Measuring Quality of Life in Latin America: What Happiness Research Can (and Cannot) Contribute

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Abstract[*]

This paper addresses the issues involved in taking a broader, quality of life-based approach rather than an income-based approach to assessing welfare. Using tools provided by the economics of happiness and relying on both large-scale surveys and field research in Latin America, the paper shows how a quality of life approach can help to evaluate the welfare effects of factors ranging from health, education, and unemployment status to institutional arrangements such as inequality and opportunity. Nonetheless, directly inferring policy implications from the results is problematic because of factors including norms and expectations based on differences in the way individuals answer questions to surveys and lack of clarity in the definition of happiness. The latter allows for research comparisons across individuals and cultures but presents challenges as a basis for policymaking.

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1. Introduction

Economists have increasingly been questioning the extent to which traditional income and consumption-based measures of utility and welfare fully capture important elements of individual welfare. At the same time behavioral economists have been using experiments and other tools to explore how individuals depart from standard notions of rationality and welfare maximization. An outgrowth of these developments has been the new interest in happiness surveys as a tool for measuring welfare and well being. Happiness economics combines the techniques typically used by psychologists with the standard econometric tools more common to economists. The most important departure of happiness economics is that it relies on surveys in which individuals report their happiness levels as a measure of welfare rather than relying on the standard revealed preferences approach, which is based on measuring what people purchase or consume.

Economists have traditionally shied away from survey data, which, like much other data, is rift with bias and measurement error problems. Yet increased usage of such data in recent years has resulted in improved econometric techniques for accounting for the errors. In addition, the results of large N studies demonstrate remarkable consistency in the determinants of well-being or happiness across hundreds of thousands of individuals across countries and over time. There are, no doubt, cross-cultural differences in the definition of happiness, and it is key to the robustness of the studies that no attempt is made to define the term happiness in the surveys. Each respondent does so on his or her own.

The lack of an externally imposed definition of happiness allows for the usage of the surveys as a research tool across diverse populations and cultures. Yet it presents challenges when applied to policy. The weight that is assigned to happiness as a policy objective will vary depending on how it is defined, and that in turn will vary across cultures and countries. Addressing those challenges will be critical to the successful application of happiness surveys to policy questions. This paper will discuss the specific problems associated with doing so. These challenges notwithstanding, the approach has the potential to significantly enhance our understanding of human well being.

Reflecting this interest in broader measures of welfare and their relevance to policy questions, the upcoming (November 2008) edition of the Inter-American Development Bank's annual report will focus on quality of life in Latin America. As an input into that process, this

paper provides a summary what we know about the determinants of happiness in the region and, more generally, explores the extent to which happiness studies and surveys can help us better measure and understand quality of life. The paper summarizes the state of the art in the study of happiness in the region; assesses the future promises and pitfalls of happiness research as applied to relevant policy concerns; and explores the extent to which existing and/or readily accessible new research on happiness can illuminate the main components of quality of life that will be explored in the IDB report.

2. The Economics of Happiness: A Novel Approach to Measuring Welfare[1]

While psychologists have long used surveys of reported well-being to study happiness, only recently have economists ventured into this arena. Early philosophers and economists, ranging from Aristotle to Bentham, Mill, and Smith, addressed the pursuit of happiness in their work. Yet, as economics grew more rigorous and quantitative, more parsimonious definitions of welfare took hold. Utility was taken to depend only on income as mediated by individual choices or preferences within a rational individual's monetary budget constraint.

Even within a more orthodox framework, focusing purely on income can miss key elements of welfare. People have different preferences for material and non-material goods, such as choosing a lower-paying but more personally rewarding job. Happiness economics relies on more expansive notions of utility and welfare, including interdependent utility functions, procedural utility, and the interaction between rational and non-rational influences in determining economic behavior. Richard Easterlin was the first modern economist to revisit the concept of happiness, beginning in the early 1970s, and more generalized interest took hold in the late 1990s.[2]

The economics of happiness does not purport to replace income-based measures of welfare but instead to complement them with broader measures of well-being. These measures are based on the results of large-scale surveys, across countries and over time, of hundreds of thousands of individuals who are asked to assess their own welfare. The surveys provide information about the importance of a range of factors which affect well-being, including not only income but also other factors such as health, marital and employment status, and civic trust.

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[1] This section of the paper draws on Graham (2008).
[2] See, among others, Easterlin (1974 and 2003), Blanchflower and Oswald (2004), Clark and Oswald (1994), Frey and Stutzer (2002a), Graham and Pettinato (2002), and Layard (2005).

