



What is the Structure of South African Happiness Equations? Evidence from Quality of Life Surveys

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Abstract

The issue of what determines subjective well-being has been at the centre of a recent flurry of research in the economics field. A necessary part of this understanding is the role relative positions (economic, social, geographic) of economic agents, particularly individuals, play in life (commonly referred to in the literature as rivalry). In this paper we concentrate on whether the structure of happiness equations of South Africa are the same/similar to those of developed countries. The analysis uses three of the Durban Quality of Life Studies. Firstly these three data series are pooled and a variety of covariates are tested for their significance on happiness. These include age, marital status, employment status, household income and relative household income. Next we estimate yearly cross-sectional models to see if there are consistent findings of what determines happiness across the period considered. Our findings indicate there maybe some structural differences between results from the Durban studies and those of international findings. Age appears to play no role in happiness likelihood, nor does marital status. Being unemployed does significantly and negatively effect happiness as does the size of household income, relative household income and whether living in a formal dwelling place. When we distinguish between employment categories we find that being self-employed negatively affects happiness, contradicting findings for developed countries. Future research will concentrate on the most recent Durban studies, in which information on health and crime are available, both of which are expected to significantly effect happiness given the well documented nature of these problems in South Africa.

JEL classification: I31, J10, O55

Keywords: Subjective Well-Being, Quality of Life, South Africa

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1 Introduction

The field of economics has long been concerned with issues of growth and development with it being implicitly assumed that growth in particular is one of the economic objectives of any country. Since the 1970s and the breakdown of the Phillips curve western governments and the leading international economists have been particularly concerned with controlling inflation with any country loans stipulating a credible and tight monetary policy at the cost of almost everything else. Whilst a shift maybe taking place towards more country-specific development and growth programmes rather than a broad "one policy fits all" approach, recent empirical work based on Easterlin (1974, 1995, 2001) has found that growth and average satisfaction with life are not correlated over time which begs the question should economic growth be a primary economic goal, or should governments instead aim to improve the perceived lives of its people? Whilst this question is increasingly being asked in some developed countries (e.g. Layard, 2003, for the United Kingdom) little is known about life satisfaction in developing and transitional countries. In the case of South Africa this correlation over time cannot currently be addressed due to a lack of nationally representative data on subjective well-being.¹ However, another strand of the happiness literature has focussed instead on estimating what determines happiness at the micro-economic level using 'happiness equations' based on individual level subjective well-being data.²

This paper aims to add to the burgeoning literature in this area by using a small sample survey data set from 1998-2004 in order to test several hypotheses that have been consistently validated in international studies of this nature. In particular this study will analyse the relationship between happiness, absolute income levels, relative income levels, health, marital status and economic activity. There is focus on relative income levels following the work of Easterlin (1974), Morawetz, et. al. (1977) and Diener (1984) who argue that people's relative position in society (or within a particular peer group) is important as well as their absolute income levels. This hypothesis is taken from Easterlin (1995) and is termed 'social comparison theory' in sociology and 'interdependent preferences theory' in economics. Easterlin (2001) in his proposed theoretical model of happiness distinguishes between experienced happiness and projected happiness based on the aspirations of individuals. This proposes that as individuals go through life their aspirations change as do their income levels, with expected future income and happiness being greater than current and previous income and happiness. A distinction can also be made between (1) decision utility and (2) experienced utility based on the work of Kahneman, Wakker, and Sarin (1997) and Tversky and Griffin (1991). The former is based upon the expected utility that prevails at the time of choosing from several options and the latter on the utility actually gained/derived from the option consumed. However, peoples' expectations of higher incomes resulting in greater happiness does not consider the rising aspirations levels (in

¹To the authors' knowledge only the 1993 PSLSD data set and the 1997 October Household Survey ask a question on perceived happiness at the individual level.

²There has been debate amongst economists as to the validity of self-reported well-being data. Di Tella, MacCulloch, and Oswald (2003) present evidence of why such data should be valid to economists basing their arguments on (1) the fact that psychologists who study well-being and mental health use such data and (2) that there is a high correlation between different measures of self-reported well-being (e.g. life satisfaction, quality of life, happiness).

the form of material possessions) of individuals as they reach these higher income levels and in this sense the future is seen through rose-coloured spectacles when in theory (and empirically) an increase in income does not raise experienced utility as much as expected.

Empirical evidence for developed countries indicates that the returns to absolute income levels in the form of happiness increase but at a decreasing rate. For example, a worker earning R2,000 a month who is given a R800 salary increase will observe a far greater increase in happiness relative to the same absolute salary increase to a worker who initially earns R14,000 per month. This is clearly related to the size of the increase in terms of initial income levels; i.e. percentage increases. Relative income is found by Johansson-Stenman, Carlsson, and Daruvala (2002) to be of importance to individual happiness, with their findings revealing that individuals prefer to have a lower absolute income level that is above the average income level to a higher absolute income that is below average income.

The motivation for analysing happiness/utility is that these concepts lie at the heart of welfare economics. Using a measure of subjective well-being and maximising this term has been proven to be the ultimate objective for most people (Clark and Oswald, 1996; Oswald, 1997). From a theoretical perspective subjective well-being has become more attractive for economists as standard neoclassical consumer choice theory and revealed preference often failed in explaining individual decision making.

The remainder of the paper is structured as follows: A brief review on subjective well-being in section II is followed by a discussion of the proposed variables to be used in the model justifying their inclusion. Section IV discusses the data to be used and potential problems with this data source. Section V presents some selected descriptive statistics from the data sets and is followed by a brief methodological section. The pooled and cross-sectional econometric results are discussed in Sections VII and VIII. Finally, we conclude and propose potential future research.

2 Some Thoughts on Subjective Well-Being

As outlined above, subjective well-being (SWB) has been studied by psychologists and sociologists for some time.³ To measure SWB, survey data is relied upon in which people are typically asked about their overall happiness, satisfaction with life or quality of life. This way, researchers have access to a self-rated view on individual welfare. Compared with an income-based measure, which is frequently regarded as a more objective indicator of welfare, SWB captures many different aspects of life people are concerned about.

The 1970s saw the seminal economic work on happiness and its relationship with income and income distribution (e.g. Easterlin, 1974; Morawetz, et. al., 1977). Since the late 1990s, the number of empirical studies analysing happiness or life satisfaction has increased

³For a summary of happiness research in the field of psychology please refer to Kahneman, Diener, and Schwarz (1999).

significantly.⁴ The focus of most studies has been on the determinants of happiness in developed countries. It is only recently that subjective well-being in less developed and transition countries has been studied as well (e.g. Namazie and Sanfey, 1999; Hayo, 2003; Gruen and Klasen, 2005).

