Expectations on Happiness: Evidence from Spain

Rebeca de Juan (UNED)

Francisco Mochón (UNED)

Abstract

The human being is the only animal capable of formulating reasoned expectations about its own future, and moreover these expectations affect the current level of life satisfaction. This work analyzes the influence of expectations on happiness in Spanish society during the period 1999-2005. We also include the personality of individuals and their past experience, for their own sake and for a better estimation of the effect of expectations on happiness as it is highly likely that these variables affect one's expectations. The results show that favorable expectations increase substantially one's current life satisfaction, whereas the correlation is negative if the expectations are unfavorable. When expectations refer to specific areas such as work, income, leisure time, housing or health, the results are also as expected. The positive (negative) expectations about these specific domains of life substantially increase (reduce) the individuals' current satisfaction. These results clearly show that present satisfaction not only depends on the current situations, but also on what we expect to experience in the future

Key words: expectations, happiness, optimism, progress

JEL codes: A12, C26, I31, O52, Z10

Rebeca de Juan, Departamento de Análisis Económico II, de CC. Económicas y Empresariales, UNED, Paseo Senda del Rey 11, 28040 Madrid, Spain. Tel: 91.3987813, email: rdejuan@cee.uned.es

Francisco Mochón, Departamento de Análisis Económico II, de CC. Económicas y Empresariales, UNED, Paseo Senda del Rey 11, 28040 Madrid, Spain. Tel: 913987807, email: fmochon@cee.uned.es

1. Introduction

What distinguishes human beings from all other animals is their ability to think about the future and to do so in a non-mechanical way (Gilbert 2006). When a squirrel begins to bury nuts for the hard winter ahead, it does so because of an almost physiological process linked to the shortening days. It is a mechanism of survival. The same thing happens when a gazelle hears a strange sound or smells something that it associates with an imminent danger and therefore it quickly flees. The human brain, in addition to making predictions about an immediate, local and personal future, is the only one that is able to formulate reasoned expectations regarding its own future situation (Gilbert 2006). And it so happens that these expectations significantly affect happiness (Layard 2005). Thinking about the future can cause pleasure or pain, and our brain insists on mixing up thoughts about the future (Gilbert 2006).

This work aims to examine the influence of expectations on happiness in Spanish population during the period 1999-2005. From the theoretical point of view, the inclusion of expectations means to abandon the traditional utility function, according to which the current utility depends solely on consumption and in general on present conditions, and to accept an intertemporal utility function in which the present is combined with the past and the future (Senik 2008, Frijters et al. 2008). The baseline is that expectations affect the individual's current utility. The psychology literature has for a long time argued that expectations are consumption goods and hence, the expectations have direct effects on utility. However, in the economic literature is a relative new concept to consider expectations themselves have a consumption value (see Brunnermeier and Parker 2004; Frijters et al. 2008; Senik 2008). There are numerous examples that prove this fact. For example, if a group of individuals is forced to choose the order between something good (living in luxury for a year) and something bad (spending a year in jail), the majority will first choose the bad and leave the good for later. The reason is that the year in jail will be more tolerable thinking about (with expectation) the year of living in luxury. On the contrary, if the individual chooses first to enjoy the luxury, his well-being would be diminished by the expectation of spending a year in jail later. Even a small child with an ice-cream often leaves the best part for the last moment.

This work seeks to complement the evidence provided in the few studies available that measure the relationship between the expectations for the future and individuals' happiness (see Senik 2008; Frijters et al. 2008). Senik (2008) examines the causal effect of expectations on happiness using a panel data of the Russian population. She finds a strong effect of expectation on life satisfaction. Frijters et al. (2008) analyze the effect of income expectations

on life satisfaction amongst the Chinese population for the year 2002. They find evidence of the importance of expectations for life satisfaction particularly pronounced in the urban areas. The novelty of this paper relative to the above is that not only examines the effect of income expectations on happiness, but also analyzes the relationship between happiness and expectations regarding several specific aspects: work, leisure time, housing and health. Note that our paper is the first to analyze these effects for Spanish population. Moreover, it is noteworthy the methodology used to estimate the model; ordered probit with instrumental variables.

The main empirical results are the following. Firstly, the data corroborate the hypotheses regarding the existing relationship between individual satisfaction and the different explanatory variables such as income, age, marital status, educational level, religion and working situation. These results are consistent with those found in the literature (Donovan and Halpen 2002) and, therefore, provide some support for the suitability of the data used in this work.

Secondly, the impact of general expectations is consistent with the formulated hypotheses; favorable expectations appear to be positively correlated to the satisfaction of individuals with their lives, whereas the correlation is negative if the expectations are unfavorable. Thirdly, the negative expectations about health, income, work, leisure and housing substantially reduce the individual's current satisfaction. It is important remark the role of expectations in explaining individual life satisfaction. With this analysis it is clear that present satisfaction not only depends on the current situations, but also on what we have experienced in the past and on what we expect to experience in the future (Camerer and Loewenstein 2004; Elster and Loewenstein 1992; Helson 1947; Van Praag and Ferrer-i-Carbonell 2004). In fact when a person chooses the combination of activities that makes him feels better takes into consideration the future. This sometimes involves giving up something in the present moment in order to get a reward later (Layard 2005).