This approach, which relies on expressed preferences rather than on revealed choices, is particularly well suited to answering questions in areas where a revealed preferences approach provides limited information. Indeed, it often uncovers discrepancies between expressed and revealed preferences. Revealed preferences cannot fully gauge the welfare effects of particular policies or institutional arrangements which individuals are powerless to change. Examples of these include the welfare effects of inequality, environmental degradation, and macroeconomic policies such as inflation and unemployment. Sen's capabilities-based approach to poverty, for example, highlights the lack of capacity of the poor to make choices or to take certain actions. In many of his writings, Sen (1995) criticizes economists' excessive focus on choice as a sole indicator of human behavior.[3] Another area where a choice approach is limited and happiness surveys can shed light is the welfare effects of addictive behaviors such as smoking and drug abuse, or of public health problems such as obesity, where differences in social norms and in future expectations and related variance in discount rates may be at play.[4]

Happiness surveys are based on questions in which the individual is asked "Generally speaking, how happy are you with your life?" or "How satisfied are you with your life?" with possible answers on a four-to-seven point scale. Psychologists have a preference for life satisfaction questions, yet answers to happiness and life satisfaction questions correlate quite closely. The correlation coefficient between the two—based on research on British data for 1975–92, which includes both questions, and Latin American data for 2000–1, in which alternative phrasing was used in different years—ranges between 0.56 and 0.50.[5]

This approach presents several methodological challenges.[6] To minimize order bias, happiness questions must be placed at the beginning of surveys. As with all economic measurements, the answer of any specific individual may be biased by idiosyncratic, unobserved events. Bias in answers to happiness surveys can also result from unobserved personality traits and correlated measurement errors (which can be corrected via individual fixed effects if and when panel data are available). Other concerns about correlated unobserved variables are common to all economic disciplines.

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[3] Sen (1995).

[4] For an application of this line of thinking to the obesity problem, see Felton and Graham (2005) and Graham and Ladkawalla (2006).

[5] Blanchflower and Oswald (2004); Graham and Pettinato (2002).

[6] For a fuller description of these challenges, see Bertrand and Mullanaithan (2001) and Frey and Stutzer (2002b).

Despite the potential pitfalls, cross-sections of large samples across countries and over time find remarkably consistent patterns in the determinants of happiness. Many errors are uncorrelated with the observed variables and do not systematically bias the results. Psychologists, meanwhile, find validation in the way that people answer these surveys based on physiological measures of happiness, such as activity in the brain's frontal lobes and on the number of "genuine" (Duchenne) smiles.[7]

Micro-econometric happiness equations have the standard form: $W_{it} = \alpha + \beta x_{it} + \varepsilon_{it}$, where W is the reported well-being of individual i at time t, and X is a vector of known variables including socio-demographic and socioeconomic characteristics. Unobserved characteristics and measurement errors are captured in the error term. Because the answers to happiness surveys are ordinal rather than cardinal, they are best analyzed via ordered logit or probit equations. These regressions typically yield lower R-squares than economists are used to, reflecting the extent to which emotions and other components of true well-being are driving the results, as opposed to the variables that we are able to measure, such as income, education, and marital and employment status.

The availability of panel data in some instances, as well as advances in econometric techniques, are increasingly allowing for sounder analysis.[8] The coefficients produced from ordered probit or logistic regressions are remarkably similar to those from OLS regressions based on the same equations. While it is impossible to measure the precise effects of independent variables on true well-being, happiness researchers have used the OLS coefficients as a basis for assigning relative weights to them. They can estimate how much income a typical individual in the United States or Britain would need to produce the same change in stated happiness that comes from the well-being loss resulting from, for example, divorce ($100,000) or job loss ($60,000).[9]

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[7] Diener and Seligman (2004).
[8] Van Praag and Ferrer-i-Carbonell (2004).
[9] Blanchflower and Oswald (2004).

3. The Easterlin Paradox

In his original study, Easterlin revealed a paradox that sparked interest in the topic but is as yet unresolved. While most happiness studies find that *within* countries wealthier people are, on average, happier than poor ones, studies across countries and over time find very little, if any, relationship between increases in per capita income and average happiness levels. On average, wealthier countries (as a group) are happier than poor ones (as a group); happiness seems to rise with income up to a point, but not beyond it. Yet even among the less happy, poorer countries, there is not a clear relationship between average income and average happiness levels, suggesting that many other factors—including cultural traits—are at play (Figure 1).

Within countries, income matters to happiness.[10] Deprivation and abject poverty in particular are very bad for happiness. Yet after basic needs are met, other factors in addition to income become increasingly important, such as rising aspirations, relative income differences, and the security of gains. Long before the economics of happiness was established, James Duesenberry (1949) noted the impact of changing aspirations on income satisfaction and its potential effects on consumption and savings rates. Any number of happiness studies have since confirmed the effects of rising aspirations and have also noted their potential role in driving excessive consumption and other perverse economic behaviors.[11]

Thus, a common interpretation of the Easterlin paradox is that humans are on a "hedonic treadmill": aspirations increase along with income and, after basic needs are met, relative rather than absolute levels of income matter to well-being. Another interpretation of the paradox is psychologists' "set point" theory of happiness, in which every individual is presumed to have a happiness level that he or she goes back to over time, even after major events such as winning the lottery or getting divorced.[12] The implication of this theory for policy is that nothing much can be done to increase happiness.

