Consumption Inequality over the Life Cycle in a Developing Economy with Large Informal Employment

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Abstract

Understanding the dynamics of economic inequality and its determinants is important for various economics studies and policy designs. This paper studies consumption inequality, which is an important determinant of individual and household welfare. Given that most of the existing research has been concentrated on developed countries, we aim to fill the gap in the literature by focusing on how inequality in consumption and earnings changes with age in developing countries and provide insights into the mechanisms that underlie consumption inequality, such as the role of earnings shocks, social insurance, and labor market dynamics. These insights can inform the development of more realistic and nuanced economic models that better capture the complexities of economic inequality and its determinants, also have implications for policies aimed at reducing inequality, such as social welfare programs or tax reform.

The fact from literature shows that inequality increases as individuals age. Deaton and Paxson (1994) investigate the consumption and income inequality within the same cohort across three different countries, namely, the US, UK, and Taiwan. They find that the within-cohort inequality increases with age. Storesletten, Telmer, and Yaron (2004) examines why consumption inequality increase with age and find that individual-specific earnings shocks can explain the increasing pattern. Blundell, Pistaferri, and Preston (2008) propose that changes in the persistence of income shocks can explain income inequality in the US.

We use Thailand as a representative country for calibration and quantitative analysis. Thailand is a large developing economy, with around 55% of workers

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employed informally, and a limited social security system that only covers formal sector workers. We first document that the consumption inequality also increases with age in Thailand, and we find a sharp increase after age 60.

This paper asks if the consumption inequality pattern over the life cycle can be explained by earnings risk, the large informal employment, the uncertainty of old age employment and the low coverage of pension. We develop a life cycle model with heterogeneous agents facing mortality, earnings, and employment uncertainties, with two employment sectors in the economy, formal and informal. During working age, workers in different sectors face different earnings shocks and can move between the two sectors. After the official retirement age, only formal workers receive pension. We incorporate two mechanisms of insurance arrangement to the old, old-age employment (in the informal sector) and social security (for retired formal workers). Old people without social security are more vulnerable to poverty and have to continue working for daily life. Social security provides a formal insurance arrangement for old age, in the form of pensions. Our findings show that incorporating these two mechanisms can reduce consumption inequality and help the model to better match the data inequality.

We further examine the effect of different social insurance programs on inequality as well as consumption and saving behaviors. First, we investigate the effect of a social welfare system by varying the amount of subsidy provided by the government to guarantee the minimum consumption floor. Second, we extend the social security system to cover the informal sector. Our results show that the extension of pension coverage can reduce consumption inequality significantly during old age.

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