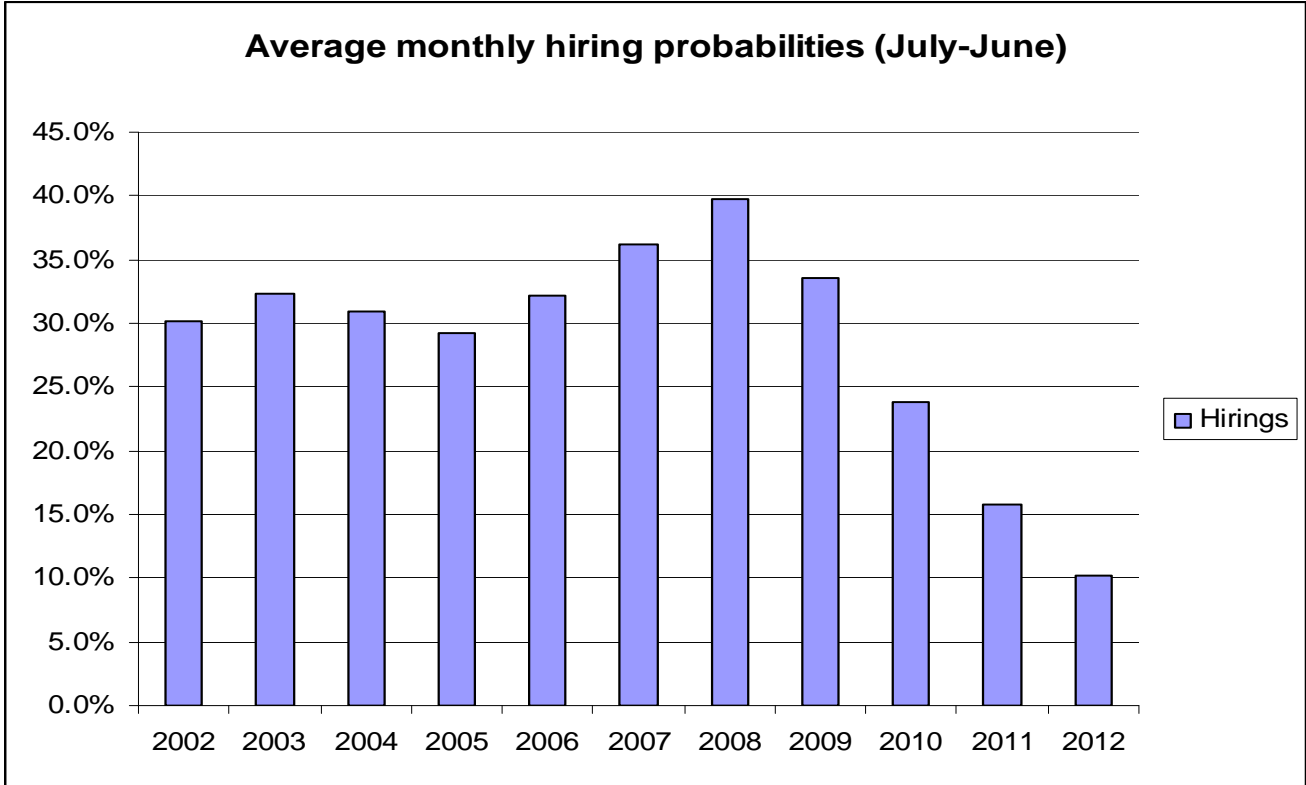
- Greece is in the middle of a labour market disaster: The unemployment rate has exactly tripled from 7.7% in 2008 to 23.1% in the first half of 2012.
- Severe recession, extreme fiscal contraction, internal devaluation programme.
- Structural reforms, focusing almost exclusively on labour market institutions, including employment protection legislation (EPL). Three major laws relaxing EPL dictated by the adjustment program: Law 3863 (July 2010), Law 3899 (December 2010) and the most recent, Law 4093 (November 2012).
- Examine the dynamics (flows between employment and unemployment) behind the evolution of the unemployment rate. Calculate the job finding and separation rates and estimate their contributions to the fluctuations of the unemployment rate.
- Compare the contributions for the whole period 2001-2012 with those during the recent crisis, before and after the implementation of EPL reforms. Evaluate the impact of EPL reforms on unemployment.

