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パーサ・ダスグプタ教授

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持続可能な開発と諸国民の富

Professor Sir Partha Dasgupta FBA FRS

Slides for the Lecture

“Sustainable Development and the Wealth of Nations “

Sustainable Development and the Wealth of Nations*

Partha Dasgupta**

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** Frank Ramsey Professor Emeritus of Economics, University of Cambridge;
and Fellow, St John's College, Cambridge

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There are many reasons why a nation needs economic accounts. The way those accounts should be fashioned depends on their purpose. In this lecture I am concerned with *economic evaluation*.

We evaluate economies so as to *assess* and *prescribe*, and do so because we are curious to know the answers to six questions about them:

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- (1) How is the economy doing?
- (2) How has it been doing in recent years?
- (3) What should be our forecast of the economy if policies evolve over time in the way we expect them to evolve?
- (4) How is the economy likely to perform under alternative policies?
- (5) Which policies should we support?
- (6) What would be an ideal set of policies?

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Questions (1)-(2) direct us to *assess* the performance of an economy, whereas questions (4)-(6) are prompted by our need to *evaluate* policy. (3) is the benchmark round which (4)-(6) are studied. The former directs us to exercises in "sustainability analysis", the latter to "policy analysis".

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Customary Indicators

- 1 Gross domestic product (GDP), relative to population size
 - 2 Inequality and Poverty Measures
 - 3 Human Development Index (HDI): (HDI is a linear combination of GDP per capita, life expectancy at birth, and literacy)
 - 4 Reported well-being or sense of life satisfaction, happiness, and well-being (World Values Survey, Gallup World Poll)
- NB: None is a measure of well-being across the generations.

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The requirement that an object should be *sustained* over a period of time means that it should not diminish over the period. It's a weak requirement, and is different from the idea of an optimum development. (The late Professor Hirofumi Uzawa, a past Laureate, made fundamental contributions to the study of optimum economic policies.)

The Brundtland Commission Report of 1987 took the object of interest to be human needs. The Report defined sustainable development as "... development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

The definition suggests we should seek to sustain something like the *productive capacity* of the economy under review.

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An economy's productive capacity is a measure of the *means* toward the "economy's" *ends*. Call the ends *intergenerational well-being* (adjusted for population size). The economic accounts we seek are ones that would enable us to measure the productive capacity in terms of the ends. That way we could conduct economic evaluation using the productive base as our coin.

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Productive Capacity

A. Capital Goods

- 1 Produced capital (roads, buildings, machinery and equipment)
- 2 Human capital
 - (i) population (size and composition)
 - (ii) knowledge and skills (education)
 - (iii) health (enhancing the quality of life and extending life)
- 3 Natural capital (ecosystems, sub-soil resources)

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B. Social Environment

- 1 Institutions (property rights, firms, government, households)
- 2 Knowledge (natural laws, algorithms, theorems, cultural narratives)
- 3 Social capital (the law, social norms, habitual practices)
- 4 Time (exogenous changes)

Wealth is the social worth of an economy's capital goods. In contrast to GDP, which is a flow (so many international dollars per year), wealth is a stock (so many international dollars, period). The social value of a capital good is called its *accounting price*. Accounting prices are the link between the means (productive capacity) to the ends (well-being across the generations). Market prices are often the first port of call for estimating shadow prices, but for environmental resources they usually don't exist. Methods have been developed by economists for estimate accounting prices.

Note: We should not attempt to estimate the accounting prices of capital goods with immeasurable value (e.g sacred groves). The best should not be the enemy of the good.

Proposition 1. Wealth per capita (adjusted for the distribution of wealth) is the coin that should be used in both sustainability analysis and policy analysis.

Formally, this means:

Proposition 2A. If over a period of time wealth per capita (adjusted for distribution of wealth) increases, so does well-being across the generations. Contrarily, if wealth per capita declines, so does well-being across the generations declines.

Proposition 2A offers us the criterion governments should use to judge whether the economic policies they are pursuing (e.g. in pursuit of the Sustainable Development Goals) is sustainable.

Proposition 2B: If a change in economic policy leads to an increase in wealth per capita (adjusted for the distribution of wealth), it leads also to an increase in well-being across the generations. Contrarily, if wealth per capita declines, so does well-being across the generations.

Proposition 2B says that the coin on the basis of which we should judge policy changes - such as those that are implemented so as to meet the SDGs - is also wealth.

There have been a few attempts to assess past movements of wealth per capita. The authors of the *Inclusive Wealth Report 2014* measured movements in the wealth of 140 nations over the period 1990 to 2010. Owing to severe limitations of data, items of natural capital that were included were limited to agricultural land, forests as stocks of timber, sub-soil resources, and fisheries. Estimates of wealth changes during 1990-2010 were therefore biased upward.

The authors reported that wealth grew at a positive rate in 92% of the countries in the sample, but that the proportion of countries where growth in wealth per head was positive was only 60%. For the UN to have ignored population growth in framing the SDGs should therefore be a point of public concern. Moreover, a reliance on growth in world *income* to finance the SDGs would be a mistake. IWR2014 reported that GDP per capita grew in 90% of the countries in their sample. GDP and wealth pointed in opposing directions in those many countries where for former increased while the other declined.

As nations begin to meet the SDGs, their Statistical Offices should begin to prepare wealth accounts and track movements in wealth through time. Just as firms create annual balance sheets, governments should prepare annual wealth accounts.