

ERSA Research Brief

February 2016

South Africa's real business cycles: The cycle is the trend

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It has been argued that business cycles in emerging economies are subject to substantial volatility in trend growth, while the volatility of developed economies' cycles has moderated in recent decades, and further, that the high volatility in trend growth observed in emerging economies is the result of large and frequent changes in fiscal, monetary and trade policies. Emerging economies are characterised by countercyclical current accounts and a high volatility of aggregates such as consumption and investment compared to the volatility of output. Emerging economies' further exhibit substantial reversals in fiscal, monetary and trade policies particularly during the economic crises periods. The excess volatility in trend growth observed in emerging economies business cycles is termed the cycle is the trend hypothesis. The cycle is the trend hypothesis predicts that the shocks to trend growth are the primary source of business cycle fluctuations in emerging economies while transitory shocks are important in developed economies.

This paper tests the cycle is the trend hypothesis by investigating the ability of permanent and transitory productivity shocks to account for the dynamics observed in the South African business cycle over the period 1946–2014. To do this, we estimate a standard Small Open Economy Real Business Cycle (SOE-RBC) model and its financial frictions augmented counterpart using Bayesian techniques. The standard SOE-RBC model with permanent and transitory productivity shocks, also referred to as the benchmark SOE-RBC model, is augmented with a preference shock, a domestic spending shock, a country risk premium shock and debt elasticity of the country risk premium. This augmented model is referred to as the financial frictions SOE-RBC model.

The results show that permanent productivity shocks are more important than transitory ones in explaining business cycle fluctuations. The variance decompositions and the posterior estimates show that although the transitory, or stationary, productivity shock is more persistent than the permanent, or nonstationary, productivity shock in the model with financial frictions, it is the nonstationary productivity shock that explains most of the fluctuations in output growth observed in the data. Thus, the estimated results from the model with financial frictions overwhelmingly support the cycle is the trend hypothesis in the South African business cycle. The model also successfully mimics the downward sloping autocorrelation of the trade balance to output ratio observed in the data, whereas the benchmark model produces a flat autocorrelation function. The results further show that financial frictions such as the country risk premium shocks play an important role in explaining the fluctuations in investment and trade balance to output ratio.