

In this chapter, we consider the implications for the National Income and Product Accounts of the proposed changes in the definition of income which were discussed above. We review first the present definitions of income concepts used in the National Accounts, and then consider proposed revisions in the definition of income, and in the units classified in each sector, which would bring a higher degree of concordance between microdata from household surveys and aggregate income concepts.¹

6.1 National Income Accounts

The national income is "the incomes that originate in the production of goods and services attributable to labor and property supplied by residents of the United States" (Bureau of Economic Analysis, 1976, p. 35). As a measure of productive activity, it excludes the aggregate value of capital gains and losses. Incomes are **classified** into five broad classes: compensation of employees, proprietors income, net **interest income**, rental income of persons, and corporate profits. A detailed presentation of items included in national income is shown in Table 6-1. Note that certain elements of income in-kind are included, while others are not.

National income is measured annually and quarterly (the latter represent in many cases interpolated estimates of annual data and are considered to have a higher measurement error). The analytic unit consists of all **residents**² of the United States (including foreign nationals currently residing within the country, but excluding American citizens living abroad). The income definition does, however, include income from labor and property supplied from abroad, to the extent it accrues to residents.³

¹Discussion of changing the accounting period for the national accounts has been concerned with the need for monthly GNP data for purposes of cyclical measurement and stabilization policy. These topics are outside the scope of this paper.

²"Residents" means persons and nonprofit institutions (including hospitals, charitable and religious institutions, and trusts).

³A related concept, domestic income, **can** be derived by excluding income derived from labor and capital abroad.

TABLE 6-1

NATIONAL INCOME
ANALYTIC UNIT: TOTAL POPULATION
ACCOUNTING PERIOD: ANNUAL

INCOME

A. Labor Income

- A.1 Civilian Wages
- A.2 Civilian Salaries
- A.3 Tips and Gratuities
- A.4 Honoraria and Awards
- A.5 Sick Pay
- A.7 Active Military Pay-Nonhazardous Duty
- A.8 Active Military Pay--Hazardous Duty
- A.9 Military Reserve Pay
- A.10 Insurance Provided by Employer
- A.11 Employer Contributions to Pension Plan
- A.12 Earnings Paid in Kind

B. Business Income

- B.1 Net Income from Business Proprietorship
- B.2 Net Income from Business Partnership
- B.3 Net Income from Farm Proprietorship
- B.4 Net Income from Farm Partnership
- B.5 Value of Food Produced and Consumed by Owner of Farm

C. Property Income

- c.1 Interest
- c.2 Dividends
- c.3 Net Income from Rental Property
- c.4 Royalties
- c.7 Imputed Rent on Owner-Occupied Home
- c.12 Retained Earnings of Corporation
- C.13** Corporate Income Tax Liability

D. Public Cash Transfer Payments

None

E. Public In-kind Transfers

None

F. Private Transfers in Cash and in Kind

None

EXPENDITURES

- G.21 Interest Paid

ASSETS AND LIABILITIES

Not applicable

Personal Income

More closely attuned to the income concepts discussed earlier is personal income. Personal income is "the income received by persons from all sources, that is, from participation in production, from transfer payments from government and business, and from government interest, which is treated like a transfer **payment.**"(Ibid, p. 37). Unlike national income, personal income is measured using a mixture of cash and accrual accounting.¹ This has major implications for the comparability of aggregate personal income with individual income concepts measured on a realization ("when paid") basis.

Such items as payments from a private pension or welfare fund **are** not included in personal income when paid. In the case of a pension fund, contributions by employer are counted in the compensation of employees when earned (i.e., when paid or credited by the employer during the employee's active working span). In the case of private welfare funds, no record is generated because welfare funds are included in the same recipient unit class ("persons") as are individuals and families. For the same reason, no contributions from one family or individual to another are included in aggregate personal income. This logic also applies to income from a private trust account.

Contrast this treatment with that used for government and business transfers. Because these payments move from one conceptual entity to another ("persons"), they are recorded as income. Recent revisions to the account now include **in** government transfers, in addition to all direct cash transfers, such in-kind transfers as the bonus value of food **stamps** and **medicare** payments. Other types of transfers, such as support for low rent public housing, are treated as a subsidy to a government enterprise, but do not enter the definition of personal income (Ibid., p. 7).

¹Because of measurement problems, certain sources of income, such as proprietor's income, are not adjusted from an accrual to a cash basis when constructing personal income.