Two major facts seem to have driven the increased interest in SWB. Firstly, there are numerous studies showing that standard neoclassical theory, which is based on preferences and observed behaviour, often failed to explain individual decision-making.⁵ By the same token, empirical work in both economics and psychology has convincingly demonstrated that people don't seem to maximise income but rather happiness or life satisfaction. Secondly, over the last years more and more information on SWB in both cross-sectional and panel data format has become available thereby allowing extensive empirical research in this area.

This research has helped to better understand human well-being. A number of facts determining happiness have been established. Individual happiness seems to vary systematically with age, income, type of employment, marital status and health status to mention just a few factors.⁶ Individual welfare also appears to be influenced by macroeconomic factors like inflation, unemployment, economic growth and income distribution (e.g. Clark and Oswald, 1995; Oswald, 1997; Di Tella, MacCulloch, and Oswald, 2001; Blanchflower and Oswald, 2003). A question that has been addressed more recently is whether certain socio-demographic and economic variables that have been identified as determinants of happiness in the West are also relevant for other countries. Essentially, the question being asked is whether there is a uniform underlying structure of happiness across countries or whether living in different societies and/or having different economic and/or social histories leads to different structures. Previous research seems to suggest that the answer to this question is yes. Hayo (2004) analyses several Eastern European transition countries and shows that variables like age, marital status, education, employment status and income have a very similar effect on happiness than in Western European countries and the US.⁷ Studies done by Kingdon and Knight (2001); Powdthavee (2004) are more relevant to the work presented here. Both papers focus on South Africa and, among other things, suggest that unemployment has the same detrimental effect on happiness as reported in the West. Using a different data source we will attempt to shed some more light on the determinants of happiness in the South African context.

One shortcoming with the existing empirical literature on SWB is that little or no discussion around the theoretical foundation of SWB is provided. Often, the papers start by outlining why studying measures of SWB in a particular context will be useful and what new insights can be expected and then proceed with presenting various statistical and econometric results obtained from estimating microeconomic happiness functions. As

⁴Frey and Stutzer (2002a) and Layard (2005) provide a comprehensive overview of happiness research in economics.

⁵For example, see Sippel (1997) and Dowrick and Quiggin (1994) who demonstrated the limits of standard consumer theory and the axiomatic revealed preference approach. See also Frey and Stutzer (2002b) for a concise overview of factors that seem to play a role in explaining human behaviour.

⁶Diener and Scollon (2003) summarise a variety of determinants that were shown to be correlated with SWB.

⁷For more work on SWB in transition countries please refer to Sanfey and Teksoz (2005).

explained previously, in most studies the aim of such an econometric exercise is to explore the determinants of happiness. In that case, one only has to assume that happiness (or utility) can be measured on an ordinal scale. However, when individual information on SWB is used to compare welfare levels it is necessary to assume that individual welfare is measured on a cardinal scale and is interpersonally comparable (Frey and Stutzer, 2002b).⁸ These two assumptions alone are highly disputed in the field of economics. When dealing with measures of SWB an additional concern often raised is that answers to questions like "Taking all things together, how satisfied are you with your life?" might easily be influenced by the individual's contemporary emotional state, recent events or the scale from which to choose the appropriate level of SWB. Extensive psychological research, however, demonstrated that self-reported measures of well-being are reliable and adequate when analysing human well-being.

Many empirical analyses in particular support the hypothesis that individuals not only receive utility from their own income or consumption but are sensitive to what neighbours, colleagues and other members of peer groups can afford. Therefore, to explain human behaviour, individual preferences should be modelled using interdependent utility functions. The theoretical work by Kahneman and Tversky provides a useful framework. When developing prospect theory, an alternative theory to explain choice behaviour under uncertainty, they suggested a reference dependent utility (or value) function that is S-shaped (Kahneman and Tversky, 1979). As verified by numerous experiments, individuals are risk seeking when dealing with losses but risk averse when gains are at stake. Both gains and losses are defined with respect to a reference point. Therefore, a reference dependent utility function will be convex below the reference point and concave above it. Another stylised fact is that losses loom larger than gains and the utility function therefore has to be steeper below the reference point.⁹ A critical question is then how to determine the reference point? In our empirical analysis, we will use the median income as the reference point. The underlying function for happiness could then be described as follows:

$$Happiness_i = f(Y_i, Y_{med}) + \bar{X}_i$$

$$f_{Y_i} > 0; f_{Y_i Y_i} < 0 \text{ if } Y_i > Y_{med}; f_{Y_i Y_i} > 0 \text{ if } Y_i < Y_{med}$$

Individual happiness is a function of the individual income, a measure of relative income and a number of demographic characteristics stored in the vector \bar{X}_i . If the individual income Y_i is below (above) the median income Y_{med} , people are expected to experience a loss (gain) and will therefore report a lower (higher) level of happiness. Other socio-demographic and socio-economic variables that have been shown to be relevant when determining happiness will be discussed next.

⁸A theoretical framework for using happiness as a welfare measure is provided by Ng (1996, 1997). For an empirical analysis using SWB measures as an alternative indicator to measure social welfare, see Gruen and Klasen (2005).

⁹Tversky and Griffin (1991) expand this concept to model riskless choice behaviour as well.

3 Proposed Variables based on International Research

Whilst we do not have access to a question explicitly on individual happiness we base our happiness variable on the information contained in the question "...how satisfied have you been with your life over the past year?" The surveys are not a panel and any changes in happiness over the 1999-2004 period can only be captured through pooling the data. The variables we can control for in all three years are limited by changes to the questionnaire over the period. Unfortunately this means we cannot control for health of the individual or whether the individual was a victim of crime in the past 12 months, since this information is only contained in the 2003 and 2004 surveys. The variables we do control for include household income levels, relative income levels, marital status, racial group, economic status (e.g. whether unemployed, self-employed or full-time employed), education level and age. This variable list is based largely on international empirical work.

Household income is expected to have a positive impact on the individual's happiness with high-income households resulting in more satisfied individuals, *ceteris paribus*. In order to measure relative income level this paper firstly controls for whether an individual's household income is below the average income level for the sample and secondly the income quartile to which the household belongs.¹⁰ There are numerous relative income variables that could be calculated based on different reference groups (e.g. racial group, economic class) and space permitting we will use several different relative income measures.

According to studies mainly in the developed world, marriage is a key determinant of life happiness. Less is known about marital status in developing countries. Powdthavee (2003) finds no significant evidence of marital status having an impact on happiness using the 1993 SALDRU data set. However when using the OHS 1997, Powdthavee (2004) finds that South African individuals in civil marriages were significantly happier than people who were never married. The latter finding is consistent with Blanchflower and Oswald (2004) for the United States. However, in developing countries there is the real possibility that marriage is a very different undertaking than in developed countries: the determinants of marriage are not the same. In developed countries there are financial incentives to get married that do not exist to the same degree or extent in developing countries. In developing countries marriage may be seen as a means of survival and protection/security for babies and small children. South Africa, like many developing countries also has two types of marriage civil and traditional. Since these two types of marriage represent very different institutions it would of interest, where possible, to treat each one separately in any analysis.

