

Assessing Financial Stability: Stars, gaps, cycles and other challenges

Athanasios Orphanides
MIT

The Current Global and European Financial Cycle:
Where do we stand and how do we move forward?
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The Business Cycle, the Financial Cycle and Financial Stability

- ▶ Theme of the conference:
The Current Global and European Financial Cycle:
Where do we stand and how do we move forward?
- ▶ Theme of the session:
Challenges with a focus on Europe, beyond the euro area



Outline

- ▶ Policy goals—price stability, economic stability, financial stability.
- ▶ The quest for stability.
- ▶ The business cycle, the financial cycle, and external imbalances.
- ▶ Measurement challenges for policy analysis.
- ▶ Europe beyond the euro area
- ▶ Towards robust strategies for financial stability.



Goals, targets and operational guidelines

- ▶ Primary CB goal is to maintain price stability.
- ▶ Two additional important goals:
 - ▶ Economic stability: Maximum sustainable growth and employment.
 - ▶ Financial stability: Resilience, reducing frequency and severity of crises.
- ▶ In many circumstances, the best operational guideline for the central bank is to focus on maintaining price stability. Maintaining price stability:
 - ▶ contributes to sustainable growth and employment.
 - ▶ contributes to financial stability.
- ▶ But not always! Conflicts may emerge in the achievement of multiple goals:
 - ▶ Adverse supply shock episodes.
 - ▶ Irrational exuberance episodes.



The quest for stability

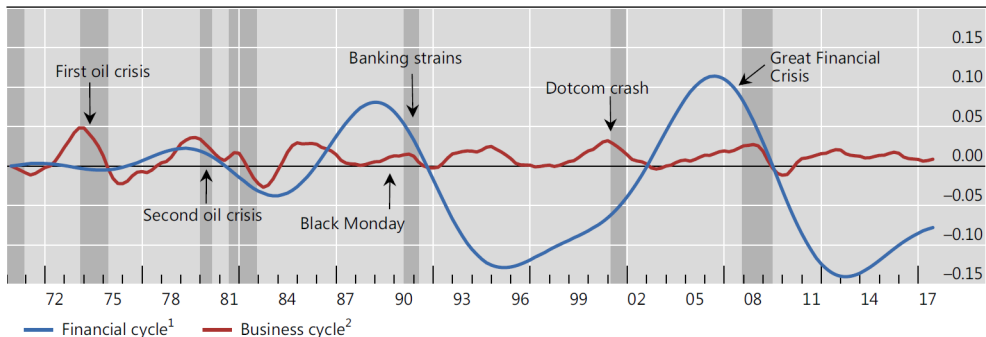
- ▶ Focus on maintaining price stability insufficient to protect against financial instability.
- ▶ Need to build buffers and monitor imbalances that give rise to financial vulnerabilities.
 - ▶ Excessive credit/leverage/asset price exuberance.
 - ▶ External imbalances/real exchange rate overvaluation.
- ▶ The **financial cycle** is meant to offer a summary measure of financial vulnerabilities/exuberance, similar to **business cycle** measure of economic boom and busts.
- ▶ Seen in this light, monitoring the financial cycle can be an important component of a broader strategy aiming to safeguard financial stability.



The business cycle and the financial cycle: United States

The financial and business cycles in the United States

Graph 1



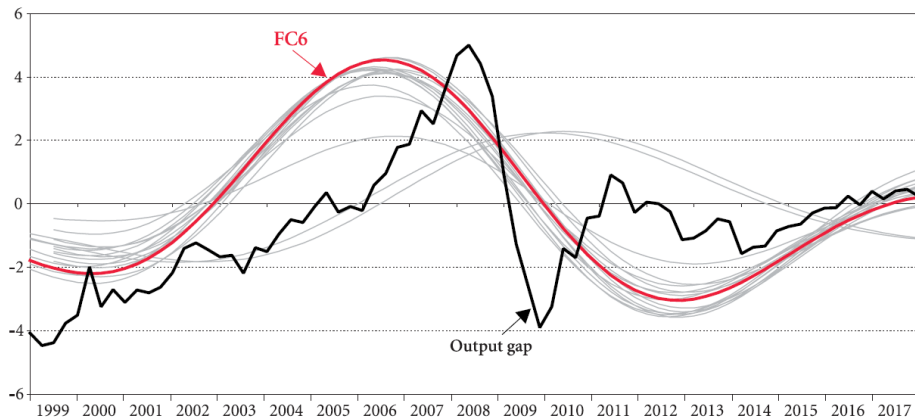
¹ The financial cycle as measured by a frequency-based (bandpass) filters capturing medium-term cycles in real credit, the credit-to-GDP ratio and real house prices. ² The business cycle as measured by a frequency-based (bandpass) filter capturing fluctuations in real GDP over a period from one to eight years.

