

Happiness Quantified: A Satisfaction Calculus Approach. Revised Edition. By Bernard M.S. Van Praag and Ada Ferrer-i-Carbonell. Oxford University Press, December 2007. £18.99, paper. ISBN 978-0-19-922614-6.

To describe what economists think about the recent boom in the “economics of happiness” research is perhaps no different to quoting the now famous tagline from Marmite © commercials – which, if you happen to be living outside Great Britain, is a well-known food spread made purely from yeast-extract: *You either love it or hate it.*

The negative attitudes many traditional economists have towards the use of “subjective well-being data” in economic analysis is predictable. Despite having been taught to put people’s welfare at heart, economists are trained to ignore what people say about their well-being. Happiness or satisfaction data are criticized for being too subjective, too interpersonally incomparable, and too insensitive to changes in macroeconomic conditions such as GDP and unemployment rates to be of any real use to economists (see, for example, Johns and Ormerod, 2008). Then along came *Happiness Quantified* – a book that could perhaps challenge the way many of us view happiness research for good.

Unlike other books that were published on the same topic before it (e.g., Frey and Bruno, 2002; Layard, 2005), *Happiness Quantified* is jam-packed with statistical theories, econometric models, policy applications, and not to mention a whole lot of numbers. Co-authored by Bernard Van Praag and Ada Ferrer-i-Carbonell, two specialists in applied micro-econometrics, the current volume (which is a revised version of its first print in 2004) tackles a wide range of issues related to the study of

human satisfaction, with particular attentions being paid to the measurement and methodological issues involved with the estimation of subjective well-being data.

After a brief opening section (which outlines the different historical concepts of utility (i.e., cardinalism versus ordinalism), how there is ample evidence that (approximate) interpersonal comparison of subject experiences is possible, a short introduction of the authors' own income-evaluation question (IEQ) and domain satisfactions, both of which are available in many household surveys but are not often studied in detail, and also a summary of the rest of the book), the authors introduce in Chapter 2 a new methodological approach to deal with discrete response problems, which they called Probit Ordinary Least Square (POLS). The POLS model, which assumes an implicit cardinalization of subjective well-being data, is shown by the authors to generate roughly the same estimates as an ordered probit, but requires much less computing time and can be easier generalized to deal with more complex models and panel data sets. This novel approach will be a welcome relief for many economists, and not necessarily happiness economists, as well as researchers in other disciplines who normally take hours or even days to run an ordered response model that takes into account the panel structure of the data (e.g. ordered probit with random effects).

The authors then use the POLS model in Chapters 3-5 (and extensively throughout the book) to estimate the impacts of economic and non-economic factors on domain satisfactions, including satisfactions with health, income, job, housing, marriage, social life, leisure, environment, and politics, as well as satisfaction with life overall. Although the findings on economic and non-economic determinants (e.g., age, gender, income, education, etc.) are interesting in their own right, the multilayered

model (or the aggregating approach) of satisfaction, first introduced in Chapter 4 and again in Chapter 5 with political satisfaction as an additional subset, is perhaps something completely new to most researchers working in this area. In establishing the methodology, the authors argue that life satisfaction can be viewed as an aggregate of various domain satisfactions. Each life domain has its specific contribution to the aggregate, whilst objective variables have only an indirect relationship with life satisfaction, i.e. Objective variables → Domain satisfactions → Life satisfaction. Thus, the aggregating approach enables the authors to make a descriptive assessment of how changes in objective life circumstances ultimately shape life satisfaction through their impacts on various sub-domains. While I find (and have always found) the multilayered model especially interesting and practically useful, I was left slightly disappointed that the authors have not done more methodologically to improve the model's causality in this revised version [the authors also acknowledged in their first published version of *Happiness Quantified* in 2004 that this is an area that needs further refinement]. This, if can be done, will surely improve the model's popularity in a huge way.

The next chapter explores gender differences and the within-household differences in the reported satisfaction data, using one wave of the British Household Panel Survey (BHPS). The authors find that there is virtually no difference in the structure of the domain satisfaction equations between males and females, as well as between husband and wife living in the same household. However, this is the least interesting chapter in the book for me. Because only one wave of the BHPS was used, it was not possible to conclude whether or not there is evidence of spillover effect of well-being between husband and wife, as well as positive assortative mating in personality traits

that determine well-being for both partners, both of which are worth further investigation. In addition to this, other researchers have shown men and women to react differently to various shocks (e.g., unemployment and divorce), both in terms of the well-being impacts of these events and the rate of adaptation to these events over time (e.g., Clark, Diener, Georgellis, and Lucas, 2008).

