

One Ring to Rule Them All? New Evidence on World Cycles

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Overview of the paper

Large literature on World (Global) Cycles – 3 main conclusions:

- Strong world cycles (output, inflation, asset prices) & driven by the US
- Stronger since the fall of Bretton woods / the rise of globalization (mid 80's)
- Globalization limits policymakers ability to control the domestic economy, especially in small open economies (EMs)

Problem: this common wisdom is based on a statistical “glimpse” of the world

- Historical high-frequency (quarterly) macro-financial data needed ... but very scarce.
- Only a few (advanced) countries have a complete statistical picture over the post-war period
 - GDP limited to G7 (Kose *et al.*, 2008)
 - Significant blind spots (i) pre-90's (for all variables) and (ii) Credit (on financial side). Especially for EMs, but even for small AEs.
 - Low overlap across datasets. Very unbalanced panels.

Implications & main point of the paper:

- Samples biases - towards a few AEs & asset prices => inflates strength of cycles and their evolution over time
- Disconnect between (world) synchronization of quantities (output & credit) vs prices (goods and assets)

A new Macro-Financial dataset

Blind spots can be fixed:

- IMF (*IFS*) has the richest statistical history among institutions, but not digital or not readily usable
- Tap IFS paper archives to recreate the statistical profile of most countries

Result: a new “long” macro-financial dataset at **quarterly frequency, 1950 Q1 – 2019 Q4**.

- 5 series: (i) Output (real GDP) (ii) CPI (iii) Stock prices (iv) Sovereign bond yields (v) Bank credit;
- Large country coverage: (i) 37 for GDP (ii) 45 for credit (iii) 48 for prices (iv) 26 for stock prices and (v) 18 for bond yields

Contribution:

- Quantity: Vast extension of what is currently available at **quarterly frequency**
 - +100% for output and credit (compared to OECD and BIS data, respectively), +50% for Stock & Bond prices (OECD) etc...
 - Quality: Historical GDP (no more linear interpolations), Credit (no more breaks)
 - Breadth: more variables covered (real and financial) *within* country
- ⇒ Important contribution, in general, for **macro/international macro** literatures (Business Cycle, forecasting etc...), where annual data is not enough.

Methodology

In Practice – 3 Steps:

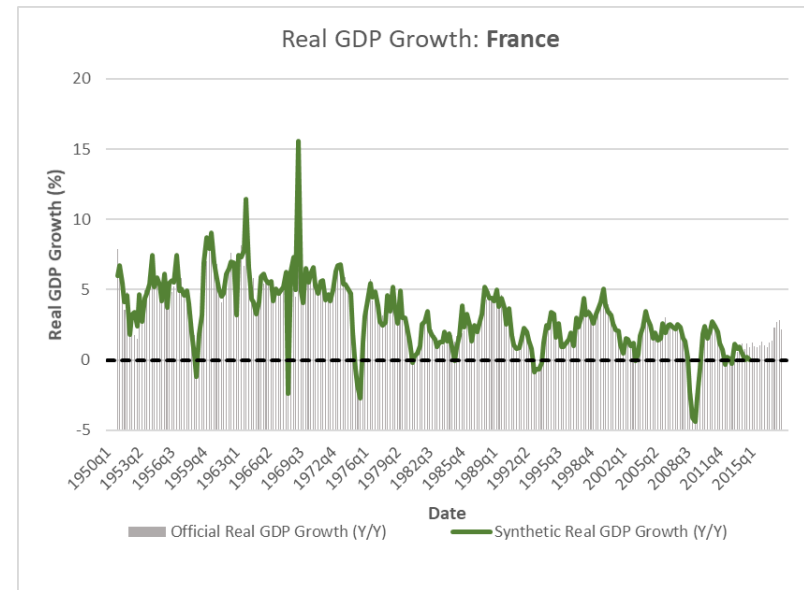
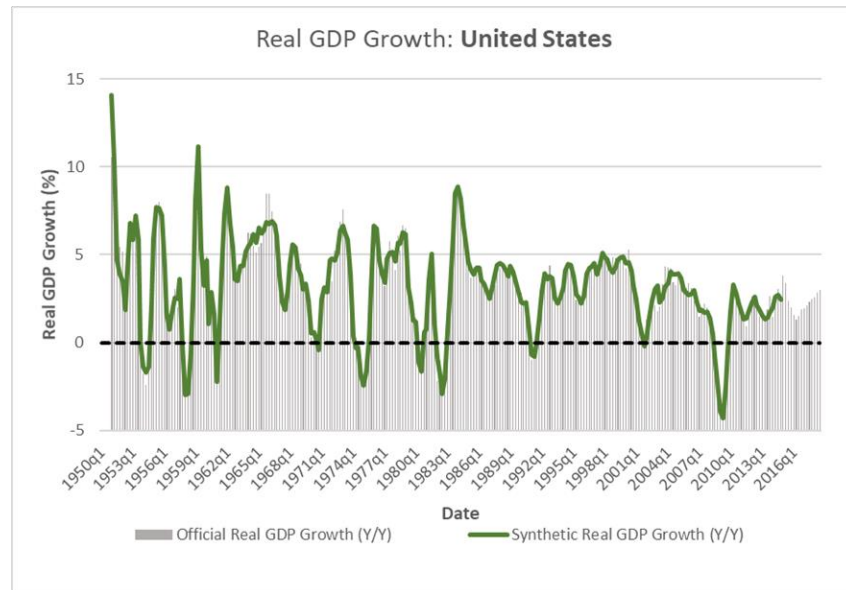
- Step 1: Collect quarterly data – available online from official sources - for each variable/country
- Step 2: Find its IFS “twin” in the archives and extend backwards (making sure definitions match)
 - Easy for Prices (CPI, Share Price and Bond yields)
 - Less for Credit (breaks in series): we clean breaks using different vintages of the same data
 - Quarterly GDP: Recreate a “synthetic” one by combining (i) Annual GDP (ii) Quarterly Historical Industrial Production (Chow-Lin, 1971)
- Step 3: Quality Control
 - Compare with databases available at **annual** frequency (e.g. Jorda et al, 2017) - when possible

Important Remarks:

- IFS data is not IMF data – data always comes from local authorities and is only gathered by IFS
- Not always old – archives/paper volumes also useful for recent past
- Not “new” methods – essentially a (significant) extension of what other institutions do (OECD and BIS)
 - E.g., temporal disaggregation methods (for GDP) are widely used & recommended in the IMF *Quarterly National Accounts Manual*