Source: M Drehmann, C Borio and K Tsatsaronis, "Characterising the financial cycle: don't lose sight of the medium term!", *BIS Working Papers*, no 380, June 2012.



The business cycle and the financial cycle: Bulgaria

Figure 3: Output Gap, Financial Cycle Measure FC6 and Alternatives



Note: The grey lines show all possible alternatives to the selected potential measure of the financial cycle in Bulgaria (FC6), derived by combining the selected indicators.



Measurement challenges for policy analysis

- ▶ Critical to distinguish measurement for **historical analysis** and **policy analysis**.
- ▶ For historical analysis, we can assess imbalances **ex post**, years after events.
- ▶ In contrast, for policy analysis, we need reliable **real-time** assessments.
- ▶ What may be useful for historical analysis may be useless for policy analysis.
- ▶ Measures of the “business cycle” and/or the “financial cycle” may be perfectly adequate for historical analysis but not for policy analysis.
- ▶ Careful validation is needed before policy usefulness is established.
- ▶ Real-time robustness is critical for good policy.



Measurement challenges: The “stars”

- ▶ Many economic models, including models used in CBs, oversimplify the policy problem by abstracting from **real-time** measurement complications.
- ▶ Ideally, for any target or indicator variable, x , we would wish to know its “normal” or “equilibrium” or “natural” value, x^* :
 - ▶ inflation target (precise, numerical definition of price stability)
 - ▶ natural rate of unemployment/potential output,
 - ▶ natural rate of interest,
 - ▶ equilibrium debt/credit ratio,
 - ▶ equilibrium housing and other asset prices,
 - ▶ equilibrium interest rate risk/term spreads,
 - ▶ equilibrium real exchange rate.
- ▶ In economic models, the “stars” are often known (by assumption).
- ▶ In practice?



Measurement challenges: The “gaps” and the “cycles”

- ▶ Assuming knowledge of the “stars,” as is common in economic models, allows easy measurement of “gaps,” $x - x^*$, which can serve as indicators of imbalances/fragilities/disequilibria.
- ▶ By construction, the “gaps” usually exhibit cyclical behavior:
 - ▶ Business “cycle” example: The output “gap” moves gradually from negative to positive during expansions, and back to negative during recessions.
- ▶ In theory, guided by the “stars” and the “cycles,” policymakers can easily design monetary/fiscal/macro-prudential policies to close the “gaps.”
- ▶ In practice?

