The Evolution of World Business Cycles

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A perspective is presented regarding the integration of the world economy. It notes that the world has become more integrated internationally, including in terms of goods, services, assets, information, and more. The question posed is whether these increased connections lead to tighter international connections (correlations) in national economic activity as a result.
Executive summary

• Methodology:
  – Estimate factor model for G7 (y, c, i) (world, country, and idiosyncratic factors)
  – Divide sample into 1960-72 (BW), 1972-86 (Oil), 1986-2001 (Global)

• Results:
  – Overall: world factor more important in output than cons or investment
  – Subsamples: world factor most important in oil period (common shock?), second in global period (unexpected?)
  – “Source” variables (oil, terms of trade, interest rates, and govt spending): typically not very important
Role of “world factor”

Percent of variance due to world factor

- Output
- Consumption
- Investment

BW | Oil | Global

NYU Stern
Relation to theory

- Correlation of consumption likely to be more than correlations of output and investment
  - Neither this paper nor earlier evidence supports this

- Increased correlation in shocks should increase correlations of output, consumption, and investment
  - World factor important in oil period (but is oil a common shock?)

- Increased economic integration MAY decrease correlations of output and investment, increase correlation of consumption,
  - Results puzzling, possibly different from other studies
Heathcote and Perri, “Financial globalization,” Figure 1

Correlation between US and “G6”
Related results

- Frankel and Rose:
  - Tighter trade and monetary links increase business cycle synchronization (ditto Artis and Zhang)

- Kalemi-Ozcan, Sorensen, and Yosha:
  - Capital market integration associated with greater specialization (hence lower correlation?)

- Imbs:
  - Financial openness associated with greater business cycle synchronization

- Coming: has consumption smoothing increased?
Why the differences?

• Different countries (G7 v Europe)
  – Is there an EU factor?

• Frequency:
  – KOW study quarterly growth rates, Heathcote-Perri study HP filtered data ("business cycle frequencies")

• Phase shift?
  – Are US/Europe correlated at lag of 1-2 years?

• Multiple variables
  – Is common factor doing too much (y, c, and i)?
Consumption smoothing in G7?

Volatility of consumption and output growth

Quarterly data for G7 courtesy of KOW.
Emerging markets more volatile

Kraay and Ventura, “Comparative advantage,” Figure 1
Emerging markets less correlated

Kraay and Ventura, “Comparative advantage,” Figure 2
Consumption smoothing everywhere?

Volatility of consumption and output growth

Annual data from Penn World Tables, courtesy of KOW.
Mexico

In the crisis, c fell as much as y
Argentina

In the crisis, c fell as much as y
Asset returns

- Financial integration:
  - Substantial increase in international asset holdings
- In G7, returns more highly correlated than outputs
  - Integration? Different frequencies? Other?
- In emerging markets, correlations smaller, but:
  - Greater than output correlations
  - Increasing over time
- Correlations of returns and outputs move together
Questions

• In what respects has the world become more global?
  – International trade, international financial markets, local property rights, local goods markets, labor markets

• Can we quantify these changes?
  – Is Argentina more integrated? Mexico? Germany?

• Is there an impact on aggregate performance?
  – Has output volatility increased? No! Shocks seem to have changed, too, so role of integration unclear.
  – Has consumption correlation increased? No!
  – Bottom line: jury’s still out about which aspects of globalization matter, and what their impact has been.
Heathcote and Perri, “Why has US…,” Figure 1