Confronting our FEERs: a Bayesian model selection based robustness analysis by D. Buscaglia, F. Fornari and C. Osbat

Discussion by:
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Fundamental Equilibrium Exchange Rates

• Goal: Use two reduced-form econometric models on a panel of developed and developing countries to obtain a measure of the real exchange rate that would result in external and internal balances
  – all countries at potential output
• CA model
• Elasticities model
• Estimate of required real exchange rate change
(1) Current Account model

• Reduced form regressions of CA/GDP on a variety of real factors
  – relative GDP measures
  – relative output gaps
  – relative demographic factors
  – relative gov’t deficits
  – relative energy dependency
  – etc.
(1) Current account model

• Problems:
  – very noisy measures
  – variety of theories to explain links
  – problems with long-run stationarity
  – great deal of cross-country heterogeneity

• However, do have prior beliefs about signs of coefficients in most cases (from theory or other studies), at least in long run
(1) Current account model

• Examine 58 countries over 1995-2007
• Uses a Bayesian model averaging technique to account for great deal of specification uncertainty (across variables, countries, etc)
• Non-informative priors on coefficients (centered at zero)
• Stronger prior belief in smaller models
(1) CA model

• Use the model to obtain two measure of the CA
• Current account norm (CA*): estimated medium-long-run “equilibrium” current account
• Underlying current account (UCA): CA /GDP forecast over the short-medium term, once recent exchange rate changes and other (hopefully transitory) effects have been accounted for
• Find a large amount of uncertainty in long-run measures
(2) Elasticity model

- How do import and export volumes respond to changing trade prices?
- AR models for changes in M and X volumes
- Functions of past changes in M and X prices
- Can construct a long-run price elasticity from sum of estimated short-run coefficients
- Similar method for exchange-rate pass through measures
- Also find great deal of uncertainty in these measures
(3) FEER estimate

\[ d\text{REER} = \frac{1}{\sigma} \left( CA^* - UCA \right) \]

- Results are not encouraging for the FEER model
- Long-run uncertainty is huge
- Requires much more imposition of theory
Comments

1. Need to focus on capital account dynamics as well
2. Need to impose more long-run information in Bayesian approach
3. Need for longer data sample to get good estimates of risk and expected return
(1) Current Account Norm (CA*)

• “Equilibrium” CA/GDP
  – sustainable level over medium term based on “macroeconomic factors”
  – sustainable level of NFL / GDP

• Given (i) the large amount of trade in financial assets (relative to goods) and (ii) the large amount of net foreign assets (liabilities), this is a capital account issue for many countries
  – a financial markets question: depends on degree of international asset substitutability; i.e. demand for assets produced by country
(1) Current Account Norm (CA*)

- In recent times the demand for financial assets has been driven in large part by non-market decisions
  - e.g., large increase in FX reserves to maintain fixed exchange rates
  - composition is another problem (what do FX reserve managers buy?)
  - demand for AAA collateral for repo, etc.
(1) Current Account Norm (CA*)

• Will need to be resolved (in part) via market solutions
  – somebody must hold lower than AAA rated assets, sovereign risk, credit risk, etc.
  – trade off between risk and expected return in a heterogeneous agents setting
  – model of how private sector agents will respond to current global imbalances, demand for AAA and lower-rated rated assets, etc.

• Need a “Capital account norm” as well
(2) Bayesian approach

• Do NOT be a “timid” Bayesian!
• We have a lot of non-sample information
• Use it in the estimation
• Focus on long-run aspects of model
(3) Sample period

- Data: Why use such a short sample when there is such inherent difficulties in estimating mean reversion parameters (e.g., in AR models)?
  - Why not use a smaller group of countries, annual data over longer periods, etc?
Suggestions

• Greatly reduce number of countries to areas (e.g. Euro, oil exporting, etc.)

• Focus on “capital account norm”: risk vs. expected return
  – behaviour of non-market agents (e.g. central banks)
  – private sector behaviour

• Increase amount of calendar time in estimation to get good estimates of expected returns

• Impose long-run priors