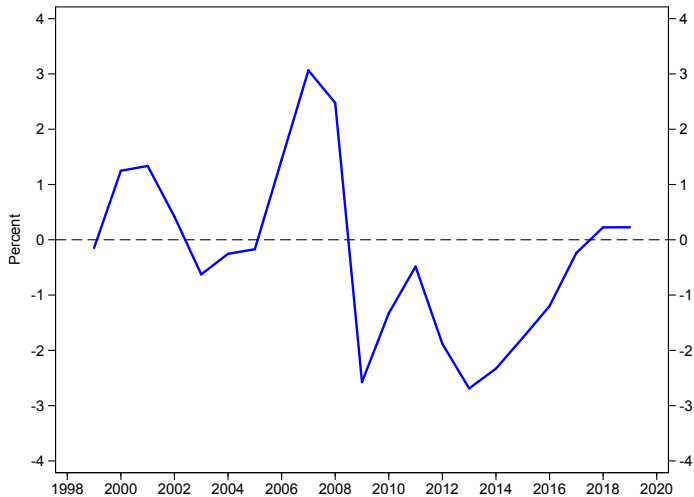


Measurement challenges: Real-time vs ex post

- ▶ The usefulness of “gaps” and “cycles,” including the **business cycle** and the **financial cycle**, is critically dependent on the confidence we have in **real-time** measurement.
- ▶ In practice, the “stars” are unobservable variables. Estimating the cycle is immensely more difficult in real time, when the estimation requires simultaneous reassessment/learning of the current equilibrium.
- ▶ Consider the business cycle: It is well known that in real time, most often we cannot even tell whether the output gap is positive or negative.
 - ▶ Illustration for euro area business cycle—output gap (with IMF data).
 - ▶ Illustration for Bulgarian business cycle—output gap (with EC data).



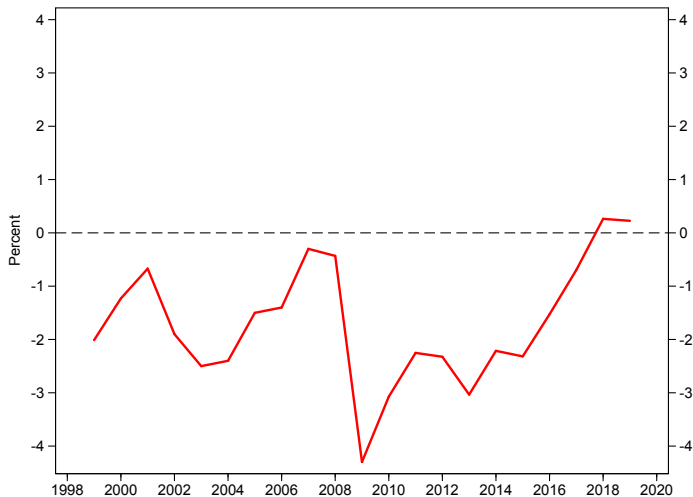
The business cycle in the euro area



Output gap as a percent of GDP. IMF WEO, April 2019.



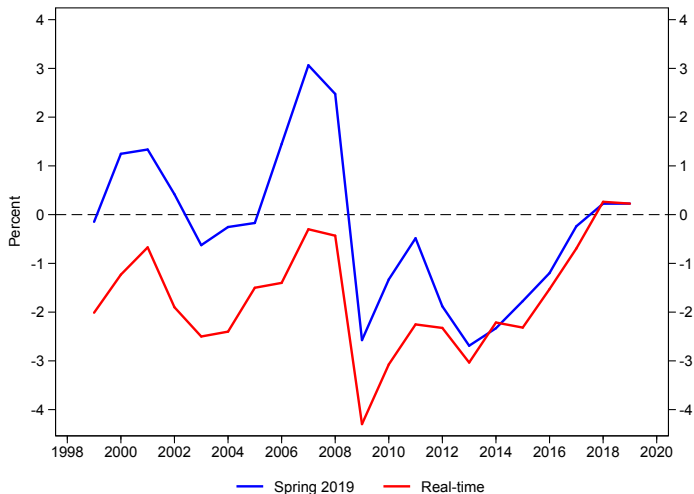
The business cycle in the euro area: Real-time assessment



Output gap as a percent of GDP. Each year plots the IMF WEO estimate published in the Spring of that year.



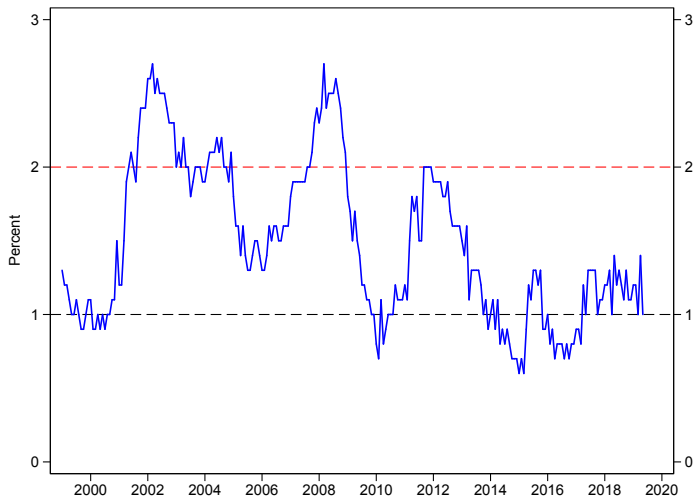
The business cycle in the euro area



Output gap as a percent of GDP. Real-time vs Spring 2019 IMF WEO estimates.