Racial group has been found to influence happiness in developed and developing countries and this is particularly expected in the case of South Africa (e.g. Graham, 2004, p. 15). Powdthavee (2004) includes racial dummies in his model and finds Blacks (Africans) report significantly lower well being scores than that of Coloured people but with no significant difference, *ceteris paribus*, with either Asians or Whites. This is a somewhat surprising result, with it being expected that Africans would be relatively more dissatisfied with life than, in particular, Whites. A possible explanation for this lack of difference could be

¹⁰The latter relative income measure is used by Clark and Oswald (1996).

the continued 'happiness' effect felt by Africans of defeating the apartheid system that acts as a unifying effect amongst them. Given the estimates are for 1997, just 3 years after the first free elections in South Africa this explanation is certainly feasible and given Powdthavee (2003) finds significant differences in happiness between racial groups using 1993 data, a possibility. Since this paper uses a Durban based data set the issue of whether the described unifying effect is likely to occur is very much complicated by the political voting patterns in this area. The province of Kwazulu-Natal was historically the centre of power for the Zulu Inkatha Freedom Party (IFP), until the 2004 general elections when the African National Congress (ANC) won power at the provincial level. The history between the IFP and ANC is well documented and is beyond the scope of this paper, but potentially the unifying theory is not applicable to this particular area and we would expect a racial hierarchy of happiness to be present.

Individual economic activity is included in order to test whether (1) the self-employed are happier than the employed (2) the unemployed are less happy than any other economically active group (3) casual/temporary contracted workers are significantly less/more happy than other groups. Di Tella, MacCulloch, and Oswald (2003) found that self-employed individuals in developed countries are significantly happier than equivalent employees explaining this by the characteristics of self-employment such as flexibility, working for oneself and economic 'freedom' in the workplace. This view is consistent with those of Kaufman (1999) who argues that some workers have a "...positive preference for work because of the nature of their jobs (e.g. greater room for creativity)", (ibid, pp. 370). Self-employment in developing countries however is split into good quality and bad quality categories. In South Africa the majority of the self-employed work in the informal sector (see Table 1) characterised by poor pay, poor conditions, insecurity and uncertainty, e.g. street vending. We would expect that these workers would be less likely to report happiness compared to formal sector employees who have access to greater job protection because rather than self-employment representing a choice it represents a means to survival.¹¹

Unemployment is expected to negatively effect happiness relative to somebody who is employed with this commonly explained by a 'scarring' effect. This has been found in numerous pieces of research for a variety of developed and developing countries and contradicts the neo-classical assumption that work, *ceteris paribus*, is 'utility-neutral' to the individual. In developed countries, it is highly likely that a minority of people do perceive work as a disutility, but these persons most likely come from opposite ends of the income spectrum, with individuals from wealthy households not needing to work (and hence having relatively large amounts of leisure time) and those from poor households falling into a state-welfare trap where there is no financial incentive to find employment. In developing countries welfare systems are not as developed and individuals from poor households cannot fall into a welfare trap. With South Africa facing an official unemployment rate of 28% in March 2004 with the expanded rate 14% higher, any psychological scarring that occurs will affect millions of people and does not bode well for active job searching. Whilst the current government has expanded its public works programme with the aim of creating 1 million new jobs over the next decade this will only dent the unemployment figures and

¹¹The distinction between the self-employed in developing and developed countries is essential. For example Graham (2004, p. 15) reports the self-employed in Latin America are less happy than other groups for identical reasons outlined above.

will not permanently change the face of the South African labour market. The majority of these new jobs are temporary or casual with a duration of between 3-6 months. Many of these jobs focus on improving public roads and public buildings and are manual and unskilled in nature. Whilst employment categories do change across the three surveys used, the 2003 and 2004 surveys allow us to explicitly control for casual/temporary work and to reveal whether quality of job differs in its impact on life satisfaction. It is not clear what impact these types of jobs will have on the happiness of individuals, but we hypothesise that it is likely to reduce happiness relative to the full-time employed.

International evidence from developed countries reports that on average the higher educated are significantly happier than the lesser educated (Oswald, 1997; Blanchflower and Oswald, 2004).

Warr (1992) and Clark, Oswald, and Warr (1996) find evidence of a U-shaped relationship between job satisfaction/happiness and age in developed countries consistent with growing happiness as the individual gets older based on aspirations being reached and/or the acceptance of your life or "lot in life". Powdthavee (2003, 2004) finds this U-shaped relationship for happiness and age in South Africa using both 1993 and 1997 national surveys.

4 Data

The data set used is the Quality of Life/Needs Assessment Survey for the Ethekwini Municipality in Durban. This survey has been undertaken annually since 1998 but is not a panel. Unfortunately the questionnaire used has changed considerably over the course of time making year on year comparisons of certain variables impossible. The main econometric concern with this data set though is its size in more recent years. For example, in the 2003/04 survey there were 1,158 observations, compared to 4,729 in 1999. The working samples ranged in size from 777 to 1,746 observations. In order to tackle this size problem we initially pooled the 3 years of data, controlling for the different years. Following this we ran separate regressions for each year in order to test for consistency in the structure of the equation and to compare findings to previous findings in the literature.

5 Some Descriptive Statistics

In this analysis level of satisfaction with life over past 12 months takes one of five values, with 4 representing very satisfied with life in the previous 12 months, 3=satisfied, 2=neutral (no change), 1=dissatisfied and 0=very dissatisfied. Mean satisfaction with life was at its highest in 1999 at 2.36 and appears to have declined in 2003 and 2004. Happiness with life and income level are, a priori, expected to be positively correlated. Figure 1 illustrates that this is indeed true for our samples over the 3 years, whilst also confirming that people were happier in 1999 than either 2003 or 2004. Table 2 indicates that people were significantly happier in 1999 than either 2003 or 2004 and that people were significantly

less happy in 2003 than in 2004. When differentiated by household income group it is found that significant differences in happiness occur mostly amongst people living below the R651 per month level, with this group being significantly happier in 1999 and 2004 than in 2003.

Explanations for the apparent decline in average happiness in the period are pure conjecture at this point. When life satisfaction and racial group are correlated a racial hierarchy of average life satisfaction is revealed, with Whites on average most satisfied with life followed by Asians, Coloureds and Africans in all three years. Figure 2 illustrates this finding. This is also, a priori, expected given the well known racial earnings hierarchy in South Africa. Of African respondents between 38 and 46% reported being either dissatisfied or very dissatisfied with life over the past 12 months.

