HAPPINESS IN TRANSITION: THE CASE OF KYRGYZSTAN

Ceema Namazie† and Peter Sanfey‡

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Abstract

We analyze self-reported measures of satisfaction with life in a transition country, Kyrgyzstan, using 1993 household survey data. We test whether higher levels of satisfaction are associated with greater economic well-being. This hypothesis is strongly supported by the data. Unhappiness is prevalent among older people, the unemployed, and those who are divorced. There appears to be little correlation between happiness and either gender or education level. We find some evidence that income relativities, as measured by perceived position on the wealth ladder, also have a strong effect on life satisfaction.

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Address for Correspondence: Peter Sanfey, European Bank for Reconstruction and Development, One Exchange Square, London EC2A 2EH, UK. Tel: +44 (0)171 338 6227; Fax: +44 (0)171 338 6110; email: sanfeyp@ebrd.com

† STICERD, London School of Economics
‡ University of Kent at Canterbury, and European Bank for Reconstruction and Development

1. Introduction

The economic transformation taking place in the ex-communist countries of central and eastern Europe and the former Soviet Union has profoundly affected the lives of people living in these countries. The effects of the transition to a market economy on conventional measures of economic performance are well-documented: during the 1990s, almost all of these countries have suffered severe recessions, rising unemployment and, in a number of cases, a virtual collapse of economic activity. Although most economies in the region are now growing again, estimated real GDP in 1997 remains below 1989 levels in all countries except Poland (Raiser and Sanfey, 1998).

In this paper we focus on one of the poorest countries in transition, the central Asian republic of Kyrgyzstan. The main developments in the Kyrgyzstan economy since independence in 1991 have paralleled those in other former Soviet republics. That is, the early years of transition saw large reductions in output, rising unemployment and rapid inflation and, while signs of improvement and growth in the economy are now apparent, living standards in this mainly agrarian economy remain at a very low level for much of the population.

Our concern in this paper is to examine individual welfare in the early stages of transition in Kyrgyzstan, using household survey data gathered in late 1993. The approach in this paper is, to economists at least, somewhat unorthodox, in that the implicit measure of individual welfare throughout this paper is self-reported satisfaction with life (measured on a five-point scale). We regard this as complementary to the more standard approach to welfare and poverty analysis adopted by previous analysts of this data-set. Typically, they have constructed measures of poverty and investigated how many people fall below the poverty line, in which groups of the population they are concentrated, and where public transfers are, and should be, targeted (see Ackland and Falkingham, 1997; Falkingham, 1997).

We analyze a number of questions using this subjective measure of well-being or happiness. First, we examine the link between happiness and income: are high-income people happier than those on low income? A related question is whether satisfaction with life is influenced by the mean level of income in one's locality; in other words, are people affected more by absolute levels of income, or income relative to those living around them? In addition, our data allow us to test whether psychological variables such as perceived position on the wealth ladder, or concern about providing necessities for the family, also have a strong effect on happiness. Finally, we can examine the correlates of satisfaction with other socio-economic variables, such as age, gender, education and labour force status.

This paper is therefore a contribution to the growing literature on the "economics of happiness". The psychology literature regularly utilises such data, and economists are starting to take more of an interest in analyzing the determinants of subjective well-being. Many economists remain wary of this approach, usually on the grounds that the use of self-reported measures of satisfaction requires interpersonal comparisons of utility, and that the data are full of random "noise". We agree that one should interpret subjective measures of well-being with caution. However, we argue that the data contain useful information, given that the definition and measurement of poverty are problematic issues in an undeveloped economy like Kyrgyzstan. In particular, much economic activity at the time of the analysis was unrecorded, and while we attempt to circumvent this problem by focusing on expenditure rather than income (as explained in more detail below), late-1993 was a time of high inflation, in conjunction with existing problems of low monetisation of the economy, and widespread bartering. Given the extent of the black economy and the fact that the level of monetary transactions was so low during this period, self-reported satisfaction may in fact include broader information and provide a more accurate picture of welfare than purely economic variables. Furthermore, there is ample evidence that subjective data are often strong predictors

of observed behaviour, contradicting the view that the numbers are random and essentially meaningless.[1]