The authors focus in Chapters 7 on the roles of past and future incomes in determining the current satisfaction level. The results are very intriguing. Using IEQ (which asked individuals to state how much monthly household income would be (1) a very bad income, (2) a bad income, (3) an insufficient income, (4) a sufficient income, (5) a good income, and (6) a very good income) as the dependent variable, they show that individual's evaluation of what makes a 'good' income and a 'bad' income depends strongly on the weighted average of past, present, and anticipated income levels. The effects also vary with age and by gender: For men and the young, financial satisfaction norms seem to be largely influenced by their past experiences, whilst for women and the old it is their anticipated income levels that matter more on their current subjective experiences compared to their past and present incomes. What I find most interesting about this chapter, however, is that these findings, as pointed out by the authors, have clear and direct implications on public policy. Their approach could be used, for instance, to help design the optimal smoothing-out of social assistance for the unemployed by taking adaptation to losses of incomes into account [which is similar to the conclusion made in Oswald and Powdthavee (2008) on how to design an optimal smoothing-out scheme of income-compensation for the disabled].

The roles of relative and absolute incomes in determining current satisfaction levels are discussed in Chapter 8. The authors contribute to what perhaps is the most studied topic in the economics of happiness research by proposing the use of social-filter function as an alternative ways to generate a more exogenous reference group than the orthodox arbitrary method. They then show that both relative and absolute incomes matter, and that the social comparison effects are asymmetrical, i.e. they are stronger for the poor than for the rich.

The authors then concentrate on describing the methodological approach used to estimate shadow prices for different non-market goods, including health (Chapter 9), climate (Chapter 10), and aircraft noise (Chapter 11). We know from the literature that the existing stated-preference approach used to evaluate non-market goods such as Willingness to Pay (WTP) or Standard Gamble (SG) methods are subject to a number of biases, including focusing illusion [we imagine that a paraplegia would start off bad and stay bad] and anchoring effect [the WTP values may be anchored by some arbitrary numbers that are unrelated to the non-market goods we are trying to evaluate]. Thus, a decision utility function generated this way may not necessarily reflect the true experiences that can be drawn from consuming these non-market goods (see, e.g., Dolan and Kahneman, 2008). For this reason, the authors argue that an experience utility function based on individual's reported happiness levels should also be constructed alongside a decision utility function as well. By estimating how important both income and, say, our state of health are to our well-being, they are able to calculate how much extra income would have to be given to the person to compensate exactly for any shock in the respondent's health status. As argued by the authors, this experience utility approach has one clear advantage over the stated-

preference approach, which is the fact that it also takes into account any adaptation or social comparison effects that may have occurred during the process of consumption of non-market goods in question. However, it remains to be seen which measures of experience utility – cognitive (e.g. life satisfaction) versus affective (e.g. moment-to-moment happiness) – should be used to calculate these shadow prices as their values may vary from one dependent variable to another.

Chapter 12, which can probably be considered as relatively more *ad hoc* than other chapters in the book, looks at the question of whether the construction a lump-sum tax built on ability (e.g., IQ) would be feasible to replace taxes on actual incomes and consumption. They argue that this kind of ‘talent tax’ would help eliminate the problem of work disincentives, as taxes would not depend on effort, and the social advantage would be greater fairness. Using data on IQ and IEQ taken from the Dutch data set, the authors conclude that shifting to an ability-based earnings-capacity tax system will not have a devastating effect on short-term net income positions. Nevertheless, I believe that more research conducted on different data sets is required in order to make this conclusion stick.

The authors then focus in Chapters 13-16 on different concepts of inequality and poverty. From these four chapters, two have not appeared before in its previous version. The idea proposed by the authors is that measures of inequality and poverty should be subjective as well as objective. This is to allow both measures to be constructed based partly on people’s ‘feelings’ rather than solely on some objective indicators. For inequality, one of the main results is, perhaps rather unsurprisingly, that the poor are more likely to perceive a specific distribution of income as much

more unequal than the rich. For poverty, the main conclusion is that the status of objective poverty and the subjective feeling of poverty may not always go hand in hand. Somebody who is officially classified as objectively 'poor' may not feel that they are poor. This result is interesting as it raises a serious moral question of whether or not government should do anything to help the 'happy poor'. In addition to this, they also find that the concepts of subjective inequalities and poverty can be defined, not only for satisfaction with income, but also for other domain satisfactions, including satisfaction with job and marriage.

Perhaps rather uncharacteristic for a book on happiness, *Happiness Quantified* was written with a very serious tone (which, of course, should please many economists). It is filled with theoretical and methodological rigor, as well as rich in policy applications. Unfortunately, it lacks a certain kind of flair required for a book to become very popular across different audience and disciplines. For one, many chapters of this book require readers to be equipped with advanced analytical and econometric skills – at least at the Masters level – in order to make sense of what the authors are trying to put across. But then again, this is perhaps to be expected from a book that wants to be known for its high quality on being 'quantitative' at heart.

In sum, *Happiness Quantified* provides a very good quantitative overview and a significant methodological contribution on what can be done with subjective well-being data in the economics discipline.

NATTAVUDH POWDTHAVEE

University of York

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