Comments on Unit Labour costs and Portuguese External Competitiveness

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Key messages of the chapter

Critique on the use of ULC as an indicator

ULC is defined as the ratio of labor compensation per worker $(1+\tau_L)\,W$ divided by real GDP per worker $\frac{Y}{N}$ (average worker productivity)

$$ULC = \frac{(1+\tau_L)\,WN}{Y}$$
$$= P_Y \underbrace{\frac{(1+\tau_L)\,WN}{P_Y\,Y}}_{\textit{wage share}}$$

- wage share has barely changed therefore ULC tracks GDP deflator P_Y
- P_Y can hardly be seen as a good measure of external competitiveness
- the chapter also suggests that ULC suffers from drawbacks (ex: too aggregate) and that REERs are better indicators of external competitiveness

My comments

The chapter needs to be more precise

- ULC does suffer from drawbacks:
  - labor is not the only input
  - aggregate ULC is not well suited to take into account shift in sectoral/firms composition and heterogeneity of firm productivity
- and yet:
  - what matters for external competitiveness is the relative ULC (a REER based on ULC) not the level of ULC
  - GDP deflators (relative) are potentially relevant for external competitiveness as they probably are the best proxy for value added prices
  - labor share has changed (decrease)

External demand

The role of price competitiveness and external demand

External demand for a good/service produced in Portugal by firm i and sold to f = non-resident

$$Q_{i,f} = \boldsymbol{Q}\left(\frac{P_{i,f}}{P_f}\right) Q_f$$

depends on total non-resident demand Q_f and the relative price $\frac{P_{i,f}}{P_f}$. Take logs for simplicity:

$$q_{i,f} = \boldsymbol{q}\left(p_{i,f} - p_f\right) + q_f$$

Given the focus is on competitiveness *we need to condition on non-resident demand* q_f to get how the relative prices $p_{i,f} - p_f$ influence exports

External demand

The price setting

Prices set by firms depend on the markup $\mu_{i,f}$ and the marginal costs $mc_{i,f}$:

$$p_{i,f} = \mu_{i,f} + mc_{i,f}$$

$$mc_{i,f} = mc_{i,f}\left(q_{i,f}, \chi_i, e_f\right)$$

where e_f is the bilateral exchange rate and χ_i the inputs. Assume that we consider only intra euro exports $e_{i,f} = 0$ and (1) Portuguese exporters do not have market power $\mu_{i,f} = 0$, and (2) that there is some substitution between inputs so that marginal costs are equated across inputs, then

$$p_{i,f} = mc_{i,f} = \frac{(1+\tau_i)\, w_i}{\frac{\partial q_i}{\partial n_i}}$$

if $\frac{\partial q_i}{\partial n_i} \approx \frac{q_i}{n_i}$ *, ULC are a good measure to substitute for the price at the firm level*

The aggregate ULC

Heterogeneity matters if exporters are concentrated in the distribution

$$ULC = \frac{(1+\tau_L)\,WN}{Y} = \int \frac{(1+\tau_i)\,w_i}{\frac{q_i}{n_i}}\,di$$

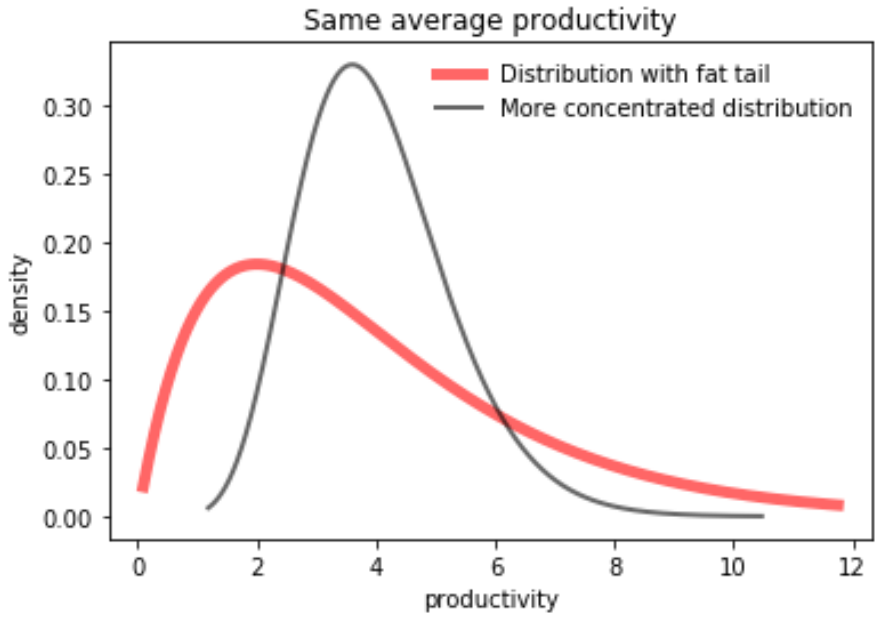


Figure: Heterogeneity potentially matters

Using the GDP deflator

Intermediate and Value chains

It can be shown that with or without intermediates (supply chains are similar to intermediate) the price that should enter the REER is value added prices which are best proxied by GDP deflators (plus an extra term the weighted average of relative prices of foreign value added used in production)

