

Measuring Economic Change in Indonesia – As Seen from Space

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Abstract

Satellite-detected luminosity is sometimes used to proxy for economic activity although only recently within the mainstream economics literature (Henderson et al., 2012). If this method works it holds great promise for developing countries with weak statistical systems that face practical and conceptual difficulties in consistently measuring long-term economic change. Regardless of how chaotic are statistical efforts on the ground, viewed from space it may be possible to detect economic change, with high frequency and for small areas. But doubts remain about how much trust can be put in night lights data as a proxy for economic growth since previous validation attempts just compare with other error-ridden measures (Henderson et al., 2012; Chen and Nordhaus, 2011; Kulkarni et al., 2011). This paper uses gold standard data on electrification and economic growth for 5000 sub-districts in Indonesia from 1992 to 2008 to evaluate the reliability of night-light based measures of local economic change. Our results also contribute to debate in the literature about the severity of the shock to Indonesia from the Asian Financial Crisis of 1997 and the subsequent rate of rebound in economic activity.

Keywords: Economic Growth, Luminosity, Measurement Error, Indonesia

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