

# Structural reforms: what can we learn from the Portuguese experience?

Ricardo Pinheiro Alves, GEE, Ministry for the Economy  
Portugal

WPIA, OECD  
6<sup>th</sup>. November 2017

# Context

**Portugal implemented a large number of policy changes** (450 after 2011), strongly accelerating a previous reform effort :

- Achieve **greater flexibility** in the Portuguese economy by improving market conditions and alleviate formal rigidities
- **Reverse** an excessive **allocation of resources in less tradable** sector (new after 2011)
- **Increase efficiency** of productive factors in order to improve the competitiveness of firms ...
- and thus **to put Portugal on a higher growth path.**

**Reforms:** Competition law, Justice, Tax system, Labour market, Insolvency, Public procurement, EU Services directive, Professional services, Licensing, Territorial planning, Price liberalization, Privatizations, Concession contracts, ...

# Context

## Two groups of policy reforms oriented to:

### a) **More tradable sectors** (e.g. manufacturing, tourism) to:

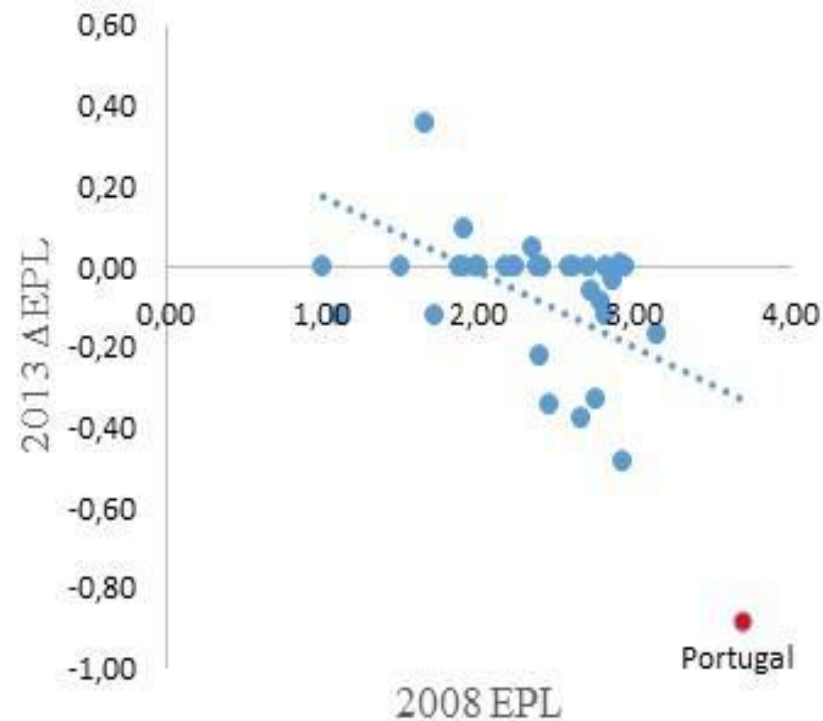
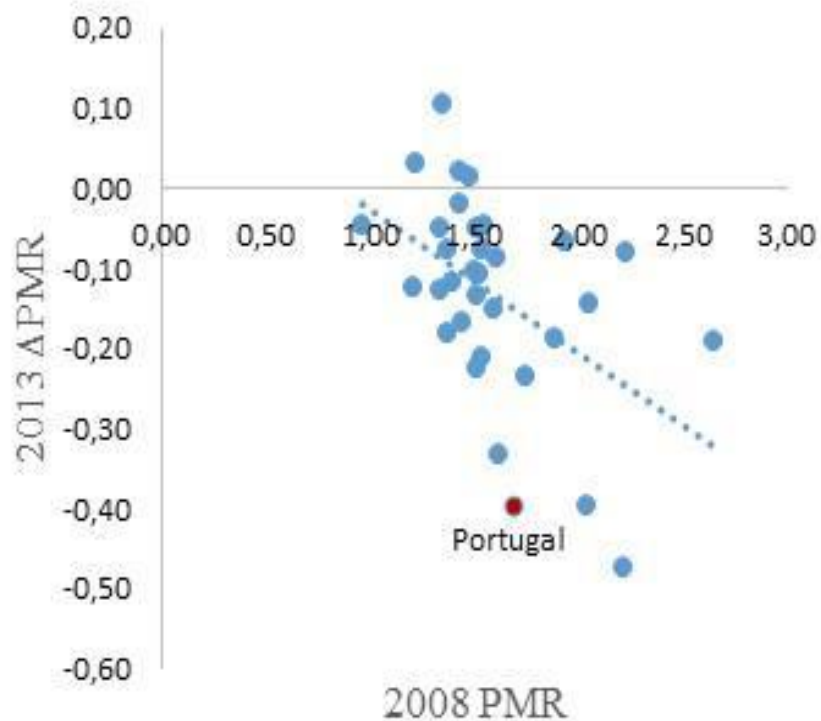
- Improve external competitiveness:
  - Lower labour, capital and administrative costs
  - EU funds oriented to R&D, Innovation, training
- Increase the ability to attract high-skilled workers
- Allocate resources from less tradable to these industries