Real GDP – “Synthetic” GDP vs. Official

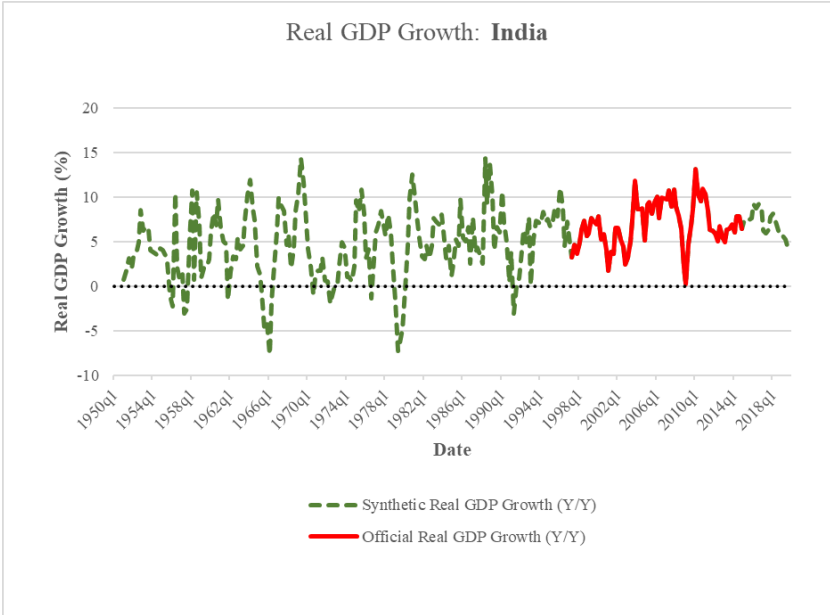
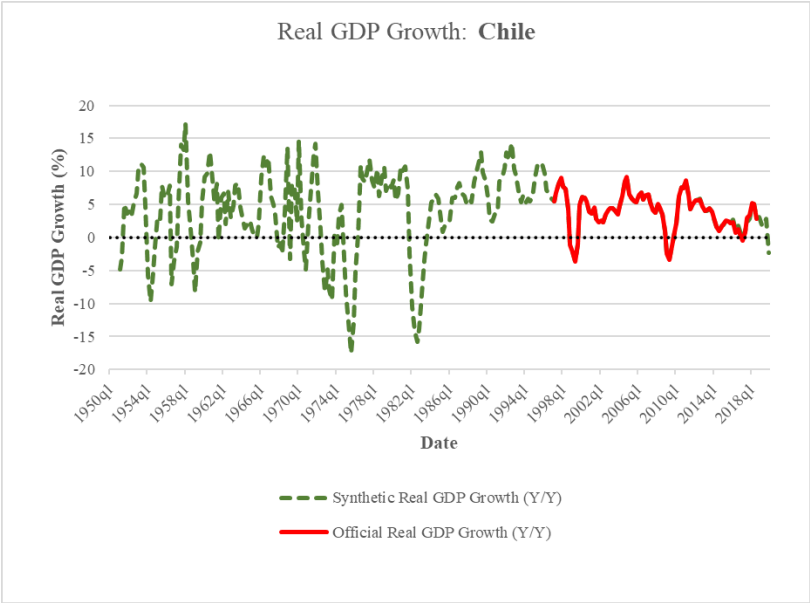
Key finding: Temporal disaggregation methods track true quarterly GDP very well.



Grey bars report the y-o-y real GDP growth rates based on official quarterly GDP data. Data for the US is from the BEA. Data for France is from INSEE. The green (solid) lines report the growth obtained using our synthetic quarterly GDP data, which combines annual GDP numbers from *Penn World Tables* and historical quarterly Industrial Production (IP) data from *IFS Volumes*. We use those countries because they are the only ones whose national institutes of statistics publish official quarterly GDP series since 1950.

