

A Framework for Nonmarket Accounting

Katharine G. Abraham

May 13, 2005

BEYOND THE MARKET

Empowering Immigrant Americans for the United States



Immigrant Empowerment Center
www.immigrantempowermentcenter.org

CNSTAT Panel on the Design of Nonmarket Accounts

- Panel members: David Cutler, Nancy Folbre, Barbara Fraumeni, Robert Hall, Daniel Hamermesh, Alan Krueger, Robert Michael, Henry Peskin, Matthew Shapiro, Burton Weisbrod and Katharine Abraham (Chair)
- Study Director: Christopher Mackie

Why Account for Nonmarket Activity?

- The National Income and Product Accounts have been extraordinarily useful for studying market activity
- A full accounting of both market and nonmarket activity could lead to different conclusions about:
 - Secular trend and cyclical fluctuations in aggregate economic output
 - Relative economic output across areas and countries
 - Savings, investment and the sources of economic growth
- Understanding the production processes in important sectors requires accounting for nonmarket as well as market inputs and outputs (e.g., education, health)

Why Account for Nonmarket Activity *Now*?

- Limitations of the existing market-based accounts have long been recognized
- Sectors with important nonmarket dimensions appear to have grown in relative importance (education, health, the nonprofit sector)
- Recent developments have improved the prospects for progress
 - Theoretical/conceptual advances relevant to the valuation of nonmarket output
 - Collection of new data on nonmarket activity (most notably the new American Time Use Survey)

Some Important Issues in Designing a System of Nonmarket Accounts

- Scope and priorities for the nonmarket accounts
- Relationship between the nonmarket accounts and the existing NIPAs
- Adaptation of the double-entry bookkeeping structure of the NIPAs for the nonmarket accounts
- Measurement of input quantities and prices, especially the valuation of time devoted to nonmarket production
- Measurement of output quantities and prices

Scope for the Nonmarket Accounts

- Outputs versus outcomes (well-being, enjoyment associated with nonmarket tasks)
- Margaret Reid's 3rd party criterion – could I have hired someone else to produce the output for me? – one basis for drawing boundary. Fine for traditional household production, but also want to include investments in own human capital.
- Broader criterion – is there a sensible procedure for determining the monetary value placed on the output produced?

Priorities for Account Development

- Panel recommends that development of nonmarket accounts begin with activities that have the closest market analogues
- Even within this set of activities, conceptual foundations and available data stronger in some areas than in others
 - Development of *household production* and *environmental* accounts could begin at once
 - Accounts for *education*, *health* and the *nonprofit sector* will require continued conceptual research and additional data

Relationship of the Nonmarket Accounts to the Existing NIPAs

- Nonmarket accounts should supplement but not replace the existing NIPAs
- Like the NIPAs, nonmarket accounts should be denominated in monetary rather than physical units
- Development of a fully integrated set of accounts should not be an initial goal
 - Different approaches may be appropriate in different cases
 - Many activities a mix of market inputs, nonmarket inputs, and nonmarket outputs (e.g., household production, education, nonprofit sector), so that the nonmarket accounts will overlap the NIPAs
 - Some of the nonmarket accounts may themselves overlap (e.g., the health and environment accounts)

Relationship of the Nonmarket Accounts to the NIPAs (continued)

- One implication of developing accounts for different areas independently is that output will not be additive across sectors
- Nonmarket accounts will be most useful if they are published on a regular schedule

Adaptation of Double-Entry Bookkeeping for Nonmarket Accounts

- A strength of the NIPAs is the check on the estimates provided by double entry bookkeeping.
- For nonmarket accounts, value of inputs need not equal value of outputs.
- Panel nonetheless recommends independent measurement of nonmarket inputs and outputs. Necessary for assessing productivity and the efficiency of resource allocation.

Measurement of Nonmarket Time

- Time the most important nonmarket input
- Panel recommends use of the American Time Use Survey (ATUS) to measure time devoted to nonmarket production, including time devoted to household production, educational activities, unpaid health care services, volunteer activities
- ATUS launched in 2003 with a monthly sample of 2800 designated respondents (1800 beginning in 2004) age 15 and older drawn from Current Population Survey outgoing rotation groups
- Each respondent asked to complete a one-day diary, reporting what they did from 4 a.m. to 4 a.m. on their designated day. Detailed activity codes assigned to each reported activity.

Measurement of Nonmarket Time (cont'd)

- ATUS a great step forward but for nonmarket accounting purposes limited in some respects:
 - Does not cover people under the age of 15
 - Data on simultaneous activities not reported
 - Activities that occur in short bursts may not be well measured
- Low response rate (under 60 percent in 2003) has raised concern about possible response bias
- Research to evaluate and suggest improvements to the ATUS should be a priority

Valuation of Nonmarket Time

- Replacement cost and opportunity cost methods have been used to value nonmarket time
- Panel recommends *productivity-adjusted replacement cost* valuation for activities someone else could have been hired to perform (e.g., household production). That is, recommend $\hat{W}_R = b W_S$, where b is the productivity of the nonmarket producer relative to that of the specialist
- Panel recommends *opportunity cost* valuation, adjusted for differences in the amenities of nonmarket and market work, for activities someone else could not have been hired to perform (e.g. own education)

Measurement and Valuation of Nonmarket Output

- Many past nonmarket accounting efforts have used input valuations as a proxy for output valuations.
- Various possible techniques for valuing nonmarket output directly:
 - Valuing comparable market substitutes
 - Valuing flows of marketed services
 - Using information about market transactions to value flows of nonmarketed services
 - Valuing availability of public goods using contingent valuation techniques
- Experimentation with alternative output valuation approaches will be required

Moving Forward

- Panel has recommended the development of nonmarket satellite accounts for *household production, education, health, nonprofits and government, and the environment*
- Methodological expertise resides in the Bureau of Economic Analysis, but other agencies with particular substantive interests also must be involved
- Academic research must continue to push the conceptual frontiers and help to resolve difficult measurement issues
- Account development should rely to the extent possible on existing data, but some new data also may be required