Is latest gap estimate reliable? Core inflation in euro area

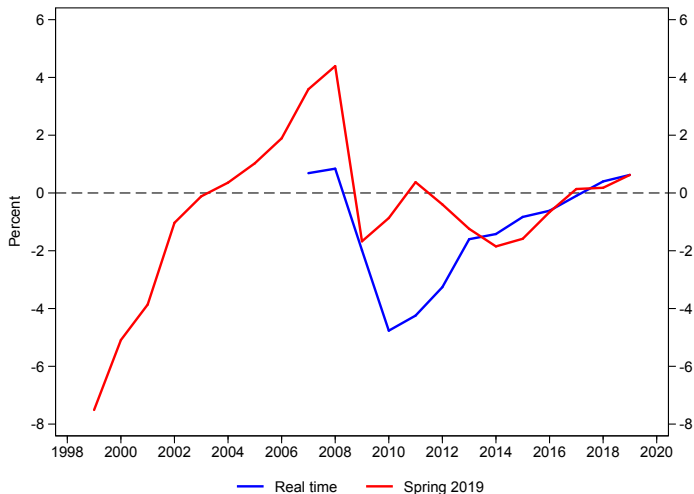


Notably below and **not** close to 2% for several years.

Is this consistent with the IMF estimate of a positive output gap for 2018-2019?



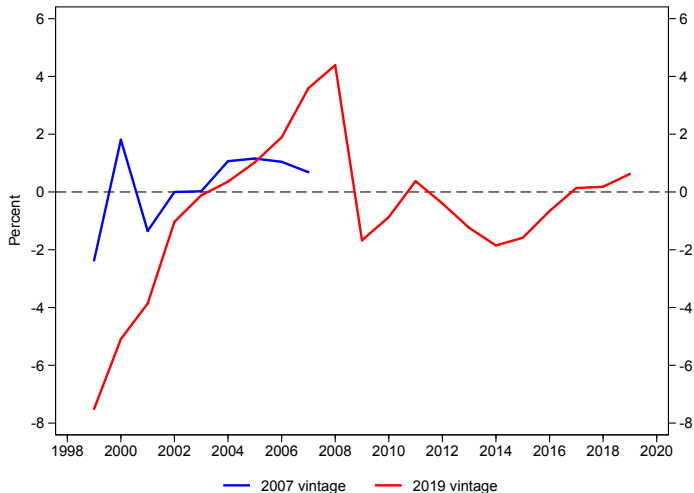
The business cycle in Bulgaria



Output gap as a percent of GDP. Real-time vs Spring 2019 EC estimates.



The business cycle in Bulgaria: 2007 and 2019 perspectives

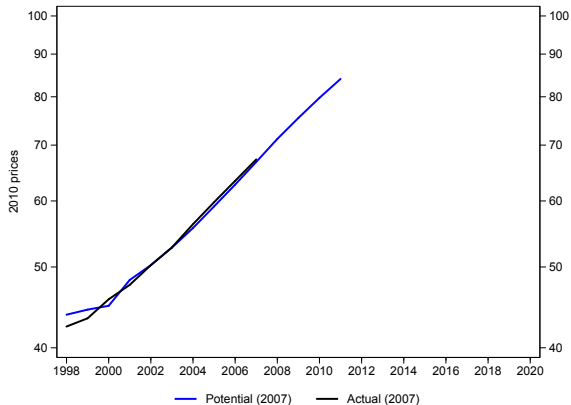


Output gap as a percent of GDP. Estimates from the Spring Forecasts of the European Commission, as published in 2007 and 2019.