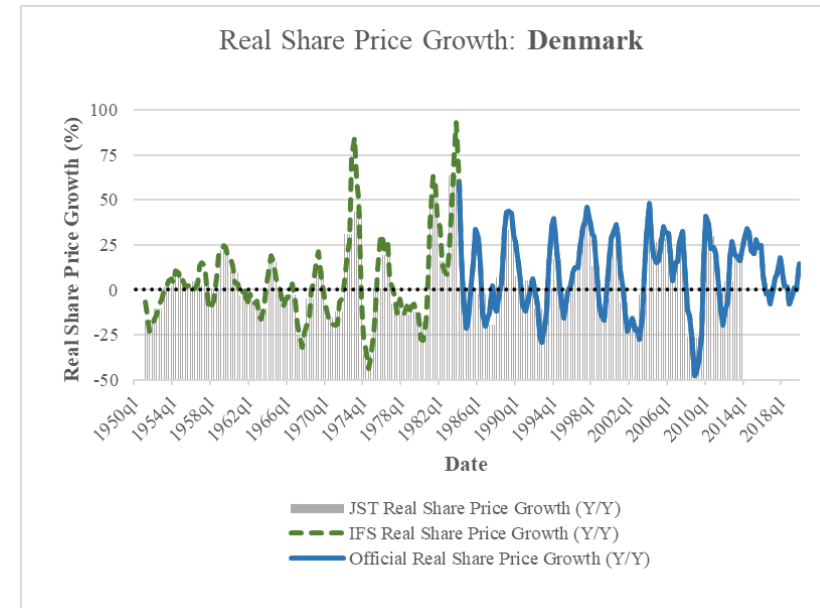
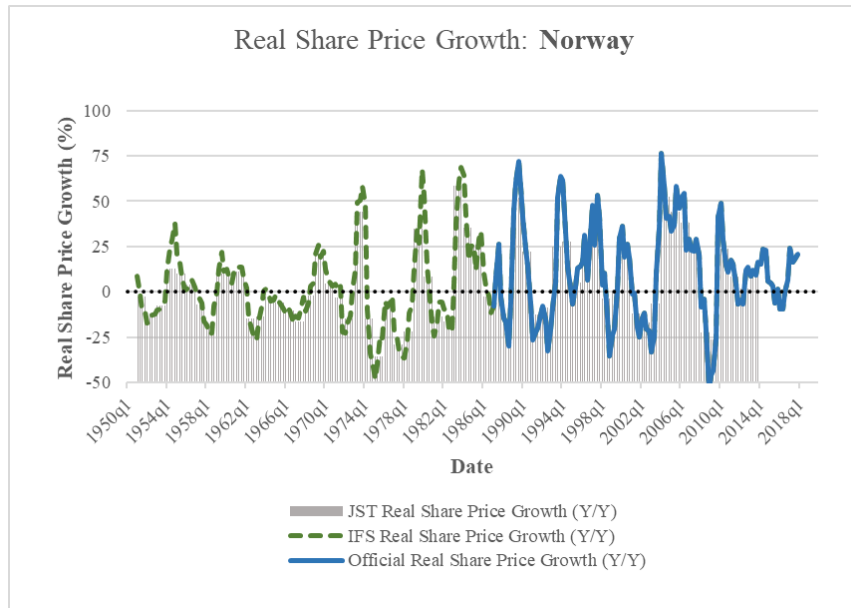
Real GDP – Coverage Extension

Key finding: Gains are substantial in AEs, but largest gains in coverage usually happen in major EMs.



Stock Prices – Coverage Extension & Comparison with Jorda *et al.* (2017)