Individuals are remarkably adaptable, no doubt, and in the end can get used to most things, and in particular to income gains. The behavioral economics literature, for example, shows that individuals value losses more than gains.[13] Easterlin argues that individuals adapt more in the pecuniary arena than in the non-pecuniary arena, while life-changing events such as

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[10] Oswald (1997) and Diener et al. (2003), among others.
[11] See Frank (1999).
[12] Easterlin (2003).
[13] See Kahneman, Diener and Schwarz (1999), among others.

bereavement have lasting effects on happiness. Yet, because most policy is based on pecuniary measures of well-being, it overemphasizes the importance of income gains to well-being and underestimates that of other factors, such as health, family, and stable employment.

There is no consensus about which interpretation is most accurate. Yet numerous studies demonstrating that happiness levels can change significantly in response to a variety of factors suggest that the research can yield insights into human well-being which provide important, if complementary, information for policymakers. More recent studies by psychologists, meanwhile, suggest that there are some events that individuals never adapt back from.[14] Even under the rubric of set point theory, meanwhile, accepting that levels *eventually* adapt upwards to a longer-term equilibrium, mitigating or preventing the unhappiness and disruption that individuals experience for months, or even years, certainly seems a worthwhile objective for policy.

4. Selected Applications of Happiness Economics

Happiness research has been applied to a range of issues, all of which is could be relevant to quality of life in Latin America. These include the relationship between income and happiness, inequality and poverty, the effects of macro-policies on individual welfare, and the effects of public policies aimed at controlling addictive substances.

Some studies have attempted to separate the effects of income from those of other endogenous factors, such as satisfaction in the workplace. Studies of unexpected lottery gains find that these isolated gains have positive effects on happiness, although it is not clear that they are of a lasting nature.[15] A recent study based on the German socio-economic panel (GSEOP) finds that individuals adapt to income gains very quickly but, in contrast, status changes have more lasting effects on well-being.[16] Other studies have explored the reverse direction of causality, and find that people with higher happiness levels tend to perform better in the labor market and to earn more income in the future.[17]

A related question, and one which is still debated in economics, is how income inequality affects individual welfare. Interestingly, the results differ between developed and developing economies. Most studies of the United States and Europe find that inequality has modest or

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[14] Diener, Lucas and Scollon (2006).
[15] Gardner and Oswald (2001).
[16] DiTella, Haisken-DeNew and MacCulloch (2004).
[17] Diener et al. (2003); Graham, Eggers and Sukhtankar (2004).

insignificant effects on happiness; these mixed results may reflect the fact that inequality can be a signal of future opportunity and mobility as much as it can be a sign of injustice.[18] In contrast, our own recent research on Latin America finds that inequality is negative for the well-being of the poor and positive for the rich. In a region where inequality is much higher and where public institutions and labor markets are notoriously inefficient, inequality signals persistent disadvantage or advantage rather than opportunity and mobility.[19]

Happiness surveys also facilitate the measurement of the effects of broader, non-income components of inequality such as race, gender, and status, all of which seem to be highly significant.[20] These results find support in work in the health arena, which finds that relative social standing has significant effects on health outcomes.[21]

Happiness research can deepen our understanding of poverty, which is, no doubt, a critical factor eroding quality of life in Latin America. The set point theory suggests that a destitute peasant can be very happy. While this contradicts a standard finding in the literature—namely, that poor people are less happy than wealthier people within countries—it is suggestive of the role that low expectations play in explaining persistent poverty in some cases. Work on social mobility by Birdsall and Graham (1999), meanwhile, suggests that high and persistent levels of inequality—which they distinguish from the kind of inequality that rewards productivity and innovation—can exacerbate the low expectations/poverty trap.[22]

What is perceived to be poverty in one context may not be in another. People who are high up the income ladder can identify themselves as poor, while many of those who are below the objective poverty line do not, because of different expectations.[23] In addition, the well-being of those who have escaped poverty is often undermined by insecurity and the risk of falling back into poverty. Income data do not reveal this vulnerability, yet happiness data shows that it has strong negative effects on their welfare. Indeed, the reported well-being of the formerly poor is often lower than that of the poor themselves.[24]

Happiness surveys can be used to examine the effects of different macro-policy arrangements on well-being. Most studies find that inflation and unemployment have negative

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[18] Alesina, Di Tella and MacCulloch (2004).
[19] Graham and Felton (2006).
[20] Graham and Felton (2006).
[21] Marmot (2004).
[22] Birdsall and Graham (1999).
[23] Rojas (2004).
[24] Graham and Pettinato (2002).

