

# **Measuring Material Well-Being Within the System of National Accounts**

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- 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.

# A Basic Model of Social Planning

- 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  $u'(c_s) = (1/ h_{ef}) * u'(c_f/h_{ef})$
  - By assumption,  $1 < h_{ef} < 4$ . So,  $u'(c_s) < u'(c_f/h_{ef}) \rightarrow c_s > (c_f/h_{ef})$
  - 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  $u'(c_s) = (4/ h_{ef}) * u'(c_f/h_{ef})$
  - By assumption,  $1 < h_{ef} < 4$ . So,  $u'(c_s) > u'(c_f/h_{ef}) \rightarrow c_s < (c_f/h_{ef})$
  - 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  $w_s = (w_f/h_{ef})$ 
  - The first order condition is  $u'(c_s) = u'(c_f/h_{ef}) \rightarrow c_s = c_f/h_{ef}$
  - However,  $w_f$  is an entirely different economic concept from  $h_{ef}$ . There is no theoretical reason why the two should match.
  - Furthermore,  $h_{ef}$  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

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- 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.



- 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

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- 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.