The rest of the paper is organized as follows. Section 2 briefly sets out the conceptual framework. Section 3 explains the data used and the testing strategy use to measure the relationship between expectations and happiness. Section 4 presents the empirical results and in Section 5 some concluding remarks are made.

2. Conceptual Framework

The traditional models present the utility function as dependent on variables that have to do with the present. In parallel, when an attempt is made to explain happiness, the conventional models resort to variables that affect the current satisfaction level of individuals.

Current utility = f (current situation)

Another step is taken in the analysis when the possibility of intertemporal spillover effects of the utility is recognized, i.e., the influence of past and future events on the current period utility (Senik 2008; Frijters et al. 2008). By accepting these spillover effects, a notion of utility is used that is not defined uniquely as a value attached to a decision, but rather as an experience, a mental state that includes emotions and feelings. These feelings may be caused by the memory of events, by the sensation of present events or by the anticipation of future events. Thus, on accepting the possibility of intertemporal spillover effects on the utility, we acknowledge the importance of the time profile of the events and, in parallel we incorporate the expectations into the analysis of happiness.

During a long time, the economists studying happiness have avoided the role of expectations. It is due to traditional economic theory simply rejecting the notion of any direct effects from expectations on utility. However, the psychology studies have argued that expectations are consumption goods. That is, these researches consider that the expectations have direct effects on utility. Moreover, they have observable physical effects on individual well-being. In this paper we used that expectations themselves have a consumption value. In other words, we acknowledge that expectations about the future of a person, which are usually formed by taking the past into consideration, affect how he feels today. Consequently, we assume that the utility function that determines individual happiness is a function of current situation, of the expectations and the past experiences:

Current utility = f (current situation, expectations, past experience).

The first evidence of this utility function form can be found in the work of Bentham (1789) where pleasures and pains derived from anticipation are included among the elements of individual utility. Jevons (1905) extended the concept when he said that: "three distinct ways are recognizable in which pleasurable or painful feelings are caused: 1) by the memory of events, 2) by the sensation of present events, 3) by the anticipation of future events". More recently, Loewenstein (1987) elaborated a formal model in which anticipation is recognized as a source of utility. Berns et al. (2006) finds evidence indicating different neural pathways by which individuals obtain psychic rewards from expectations of the future.

In the economic literature is a relative new concept to consider expectations themselves have a consumption value. Among authors who have used it highlight Brunnermeier and Parker (2004), Frijters et al. (2008) and Senik (2008). Brunnermeier and Parker (2004) addressed the issue of optimal savings when expectations of future consumption contain consumption value. Frijters et al. (2008) examine the effect of income expectations on life satisfaction amongst the Chinese population assuming that expectations are consumption goods. They find evidence of the importance of expectations for life satisfaction particularly pronounced in the urban areas. Senik (2008) examines the causal effect of expectations on happiness using a panel data of the Russian population. She finds a strong effect of expectation on life satisfaction.

3. Data and testing strategy

The conceptual framework shows that we can expect that expectations about our future affect how we feel today. The strategy for testing consists of analyzing the influence of expectations on happiness in Spanish population during the period 1999-2005.

The data source used in this paper is the *Barómetro* del CIS (Centro de Investigaciones Sociológicas, Madrid). The Barometer surveys have been conducted on a monthly basis since 1979 for the purpose of investigate the opinions of the Spanish population regarding the political and socio-economic situation in the country. In the month of December of each year, the survey includes some questions on expectations for the next year, as well as on current life satisfaction. In this study, we use data from the survey conducted in December of each year from 1999 to 2005.[1] The total sample is formed by 13,576 individuals.

[1] The last year for which expectations data are available is 2005.

The analysis will proceed as follows. First of all, we will examine how general expectations on personal situation for the next year affect life satisfaction. In the absence of information from some relevant variables as determinants of happiness it is possible overestimate the effects of the variables by adding the effect of other variables correlated but not included (see Argyle 1999; Frey and Stutzer 2002). Another limitation of this analysis is derived from the cross-sectional nature of the data used. [2] Cross-sectional data do not allow us to control the dynamic effects of variables such as adaptation to new circumstances (Brickman and Cambell 1971) or delayed effects. Moreover, it is also likely that some explanatory variables suffer endogeneity bias. In particular, variables that denote expectations may be endogenous in the sense that individuals who display happier for any reason (for example, his optimistic personality) tend to have higher expectations. Solutions to overcome this limitation consist of using longitudinal data to control individual fixed effects or use instrumental variables. Thus, we will estimate ordered probit with instrumental variables.