The paper is structured as follows: section 2 briefly reviews some of the relevant literature, both on the relation between life satisfaction and income, and the small literature on satisfaction in transition countries. Section 3 outlines recent macroeconomic developments in Kyrgyzstan, describes the survey data in detail and presents some descriptive statistics and cross-tabulations. Section 4 contains results from our econometric estimation. Our main finding is that satisfaction with life is strongly correlated with economic well-being, as measured by equivalized household expenditure. This result is robust to different methods of equivalization, or to replacing expenditure with income. Interestingly, there is some evidence that *relative* income is also important for individual well-being. In particular, those who see themselves as being at the "poor" end of the spectrum are much more likely to be dissatisfied than the "rich".[2] The other main results are that happiness is negatively correlated with age, unemployment and being divorced. There are ethnic and regional differences in happiness, but neither gender nor education seems to make much difference to people's responses. Section 5 concludes the paper.

2. Previous Literature

There is a large literature on the determinants of happiness, and we make no attempt to review this literature in any depth here.[3] Instead, we briefly summarize the evidence concerning the question in this area which is likely to be of most interest to economists, namely, are richer

[1] For example, job quit rates appear to be negatively related to self-reported measures of job satisfaction (see, for example, Freeman, 1978; Akerlof *et al.*, 1988; Clark *et al.*, 1998), and life satisfaction is a strong predictor of mortality and illness (Clark and Oswald, 1996).
[2] Clark and Oswald (1996) find that job satisfaction is strongly influenced by relative, rather than absolute income.
[3] Recent surveys include Veenhoven (1996) and Oswald (1997).

people happier? Standard economic theory assumes a positive relation between income and happiness, or “utility”, and non-satiation is one of the basic axioms of microeconomic theory. Nevertheless, economists have recognized for some time that the link between the two is not as straightforward as the textbooks suggest.

An influential paper by Easterlin (1974) stimulated much of the debate in this area. Easterlin pointed out an apparent paradox: based on an examination of data from around the world, he argued that there is little relation between income and happiness across countries, although within countries rich people are consistently happier than the poor. The explanation for this, according to Easterlin, is that it is relative, rather than absolute income or wealth that matters to people.

This argument has not gone uncontested. Veenhoven (1991) contains a comprehensive review of the relative versus absolute debate, and concludes that the theory that happiness is relative does not fit the facts. Instead, “[H]appiness in the sense of life-satisfaction depends only partly on comparison, and even standards of comparison do not fully adjust to circumstances” (Veenhoven, 1991, p. 32). Also, Veenhoven (1996) notes that the correlation between happiness and income is much stronger in poorer countries. This is further evidence, he argues, against the theory that happiness is relative, which would imply a similar correlation in rich and poor countries alike.

The literature on the determinants of life-satisfaction in transition economies is very small. Blanchflower and Freeman (1997) pool cross-country survey data which includes three ex-communist countries, East Germany, Hungary and Slovenia, and estimate ordered probits of life-satisfaction. They find that the country dummies for all three countries are negative and highly significant. Blanchflower and Oswald (1997) focus on the effect of unemployment on happiness. They find that the strong negative effect found in a number of western countries

carries over also to transition countries. They conclude that the magnitude of the reduction in reported well-being caused by unemployment is similar in eastern and western Europe.

To the best of our knowledge, the effect of income on happiness in a transition country remains an unexplored question, and hence we turn to the results of our analysis of Kyrgyzstan.

3. Background and Data Description

3.1 Economic Transition in Kyrgyzstan

Kyrgyzstan is a land-locked republic in central Asia, sharing borders with Kazakhstan, Uzbekistan, Tajikistan and China. It has a population of about 4.6 million, most of whom live in rural areas; the largest city is the capital, Bishkek, with about 600,000 inhabitants. Kyrgyzstan became an independent state in December 1991, and in common with other ex-Soviet republics, it embarked on a transition path to a market economy.[4] The initial circumstances were relatively unfavourable. Reliable statistics on the state of the economy prior to transition (and during the transition) are difficult to find, but it is clear that by the start of this decade, central Asia was the poorest region of the Soviet Union (see Falkingham *et al.*, 1997). Relative to some of its neighbours, Kyrgyzstan is not richly endowed with natural resources, and its export-earning potential remains rather limited.

