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"Critiques of National Income Accounting and GNP" by Jonathan M. Harris

It is often said (generally by economists) that economics is a cumulative science. Economic practitioners of today, in this view, select the best of all previous economic thought, build on what is most valuable, and discard what has been found wanting. As we have seen in earlier sections, many of the complex issues of what truly constitutes human welfare have fallen by the wayside in modern economics. The field of welfare economics itself has all but disappeared. Dollar valuation has become the single criterion for inclusion of any aspect of human experience into economic analysis.

Most of the arcane theoretical issues involved in this evolution of economic thought are, of course, unknown to the general public, as well as to researchers in other academic fields. But everyone is familiar with GNP. Both to professional economists and to laypersons, Gross National Product and its variant, Gross Domestic Product[1], represent the most readily available index of how "well" the economy is doing. Expressed as GNP per capita, it tells us how "well" the average citizen is doing -- a higher per capita GNP is the prime measure used to distinguish a rich economy from a poor one. To judge by the widespread success of the GNP measure, it has become the single criterion which replaces all that obsolete theorizing about how to measure welfare.

Clearly, the implications of this widespread acceptance of GNP as "the" measure of economic success are profound. A few may protest that GNP is really a measure of production, not of welfare. But lacking any other comprehensive measure of welfare, GNP fills this role by default. It therefore governs not only the thinking of economists and of the general public in this area, but also the shaping of economic policy on a variety of levels.

In addition to the absolute level of GNP, the rate of change in GNP over time is a crucial economic indicator. In the short term, the rate of change in GNP is carefully monitored as a guide to macroeconomic policy. In the United States, if GNP declines for two successive quarters, the economy is considered to be in recession. Despite the preachments of monetarist and New Classical economists to the effect that government policy is ineffective, we typically see a rapid response on the part of the Federal Reserve Bank, and sometimes a more delayed response by fiscal authorities, to such a "slowdown" in the economy. On the other hand, if GNP grows too rapidly, the Federal Reserve Bank will be quick to apply the monetary brakes to avert

the risk of inflation. Thus we have come to accept the principle that GNP should be not just at a high level, but should also be growing continually at a steady rate, to maintain economic welfare.

Long-term growth is of even greater importance to economists than short-term macroeconomic fluctuations. Modern economic growth theories stress that the determinants of long-term growth, such as savings and investment rates, technological diffusion, and investment in human capital, are the most fundamental factors in the welfare of nations. GNP is the universally accepted measure of long-term growth. The idea that a nation with a lower per capita GNP might be better off -- perhaps due to greater equity, an unspoiled environment, or more leisure time -- is completely foreign to theories of economic growth. This perspective, of course, powerfully determines the actual policies followed by the world's developing nations, under the guiding hand of such transnational financial institutions as the World Bank and the International Monetary Fund.

WHAT DOES GNP MEASURE?

Despite its widespread acceptance, and despite the perception that we all "know" what GNP is, the definition and measurement of GNP have been rife with ambiguities and paradoxes since its beginnings. One of the originators of GNP accounts, Simon Kuznets, was well aware of the problems in calculating a single measurement of national product. In a classic article summarized here, Kuznets points out that the very definition of GNP is based on ambiguous concepts whose interpretation requires significant value judgments. One of these terms is the word "value" itself. When we say something has value, we do not necessarily imply that it has a price, or if it does that its price fully captures its value. But for purposes of aggregation, all elements of GNP must be expressed in money value.

This forces us to take one of two approaches. We can decide to include in GNP only those things which are traded in markets, at their market value. Or we can attempt to assign values to non-traded good and services. Either approach represents a value judgement. If we choose the former, we are implying that anything that does not have an explicit money price has no value, at least in economics. If we choose the latter, we will have to decide which non-traded goods and services are worthy of being included in our calculation, and find some way of assigning them an appropriate money value.

In practice, GNP calculation embodies numerous judgements of this type. For example, the value of non-traded government services (such as national defense) are estimated at their cost of production. But the value of housework is not estimated or included in GNP. Many such decisions as to what has or does not have "value" are involved in the calculation of what we have come to regard as an objective measure of national economic activity.

Thus even in what appears to be merely an accounting exercise -- the summing up of all economic activity in the nation -- we are compelled to confront the same knotty questions which have driven economists to abandon the field of welfare economics as hopelessly unscientific. Does the high monetary value placed on advertising, tobacco, liquor, gambling, or pornographic entertainment imply that these economic activities have true value? If an individual spends

money in these areas, does this contribute to her welfare? To the national welfare? If a parent spends more time taking care of children, and less time earning money, does s/he thereby lower national economic welfare? If the government orders expanded production of nerve gas, does this increase national welfare? There is no single obvious answer to questions such as these. Nonetheless, our judgement on all of these questions will be reflected in the techniques which we choose for calculating national income.[2]

These many problems and paradoxes have led to an expanding critical literature on the calculation of GNP statistics and their use in policy formulation. Critics have approached the issue from several perspectives. One approach analyzes methodological weaknesses in the formal structure of GNP accounts. A feminist critique emphasizes the omission or undervaluation of women's work in standard GNP. An ecological critique deals with the omission or distortion of the environmental and resource impacts of economic activity. Yet another group of critics have concentrated on the implications of GNP analysis for development, arguing that a focus on GNP often leads to inequitable or destructive development policies. The articles summarized in this section offer a selection of analyses from these different, though overlapping, critiques.

