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Over the past half century, the focus of national politics has been narrowed from the classic issue of wellbeing to that of changes in individual and family real income. This shift closely relates to changes in the way people think about output. The development of national income accounting in the 1930s and 1940s has meant that output is no longer a vague concept; it can be precisely calculated and provide us with a seemingly clear indication of how well the economy is doing. Despite these advances, this article contends that Gross National Product (GNP) is becoming "an increasingly problematic measure of economic output." [155] This is due to three factors: 1) there are many dimensions of wellbeing excluded from this measure; 2) there are methodological and theoretical inconsistencies in GNP construction; and 3) there is a growing discrepancy between popular perceptions of wellbeing and measured changes in GNP.

WHAT GNP MEASURES

GNP is not, nor does it claim to be, a measure of public welfare. Because it lacks a distributive dimension, it cannot distinguish between an egalitarian and an inegalitarian distribution of wealth. Nor does it measure other important elements of welfare such as environmental quality and life expectancy. GNP does purport to be the best measure of economic growth. Nevertheless, critics assert that it cannot even perform this task adequately given the confines of its current methodology.

GNP measures the value of final goods sold on the market. There are evident problems with this approach. Some goods, such as radio broadcasts, do not have market prices. The creators of GNP accounting thus decided that these outputs would be labelled intermediate goods, e.g., radio programming was considered part of the total advertising expenditures of the sponsors. Goods and services provided by the public sector and nonprofit organizations that had no final market price experience similar fates; their outputs are determined by summing the market prices of their inputs - labor, materials, and interest payments. This has the effect of presenting non-market production as inherently inefficient. A more efficient use of labor in these sectors is calculated as a loss of output, and a less efficient use as an increase in output.

Several other categories of production are excluded from GNP accounts because they fail to meet the criterion of market pricing. Some of these are not even considered intermediate goods. One such category, estimated at 20% to 40% of GNP, is household work. This includes activities ranging from child care, meal preparation, and cleaning to maintaining and improving housing and consumer durables. The same holds true for volunteer activities performed outside of the

home. The exclusion of these activities gives way to certain anomalies, such as Pigou's case of a man who marries his housekeeper and diminishes total GNP. During the last thirty years, the increasing number of married women in the workforce has shifted much of this formerly uncounted output to the marketplace. The resulting measured increase in GNP does not necessarily correspond to any increase in utility.

Economic theory tells us that labor is a disutility, which is why we are paid for it. By the same token, leisure provides utility, but it is unaccounted for in GNP because it has no market price. This means that two societies could have the same GNP, but the average worker in one might have half the work week of the other. Many problems arise when trying to put a dollar value on leisure: the value will differ between people depending on the utility they derive from it, and one must separate voluntary leisure from involuntary leisure. Nevertheless, the total value of leisure would certainly be substantial. In fact, one study determined that in 1965, the dollar value of leisure was actually greater than GNP.[1]

While economists generally regard work as a disutility, many people derive nonpecuniary rewards from work, such as companionship, a sense of meaning, intellectual challenges, and social status. It would certainly be difficult to calculate these benefits, but extensive research findings indicate that they are of great importance in determining individual well-being.[2] As with leisure, two countries may have the same levels of GNP, but the labor force in one might be engaged in repetitious, boring work, while employees in the other enjoy stimulating, challenging work.

GNP also fails to account for the indirect effects of production on various aspects of human existence. Innumerable problems arise in calculating these externalities. An obvious example is environmental degradation: how does one calculate the depreciation of environmental assets when the resiliency of the Earth to human actions is unknown; what levels of strain will lead to cumulative failures that affect human life? Environmental impacts are also closely linked to health; the repercussions on the productive capacities of the workforce should not be ignored. Some consequences include poor health and increased health care costs, more sick days, and shorter life expectancies.

With the exclusion of so many important elements of output, it is easy to see why studies fail to correlate improvements in wellbeing with increases in GNP. GNP measures only a fraction of the utility produced by economic activity. The dilemma of changing GNP to include wellbeing is that although the emphasis on market prices in GNP accounting provides a truncated view of economic output, adding a whole series of complex imputations to GNP accounting can potentially deprive the national income accounting system of the appearance of objectivity. When efforts are made to estimate some of these values the problem of "utility for whom" is raised. Within the marginalist framework, individuals have different preferences which reflect the utility of the product to them. When expressed in the market, the sum of these preferences produces a seemingly objective measure of aggregate utility. The objectivity of this approach is compromised, however, when economists substitute their own valuations for those of economic actors.