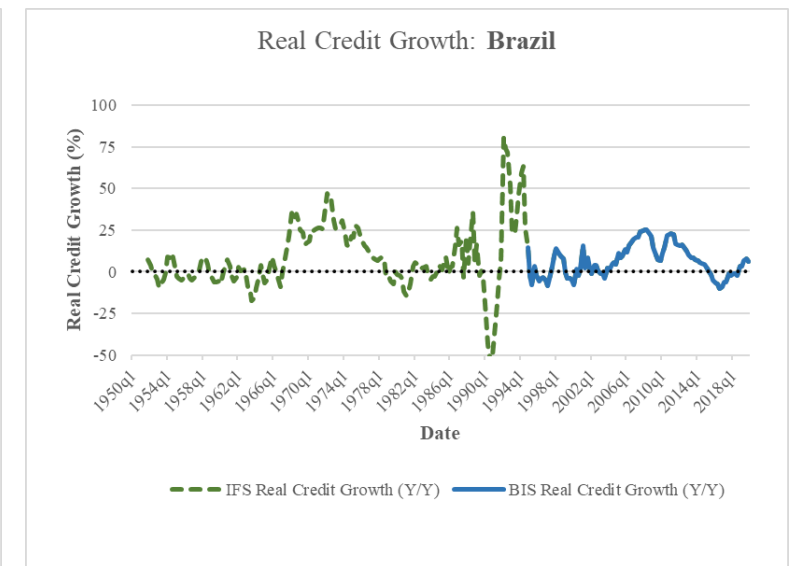
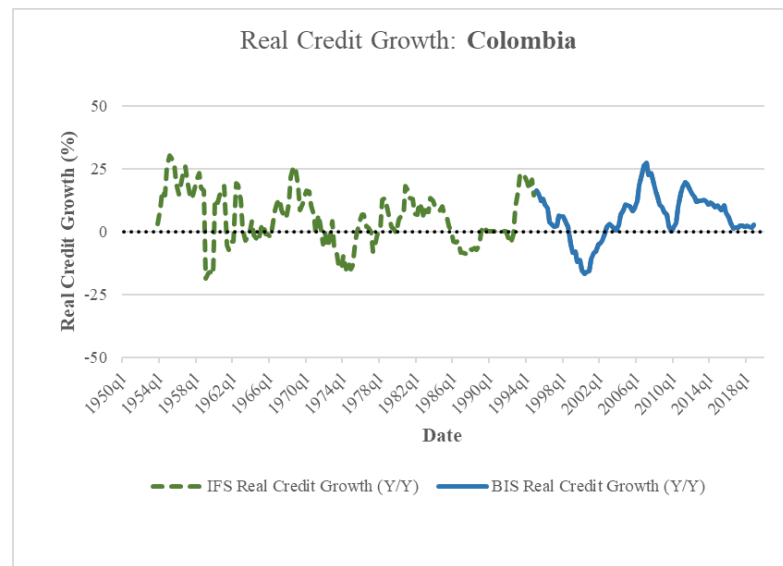
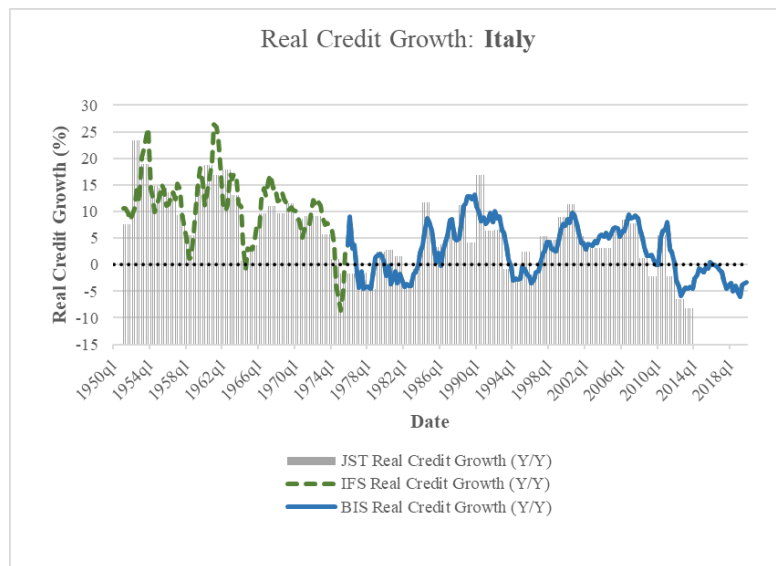
Key finding: large gains in both AEs and EMs & close to available data at annual frequency (*i.e.* we track the same concept, but at a higher frequency and for a much broader set of countries)



Grey bars report the y-o-y real stock price growth rates based on **annual** data from Jorda et al. (2017). Green (dashed) lines report the growth based on our quarterly data. To illustrate how our data extends what is currently available in the literature at quarterly frequency, the blue (solid) lines report growth rates based on OECD data for stock prices.

Credit– Coverage Extension & Comparison with Jorda *et al.* (2017)

Key finding: large gains in coverage in both AEs and EMs & close to available data at annual frequency (*i.e.* we track the same concept, but at a higher frequency and for a much broader set of countries)



Grey bars report the year-on-year real credit growth rates based on **annual** data from Jorda et al. (2017). Green (dashed) lines report the growth based on our **quarterly** data. To illustrate how our data extends what is currently available in the literature at quarterly frequency, the blue (solid) lines report credit growth rates based on BIS credit data.

Breadth of the database – the example of Argentina

Key finding: Improving the coverage and quality of real and financial variables, at the same time, gives a much better picture of the post-war cycles (real and financial) in some major economies.



Conclusion

New long macro-financial dataset

- Five key variables – mapping the real and financial side
- Quarterly frequency between 1950 Q1 – 2019 Q4; large country coverage
- Alleviates important constraints faced by the international macro/finance literature, and opens new avenues

In practice:

- Dataset & updated data appendix (more recent than the WP) available on the authors' websites
- Updated and expanded regularly – latest version July 2020
- Comments and Feedback welcome

Thanks !

References

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