Income or Consumption: Which Better Predicts Subjective Wellbeing?

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Central research question

- Many studies show that subjective wellbeing (SWB) is cross-sectionally positively related to current income
 - i.e. SWB is related to an objective measure (current income)
 - BUT this objective measure has only an indirect effect on utility
- Economic theory tells us that consumption (which enters the utility function) is related primarily to **lifetime** (rather than current) income
 - Hence if utility is related to SWB, then SWB should be more closely related to consumption than to current income
- IS THIS THE CASE?

Importance of question

- Many measures of welfare and of poverty concentrate on level of current income
- But life cycle model suggests this may mis-categorize many people as being in or out of poverty, e.g.:
 - Older people on pensions with savings
 - Students with high lifetime earning opportunities
 - Business people making temporary losses & long-term profits
 - New household formation
- Can a consumption-based measure improve on current income as an indicator of welfare/poverty?



Precursors

- Stiglitz-Sen-Fitoussi (SSF, 2009) recommend, *inter alia*, that in thinking about welfare we should:
 - Concentrate on consumption & wealth (over production)
 - Emphasise the household (rather than individual) perspective
- Deaton (2010, 2016) demonstrates the veracity of selfrated measures of wellbeing
- Europe's EU-13 index is a 13 item material deprivation index that reflects these ideas
- New Zealand's (NZ) Economic Living Standard Index (ELSI) incorporates both consumption-based and selfreported items to measure material wellbeing

Subjective wellbeing

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- SSF also recommend utilising **subjective** measures of wellbeing in making welfare judgements
 - Small literature shows people make choices based on SWB
- We use a measure of life satisfaction (LS) as our SWB measure:

How do you feel about your life as a whole right now? (5-point scale: 1 = very dissatisfied ... 5 = very satisfied)

• Source (for all data) is NZ's 2012 General Social Survey (GSS) surveyed by Statistics New Zealand (N=8,049)



Total household income

- Measured (pre-tax) using 15 closed income bands & 1 open-ended upper income band
 - Mid-points used for closed bands
 - Pareto curve used to estimate median of top band
- Income is equivalised using Modified OECD scale (weight of 1 for 1st adult; 0.5 per subsequent adult, 0.3 per child)
 - All results are robust to alternative equivalisation scales:
 - Oxford scale (old OECD scale)
 - Square root method
 - Per person method



ELSI (economic living standards index)

- Created by NZ Ministry of Social Development (Jensen et al, 2005)
 - 7 years prior to GSS
 - (i.e. not retrospectively fitted to SWB data)
- 3 key elements:

- Essentials
- Economising
- Self-assessments



ELSI essentials

- Examines forced lack of **14** essentials (receive 1 point for each item that either have or choose not to have based on preferences):
 - Telephone

- Washing machine
- Heating available in all main rooms
- A good pair of shoes
- A best outfit for a special occasion
- Personal computer
- Home contents insurance

- Give presents to family or friends on birthdays, Christmas or other special occasions
- Visit the hairdresser once every three months
- Have holidays away from home every year
- Enough room for family to stay the night
- Have a holiday overseas at least every three years
- Have a night out at least once a fortnight
- Have family or friends over for a meal at least once a month

ELSI economising

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0-4 points allocated depending on answer to **degree of economising** in relation to:

- Gone without fresh fruit & vegetables to help keep down costs
- Continued wearing clothing that was worn out because you couldn't afford a replacement
- Put off buying clothes for as long as possible to help keep down costs
- Stayed in bed longer to save on heating costs
- Postponed or put off visits to the doctor to keep down costs
- Not picked up a prescription to help keep down costs
- Spent less time on hobbies than you would like to help keep down costs
- Done without or cut back on trips to the shops or other local places to help keep down costs

ELSI self-assessments

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0 or 4 points allocated depending on answer to following **self-assessments**:

- Generally, how would you rate your material standard of living? Would you say that it is high, fairly high, medium, fairly low or low?
- Generally, how satisfied are you with your current material standard of living? Would you say you were very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied or very dissatisfied?
- How well does your (and your partner's combined) total income meet your everyday needs for such things as accommodation, food, clothing and other necessities? Would you say you have not enough money, just enough money, enough money, or more than enough money?

