

**Discussion** of **"Exchange Rate Fluctuations in EU Accession Countries**" by **Zenon Kontolemis and Kevin Ross** By Lúcio Vinhas de Souza Institut für Weltwirtschaft (IfW) Kiel Germany 2nd Workshop on Macroeconomic Policy Research MNB, Budapest, October 2-3, 2003



•Aim of the paper: to use a SVAR (Structural Vector Autoregression) methodology to estimate how shocks (real and nominal) affect the real exchange rate for a sample of Acceding Countries (all of the 2004 "batch" but Malta).

•2 and 3 variable VARs (relative output, real and nominal effective exchange rates) are estimated, on the Clarida and Gali (1994) tradition.

•Shocks: 3 types of shocks: (i) real aggregate supply shocks (AS), (ii) real goods market (IS) shocks, and (iii) nominal money market (LM) shocks.

•**Restrictions**: IS and LM shocks to *relative output* are restricted to be temporary in nature, while only AS supply shocks are allowed to have permanent effects. AS and IS shocks to *REER* are restricted to have a permanent impact. Shocks to *NEER* are left unrestricted.

## •Main Results:



Real factors appear to be the main determinant of real exchange rates in Slovenia, Hungary, Latvia, and Cyprus.
Limited evidence that an independent monetary and exchange rate policy could be used to offset shocks. At the same time, in some countries (*even currency boards!*),the authors find that the exchange rate does appear to have acted as propagator of shocks.

•The 2 variable SVARs indicate that nominal shocks explained between 20 to 60 % of REER variability in the Czech and Slovak Republics, Estonia, Lithuania and Poland.

•The 3 variable SVARs indicated that nominal shocks are still the main determinant of real exchange rate variability in Estonia, Lithuania and the Czech Republic, while in Poland, real shocks, which now include aggregate supply (AS) shocks, appear to drive real exchange rates.



•Exchange rate shocks play an important role—from 35 to 65 %—in determining the forecast error variance of relative output in Estonia, Poland and the Slovak Republic.

•However, the placement of dummy variables or sample reduction (to cater for "transition") reduces the importance of the nominal component in real exchange rates, and in some cases, the importance of exchange rate shocks in explaining relative output movements.



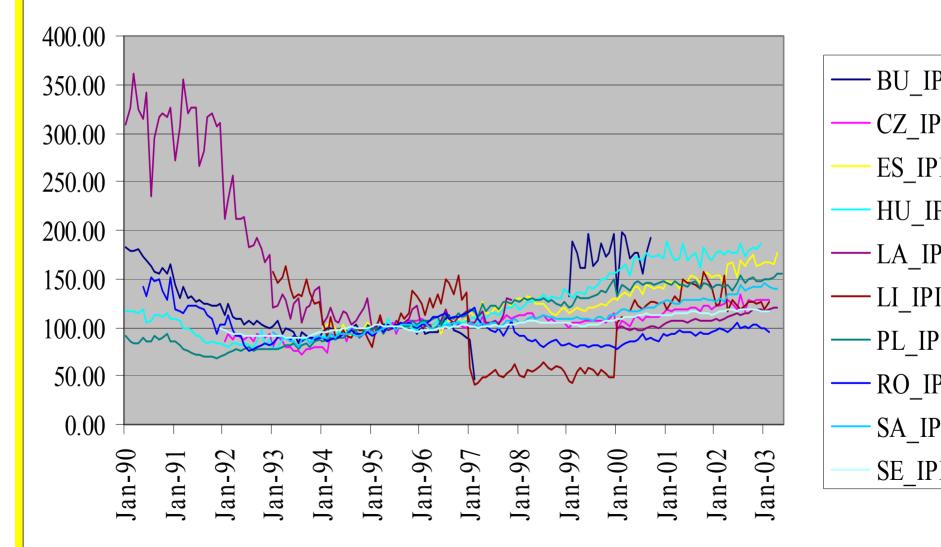
•With the second time sample, the initial results mostly disappear!

•Non-linearity of the time series in the initial sample drive the earlier results in the paper.



Adequacy of the time sample of the data for the countries: Initial time sample Sample Period 1988:1-2003:1 Cyprus Slovenia 1992:1-2003:2 1990:1-2002:10 Slovakia 1985:6-2002:12 Poland 1986:1-2003:2 Hungary 1994:1-2003:2 Estonia 1993:1-2003:2 Lithuania 1992:12-2003:1 Latvia 1992:1-2003:2 Czech Republic

Example of potential data questions: relative output is defined using industrial production series. Highly problematic for the ACs, due to the "transitional recession".





## Adequacy of the time sample of the data for the countries: Second time sample

SVAR Models: Sample Periods and Dummy Variables

|                |                | Restricted Sample/      |
|----------------|----------------|-------------------------|
|                | Sample Period  | Dummies (D)             |
| Cyprus         | 1988:1-2003:1  |                         |
| Slovenia       | 1992:1-2003:2  | 1993:1-2003:2           |
| Slovakia       | 1990:1-2002:10 | 1991:1-2002:10          |
| Poland         | 1985:6-2002:12 | 1990:1-2002:12          |
| Hungary        | 1986:1-2003:2  |                         |
| Estonia        | 1994:1-2003:2  | D:1994:1-D:1996:12      |
| Lithuania      | 1993:1-2003:2  | 1994:1-2003:2, D:1999:8 |
| Latvia         | 1992:12-2003:1 | D:1993:1-D:1995:12      |
| Czech Republic | 1992:1-2003:2  |                         |



•Exchange rate regimes *do* matter for growth and variability, and floating regimes can be effective shock absorbers, *even on emerging markets*:

•Levy-Yeyati and Sturzenegger (2001): consistent positive growth effects from float regimes.

