

Credit and Business Cycles: An Empirical Analysis in the Frequency Domain

Working Paper No. 843 Keep in mind

The series Working Papers on Economics is published by the Office for Economic Studies at the *Banco de la República* (Central Bank of *Colombia*). It contributes to the dissemination and promotion of the work by researchers from the institution. This series is indexed at Research Papers in Economics (RePEc).

On multiple occasions, these works have been the result of collaborative work with individuals from other national or international institutions. The works published are provisional, and their authors are fully responsible for the opinions expressed in them, as well as for possible mistakes. The opinions expressed herein are those of the authors and do not necessarily reflect the views of Banco de la República or its Board of Directors.

AUTHOR OR EDITOR Juan Sebastián Amador Celina Gaitán José Eduardo Gómez Mauricio Villamizar Héctor Manuel Zárate

The history of economic recessions has shown that every deep downturn has been accompanied by disruptions in the financial sector. Paradoxically, up until the financial world crisis of 2007-2009, little attention was given to macroeconomic and financial interdependence. And, in spite of a renewed interest on the matter, significant effort is still warranted in order to attain a comprehensive understanding of the causal links between the financial sector and the rest of the economy. In this paper we study the relationship between financial and real business cycles for a sample of thirty-three countries in the frequency domain. Specifically, we characterize the interdependence of credit and output cycles and conduct Granger-type causality tests in the frequency domain. We also perform cluster analysis to analyze groups of countries with similar cyclical dynamics. Our main findings indicate that: (i) on average, credit cycles are larger and longer-lasting than output cycles, (ii) the likelihood of cycle interdependence is highest when considering medium-term frequencies (we find that that Granger causality runs in both directions), and (iii) emerging markets tend to have cycles of shorter duration but are more profound than those exhibited in developed economies.

The opinions expressed here do not necessarily correspond neither to the Banco de la República nor its Board of Directors.