The equivalent figure for White respondents ranged from 3-12%. The happiest population groups were Whites and Asians for all three years. When income and racial group were analysed together the expected correlation was recorded. The finding that Blacks are less happy than other races is identical to what Graham (2004, p. 15) reports for the United States and for Latin America. Differences in average happiness were found to differ significantly over time for Africans and Whites only. Table 3 reports that Africans were significantly less happy in 2003 and 2004 relative to 1999, with Whites reported a significant decline in happiness between 1999 and 2003 and between 1999 and 2004.

This paper will estimate a number of 'happiness' equations for different economic groups although there is no explicit question related to 'how happy somebody is or is not'. This maybe considered a serious problem if it was not for the well-established correlation between happiness and satisfaction in numerous studies undertaken in the psychology and economics literature.¹² Given this very strong statistical relationship we will throughout the paper interchange the words happiness and satisfaction.

6 Methodology

The standard method for estimating happiness equations is to adopt an ordered probit or logit model. As opposed to a multinomial logit or probit model that does not rank outcomes in a particular order (e.g. industry type, region of residency), an ordered approach explicitly defines preferences. In the model we adopt the dependent variable takes on five increasing values such that

$$4 \succ 3 \succ 2 \succ 1 \succ 0$$

¹²Blanchflower and Oswald (2004) and Graham and Pettinato (2002) find correlations of at least 0.50 between happiness and life satisfaction questions for Britain and Latin America respectively. For discussions of the correlation between self-reported happiness and other 'signs' of happiness see Konow and Earley (1999), Argyle (1989) and Myers (1993).

where 4 represents very satisfied with life in the previous 12 months, 3=satisfied, 2=neutral (no change), 1=dissatisfied and 0=very dissatisfied. The probability of observing an observation is given by

$$\begin{aligned} Pr(\text{Outcome} = i) &= pr(k_{i-1} < \sum_j \beta_j x_j + u \leq k_i) \\ &= \Phi(k_i - \sum_j \beta_j x_j) - \Phi(k_{i-1} - \sum_j \beta_j x_j) \end{aligned}$$

where $i = 0, 1, 2, 3$ or 4 .

One happiness equation we are concerned with is represented by

$$\text{Life Satisfaction}_i = \alpha_1 Y_i + \alpha_2 Y_i^2 + \alpha_3 \text{relative } Y_i + \sum_j \beta_j X_{ij} + \epsilon_i$$

where Y_i is absolute income of the household, Y_i^2 is household income squared and *relative* Y_i is a dummy variable capturing whether household income is below the geometric average level of income for the sample. The remaining explanatory variables are captured in the vector X_i , with ϵ_i being a normally distributed error term.

7 Pooled Results

After pooling the three years of data we had a sample size of 3,382. Table 5 provides summary statistics. Table 4 shows the actual and predicted proportion of the pooled sample who fell into each of the 5 happiness categories. The majority of the sample, class themselves as at least satisfied with life.

Table 6 presents the results from the ordered probit regression. Racial group plays an important part in determining happiness, with Whites and Asians significantly more likely to report being satisfied with life than Africans and confirms the findings of Powdthavee (2003) and Kingdon and Knight (2004). These are also consistent with findings in the US by Blanchflower and Oswald (2004). Interpretation of this finding however is largely conjecture but in the case of South Africa may well be related to the historical legacy of apartheid that ensured racial divergence and a racial hierarchy in every aspect of life. The racial hierarchy (so clearly found in the labour market in the form of employment likelihood and wage differentials, see Allanson, Atkins, and Hinks (2002), Allanson and Atkins (2005), Brookes and Hinks (2004)) is indeed confirmed when the marginal effects of the model are estimated for each outcome with Whites least likely to be present in the lower happiness categories followed by Asians, then Coloureds and Africans.

The U-shaped relationship between age and happiness is confirmed in the signs on the age and age-squared coefficients but are not significant. Gender plays no significant role in happiness although the coefficient is negative. The sign is probably expected given the traditional role females still play in most South African households. Marital status has no significant impact on happiness unlike the well-established positive effect that being married has in similar studies for rich countries. Controlling for different types of marriage (traditional, common law and legal) makes no difference in our pooled findings. This then

represents evidence of a structural difference between happiness equations in South Africa and those of rich countries and confirms the work of Powdthavee (2003, 2004) for the early and mid-1990s.¹³

There is some evidence that the level of education impacts on happiness although this is tentative at best. Having a degree or a diploma increases the likelihood of happiness but only at the 10 per cent level of significance relative to somebody who has no education. Primary and secondary educated individuals are not, *ceteris paribus*, more or less likely to be happier than somebody with no formal education. When the marginal effects are calculated we find that highly educated individuals are significantly less likely to be either very dissatisfied or dissatisfied relative to the non educated and more likely to be satisfied compared to the non-educated. This finding confirms evidence from developed countries. Explanations for this finding are based on the highly educated having achieved more within the formal schooling than other educated groups.¹⁴

When economic activity is controlled for in the model there is the very strong finding that unemployment significantly and negatively affects the level happiness compared with somebody who is employed. Because of changes to type of employment category in the 3 surveys, we group together the employed and self-employed with no distinction possible between the formal and informal sectors and between casual, temporary or seasonal work. The unemployed are 7 per cent more likely to be dissatisfied with life than the employed, *ceteris paribus* whilst being 9 per cent less likely to be satisfied with life compared to employed individuals. This result confirms international evidence for both developed and developing countries and illustrates a structural similarity with these findings. In a country in which unemployment has increased rapidly in the past decade and in September 2003 was 28% the psychological scarring this causes to the unemployed must be considered. Given that many of the unemployed in South African claim never to have had a job it is highly likely that happiness is also affected by the length of current unemployment spell and its quadratic.

Residing in a formal dwelling place significantly increases the likelihood of happiness reflecting the impact household wealth has on happiness. Absolute level of household income and its square significantly impact on happiness with a concavity in this relationship confirming international findings, with income 'buying' happiness but at a decreasing rate. Finally, those individuals living in households with less than the median household income figure are significantly less happy than those living in households with above median household income. It is acknowledged here that this measure of relative income is crude and we are currently in the process of using another more representative method. Since we control for absolute household income and formal dwelling place (proxy for wealth) the finding does reflect the importance of the relative position of the household to individual happiness and is again in line with international evidence. Finally the year dummies are

¹³Whilst presently it is conjecture of why marriage does not affect happiness in a way similar to that found in developed countries future research will aim to shed more light on this issue.

¹⁴A potential issue of endogeneity exists in the happiness equation between employment and education, with education being a determinant of employment likelihood. Indeed the issue of endogeneity in estimating happiness appears to have received relatively little attention. The inclusion of interaction terms is one possible way to negotiate this issue. But better still would be in using appropriate instruments. The problem here though is what instruments to use and whether they exist in current South African data.

significant and indicate that in 1999 individuals were significantly happier than in the 2004, with individuals from 2003 significantly unhappier than in 2004. This confirms our earlier findings reported in Table 2.