$$P = P\left(P_Y, P_M\left(\{P_{Y,,f}\}_f\right)\right)$$

We can compare how different measures of REER, for example based on ULC or on GDP deflators compare

$$REER = \int \omega_f \frac{e_f P_f}{P} df$$

Real Exchange Rates

Portugal price competitiveness measure by 2 REER

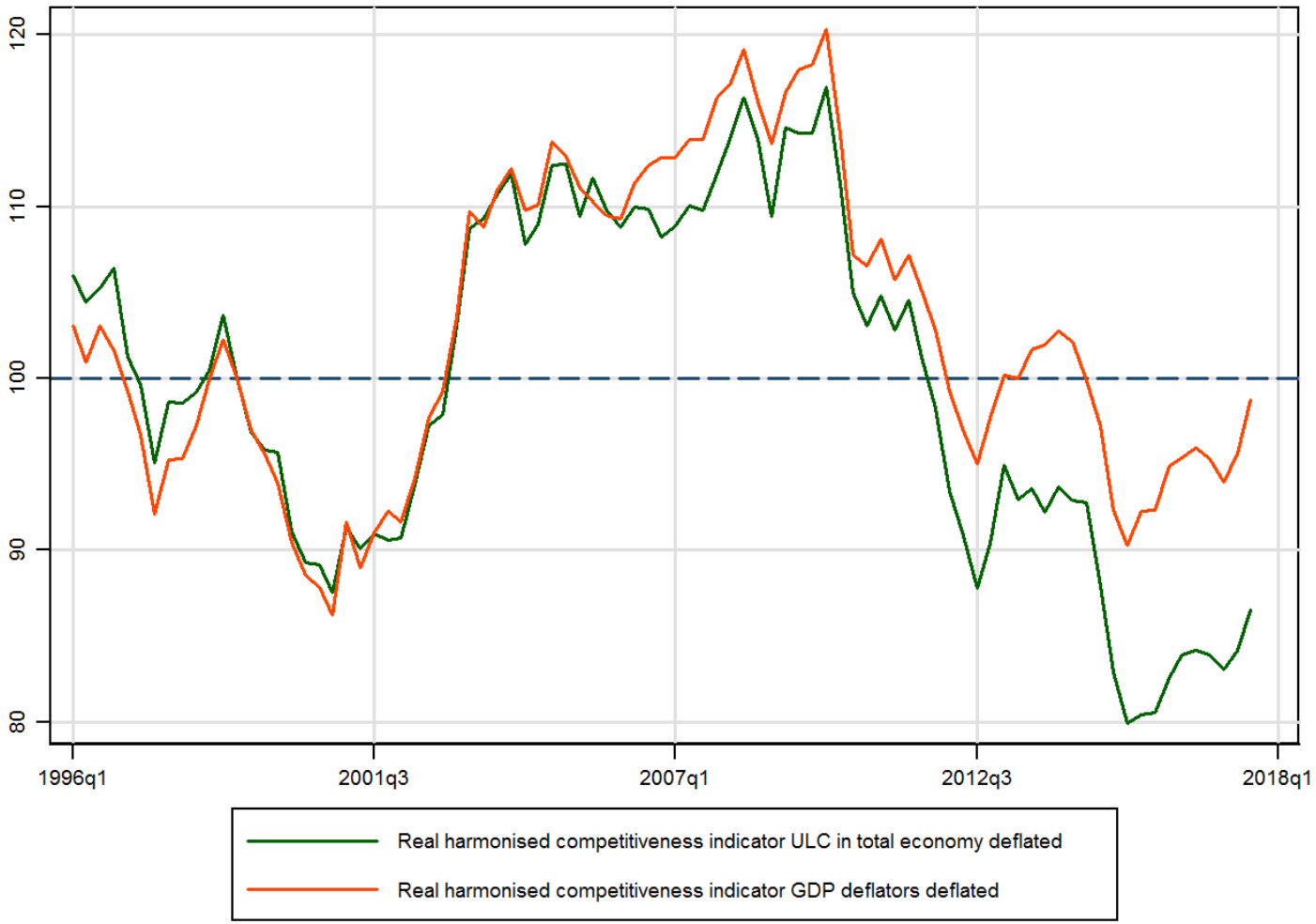
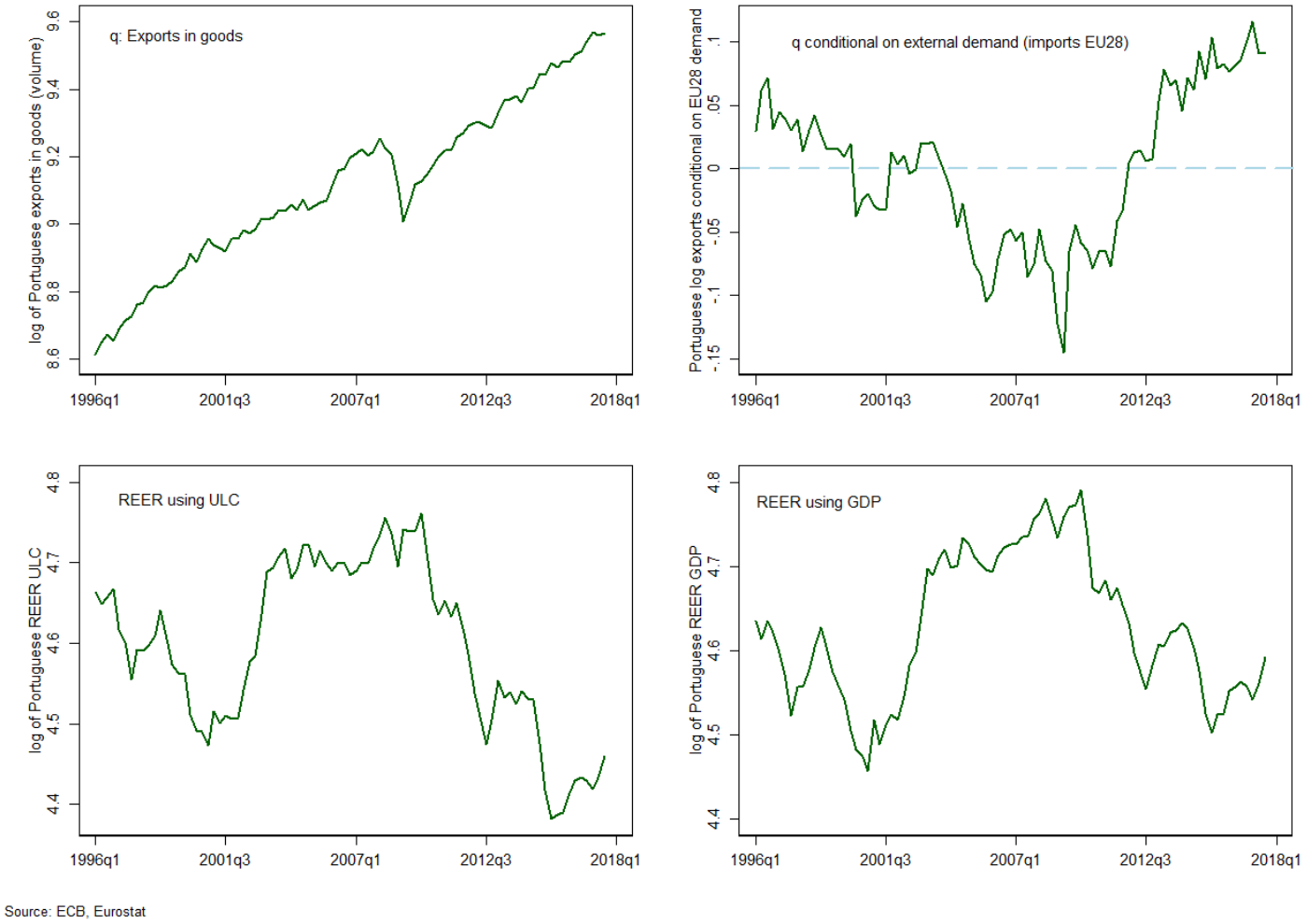


Figure: Portugal price competitiveness

Specifying the external demand

Exports, Eu28 imports and REER



Source: ECB, Eurostat

Figure: Exports, EU28 imports and REER

Specifying the external demand

Exports, Eu28 imports and REER

- Long Run Equation needs more explanatory variables such as non EU28 demand
- The dollar-euro bilateral exchange rate $e_t$is significant in the regression even with REER specified
- both REER measures are significant

$$q_t = \alpha + \beta q_{f,t} + \gamma reer_t + \delta e_t + \epsilon_t$$

Conclusions

Competitiveness is significant in explaining exports in goods

- I would not dismiss ULC as a deflator for measuring REER especially if acknowledged that what matters is vale added prices and yet it is correct to list the assumptions/simplifications needed for the ULC to be an appropriate measure
- Maybe GDP deflator are a better deflator for REER (closer to valued added prices), I did not show it but the regression works marginally better with GDP deflators REER
- Of course competitiveness is a complex concept and prices and costs are prbably not sufficient statistics for this complexity...but they matter