We will perform a second exercise. We will analyze the relationship between happiness and expectations regarding several specific aspects: such as work, income, leisure time, housing, and health. We will also estimate ordered probit with instrumental variables. More specifically, we will estimated the ordered probit with instrumental variables in two stages. In the first stage, we will estimate the general expectation variable against a set of explanatory variables used to estimate the happiness and a set of instrumental variables. We model the general expectation of individual i (GE_i) as the result of a transformation of a latent variable measure on a 3-point scale:[3]

$$GE_i^* = x_i\beta + z_i\gamma + \epsilon_i \qquad (1)$$

$$GE_i = k \Leftrightarrow \lambda_{k-1} \leq GE_i^* < \lambda_k \qquad k = 1,.,3$$

Where GE_i^* is the latent individual general expectation, x_i represents the vector of observed individual variables, the vector z_i include the instrumental variables. λ_k represents the thresholds increasing in k, β and γ are parameters to be estimated, and ϵ_i is a normal

[2] The data available are from different individuals per year, hence they have to be considered as a pool of data for estimates. It would be preferable to have the information in the same individual over time. This could be an analysis of panel data, with the advantages that this type of analysis entails.

[3] We use as indicator of individual general expectations: 'do you think that in the next 12 months you will live better than today, equal or worse?'

distributed error-term.[4] This assumption makes the model a standard ordered probit model. In line with the literature on limited dependent variable, we estimate OLS model of general expectation[5] instead of ordered probit. The results using both estimation methodologies are largely consistent. This is a usual finding in the literature on limited dependent variables, notably for happiness (see Ferrer et al. 2004).

Once the parameters β and γ are estimated, we calculate the prediction of the individual general expectation ($\widehat{GE_i}$). In the second-stage regression, we include the prediction ($\widehat{GE_i}$) as explanatory variable in the happiness equation. That is, the happiness level of individual *i* (H_i) as the result of a transformation of a latent variable measure on a 5-point scale:[6]

$$H_i^* = x_i\delta + \widehat{GE_i}\theta + u_i \qquad (2)$$

$$H_i = k \Leftrightarrow \mu_{k-1} \leq H_i^* < \mu_k \qquad k = 1,..,5$$

Where H_i^* denotes latent happiness, μ_k represents the thresholds increasing in k. δ and θ are the parameters to be estimated, u_i is a normal distributed error-term. We estimate equation (2) using ordered probit method.[7] Later, we apply a test to check the endogeneity of the general expectation variable.

We will apply the ordered probit with instrumental variables method in each of the variables use to measure expectations regarding different domains of life: as income, work, leisure, housing and health.

The dependent variable of the Equation (1) is individual expectations (general, income, work, leisure, housing and health). It is defines in 3 categories 'better', 'equal', 'worse'. The Figure 1 shows the distribution of the individual general expectations. The question in the survey that measure the individual general expectation is the following: 'Do you think that in the next 12 months you will live better than today, equal or worse?' In Figure 1, we observe that 51,42% of Spanish people think that their lives will improve next year, while only 8,27% of Spanish think that your life will get worse next year.

[INSERT Figure 1 ABOUT HERE]

[4] The notation of this paper is based on that used by Frijets, et al. (2008).

[5] When we estimate OLS on general expectation, we assume that $GE_i = GE_i^*$ and $\mathrm{E}[\epsilon_i|x_i, z_i] = 0$

[6] See Data section.

[7] For a detailed description of the model, see among others Chapter 15 of *Econometric Analysis of Cross Section and Panel Data* by Wooldridge (2002).

The dependent variable of the Equation (2) is the degree of satisfaction that individuals have with their current life. It is defined in 5 categories, 'very dissatisfied', 'dissatisfied', 'neither satisfied nor dissatisfied', 'satisfied' and 'very satisfied'. The Figure 2 shows the distribution of frequencies of this variable. We observed that more than 80% of Spanish people are satisfied or very satisfied with their life.

[INSERT Figure 2 ABOUT HERE]

The vector of observed individual variables (x_i) is the same set of variables using to estimate Eq. (2). This vector includes the following set of variables: i) A vector that includes variables to measure the socio-economic and demographic characteristics:[8] sex (male, reference variable: female), age, marital status (married, divorced, widowed, reference variable: single), educational level (primary, secondary, tertiary, reference variable: less than primary), working situation (retired, unemployed, studying, not working, reference variable: working), income level (four intervals of income, reference variable: lowest level) and attitude towards religion (believer, practicing, reference variable: non-believer). Ii) Other set of variables that measure feelings about how things have gone during the current year, importance of the year in question, and influence of the different regions. The year dummies capture the effect of cyclical macroeconomic fluctuations on individual satisfaction. Regional dummies measure the influence of unexplained location effects such as local public goods. Iii) We also include two variables to try to measure the impact of the terrorist attack in Madrid of March 11 (*marzo11*), 2004 and the environmental disaster of Prestige (oil tanker) in Galicia in November 2002 (*prestige*) on individual satisfaction. We consider these two variables because negative or stressful events contribute to produce depression (Argyle 1999), and it has also been observed that individual utility losses caused by an act of terrorism far exceed the purely economic losses (Frey and Stutzer Luechinger 2007; Abadie and Gardeazabal 2003). Iv) To measure the relationship between current situation and happiness, we introduce the variable *present*. The *present* is represented by the response to the question 'How have things gone with you during the present year?' The possible responses are 'very bad', 'bad', 'so-so', 'good' and 'very good'. Due to the small number of observations in the categories 'bad' and 'very bad', we combined the two in one category.