UNRESOLVED ISSUES: EQUITY, INVESTMENT, AND WELL-BEING

The articles by Fred Block and Robert Eisner make the case that GNP accounts are in many respects inconsistent, misleading, and inadequate as a measure both of production and of national wellbeing. GNP accounts include no measure of equity, and implicitly validate the pricing structures associated with a particular, perhaps highly inequitable, distribution of income. Goods which are demanded by high-income individuals (e.g. mansions, luxury cars) automatically become "valuable", while goods which are needed by low-income individuals (e.g. affordable housing, mass transit) are not so "valuable", and may not be produced at all if there is not sufficient "effective demand" (buying power) to make their production profitable. GNP also fails to measure volunteer work, household work, leisure time, and nonpecuniary rewards of work.

Major problems also arise in the treatment of investment, both private and public. More efficient forms of capital, achieving the same output with less investment, show up as decreases in GNP (for example investment in energy efficiency). Government purchases are all treated as consumption, although spending on education and infrastructure is clearly investment. Investment by consumers in education and training is also considered consumption. This gives a narrow and distorted picture in which business spending on physical capital (buildings and machinery) is the only economic activity considered to be productive investment.

Eisner, echoing Tjalling Koopmans' warning about "measurement without theory", argues that the feckless adding machine of GNP accounts seriously misstates investment levels, and thus leads to erroneous policy prescriptions. An example is overgenerous depreciation allowances which encourage excessive investment in physical capital, to the detriment of research and development, education, training, and health. A myopic focus on government budget-balancing is another negative consequence of simple-minded GNP accounts which fail to distinguish productive public investment from wasteful consumption.

WHAT HAPPENED TO WOMEN?

Marilyn Waring argues that GNP systematically excludes or undervalues women's contribution to the economy. Household work, whose value may be as much as 50% of standard GNP according to studies cited by Ann Chadeau, is not included in official statistics. It should also be noted that patterns of sex discrimination reduce the wage, and therefore the GNP contribution, of women's work in traditionally female sectors of the economy such as nursing and paid childcare. Waring points out that the importance of this omission can be even greater in developing countries where so much of the traditional economy is based on women's work. Much of this remains invisible to development economists, who accordingly emphasize urban, industrial, and cash crop production which is more easily measurable in GNP.

The implication of this critique is not simply that GNP is "male-biased" and unfair to women (although this is certainly true). Since so much of "women's work" (even when it is occasionally performed by men) involves the care-giving, community-building aspects of life, we can see that the view of wellbeing which we get from standard national income accounts systematically devalues community and family in favor of market production. The policy implications of this are sweeping. Taken in conjunction with Eisner's points about public investment, it suggests that public support for childcare, education, and investment in community facilities all suffer from their relative "invisibility" in GNP.

Accounting techniques, as we are beginning to understand, are inextricably tied to our value judgements and policy decisions. Under the guise of neutral authoritativeness, GNP embodies numerous biases, notably regarding gender. (A feminist critique would no doubt recognize this as a familiar feature of many male-dominated institutions).

ACCOUNTING FOR THE ENVIRONMENT

The articles by Peskin and Meyer offer an overview of the area of natural resource and environmental accounting, which has expanded exponentially in recent years. Peskin's 1981 article is remarkably prescient; his work prefigures the explosion of interest in the topic which has swept through even such unlikely venues as the World Bank during the last decade. Meyer provides a more recent snapshot of this work-in-progress, showing how independent research groups such as the World Resources Institute, national statistical agencies, and transnational institutions including the United Nations and the World Bank have struggled to keep up with the many data-gathering and analytical issues involved in integrating environmental and economic accounting.

The starting point of this line of thought, like those of other GNP critiques, is an internal inconsistency in national income accounts. Net National Product (NNP) is calculated by

subtracting depreciation from GNP, thereby adjusting GNP's sum of economic value added to take account also of value lost when capital wears out or is used up. But this adjustment is made only for manufactured capital, not for "natural capital", which includes the asset value of natural resources. Changes in the value of other kinds of environmental assets, such as the absorptive capacity of air and water, are also unaccounted for. Thus if a nation chops down its forests, depletes its soils, and exhausts its mineral resources, the standard measure of NNP will show only gain as these resources are transformed into saleable goods. Clearly, consistent treatment of capital assets would require a depreciation adjustment for natural capital as well as for manufactured capital.

