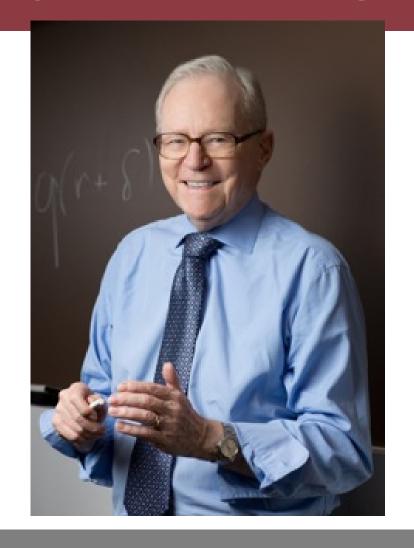
GDP AND BEYOND: PRIORITIES AND PLANS

Presentation to the American Economic Association



By Dale W. Jorgenson





San Diego, CA

GDP AND BEYOND: PRIORITIES AND PLANS

- ➤ BEA's GDP account has been combined with the BLS Productivity account to obtain official measures of the sources of economic growth that are consistent with BEA's national accounts for output and BLS's national accounts for capital input, labor input, and productivity.
- The purpose of this presentation is to lay out the issues involved in developing a plan to integrate, prioritize, and produce estimates that extend the national accounts. I will discuss in more detail my top short-term and long-term priorities.
- My top short-term priority is to incorporate investment in human capital into BEA's regular reporting as a satellite account. BEA has maintained a research program on investment in human capital. The latest report was published by Barbara Fraumeni, Michael Christian, and Jon Samuels in the December 2017 issue of the *Review of Income and Wealth*.
- My top long-term priority is the measurement of welfare. Although GDP is often used as a proxy for welfare, GDP is best viewed as a measure of production. Many different approaches to welfare measurement have been discussed in the research literature. I will discuss an approach that Daniel Slesnick and I have proposed that is integrated with the national accounts.

INVESTMENT IN HUMAN CAPITAL: Top Short-Term Priority

- Fraumeni, Christian, and Samuels (2017), have presented an approach to investment in human capital that is integrated with the U.S. National Income and Product Accounts. This employs the lifetime income approach to human capital measurement that Fraumeni and I originally introduced in our papers from 1989 and 1992.
- Investment in human capital is based on the same methodology as investment in physical capital. The methodology begins with the definition of income generated from human capital. This includes income from participation in the labor market and non-market income, including leisure time, household production, investment in education, and investment in child-rearing.
- Lifetime income for all individuals in the population is estimated by projecting the growth of income over the individual's lifetime and discounting this back to the present. This generates the asset value of lifetime income and the return from this asset includes both market and non-market returns in each time period.

INVESTMENT IN HUMAN CAPITAL: Top Short-Term Priority

The figure shows a complete production account for the United States for the periods 1950-1984 and 1999-2009. This is consistent with the national income and product accounts, but is expanded to include investment in human capital.

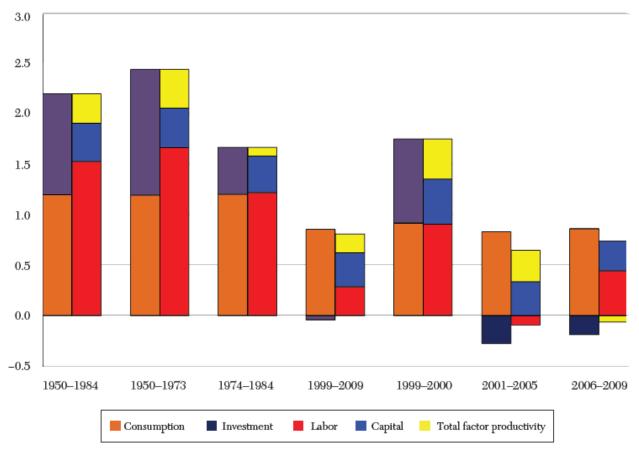


Figure 12. Contributions to Full Gross Private Domestic Product and Economic Growth with Human Capital

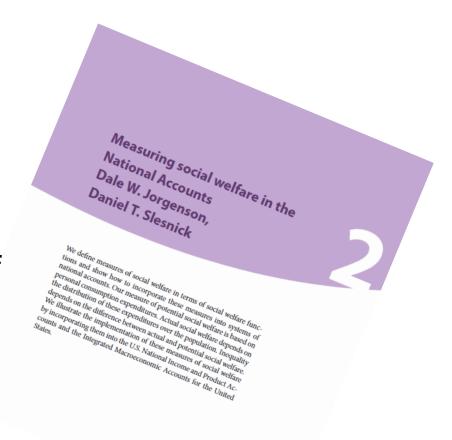
MEASUREMENT OF SOCIAL WELFARE: Top Long-Term Priority

- The first challenge in measuring social welfare is to overcome the long-time presumption of many economists that measuring welfare is impossible. This has given way to measures of poverty and inequality based on measures of individual and social welfare. Individual welfare is defined for households in terms of consumption per household equivalent member in real terms.
- ➤ Jorgenson and Schreyer, Review of Income and Wealth, December 2017, have shown how to incorporate Information about the distribution of consumption into systems of national accounts. This is the first novel feature of social welfare measurement. Data on household consumption must be combined with the number of household equivalent members and the cost of living for each household to obtain a measure of household welfare.