### b) **Less tradable sectors** (e.g. network industries, services) to:

- More competition and higher transparency in these markets
- Lower barriers to entry for new firms
- Reduction of excessive rents in network industries
- Sustained productivity improvements (aligned with wage growth)
- Lower input costs for more tradable sectors

# Context

- Reforms led to a very significant improvement in the PT regulatory environment (PMR, EPL)
  - E.g. PT moved-up from 26<sup>th</sup> to 12<sup>th</sup> in the PMR (34 countries)



# 1. Mark-up estimation per industry (Figueira and Pinheiro-Alves, 2017)

- Assuming CRS and imperfect labor markets (Roeger, 1995)
- Firm level data for all PT firms
- 200 markets (2010 to 2015)
- Robustness: OLS, FE, RE

## Results

- Decrease in mark-ups
  - Concentrated in services
  - Mark-ups increased in more tradable activities
- Bargaining power of workers was reduced
- Improvement in the regulatory environment (see PMR, EPL, DB)

Mark-ups			
	2012	2015	change
Overall economy	54,04	50,76	↘
Total manufacturing	40,92	42,51	↗
Tourism	82,36	84,46	↗
Total non-manufacturing	64,02	57,03	↘
Trade	26,46	26,75	=
Information services	66,53	60,47	↘
Technical Services	67,79	62,81	↘
Real Estate	70,80	73,80	↗
Construction	60,78	60,78	=
Electricity	56,30	57,00	=
Transport	84,50	76,05	↘
Restaurants	46,40	43,03	↘
Art, Sports, Recreative Events	69,92	62,58	↘
Other Services	56,28	45,88	↘
Bargaining Power			
Overall economy	31,14	21,25	↘

## 2. Effects of sectoral upstream deregulation (Gouveia et al, 2017)

Effects on downstream industries:

- a. LP, TFP Productivity (cheaper, better inputs) → Error Correction Model
- b. Firm exit (flexible markets, better resource allocation) → Probit model
- c. Resilience to shocks (lower volatility in TFP growth) → Differences-in-differences (comparing 2 groups of firms more or less affected)

- ✓ Firm level data covering all PT firms for the period 2004-2014
- ✓ OECD sectoral regulatory impact indicators (Regimpact - network, retail, professional services): exposure to upstream sectors & upstream regulation