effects on happiness. The effects of unemployment are stronger than those of inflation and hold above and beyond those of forgone income,[25] such that the standard "misery index," which assigns equal weight to inflation and unemployment, may be underestimating the effects of the latter on well-being.[26] Political arrangements also matter. Much of the literature finds that both trust and freedom have positive effects on happiness.[27] Research based on variance in voting rights across cantons in Switzerland finds that there are positive effects from *participating* in direct democracy,[28] and our research in Latin America finds a strong positive correlation between happiness and preference for democracy.[29]

Happiness surveys can also be utilized to gauge the welfare effects of various public policies. How does a tax on addictive substances such as tobacco and alcohol, for example, affect well-being? A recent study on cigarette taxes suggests that the negative financial effects may be outweighed by positive self-control effects.[30]

Given the wide range of potential applications for these surveys, they can and should provide important insights into quality of life in the region, as well as serve as a tool for measuring quality of life. At the same time, for a number of reasons, which are discussed below, caution is necessary when directly applying the research findings to policy. Prior to discussing happiness studies as an input to quality of life measures, however, it is necessary to see how the determinants of happiness in Latin America compare to other places where those determinants have been studied.

5. The Determinants of Happiness: How Does Latin America Compare?

Our 2002 study of happiness in Latin America was the first study of happiness in such a large sample of developing countries and certainly the first for the region. We have confirmed the general direction of those findings in a number of studies since then.[31] In the 2002 study, we compared the determinants of happiness in Latin America with those in the United States. For the United States, we used the pooled data for 1973-1998 from the General Social Survey (GSS). We also compared the determinants of happiness in Latin America with those in another large

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[25] Di Tella, MacCulloch and Oswald (2001).
[26] Frey and Stutzer (2002b).
[27] Helliwell (2005); Layard (2005).
[28] Frey and Stutzer (2002b).
[29] Graham and Sukhtankar (2004).
[30] Gruber and Mullainathan (2002).
[31] Graham and Pettinato (2002); Graham and Sukhtankar (2004); Graham and Felton (2006).

sample of respondents in a very different context, Russia. For Russia we relied on the most recent available survey (2000) from the Russian Longitudinal Monitoring Survey (RLMS). For Latin America, we relied on the 2001 Latinobarómetro. We used data for 2001, as it is the one year for which we have variables for both self-reported health status and for being a member of a minority group, which makes it comparable to the U.S. and Russia surveys. (See Tables 1, 2, 3.) In our other studies, based on a pooled sample for several years of Latinobarómetro rather than on cross-sections for particular years, we obtain essentially the same results.

We find a remarkable degree of similarity: there are similar age, income, education, marriage, employment, and health effects.[32] In all contexts, unemployed people are less happy than others. Self-employed people are happier in the United States and in Russia on average, while in Latin America they are less happy. While self-employment is a choice in the United States, in Latin America the self-employed are often in the informal sector by default. Another difference is that women are happier than men in the United States, while in Russia men are happier than women (due to disparities in status?) and in Latin America there is no gender difference. Blacks are less happy than other races in the United States, and similarly, those that identify as minorities in Latin America are less happy. In contrast, minorities are happier than ethnic Russians.

Even these subtle differences in the determinants of well-being suggest that the analysis of reported well-being highlights public policy challenges such as inadequate employment opportunities and unequal gender rights. While these issues often enter the public debate as a result of pressure from special interests such as unions or NGOs, it is novel to find strong backing for them in individual assessments of welfare.

We also find that in both Latin America and Russia happier people are more likely to support market policies, to be satisfied with how democracy was working, and to prefer democracy to any other system of government. Happier people, on average, have higher prospects for their own and their children's future mobility; are more likely to believe that the distribution of income in their country was fair; place themselves higher on a notional economic ladder; and have less fear of unemployment.[33]

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[32] The coefficient on marriage for Latin America is positive but short of significant for the 2001 sample. For other years for which we have data, the coefficient on marriage is positive and significant.

[33] The economic ladder question (ELQ) asked respondents to place themselves on a nine-step ladder representing their society, where the poor are on step 1 and the rich are on step 9. Support for market policies was measured by

The above studies are based on cross-sections from the Latinobarómetro. For one country in Latin America, Peru, we have data on both reported and objective well-being for the same respondents over a 10-year period. This allows us to get a picture of the over time effects of income on happiness, as well as to begin to separate out what is driven by contextual factors versus what is driven by individual specific personality traits. We also have similar data for Russia.

In Peru, we re-interviewed a sub-sample (500) of respondents in a large, nationally representative panel for 1991-2000 and asked a number of questions about their perceptions of their past progress and for their future prospects. We repeated this perceptions survey three years in a row. The most significant and surprising finding was that almost half of the respondents with the most upward mobility reported that their economic situation was negative or very negative compared to 10 years prior. (See Figure 2.) We conducted a similar analysis based on comparable data for Russia, and found an even higher percentage of frustrated respondents—or "frustrated achievers" as we now call them (Figure 3).

