

Real exchange rate dynamics in Macedonia: Old wisdoms and new insights.

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This paper analyses the real exchange rate in Macedonia and examines the relevance of the Balassa-Samuelson approach. The paper discusses, in particular, differentials in productivity between the tradable and non-tradable goods sector and identifies weaknesses in the result of Loko and Tuladhur (2005) that aggregate productivity differentials, and hence the Balassa-Samuelson, are relevant for Macedonia. The paper suggests there are measurement issues in Loko and Tuladhur (2005) since they use aggregate productivity (GDP per capita) to model the Balassa-Samuelson effect and that aggregate productivity does not differentiate between tradable and non-tradable sectors. The paper identifies that relative productivity between tradable and non-tradable sectors in Macedonia affects the real exchange rate. Nevertheless, this productivity effect is not operating through relative prices, contradicting the Balassa-Samuelson hypothesis for Macedonia consistent with Loko and Tuladhur. The paper deals with an interesting topic and the results are promising. However, the paper could be better drafted, the contribution could be more clearly defined, the empirical results of the paper could better motivated and explained in more detail and some methodological points explained more clearly.

(1) There is an existing literature that seeks to model the real exchange rate using productivity differences and based on differences in sectoral productivity. This literature should be referenced in your paper since this is not your innovation but your application to Macedonia. For example, De Gregorio et al. (1994) and MacDonald and Ricci (2005).

(2) The paper suggests that Balassa-Samuelson is not operating in Macedonia (i.e. "is quasi-irrelevant"?), since although productivity is related to the real exchange rates in Table 2's estimations and Figure 5 (with the authors being a little optimistic about "eyeball econometrics" here), there is no association between productivity and relative prices on the basis of Figure 4. The authors may be right that there is no correlation between relative prices and productivity, but couldn't the authors have tested for this statistically rather than suggesting that it looks like there is no relationship on the basis of Figure 4?

(3) There is evidence of high productivity in the hotel and restaurants sectors. Why is this? At present you only suggest that it is a statistical artefact and provide no reference or justification for that. This may be important since this is a sector that enters your tradable good sector at one point (prod3) and its high productivity will clearly influence your results. Also hotels and restaurant are typically considered to be part of the service sector, which is nontradable. You could provide some justification for why you consider this to be a tradable good sector beyond "some voiced the view that services are becoming increasingly tradable in nature." This could be an important sector since most people consider it an important channel of the Balassa-Samuelson effect is from high productivity in the tradable goods sector (MacDonald, 2007, p. 75). If productivity improvements are concentrated in the nontradable goods sector, does this have

implications for the Balassa-Samuelson hypothesis and consequently the real exchange rate?

(4) Figure 4 presents data for aggregate and disaggregate inflation. Non-tradable inflation and tradable inflation have both been stronger than aggregate inflation. Given that products are either non-tradable or tradable, where is low aggregate inflation coming from? Also in Figure 4 once the high productivity sectors of hotels and restaurants are included (i.e. prod3), productivity is lower than without it (prod 1 or 2). How can this be?

(5) Figure 5 is particularly confusing when it comes to undefined acronyms. This may partly explain why the discussion is also unclear. When you suggest “the depreciation is substantially lower” for the corrected real exchange rate (REER_COR?), do you mean that the real exchange rate is lower and hence there is a greater depreciation? Why is the productivity measures prod4 and prod5 only being used for comparison with the real exchange rate? Isn't it more conventional to compare only productivity in industry and agriculture, which are typically considered as tradable? Also what is the correlation coefficient between the different measures of productivity and the real exchange rate, since Figure 5 mainly indicates to mean that productivity is much more volatile than any of the other measures of the real exchange rate, rather than “figure 5 testifies forcefully the absence of any link if using the official real exchange rate series, whilst the newly constructed real exchange rate series seem to move [in] tandem with the productivity differential”. Maybe this figure could be re-interpreted?

(6) Why introduce equation (3) which suggests the real interest rate differential is important for real exchange rates but not include this variable in your estimations? Maybe this could be tested or at least suggest that you are following Loko and Tuladhur.

(7) In the introduction “the real exchange rate has been depreciating...during the last ten years” while figure 1 suggests that the real exchange rate against the Euro has been appreciating in recent years. Is the former an effective exchange rate?

Other points

It is more standard to have an increase in the real exchange rate equivalent to an appreciation; maybe this definition could be used throughout the paper. Acronyms are not defined e.g. DSGE, CEE-5. Far from obvious rather than “it is far to be obvious”, page 2. Heading to figure 2 is the same as figure 1, although the graphs are different.

Reference

De Gregorio, J., X. X. Giovannini and H. C. Wolf (1994) International Evidence on Tradables and Nontradables Inflation, *European Economic Review* vol. 38, pp. 1225–44.
MacDonald, R. (2007) *Exchange Rate Economics: Theories and Evidence*. Routledge.
MacDonald, R. and L.A. Ricci (2005) The Real Exchange Rate And The Balassa-Samuelson Effect: The Role Of The Distribution Sector. *Pacific Economic Review*, vol. 10, pp. 29-48.