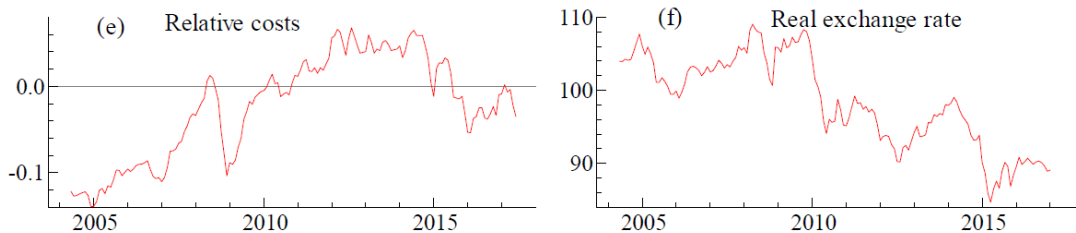


Further comments on Juselius and Dimelis “The Greek crisis: A story of self-reinforcing feedback mechanisms” submitted to *Economics: The Open-Access, Open-Assessment E-Journal*

From Figure 1 in the paper we can observe an increase in Relative Costs (Greece/Germany) panel (e) and a decline in RER panel (f) as follows:



In my previous comments I noted that:

- The estimated relationship between unemployment rate and REER has the wrong sign (-) as, **according to the model, an increase in the REER (loss in competitiveness) should lead to higher unemployment (+ sign).**

Juselius and Dimelis dismiss my comment by saying that an increase in REER means an improvement in competitiveness, leading to lower unemployment and a (-) sign in the cointegrating relationship. This is argument is wrong as shown below.

- The Greek REER was high or increasing from 2002 through 2009 signalling a **loss of price competitiveness**. This is what can be seen from the Figure below which is in line with Figure 1 (f) in the paper reproduced above.

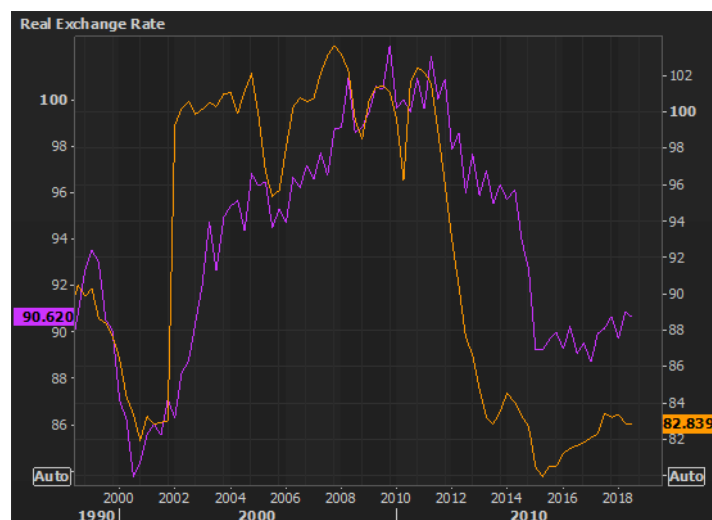
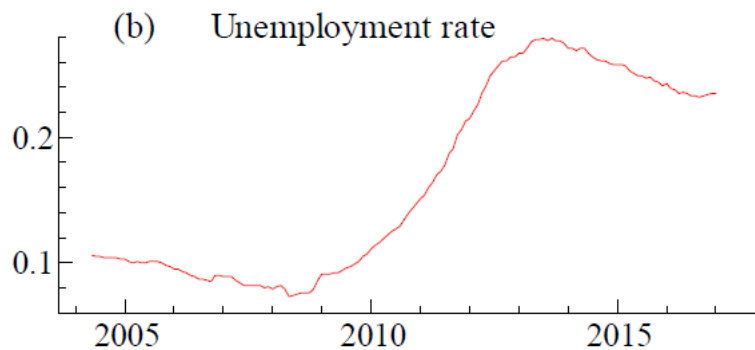


Figure 1: Greece: Real exchange rate (the yellow line is based on unit labour costs)

(Source: Reuters Eikon)

- From 2010 through 2015-18 the Greek REER declines significantly showing an **improvement in price competitiveness**.
- The **unemployment rate is declining** from 2004 through 2008 and increasing rapidly from 2008 until 2014 as can be observed from Figure 1 (panel b) in the paper:



Or by the figure in my previous comment reproduced below for convenience:

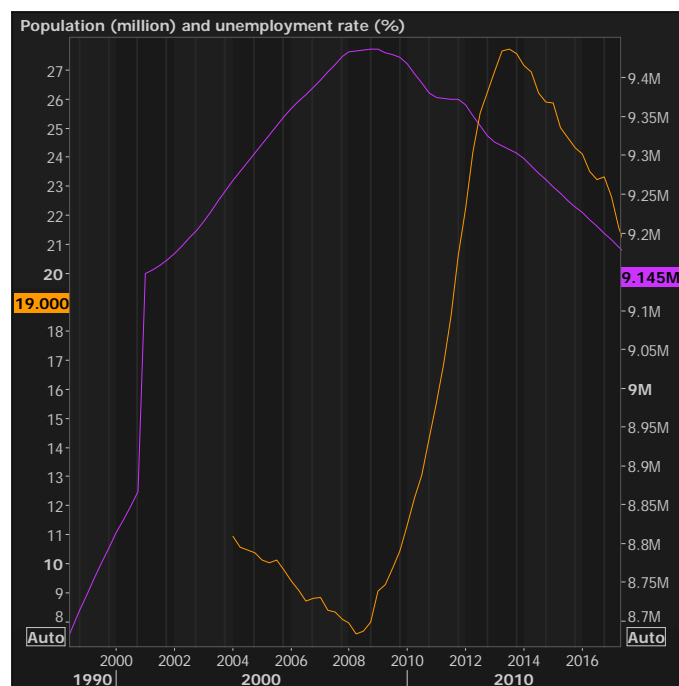


Figure 2: Greece: Population (right hand scale) and Unemployment rate (left hand scale)

Source: Reuters Eikon

- From the above we can see that when Greece is **losing competitiveness** (REER goes up) the **unemployment rate is declining** and when Greece is gaining competitiveness (REER goes down) the unemployment rate is increasing. Thus, the econometric estimation gives a **negative sign** which is fine from the statistical point of view; however it is exactly opposite to the theory's prediction. **The theory must be rejected**. That was my point.

On a related topic I commented as follows:

- The relative costs variable (Greece/Germany) moves in the opposite direction of the Greek real exchange rate based on unit labour costs, which is counterintuitive

In reaction to my comment Juselius and Dimelis argue that:

"In a period in which Greek prices have increased relatively more than German prices and the nominal exchange rate is primarily determined by German conditions the outcome might be counterintuitive but is nevertheless what happened and explains why it was so hard for Greece to get out of the crisis."

- It is unclear what is being measured with this relative cost measure. From a structural point of view German exports (e.g. cars and investment goods) are very different from Greek exports (e.g. tourism and olive oil); thus relative prices Greece/Germany should be largely irrelevant from the competitiveness point of view. In fact, as shown in Figure 1, Greece gained price competitiveness after 2010 according to a more relevant real exchange rate measure (based on relative unit labour costs).
- However when gains in competitiveness are more marked when measured in relative unit labour costs compared to when measured on relative prices, as suggested by Figure 1, it points to widening export margins and profits. (There could be other reasons.)
- Be that as it may, concluding that it "explains why it was so hard for Greece to get out of the crisis" is clearly a **delusion**.
- However, paradoxically, that relative price variable has the correct sign in the econometric regression. A suggested interpretation is as follows. Consider the relation $u_t - \beta * (\text{rel price}_t - \text{rulc}_t)$ that could be interpreted as a relationship between the unemployment rate and a proxy for *profit margins* ($\text{rel price}_t - \text{rel unit labour cost}_t$). In that case $u_t - \beta * \text{rel price}_t + \beta * \text{rulc}_t$ could be a cointegrating relationship with the "correct" sign under the implicit parameter restriction (on beta).

As a final comment: to understand the economic mechanisms of the Greek Great Depression of 2008-2016 I suggested the authors, in my previous comment, to take a look at **credit and other quantity variables** (as well as to emigration), and to downplay the search for "equilibrium" financial prices. My suggestion was ignored by the authors, which is fine as far as I am concerned.

However, the reality is that Greek banks were "forced" by the Troika to cut credit to the economy; that added to budgetary cuts and nominal wage/pensions reductions, caused aggregate demand to collapse and unemployment to surge. The resulting shrinkage of imports closed the trade deficit. This "treatment" was applied to the patient several times. Thus the economy went into a depression. This is all in line with good **old-Keynesian** analysis. With due respect, in order to understand the Greek Great Depression of 2008-2016, we do not need Phelps, Koo and/or Imperfect Knowledge Economics.