These frustrated achievers (FAs) were at or about average income (and therefore not the poorest in the sample). They were slightly older on average than non-frustrated respondents with upward mobility, and there were no significant gender or education differences.[34] The FAs scored lower on a whole host of perceptions questions, such as their perceived prospects of upward mobility and their position on a notional economic ladder. They also had a higher fear of being unemployed in the future. In addition, the Russian FAs were more likely to want to restrict the incomes of the rich and were less satisfied with the market process and with democracy (we did not have the same questions in the original survey for Peru).[35]

In Peru the likelihood of having upward mobility and being frustrated (a frustrated achiever) is negatively related to initial income levels.[36] In other words, the frustrated achievers started from lower income levels, on average, even though they are not the very poorest in the

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an index based on several scaled questions about the private sector, foreign investment, free trade, and privatization. For detail, see Graham and Pettinato (2002).

[34] For a complete picture of the statistically significant differences between frustrated and non-frustrated upwardly mobile respondents, see Graham and Pettinato (2002), Chapter 4.

[35] In an initial and at this point cursory analysis of the 2003 Peru survey data, Graham and MacLeod (2003) find that the frustrated achievers are less likely to favor democracy, but there is no link with market policies. Yet the results are also not fully comparable, as a much lower number of respondents had upward mobility during this latter period and thus there was a far lower percentage of frustrated achievers.

[36] Finding is based on a logit regression on the probability of being a frustrated achiever. Results are reported in Graham (2005).

sample at the time that they answered our survey. This is not surprising, as thus even large percentage increases in their incomes will seem insufficient to reach the levels of wealthier groups. The FAs were also more likely to be urban, and therefore more informed about the lifestyles of others, including those of the very wealthy.

Relative income differences could certainly be a plausible explanation for these frustrations, as both Peru and Russia have high degrees of inequality. The FAs were more likely to score lower on the notional economic ladder in both surveys, as well as to compare their situation negatively to others in their community and their country in Peru (this latter question was not in the Russia survey).

A lack of adequate social insurance and insecurity could be another explanation. As noted above, the FAs had a higher fear of unemployment than non-frustrated achievers. Thus, even though the FAs are doing well by objective income measures, they perceive that there is no guarantee of stability or maintaining their earnings level. This is not surprising, given that both surveys were conducted in very volatile economic contexts, and the objective mobility data reveal a remarkable degree of vulnerability.[37]

Most of the FAs were at mean levels of education. In Latin America, with the opening of trade and capital markets in the 1990s, those with higher levels of education are gaining high marginal returns compared to the rest of society, while those with secondary education are seeing decreasing marginal returns compared to those with primary education.[38] Prior to this opening, people with secondary education were able to lead relatively stable, "middle class" lives. Yet by the end of the 1990s, the income gaps between the middle and the poor had narrowed, and the public sector jobs which many of this cohort held were far fewer and less desirable.[39] The unemployed, for example, are disproportionately represented among those with completed or almost completed secondary education.[40]

Lastly, it is quite plausible that some of the frustrations that we find are driven by individual character traits. There is probably some percent of every sample that will always be

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[37] A higher percentage of respondents went from "rags to riches"—or from the bottom to the top quintile—in 10-year period in Peru (5 percent) than in a similar period in the United States (1 percent), for example. Yet a surprising 11 percent of respondents in the middle of the distribution (quintile 4 in Peru) fell back all the way to the bottom quintile during the same period, which is analogous to falling from the middle class into extreme poverty.
[38] See Behrman, Birdsall, and Székely (2000).
[39] We discuss this in detail, and introduce a measure of "middle income stress" (MIS) in Birdsall, Graham, and Pettinato (2001).
[40] Graham and Felton (2006).

negative or unhappy, regardless of objective conditions. Yet we do not have the over-time data that is necessary to test this proposition. Some intersect of contextual variables and character traits is likely driving the frustrations of our achievers.

5.1 Inequality and Opportunity

Clearly the frustrated achievers findings are highlighting the role of insecurity and inequality in undermining well-being in the region. The effect of inequality on individual welfare remains a debated question in economics. In a separate study, Andrew Felton and I looked at the effects of inequality on happiness in Latin America and found that this is one important area where the region looks very different from the OECD countries.[41] In Europe and the United States inequality does not seem to have significant effects on happiness one way or the other. In those contexts, and particularly the United States, inequality seems to signal mobility and opportunity as much as it suggests injustice. In stark contrast, we find that inequality has significant effects on well-being in Latin America, making those in the highest quintile five percent happier than the average and those in the poorest quintile five percent less happy. Indeed, the effects of relative income differences in the region—measured as each respondent's distance from the mean wealth level for his or her country—held regardless of average country level incomes, which had no effect. (See Table 4.)