ELSI types

- 'Full' ELSI varies from 0-31
 - includes objective & subjective questions
- 'Objective' ELSI relies solely on essentials & economizing sections (i.e. self-assessments excluded)
 - Closest to a pure consumption measure
 - Similar to Grimes & Hyland (2015) cross-country measure based on PISA data
- 'Subjective' ELSI relies solely on self-assessment section
 - Closest to Deaton's use of self-assessments

Full ELSI vs Objective ELSI (N=8,048)



Full ELSI vs log(Income)



SWB vs (log)Income



SWB vs (Full) ELSI



Methodology

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Estimate OLS (& ordered probit/logit) models:

 $LS_i = \beta_1 + \beta_2 \ln(y_i) + \beta_3 C_i + \beta_4 D_i + \beta_5 X_i + \beta_6 Z_i + \varepsilon_i$

- *LS_i* is: life satisfaction
- *y_i* income (equivalised)
- C_i ELSI
- D_i exog control var's (ethnicity, gender, age, parents)
- *X_i* other objective controls (e.g. education, region, married, # children)
- *Z_i* subjective controls (satisfaction with health & housing, degree of community support)



Theoretical priors

 $LS_i = \beta_1 + \beta_2 \ln(y_i) + \beta_3 C_i + \beta_4 D_i + \beta_5 X_i + \beta_6 Z_i + \varepsilon_i$

 $\beta_2 = 0$ and $\beta_3 > 0$

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- Test for full sample and for various sub-groups (by: income, ELSI, ethnicity, age, urban/rural)

- Divide ELSI into objective & subjective components
- Different functional forms & equivalisation for income





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Var	Coeff	NC	D	D, X	D, X, Z
ELSI	β ₃	0.0577***	0.0598***	0.0558***	0.0388***
		(0.0016)	(0.0017)	(0.0018)	(0.0019)
Adj-R ²		0.1900	0.1986	0.2188	0.2995
Ln(y)	β_2	0.2265***	0.2655***	0.1588***	0.0984***
		(0.0144)	(0.0160)	(0.0180)	(0.0167)
Adj-R ²		0.0338	0.0609	0.1058	0.2512
Ln(y)	β_2	0.0006	0.0052	-0.0214	-0.0146
		(0.0138)	(0.0154)	(0.0170)	(0.0165)
ELSI	β_3	0.0577***	0.0596***	0.0565***	0.0393***
		(0.0017)	(0.0019)	(0.0019)	(0.0019)
Adj-R ²		0.1899	0.1985	0.2189	0.2995



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Key findings

- LS (SWB) +ly related to income when ELSI excluded
- LS +ly related to ELSI when income is excluded
- Income <u>never</u> significant when (full) ELSI included \square
 - This is the case for all sub-groups!
- With only *objective ELSI*, ELSI remains significant at 1% while income just significant (at 10%)
 - Both objective & subjective ELSI significant when included separately, and then income is again <u>not</u> significant
- ELSI significant (& dominates income) for <u>all</u> groups
 - Even for wealthier sub-groups
 - And despite ELSI being designed as a deprivation measure

Conclusions

- Consumption-based ELSI is far superior to income as an objective measure that predicts individuals' SWB (LS)
- This result supports life-cycle theory & is general across:
 - rich/poor,
 - urban/rural,
 - old/young
 - ethnicities
 - equivalisation methods
- Both objective & subjective factors are related to SWB
- Results indicate that public policy should concentrate on consumption-based measures of poverty & welfare rather than on income-based measures if citizens' wellbeing is of policy interest