The vector of instrumental variables (z_i) includes the variables that aim to reflect the individual's personality, i.e. his optimistic or pessimistic disposition, and whether his situation

[8] A thorough analysis of why the use of these variables as determinants of happiness can be found at Ahn and Mochón 2010.

has progressed or retrogressed this year with respect to last year. It is also probable that expectations for the future are correlated to people's personalities. Optimists tend to have better expectations for the future than pessimists (Scheier and Carver 1985; Daukantaitè and Zukauskiene 2011). To analyze the effect of the more or less optimistic disposition of individuals on general expectations, three variables are included: Optimism and pessimism are measured for the short term (1 year), for the medium term (5 years) and for the long term (10 years). The value of these variables may range from 0 to 1, where 0 is for the most pessimistic and 1 for the most optimistic.[9] We expect a positive relationship between every optimist variable and general expectation.

It is possible that expectations are nothing more than a reflection of the past. To measure the effect of the influence of past experience on general expectations, a variable is included that measures whether the individual's economic situation has progressed (*Economic progress - better)* or retrogressed *(Economic progress-worse*) with respect to the previous year. We expect a positive effect between *Economic progress -better* and general expectation, while we expect a negative effect between *Economic progress-worse* and general expectation. Details about the variables are given in Appendix A.

4. Empirical results

This section analyzes the impact of the expectations for the future on the current satisfaction level of individuals. In Section 4.1, we analyze the determinants of individual general expectations which allow us to predict this variable. Moreover, we explain the results of estimating Eq. (2), which allow us to examine the relationship between general expectations and happiness. In Section 4.2, we present the results of the estimation for every variable that measure expectations regarding different domains of life: such as income, work, leisure, housing and health.

[9] Short-term optimism is built on the opinions held by the individual for the coming year regarding the general situation for the country of unemployment, public insecurity, terrorism, drugs, environment, health care, and housing. Medium-term optimism is built on the opinions expressed on Spanish society within 5 years regarding different aspects such as democracy, economic development, tolerance, conflict and racism. Long-term optimism is built on the opinions expressed on world problems such as hunger, conflict, environment and terrorism within 10 years.

4.1. The relationship between general expectations and happiness

As has been point out, we estimate the relationship between general expectations and happiness using ordered probit with instrumental variables. In the first stage, we estimate Eq. (1) using ordinary least squares. The results of this regression allow us to predict the individual general expectation variable. As remark above, the vector of observed individual variables (x_i) is the same set of variables using to estimate Eq. (2).

Table 1 column A reports the results of this regression. The coefficients for the set of instrumental variables are significant and show plausible signs. We only focus attention on analyzing the effect of instrumental variables on individual general expectations. There is a positive effect between the more optimistic disposition of individuals (short term, medium term and long term) and general expectations, although *opti10y* is not significant. Therefore, the expectations for the future are correlated to people´s personality, as we expected. Optimists tend to have better expectations for the future than pessimists, as other authors remarks (see Scheier and Caver 1985; Daukantaitè and Zukauskiene 2011).

[INSERT Table 1 ABOUT HERE]

The results show that past experience has the expected effect. However an asymmetry is observed in its effect. Those who have improved economically feel favorable expectations. On the contrary, those whose economic situation has worsened compared to the previous year feel that the expectations are unfavorable. People seem to almost take for granted that things are still going well and do not value it much. However, a worsening situation has a more pronounced impact on happiness.

Predictions on the individual general expectations are obtained by replacing the parameters with the estimated coefficients in the Eq. (1). Base on this prediction, we construct two variables. *GEbetter* represents the prediction of the individuals who think that in the next year you will live better than today. *GEworse* represents the prediction of the individuals who think that in the next year you will live worse than today. These variables are introduced as regressors in the happiness equation.

In the second stage, we estimate the Eq. (2) using ordered probit method. The explanatory variables are the vector of observed individual variables (x_i) using in the first stage and the

predictions of individual general expectations (*GEbetter* and *GEworse)*. Table 1 column B reports the results of the regression. The coefficients for the majority of the variables are significant and show plausible signs.

Analyzing the effect on the happiness of a large number of demographic and social-economic variables, we obtained the following: There are no appreciable differences due to gender on the subjective satisfaction of women and Spanish men, as expected. The relationship between age and happiness is U-Shaped, reaching the minimum in 50 years. This is consistent with findings in others studies Helliwell and Putnam (2004), Argyle (1999), Senik (2004) and Ahn et al. (2011). There is a positive effect between the marriage and happiness. Whereas the situations of divorce and widowhood are negatively related to happiness, as we expected. Education appears positively correlated with happiness. This result is in line with generally established in the literature (Seligman, 2005). The impact of employment status on happiness is as we expected: those employed are clearly happier than the unemployed. There is a negative significant effect between unemployed person and happiness. The satisfaction of individuals appears to be positively correlated to income level.