In a simple illustration we show how a respondent in the poorest quintile in Honduras, whose distance from the country mean is half that of a respondent in the poorest quintile in Chile, is happier than the respondent in Chile because of smaller relative differences. Yet the poor Honduran is twice as poor in objective terms. (See Figure 4.)

We conducted the same analysis using different reference norms, and compared respondents in large, medium, and small-sized cities. Our results were similar, except that in the small cities average income levels still had a significant positive effect, in addition to relative income levels, suggesting that at lower levels of income, concerns for relative income are still mediated by absolute levels, a finding which is consistent with the broader literature (and the Easterlin paradox).

We also looked at the effects of perceptions of inequality, as measured by respondents' response on the economic ladder question and perceived prospects of upward mobility. Two

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[41] Graham and Felton (2006).

questions in particular allow us to separate feelings of status from other economic concerns or utility of wealth. One of these is a catch-all question asking "In general, how would you describe your present economic situation and that of your family?" This variable is consistently one of the most significant to well-being, usually more so than any other except health. The other is the economic ladder question (ELQ), included in many other well-being surveys besides the Latinobarómetro, which asks respondents to place themselves on a 10-step ladder where the poorest are on step one and the richest on step ten. This question is also an important predictor of happiness, even when other questions about wealth are included. It is purely a relative ranking of wealth. When combined with the personal economy question, it allows us to decompose the utility of wealth into status and other effects. (See Table 5.)

We looked at how these scores varied according to where people live (city sizes). Wealth levels are, on average, higher in large cities than in small ones. In contrast, we found that respondents' subjective personal economic rankings were *lower* in big cities and higher in small towns, as shown in Table 5. In our view, this perceptions gap is in keeping with other findings in the happiness literature. It is suggestive of Luttmer's recent (2005) work on U.S. earnings areas and our own findings on average country level wealth. In both cases, respondents of similar income or wealth levels are less happy when their peers or compatriots have higher levels of wealth. James Duesenberry's classic work on savings also resonates. He finds that, holding income levels constant, respondents who live in neighborhoods with higher average levels of wealth are less satisfied with their incomes than those who live in less wealthy neighborhoods.

ELQ, on the other hand, rises with city size (as does wealth), and even after controlling for socio-demographic data, ELQ rankings tend to be higher in big cities. Once again, this appears to be a reference-group effect: people in small cities are more likely to know how others around them live than are those in medium or large ones, and for the most part they are fairly on par with their neighbors, as there is less variance in wealth levels in smaller cities. People in big cities, meanwhile, are probably aware that objective economic conditions in the countryside and smaller towns are worse than they are in the major cities.

A related inequality perceptions variable was the time respondents thought it would take to reach their desired standard of living. The question was phrased as: "how long do you think it will take you to reach your desired standard of living?" with possible answers ranging from "I already have it" to several different year categories (1 to 2 years; 5 to 10 years, and so on) to

"never." Respondents who live in small towns are more likely to report "never," while there was no significant difference in the responses of those that live in big cities from those in medium ones. It is likely that those in small towns, particularly rural ones, are well aware that the greatest opportunities for both education and employment are in larger urban areas rather than in their small towns. Meanwhile, those respondents with completed secondary school were the most likely to answer "never" or the next lowest score. Again, trends in returns to education are likely playing a role.

To help explain our findings, we examined a variable that asked respondents to choose what affected them most among the many reasons for which there was unequal treatment of people in their countries. Possible answers ranged from skin color to poverty to age. Respondents in small towns were more likely to say that poverty and lack of education were the primary reasons, while those in big cities were more likely to report corruption or the need to pay bribes.

These findings suggest that both sets of respondents perceive that there is inequality and injustice. Yet the responses suggest that those in small towns feel that they do not have access to opportunity due to their own poverty and education (explaining a higher tendency to the "never" responses on the above question), while those in big cities are more likely to believe that opportunities and access are monopolized by those with greater means or connections.

Those in small towns seem more concerned about their own poverty compared to the rest of society, while those in large cities are more concerned with their access to opportunities compared with more "connected" individuals. In both instances, the concerns cited run in the opposite direction of an interpretation in which inequality signals opportunity and mobility, which is more typical for the United States and for Europe.

5.2 Unemployment

One of the most important variables affecting well-being or happiness is employment status. An obvious question is how the region compares. Previous happiness research has found that unemployment is one of the most traumatic events that can happen to people. One of the reasons for this is, of course, the loss of income; however, there is also a cultural stigma to unemployment that impacts happiness. The typical unemployed person in our study is a male who has attended some high school (on average 10 years of education). The unemployed percentage of the population increases with city size; this may be an artifact of the data, however,

because people in rural areas are more likely to be outside the formal labor force altogether and unemployment is a less relevant concept for them.