8 Comparative Results, 1999, 2003 and 2004

Table 6 also provides the ordered probit estimations for 1999, 2003 and 2004. The relative income dummy turns out to be significant at the 5% and 1% levels across the three years illustrating that the relative income position of households certainly feeds into the likelihood of reporting a greater level of satisfaction at the individual level. When an absolute household income term is included this too is significant at the 5% level for all the years but the size of this term is incredibly small.

Racial group is found to be significantly important in explaining the likelihood of being happier in all three years with the racial hierarchy of happiness found in the pooled results confirmed. The U-shaped relationship between age and happiness found in the international literature is confirmed in all three years but is only significant in 1999. Indeed in 2003 and 2004 age becomes less and less relevant to modelling happiness indicating a possible structural difference in happiness equations in South Africa and the rest of the world. For all 3 years, unemployed persons are significantly less likely to report happiness with life relative to employed persons confirming the pooled findings. Because of the bi-causal relationship between unemployment and poverty in developing and transitional countries, being unemployed can also impact directly on nutritional intake which will have negative consequences on employment likelihood and will in itself cause unhappiness.¹⁵

Education level does not feed into happiness, except in 1999. Further analysis is underway to look specifically at job satisfaction in which education standard may well play a role in affecting happiness in the job by signalling higher qualified workers as having greater flexibility and freedom in the workplace (Kaufman, 1999, p. 374). However, since employment is clearly such a large contributor to individual happiness it would be expected that degrees and diplomas would make a stronger showing in our results for 2003 and 2004. Males and females are not significantly happier/sadder than the other in any of the years. Residing in a formal dwelling only significantly effects happiness in 1999 in a positive manner. In 2003 and 2004 the variable is insignificant and has a negative coefficient indicating that these residents may not be happy with the level of debt they have incurred in purchasing a house. However as likely an explanation is the potential problems with how this information was gathered. These finding illustrate the problems with pooling data over years and leads us to reject our original idea of a formal dwelling place representing a proxy for wealth.¹⁶ Finally, the marital status variables provide a confusing picture over the three years making any inferences problematic.

¹⁵The relationship between happiness, health, poverty and unemployment represents an area of future research for this project.

¹⁶Household wealth can be proxied by the number of consumer durables (white goods) in the household as well as car ownership and savings rate. However this information is not available for all of the survey years.

There are then a number of structural similarities between the happiness equations estimated here and those from developed countries and from other developing countries. One structural aspect we have not tested yet is the impact self-employment has on happiness relative to other economically active groups. Oswald (1997) and Blanchflower and Oswald (2004) find that the self-employed in the US and UK are significantly happier than employees and the unemployed, explaining this finding by the work place flexibility and the responsibility self-employed individuals have relative to other employment categories. In poor developing countries however the majority of the self-employed will be working in the informal economy in survivalist activities. In the next section we formally test whether there are any significant differences between type of employment in determining happiness.

9 Happiness and Employment Status: Controlling for Self-Employed and Atypical Employment

In both 2002-03 and 2003-04 there are more categories for individuals to choose from regarding what their main economic activities are. These include for both years a category for being self-employed. In 2002-03 we can distinguish between formal and informal employees and in 2003-04 by people employed full-time, part-time/contract/temporary and casually. When pensioners, students and housewives are dropped from the analysis to leave only the economically active remaining the unemployment rate for these data can be calculated. It is found that the unemployment rate drops from 32 to 27%. The official unemployment rates for September 2002 and 2003 for Kwazulu-Natal province are higher than these figures at 39% and 31% respectively but this is expected since the quality of life surveys sample only urban households.¹⁷ Both surveys indicate a decline in the unemployment rate though. The proportion of self-employed for each year varies dramatically with 15% of the 2004 sample claiming to be in this category whilst in 2003 the figure is just 7%. Such a dramatic decline can optimistically be explained by individuals switching employment categories, specifically from self-employment to being part-time or temporarily employed in 2004. More likely though is that either the employment categories in 2004 create greater accuracy for likely interviewee response or it is simply not viable to compare the two surveys in this regard. The happiness equations reported in Table 7 indicate that individuals who are self-employed are significantly less happy than formal employees in 2003. For 2004 temporary employees were significantly less happy than full-time employees. Both these results indicate the importance in South Africa of differentiating where possible between employment categories (a proxy for quality of jobs) when estimating happiness. It also signals the expected structural difference between findings on self-employment and happiness in developed countries (Blanchflower and Oswald, 2004) and those in developing countries.

¹⁷These figures are weighted estimates from the respective September Labour Force Surveys.

10 Conclusions

Happiness and satisfaction are closely related concepts and have proven to be closely correlated in empirical work undertaken by psychologists and economists. This paper aimed to test if there were any structural differences between happiness equations in South Africa using quality of life surveys for the Durban region and those of international findings. The structure of the happiness equations estimated in this paper do bear similarities with happiness equations in developed countries and for other developing countries. Unemployment, absolute household income level, relative household income level, racial group and to some extent level of education all influence the degree of happiness in this paper. Marital status has no consistent impact on happiness however. However we do not find strong evidence of a U-shaped relationship between age and happiness, or any evidence of a relationship between happiness and marital status. When we differentiate between different employment categories we find evidence that being self-employed or temporarily employed results in being less happy relative to formal employees, reversing the findings of Blanchflower and Oswald (2004) for developed countries. What we can say from our results then, is that happiness equations in South Africa appear to have slightly different structures to happiness equations in developed countries.

Changes to the questionnaires over the years meant we could not control for potentially important explanatory variables, such as health status and whether the individual had been a victim of crime. This is the focus of a concurrent paper. The issue of endogeneity also needs to be addressed, and future work will focus on interaction terms (e.g. between employment and education, income and racial group, marriage and racial group). It is hoped that further research in this area will result in happiness/satisfaction questions being asked in national surveys with the appropriate instrumental questions also included to tackle any endogeneity problem.