For the Spanish average, the relationship between religion belief and happiness also fits evidenced in the literature, showing a positive relationship. Based on the relationship found between attitudes towards religion belief and the satisfaction of individuals with their current life, we can affirm that believers (they believe in God but do not practice), and even more so practicing believers (who take part at least once a week in a religious service), are more satisfied that non-believers.

The results remarks that the years 2000, 2001, 2002 and 2003 (all with information obtained in the month of December)[10] are considered as relatively better than 1999 and 2004. The fact that the satisfaction level dropped in December 2004 in relation to the previous year may be considered as an indicative sign of the negative effect of terrorism on individual happiness. Interaction variables between the year of the events and the regions hit by them turned out insignificant.

Therefore the results obtained on the effects of demographic and socio-economic variables on the degree of individual satisfaction are, as a general rule, consistent with those found in the

[10] The ideal thing would have been to compare the satisfaction level in the months before and after the attack or disaster. Unfortunately, except for December, the survey does not include the relevant questions, such as those referring to satisfaction and expectations.

extensive literature on happiness. As remarked above, these results, besides being interesting by themselves, provide a measure of confidence about the reliability and validity of the data used and encourage us to explore the main purpose of this study, i.e. the influence of expectations on individuals' happiness.

Variables related to expectations: Present and Future on Life Satisfaction

Table 2 reports the coefficients of variables that measure the effect of current life and general expectation on life satisfaction. Moreover, we show in this table the chi2 tests which allow us to check the endogeneity of the two expectations variables.

[INSERT Table 2 ABOUT HERE]

When analyze the effect between current situation and happiness, we observed that an individual's satisfaction with his current life appears to be strongly correlated to this variable in the sense that those that have a positive response presents a high level of satisfaction with current life, as we expected.

The impact of general expectations is consistent with the previously formulated hypotheses; favorable expectations appear to be positively correlated to the satisfaction of individuals with their lives, whereas the correlation is negative if the expectations are unfavorable. This implies that the present satisfaction of individuals, in addition to their current situation, depends on their past experiences and what is expected for the future (Camerer and Loewenstein 2004; Elster and Loewenstein 1992; Helson 1947; Van Praag and Ferrer-i-Carbonell 2004). In fact when a person chooses the combination of activities that makes him feels better takes into consideration the future. This sometimes involves giving up something in the present moment in order to get a reward later. (Layard 2005).

The chi2 tests indicate that the null hypothesis is rejected so these variables are endogenous. Therefore, the econometric method use to estimate the happiness model is correct.

4.2. The expectations regarding different domains of life

Now we analyze the impact of the expectations for different domains of life (income, work, leisure, housing and health) on the current satisfaction level of individuals. To do this, we use ordered probit with instrumental variables for each of the expectations variables (income,

work, leisure, housing and health). For each domain of life, once the expectations variable is predicted, we construct two variables (as above). These two variables allow us to measure the effect of favorable expectations on happiness and the effect of unfavorable expectations on happiness.

Table 3 shows the results of the regressions. We only focus attention on analyzing the effect of expectations for different domains of life on happiness. We only report the coefficients of expectation variables and the chi2 tests. The rest of coefficients[11] are not reported here due to space limitations. The coefficients for the expectations variables are significant and show plausible signs. The chi2 tests for each variable indicate that the null hypothesis is rejected so these variables are endogenous. These results suggest that the econometric method use to estimate the happiness model is correct.

[INSERT Table 3 ABOUT HERE]

In analyzing the effect of expectations at work on life satisfaction, it appears that individuals who have positive expectations are happier than those with negative expectations about work.

The better the income expectations, the greater the happiness of the individual, while the lower that expectation, the lower the degree of life satisfaction. This same pattern is repeated in different domains of life, as expected.

When analyzing the expectation of leisure, also shows that if you believe that leisure time will be better than this year, your satisfaction will be greater. However, if you believe that leisure time will be worse, your satisfaction will decrease.

Likewise if you anticipate that your home will improve, this will positively affect your happiness.

With regard to health, if you expect your health to improve in the future, this influences very positively and significantly on life satisfaction. Conversely, if you expect your health to deteriorate in the future, this affects negative and highly significantly on life satisfaction.

In summary, negative expectations about health, income, work, leisure and housing substantially reduce the individual's current satisfaction. It is important remark the role of expectations in explaining individual life satisfaction. With this analysis it is clear that present satisfaction not only depends on the current situations, but also on what we expect to

[11] Notice that the explanatory variables are the same as those used in the estimates of table 1.

experience in the future (Camerer and Loewenstein 2004; Elster and Loewenstein 1992; Helson 1947; Van Praag and Ferrer-i-Carbonell 2004)

6. Conclusions

This work proposes to examine the influence of expectations on happiness in Spanish population during the period 1999-2005. On the one hand, we focus attention on examining how general expectations on personal situation for the next year affect life satisfaction. As the expectation variable may be endogenous in the sense that individuals who display happier for any reason (for example, his optimistic personality) tend to have higher expectations, we estimate the model using ordered probit with instrumental variables. On the other hand, we analyze the relationship between happiness and the expectations regarding aspects: income, work, leisure time, housing and health. We also estimate each equation using ordered probit with instrumental variables.

