Credit and Financial Cycles as Predictors of Business Cycles: Example of EAEU Countries

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Financial Cycle (FC): credit expansion (contraction) => changes in: spending, investments, risk attitude, mode of expectations, etc. (Borio 2014, p. 183) Mostly studied for advanced countries so far.

Variables included usually
- Private sector credit
- Private sector credit – to – GDP ratio
- Property price index
- Equity index (too volatile???)
- Annual growth rate of credit
- Annual growth rate of property prices
- Banking sector indicators

Variables we use
- Private sector credit
- Private sector credit – to – GDP ratio
- Property price index
- Total credit (including government-related)
- Total credit – to – GDP ratio
- Current account balance (‘resource curse’ and import dependence)
Data sources: official data (Central banks, State statistical committees, IMF, BIS).
Data periods: Russia 2000q4 to 2017q2, Kazakhstan 2003q1-2017q2, Belarus 2002q1-2017q2

Methodology-1

• Filtering
  • HP (problems)
  • Hamilton procedure
  • CF (preferable)
  • BK (not suited for short samples)

• Booms/peaks detection
  • Threshold method based on standard deviation (Mendoza and Terrones, 2012)
  • Bry-Boschan procedure

• Robustness checks:
  • Different filters
  • Different methods for booms/peaks detection
  • Different sample size
  • Different weights for combined FCs series

Methodology-2

• Individual FC indicators

• Aggregate FC indicators
  • FC1 = private sector credit + private sector credit to GDP ratio + property prices.
  • FC2 = total credit + total credit to GDP ratio + property prices.
  • FC3 = total credit + total credit to GDP ratio.
  • FC4 = total credit + total credit to GDP ratio + property prices + CA balance.
  • FC5 = private sector credit + private sector credit to GDP ratio;
  • FC6 = private sector credit + private sector credit to GDP ratio + property prices + CA balance.
Results for Russia

- CA balance cycles booms of 2002 and 2015 capture commodity markets (oil)
- Total credit cycle has very different dynamics from private sector credit cycle (correlation is 0.3 only)
- No boom period in total credit => 2008 crisis was a private sector crisis
- Negative correlation of total credit to GDP ratio with private sector credit, its ratio to GDP, and property prices
- Aggregate FC measures (see figure) for total credit and for private sector credit differ substantially
- Lowest amplitude of Fcs for all countries
- Measures based on private sector credit have higher amplitudes => easier boom detection
- Measures based on private credit precede or coincide with GDP boom of 2008
Results for Kazakhstan

- CA balance cycles booms of 2002 and 2015 capture commodity markets (oil)
- Private sector credit and total credit results are largely similar (correlation almost 1)
- Most coherent results in terms of robustness checks (different filters (CF precedes GDP cycle), FC measures, sample sizes, weights...)
- Aggregate FC measures (see figure) for total credit and for private sector credit are very similar
- Boom in aggregate FC measures precedes GDP boom in 2008 (except for FC3)
- CA balance inclusion in aggregate FC measure is important though has the lowest amplitude
- Most conventional FC measure (FC1) has the highest amplitude => easier boom detection
Results for Belarus

• CA balance captures 2011q4 Beltransgaz acquisition by Gazprom

• Private sector credit and total credit results are largely similar though not to the extent of Kazakhstan (correlation almost 0.75)

• Aggregate measures based on private sector credit and on total credit produce almost the same results (see figure) and are not very related to GDP

• Private-credit based FC measures have much higher amplitude => easier boom detection

• Total credit-based FC measure comes close to 2011 GDP boom

• FC measure including CA balance precede 2008 GDP boom

• Less robust results for different sample periods than for Kazakhstan
FCs correlations between countries

- Dynamic correlations between GDP and FC measures are non-significant for all countries
- Most correlated FCs are between Belarus and Kazakhstan
  - Especially for measures based on total credit and including CA balance
- Russian FC measures are less correlated with the other two countries
Conclusions

• The most conventional FC measure (private sector credit, its ratio to GDP and property price index) => the most robust results across all countries and highest amplitude (=> easier boom detection)

• Kazakhstan and Belarus: aggregate FC measures based on total credit and credit to private sector are very similar

• Russia: total credit indicator has a substantially different dynamics from private sector credit (might be important to follow)

• Adding CA balance to aggregate FC measure => capture commodity markets for Russia and Kazakhstan

• Importance of tracking total credit (at least for Russia) in addition to private sector credit

• Potential to construct early warning indicators including CA balance into FC measures

• Future work: comparing individual FCs indicators with GDP components (investment, consumption, government purchases, net exports)