



Income, expenditure and personal well-being

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Introduction

From April 2011 the IHS (of which the LCF was part) has included the four ONS personal well-being questions on all surveys in Great Britain:

- Overall, how satisfied are you with your life nowadays?
- Overall, to what extent do you feel the things you do in your life are worthwhile?
- Overall, how happy did you feel yesterday?
- Overall, how anxious did you feel yesterday?

Inclusion of these questions enabled a regression-based study of the relationship between well-being and:

- Household income
- The source of this income (market income or state cash benefits)
- Household expenditure

Previous studies

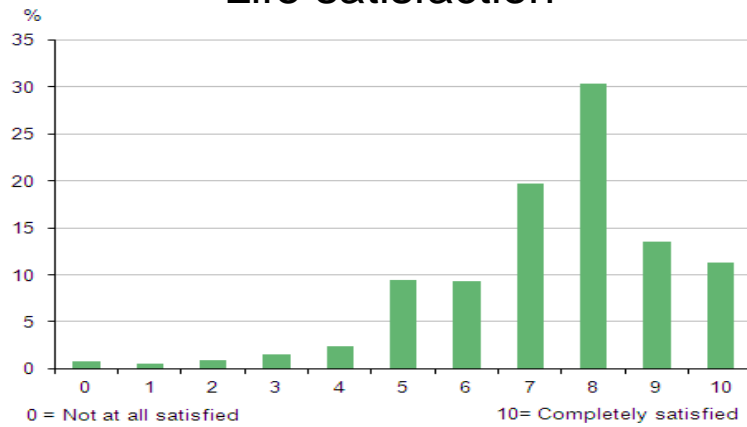
- In 2013, ONS used the Annual Population Survey (APS) to analyse the relationship between earnings from employment and personal well-being.
- Found a significant relationship between higher earnings and higher life satisfaction, but not between higher earnings and other measures of well-being.
- Kahneman and Deaton (2010) used a Gallup survey with US data on subjective well-being and banded household income.
- Found a relationship between high income and higher life evaluation, but not between higher income and higher emotional well-being (happiness and stress).
- Less research on link between subjective well-being and source of household income or household expenditure.

Dataset

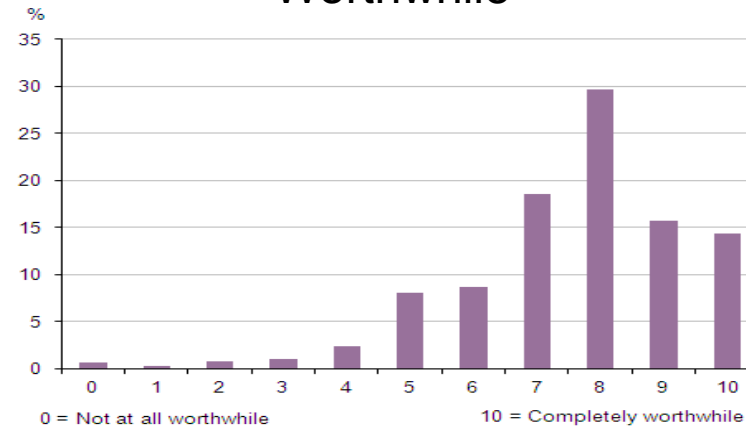
- Effects of Taxes and Benefits on Household Income (ETB) person-level dataset for 2011/12.
- Contains household-level components of income and personal characteristics data.
- Additional household expenditure variable not usually included in ETB constructed from original LCF.
- Special person-level weight to control for non-response bias to well-being questions in age, sex and region.
- 10,500 adults eligible for personal well-being questions.
- Well-being questions could not be answered by proxy, so final sample of approximately 8,100.