## Overview of labour market flows

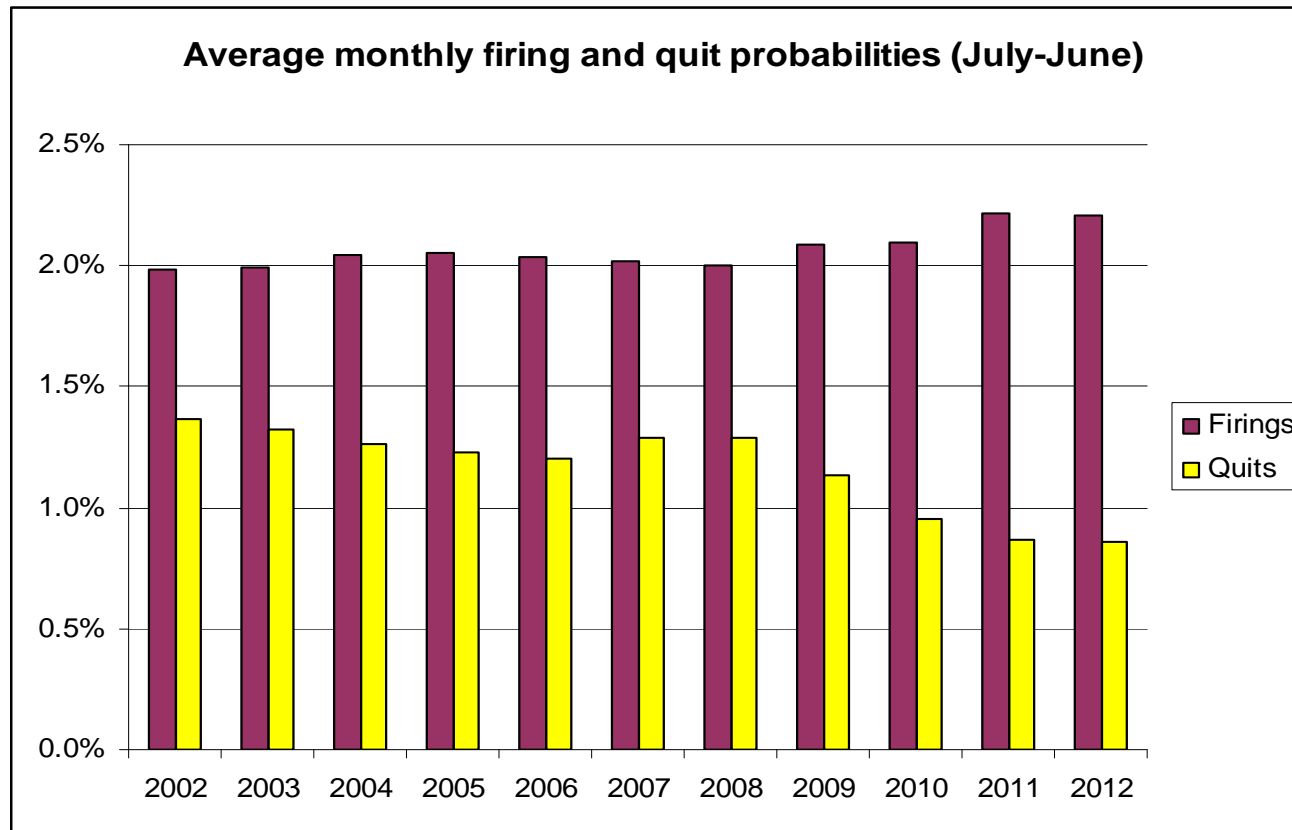
- Monthly data 2001- June 2012. Hirings, firings and quits from the Organisation for the Employment of the Labour Force (OAED), employment and unemployment from Eurostat (constructed from quarterly LFS).