In order to put later results in context, Table 1 presents summary macroeconomic statistics on Kyrgyzstan for the transition period. As in other transition countries, the early years were marked by large falls in output (especially in industry), high budget deficits, and rapid inflation. The unemployment figures appear to be very favourable, but they represent registered unemployed only and therefore do not give an accurate picture of the problem; as

[4] Aspects of the early transition, and the resulting poverty, are discussed in Dabrowski *et al*. (1995) and Howell (1996).

the data source in this paper reveals, actual unemployment in 1993 was nearly 10%.[5] In real terms, GDP did not start increasing until 1995, and the level of GDP in 1996 was only 57% of the 1989 level, a ratio comparable to other members of the Commonwealth of Independent States (see EBRD, 1997). While it is worth emphasizing that recorded figures on output and growth miss much of the economic activity in transition countries, it is nevertheless clear that by late 1993 (when the survey was carried out), the economy was in a deep depression, and living conditions had become extremely difficult for the great majority of people.

3.2 The Kyrgyzstan Multipurpose Survey

The Kyrgyzstan Multipurpose Poverty Survey (KMPS) is a World Bank sponsored household survey, based on the World Bank's well-established Living Standard Measurement Survey. The KMPS was specifically designed for the purposes of identifying the poor and for the formulation of policies to protect the most vulnerable during the transition period. The survey was carried out during October and November in 1993 and covered approximately 2,000 households and 10,000 individuals. 1,937 households completed the Survey, representing a very satisfactory response rate of 92.3%.[6]

In the survey, households were defined as a group of people who live together in a given domicile, and who share common income and expenditure. A stratified multi-stage sampling procedure was followed so that in principle, every household had a non-zero random chance of falling into the sample. The surveys were in the form of written questionnaires that were addressed to individuals in the household, though children under 13 years old had adults

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[5] Even this figure, which is based on the ILO definition, is low relative to the collapse in output. Part of the reason is that a large number of people left the labour force in 1992 and 1993, particularly those near pension age and women caring for children. A significant number of workers in state industries were kept in employment but with reduced, or no, pay.

[6] Respondents were paid an unspecified amount for completing the survey.

answer the questions on their behalf. Several additional variables such as labour force status and household income are included, which have been constructed using responses from the questionnaires.[7]

The KMPS includes both a Household Questionnaire and an Adult Questionnaire. The former covers identification data, household composition, housing, agriculture and animal husbandry, expenditure and income. The latter deals with identification data, migration, labour, morbidity and use of medical facilities, self-reported health evaluation, questions for women, time use, nutrition and anthropometric measurements. In this paper, we draw largely from the Adult Questionnaire, concerning individuals aged 14 years and above, which includes 5,647 individuals. However, for our calculations, individuals belonging to households with zero or negative expenditure were dropped, affecting 40 observations. Missing data on other key variables led to a loss of a further 307 observations, and the size of the final data set used in our analysis was 5,300 individuals, consisting of 2,460 males and 2,840 females.

Table 2 presents an initial analysis, based on cross-tabulations, of the answers to the question, "to what extent are you satisfied with your life in general at the present time?" There were five possible responses (other than "don't know" or "refused"; these are eliminated from the analysis): not at all satisfied, less than satisfied, neither satisfied nor dissatisfied, rather satisfied, and fully satisfied. For presentational purposes, Table 2 groups together the first two answers into the category "dissatisfied", and the last two into "satisfied".

The results in Table 2 contain a number of points of interest, and several patterns are immediately apparent. Overall, nearly two-thirds of the sample are dissatisfied with life. Cross-country comparisons on subjective data should be made tentatively (see for example,

[7] Documentation on the details of the methodology used in drawing the samples and instructions to interviewees is available in Ackland (1995).

Diener and Diener, 1995; Veenhoven, 1996), but this suggests a very high degree of distress relative to prosperous, non-transition countries. As a comparison, Eurobarometer data from 1975-86 shows that more than 80% of people in selected advanced western European countries describe themselves as "very happy" or "pretty happy", with the remainder being "not too happy" (see Oswald, 1997, Table 5). However, Veenhoven (1996) notes that, whereas in western countries the number of happy people exceeds the number of unhappy people by about three to one, the reverse patters obtains in third-world countries, particularly when many people live at a subsistence level. This is consistent with our evidence for Kyrgyzstan.

