

Answers to the referee report

I have some doubt about the main conclusion of the paper about the irrelevance of the BS-effect. In fact, the empirical tests prove that there is a positive and statistically significant relationship between productivity and real exchange rate. What is this if not a confirmation about the relevance of the BS effect? It may well be that the effect is not strong, but this is a different story.

Answer: In section 3.2. (Balassa-Samuelson (re)visiting Macedonia) we show the missing link between the relative price of nontradables and the different measures of productivity. This can be also shown econometrically, but we wanted to save space and paper and thus did not report the results. Further to this, the relationship we establish between the real exchange rate and the productivity variable is clearly not due to the BS effect because there is a very high correlation between the real exchange rate calculated on the basis of the CPI and the PPI. We will show the graph with the series in the revised version of the paper to make this point clear. If the PPI-based real exchange rate stands for tradables, it is difficult to interpret the relationship between productivity and the real exchange rate as evidence for the B-S effect. Rather, as also argued in Loko and Tuladhar (2005), the depreciation of the real exchange rate may be partially a result of the increase in the productivity gap between Macedonia and EU-5. It is the decline of the quality of the products, reflected in lower prices that causes a real depreciation.

2. If I rightly understood the series for explanatory variables are not expressed in relative terms (to trading partners). This may bias the results. In fact, given that Macedonia trades with some fast growing countries, it may well be the relative productivity (to other countries) was negative over the sample period, which would be consistent with the observed depreciation of the real exchange rate.

Answer: We have five explanatory variables: productivity, openness, net foreign assets, terms of trade and government consumption. The productivity variable and the government consumption over GDP ratio are constructed relative to the foreign benchmark. For the openness, net foreign assets and terms of trade variables we do not think we need to take the foreign counterpart. To the extent that our foreign benchmark covers Macedonia's foreign trade, changes in those variables also reflect changes in the foreign variables. For instance, openness is calculated using export from Macedonia to abroad and import from abroad to Macedonia. As a result, it already is linked to openness of the foreign countries (normalised by Macedonian GDP). All the same, terms of trades for Macedonia, that is prices of goods exported from Macedonia to the foreign countries related to the prices of goods imported export prices to import prices in Macedonia is the reciprocal of the terms of trades of the foreign country vis-à-vis Macedonia.

3. Data series should be explained in more details. First, as mention above, it is not clear if the explanatory variables are in relative terms. Second, it is not sure what the time dimension of the data is. Figure 2 reports data from 1990-2005, Figure 4

from 1997Q1-2005Q2 and 1997Q1-2004Q3, Figure 5 from 1997Q3-2006Q3 and 1997Q1-2006Q1.

Answer: Yes, the availability of the different data series differs. In particular, as is usually the case for transition economies, quarterly series for data from national accounts based on which our productivity variables are computed are available only from the second half of the 1990s. We would make this clearer in the revision.

4. As to NFA: as in other developing countries remittances may probably play an important role in total flows and this could also have some important influence on exchange rate behavior in Macedonia.

Answer: We were wondering whether we should introduce remittances if NFA already contains them.

5. Usually in BEER specifications one adds interest rate differentials to capture short term influences on the real exchange rate developments related to capital flows. Given the shallowness of the Macedonia's financial market this may not be very important, although the issue could be mentioned somewhere in the paper.

Answer: Valid point, we will take care of it in the revision. In earlier versions of the paper, we have included the real interest rate differential in the model but the series were not cointegrated.