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Nonlinear Analysis of Business Cycles and Stock Market Dynamics for Emerging Market Economies

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ABSTRACT

This paper presents a systematic and consistent analysis, for the first time, for a large and diverse group of emerging market economies to characterize the dynamics of their business and stock market cycles, the dynamic relationships between these cyclical interactions, and how different or similar the business cycles are among individual emerging market economies as well as between emerging markets and advanced economies. First, the study characterizes and provides benchmark chronologies of business and stock market cycles for a diverse group of emerging market economies based on hidden Markov models that are robust to potential parameter instability. We identify three states of business cycles and provide estimates of turning points based on monthly industrial production data. Crises that are characterized by sharp drops in economic activity are preceded by slowdowns and are typically followed by strong recoveries during which the economies grow above long-run average rate. Second, the paper explicitly models cyclical dynamics of the stock markets and relates it to the business cycles for a diverse group of emerging market economies. Stock markets go through three distinct regimes characterized by different risk-return dynamics. Findings present a consistent relationship between the real economies and the stock markets. The spikes in probabilities of the bear state of the stock market are highly correlated with the recessionary periods. Probabilities of stock market crashes increase before every recession and do not miss any of the business cycle peaks and correctly predict all recessions in the sample. The results suggest that bear markets characterized by negative returns precede every recession with a lead time between five to eleven months, implying that the stock market returns can be used as a forward looking indicator of emerging market economies. Third, the study quantifies the associations between business cycles across emerging markets and also with advanced G7 economies. The results identify distinct groups of emerging economies. Business cycles both for emerging markets and the advanced economies experience a high degree of commonality when there is a large common disturbance that is affiliated with a global recession.

KEYWORDS Markov Switching Models; Business Cycles; Emerging Markets; Stock Market; Business Cycle Synchronization

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