For reasons discussed below, we use expenditure rather than income as our measure of economic well-being, and inspection of the data in Table 2 provides a first indication of a positive link between satisfaction and household expenditure (although the pattern seems to be reversed at the very top end of the scale). Other correlations suggested by the data are: satisfaction decreases with age, the unemployed appear to be less happy than those in employment or out of the labour force, and dissatisfaction is higher among ethnic Russians and other Slavs, those living in urban areas, and divorced people.[8] It is difficult to see any differences with respect to gender or education. However satisfaction is highly correlated with health, perhaps providing some independent corroboration of the validity of our measure of individual welfare. Simple cross-tabulations however cannot give conditional comparisons between different groups, and hence we turn to multivariate estimation in the next section.

[8] The unhappiness of some non-Kyrgyz ethnic groups may reflect fears that they would lose some of their privileges and favourable treatment in the new republic. In fact, many of the highly skilled Russian and Slavs have emigrated from Kyrgyzstan during the 1990s, partly in response to a perceived increase in Kyrgyz nationalism.

4. Regression Analysis and Results

Consider the following equation,

$$S_i^* = X_i\beta + u_i, \quad (1)$$

where S_i^* is an unobserved latent index of satisfaction for individual *i*, X_i represents a vector of individual characteristics, β is a parameter vector to be estimated and u_i is the unobservable error term. We observe five different values to capture satisfaction, and it would therefore be possible to assign arbitrary values to these five values (say 1 to 5) and estimate equation (1) by ordinary least squares. Since the dependent variable is ordinal rather than cardinal however, this would be invalid; instead all equations are estimated by ordered probit maximum likelihood methods.[9] The results from different specifications are presented in Table 3.

One issue that needs to be addressed is the appropriate measure of economic well-being. Should we use income or expenditure, and should our measure be at the individual or household level? We have chosen to use expenditure: income is likely to be considerably underestimated in this data set, and hence expenditure may give a much better indication of the material resources available to individuals.[10] Both expenditure and income are reported at the household level and have been adjusted for differing household composition. This takes into account household economies of scale and differences in need between adults and children. A standard OECD equivalence scale was used, whereby household expenditure is divided by a weighted sum of the number of people in the household, the weights being 1 for the first adult, 0.7 for each remaining adult, and 0.5 for each child.

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[9] Results from ordered logit estimation were very similar and are not reported here.

[10] Ackland and Falkingham (1997) show that there is a weak correlation in this data set between household income and expenditure, and they conclude (p. 87) that "expenditure is a more reliable measure of poverty status than income."

Column I contains the results of our most parsimonious specification. The central hypothesis of the paper, that greater economic well-being is associated with higher levels of satisfaction, receives only weak support in this model; equivalized household expenditure has a positive but marginally insignificant (at 90%) effect on satisfaction. Females appear to be slightly less happy than males, but the effect is not statistically significant, and in fact changes sign in later specifications. Satisfaction however declines with age; the positive sign on age-squared indicates that the marginal effect decreases with age, but the minimum point is not reached until 63 years. This contrasts with the U-shaped pattern with a minimum in the mid-thirties often found in other countries. This may be a reflection of the fact that older people appear to have more difficulty adapting to the new regime (evidence for this in other transition countries is presented in Rose and Carnaghan, 1995).

The results also show that happiness does not increase with level of education. The omitted category is the lowest level (primary school only, or less) and all education dummy coefficients are insignificantly different from zero. In contrast, Veenhoven (1996) points out that there is usually a high positive correlation between satisfaction and education in low-income countries. It is possible that this is the result of two opposing effects: on the one hand, evidence in Rose and Carnaghan (1995) suggests that more educated people in transition economies are less likely to approve of the command economy; on the other hand, the collapse of output in traditional industries in the early stages of transition may leave many highly educated people very frustrated, as skills acquired under the old system are now obsolete. In the early years of a radically changing economy where survival is at stake, returns to education are likely to be small and formal education may be of limited use in terms of making a basic living.

With regard to labour market status, the unemployed are significantly less happy than the employed, whereas those out of the labour force are more happy than those in

employment. The result on unemployment is similar to those found in western economies (see Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998). Relative to those who are divorced, all other categories (married, never married, and widowed people) are significantly happier, with the strongest effect coming from those who are married.