The strength of these effects—i.e., the "costs" of unemployment—tends to vary across countries and regions. We build from the work of others. Di Tella, MacCulloch, and Oswald (2001) find that respondents in the United States and Europe are made unhappier by higher unemployment rates than they are by inflation.[42] In other words, the typical respondent—including employed respondents—would accept higher levels of inflation if it would eliminate the insecurity associated with higher unemployment rates.

Several studies have shown that increased unemployment in general lessens the impact on unemployed individuals. Clark and Oswald (1994) find that the unemployed in Britain are less unhappy in districts where the unemployment rate is higher.[43] The costs to happiness that comes from the decreased probability of finding a job seems to be lower than the gains to happiness that come from being less stigmatized and accompanied by more unemployed counterparts. Similarly, Stutzer and Lalive (2004) find that unemployed respondents are less happy in cantons that have voted to reduce unemployment benefits in Switzerland (controlling for benefit levels), as the stigma from unemployment is higher. Eggers, Gaddy, and Graham (2006) find that both employed and unemployed respondents are happier in regions with higher unemployment rates in Russia.[44]

We, too, find positive effects of general unemployment on happiness in Latin America, both using an unemployment rate calculated from our own data and the latest statistics available from the United Nations Economic Commission for Latin America and the Caribbean (ECLAC). These are country-wide unemployment rates and have statistically significant positive effects on happiness. As in the above studies, higher overall unemployment may reduce the stigma effect on individuals. The results must be tempered, though, by the limited information that open unemployment rates can provide in a region with high levels of informal employment (exceeding 50 percent in a few countries).

Inequality in countries also has an effect on happiness among the unemployed. Using our pooled data set from 1997-2004, we ran a standard happiness regression, including a control variable for being unemployed, and then adding interaction terms for being unemployed in a

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[42] DiTella, MacCulloch, and Oswald (2001).
[43] Clark and Oswald (1994).
[44] Stutzer and Lalive (2004); Eggers, Gaddy, and Graham (2006).

high or low Gini country. We find, as shown in Table 6a, that the costs to happiness of being unemployed are lower in higher Gini countries. In other words, unemployed respondents in countries with higher inequality are actually happier than those in countries with low inequality. Countries with high inequality are also, on balance, poorer than other countries, so the unemployed may have less far to fall.

Another reason may be the higher levels of informal employment in the poorer and more unequal countries in the region, thereby resulting in less stigma for the unemployed. Or it may be due to some other country-level unobservable that we are not accounting for. And while the costs of being unemployed are *lower* in higher Gini countries, fear of unemployment (among the employed) is *higher*, in keeping with our intuition about greater levels of informality and associated insecurity. Thus in higher inequality countries, the lower stigma for the unemployed is accompanied by greater insecurity for the employed.

Job instability has particularly affected those with a high-school level of education, and if we look at the happiness impact of unemployment among different educational groups, it turns out that, in addition to having the highest rate of unemployment, those with a high school education are also made most unhappy by unemployment. In fact, as shown in Table 6b, unemployment has a statistically insignificant effect on happiness at the ends of the education spectrum. College-educated people are also less likely to fear unemployment than those with less education, and unemployment is a less relevant concept for the illiterate, who are most likely to be outside the formal labor market to begin with. Moreover, those with higher education are more likely to be able to find another job than those with secondary school education.

We also looked at the costs to unemployment by city size. As in the case of our Gini coefficients, we find that the costs of unemployment are lower in big cities than they are in small towns, suggesting that there is a lower stigma effect in big cities. Yet again, as in the case of inequality (as measured by the Gini), fear of unemployment is higher in the big cities, presumably because labor markets are more integrated into the international economy and volatility is more of a factor, while relying on farming as a safety net is not an option the way it is in smaller towns. (See Table 6b.)

Our findings are suggestive of how the costs of being unemployed can vary across countries and according to different measures of inequality. Inequality seems to be correlated

with a lower "stigma" for the unemployed, but with a higher fear of unemployment for the employed.

6. Policy Implications

Richard Layard makes a bold statement about the potential of happiness research to improve people's lives directly via changes in public policy.[45] He highlights the extent to which people's happiness is affected by status—resulting in a "rat race" approach to work and to income gains, which in the end reduces well-being. He also notes the strong positive role of security in the workplace and in the home, and of the quality of social relationships and trust. He identifies direct implications for fiscal and labor market policy in the form of taxation on excessive income gains and via re-evaluating the merits of performance-based pay.

While many economists would not agree with Layard's specific recommendations, there is nascent consensus that happiness surveys can serve as an important complementary tool for public policy. Scholars such as Diener and Seligman and Kahneman et al. advocate the creation of national well-being accounts to complement national income accounts.[46]

Despite the potential contributions that happiness research can make to policy, a sound note of caution is necessary in directly applying the findings, both because of the potential biases in survey data and because of the difficulties associated with analyzing this kind of data in the absence of controls for unobservable personality traits. In addition, happiness surveys at times yield anomalous results which provide novel insights into human psychology—such as adaptation and coping during economic crises—but do not translate into viable policy recommendations.