(Edwards, 2001): "Dollarized" countries have lower –and more volatile- growth rates than non-Dollarized ones. For Panama ("Dollarized" since 1904), he also estimates that external shocks (terms of trade and current account "reversals") have larger negative growth effects that in non-Dollarized ones.
Calderón and Schmidt-Hebbel (2003): : (i) both monetary and fiscal policies are counter- (pro-) cyclical when credibility is high (low) and (ii), exchange rate regimes do matter for inflation and growth (using a LAC sample).



•Kuttner and Posen (2001): the assumed superiority of harder exchange rate regimes in terms of nominal volatility, when compared to more flexible ones, is *not observed* if a "combined framework" (level of central bank independence, existence of announced targets and the type of the exchange rate regime) is taken into consideration.

•Vinhas de Souza (2002) confirms the findings above for a sample of ACs. Using a "combined framework", he finds that a flexible regime not only mimics the nominal variability reducing properties of a more rigid one, but also reduces the variability of real variables.

•Springer de Freitas at al. (2003): Floating reduced inflation, inflation persistence and effects of external shocks in Brazil.

•Hammerman (2003): Monetary policy reacts to real shocks (Poland, Chile).

•http://www.uni-kiel.de/ifw/konfer/latinamerica/programm.htm



Vinhas de Souza and Ledrut (2002): In a VAR, three types of shocks are simulated for the CEECs' ACs:

i)a domestic fiscal shock (a shock to the government consumption expenditures);

ii) a domestic monetary shock (a shock to the nominal interest rate);

iii) a external monetary shock (a shock to the Euroarea nominal interest rate).

A float regime outperforms a harder regime as a "shock absorber" for most countries, is shocks are weighted equally. Most shocks not only have smaller GDP and CPI effects under a float, but they also converge faster to the mean. The most consistent exception to this stylised picture is the *external* monetary shock.



## •Inadequate modeling of the Exchange Rate Regimes followed by the countries in the sample.



| Accession Country Exchange Rate Regimes              |                                       |  |
|--|---------------------------------------|--|
| Cyprus   | Peg to euro, +/- 15% bands            |  |
| Czech Republic                                       | Free Float                            |  |
| Estonia  | Currency board to euro (since 1992)   |  |
| Hungary  | Peg to euro, +/- 15% bands            |  |
| Latvia   | Peg to SDR, (euro weight 30%)         |  |
| Lithuania  | Currency board to euro (since 1994) ' |  |
| Poland   | Free Float                            |  |
| Slovak Republic                                      | Managed Float                         |  |
| Slovenia   | Managed Float                         |  |
| 1/ Poppagod from LIS dollar to ouro in Eabruary 2002 |                                       |  |

1/ Repegged from US dollar to euro in February 2002.

| Country           | Exchange Rate Regime  |
|-------------------|---|
| Bulgaria          | 05/90: peg to a basket of imports' prices and two "market rates". 02/91: dirtume d unified exchange system. 07/97: Currency Board (CBA), DEM and now Euro.  |
| Czech<br>Republic | 12/90-05/97: peg to a DEM/USD basket ("entry" devaluation of 95%) with narrow +/- 0.5% bands (till 02/96, when they were extended to +/- 7.5%). Afterwards, a float regime, coupled with direct inflation targeting (DIT).  |
| Estonia           | Since 06/92: CBA, DEM and now Euro.   |
| Hungary           | 1990: 11-currency basket peg, with periodic adjustments. 12/91: adjustable peg to a DEM/USD basket (50%/50%). 03/95: Forint devalued, crawling peg with a variable pre-announced devaluation rate introduced. 01/99: Euro/USD basket, same weights. 1/00: Euro crawling peg. 10/01: DIT with float in an ERM- type band (+/-15%). |
| Latvia            | 02/92: dirty float. 02/94: "hard" peg to the IMF's SDR's  |
| Lithuania         | 02/92: dirty float. 04/94: CBA (USD). 02/02: CBA (Euro).  |
| Poland            | 1990: peg with the USD. 05/91: crawling peg to a 5 currency basket. 05/95: crawling band regime with intervention bands. 04/00: dirty float cum DIT.  |
| Romania           | 1990: Basket peg of 6 currencies, in a non-unified forex regime. 11/91: unification of the multiple exchange rates under a dirty float.   |
| Slovakia          | 1/93: basket (DEM/USD) peg with intervention bands, progressively widened. 10/98: dirty float   |
| Slovenia          | 10/91: dirty float.   |



•Instead of (S)VARs, why not full-blown structural models?

•Vinhas de Souza and Ledrut (2002): Forward-looking version of a Mundell-Fleming-Dornbusch model of exchange rate regimes simulated for the CEECs' Acs.

•Dynamic Stochastic General Equilibrium (DSGE) models in the Obstfeld and Rogoff (1995) tradition.