The main surprise in column I is the weak effect of expenditure on satisfaction. However, in column II where we control for settlement and ethnic variation, the coefficient is now strongly significant, with a t-statistic of 6.33. Other coefficients are largely unchanged, although the higher education dummy is now positive and significant at 90%. The effect of expenditure on satisfaction is also quantitatively important. Based on the estimates in column II, the marginal effect of doubling equivalized expenditure, while holding other variables constant, is to lower the probability of being in the lowest satisfaction category by about 12%, and to increase the probability of being in the highest category by 15%. Unemployment also has a strong effect on satisfaction. Our estimates imply that moving an individual from non-unemployment to unemployment increases her probability of being in the lowest category by nearly 30% and lowers the probability of being in the highest category by 28%.

Column III adds to the previous specification by including a subjective measure of poverty: respondents were asked “to what extent are you concerned that you will not be able to provide yourself with the most basic necessities during the following twelve months?” As with the satisfaction question, there are five possible answers, ranging from “not at all concerned” to “very concerned”. Not surprisingly, the results in column III indicate that, relative to those completely unconcerned, people at the more worried end of the scale are much less happy.

It is also of interest to know if people’s perceptions of their position on the wealth scale affects their responses, and our data allow us to address this. Respondents were asked to think of a nine-step ladder, with the poorest on the bottom rung and the richest on the top, and

to say where they think they would be on this ladder. We have grouped these responses into three categories: “low”, “medium”, and “high”. In column IV, the omitted category is low, and relative to these, being on either the middle or high rungs has a strong effect on happiness, independently of equivalized household expenditure.

Column V takes a slightly different approach, and investigates whether happiness is affected more by relative rather than absolute expenditure (for a recent discussion of this issue, see Frank, 1997). We constructed a measure of relative equivalized expenditure by calculating the mean household equivalized expenditure for each “settlement”, of which there are 84 in our sample, and then dividing each by the mean for his/her settlement. Clearly for this specification we must drop the settlement dummies, otherwise our results would be identical to column IV. The main point of interest is that although the relative expenditure coefficient is positive, it is marginally insignificant, and much weaker than absolute expenditure. Nevertheless, the continued significance of the wealth ladder suggests that to some extent at least, relativities are important.

We tested a number of other specifications in order to check the robustness of our findings.[11] We experimented both with using income rather than expenditure, and with different equivalence scales, ranging from total household expenditure/income which reflects no sensitivity to household size, to per capita income which gives no allowance for household economies of scale. The new Eurostat scale, which weighs additional adults 0.5 and children 0.3, was also used. In all cases when we control for ethnicity and settlement, we still found a positive and significant effect on satisfaction.

We also tested to see whether people are less happy in regions with high inequality (an earlier test of this hypothesis using Israeli data can be found in Morawetz *et al.*, 1977). We

[11] These results are available on request.

constructed various measures of expenditure inequality (such as the Gini coefficient and the Atkinson index) by settlement and included these one at a time in the regression equation. Rather surprisingly, we found the coefficients in all cases to be positive and significant, suggesting that happiness is higher in areas with high inequality. This contrasts with Blanchflower and Freeman's (1997) finding, that an aversion to inequality persists in ex-communist countries.

5. Conclusion

In this paper, we have examined cross-sectional variation in self-reported measures of happiness in the early stages of transition in Kyrgyzstan. Our view is that these data can reveal valuable information about the welfare effects of transition, by identifying broad groups in the population for whom the early years of a market economy are particularly painful. We recognize that subjective measures of well-being are to some extent idiosyncratic and unreliable, and hence our conclusions should be treated with caution. However, we have found a number of interesting and robust results, which are highly relevant for policy-makers in Kyrgyzstan and perhaps in other transition countries also.

In brief, our main results are that dissatisfaction with life was widespread in Kyrgyzstan in late-1993. Economic well-being, whether measured by income or expenditure, has a large effect on happiness. Dissatisfaction with life is concentrated among the old, the unemployed, the divorced, and ethnic Russians and other Slavs. The conclusions about income, unemployment, and marital status are similar to those found in many western studies. We have also found some support for the increasingly common view that the level of relative income helps make people happy or unhappy.