TABLE 6-2
PERSONAL INCOME
ANALYTIC UNIT: TOTAL POPULATION
ACCOUNTING PERIOD: ANNUAL

INCOME

- A. Labor Income
- A.1 Civilian Wages
- A.2 Civilian Salaries
- A.3 Tips and Gratuities
- A.4 Honoraria and Awards
- A.5 Sick Pay
- A.6 WIN Payments
- A.7 Active Military Pay--Nonhazardous Duty
- A.0 Active. Military Pay--Hazardous Duty
- A.9 Military Reserve Pay
- A.12 **Earnings** Paid in Kind

- B. Business Income
- B.1 Net Income from Business Proprietorship
- B.2 Net Income from Business Partnership
- B.3 Net Income from Farm Proprietorship
- B.4 Net Income from Farm Partnership
- B.5 Value of Food Produced and Consumed by Owner of Farm

- C. Property Income
- C.1** Interest¹
- c.2 Dividends
- c.3 Net Income from Rental Property
- C.4** Royalties
- c.11 Income from a Trust

- D. Public Cash Transfer Payments
- D.1 Social Security Retirement Benefits
- D.2** Social Security Disability Benefits
- D.3 Social Security Survivor's Benefits
- D.4 Railroad Retirement Benefits
- D.5 Unemployment Benefits
- D.6 Workmen's Compensation Payments
- D.7 Veteran's Disability **Pension -- Service Connected**
- D.8 Veteran's Disability Pension **-- Nonservice** Connected

¹ Includes imputed interest from checking accounts and time deposits received on bank services and imputed interest **frim** life insurance policies.

PERSONAL INCOME

- D.9 Pension for Survivors of Veterans
- D.10** Veteran's Educational Benefits
- D.11 Aid to Families with Dependent Children
- D.12 Supplemental Security Income
- D.13 General Assistance
- D.14 Other Public Assistance

E. Public In-kind Transfers

- E.1 Bonus Value of Food Stamps
- E.3 Medicare Benefits

F. Private Transfers in Cash and In-kind

- F.7 Prizes and Awards (In Cash)

EXPENDITURES

- G.15** F.I.C.A. Taxes

ASSETS AND LIABILITIES

None

6.2 • Revisions Suggested for the National Income and Product Accounts

Revisions Stemming from Production Concepts

Many scholars view the restriction of the national income concept to market activity as limiting to analysis. It is also correct to say that the principle has been violated in practice already (witness the imputations performed with respect to owner occupied homes, financial services, and income *in kind*). The most serious omission is the failure to count home production. In his accounting, Colin Clark (1958) found that including housework would raise the value of national income and product by one-third. Kuznets (1955) has cited the omission of housework as one of the major sources of bias in comparing aggregate national income over long periods of time.

Clark's figure of one-third has stood up well to comparison with later studies. Calculations of the impact of home production on national income and product will be found in Gauger (1973), Hawrylyshyn (1974), Reid (1934), Nordhaus and Tobin (1972), Sirageldin (1969), and Weinrobe (1974). These efforts have been surveyed by Hawrylyshyn (1976). See Section 3.4 for a review of the methods proposed for calculating the value of home activity.

Revisions Stemming from Redistributive Impact

Lampman (1975) notes that a change in sectoral definition will be required if the national income accounts are to correctly present data involving transfer payments. He defines transfers as "a payment or receipt for which less than fully reciprocal specific payment is made or good or service exchanged." The major problem with the existing definition of the recipient unit is that it includes with persons, nonprofit institutions, welfare and trust funds, and the saving and dissaving activity performed for persons by pension funds and life insurance companies. Lampman suggests defining a new sector: financial intermediaries and philanthropic institutions. This would require explicit measurement and reporting of the following (presently invisible) intersectoral flows: (1) personal contributions to philanthropic institutions, (2) personal contributions to insurance and pension funds, (3) insurance and pension payments to persons, (4) philanthropic payments to persons, (5) business transfers to insurance and pension funds, (6) business transfers to philanthropic organizations. Lampman also suggests that we move further than existing practice in including as transfers government outlays which provide income in-kind.

Richard and Nancy **Ruggles** (1975) second Lampman's suggestion for an **additional sector**. They note that the lumping together of persons and institutions is one of the major conceptual problems standing in the way of an increased use of microdata from household surveys to improve the measurement of aggregate national economic activity. Especially important toward the latter **goal, in** their view, is the inclusion in future survey efforts of the questions needed to perform research on the valuation of in-kind income and transfer payments.

Studies of the impact of redistribution (see Chapter 4) have operated on the national income data. While the majority of these studies (such as Gillespie (1965) and Dodge (1975)) would affect the composition of national income but not its aggregate value, other proposed bases for measuring the impact of redistribution would require changing the aggregate measure of income as well. For an example, see the study by Behrens and Smolensky (1973) which would impute to those who pay taxes to transfer income to others a psychic form of income (donor benefits, in their terminology) **equal in** value to the income transferred.

