Measuring the Labor Share of Developing Countries
Challenges, Solutions, and Trends

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Background

• Most studies rely on the personal income distribution to measure inequality (Gini coefficient etc.)
• The functional income distribution measures the shares of income that accrue to labor, capital or land
• It can reveal the underlying economic determinants of inequality and poverty in the personal income distribution
• Focus on the share of labor as it is the most important asset of the poor for generating income:

$$\text{Labor Share} = \frac{\text{wages} \times \text{Labor}}{\text{Prices} \times \text{Value Added}}$$

• There is only limited evidence of factor shares in developing countries (in contrast to OECD countries)
• This is attributed to major measurement challenges

Challenges

1) Poor Availability and Quality of Data
• Available data only covers the corporate sector and leaves out the self-employed
• Poor data quality in developing countries
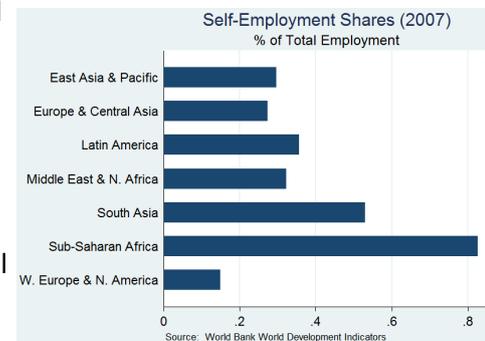
2) High Share of Self-Employment
• not covered by data
• many self-employed belong to the informal sector

Self-Employment Shares (2007), % of Total Employment
East Asia & Pacific; Europe & Central Asia; Latin America; Middle East & N. Africa; South Asia; Sub-Saharan Africa; W. Europe & N. America
Source: World Bank World Development Indicators

Solution Approach: Linking data at macro-level (national accounts) to micro evidence

Macro Data

Starting point: Divide Compensation of Employees (CoE) by GDP, drawing on UN System of National Accounts

Problem: Does not account for the labor income of the self-employed and requires further adjustment

Three adjustments by Gollin (2002):

$$G1 = \frac{CoE + Mixed\ Income}{GDP} \qquad G2 = \frac{CoE}{GDP - Mixed\ Income}$$

$$G3 = \frac{CoE}{GDP} \times \frac{Total\ Employment}{Wage\ Employment}$$

Four steps to construct the labor share:
1) Agriculture employment share (taken from FAO) is used as proxy for self-employment
2) Average labor income under wage employment is imputed to the self-employed (G3)
3) If self-employed total income is available, G1 sets the upper and G2 the lower bound
4) No adjustment in case of high raw labor shares and weighing of agricultural employment if too high adjustments coincide with too low raw labor shares

Assumptions

Checking

Micro Evidence

Basis: Empirical literature and social accounting matrices (SAMs)
➤ SAMs are square matrices that represent flows of all transactions within an economy and that give a detailed picture of a country's economic structure
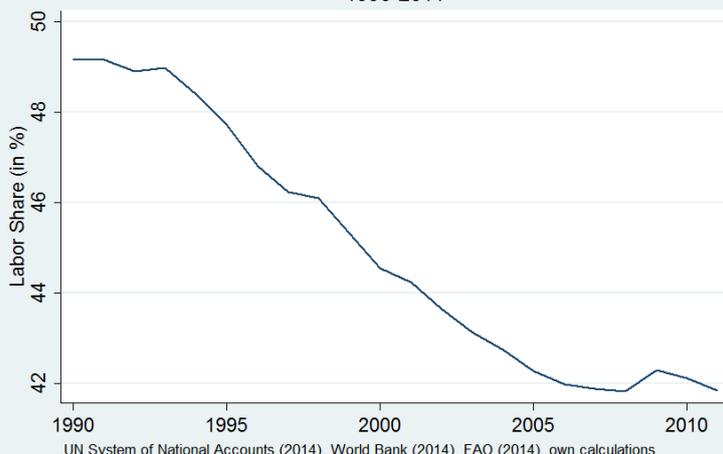
Findings:
• Self-employed work in labor-intensive industries and in a given sector, they pursue a more labor-intensive strategy than larger corporate firms
• Self-employed are less productive per unit of labor than the employed staff
• They have only limited income from capital or land
• Self-employed in DCs are worst off (but inverse-productivity hypothesis)
• Labor shares in developing countries range between 0.21 and 0.73, with a mean of 0.46

Labor Share

• Given the micro-level findings and the limited availability of macro-level data, the resulting labor share renders the most efficient
• Sample of 100 developing countries from 1990-2011

Results

Labor Income Share in the Developing World
1990-2011

Labor Share (in %)

UN System of National Accounts (2014), World Bank (2014), FAO (2014), own calculations

Conclusion

• Labor share is decreasing by 7 percentage points in the post-1993 era, with a slight recovery during the Global Financial Crisis of 2007-2008
• This suggests that labor income is lagging behind overall productivity increases
• Downward trend prevails in all developing regions except for South Asia
• The negative trend has important implications for inequality, poverty and growth and should be considered for poverty reduction strategies
• Constructing the labor share of DCs is challenging but giving up on its measurement cannot be the consequence
• It is essential to combine macro and micro data when computing the labor share of developing countries
• This, however, can only be a second best option and more effort in gathering reliable data is recommended