Distribution of personal well-being in GB

Life satisfaction



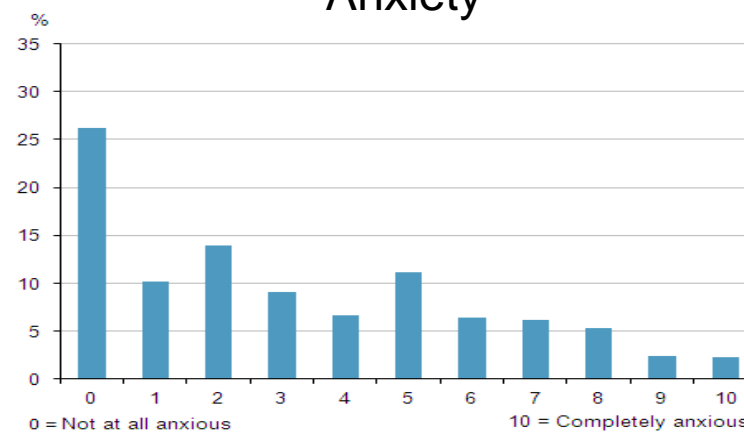
Worthwhile



Happiness



Anxiety



Methodology

- Personal well-being questions given on 11-point scale (0-10).
- Responses ordinal, but not necessarily cardinal.
- Most appropriate regression technique – ordered probit.
- No straightforward translation from the results of ordered probit to the size of relationships between variables.
- Generally acceptable to use OLS where four or more response categories – eg. Ferrer-i-Carbonell and Fritjers (2004), Stevenson and Wolfers (2008), Fleche et al. (2011).
- To maintain rigour while improving accessibility – use ordered probit to specify models and report results from OLS.
- Relative coefficient sizes and statistical significance similar between ordered probit and OLS.
- Use of two different techniques confirms validity of results.

Key analysis variables

Income:

- Log of equivalised disposable household income
- Equivalised disposable best measure of material living standards.
- Take logarithm – absolute difference in well-being associated with percentage difference in income.
- Reflects previous research suggesting responsiveness of well-being to differences in income may follow Weber's Law (Kahneman and Deaton, 2010).
- Better fit than other functional forms eg. linear, quadratic.
- Helps to normalise positively skewed distribution.

Key analysis variables

Source of income:

- Proportion of gross household income derived from cash benefits
- Log of equivalised disposable household income retained in model as a control.

Key analysis variables

Expenditure:

- Log of equivalised household expenditure.
- Household expenditure measure contains all consumption expenditure in COICOP system, plus some adjustments and additions from non-consumption expenditure.
- Adjustments include: uprating of expenditure on items where underreporting in surveys is known to occur (such as alcohol, tobacco and confectionary) in line with ETB methodology.
- Additions include: expenditure abroad, on mortgage interest and company cars and fuel paid for by employers.
- As with income, equivalised using modified-OECD scale.

Control variables

- Employment/economic activity status
- Sex
- Age (cubic term)
- Whether there are dependent children in the household
- Relationship status
- Tenure
- Region of Great Britain (including urban/rural differences)
- Personal receipt of a disability benefit (proxy for self-reported disability, which is not available from the LCF)
- Highest qualification obtained
- Ethnicity

Caveats around interpretation of results

- Regression results do not show change in well-being associated with change in income/expenditure.
- LCF cross-sectional – cannot tell if a change in income precedes a change in well-being
- People known to “adapt” to changes in prosperity – Di Tella et al. (2003), Brickman et al. (1978).
- As income/expenditure in one year highly correlated with income/expenditure in previous year, majority of sample likely to be close to having “adapted” to their current level of income/expenditure.

Does money make you happy?

- Yes *appears to be relationship between income and happiness
- Higher income also associated with higher life satisfaction, and lower anxiety.
- Link between income and how worthwhile people consider the things they do in their lives not significant at 5% level.