The main empirical results are the following. Firstly, the data corroborate the hypotheses regarding the existing relationship between individual satisfaction and the different explanatory variables such as income, age, marital status, educational level, religion and working situation. These results are consistent with those found in the literature (Donovan and Halpen 2002) and, therefore, provide some support for the suitability of the data used in this work.

Secondly, the impact of general expectations is consistent with the formulated hypotheses; favorable expectations appear to be positively correlated to the satisfaction of individuals with their lives, whereas the correlation is negative if the expectations are unfavorable. Finally, the positive expectations about health, income, work, leisure and housing increase the individual's current satisfaction. On the contrary, the negative expectations about these specific domains of life substantially reduce the individual's current satisfaction. It is important remark the role of expectations in explaining individual life satisfaction. According these results, it is clear that present satisfaction not only depends on the current situations, but also on what we expect to experience in the future (Camerer and Loewenstein 2004; Elster and Loewenstein 1992; Helson, 1947; Van Praag and Ferrer-i-Carbonell 2004). In fact when a person chooses the combination of activities that makes him feels better takes into consideration the future. This

sometimes involves giving up something in the present moment in order to get a reward later (Layard 2005).

References

Abadie, A., & Gardeazabal, J. (2003). The economic costs of conflict: a case study of the Basque Country. *American Economic Review, 93*, 113-132.

Ahn, N., García, J.R., & Jimeno, J.F. (2004). Well-being consequences of unemployment in Europe.Working Paper, 2004-16, Fedea.

Ahn , N., & Mochon, F. (2010). La felicidad de los españoles: Factores explicativos. *Revista de Economía Aplicada*, *54(XVIII)*, 5-31.

Ahn , N., Mochon, F., & De Juan, R. (2011). La felicidad de los jóvenes. In second evaluation in *Papers Revista de Sociología*.

Argyle, M. (1999). Causes and correlates of happiness, en Kahneman, Diener and Schwarz (eds.): *Well-Being*: *The foundations of hedonic psychology*, New York: Russell Sage Foundation, op. cit., 353-373.

Argyle, M. (2001). *The psychology of happiness*. New York: Routledge.

Bentham, J. (1970). *Introduction to the principles and morals of legislation* (1789). London: Athlone Press.

Brickman, P., & Campbell, D.T. (1971). Hedonic relativism and planning the good society, en M.H. Hapley (ed.): *Adaptation level theory,* New York: Academic Press, 287-305.

Clark, A.E., & Oswald, A.J. (1994). Unhappiness and unemployment. *The Economic Journal 104*, 648–659.

Cummins, R.A. (1995). On the trail of the gold standard for life satisfaction. *Social Indicators Research, 35,* 179–200.

Cummins, R.A (1996). The domains of life satisfaction: An attempt to order chaos. *Social Indicators Research, 38*, 303–332.

Daukantaitè, D., & Zukauskiene, R. (2011). Optimism and subjective well-being: Affectivity plays a secondary role in the relationship between optimism and global life satisfaction in the middle-aged women. Longitudinal and cross-cultural findings. *Journal of Happiness Studies.* doi: 10.1007/s10902-010-9246-2

Di Tella, R., MacCulloch, R., & A.J Oswald (2001). Preferences over inflation and unemployment: Evidence from surveys of happiness. *American Economic Review, 91*, 335–341.

Donovan, N., & Halpen, D. (2002). Life Satisfaction: state of knowledge and implications for government. Report from the Prime Minister's Strategy Unit, London.

Frey, B.S., & Stutzer, A. (2002). *Happiness and Economics*. Princeton: Princeton University Press.

Frey, B.S., Luechinger, S., & Stutzer, A. (2007). Calculating Tragedy: Assessing the Cost ofTerrorism. *Journal of Economic Surveys*, *21(1)*, 1-24.

Gerdtham, U., & Johannesson, M. (2001). The relationship between happiness, health, and socio-economic factors: Results based on Swedish microdata. *Journal of Socio-Economics*, 30, 553-557.

Gilbert, D. (2006). *Stumbling on happiness.* New York: Alfred A. Knopf.

Graham., C., & Pettinato, S. (2000). Hardship and happiness: trends in mobility and expectations in the new market economies. *World Economics, 1(4),* 73-112.

Haring-Hidore, M., Stock, W.A., Okun, M.A., & Witter, R.A. (1985). Marital status and subjective well-being: a research synthesis. *Journal of Marriage and the Family*, *47,* 947-953.