Any policy implications that can be drawn from a study of this sort must be made tentatively. The fact that poverty and happiness are correlated and, in particular, the finding

that those who worry about providing necessities for their families are very unhappy, reinforces the urgent need for fighting poverty and raising the standard of living for all to a minimum subsistence level. Of concern also to policy-makers however are the findings that satisfaction is negatively correlated with age, and uncorrelated with education. It is an unfortunate feature of transition that skills acquired under the old regime are often of little use in the new environment, and for older people especially, the upheaval can be devastating. There is an urgent need in Kyrgyzstan for major re-training programmes, in addition to the maintenance of a social safety net for vulnerable groups. The limited resources available to the Kyrgyz government make these challenges formidable, to say the least.

In conclusion, we believe that the study of subjective data on well-being can be fruitful for economists, especially in fast-changing transition countries such as Kyrgyzstan. It would be of great interest to see if our conclusions carry over to other ex-communist countries, and it would also be of interest to see how the patterns apparent in our paper evolve over time. This will enable us to tackle an important question that cannot be addressed with one cross-section, namely how do self-reported measures of satisfaction with life change during the transition process? We plan to address these questions in future research.

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Data Appendix

Variable and Definitions

Age: Age of respondent in 1993

Concern over obtaining necessities: Scaled 1-5 where 1 refers to being not at all concerned and 5 refers to being very concerned.
Question asked was "To what extent are you concerned that you will not be able to provide yourself with the most basic necessities during the following twelve months?"

Education level:
Primary education only: less than 8 years primary and secondary schooling. Those who had no formal education were also included in this category.
Did not complete High school: 8-9 years of primary and secondary schooling
High school only: 10 or more years of primary and secondary schooling and did not study elsewhere.
High school and other: 10 or more years of primary and secondary schooling and completed one (or more) of a vocational course
Higher education: 10 or more years of primary and secondary schooling and completed one (or more) of university level.

Ethnicity: Kyrgyz, Russian, Other Slavs, Uzbeks, Others,

Health Status: Respondents were asked how they would describe their health in general. Categories were re-scaled from 1 - 5 to 1 - 3, where 1 represents those in excellent or very good health, 2 are those who said their health was fair (neither good nor poor) and those who replied poor and extremely poor are re-grouped into category 3.

Labour force status: Employed, Unemployed and Out of the labour force.
Describes the labour force status of individuals of working age 16-60 years for men and 16-55 years for women. Employed refers to those employed (full-time or part-time) as hired labour in an enterprise, organization, collective or state farm or co-operative. Those on temporary official leave for health or maternity reasons are included. The self-employed are also included as are students engaged in part-time work. Unemployed are those not in employment who have searched for work in the last thirty days. Those who are neither employed nor unemployed are defined as out of the labour force.

Ln Equivalized Household Expenditure: Natural logarithm of total equivalized household expenditure.
Total household expenditure is the summation across 9 expenditure categories; food, rent, other housing expenditures (e.g. utilities), education, health, transport and communication, clothing, private gifts, consumption of home produced goods (that would otherwise have been bought), other expenditure. It is calculated in Soms per month. Expenditure was equivalized using the OECD equivalence scale, which gives a weight of one to the first adult, 0.7 to the remaining adults and 0.5 to children in the household.

Ln Relative Expenditure: Natural logarithm of the ratio of total equivalized household expenditure, to the mean of the equivalized expenditure for the settlement.

Location: Urban, Rural

Marital Status: Never married, Married, Divorced and not re-married, Widow/er.

Regions: Naryn, Talass, Djalal-abad, Issuk, Osh, Chyisk (the six oblasts) and Bishkek.

Satisfaction: Scaled 1 – 5, 1 refers to not being at all satisfied and 5 refers to being fully satisfied.
Question asked was "To what extent are you satisfied with your life in general at the present time?"

Settlements: Refers to villages in rural areas and towns/cities in urban areas. A total of 84 settlements were selected from the 57 raions which divide the 6 oblasts (see Regions above).

Wealth Ladder: Three dummy variables representing "rich", "middle" and "poor".
Question asked was "Please, think of a nine-step ladder. The extremely poor would be at the foot of the ladder (step 1) and the rich would be at the top (step 9). At which step would you place yourself today?" We have grouped together steps 1-3, 4-6, and 7-9.