**Overview of labour market flows – hiring probabilities**



## Overview of labour market flows – firing and quit probabilities



## Flow rates and steady state unemployment

- Calculate the job finding (F) and separation (S) probabilities

$$F_t = \frac{H_t}{U_t}$$

$$S_t = \frac{D_t + Q_t}{N_t}$$

With  $H, D, Q$  denoting the flow variables, hires, dismissals and quits, respectively and  $U, N$  denoting the stock variables, unemployment and employment (adjusted for dependent employment), respectively.

- Obtain the associated job finding and separation rates as Poisson arrival rates with the formula

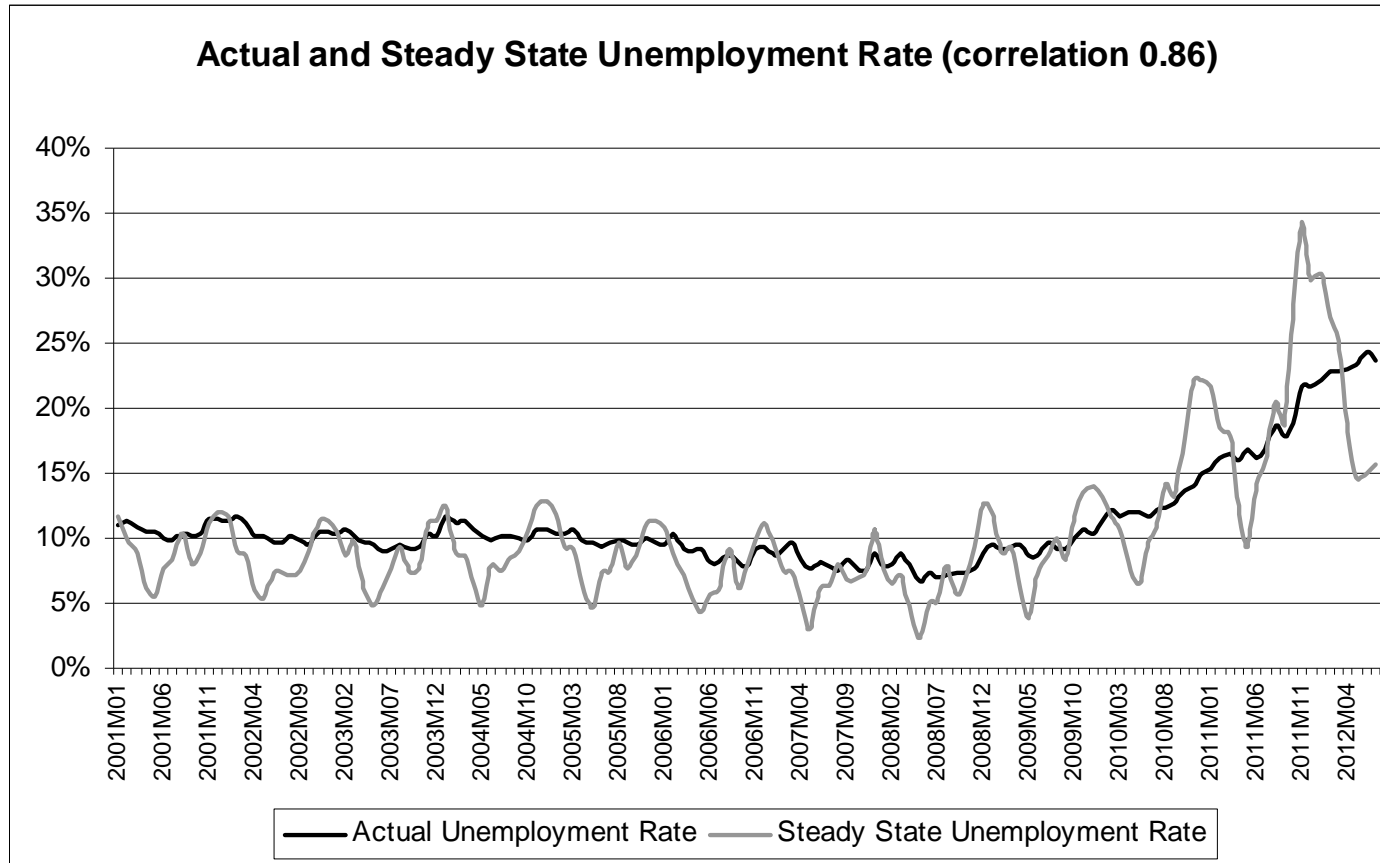
$$f_t = -\log(1 - F_t)$$

$$s_t = -\log(1 - S_t)$$

- Construct the steady state unemployment rate (for constant labour force)

$$u_t^{ss} = \frac{S_t}{S_t + f_t}$$

## Flow rates and the steady state unemployment



### Contributions of the flow rates – method

- Log-differentiate the steady state unemployment rate to obtain

$$du_t^{ss} = u_t^{ss} (1 - u_t^{ss}) (d \log s_t - d \log f_t) \equiv du_t^f + du_t^s$$

This expression decomposes the change of the unemployment rate into the respective logarithmic changes of the flow rates with an equal weight.

- Calculate the proportion of the variance of the change in the unemployment rate that is explained by its covariance with the change in each flow rate

$$\beta^f = \frac{\text{Cov}(du_t^{ss}, du_t^f)}{\text{Var}(du_t^{ss})}$$

$$\beta^s = \frac{\text{Cov}(du_t^{ss}, du_t^s)}{\text{Var}(du_t^{ss})}$$

$$\beta^f + \beta^s = 1$$



## Results 1 – What drives unemployment in the long run?

### Contributions of the flow rates to unemployment

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2001-2012 June

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Long run

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Job finding	0.89
Separation	0.12

For the whole period 2001 to June 2012 the contributions of the job finding and separation rates were approximately 90/10, that is for every percentage point of change of the unemployment rate, about 0.9 points reflected change of the job finding rate and the remaining 0.1 points reflected change of the separation rate. Unemployment is driven by the job finding rate. This is typical for a country where firing is costly.