When such an adjustment is calculated for resource-dependent developing nations, there is typically a significant effect on NNP, and an even more dramatic impact on net investment. In some cases, what previously appeared to be a substantial net investment actually becomes negative after adjusting for natural capital depreciation. Traditional accounting would send exactly the wrong message in such a case -- a country whose economic position is actually worsening over time would appear to be becoming wealthier due to the omission of resource depletion and environmental degradation from its national accounts.

At first glance, it appears that the simple adjustment of including natural capital depreciation will correct this problem, but in practice the issue is much more complex. The valuation of natural capital depreciation is no simple task, involving both value judgements and methodological problems. An important issue is the choice of discount rate for estimating environmental damages which cumulate over time, such as soil erosion. Taking the broader view which Peskin espouses, we must also estimate a value for environmental services such as pollution absorption, and environmental damages such as loss of biodiversity. It proves easier to show the existence of a major problem with standard NNP measures than to prescribe a solution -- though much effort has gone into the attempt to construct consistent environmental and economic accounts.

IMPLICATIONS FOR DEVELOPMENT THEORY

If, as the articles we have discussed have argued, standard national income analysis offers a biased view, ignoring issues of equity, misstating the value of investment, omitting much of women's contribution, and failing to reflect environmental degradation, it can hardly be a good guide for policy. But as Hazel Henderson argues, it is precisely this narrow measure of GNP or NNP which is used by multinational development agencies and national governments to determine the goals and policies of developing economies. Policies which are destructive to community and to the environment, or which increase inequity and the exploitation of women, can thus be endorsed as successful in raising GNP. Without better indicators, damaging policies are likely to continue. Can we do better? Henderson suggests that no single index can capture the multiple goals of development, and proposes the use of a range of social and economic indicators.[3]

The next section of this volume reviews the work which has been done in developing some of these alternative indicators. Before moving to the area of new indicators, however, it is worth considering the common threads among the different lines of criticism of GNP which we have reviewed. The sources of these critiques are varied: economists concerned about inconsistent

methodology, feminists arguing for a fairer evaluation of women's work, ecological economists attempting to elevate natural capital to a more prominent position in economic theory. But all imply a different approach both to the measurement of national income and to the formulation of development policies. In particular, they suggest a different kind of analysis and policy in the area of social investment.

The main component of standard GNP is consumption; standard economic analysis sees investment as a means to greater future consumption. In GNP accounts, investment is defined exclusively as private business investment in the production of goods and services. As we have seen, government spending is considered as consumption rather than investment, as is individual spending on human capital (education and training). Investment in social capital -- the community-strengthening institutions which provide the backdrop for all economic activity -- can generally not be measured in national income accounts. Nor can environmental conservation and investment in natural capital (such as agricultural soil rotation practices) be easily measured. Yet all these forms of investment are crucial to a healthy economy and society. Standard national income analysis encourages us to neglect these types of investment in favor of a single, narrowly defined concept of investment in manufactured capital to facilitate increased consumption. As Marilyn Waring point out in her article summarized here, there are vast public policy implications which arise from a more appropriate valuation of productive services now "invisible" to GNP accounting.

The abandonment of the broader issues which in the past have been the subject of normative economics has led modern economic theorists to an excessive reliance on a narrow measure of human welfare; this in turn has led to erroneous prescriptions of how society should invest to increase welfare. Insofar as increased consumption promotes wellbeing, policies promoting economic growth in accordance with standard measures of national income will be successful. But in considering the many dimensions of wellbeing which these measures fail to capture, standard economic theory, as embodied in GNP accounts, will prove a poor guide to use of human and natural resources in economic development.

Notes

1. The difference between GNP and GDP is whether or not the foreign earning of individuals and corporations are included in the total. U.S. GNP, for example, includes the foreign earning of U.S. residents and corporations but excludes the earnings of foreign individuals and corporations from activities in the U.S. U.S. GDP includes all income earned within the U.S., regardless of the nationality or residence of the recipient, but excludes earnings of U.S. residents and corporations from foreign sources.
2. An overview of the problems and paradoxes involved in using GNP/GDP as a measure of national welfare is provided by Clifford Cobb, Ted Halstead, and Jonathan Rowe in "If the GDP is up, why is America down?" (*Atlantic Monthly*, October 1995).
3. In a recent article, Henderson updates her review of multiple development indicators. Despite recent work by both public and private institutions on developing indices which take into account social and economic factors, she favors "unbundled quality-of-life indicators" over the use of any single index (Hazel Henderson, "What's Next in the Great Debate About Measuring Wealth and Progress?", *Challenge*, Nov-Dec 1996).