

# The Shadow Economy and Its Impact on Economic Growth in Sri Lanka

K K C Sineth Kannangara<sup>1</sup>, Yanrui Wu<sup>2</sup>

1 University of Western Australia, [chathuri.kannangarakoralalage@research.uwa.edu.au](mailto:chathuri.kannangarakoralalage@research.uwa.edu.au)

2 University of Western Australia, [yanrui.wu@uwa.edu.au](mailto:yanrui.wu@uwa.edu.au)

**Abstract:** There has been an extensive discussion about the causes and consequences of economic activities that take place in the shadows of informality, and in general, how to arrive at an estimation of the officially non-observed (or shadow economy) economic activities conducted in an economy. In the meantime, the concept of the shadow economy is grabbing the increased interest of policymakers because it can no longer be ignored in the context of policy formulation.

This study estimates the size of the shadow economy in Sri Lanka from 1961 to 2019 by deploying the Dynamic General Equilibrium (DGE) model proposed by [Elgin and Oztunali \(2012\)](#) using a country specific new data set. In addition to the comprehensive literature review on the shadow economy literature, the study will examine the behaviour of the shadow economy in Sri Lanka and its associations with economic growth by employing the Autoregressive Distributed Lag (ARDL) method. Further, the DGE model in [Elgin and Oztunali \(2012\)](#) will be modified by relaxing the unrealistic assumption of a balanced budget financed by the tax income paid by the formal sector. Accordingly, the most up-to-date shadow economy estimations will be available for Sri Lanka and may be useful for policymaking purposes.

According to [OECD \(2002\)](#), there are several types of non-observed economic activities. In the first category, underground activities are activities conducted legally, however, purposely unreported in the official GDP estimates. Opportunity cost and risk exposure and the benefits of avoiding government regulations, could be mentioned as the primary factors to conduct underground activities. The second category of non-observed economic activities is informal sector activities. These are entirely lawful in terms of both production and distribution. Their operations are conducted informally with no intention of evading taxes or other legal requirements. The third type of non-observed activity involves illegal production. Finally, the fourth category includes domestic production for their final use.

Country-specific, legal, political and social aspects determine the existence of the shadow economy. The high burden of taxes (Schneider and Enste, 2000), strict regulations prevail in the labour market (Schneider and Buehn, 2007), over-regulation of enterprises (more bureaucracy), a weaker legal environment, poor maintenance of the rule of law as well as higher level of corruption (Friedman et al., 2000) cause to the rise of the shadow economy. However, Goel, Saunoris, and Schneider (2019) show that openness to foreign trade and government size and political factors such as a stronger presidency reduce the intention of agents to go underground. A shadow economy can result in lower tax revenues, subsequently reducing the supply of public goods. Erroneous recording of official statistics due to hidden economic activities can eventually reduce the efficacy of policies while causing subdued economic growth. Further, the shadow economy gives rise to the exploitation of workers and the deterioration of social security programmes while increasing the vulnerability to poverty (OECD, 2017).

Generally, empirical estimates agree that the shadow economy's size in developing countries is larger than the size of the shadow economy in developed economies. However, on average, the shadow economy follows a declining trend. For example, Medina and Schneider (2018) discuss the latest developments in the shadow economies of a sample of 158 economies using the MIMIC approach. They show that the mean size of the non-observed economy of the sample countries is 32 per cent of official GDP, whereas on average that is below 20 per cent among OECD countries, around 32 per cent in South Asia, and around 37 per cent in Latin American Caribbean countries.

The existing literature shows a comparatively large shadow economy in Sri Lanka. According to Elgin et al. (2021), Sri Lanka's shadow economy stood at around 35 per cent of GDP by 2018. Further, Ohnsorge and Yu (2021) discover that the South Asian region has the highest concentration of informal workers, while the output informality of Sri Lanka is the highest in the South Asian region.

The literature on informal economy estimates contains three main types of statistical approaches: direct approaches such as sample surveys, indirect approaches like transactions, currency demand and electricity consumption approaches, and model-based techniques such as DGE and MIMIC (Multiple Indicator Multiple Causes) (Schneider and Enste, 2000; Ohnsorge and Yu, 2021).

The DGE model of [Elgin and Oztunali \(2012\)](#) is developed based on household utility optimization. It will consider two sectors: formal and informal. The household maximizes the lifetime utility under time and resource feasibility constraints. The formal sector pays taxes to the government and has a Cobb-Douglas form of production function (constant returns to scale) given by  $Y_{F_t} = \theta_{F_t} K_t^\alpha N_{F_t}^{1-\alpha}$ , where  $\theta_{F_t}$  is formal sector technology,  $K_t$  is capital stock and  $N_{F_t}$  is labour input to the formal sector. The shadow economy's output,  $Y_{s_t} = \theta_{s_t} N_{s_t}^\gamma$ , depends on labour input and informal technology, only. Further, the government is assumed to have a balanced budget in each period and government's expenses are fully covered by the tax income paid by the formal sector. The first order conditions of the utility maximisation problem of a consumer provide the solution for informal sector output. The DGE approach, when compared to other approaches, is somewhat lean to upper-bound estimates, however, it is highlighted that the DGE method is less prone to statistical errors, is based on sound micro-foundations, and is suitable for long time series data.

Due to its inherited nature, shadow economic activities are hard to track and measure. Also, each estimation technique has its limitations. For example, MIMIC models only provide a set of coefficients that could be used to produce an unitless index (latent variable) that depicts the dynamics of the officially unobserved economic activities. Also, the accuracy of MIMIC and DGE results is always contingent on the validity of the base year estimates. Further, in order to create credible estimates, all statistical procedures must demonstrate the qualities of repeatability and consistency.

The results of the baseline model lead to the following observations. The mean size of the shadow economy in Sri Lanka from 1961 to 2019 is 46 per cent of GDP, while the highest of 57 per cent is recorded in 1989 and the lowest, at 35 per cent, is observed in 2012. Accordingly, the result agrees that Sri Lanka's shadow economy compared to the official GDP has been declining over the period under consideration. However, occasional deviations from the trend could be observed in line with noticeable changes documented in political and economic history. Further, scenario analysis reveals that the results are fairly consistent with the baseline results. Furthermore, according to both long run and short run results of the ARDL model, the shadow economy has a significant negative impact on per capita GDP.

**Key Words:** Shadow Economy; DGE Model; Economic Growth; Sri Lanka.  
(References are available from the authors upon request)