Going Beyond GDP: Opportunities and Challenges

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National Income Accounting (SNA)

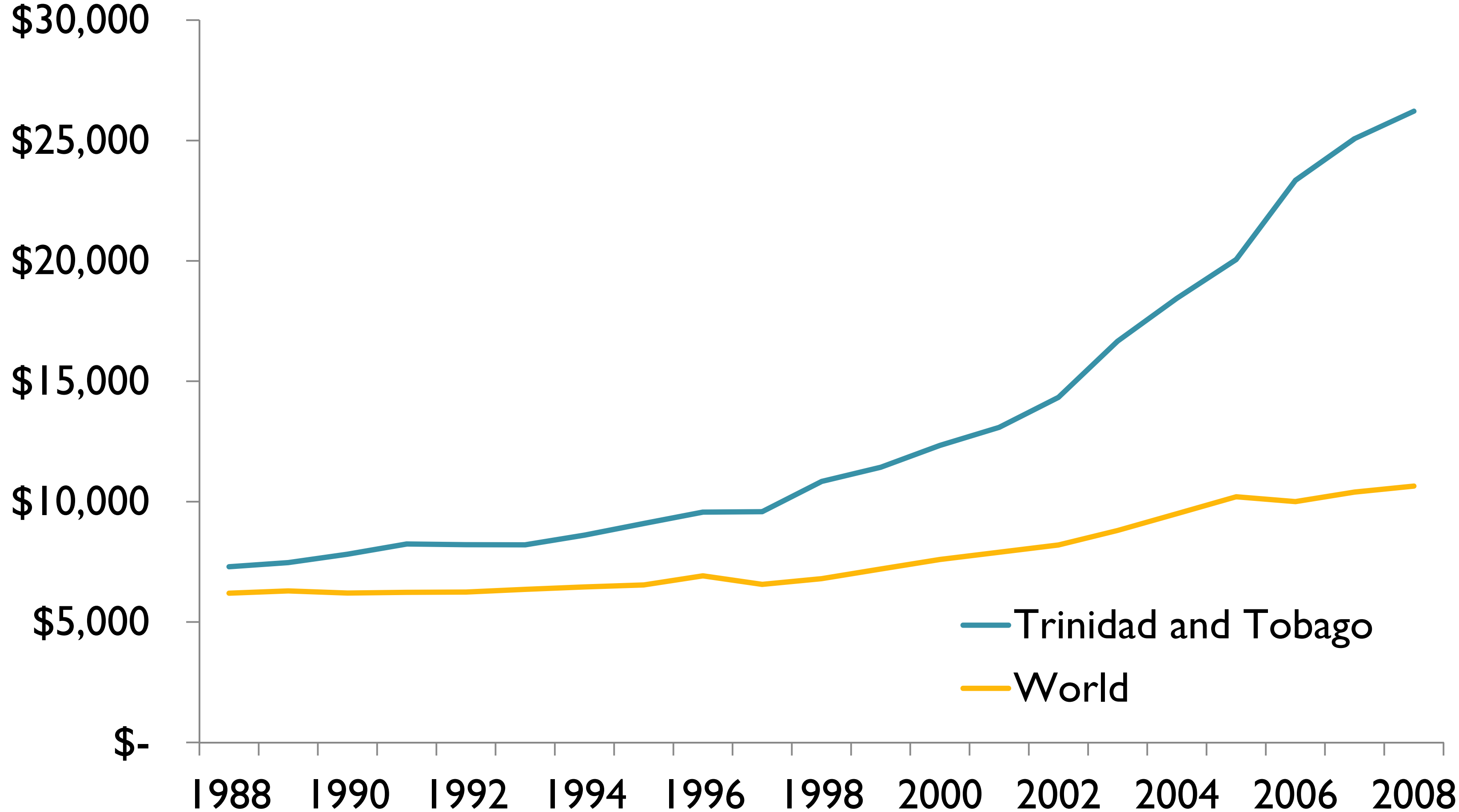
- Income accounting is narrow – a large amount of economic data is excluded
  - low demand for the data
  - data are difficult to collect
- Income accounting is not sufficient for answering many economic questions
  - well-being is not equivalent to GDP
  - growth in GDP does not indicate sustainability

Example: Trinidad and Tobago

- Two small islands just of the coast of South America in the Caribbean
- 1.2 million people
- 8% annual GDP growth (until recently)
- High level of international business, well-regulated and stable financial system
- In 2011, the OECD moved Trinidad and Tobago from <u>developing</u> country status to <u>developed</u> country status

GDP per capita, PPP

(current international dollars)



GDP may be misleading . . .

- 50% of Trinidad and Tobago's GDP is oil, minerals, and natural gas extraction
  - 0.2% of world natural gas reserves
  - 1.3% of world natural gas production
- The average worker spends 4 hours per day commuting
- 11.9 Expected years of schooling compared to the average in Latin America and the Caribbean of 13.7

Is the income growth sustainable?

- Is the income from the extraction of mineral and energy resources being consumed or is it being invested?
  - Investment (in equipment, machinery, buildings, roads, ports, education, etc.) yields future income
  - Consumption does not yield future income
  - Investment includes allowing natural resources (forests, fisheries) to grow

Various Beyond GDP Options

- Adjustments to GDP
  - Green GDP, sustainable GDP
- Social Indicators
  - Indices of life expectancy, poverty, unemployment, education, HDI
- Environmental Indicators
  - Measures of water and air pollution, climate change, forest cover
- Direct Measures of Happiness

National Wealth Accounting

- Theoretically rigorous approach:
  - Potential intergenerational well-being does not decline if and only if a comprehensive measure of the country's wealth does not decline (Dasgupta, 2001)
- No assumptions about optimality, no forecasts about the country's choices
- Direct measurement of the productive base which is called:
  - <u>comprehensive wealth</u> (Arrow et al. , 2012)
  - <u>inclusive wealth</u> (UNU-IHDP, 2012).

$$W_t = \sum_i p_{it} K_{it}$$

- Sustainability means wealth does not decline

Example of the Firm

- Suppose you wanted to evaluate the health of a company to predict future profits
- Suppose that you only had access to the <u>income statement</u> (annual revenues and expenses) and <u>not the balance sheet</u> (value of all assets and liabilities)
- How could you distinguish a company that was selling off assets from one that was selling the goods it produced?

Wealth Accounting Challenges

- <u>Reproducible capital</u> – only investment is measured in the national accounts
- <u>Natural capital</u> – forest, mineral, and energy stocks are measured; shadow prices are difficult to measure
- <u>Human Capital</u> – education and wage data is available, but a dollar invested in education does not imply a dollar of additional wealth (productive base)
  - good health improves productivity, but also directly improves well-being through feeling better and longer life; valuation is unclear

Thank you

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- **"Sustainability and the Measurement of Wealth"** *Environment and Development Economics* (2012) 17:3, 317-353. with Kenneth Arrow, Partha Dasgupta, Lawrence Goulder, and Kirsten Oleson
- **"Measuring Inclusive Wealth at the State Level in the United States"** in UNU-IHDP and UNEP (2012) *Inclusive Wealth Report 2012*. Cambridge: Cambridge University Press, 69-86.