Referee report on

**Should we trust the empirical evidence from present value models of the current account?**

by
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*Summary*

The present value model of the current account is a model that is often tested using a Wald type test of a nonlinear function of the parameters of the model.

The paper points out that this test is very sensitive to the persistence properties of the data. The analysis is conducted by a simulation experiment and by analyzing data from a number of European countries.

It is show that (authors summary)

(i) The dominant test in the literature - the Wald test of the cross equation restrictions of the model - has very poor small sample coverage and hence inference based on this test can be very misleading.

(ii) The model predicted series is excessively sensitive to small sample estimation error, making it close to impossible to conclude whether actual current accounts are highly correlated or not correlated at all with the model predicted series, or more or less volatile

*Comments*

Page 4, line 1: Small sample inference in regression models where the variables are stationary, but highly persistent has been studied by Elliot (1998, Econometrica 66, 149-158) and the results there offer an analytic explanation of the findings in the present paper.

Page 5: The present value model

$$CA_{pt} = -E_t \sum_{i=t+1}^{\infty} \left( \frac{1}{1+r} \right)^{i-t} [Y_i - Y_{i-1}] \tag{1}$$

can equivalently be written as

$$E_t CA_{t+1} = (1+r) CA_t + E_t \Delta Y_{t+1}, \tag{2}$$

see page 7 line 6.

If, as is assumed in the paper, the data can be described by a VAR we can build a VAR for $x_{1t} = CA_t - \Delta Y_t$ and $x_{2t} = CA_t$, which with two lags, say, becomes

$$x_t = \begin{pmatrix} a & b \\ c & d \end{pmatrix} x_{t-1} + \begin{pmatrix} e & f \\ g & h \end{pmatrix} x_{t-2} + \varepsilon_t,$$

where the first two terms describe the conditional mean given the lagged observations of $x_t$. The restriction (2) can be formulated as

$$\begin{aligned} E_t(CA_{t+1} - \Delta Y_{t+1}) &= (1+r)CA_t \\ (1,0)E_t x_{t+1} &= (1+r)(0,1)x_t \\ (a,b)\,x_t + (e,f)x_{t-1} &= (1+r)(0,1)x_t \\ a &= f = e = 0 \end{aligned}$$

These restrictions can be tested by a likelihood ratio test, which is invariant to transformations of the parameters and therefore presumably a better test, see the discussion in section C. This test is the F-test discussed in the paper. It is mentioned a few times that the F-test is only necessary not sufficient, and that I think requires a better discussion, as in the above formulation the model equation (2) are equivalent to the restriction $a = f = e = 0$.

Page 9: The simulations are not described sufficiently well here. Only by reading footnote 12, is it possible to find out how they are designed.

1. First suitable parameter values are chosen.
2. Then a VAR model for two variables is generated for $X_t = (\Delta Y_t, CA_t)$.
3. Next $CA_{p,t} = KX_t$ is constructed and
4. Finally a correlation and variance ratio are calculated

$$R = \frac{\sum CA_t CA_{p,t}}{\sqrt{\sum CA_t^2 \sum CA_{p,t}^2}}, \quad VR = \frac{\sum CA_t^2}{\sum CA_{p,t}^2}$$

A number of minor questions arise

Why is the simulated variable called $z$?

Is the mean subtracted in the calculation of $R$ and $CV$?

By the optimal series do you mean $CA_{p,t}$?

Why do you call the rejection probability $1-\alpha$? Usually the rejection probability is denoted by $\alpha$.

Page 10, line 3-: You call the correlations not very demanding, but they surely demand stationarity. The whole point of the investigation is the existence of a limiting population correlations. If the series $CA_t$ and $CA_{p,t}$ are nonstationary, they are presumably cointegrated in which case you would also get an asymptotic correlation of 1.

Page 15: The explanation of the large correlation is interesting but should be followed up by showing the relative value of the coefficients $\hat{k}_2/\hat{k}_1$. In Figure 9 you have the coefficient $\hat{k}_2$, but it must be the relative coefficient that is of interest.

I am not sure I understand the data plots. If you take Figure 4 panel 1 for Belgium 1993-1998, it looks as if $CA_t$ is roughly 0.5 for these annual data around 1994-1998. The quarterly data should look very much like this except there should be more points on the curve, so to speak. If you go to the quarterly data on page 25 it is clear that the values are reasonably constant from 1994-1998, but the value is around 10. Why this difference?

The quarterly data for Belgium look as if $CA_t$ contains a trend. Should that be modelled?

The Swedish data for quarterly observations (Figure 6) look as if you have generated some seasonal variation in the predicted series. This must come from the observations of $Y_t$. Why is this not modelled? It would help if you would also show plots of $\Delta Y_t$.

*Minor comments*

Page 6: You use $C\hat{A}_{p,t}$ for the estimated value of $CA_t$, and that is easily confused with the matrix $\hat{C}$. Please use either $\widehat{CA}_{p,t}$ or some other notation for $C$.

Page 8, line 3-: What is the role of $T$, why not use $K$?

Page 9: Why use $x$ for the number of observations? Why not $N, n$ or $T$, as is usually done.