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Exhaustive National Accounts from Time Budgets

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This paper reconceptualises national accounts, using time rather than money, investigating the connection between economic activity and welfare.

Time-based accounts have several advantages over money: they allow estimation of economic activity inside and outside the System of National Accounts Production Boundary; they permit investigation of the extent of externalisation of labour costs over historical time; they are exhaustive, covering all economic activity; and they can provide an explicit national “time budget constraint” on real output.

These accounts are based on conventional definitions of work and leisure, as respectively “means and ends”. The time budgets can be straightforwardly converted to money-denominated “extended accounts” (SNA + non-money production), by multiplying time values by shadow wage or other costs. And the consumption time in these accounts, both paid-for and unpaid—can also be converted to money values (Goldschmidt-Clermont 1987, Ironmonger c2008). So the “production=consumption” identity also applies to extended-SNA (Holloway 2004).

However, the same evidence can also be used to produce other less conventional sorts of accounts, by multiplying time by other specific “rates”. Each minute devoted to an activity imposes a specific metabolic load on the human actor (Ainsworth, Tudor Lock c2005); each also imposes an environmental loading (eg carbon release, fuel demand, waste or pollution); each also has associated enjoyment or “instantaneous utility” (Kahneman 2004).

Time budgets prospectively constitute the basis for well integrated comprehensive accounting of wellbeing. The paper deploys illustrative material from a collection of >90 time diary surveys, covering 55 years and 25 countries