## Results 2 – What was behind the current unemployment boom?

### Contributions of the flow rates to unemployment

	2001-2012 June	2009-2012 June
	Long run	Recession
Job finding	0.89	0.77
Separation	0.12	0.24

Narrow the time period and estimate the contributions during the three and half years 2009-2012. They have shifted to around 75/25, suggesting a higher importance of the separation rate. The falling job finding rate is still the predominant factor behind the unemployment boom, though in a lesser extend compared to the long run picture.

**Results 3 – Is it just the recession or EPL reforms have something to do?**

**Contributions of the flow rates to unemployment**

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	2001-2012 June	2009-2012 June	2009-2010	2011-2012 June
	Long run	Recession	Strict EPL	Weak EPL
Job finding	0.89	0.77	0.92	0.68
Separation	0.12	0.24	0.08	0.29

Repeat the same estimations for the periods 2009-2010, when the standard regime was in place, call it “strict EPL” and 2011-2012, when the reforms were put into effect, “weak EPL”. While for the first two years the contributions were maintained around their long run values (92/8), for the more recent period they were about 70/30. The relaxation of EPL increased the contribution of job separations to the fluctuations of unemployment.

## Conclusions

- After the relaxation of EPL, firing became more responsive to the recession and unemployment more responsive to separations. This implies that the particular reform amplified the unemployment cost of the recession.
- This is hardly a surprising outcome and we can safely assume that policy makers could reasonably anticipate it. The motivation behind their decision looks puzzling. Why would they apply policies that deteriorate the unemployment problem?
- It is essential for the process of internal devaluation. In theory, the recession alone could trigger wage deflation with unemployment rising at a rate sufficient to induce workers bidding for jobs. This mechanism works, provided that counteracting institutional arrangements are not in place. EPL is by construction an institution that mitigates the impact of recession on unemployment. Its relaxation can be interpreted as a deliberate attempt to accelerate the unemployment boom and speed up the overall adjustment process.