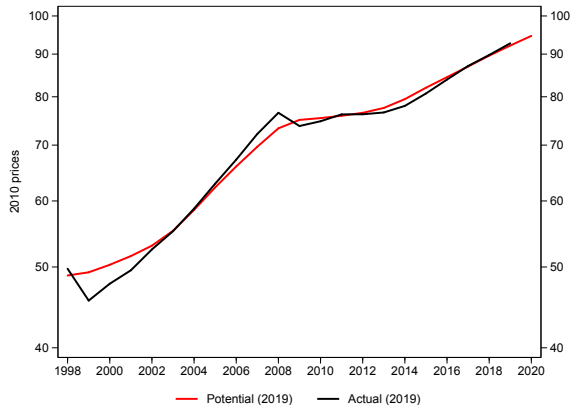


Actual and Potential GDP: 2007 and 2019 perspectives

Spring 2007 vintage



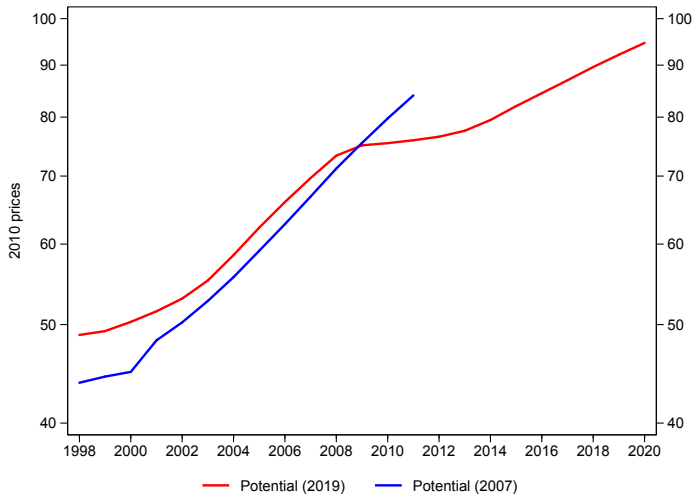
Spring 2019 vintage



European Commission, AMECO database, Spring 2007 and Spring 2019.



Shifting and twisting potential



Potential output, Spring 2007 and Spring 2019 Forecasts of the European Commission.

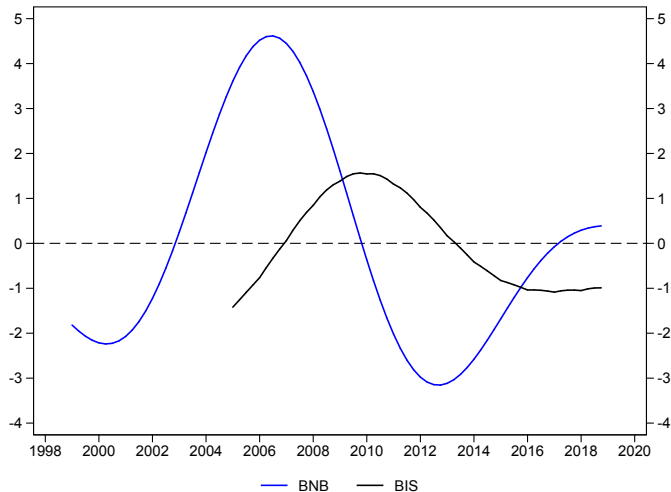


The reliability of the “business cycle” and “financial cycle”

- ▶ Research on the “business cycle” over the past few decades has established the **unreliability** of real-time estimates of the output gap.
- ▶ This may not have stopped bad policy practice, but it should!
(A well-known example of malpractice in Europe is the elevation of real-time estimates of the output gap for monitoring fiscal deficits.)
- ▶ Comparable evidence for the “financial cycle” is not yet available.
 - ▶ Needed real-time data vintages not generally available for long samples.
 - ▶ Limited data/crises in short samples often imply estimation fits just one or perhaps two “financial cycles,” insufficient for validation.
- ▶ **Where do we stand?** Are we more confident about the measurement of the financial cycle than the measurement of the business cycle?



The financial cycle in Bulgaria: Alternative methodologies



Financial cycle measures based on BIS and BNB methodologies.



