Dimension and formalization impacts of Rio de Janeiro's Shadow Economy: an input-output based method design and insights from real data

Topic: Regional input-output modeling I (Chair: Everlam Montibeler, The Federal Rural University of Rio de Janeiro)
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The phenomenon known as "Underground Economy" occurs when economic activities are carried out outside official statistics, comprising both legal and illegal activities. The illegal economy, despite generating employment and income, is responsible for financing criminal activities harmful to society. One of the main consequences of the shadow economy is the distortion of the evaluation of the economy as a whole, the affectation of public policies and economic planning. The Multiple Indicators and Multiple Causes model (MIMIC), which is a specific case of structural equation models, is the most used in GDP estimation. The paper contributes for new methodological for estimation the size and impacts of shadow economic activities using an input-output based methodology and data for Rio de Janeiro. We propose to combine Brazil's National Household Survey's and inter-regional input-output data to disaggregate informal activities already included in official estimates, based on further assumptions regarding output-to-employment and wages-to-employment ratios in both formal and shadow activities, and RAS balancing techniques. This is akin to the 'labour approach' to informal economy, but taking full advantage of regional accounts and national survey data. After isolating each shadow economic activity by sector and application of the Input–Output Structural Decomposition Analysis we are able to approach hidden production and employment underestimation of the real dimension of Rio's shadow economy, and simulate possible impacts of partial formalization of such activities.