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

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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 26th to 12th in the PMR (34 countries)
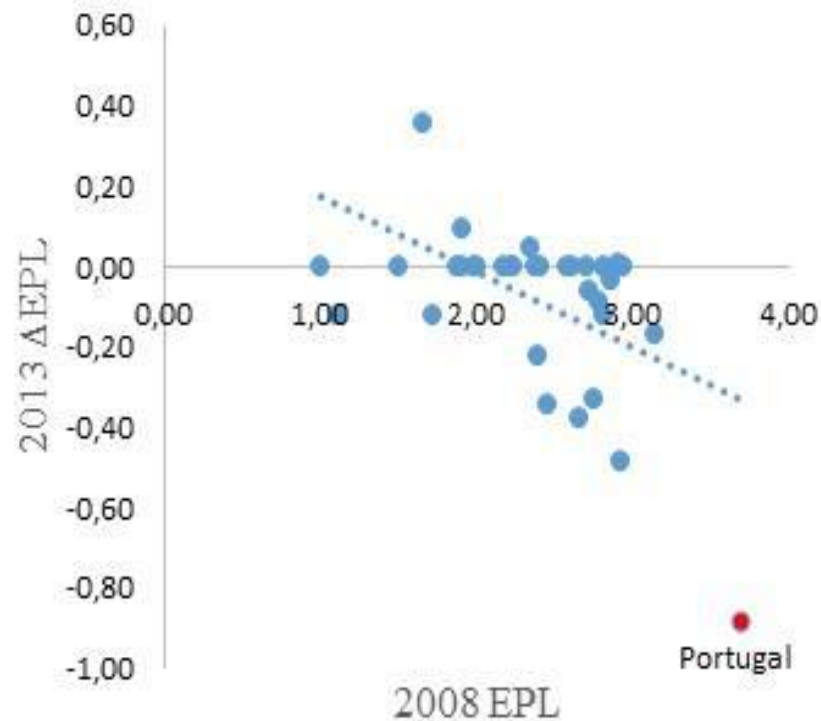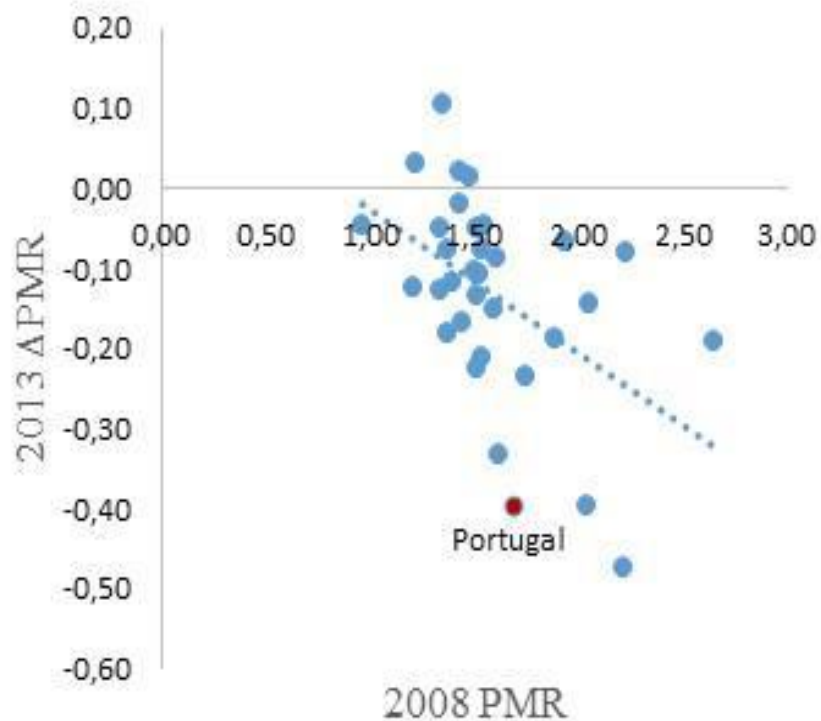
1. Mark-up estimation per industry (Figueira and Pinheiro-Alves, 2017)

- 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
  - o Concentrated in services
  - o 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, TFProductivity (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 & usptream regulation