Helliwell, J.F., & Putnam, R. (2004). The social context of well-being. *The Royal Society*, *359*, 1435-1446.

Inglehart, R. (1990). *Culture shifts in advanced industrial society*. Princeton: Princenton University Press.

Jevons W.S. (1905). *Essays on economics*. London: Macmillan.

Kahneman, D., Diener, E., & Schwarz, N. (1999). *Foundations of hedonic psychology: scientific perspectives on enjoyment and suffering*. New York: Russell Sage Foundation.

Krueger, A. B., & Schkade, D.A. (2007). The reliability of subjective well-being measures. Working Paper, 13027, National Bureau of Economic Research.

Layard, R. (2005). *Happiness: Lessons from a new science*. New York: Penguin.

Loewestein, G. (1987). Anticipation and the valuation of delayed consumption. *The Economic Journal*, *97*, 666-684.

Rojas, M. (2006). Life satisfaction and Satisfaction in domains of life: Is it a simple relationship?. *Journal of Happiness Studies, 7,* 467-497.

Seligman, M.E.P. (2005). *La auténtica felicidad*. Barcelona: Byblos.

Senik, C. (2008). Is man doomed to progress?. *Journal of Economic Behavior & Organization*, *68 (1)*, 140-152.

Scheier, M.F., & Carver, C.S. (1985). Optimism, coping and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4,* 219-247.

Theodossiou, I. (1998). The effects of low-pay and unemployment on psychological well-being: A logistic regression approach. *Journal of Health Economics*, *17*, 85-104.

Van Praag, B., & Ferrer-i-Carbonell, A. (2004). *Happiness quantified: A satisfaction Calculus approach.* Oxford: Oxford University Press.

Wooldridge, J.M. (2002). *Econometric analysis of cross section and panel data.* New York: The MIT Press.

Zautra, A.J. (1983). Social reasons and the quality of life. *American Journal of Community Psychology, 11*, 275–290.

Table 1. Determinants of General Expectations and determinants of Happiness
(Ordered probit with instrumental variables)

	A. General Expectations OLS robust		**B. Happiness Ordered Probit**	
Explanatory variables	Coefficients	t-ratio	Coefficients	Z
Man (re: woman)	-0.060	-3.93	0.029	1.22
Age	-0.014	-5.30	-0.020	-5.12
Age squared/100	0.007	2.18	0.019	4.84
Marital status (re: single)				
Married	-0.030	-1.83	0.044	1.75
Divorced	0.053	1.54	-0.164	-3.63
Widowed	-0.015	-0.23	-0.261	-3.48
Studies (re: less than primary)				
Primary	-0.016	-0.38	0.144	3.15
Secondary	-0.015	-0.33	0.238	4.64
Tertiary	-0.022	-0.48	0.238	4.38
Working situation (re: working)				
Retired	0.025	0.79	0.043	1.02
Unemployed	0.039	1.55	-0.260	-7.18
Studying	-0.037	-1.28	0.061	1.25
Not working	-0.008	-0.31	-0.059	-1.62
Income (re: Lowest level)				
Level 2	0.013	0.46	0.178	4.78
Level 3	0.008	0.26	0.268	6.34
Level 4	0.014	0.36	0.318	5.29
Level 5	0.026	0.43	0.401	3.52
Not observed	0.026	0.86	0.203	5.25
Religion (re: non-believer)				
Believer	0.044	2.37	0.107	3.68
Practicing	-0.051	-2.29	0.180	6.04
Year (re: 1999)				
2000	0.042	-2.29	0.151	4.12
2001	-0.014	1.73	0.150	4.10
2002	0.008	-0.58	0.166	4.41
2003	0.069	0.33	0.145	4.01
2004	-0.010	2.87	0.052	1.38
Galicia*2002	-0.095	-1.16	-0.082	-0.79
Madrid*2004	0.030	0.56	0.053	0.64
How have things gone this year? (re: bad or very bad)				
Very good	-0.019	-0.53	2.471	45.07
Good	-0.000	-0.03	1.416	41.37
So-so	-0.012	-0.41	0.766	21.99
Instrumental variables:				
Degree of optimism (0=most pessimistic; 1=most optimistic)				
In one year	0.292	12.29		
In five years	0.203	7.21		
In ten years	0.025	0.98		
Economic progress: Your economic situation compared to last year (re: the same)				
Better	0.012	7.22		
Worse	-0.075	-2.89		
Nº of observations			13,576	
Pseudo R^2			0.14	

Note: Result of the ordered probit model estimation with the dependent variable being the satisfaction level with current life, which takes on value 1 if very dissatisfied and 5 if very satisfied. Region dummy variables are included but not presented.

Table 2. Effect of present and general expectations for the next year on happiness

	Happiness (Ordered Probit)		
Explanatory variables	Coefficient	Z	Chi2(1)
How have things gone this year? (re: bad or very bad)			
Very good	2.47	45.07	
Good	1.42	41.37	
So-so	0.77	21.99	
General expectations for next year (re: neither better nor worse)			
GEBetter	0.054	2.20	4.84**
GEWorse	-0.492	-1.46	2.14*

Note: All the variables of Table 1 column B are included.
** significant at 5%; *significant at 10%.