Figure 1: Happiness and Income

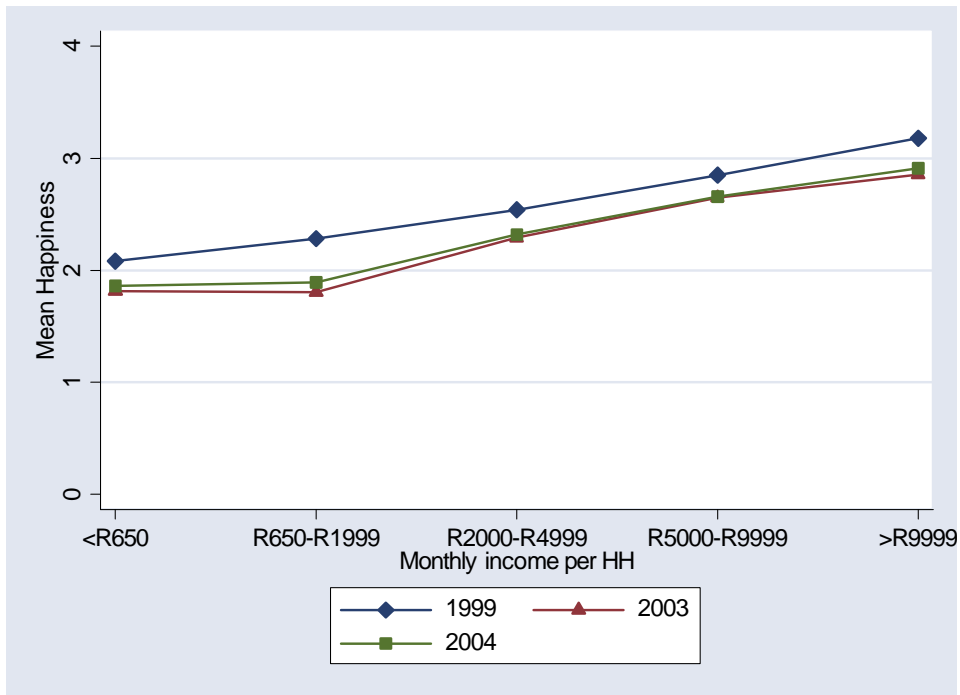


Figure 2: Mean Happiness by Population Group

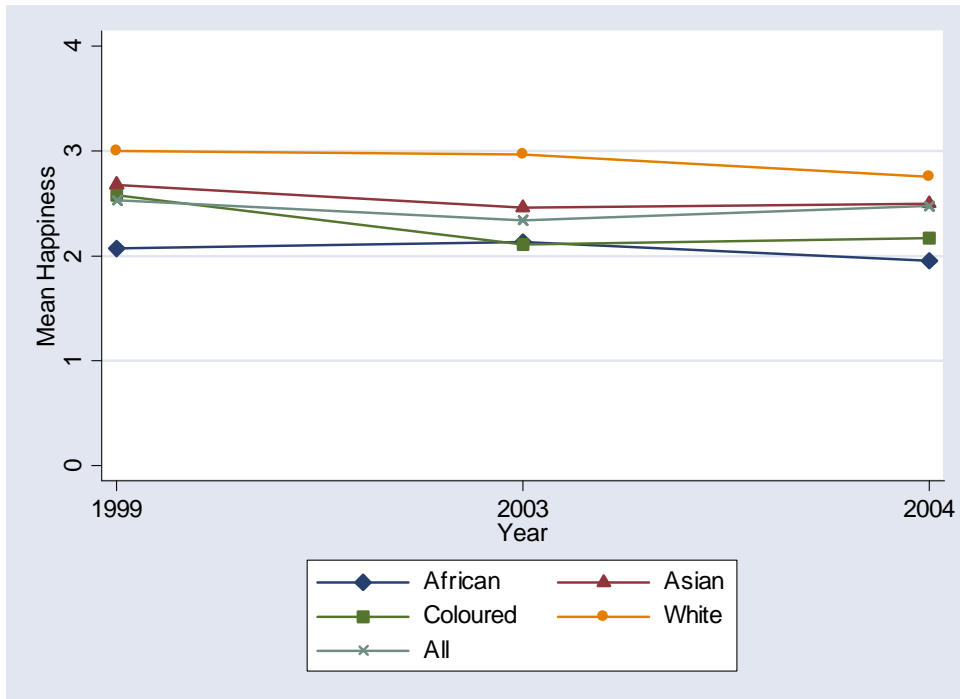


Table 1: **Non-Agricultural Employment, 1999-2002**

Labour Force	1999	%	2000	%	2001	%	2002	%
Total Employment	9,117,666		9,725,250		9,653,040		9,607,613	
Formal Employees	6,475,150	71.0	6,454,514	66.3	6,457,691	66.9	6,599,696	68.7
Informal Employees	1,329,786	14.6	1,596,151	16.4	1,472,857	15.3	1,363,716	14.2
Self-Employed	1,312,730	14.4	1,676,585	17.2	1,722,492	17.8	1,644,201	17.1
Informal Self-Employed	890,602	9.8	1,217,307	12.5	1,264,839	13.1	1,170,245	12.2
Formal Self-Employed	422,128	4.6	459,278	4.7	457,653	4.7	473,956	4.9

Source: Authors calculations from 1999 October Household Survey, September Labour Force Surveys.

Table 2: **Differences in Reported Happiness across Household Income Groups**

	Average Reported Happiness					
	1999		2003		2004	
All	2.384	(0.049)	1.942	(0.088)	2.104	(0.069)
<R650	1.941	(0.114)	1.394	(0.159)	1.689	(0.120)
R650-R1,999	2.228	(0.085)	1.824	(0.155)	1.952	(0.112)
R2,000-R4,999	2.492	(0.086)	2.042	(0.217)	2.344	(0.169)
R5,000-R9,999	2.806	(0.112)	2.458	(0.200)	2.579	(0.154)
>R10,000	3.055	(0.151)	2.642	(0.211)	2.833	(0.299)

Source: Authors calculations.

Table 3: **Differences in Reported Happiness across Racial Groups**

	Average Reported Happiness					
	1999		2003		2004	
All	2.384	(0.049)	1.942	(0.088)	2.104	(0.069)
Africans	2.091	(0.067)	1.772	(0.101)	1.826	(0.087)
Asians	2.643	(0.080)	2.358	(0.178)	2.443	(0.119)
Coloureds	2.364	(0.198)	1.583	(0.572)	2.042	(0.403)
Whites	3.026	(0.111)	3.094	(0.280)	2.703	(0.197)

Source: Authors calculations.

Table 4: **Actual and Predicted Proportions by Happiness Category**

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
Actual	0.06	0.25	0.16	0.46	0.07	1.00
Predicted	0.04	0.24	0.18	0.49	0.05	1.00

Table 5: Summary Statistics, Pooled Sample

	Total Sample	African	Asian	Coloured	White
HH-income	4,412 (8,197)	2,803 (6,242)	5,378 (8,354)	4,013 (8,132)	10,595 (12,147)
Age	39.89 (12.60)	38.2 (12.3)	41.29 (12.62)	41.27 (13.74)	44.56 (12.27)
Female	0.56	0.59	0.49	0.59	0.50
Legal marriage	0.50	0.36	0.71	0.53	0.79
Traditional marriage	0.02	0.02	0.01	0.01	-
Common marriage	0.09	0.13	0.02	0.07	0.02
Divorced/Separated	0.04	0.03	0.03	0.07	0.07
Widowed	0.07	0.07	0.08	0.10	0.03
Single	0.35	0.49	0.16	0.28	0.11
Highly qualified	0.08	0.05	0.08	0.03	0.27
Unemployed	0.25	0.32	0.19	0.24	0.08
Housewife	0.08	0.04	0.16	0.06	0.12
Pensioner	0.10	0.08	0.13	0.12	0.13
Student	0.03	0.04	0.02	0.03	0.02
Living in formal dwelling	0.76	0.61	0.97	0.99	0.99
Below median HH-income	0.43	0.57	0.28	0.38	0.10
Number of observations	3,382	1,969	861	146	381