## 2. Effects of sectoral upstream deregulation (Gouveia et al, 2017)

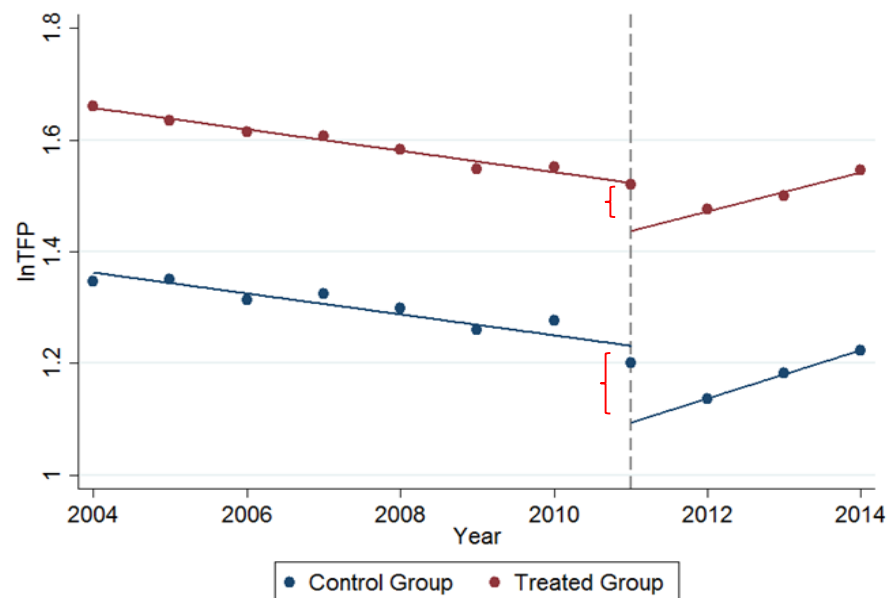
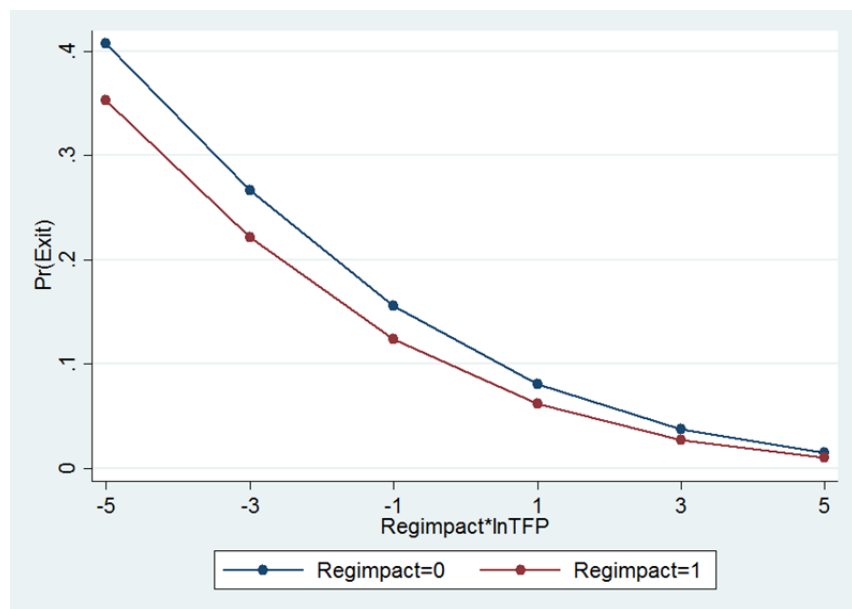
$$\Delta \ln TFP_{i,k,t} = \beta_0 + \beta_1 \Delta \ln TFP_{Frontier_{k,t}} + \beta_2 \Delta Reg_{impact_{k,t}} + \eta [DTF_{i,k,t-1} + \alpha_2 Reg_{impact_{t-1}} + \alpha_3 Reg_{impact_{t-1}} * DTF_{i,k,t-1}] + \sum_{s=1}^4 \psi_i D_i + \alpha_k + \alpha_t + \alpha_r + \varepsilon_{i,k,t}$$

TFP growth - wide	
TFP growth frontier	0,38
	0,00
DTF (lag)	0,69
	0,00
Reform variable (lag)	
Short-term	-0,12
	0,00
Long-term	-0,32
	0,00
Long-term#DTF	-1,13
	0,00
Firm size effects	yes
Region effects	yes
Year effects	yes
Sectoral effects	yes
N	1522076

a) Upstream deregulation brings LP and TFProductivity gains in the short-run and gains are **sustained** in the long-run.

- More positive for firms further away from the technological frontier
- Heterogeneous across sectors (different initial regulatory stances, competitive structures and business models).
- It may induce resource reallocation.

