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Measuring the size of the shadow economy using a dynamic general equilibrium model with trends*

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Abstract

We propose a methodology for measuring the size and properties of the shadow economy. We use a two-sector dynamic deterministic general equilibrium model with four different trends: hours worked, investment-specific productivity, formal productivity, and shadow productivity. We find that the shadow productivity trend is endogenous, in the sense that it is an exact function of model parameters and the other three trends. We also document that, in order to be consistent with observed (real-world) trend growths, the shadow sector needs to exhibit increasing returns to scale, which is contrary to the standard procedure of imposing decreasing returns to this sector. We apply our methodology to a set of seven Latin American and Asian countries and document several empirical regularities that emerge from our analysis, the most important one being that the volatility of shadow sector output is considerably larger than the one in formal sector output.

JEL codes: E26, E32, O17.
Keywords: shadow economy, business cycles, DSGE models.

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