MEASUREMENT PROBLEMS IN GNP DATA

Even within the narrow scope of activities that national income accounts attempt to encompass, a number of measurement problems arise. One such case occurs with the purchase of capital goods. Since these purchases are counted in GNP, technical advances that reduce capital expenditures have the effect of decreasing the contribution of the capital goods sector to GNP. Another problem arises from the difficulty in separating quality changes from simple price increases. These accounting problems are particularly pervasive in the growing service industry where costless quality changes and continuous innovation are common. Lack of standardization in other industries, such as the construction sector, also poses problems when trying to calculate constant dollar outputs.

Another measurement problem relates to the balance between "productive consumption" and "consumptive production". Productive consumption increases human capacity; for example, education provides a consumer good and simultaneously enhances an individual's productive capacity. Medical care, social services, and vacations fall under the same category. Nonpecuniary rewards of work would fall under the category of consumptive production because there is consumption of status and intellectual challenges at the same time that goods and services are being produced. This meshing of consumption and production is a major problem in a methodology that requires an activity to be either investment or consumption, but not both. This is a serious problem in economic accounting since, with the blurring of the two, one can consume more today and still have more for tomorrow.

GNP AND PERCEPTIONS OF WELLBEING

The previous discussion shows that many increases in utility, such as improvements in quality and the growth of productive consumption, are understated in GNP figures. Yet, it would certainly belie popular sentiment to say that people are much better off than GNP figures indicate. Rather, there is a current of dissatisfaction and disgruntlement running through America today that runs counter to the country's GNP record.

Part of the reason for this dilemma lies in the fact that people's ideas about how well they are doing are largely affected by expectations. For instance, it has been found that people were not able to adequately account for inflation in the 1970s and thus had distorted perceptions of their real income. Perceptions of other people's wellbeing also play a role. As incomes rise, so does spending on positional goods, i.e., status goods that cannot keep up with demand. Examples include rare paintings, fifty-yard line football tickets, and apartments in Manhattan. Once the exclusive domain of the upper economic echelons, demand for the acquisition of these goods has trickled down to a large segments of the middle class. Since there will always be positional goods which are even more exclusive and valuable, they will continue to play a significant role in people's perceptions of wellbeing.

Positional goods and the illusion of wealth do not explain all of the perceived loss of utility. It may also be partially attributable to the increasing participation of married women in the labor force. While some of the utility previously produced by unpaid family members has moved into the marketplace, some utility is no longer produced at all, or only produced at the cost of great family stress. For example, community organizations which were comprised mostly of

housewives may still have the same number of volunteers, but their members may now only be able to contribute half the amount of time. These activities often contribute significantly to quality of life. At the same time, balancing work and volunteer activities also places considerable stress on those who try to do both.

Another cause of utility loss may be due to the mismatch between production and demand. In the market economic model, needs almost automatically turn into demand which is quickly satisfied by entrepreneurs. In reality, there are many factors which can interfere with this process. In the 1970s and 1980s, such a mismatch occurred in low- and moderate-priced housing, leading to a rise in homelessness. Also, public concern for environmental quality and occupational health and safety are rarely met with swift response due to the slow nature of the political process. In sum, both the case of positional goods and the examples of mismatch reinforce the insight that institutional variables intervene between economic growth and improvements or deterioration in the utility people receive.

Ultimately, GNP growth rates have very little to do with whether or not people are better off. In fact, it is not at all difficult to imagine zero GNP growth in a highly dynamic economy that is producing progressively higher levels of human satisfaction.

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1. William Nordhaus and James Tobin, "Is Growth Obsolete?" in Moss ed., Measurement of Economic and Social Performance, pp. 509-32

2. See Christopher Jencks et al., "What is a Good Job? A New Measure of Labor Market Success," American Journal of Sociology *93*, No. 6 (May 1988)and F. Thomas Juster, "Preferences for Work and Leisure," in Juster and Stafford eds., Time, Goods, and Well-Being