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

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

	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 <u>LP and TFProductivity gains</u> 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)
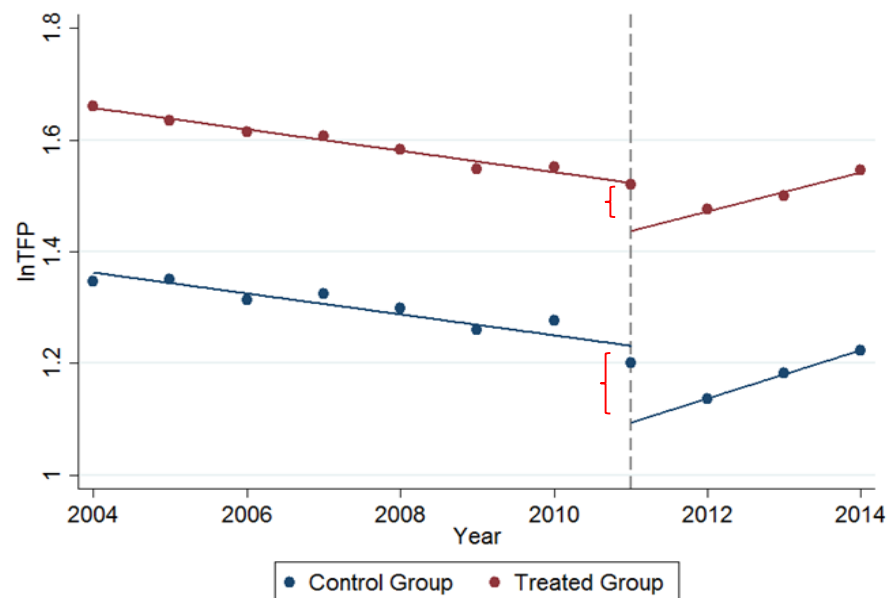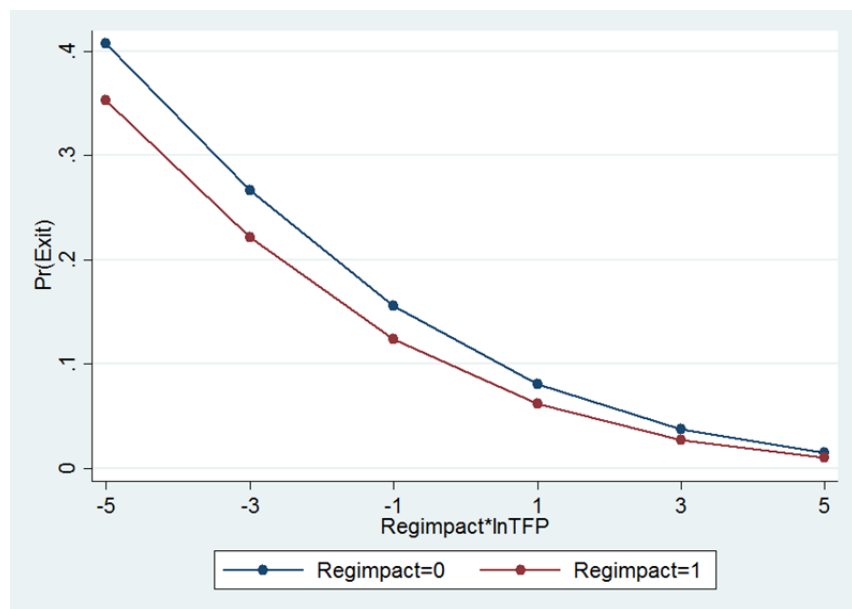
- **b) Reforms facilitate the exit of the least productive firms**, improving <u>resource allocation in downstream sectors</u> (higher margins due to lower input costs) by a **process of selection** – only the least productive (TFP, LP) that have scope to catch-up with the frontier are able to remain (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' TFProductivity?**

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

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

- **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 TFProductivity 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

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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), <u>5 upstream network sectors</u> and 31 downstream industries
  - Employment: Hours worked and number of employees
  - Productivity: GVA / Hours worked and GVA / Employees
- Baseline regression (Difs.-in-difs.)

$$\Delta Outcome_{j,t} = \beta Exp_j\, Reg_{t-1} + \delta Exp_j\, \Delta Reg_t + \theta_j + \theta_t + \varepsilon_{jt}$$

Employment / Productivity

Growth-Effects

Level-Effects

Time and Industry Fixed Effects

Layoff Rate   Weight of Upstream Input Usage

Labour Market Indicator

Product Market Indicator

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

- **Summary of results**

Product Market Deregulation		Labour Market Deregulation
Employment	• Positive, in particular for downstream sectors	• Positive
Productivity	• Positive, for downstream sectors. Negative for the least productive upstream.	• 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
  - o Upstream sectors: more sectoral competition and smaller rents
  - o Better resource allocation to downstream sectors
- **Positive effects for productivity and employment**:
  - o Both in the short and long-run
  - o Both for more and less productive firms
- **Reforming must consider:**
  - o Stakeholders should be involved (formal agreement)
  - o Timing is essential to minimize short-term costs: when the good times roll
  - o Important to keep-up with the reform momentum
  - o Sequence: product market first or at least simultaneously with labour reforms

Thank you!

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