Table 6: Cross-Sectional and Pooled Happiness Equations Estimations, 1999-2004

	1999		2003		2004		Pooled	
	Coefficient	z-test	Coefficient	z-test	Coefficient	z-test	Coefficient	z-test
Asian	0.295**	(3.95)	0.367**	(3.19)	0.384**	(3.52)	0.331**	(6.29)
White	0.622**	(5.82)	0.922**	(4.82)	0.547**	(3.69)	0.643**	(8.52)
Coloured	0.052	(0.44)	-0.162	(-0.58)	0.104	(0.45)	0.063	(0.66)
Age	-0.034*	(-2.08)	-0.008	(-0.34)	-0.005	(-0.19)	-0.014	(-1.21)
Age squared	0.000*	(2.11)	0.000	(0.13)	0.000	(0.02)	0.000	(1.08)
Female	-0.036	(-0.59)	0.052	(0.64)	-0.090	(-1.12)	-0.023	(-0.56)
Legal marriage	0.232**	(2.85)	-0.186	(-1.90)	0.020	(0.19)	0.017	(0.33)
Traditional marriage	0.306	(1.23)	-0.139	(-0.43)	-0.407	(-1.69)	-0.083	(-0.56)
Common marriage	-0.155	(-1.47)	0.057	(0.39)	-0.258	(-1.72)	-0.055	(-0.78)
Divored/Separated	-0.073	(-0.45)	-0.050	(-0.23)	-0.006	(-0.03)	-0.104	(-1.00)
Widowed	0.176	(1.35)	-0.287	(-1.57)	-0.193	(-1.18)	-0.079	(-0.92)
Highly qualified	0.332**	(2.72)	0.202	(1.40)	0.048	(0.32)	0.183*	(2.36)
Unemployed	-0.251**	(-3.57)	-0.278**	(-2.91)	-0.250**	(-2.59)	-0.279**	(-5.80)
Housewife	0.128	(1.23)	0.046	(0.22)	-0.057	(-0.34)	0.089	(1.12)
Pensioner	-0.200	(-1.67)	0.081	(0.48)	0.290	(0.06)	0.020	(0.25)
Student	0.099	(0.65)	-0.009	(-0.04)	-0.020	(-0.07)	0.052	(0.45)
Formal dwelling	0.386**	(4.86)	-0.155	(-1.58)	-0.054	(-0.57)	0.102*	(2.03)
HH-income	0.000**	(4.03)	0.000	(1.75)	0.000**	(2.41)	0.000**	(4.54)
HH-income squared	0.000**	(-3.07)	0.000	(-1.10)	0.000	(-1.47)	-0.000**	(-3.02)
Below median HH-income	-0.033	(-0.44)	-0.445**	(-4.09)	-0.404**	(-3.86)	-0.225**	(-4.40)
1999	-	-	-	-	-	-	0.278**	(5.96)
2003	-	-	-	-	-	-	-0.110*	(-1.96)
_cut1	-1.879	-	-1.650	-	-1.969	-	-1.663	-
_cut2	-0.631	-	-0.699	-	-0.722	-	-0.532	-
_cut3	-0.284	-	-0.134	-	0.002	-	-0.042	-
_cut4	1.774	-	1.178	-	1.693	-	1.729	-
N	1,746		777		859		3,382	
Log Likelihood	-1,955		-1,090		-1,089		-4,244	
Pseudo R ²	0.086		0.070		0.080		0.077	

Notes: Dependent variable: Happiness: 0=very dissatisfied, 1=dissatisfied, 2=neutral, 3=satisfied, 4=very satisfied.

Reference group is a single, employed African male not living in a formal dwelling place who lives in a household

whose relative income is above the median level of household income for the sample.

For the pooled regression 2004 is the base year.

Significance levels: * : 5% ** : 1%

Table 7: Happiness Equation Estimations with Employment Categories

	2003		2004	
	Coefficient	z-test	Coefficient	z-test
Asian	0.365**	(3.18)	0.386**	(3.52)
White	0.978**	(5.04)	0.540**	(3.57)
Coloured	-0.184	(-0.66)	0.093	(0.40)
Age	-0.006	(-0.27)	-0.008	(-0.32)
Age squared	0.000	(0.09)	0.000	(0.16)
Female	0.044	(0.53)	-0.089	(-1.11)
Legal marriage	-0.191	(-1.94)	0.006	(0.05)
Traditional marriage	-0.108	(-0.34)	-0.451	(-1.85)
Common marriage	0.069	(0.46)	-0.261	(-1.74)
Divored/Separated	-0.074	(-0.35)	0.004	(0.02)
Widowed	-0.288	(-1.58)	-0.234	(-1.42)
Highly qualified	0.190	(1.31)	0.038	(0.26)
Informally employed	-0.005	(-0.04)	-	-
Self employed	-0.341*	(-1.97)	-0.026	(-0.21)
Temporary employed	-	-	-0.401**	(-2.80)
Casually employed	-	-	0.086	(0.23)
Unemployed	-0.312**	(-3.02)	-0.343**	(-3.20)
Housewife	0.008	(0.04)	-0.114	(-0.66)
Pensioner	0.040	(0.23)	0.205	(1.27)
Student	-0.034	(-0.14)	-0.124	(-0.41)
Formal dwelling	-0.140	(-1.38)	-0.079	(-0.83)
HH-income	0.000	(1.61)	0.000*	(2.28)
HH-income squared	0.000	(-0.97)	0.000	(-1.36)
Below median HH-income	-0.443**	(-4.05)	-0.372**	(-3.49)
._cut1	-1.648	-	-2.140	-
._cut2	-0.693	-	-0.885	-
._cut3	-0.127	-	-0.157	-
._cut4	1.187	-	1.542	-
N	777		859	
Log Likelihood	-1,088		-1,084	
Pseudo R ²	0.071		0.083	

Notes: Reference group in 2003 is a single, formally employed African male not living in a formal dwelling place who lives in a household whose relative income is above the median level of household income. Reference group for 2004 is identical except for being a full-time employee.

