Working papers economics - Complementary Evidence on Colombia’s Business Cycle: A Perspective from the Growth Cycle Approach

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Since the late 1970s, the Colombian economy has experienced nine slowdown episodes. Three coincided with classical GDP recessions. Five of the remaining six received little attention in the literature, despite showing clear signs of economic weakening.

Publication Date: Monday, 11 of May 2026 **Approach**
This paper analyzes the cyclical and trend behavior—potential level—of Colombian economic activity between 1975 and 2021, identifying periods in which activity deviates from its long-term trajectory, which defines cyclical behavior. Very short-term fluctuations (noise) are excluded from the analysis.
The objective is to identify, both historically and in real time, periods of expansion or cooling, to determine when a slowdown coincides with a recession and when it does not, and to assess their duration and cumulative intensity. In addition, the paper evaluates whether the duration of a given phase affects the probability of its ending, an issue that is central to economic policy design and to avoiding overreactions to short-term noise.
The analysis distinguishes among three types of episodes: cyclical episodes, which are recurrent but irregular over time; episodes that affect the trend, indicating a deeper deterioration; and episodes characterized by simultaneous declines in both the cycle and the trend, which are the most severe as they combine short-term weakness with a loss of structural momentum.

This perspective corresponds to the growth cycle, which differs from the classical approach focused on declines in the level of economic activity and does not separate trend and fluctuations. By analyzing deviations from trend, the growth-cycle approach provides a complementary view of economic dynamics.
Using wavelet analysis, this framework decomposes the evolution of economic activity into different levels of detail, allowing the identification of transitory fluctuations versus persistent deteriorations, the precise dating of the beginning and end of cyclical phases, and, in many cases, the generation of early warning signals useful for economic policy.

Contribution
The main contribution of this paper is the characterization of Colombia’s growth cycle using wavelet analysis, a methodology not previously applied in the country for this purpose. In particular, the study applies a test of duration dependence and a multiresolution and multiscale wavelet-based methodology to an index summarizing

the cyclical behavior of 41 economic variables, as well as to the diffusion of shocks and their differentiated effects on the cycle and the trend.

Beyond GDP growth or the level of the aggregate index, the analysis identifies episodes of cyclical and structural slowdown that do not correspond to classical recessions. When detected in real time, these episodes can serve as early warning signals, facilitating a timely diagnosis of the state of the economy and guiding economic policy before deterioration deepens, while also helping to prevent overreactions to short-term fluctuations.

Results

Since the late 1970s, the Colombian economy has experienced nine slowdown episodes. Three of these coincided with classical GDP recessions. Five of the remaining six episodes received limited attention in the literature, despite exhibiting clear signs of economic weakening.

Some episodes reflect purely cyclical cooling, others affect the long-term trend, and the most severe episodes simultaneously deteriorate both the cycle and the trend. The 1987–1989 episode stands out, as it anticipated the macroeconomic deterioration that culminated in the 1990–1991 slowdown, consistent with previously documented declines in employment, labor force participation, per capita output, and external conditions. Its duration of 14 quarters, together with the absence of evidence of duration dependence, indicates that a prolonged phase of weakness does not imply an imminent recovery nor should it be interpreted as short-term noise.

The multiresolution analysis makes it possible to establish alert levels associated with cyclical deterioration, structural deterioration, and noise. Episodes of purely cyclical deterioration tend to be short-lived, whereas those affecting the trend display greater persistence and amplitude, signaling deeper weakening. Only three episodes were classified as noise without generating warning signals. Episodes involving simultaneous declines in both the cycle and the trend concentrate the strongest signals of deterioration, reflecting shocks that affect short-term dynamics and long-term growth capacity and that, in some cases, either anticipate or coincide with recessions.

Fuente: https://www.banrep.gov.co/en/publications-research/working-papers-economics/complementary-evidence-colombia-business