Table 1: Macroeconomic Indicators in Kyrgyzstan, 1991-1997

	1991	1992	1993	1994	1995	1996	1997
Real GDP Growth (%)	-5	-19	-16	-20	1.3	5.6	6
Industry	-0.3	-26	-25	-28	-12.5	10.8	na
Agriculture	-10	-5	-10	-15	4	13	na
Government Balance (% of GDP)	4.6	-17.4	-14.2	-7.7	-13.5	-6.4	-5.3
Unemployment rate (% of Labour Force)	0.0	0.1	0.2	0.7	3.0	4.5	3.0
Consumer price Inflation (end-year)	170	1259	1363	96	32	35	24

Notes:
1. Figures for 1996 and 1997 are estimates.
2. Unemployment is registered only.

Source: EBRD (1997).

Table 2: Satisfaction with Life

	Satisfied		Neither Satisfied/ Dissatisfied		Dissatisfied		Total	
		%		%		%		%
Total	1000	(18.9)	900	(17.0)	3400	(64.2)	5300	(100)
Gender								
Male	470	(19.1)	432	(17.6)	1558	(63.3)	2460	(100)
Female	530	(18.7)	468	(16.5)	1842	(64.9)	2840	(100)
Age Group								
14-19	224	(26.5)	180	(21.3)	441	(52.2)	845	(100)
20-29	275	(20.6)	224	(16.8)	836	(62.6)	1335	(100)
30-39	202	(17.5)	191	(16.5)	762	(66.0)	1155	(100)
40-49	88	(13.2)	112	(16.7)	469	(70.1)	669	(100)
50-59	97	(18.2)	79	(14.8)	358	(67.0)	534	(100)
60+	114	(15.0)	114	(15.0)	534	(70.1)	762	(100)
Education Level								
Up to Primary Education	148	(16.7)	140	(15.8)	600	(67.6)	888	(100)
Did not complete High School	182	(17.7)	187	(18.2)	658	(64.1)	1027	(100)
High School only	276	(20.8)	253	(19.0)	801	(60.2)	1330	(100)
High School and Vocational	189	(19.2)	163	(16.6)	633	(64.3)	985	(100)
Higher Education	205	(19.2)	157	(14.7)	708	(66.2)	1070	(100)
Household Expenditure Group, Soms per month (average exchange rate in 1993 is 8 Soms = US$1)								
1 – 249	226	(16.9)	234	(17.5)	874	(65.5)	1334	(100)
250 – 499	220	(18.2)	186	(15.4)	802	(66.4)	1208	(100)
500 – 749	187	(21.4)	136	(15.6)	550	(63.0)	873	(100)
750 – 999	119	(18.9)	123	(19.5)	388	(61.6)	630	(100)
1000 - 1999	183	(19.2)	167	(17.5)	605	(63.4)	955	(100)
2000 - 2999	46	(23.0)	41	(20.5)	113	(56.5)	200	(100)
3000 - 3999	17	(23.3)	8	(11.0)	48	(65.8)	73	(100)
4000 - 5500	2	(7.4)	5	(18.5)	20	(74.1)	27	(100)
Labour Force Status								
Employed	506	(18.1)	466	(16.7)	1817	(65.2)	2789	(100)
Unemployed	77	(15.8)	72	(14.7)	340	(69.5)	489	(100)
Out of the labour force	417	(20.6)	362	(17.9)	1243	(61.5)	2022	(100)
Ethnic Group								
Kyrgyz	655	(22.9)	500	(17.5)	1700	(59.5)	2855	(100)
Russian	78	(7.7)	159	(15.8)	771	(76.5)	1008	(100)
Other Slavs	12	(6.4)	24	(12.80	152	(80.9)	188	(100)
Uzbeks	174	(22.1)	129	(16.4)	485	(61.6)	788	(100)
Other	81	(17.6)	88	(19.1)	292	(63.3)	461	(100)
Settlement								
Urban	290	(14.1)	324	(15.8)	1437	(70.1)	2051	(100)
Rural	710	(21.9)	576	(17.7)	1963	(60.4)	3249	(100)
Marital Status								
Never married	270	(21.3)	253	(20.0)	745	(58.8)	1268	(100)
Married	651	(19.1)	569	(16.7)	2197	(64.3)	3417	(100)
Divorced & not married	18	(8.2)	22	(10.1)	179	(81.7)	219	(100)
Widow/er	61	(15.4)	56	(14.1)	279	(70.5)	396	(100)
Health Status								
Good	651	(22.6)	531	(18.5)	1694	(58.9)	2876	(100)
Fair	303	(15.4)	321	(16.4)	1339	(68.2)	1963	(100)
Poor	46	(10.00	48	(10.4)	367	(79.6)	461	(100)

Source: KMPS Survey, 1993.