Revisions to Transform GNP into a Measure of Social Welfare

It has been argued that the Gross National Product (and its associated income measure, National Income) are misleading indicators of aggregate social welfare. In the view of the critics, the focus of GNP measurement on market activity, the **treatment** of government activities, and a failure to recognize resource and environmental costs, in particular, lead to a possible divergence between movements in real GNP and movements in aggregate social welfare.

A number of these studies are found in The Measurement of Economic and Social Performance (Moss, 1973), which contains the proceedings of a conference dealing with this question. The conference itself raised more questions than it answered. As Simon **Kuznets** noted in his concluding remarks:

The first (reflection) is that the problems are numerous, and **recalcitrant; and would require a variety of sustained experimental and haginative** research (sic) before **acceptable** answers and measures are established. Second, in their character and recalcitrance,

these are all questions of long standing in the national income literature belonging to the problems of inclusion or drawing the dividing line between economic and noneconomic, on the one hand, and productive and unproductive, on the other; of netness and grossness -- of distinguishing between costs and returns, between intermediate and final products; and of valuation, i.e., of a meaningful weighting system by which to combine the diverse costs and net economic **products** into acceptable and articulated totals. (Moss, 1973, p. 583)

Kuznets goes on to note that the apparent cyclicity of academic and lay concern with these issues can be ascribed to the process of economic growth and change; and with events outstripping the theoretical models of production and valuation which sufficed to deal with the economic relationships among individuals in a simpler age. In particular, the finding that increases in capital and numerical labor inputs can explain less than **one** half of growth in physical output (**Solow**, 1957) leads the student of growth to one or both of two possible explanations: **(1)** unrecorded increases in the quality of labor (human capital) and the quality of capital (technological improvement) are the major source of growth; yet there are no statistics on these **comparable** to those **on physical** capital and quantitative labor, or **(2)** the measure of output is faulty, because items which represent costs or intermediate products are being counted as final output. While these conclusions arise from very different premises, they both imply the need to revise (or at **least** supplement) the existing economic accounts.

A second salient point which Kuznets makes, as does Moss in his introduction, is that little attention was paid to the distributive implications of the proposed changes in Gross National Product. Indeed, as **Solow** notes in his comments:

Neither Juster nor **Nordhaus-Tobin** makes any comment about the income side of their expanded welfare accounts. They talk entirely in terms of the product side. Well, what does happen to the income side? Is there a meaningful total? Is there a meaningful breakdown? (Moss, 1973, p. 105)

Juster's Framework for Analysis

In his contribution to the proceedings, F. Thomas Juster (**1973**) suggests changes to the National Income **and** Product Accounts of considerable significance. Juster **argues** that all income derives from wealth in some form.

He **therefore** ^{is} **proposes** a series of wealth accounts, which would include reproducible intangible wealth, human capital, natural resources, and sociopolitical wealth. Changes in these wealth measures, together with truly "final" consumption expenditures, would, in Juster's view, define the national income appropriately in a manner consistent with the **Haig-Simon** criterion. Juster proposes moving nonprofit institutions out of the personal sector (the recipient unit) and into the enterprise sector.

Juster's proposal is most controversial in substituting a judgmental test for what constitutes a true consumption (welfare augmenting) outlay. In the present system of national accounts, consumption is the sum of (1) all private outlays by persons and nonprofit institutions for the purchase of goods and services (except purchases of a home or mobile home, and interest payments on consumer credit) and (2) all purchases of goods and services by governmental units (collective consumption). In Juster's view many of these expenditures represent intermediate goods (commuting expenses, police, fire and justice expenditures), "defensive" expenditures (national defense spending, and related spending such as that on pollution control, which in Juster's view simply compensates for a worsening international or environmental situation), or investment outlays (spending on education by persons and government, among other items).

Juster himself notes the conceptual and practical difficulties with his proposal. To some, all spending by persons can be thought of as instrumental (i.e., **as** intermediate products toward the satisfaction of ultimate goals). **Thus** to treat medical **expenses** as intermediate spending, but food purchases as consumption, seems to ignore that eating is as important to health as medicine. Juster's position seems to be that it is better to do some of these adjustments than none at all, and that the resultant measure would be a compromise between the present system and an extremist position.