Significance levels: * : 5% ** : 1%

References

- ALLANSON, P., AND J. P. ATKINS (2005): "The evolution of the racial wage hierarchy in Post-Apartheid South Africa," *Journal of Development Studies*, forthcoming.
- ALLANSON, P., J. P. ATKINS, AND T. HINKS (2002): "Did the end of Apartheid spell the beginning of the end for the racial wage hierarchy in South Africa?," *Review of Development Economics*, 6(3), 442–459.
- ARGYLE, M. (1989): *The Psychology of Happiness*. Routledge, London.
- BLANCHFLOWER, D., AND A. OSWALD (2003): "Does inequality reduce happiness? Evidence from the States of the USA from the 1970s to the 1990s," Mimeographed, Warwick University.
- BLANCHFLOWER, D. G., AND A. J. OSWALD (2004): "Well-Being over time in Britain and the USA," *Journal of Public Economics*, 88, 1359–1386.
- BROOKES, M., AND T. HINKS (2004): "The racial employment gap in South Africa," *South African Journal of Economics*, Special Conference Issue.
- CLARK, A., A. OSWALD, AND P. WARR (1996): "Is job-satisfaction U-shaped in age?," *Journal of Occupational and Organizational Psychology*, 69(1), 57–81.
- CLARK, A. E., AND A. J. OSWALD (1995): "Unhappiness and unemployment," *The Economic Journal*, 104(424), 648–659.
- (1996): "Satisfaction and comparison income," *Journal of Public Economics*, 61(3), 359–381.
- DI TELLA, R., R. J. MACCULLOCH, AND A. OSWALD (2001): "Preferences over inflation and unemployment: Evidence from surveys of happiness," *American Economic Review*, 91(1), 335–341.
- (2003): "The macroeconomics of happiness," *Review of Economics and Statistics*, 85(4), 809–827.
- DIENER, E. (1984): "Subjective well-being," *Psychological Bulletin*, 95, 542–575.
- DIENER, E., AND C. SCOLLON (2003): "Subjective well-being is desirable, but not the summum bonum," Mimeographed, University of Illinois.
- DOWRICK, S., AND J. QUIGGIN (1994): "International comparisons of living standards and tastes: A revealed-preference analysis," *American Economic Review*, 84(1), 332–341.
- EASTERLIN, R. (1995): "Will raising the incomes of all increase the happiness of all?," *Journal of Economic Behavior and Organisation*, 27(1), 35–47.
- (2001): "Income and happiness: Towards a unified theory," *Economic Journal*, 111, 465–484.

- EASTERLIN, R. A. (1974): "Does Economic Growth Improve the Human Lot?," in *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*, ed. by P. A. David, and M. W. Reder. New York: Academic Press.
- FREY, B., AND A. STUTZER (2002a): *Happiness and Economics: How the Economy and Institutions affect Human Well-Being*. Princeton University Press, Princeton.
- (2002b): "What can economists learn from Happiness Research?," *Journal of Economic Literature*, 40(2), 402–435.
- GRAHAM, C. (2004): "Globalisation, poverty, inequality and insecurity: Some insights from the economics of happiness," Paper for UNU/WIDER Conference on The Impact of Globalisation on the World's Poor, Helsinki.
- GRAHAM, C., AND S. PETTINATO (2002): "Frustrated achievers: Winners, losers and subjective well-being in new market economies," *Journal of Development Studies*, 38(4), 100–140.
- GRUEN, C., AND S. KLASSEN (2005): "Has happiness improved well-being? An analysis based on income, inequality-adjusted income, non-income and subjective well-being measures," Mimeographed, University of the Witwatersrand, Johannesburg.
- HAYO, B. (2003): "Subjective economic well-being in Eastern Europe," *Journal of Economic Psychology*, 24(3), 329–348.
- (2004): "Happiness in transition: An empirical study on Eastern Europe," Mimeographed, Philipps-University of Marburg, Germany.
- JOHANSSON-STENMAN, O., F. CARLSSON, AND D. DARUVALA (2002): "Measuring future grandparents' preferences for equality and relative standing," *Economic Journal*, 112, 362–383.
- KAHNEMAN, DIENER, AND SCHWARZ (1999): *Well-Being: The Foundations of Hedonic Psychology*. New York: Russell Sage Foundation.
- KAHNEMAN, D., AND TVERSKY (1979): "Prospect theory: An analysis of decision making under risk," *Econometrica*, 47(2), 263–292.
- KAHNEMAN, D., P. WAKKER, AND R. SARIN (1997): "Back to Bentham? Explorations of experienced utility," *Quarterly Journal of Economics*, 112(2), 375–405.
- KAUFMAN, B. (1999): "Expanding the behavioural foundations of labour economics," *Industrial and Labour Relations Review*, 52(3), 361–392.
- KINGDON, G., AND J. KNIGHT (2001): "Unemployment in South Africa: The nature of the beast," CSAE Working Paper No. WPS/2001.15, Centre for the Study of African Economies, Oxford.
- (2004): "Well being poverty versus income poverty and capabilities poverty in South Africa," TIPS/DPRU forum paper on African Development and Poverty Reduction: The Macro-Micro Linkage.

- KONOW, J., AND J. EARLEY (1999): "The hedonistic paradox: Is homo-economicus happier?," Mimeographed, Loyola Marymount University, Department of Psychology.
- LAYARD, R. (2003): "Happiness: Has social science a clue?," Mimeographed, London School of Economics, Lionel Robbins Memorial Lectures 2002/3.
- (2005): *Happiness: Lessons from a new Science*. Allen Lane, Published by Penguin Group, London.
- MORAWETZ, ET. AL. (1977): "Income distribution and self-rated happiness: Some empirical evidence," *The Economic Journal*, 87(347), 511–522.
- MYERS, D. (1993): *The Pursuit of Happiness*. Aquarian, London.
- NAMAZIE, AND SANFEY (1999): "Happiness in transition: The case of Kyrgyzstan," Discussion paper DARP 40, London School of Economics and Political Sciences.
- NG, Y. (1996): "Happiness surveys: Some comparability issues and an exploratory survey based on just perceivable increments," *Social Indicators Research*, 38, 1–27.
- (1997): "A case for happiness, cardinalism, and interpersonal comparability," *The Economic Journal*, 107(445), 1848–1858.
- OSWALD, A. J. (1997): "Happiness and economic performance," *The Economic Journal*, 107(445), 1815–1831.
- POWDTHAVEE, N. (2003): "Is the structure of happiness equations the same in poor and rich countries: The case of South Africa," Mimeographed, University of Warwick.
- (2004): "Unhappiness and crime: Evidence from South Africa," Mimeographed, University of Warwick.
- SANFEY, AND TEKSOZ (2005): "Does transition make you happy?," Mimeographed, European Bank for Reconstruction and Development.
- SIPPEL, R. (1997): "An experiment on the pure theory of consumer's behaviour," *Economic Journal*, 107(444), 1431–1444.
- TVERSKY, A., AND D. GRIFFIN (1991): "Endowment and contrast in judgements of well-being," in *Subjective Well-Being: An Interdisciplinary Perspective*, ed. by F. Strack, M. Argyle, and N. Schwarz, pp. 101–118. Oxford: Pergamon Press.
- WARR, P. (1992): "Age and occupational well-being," *Psychology and Aging*, 7(1), 37–45.