

Measurements Based on Time Use Statistics : Some Issues

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Measurement Issues

- Additional issues in measurement of workforce and GDP
- Valuation of unpaid ESNA work.
- Issues in satellite accounts
- National time accounts
- Developing social indicators using time use data

What Do Time Use Data Tell Us?

- Three components of time use surveys:
 - Background Schedule
 - Time Use Schedule
 - Context Variables
- TUS can also be a module in a major survey like labour force survey (Benin, Nepal), income & expenditure survey (Lao PDR, Oman) etc
- Linking the results of TUS with another major survey like HH expenditure survey (satellite accounts)

Uncounted and under counted work Labour force surveys vs time use surveys

Production / workers	Counted	Under counted	Uncounted
Counted	Formal Economy		
Under counted	Subsistence Agri & Informal workers in formal enterprises	Informal economy	
Un counted			Subsistence non agri & some informal enterprises
Work time Not captured	Arrangements by	& time spent conventional	while on work surveys

Problem areas for GDP

- Underground production: legal but deliberately concealed production
- Illegal production: production forbidden by law or unauthorized production
- Informal production: production carried out in the informal economy
- Subsistence production: production of households for their final use
- There is some overlapping between the categories

Measuring production from informal economy: problems.

- Non response of enterprises
- Non registration of enterprises
- Non identification – short life of units, scattered nature and small size

Thus under reporting & under coverage of enterprises, under reporting of production, mainly in Production in petty trade, petty manufacturing and Petty services; homework and home based work and Other informal economy.

Role of time use surveys in capturing informal production

- Methods used in developing countries
- TUS provides improved estimates of workers.

Two approaches to get improved GDP estimates.

Two approaches:

1. Independent valuation – separate valuation based on estimates of workers and production
2. Estimates of workers and multiplying these with average value of out put

Production from subsistence sector: problems in estimation.

- Most countries have not included this sector in their GDP except for agriculture
- Main reason: Data availability and methodology

Valuation of subsistence sector

- Time use data can help in the sectors where labour cost is the main cost
- Time use data can get estimates of persons producing goods for self consumption and time spent by them

Arguments against valuation of ESNA work

- Why compare non comparables?
- Valuation not consistent with the concept of economic value
- Valuation poses questions about the validity of macro policies
- Valuation requires un realistic assumptions

Case for valuation of ESNA work

- SNA and ESNA together provide estimates of total well being in an economy, and contribution of ESNA is significant
- Valuation gives visibility to this work, draws attention of policy makers and claims public resources
- Unpaid work is not free and it has a cost- it is also not unlimited – it is an economic good
- Valuation of ESNA will improve claim of women to insurance, claims after divorce etc.
- Unpaid work is a part of the macro economy and its dimensions need to be measured

Input Approach of Valuation

- Valuation of labour input
 - Replacement wage rate
 - generalist wage rate
 - Specialist wage rate
 - Opportunity cost
- Valuation of output generated
 - Converting time input in to output
 - Market wage rate for valuing the wage component

Problems with the Input method

- Assumptions in valuation – input method (replacement wage rate)
 - There are comparable jobs in the market
 - Market – non market work is comparable
 - Market – non market work is carried out with the same capital intensity

The concept of standardized extended per capita production per unit of time
- Assumptions in valuation – input method (opportunity cost)
 - Job opportunities are available as per the qualifications
 - The wage rate will not decline when unpaid workers enter the market
 - Unpaid workers are well informed about market opportunities

Problems with the output method

- Assumptions in valuation – Output Approach method
 - Quality of products from different households is the same
 - Market prices are available for each output
 - The qualities of market product and domestic product are comparable

Advantages of Output Method over Input Method

- Time at home is elastic, output is not
- Output method fits well with the SNA framework
- However, input method is more popular due the data availability

Satellite Accounts of ESNA work

- 1993 SNA has recommended it. The PFA has also asked for it.
- Satellite Account is an extension of SNA, consistent but separate from SNA

Major tasks involved in satellite accounts

- Identification of activities and conversion into output (Eurostat has 6, UK has 7 and Ironmonger has 8 HH industries identified)
- Monetary valuation using appropriate prices
- Valuation of labour inputs
- Valuation of capital inputs
- Final input output tables and valuation \

Data Sources for Satellite Accounts

- Household time use survey
- Expenditure survey
- Supplementary data collection : Wages, Prices.

Several industrialized countries have

Compiled such accounts – but not a regular

Practice among countries

Scope for improving the methodology

- Adding concept of human capital
- Categorization of output as far as possible
- Improving selection of prices
- Standardization of sectors, concepts and methods of global level

National Time Accounts

- National time accounts are basically a set of estimates of total income and expenditure of time
- They provide information on how people divide their time between SNA, ESNA and NSNA activities.

Advantages of National Time Accounts

- Comparing apples with apples
- Dynamics of changes taking place in a society
- Inter relationships between paid and unpaid work and its changes
- Better understanding of households & HH economy
- Socio cultural dimensions of life
- Improving modeling of our economic and social systems.

Structure of National time accounts

- Information on different sets of population with their expenditure on time on different activities
- Major divisions in the structure has used the TUS classification: economic activities, household work, education, leisure, sleep and personal care
- Structure can change with the development of global classification

Need to do further work on developing national time accounts

- Average / per capita time use measures
- Distribution of per capita time across different socio economic groups
- Distribution of time use across regions, rural and urban areas.
- Selected ratios and indicators to measure changes

Developing social indicators using time use data

- Time poverty and time stress: using leisure time, paid and unpaid work time, time spent on drudgeries or on multi tasking
- Human development indicators: using time spent on education & study, on care activities, on voluntary work etc, social capital
- Measures of gender equality: ratios of the time spent by men and women on paid and unpaid work, total work, leisure etc

Concluding observations

- Time use data have immense possibilities, but only a few are tapped
- Some important possibilities are: improving labour force and GDP estimates, valuation of ESNA work, time accounting and social indicators
- Need to work more on measurement issues
 - harmonized time use surveys
 - improvements in concepts and methods
 - harmonization of methods of measurements – there are no set standards at present

Thank you