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GDP and Beyond

Summaries from the 2020 Annual Meeting of the American Economic Association

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As the Bureau of Economic Analysis (BEA) continues its work on activities to develop and refine GDP satellite accounts I would like to briefly discuss three aspects of the BEA's *Beyond GDP* agenda.

1. Human capital investment

There are three main approaches for measuring human capital investment for the purpose of national accounts: Kendrick's (1976) Cost-based approach; the Lifetime income approach as developed by Jorgenson and Fraumeni (1989 and on); and the Indicators approach as detailed by the OECD 2011 (and updated every two years since), and Barro and Lee 2013. Measuring investment in human capital based on costs typically includes spending on schools, employee training costs, opportunity cost of time acquiring human capital, and a range of expenditures on others items such as libraries, radio, TV, books and other items having human capital value. The Jorgenson-Fraumeni (J-F) Lifetime income stream focuses on the present value of the return to formal education only. Finally, the Indicators approach pulls together a range of metrics such as adult literacy, school enrollments rate, average years of schooling, and the percentage of highly qualified workers to capture differences across countries and time in human capital investment.

In principal the Cost-based and Lifetime income approaches should produce values equal to each other. In practice they do not. The Lifetime-income approach produces estimates of investments in human capital 6 to almost 10 times greater than the Cost-Based approach. Abraham (2010) suggests a range of factors to explain this gap including differences in the discount rate individuals use to make education decisions versus the lower discount rate that J-F use to value future labor income. In addition, some of what J-F count as returns to education might represent other human capital investments such as employer provided training. Work on training (e.g. Lynch and Black 1998) suggests that those with more education are more likely to received employer provided training. Furthermore, the Lifetime-income approach assumes that earnings are equal to marginal productivity, but we know that there are factors such as market power, trade unions, and discrimination that undermine this vital assumption. Finally, the non-market returns to education account for 60-70% of the total value of investments in education and thus are a large part of the measured difference between the two approaches. But why assume that someone with more education should have a higher nonmarket "cost" associated with cooking, cleaning, child and elder care? I applaud the effort to capture non-market returns to education. However, without better data I would recommend that the BEA pursue the lifetime-income approach but only use market returns for the satellite accounts.

The advantage of cost-based and lifetime income approaches for national account purposes is that they combine different aspects of human capital into a single monetary metric. However, the indicators approach may produce a richer and more interesting dashboard that may be quite helpful for policy discussions. The obvious drawback of the indicators approach is that it does not fit in the framework of systems of national accounts. More generally, none of these three approaches recognizes potential spillover effects of investments in human capital such that the whole is greater than the sum of its parts. Research on human capital and organizational innovation (e.g. Black and Lynch 2005) suggests this is an important feature of human capital investment.

2. Household Production and Non-Labor Market Activities to Consider for Satellite Accounts

While there has been significant work done by the BEA to develop a satellite account for household production I would urge the BEA to add additional non-labor market activities that take place outside the home but meet the threshold of "Would someone pay another person (a "third person" from outside the home) to perform the activity?" The first such activity is elder care. We know from the American Time Use Survey (2014–15) that approximately 16.2% of the U.S. population provides eldercare—unpaid care for someone over the age of 65 with a condition related to aging. Almost all of this care takes place outside the home and on an "average" day, 26 percent of unpaid eldercare providers spend an average of 3 hours in eldercare activities. With an aging population this is a growing dimension of household production that should receive increasing attention in household satellite accounts.

A second area of non-labor market work that is not captured in our satellite accounts is volunteering. From the 2015 American Time Use Survey we learn that 9% of those over age 64 volunteer on an average day. For all those volunteers over age 25 they spent an average of 2.25 hours in this activity. Examples of volunteering include administrative and support activities, social service and care activities, and indoor and outdoor maintenance, building, and clean-up activities. While not all aspects of volunteering may meet the standard of paying another person for this work, much of it would.

A third area of non-labor market work includes the "free labor" facilitated by IT. Examples of this include ATM bank transactions, self-service work of pumping gas and bagging groceries, online airline ticket purchase and check-in, "self-service" baggage tagging/drop, self-service keyless check-in and checkout at hotels, and ordering, paying and self-pickup of meals. None of these economic activities are captured in our national accounts today even though we still have employees who are paid to do this work.

3. Other Measures of Well-Being

Finally, I want to urge the BEA to continue its work on collecting other measures of well-being. Well-being measures such as those proposed by Kahneman, Krueger, and others including precarity of work, financial well-being, crime, the environment, and inequality-adjusted healthy lifetime income (Bloom et. al. 2020) would be of great value to policy makers. The BEA is particularly well-suited for this development of a broader range of metrics for well-being.

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