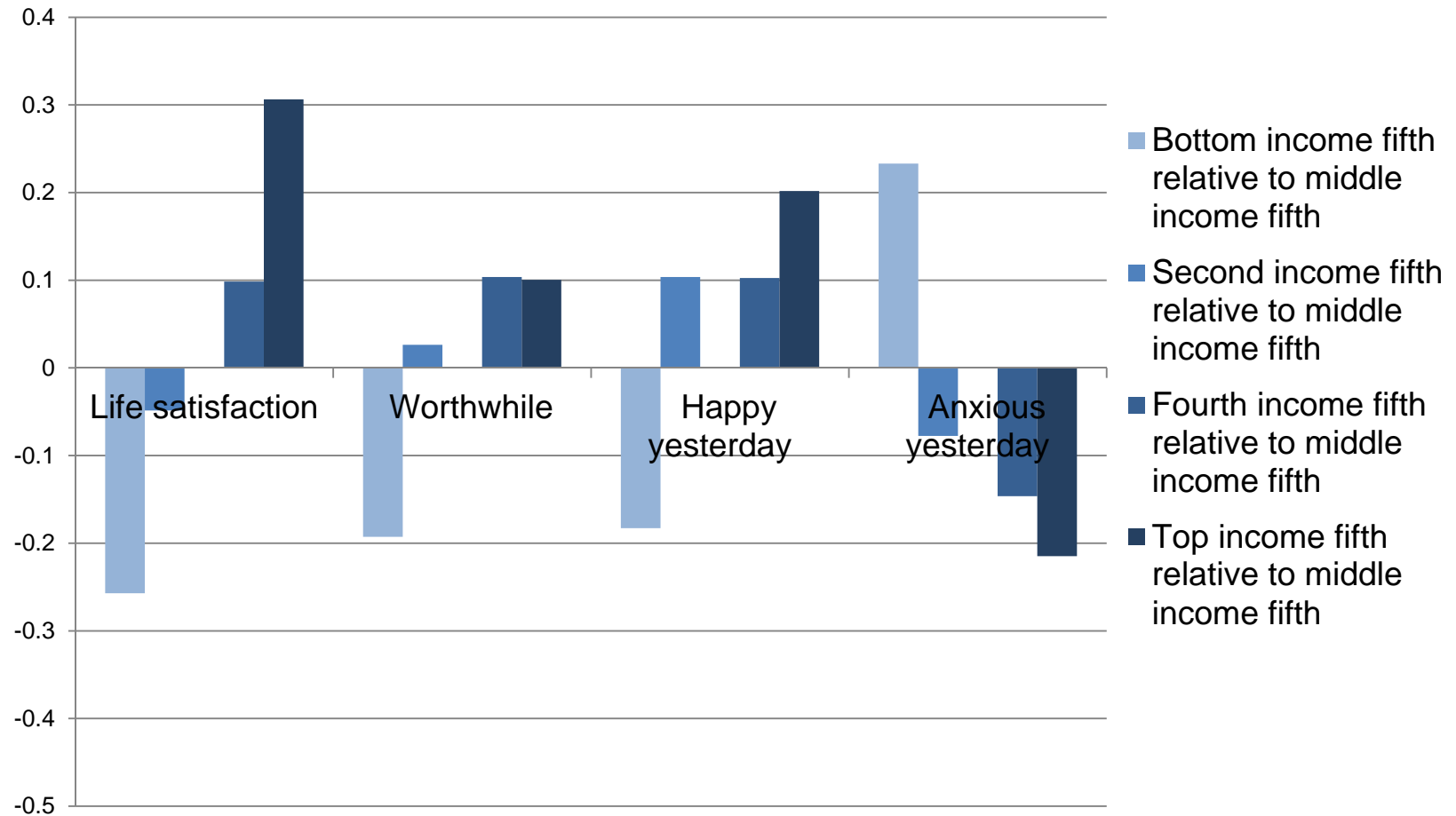
	Life satisfaction	Worthwhile	Happy yesterday	Anxious yesterday
Coefficient - Log of equivalised disposable household income	0.249*	0.079	0.114*	-0.164*
Difference in well-being associated with a doubling of equivalised disposable household income	0.173*	0.055	0.079*	-0.114*

Table notes:

1. * shows that the relationship is statistically significant at the 5% level.

Differences in well-being across the income distribution

Difference in well-being (0-10 scale)



Does the source of income matter in addition to the quantity?

- Yes
- Greater proportion of income derived from cash benefits related to lower well-being even when controlling for level of income.

	Life satisfaction	Worthwhile	Happy yesterday	Anxious yesterday
Coefficient for the proportion of household income derived from cash benefits	-0.477*	-0.346*	-0.488*	0.655*

Table notes:

1. * shows that the relationship is statistically significant at the 5% level.
2. Non-retired households only. Non-retired households are households which receive less than half of their gross income from cash benefits.

Relationship between source of income and well-being for men and women

		Life satisfaction	Worthwhile	Happy yesterday	Anxious yesterday
Coefficient for the proportion of household income derived from cash benefits	Men	-0.561*	-0.661*†	-0.774*†	0.873*
	Women	-0.395*	-0.065†	-0.229†	0.460

Table notes:

1. * shows that the relationship is statistically significant at the 5% level.
2. † difference between genders is statistically significant at the 5% level. This has been calculated by "interacting" the income and proportion of income derived from cash benefits with the gender variables.
3. Non-retired households only. Non-retired households are households which receive less than half of their gross income from cash benefits.

How much does household expenditure matter to well-being?

- Relationship between expenditure and well-being slightly stronger than relationship between income and well-being.