Before criticizing this concept, it is useful to examine an actual calculation which is very much in the spirit of Juster's proposals. Nordhaus and **Tobin** (1972) calculate what they term MEW (Measure of Economic Welfare) for the United States economy for certain years spanning 1929-1965. Their calculations for 1965 are reproduced in Table 6-3. Beginning

with **personal consumption** expenditures as reported by the Bureau of Economic Analysis, they subtract such private instrumental expenditures as the cost of commuting to work, durable **goods** purchases, which are reclassified as investment, other household investment (educational and medical expenditures). Since outlays for durable goods have been treated as investment, the value of services provided-by consumer capital assets must be imputed to **MEW**. (Of course, this calculation is already included in personal consumption expenditure for homes, **since BEA** performs this adjustment to the accounts routinely..)

Of greatest significance to the size of MEW is the augmentation for the value of leisure and non market production. Critics have noted that the sheer size of these items means that the trend in MEW will be dominated by their changes, and by alternative methodologies used to calculate them.

Disamenities of urban life have been estimated by the income differential necessary to attract individuals to high density residential locations.

These are thought to be a **proxy** for the real and psychic costs of congestion.

A striking aspect of the figures presented in Table 6-3 are the extremely low values for 'current consumption benefits from government spending, and the relatively low values for services from government capital assets. These reflect the assumption that national defense spending, police, fire, justice expenditures, and road maintenance are all instrumental (intermediate product) expenditures, and that the flow of services from these investments is already reflected in the flow of market and nonmarket income which supports private consumption expenditures. Thus, in **Tobin** and Nordhaus's view, these outlays represent neither current **consumption** nor investment.

Government outlays for health and education do represent gross investment. Against these however must be set the depreciation in value **of the** stock of human capital and a requirement for additional investment to support a growing population. Thus aggregate net investment in human and physical capital is much smaller than gross investment, and may even be negative..

TABLE 6-3

TOBIN-NORDHAUS MEASURE OF ECONOMIC WELFARE

Data for 1965, in 1958 Dollars

Personal consumption expenditure, national income and product accounts	\$397.7 bil.
Private instrumental expenditures	-30.9
Durable goods purchases	-60.9
Otherhousehold investment	-30.1
Imputation for services of consumer capital	62.3
Imputation for leisure	626.9
Imputation for nonmarket activities	295.4
Disamenity correction	-34.6
Government consumption	1.2
Imputation for services of governmental capital	16.6
Total consumption = actual MEW	1,243.6
MEW net investment	-2.5
Sustainable MEW	1,241-1 bil.
Population	194.6 mil.
Sustainable MEW per capita	6,378
Net national product per capita	2,897

Source : Nordhaus and **Tobin** (1972). Variant B of the alternative methodologies is reported.

The proposed calculation by **Tobin** and Nordhaus is meant to be illustrative rather than **definitive**. Several critics at the conference noted that this concept, and others presented, represented alternative measures of economic performance, rather than revisions appropriate to GNP. MEW, Juster's measure, and others would not include a valuation of many other dimensions of social welfare (e.g., family stability, desegregation, **crime** rates, income distribution, political freedom, etc.). Thus these measures do not substitute for the proposed social indicators system of (**unweighted**) statistics dealing with these dimensions of social welfare. (For a discussion of social indicators, see Moser (**1973**) and Stone (**1970**).)

6.3 Summary

A major criticism of the National Income and Product Accounts is the failure to include non-market activities. Many of the suggested corrections to the accounts have been previously discussed **in** the context of the measurement of individual income. Section 2.7 discusses the appropriate measurement of the services of consumer durable goods. Section 3.6 outlined the data needed to measure home production. Chapter 5 considers adjustments for the value of household assets and leisure.

The new issues raised by Juster, **Tobin**, and Nordhaus are then the question of the treatment of private and public instrumental expenditures, adjustment of income for a deteriorating physical environment, and adjustment of income for a deteriorating social and political environment.

Instrumental expenditures are outlays which are (in the view of the authors) merely necessary for existence, and which do not contribute to well-being. **The** difficulty, as critics of this concept point out, is that once one admits the existence of such outlays, where should one stop? If outlays for police, national defense and medical services are "defensive" (to use Juster's phrase), then why are outlays for food, clothing and shelter not also? The primitive state of theoretical discussion on this question argues against any attempt to enumerate and measure in a survey such "defensive" expenditures.

Similarly, it is difficult to see how questions regarding respondents' perceptions ~~of~~ **changes** in their physical, social, and political environment will contribute to a more precise measurement of their real income. In this case, however, it is certainly possible to link available data on social and environmental quality for the respondent's locale so that those researchers who wish to adjust real **income** on the basis of these factors can perform their calculations easily.

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