Table 3. Expectations regarding different domains of life

Explanatory variables	Coefficient	Z	Chi2(1)
Work expectations for next year (re: neither better nor worse)			
Better	0.23	2.68	11.14***
Worse	-0.14	-5.53	54.96***
Income expectations for next year (re: neither better nor worse)			
Better	0.22	3.53	12.43***
Worse	-0.13	-5.29	28.03***
Leisure time expectations for next year (re: neither better nor worse)			
Better	0.26	5.86	34.31***
Worse	-0.09	-3.92	15.35***
Housing expectations for next year (re: neither better nor worse)			
Better	0.17	3.58	12.82***
Worse	-0.12	-5.24	27.44***
Health expectations for next year (re: neither better nor worse)			
Better	0.15	4.23	17.89***
Worse	-0.08	-3.28	10.75***

Note: All the variables of Table 1 are included.
*** significant at 1%.

Appendix: Table A1. Summary and statistics of the variables employed in regression

Variables	Mean	S.D.
Dependent variable:		
Satisfaction with life (%)		
Very unsatisfied	1.16	
Quite unsatisfied	6.88	
Neither satisfied nor unsatisfied	11.74	
Quite satisfied	68.88	
Very satisfied	11.34	
Demographic and socio-economic variables:		
Man	0.52	0.50
Age	41.91	16.59
Marital status		
Single	0.55	0.50
Married	0.37	0.48
Divorced	0.06	0.24
Widowed	0.02	0.13
Studies		
Less than primary	0.04	0.20
Primary	0.45	0.50
Secondary	0.31	0.46
Tertiary	0.20	0.40
Working situation		
Working	0.55	0.50
Retired	0.15	0.36
Unemployed	0.10	0.30
Studying	0.07	0.26
Not working	0.13	0.33
Income		
Level 1 (lowest)	0.09	0.28
Level 2	0.31	0.46
Level 3	0.24	0.43
Level 4	0.06	0.24
Level 5 (highest)	0.01	0.11
Not observed	0.28	0.45
Religion		
Believer	0.80	0.40
Practicing	0.16	0.36
Variables related to expectations:		
How have things gone this year		
Very good	0.08	0.26
Good	0.59	0.49
So-so	0.23	0.42
Bad	0.08	0.27
Very bad	0.02	0.15

General expectations (next year versus this)		
Better	0.53	0.50
Worse	0.07	0.26
Economic progress (compared to last year)		
Better	0.25	0.44
Worse	0.13	0.33
Personality: Degree of optimism (0=most pessimistic; 1=most optimistic)		
Of one year	0.27	0.29
Of five years	0.41	0.25
Of ten years	0.18	0.29
Work expectations for next year		
Better	0.38	0.48
Worse	0.06	0.23
Income expectations for next year		
Better	0.31	0.46
Worse	0.07	0.25
Leisure time expectations for next year		
Better	0.19	0.39
Worse	0.11	0.31
Housing expectations for next year		
Better	0.19	0.39
Worse	0.02	0.14
Health expectations for next year		
Better	0.24	0.43
Worse	0.06	0.24

Figure 1. Distribution of frequencies of individual general expectations (percentages)

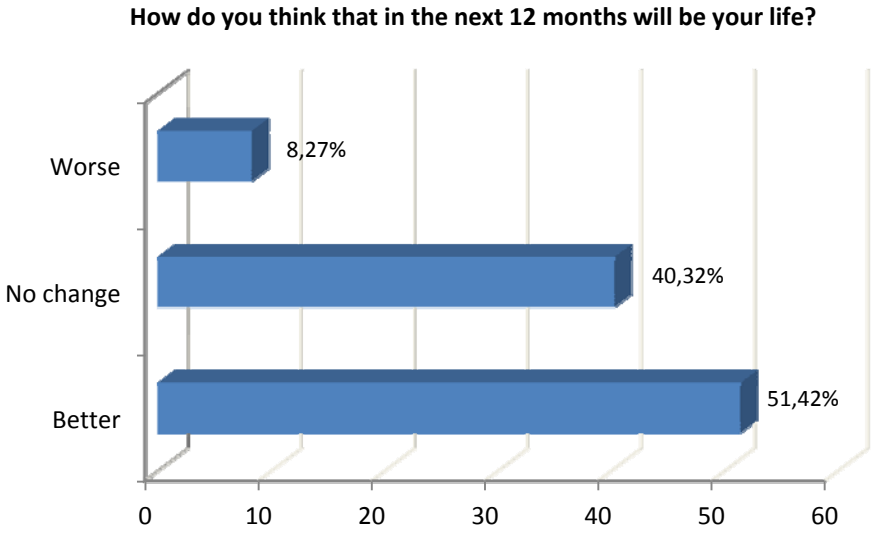

Figure 2. Distribution of frequencies of the degree of life satisfaction (percentages)