Theoretical developments of the comprehensive (or “green”) national accounting literature

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Introduction

What is income?

Definition of income

Results

Purpose

Consumers' surplus

References
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- **Income**: Interest on wealth
- **Savings**: Change in wealth
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- Theoretical developments from Hicks (1946, Ch. 14), via Samuelson (1961) and Weitzman (1976), to Sefton & Weale (2006) support...
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  - Savings: PV of future changes in consumption
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Income in the tradition of Fisher (1906) and Lindahl (1933, Sect. II) is associated with interest on wealth, where wealth is PV of future consumption.

Problems:
- Non-constant interest rates
- Capital gains

Illustration:
Models of capital accumulation and resource depletion where the interest rate decreases & the resource appreciates.
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In an optimum: Observable prices; otherwise: calculated prices
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\[ p_c(t)c(t) \]
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\frac{d}{dt} (p_c(t)c(t))
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Results (including Asheim & Weitzman, 2001)

If a Divisia CPI is used and the real interest rate is positive:

Change in the real value of consumption = real value of consumption changes

Real income grows if and only if savings are positive

In a closed economy with stationary technology:

Savings = value of net investments

Income = consumpt. + value of net investm. = net product

If a Divisia CPI is used and the real interest rate is positive in a closed economy with stationary technology:

Increase in real net product indicates welfare improvement
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For local-in-time comparisons within an economy:

- Does dynamic welfare increase?

Not for global-in-space comparisons between economies:

- Are people in one economy better off than in another?
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No role! Only the value of consumption changes matters

For global-in-time comparisons within an economy:

Is dynamic welfare higher now than it was periods ago?

This leads to the problem of path dependence

Global-in-time comparisons using a Divisia CPI hold if preferences are quasi-homothetic that is, if Engel curves are linear

If some goods are environmental amenities, then linear Engel curves impose requirements on the scale used to measure such amenities

For a different scale, consumers’ surplus might have a role
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