Discussion of "Credit and Macroprudential Policy in an Emerging Economy: a Structural Model Assessment" by Horacio A. Aguirre and Emilio F. Blanco

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What they do

- Develop and estimate macroeconomic models of the Argentinean economy with the following key ingredients:
  - Credit market
  - Sterilized intervention in the foreign exchange market
  - Capital requirements

- Evaluate the benefits of the interaction of monetary policy, foreign exchange intervention and capital requirements during the period 2003-2011.

Some key findings

- Shocks to lending rates weigh on macroeconomic variables, principally through effects on output growth.

- The specification of the capital adequacy ratio plays a very important role in estimating the sensitivity of output growth to spreads in the aggregate demand equation.

- Interest rates faced by households and firms depend negatively on output growth and positively on delinquency rates.

- Significant deviations from the standard UIP condition are needed to explain the data.

- Inflation is mainly determined by backward-looking behavior.

Outline

1. The model

2. The importance of different ingredients in the model

3. The evaluation of the interaction of different policies

4. Conclusion

The model: aggregate demand

- Try more disaggregation of aggregate demand block
  - Consumption: it can be linked with households spread
  - Investment: it can be related with firms spread
  - Government spending: simple rule
  - Exports: foreign demand and real exchange rate
  - Imports: domestic demand and real exchange rate

- This disaggregation would allow to:
  - Improve the identification of effects of risk-free interest rate, exchange rate and spreads.
  - Have a better characterization of credit to different agents.
  - Consider shocks to foreign demand in the analysis.

The model: modified UIP

- It can be written as:

$$e_t = \frac{-i_t + i_t^*}{2\omega_1 - 1} + \frac{\omega_1 e_{t+1}}{2\omega_1 - 1} + \frac{(\omega_1 - 1)e_{t-1}}{2\omega_1 - 1} + others$$

- Estimates of $\omega 1$ are between 5.6 and 6.2 whereas standard UIP requires $\omega 1 = 1$.

- *Others* is a function of net international reserves. In contrast, in standard open economy models, it is a function of total NFA (including private sector NFA).

- To characterize realistically the evolution of NFA, we need to model exports and imports.

The model: other equations

- Allow interest rate faced by firms to appear in aggregate supply and see if the cost of working capital play a role to explain inflation.

- Try setting prior for B3 =1 in equations below

$$\widehat{i}_t^{H,act} = B_1 \widehat{Delinq}_t^{H} - B_2 \widehat{g}_{t-1}^{y} + B_3 \widehat{i}_t + \varepsilon_t^{Hact}$$

$$\widehat{i}_t^{F,act} = B_1 \widehat{Delinq}_t^{F} - B_2 \widehat{g}_{t-1}^{y} + B_3 \widehat{i}_t + \varepsilon_t^{Fact}$$

The importance of different ingredients

- Three key ingredients:
  - Credit markets and their influence on the economy

$$g_t^y = \beta_1 \mathbb{E}_t g_{t+1}^y + \beta_2 g_{t-1}^y - \beta_3 \hat{r}_t + \beta_4 \Delta \hat{e}_t^{tri} - \beta_5 \hat{sf}_t - \beta_6 \left(spread_{t-1} \right) + \varepsilon_t^y$$

  - The size of β_6 is crucial.

  - Sterilized intervention in the foreign exchange market

$$\hat{i}_t = \hat{i}_t^* + \omega_1 \mathbb{E}_t \hat{\delta}_{t+1} + (1 - \omega_1) \hat{\delta}_t + \omega_2 \hat{b}_t + \omega_3 \widehat{res}_t + \hat{\lambda}_t$$

  - The size of $\omega 2$ and $\omega 3$ are important.

The importance of different ingredients

- Last key ingredient:
  - Capital adequacy ratio (CAR): its role in the transmission of shocks depend on the value of B4 in the equations below

$$\widehat{i}_t^{act,H} = B_1^H \widehat{Delinq}_t^{H} - B_2^H \widehat{g}_{t-1}^{y} + B_3^H \widehat{i}_t + B_4 \widehat{CAR}_t + \varepsilon_t^{Hact}$$

$$\widehat{i}_t^{act,F} = B_1^F \widehat{Delinq}_t^{F} - B_2^F \widehat{g}_{t-1}^{y} + B_3^F \widehat{i}_t + B_4 \widehat{CAR}_t + \varepsilon_t^{Fact}$$

  - CAR rule plays a very important role in estimating the sensitivity of output growth to spreads in the aggregate demand equation.
    - The size of β_6 without CAR rule is 0.12 whereas the one with a CAR rule that reacts to aggregate credit spread is 0.37.

The evaluation of the interaction of different policies

- Their method does not hold constant parameter values associated with private sector behavior when evaluating the policies. They think that the estimated coefficients reflect different behavior due to different policy.

- Different parameter values do not reflect different behavior. Instead, they reflect different estimates due to different estimation strategies.

- Alternative approach is needed to evaluate the benefits of the interaction of policies.

Conclusion

- Very interesting paper. Proposes different macroeconomic models to explain the transmission of different shocks in Argentina taking into account interaction of different policies.

- Assessment of the importance of each ingredient of the model would be useful.

- The aggregate demand and modified UIP can be improved.

- Evaluation of benefits of interaction of policies requires a different approach.