MEASUREMENT OF SOCIAL WELFARE: Top Long-Term Priority

The final step in the measurement of social welfare is to introduce a social welfare function to integrate the measures of individual welfare for all households. Jorgenson and Slesnick (2014) have proposed a class of social welfare functions consisting of the mean of measures of individual welfare and a generalized variance, consisting of deviations of measures of individual welfare from the mean.

➤ Jorgenson and Slesnick (2014) have presented utilitarian and egalitarian social welfare functions defined on measures of individual welfare.



Production and Welfare: Progress in Economic Measurement

Dale W. Jorgenson*

While the GDP was intended by its originators as a measure of production, the absence of a measure of welfare in the national accounts has led to widespread misuse of the GDP to proxy welfare. Measures of welfare are needed to appraise the outcomes of changes in economic policies and evaluate the results. Concepts that describe the income distribution, such as povertu and inequality, fall within the scope of welfare rather than production. This paper reviews recent advances in the measurement of production and welfare within the national accounts, primarily in the United States and international organizations. Expanding the framework beyond the national accounts has led to important innovations in the measurement of both production and

1. Introduction

t the beginning of the year 2000, the At the beginning of the Justine Commerce completed a review of its achievements during of the US national

"The author is grateful to his collaborators on economic measurement, many for very helpful comments on earlier versions of this paper—Barbara Fraument, Frank Collop, Mm Ho, Stewest, Landefeld, Koji Nomura, Jon Santelle, Faul Schreyer, Daniel Slennick, Kevin Stiroh, Marcel Tlmer, and Kluonog Wu. He is also grateful for comments from Bart van Ark, Dane Coyle, William Norothaus, Nichalos Oulton, Drib Philippon, feloceta Illey, Amariya Sen, do Solico, Dalie Sulvan, Drib Philippon, feloceta Illey, Amariya Sen, do Solico, Dalie Sulvan, Drib Philippon, feloceta Illey, Amariya Sen, do Solico, do Solico, Drib Philippon, feloceta Illey, Amariya Sen, do Solico, do Sol and Peter van de Ven, and from the Office of National Sta tistics (UK) and the Bureau of Economic Analysis (US He would like to thank the Editor and two anonymous reerees for their comments and suggestions. Financial sup-port for this research was provided by the Donald Marron Center for Economic Data at Harvard University. None of Center for Economic Data at marvard university. None or the foregoing is responsible for any remaining deficiencies of the paper.

† Go to https://doi.org/10.1257/jel.20171358 to visit the article page and view author disclosure statement(s).

the twentieth centr the department's g the twentieth centur accounts, abbreviate reported by I. Steve the Bureau of Econo cle in the January 2 to the US national ac

Landefeld's articl a full page of quota mists The econor Boskin and Laura the Council of Ecor Economic Association mer commissioner of

CONTRIBUTIONS TO GROWTH IN THE US STANDARD OF LIVING, 1948-2010

TABLE 2 Contributions to Growth of the Standard of Living, 1948–2010

EGALITARIAN	1948-2010	1948–73	1973–95	1995–2000	2000-05	2005-10
Standard of Living	2.34	3.45	1.87	1.96	1.82	-0.27 0.11
Efficiency	2.16	2.67	1.97	2.65	2.03	
Equity UTILITARIAN	0.17	0.78	-0.11	-0.68	-0.21	-0.37
Standard of Living	2.24	3.09	1.90	2.20	1.93	-0.12
Efficiency	2.16	2.67	1.97	2.65	2.03	0.11
Equity	0.08	0.42	-0.07	-0.44	-0.10	-0.23

Source: Jorgenson and Slesnick. 2014. In Measuring Economic Sustainability and Progress, edited by Dale W. Jorgenson, J. Steven Landefeld, and Paul Schreyer, 43-88. University of Chicago Press, reproduced by permission.

SUMMARY AND CONCLUSION

- The Bureau of Economic Analysis has generated a wide variety of different measures that would provide highly useful extensions of the core BEA product, the NIPAs. In this comment I have illustrated a promising short-term project that could produce regular estimates of investment in human capital as a satellite system of accounts.
- A useful measure of investment in human capital uses the same principles of measurement as investment in physical capital. This involves extending the national accounts to incorporate non-market income that is combined with market labor compensation to obtain a comprehensive measure of lifetime labor income that can be used to extend the national accounts.

SUMMARY AND CONCLUSION

- Second, I have considered a long-term project that builds on measures of individual and social welfare proposed in the research literature. The starting point for this project is measures of individual welfare based on household consumption. Consumption by individual households is combined by means of household equivalence scales and prices of the level of living to obtain measures of social welfare.
- The measurement of individual and social welfare can be carried out within the national accounts. However, this involves evaluation as well as data development. I have proposed a simple approach that captures the features that are already widely employed in the literature on the measurement of poverty and inequality.