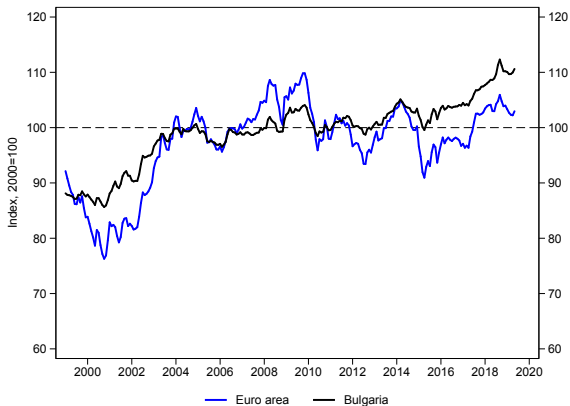
Europe beyond the euro area: the role of the exchange rate

- ▶ Important to recognize that the financial cycle focuses on evaluating domestic imbalances that may not adequately reflect external imbalances.
- ▶ External imbalances, associated with persistent overvaluation of the real exchange rate, are particularly toxic in Europe, owing to the combination of design features of the European Union:
 - ▶ Extreme openness in financial flows.
 - ▶ Lack of tools to protect against destabilizing capital flows.
 - ▶ Lack of risk sharing arrangements for crisis management.
- ▶ This design benefits the largest member states, especially in the euro area.
- ▶ Reliability of real-time assessments of the equilibrium real exchange rate subject to similar challenges as associated with the business cycle and financial cycle.

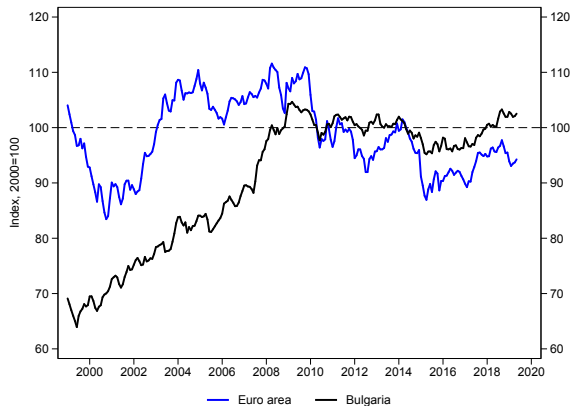


Nominal and real effective exchange rates

Nominal



Real (CPI-based)



BIS effective exchange rate, broad indices. Monthly averages, 2010 = 100.



Europe beyond the euro area: cross-border vulnerabilities

- ▶ In the European context, imported vulnerabilities are particularly dangerous for small member states.
- ▶ Capital inflows from large EU states cannot be tempered during booms, so a cyclical downturn in a large state can precipitate a flow reversal and crisis.
- ▶ **How to move forward?** Need to counterbalance financial fragilities induced in small member states by free capital mobility:
 - ▶ True banking union: common rules and common protection across borders.
 - ▶ Integrated financial markets across borders.
 - ▶ Common crisis management with equitable risk-sharing arrangements, not under the control of larger member states as is currently the case.



Towards robust strategies for financial stability

- ▶ The costs of real-time mismeasurement are not symmetric. Larger costs when vulnerabilities are underestimated than overestimated.
- ▶ Even without knowing the “equilibrium,” can lean against *changes* in trends that raise risk of accumulating vulnerabilities.
 - ▶ Lean against persistent strengthening of the real exchange rate.
 - ▶ Lean against persistent exuberance in credit growth.
- ▶ Accounting for real-time uncertainty argues for **stronger permanent buffers**.
- ▶ For small states, it should be acknowledged that challenges are more daunting inside Europe than outside. Tools that can be activated to protect against destabilizing capital flows by small states outside Europe are not permissible in Europe.



Concluding remarks

- ▶ Monitoring the financial cycle can be an important component of a broader strategy aiming to safeguard financial stability.
- ▶ Care is needed to account for real-time unreliability and asymmetric costs.
- ▶ Under current arrangements, small European member states are disadvantaged in defending financial stability: Effectively trying to defend financial stability within national borders with limited tools.
- ▶ Better risk-sharing and crisis management arrangements than those currently in place could enhance financial stability in Europe.
- ▶ No magic bullets in preserving financial stability.

