Measuring Material Well-Being Within the System of National Accounts
by Jorrit Zwijnenburg

Discussion by Rachel Soloveichik
This is a very comprehensive paper which studies many valuable topics:

- GDP vs. Household Income
- Confidence, Consumption, Savings, Debt and Net Worth
- Household Income and Consumption Distribution
- Household Production
- Human Capital
- Environmental Accounts

Overall, I really enjoyed the paper and I think it raised many important points for national accountants.

- I don’t have time to discuss all of these topics in detail, so I’ll focus on a few issues I’d like to highlight.
The paper presents some fascinating results on household inequality across countries.

- I’m impressed by the careful data work necessary to produce such detailed statistics.
- Inequality has received enormous attention in recent years, so measuring it properly is very important.

Like all statistics, reported household inequality is an imperfect measure of ‘true’ inequality

- Individuals in group housing are excluded from the analysis – but these individuals still matter to society.
- Valuing social transfers in kind is extremely difficult.
- Measured household inequality depends on average household size, regional price differences, etc.
• Suppose an economy consists of 100 single people and 100 families (two parents and two children)
  – For simplicity, we will not consider production, household formation or fertility. The only question is how to allocate consumption.

• To analyze the problem more effectively, I define the variables:
  – $c_s$ is consumption for singles, and $c_f$ is consumption for families
  – $he_f$ is the household equivalent for families. $1 < he_f < 4$
  – $w_s$ is the weight for singles, and, and $w_f$ is the weight for families

• The social planner’s problem is simple. He or she wants to maximize total social welfare
  – Aggregate welfare = $100*w_s u(c_s) + 100*w_f u(c_f/he_f)$
  – Subject to the budget constraint: $100*c_s + 100*c_f = C$
  – First order condition: $w_s u'(c_s) = (w_f/he_f)*u'(c_f/he_f)$
Equality May Not Maximize Welfare

• The social planner values each household equally, $w_s = w_f$
  – The first order condition is $u'(c_s) = (1/ he_f) \times u'(c_f/he_f)$
  – By assumption, $1 < he_f < 4$. So, $u'(c_s) < u'(c_f/he_f) \Rightarrow c_s > (c_f/he_f)$
  – Singles require less consumption than families to achieve a set living standard - so it’s **efficient** for singles to live better.

• The social planner values each person equally, $4w_s = w_f$
  – The first order condition is $u'(c_s) = (4/ he_f) \times u'(c_f/he_f)$
  – By assumption, $1 < he_f < 4$. So, $u'(c_s) > u'(c_f/he_f) \Rightarrow c_s < (c_f/he_f)$
  – Economies of scale allow families to get more utility for each dollar of consumption, - so it’s **efficient** for families to live better.

• We only get perfect equality if $w_s = (w_f/he_f)$
  – The first order condition is $u'(c_s) = u'(c_f/he_f) \Rightarrow c_s = c_f/he_f$
  – However, $w_f$ is an entirely different economic concept from $he_f$. There is no theoretical reason why the two should match.
  – Furthermore, $he_f$ changes with prices and technology
This paper adds in household services like childcare, cooking, cleaning and car rental.

- These activities account for nearly half of productive time.
- Measuring the value of household production is hard, but it’s definitely a significant fraction of reported GDP.

I strongly agree with the decision to include household production in the national accounts.

- Market production and household production are often close substitutes – so it seems irrational to count only one.

However, it’s not obvious that household production contributes more to welfare than pure leisure time.

- Perhaps we could create a leisure satellite account too?
Thoughts on Household Production

• We need to make sure household production isn’t double-counted in GDP.
  – SNA 2008 already includes owner-occupied houses (Section 9.65 & 9.67), household production of goods (9.54) and informal businesses operated from a household (7.34) in GDP.

• Time use surveys may miss some important categories of household production.
  – Supervising a teenager requires only sporadic nagging. Despite the low time requirement, parents often find it very unpleasant.
  – Home values depend on neighborhood quality – but homeowners might not report voting or attending town halls as household production.

• Valuing household production is often hard.
  – Household production often produces output with very heterogenous quality. Market production is more standard.
  – The imputed wage for household production matters a lot.
• This is a very valuable topic that deserves more attention
  – In recent decades, developed countries have worked hard to improve their environmental quality.
  – Measured GDP currently counts only a small portion of the benefit from environmental quality.

• Measured industry productivity may also change.
  – Dirty industries like mining have become much cleaner in recent decades. Perhaps their measured productivity would rise if the decrease in pollution was properly tracked?

• Environmental quality contributes to health and happiness
  – Without data on the environment, policy-makers may incorrectly credit the gains to healthcare, market income, etc.
  – Environmental organizations need data on environmental quality in order to promote policies for improvement.
SNA 2008 Tracks Some Environmental Assets

• Cultivated Biological Resources (Section 10.89)
  – SNA focuses on dairy cows, orchards and other farm assets. However, the stated definition also covers urban landscaping.

• Land Improvements (Sections 10.79-10.81)
  – SNA focuses on land clearance, digging wells, etc. But the stated definition covers environmental improvements like clean-up of toxic waste or repairing previous damage.

• Non-Cultivated Biological Resources (Section 10.182)
  – SNA explicitly excludes wildlife from the capital stock. But the expected future value of wildlife depends on human action now.
  – For example, a country might patrol to prevent poaching.

• Mineral Exploration (Section 10.107)
  – SNA’s discussion focuses on private oil prospecting.
  – However, the conceptual framework applies equally well to governments cataloging wildlife species or monitoring air quality.
Conclusion

• This paper is a good overview of a broad range of topics.
  – Each topic could be its own paper.
  – Some topics are directly related to current well-being.
  – Other topics are useful predictors of future well-being.

• My discussion time is too short to cover the paper in detail.
  – The skipped topics are also valuable and deserve full attention and careful analysis.