



## An analysis of life satisfaction in Albania: An heteroscedastic ordered probit model approach

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### ABSTRACT

This paper uses the nationally representative Albanian Living Standards Measurement Study survey from 2005 to investigate the determinants of life satisfaction. In common with much of the existing empirical literature that models life satisfaction (or subjective well-being) this paper exploits an ordered probit model. In contrast to the existing literature, however, the current study places an important emphasis on regression model evaluation. Diagnostic testing revealed a number of econometric model deficiencies but the explicit incorporation of a variance function into the ordered probit model resolved all detected problems. The tenor of the key findings generally reflects that found in the literature on the determinants of life satisfaction for both advanced capitalist and transitional economies. However, a number of additional themes with a strong Albanian dimension were interrogated. In particular, our study revealed evidence of long memories among Albanian respondents with respect to the collapse of that country's notorious pyramid schemes and the scarring effects of the episode continue to impact on life satisfaction even with the passage of almost eight years. A sizeable effect for communal level criminal activity on life satisfaction was also detected. In addition, our econometric estimates also provided some empirical insights on the monetary value of friendship and the costs of children.

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### 1. Introduction

Data on subjective well-being have been used extensively by psychologists interested in defining happiness. For instance, Diener (1984) refers to the pioneering work of the psychologist Wilson (1967) as providing one of the first studies to report the characteristics of a happy individual. Studies undertaken by other psychologists reveal that results based on survey responses to questions on life satisfaction or subjective well-being are fairly reliable yielding responses that tend to be highly correlated with alternative indicators of happiness.<sup>1</sup> In addition, such responses appear fairly insensitive to the specific circumstances that impact on the life of the respondents at the time of interview.

The study of subjective well-being in the field of economics has its origins in the work of Easterlin (1974) and, after a protracted period of very limited interest, a sizeable economics literature has emerged in more recent times (e.g., see Clark and Oswald, 1994; Di Tella et al., 2001; Easterlin, 2001; Frey and Stutzer, 2000; Ravallion and Lokshin, 2002; Clark et al., 2008; Dolan et al., 2008). An interesting use of subjective well-being data is the investigation of poverty according to the multi-dimensional definition suggested by Sen (1999). This definition incorporates a broader concept of deprivation across

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<sup>1</sup> For example, see Kahneman et al. (1999).

several characteristics including household expenditure, housing access, health, job security and political freedom. It is not implausible that the type of factors that inform Sen's multi-dimensional measure of deprivation are implicitly considered when individuals are asked to provide responses on their well-being (e.g., see Winter et al., 1999).

Despite the potentially important informational content of subjective well-being data with respect to the multi-dimensional nature of poverty, some economists have expressed reservations that different definitions of subjective well-being and/or the role of unobservable characteristics vitiate the use of such measures (see Bertrand and Mullainathan, 2001). In contrast, the research of psychologists suggests that self-reported subjective well-being is a stable concept that is amenable to reliable measurement over time (e.g., see Larsen et al., 1985; Pavot and Diener, 1993; Winter et al., 1999). Further confidence in the use of such data has been provided by the empirical evidence that reports, when estimating the determinants of well-being across different countries, fairly robust empirical relationships (e.g., see Blanchflower and Freeman, 1997; Blanchflower and Oswald, 2001; Di Tella et al., 2001; Alesina et al., 2004).

The finding of such reassuringly robust results has encouraged researchers to exploit subjective well-being data in order to address issues beyond the determinants of well-being or subjective poverty. In particular, the capacity of subjective well-being data to capture national welfare in the presence of social turmoil and ongoing political reforms has prompted use of such data across a range of transition countries<sup>2</sup> to examine, *inter alia*, the influence of institutions, ideology, psychological traits, and selected macroeconomic variables on individual well-being. For instance, Frey and Stutzer (2000) investigate the impact of direct democracy in Switzerland on individual well-being, while Blanchflower and Freeman (1997) test ideological convictions using this type of data. Hayo and Seifert (2003) assess the perception of the communist regime and the impact of an individual's religion and religious service attendance on life satisfaction. These latter two sets of variables are interpreted as capturing an ideology, different and distinct from a political one, which might be just as important as politics in shaping an individual's satisfaction with life.

The present paper investigates the determinants of life satisfaction in Albania using the 2005 wave of the nationally representative Living Standard Measurement Study survey (ALSMS). We investigate the impact on life satisfaction of, among other things, a household welfare metric, religion, health, residential dwelling characteristics, the nature of the communities within which individuals reside, and some distinctive features of the country's recent economic history. A feature of the current paper is its emphasis on refining the econometric approach that has traditionally been adopted by economists to model the impact of covariates on the survey responses on subjective welfare. The conventional strategy pursued by economists is to model the ordinal responses using either ordered probit or ordered logit models estimated by maximum likelihood techniques.<sup>3</sup> The econometric approach adopted in this paper is to investigate, using appropriate diagnostic tests, whether the assumptions inherent in the use of such ordinal modelling are satisfied by the data and provide remedial treatment if any econometric assumptions are violated. We believe such an approach provides for greater confidence in the empirical findings obtained when using such ordinal response models.

The structure of the current paper is now outlined. The next section provides a description of the data used and is followed by a section outlining the econometric methodology. The penultimate section provides the empirical results and a final one provides a summary with some concluding remarks.

## 2. Data

The current paper uses the 2005 wave of the Albanian Living Standards Measurement Study survey (ALSMS), which comprised separate household, community and price questionnaires. The 2005 ALSMS employed a two-stage stratified sampling approach. The Primary Sampling Units (PSUs) were the Enumeration Areas (EAs) used in the 2001 Population Census. The EAs were selected according to their geographical location and the present study uses the 455 EAs which were randomly sampled. The Second Stage Sampling Units (SSUs) were provided by the households and within each EA, 12 were selected for interview. Eight of these constituted the main interview sample, while the remaining four were used for purposes of replacement in the case of non-response. The respondent or interviewee was either the head of household or someone deputed as the most knowledgeable person within the household to answer the questions on his/her behalf.

The key dependent variable is ordinal in nature and based on the interviewee's response to the question: '*How satisfied in general are you with your current life?*' The mutually exclusive responses permitted were: '*fully satisfied*', '*rather satisfied*', '*less than satisfied*' and '*not at all satisfied*'. The sample used in the analysis is restricted to individuals aged between 15 and 65 years who are not students. After data cleaning across all the relevant variables, the resultant dataset comprised 2923 useable observations. In this sample, 2% of the respondents enjoyed the highest level of life satisfaction while about 20%

<sup>2</sup> See Sanfey and Teksoz (2005), Hayo (2007), Hayo and Seifert (2003), Namazie and Sanfey (2001), Winter et al. (1999), Ravallion and Lokshin (2002), Eggers et al. (2006) and Senik (2004).

<sup>3</sup> For example, the studies of Clark and Oswald (1994), Blanchflower and Freeman (1997), Blanchflower and Oswald (2001), Graham and Pettinato (2002), Eggers et al. (2006) and Hayo (2007) all adopt such a modelling approach. In contrast, Ferrer-i-Carbonell and Frijters (2004) argue in their application that the estimated effects appear to be invariant to whether responses are treated ordinally, as in an ordered probit (or logit) model, or cardinally, as with the OLS procedure. However, the findings of Ferrer-i-Carbonell and Frijters (2004) may not be subject to generalization as they exploited an 11-number scale. Thus, given we only have a four-number scale we follow the established tradition in the economics literature and explicitly exploit the ordinal structure of the responses in modelling life satisfaction in Albania.

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