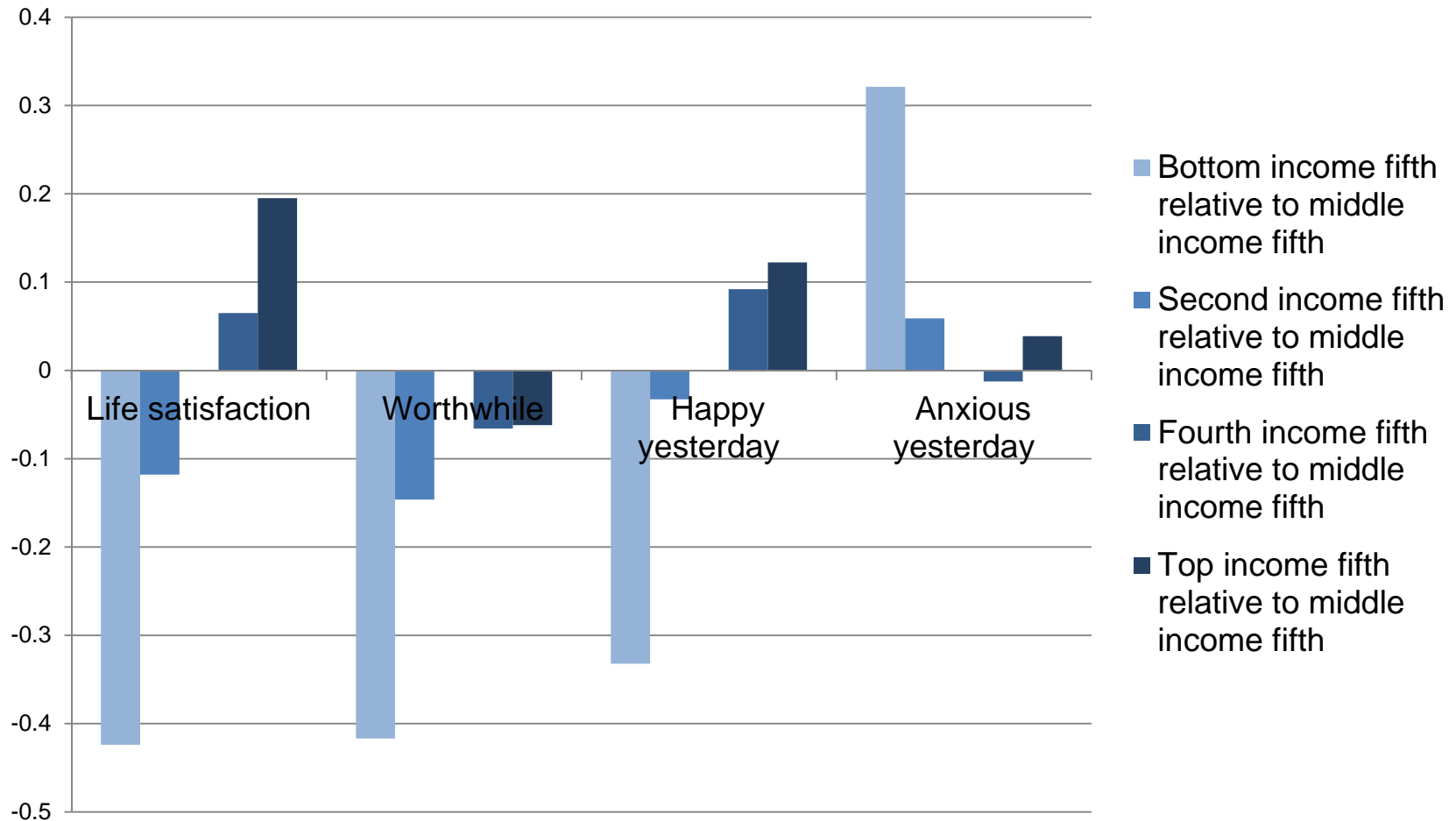
	Life satisfaction	Worthwhile	Happy yesterday	Anxious yesterday
Coefficient - Log of equivalised disposable household income	0.364*	0.210*	0.254*	-0.112
Difference in well-being associated with a doubling of equivalised disposable household income	0.252*	0.146*	0.176*	-0.077

Table notes:

- * shows that the relationship is statistically significant at the 5% level.

Differences in well-being across the expenditure distribution

Difference in well-being (0-10 scale)



Effects of Taxes and Benefits well-being dataset

- Well-being data used in this analysis to be made available via UKDS later in the summer.
- Dataset will be person-level – including responses to four personal well-being questions.
- Will include usual household-level income, benefits and taxes.
- Will also contain person-level characteristics data included in the *Income, Expenditure and Personal Well-being* analysis, and household expenditure variable.