## 2. Effects of sectoral upstream deregulation (Gouveia et al, 2017)



- **b) Reforms facilitate the exit of the least productive firms, improving resource allocation in downstream sectors (higher margins due to lower input costs) by a **process of selection** – only the least productive (TFP, LP) that have scope to catch-up with the frontier are able to remain (Probit)**
- **c) The adoption of product market reforms in upstream sectors, before 2011, led to a more resilient economy, better equipped to face negative shocks. (difs.-in-difs.)**



### 3. Impact of individual reforms on productivity (Gonçalves et al, 2017)

#### What is the impact of structural reforms on firms' TFP Productivity?

- Error Correction Model: **short-run and long-run effects**
  - Effects mediated by the distance of firms to the national technological frontier (top TFP decile)

$$\Delta \ln TFP_{i,s,t} = \beta_0 + \beta_1 \Delta TFP_{Frontier,s,t} + \beta_2 \Delta REF_t + \eta [DTF_{i,s,t-1} + \alpha_2 REF_{t-1} + \alpha_3 REF_{t-1} \cdot DTF_{i,s,t-1}] + \mu_t + v_s + \varepsilon_{i,t} [2]$$

- **Several reform indicators** (proxies): Doing business (WB) and World Economic Forum (providing sufficient time variation – 8 years at least)
- Firm level data covering all PT firms for the period 2006-2014

### 3. Impact of individual reforms on productivity (Gonçalves et al, 2017)

#### Results

- Despite some short-run costs (e.g. labour market reform), most reform areas considered bring **long-term TFP productivity gains**
- Effects are heterogeneous across areas, time spans and firms with different DTF, as expected
  - *Reforms of institutions, goods markets, financial markets and the tax framework: higher benefits for less productive firms*
  - *Reforms of insolvency framework, health, education, training and innovation more beneficial for the most productive.*
    - Only the very high TFP performers (0.1% of all firms) benefit from reforms in the area of innovation
    - Reforms directly potentiating entry (i.e. reducing the number of procedures to start a business), long-term gains only visible for the new entrants
    - Labor market reforms, positive long-term effect on productivity only for firms in the bottom TFP decile and negative for the remaining

## 4. Impact of reforms on employment and labour productivity (Correia and Gouveia, 2017)

### Impact of product and labour market reforms on sectoral employment and productivity

- Firm (2006-2013) and sectoral data (1997-2013)
- Variables: EPL, Regimpact, both benchmarked by US data
  - Regimpact (annual): exposure and regulatory (from I-O matrices), 5 upstream network sectors and 31 downstream industries
  - Employment: Hours worked and number of employees
  - Productivity: GVA / Hours worked and GVA / Employees
- Baseline regression (Difs.-in-difs.)

$$\left. \begin{array}{l} \text{Employment} \\ \text{Productivity} \end{array} \right\} \Delta Outcome_{j,t} = \underbrace{\beta Exp_j Reg_{t-1}}_{\substack{\text{Layoff Rate} \\ \text{Weight of Upstream} \\ \text{Input Usage}}} + \underbrace{\delta Exp_j \Delta Reg_t}_{\substack{\text{Labour} \\ \text{Market} \\ \text{Indicator}}} + \underbrace{\theta_j + \theta_t}_{\substack{\text{Time and} \\ \text{Industry} \\ \text{Fixed Effects}}} + \varepsilon_{jt}$$

Growth-Effects                      Level-Effects

# 4. Impact of reforms on employment and labour productivity (Correia and Gouveia, 2017)

- **Summary of results**

## Product Market Deregulation

### Employment

- Positive, in particular for downstream sectors

### Productivity

- Positive, for downstream sectors. Negative for the least productive upstream.

## Labour Market Deregulation

- Positive

- No effect; composition effects across firms

# Final comments

## What can we learn from the Portuguese experience?

- **It pays to reform**, and in a very significant way
  - Upstream sectors: more sectoral competition and smaller rents
  - Better resource allocation to downstream sectors
- **Positive effects for productivity and employment:**
  - Both in the short and long-run
  - Both for more and less productive firms
- **Reforming must consider:**
  - Stakeholders should be involved (formal agreement)
  - Timing is essential to minimize short-term costs: when the good times roll
  - Important to keep-up with the reform momentum
  - Sequence: product market first or at least simultaneously with labour reforms

Thank you!

---

Thank you!