Table 3: Satisfaction Equations

	Model I		Model II		Model III		Model IV		Model V	
	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio
Female	-0.035	(1.11)	-0.016	(0.51)	0.033	(1.02)	0.025	(0.79)	0.022	(0.71)
Age	-0.034	(6.51)	-0.035	(6.43)	-0.022	(3.91)	-0.020	(3.55)	-0.016	(2.85)
Age-squared (x100)	0.027	(4.61)	0.031	(5.14)	0.016	(2.67)	0.015	(2.46)	0.010	(1.68)
Did not complete High School	-0.043	(0.69)	0.057	(0.89)	-0.001	(0.02)	-0.025	(0.37)	-0.065	(1.02)
High School Only	0.012	(0.18)	0.003	(0.05)	-0.035	(0.52)	-0.061	(0.91)	-0.095	(1.45)
High School and other	-0.021	(0.32)	0.055	(0.80)	-0.004	(0.06)	-0.032	(0.46)	-0.071	(1.05)
Higher education	0.037	(0.59)	0.121	(1.84)	0.063	(0.94)	-0.002	(0.04)	-0.053	(0.82)
Unemployed	-0.228	(4.18)	-0.228	(4.02)	-0.224	(3.91)	-0.197	(3.40)	-0.177	(3.18)
Out of the Labour force	0.093	(2.36)	0.091	(2.21)	0.037	(0.90)	0.056	(1.32)	0.065	(1.62)
Never married	0.350	(3.97)	0.305	(3.37)	0.242	(2.65)	0.168	(1.82)	0.135	(1.49)
Married	0.509	(6.59)	0.405	(5.07)	0.379	(4.69)	0.329	(4.04)	0.318	(3.99)
Widow/er	0.336	(3.38)	0.238	(2.32)	0.245	(2.37)	0.275	(2.63)	0.268	(2.61)
Ln (Equivalized Household Expend.)	0.021	(1.59)	0.102	(6.33)	0.080	(4.90)	0.045	(2.71)		
Ln (Relative Equivalized Expend.)									0.024	(1.53)
Ethnicity dummies			Yes		Yes		Yes		Yes	
Settlement dummies			Yes		Yes		Yes		No	
Rather unconcerned					-0.033	(0.29)	-0.108	(0.93)	-0.145	(1.29)
Neither un/concerned					-0.233	(2.05)	-0.246	(2.12)	-0.342	(3.06)
A little concerned					-0.379	(3.64)	-0.375	(3.53)	-0.442	(4.32)
Very concerned					-1.158	(11.24)	-1.060	(10.11)	-1.124	(11.10)
Wealth Ladder – middle							0.686	(18.58)	0.633	(18.55)
Wealth Ladder - rich							1.458	(12.73)	1.521	(14.10)
$\mu 1$	-1.023	(6.17)	-0.946	(3.96)	-1.729	(6.63)	-1.424	(5.41)	-1.483	(5.81)
$\mu 2$	0.083	(0.50)	0.273	(1.14)	-0.402	(1.54)	-0.031	(0.12)	-0.183	(0.72)
$\mu 3$	0.615	(3.72)	0.862	(3.60)	0.235	(0.90)	0.632	(2.40)	0.436	(1.71)
$\mu 4$	1.319	(7.93)	1.636	(6.82)	1.055	(4.05)	1.485	(5.64)	1.237	(4.85)
No. Observations	5300		5300		5300		5300		5300	
Pseudo R^2	0.014		0.073		0.119		0.146		0.106	
Log Likelihood	-7519.23		-7067.36		-6715.96		-6510.18		-6819.67	

Notes:

1. The dependent variable is extent satisfied with life, scaled 1-5. t-statistics (in parentheses) are absolute values.
2. The μs are threshold parameters.
3. Omitted dummy variables are: male, primary school only, employed, divorced, not at all concerned (about providing necessities), "poor" (from subjective wealth ladder).

Source: KMPS Survey, 1993.