One example is the finding (discussed above) that unemployed respondents are happier (or less unhappy) in contexts with higher unemployment rates. The positive effect that reduced stigma has on the well-being of the unemployed seems to outweigh the negative effects of a lower probability of future employment.[47] One interpretation of these results for policy—raising unemployment rates – would obviously be a mistake. At the same time, the research suggests a new focus on the effects of stigma on the welfare of the unemployed.

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[45] Layard (2005).

[46] Diener and Seligman (2004) and Kahneman et al. (2004).

[47] Clark and Oswald (1994), Stutzer and Lalive(2004), and Eggers, Gaddy and Graham (2006).

Both the promises and pitfalls of applying happiness research to policy apply to Latin America. Certainly, there is great promise in understanding a variety of phenomena, many of them poverty related, that revealed preferences cannot tell us much about. As noted above, two sets of questions along these lines come to the fore. The first of these is the welfare effects of macro and institutional arrangements that individuals are powerless to change, such as macroeconomic volatility, inequality, or weak governance structures. In a region where access to political as well as economic opportunities are unequally shared, the poor are obviously least able to express their preferences (as they are the least able to either circumvent the system or vote with their feet and emigrate or put their assets abroad). Yet they may likely suffer the negative welfare effects from inequality, as the above findings suggest.

The other set of questions are those in which behaviors are not the result of preferences, but of norms, addiction, or self-control problems. Any number of public health-related questions, such as obesity, cigarette smoking, and other phenomena, can and have been addressed by happiness surveys and could be usefully analyzed in the region, as it suffers from many of these public health problems. Equally important, though, are those behaviors that are driven by low expectations. If the poor have low expectations for their own and their children's future—and if that is exacerbated by high and persistent levels of inequality as in Latin America—their behavior on any number of fronts, ranging from investing in their children's education to saving to public health attitudes, could be compromised. If those behaviors are merely analyzed as a result of revealed preferences, then the policy implications will be very different than if they are analyzed in the context of the well-being costs associated with those behaviors.[48]

A second area of much promise for applying well-being surveys to policy is in the exploration and understanding of the importance of non-income variables, such as health, education, employment status, gender rights, environment, and any number of other variables to well-being and quality of life. Standard approaches, which rely on income-based measures of well-being, tend to underweight the importance of these variables. Happiness surveys not only highlight their importance but also allow us to attach relative weights to them.

Along those lines, the recent move to develop national well-being indicators in both the United States and the United Kingdom is based on the assumption that happiness surveys can help us better gauge the relative weights of these variables, as well as track how those relative

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[48] Felton and Graham (2005); Graham and Ladkawalla (2006).

weights change over time across large *N* samples.   The idea behind National Well-Being Indicators is that, in the same way and as a complement to the way GNP tracks income trends over time, well-being in these areas could be tracked and assessed. It is an approach that holds much promise for helping to measure quality of life in Latin America.

While there are certainly many promises for applying the results of happiness surveys to policy, there are also many caveats. Three in particular stand out in the context of Latin America. The first is the extent to which individuals adapt to many situations, both upward and downwards.[49] This has clear implications for a region with very volatile growth. A number of studies suggest that people's expectations rise with rapid income growth and/or income gains and then drop with recessions and/or income losses. This will obviously affect trends in well-being indicators as economies change throughout the region.

A related issue, alluded to above, is the so-called happy peasant problem. In this instance, there are many cases where very poor and uninformed respondents, who happen to have a high set point (cheerful nature), report they are very happy, even though they live in destitute poverty. The implications of this information for policy are very unclear. Should policy raise the peasant's awareness of how bad his or her situation is in order to raise expectations, although risking making them miserable? Should policy leave the peasant ignorant? How policy factors in set point/character differences is another difficult normative question. Should policy listen to the naturally unhappy respondents who have a tendency to complain more than to others? How much is expectations and how much is character, for example?

Another issue is cardinal versus ordinal measures. Happiness surveys are ordinal in nature and do not attach cardinal weights to the answers. Thus no distinction is made between the answers very happy and happy or happy and unhappy. Yet if these measures are really used to guide policy, does it become necessary to attach such weights? Does unhappiness matter more than happiness, for example? How does one choose between a policy that raises a happy person to very happy versus one that raises an unhappy person to just happy status? Many of these choices require normative judgments.

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[49] Herrera, Razafindrakoto and Roubaud (2006), for example, using panel data for Peru and Madagascar, find that people's expectations adapt upwards during periods of high growth and downwards during recessions, and that this adaptation is reflected in their assessments of their life satisfaction. People are less likely to be satisfied with the status quo when expectations are adapting upwards. Graham and Pettinato (2002) report similar findings for Peru; more recent work on China by Whyte and Hun (2006) confirms the direction of these findings.

Perhaps a more fundamental question is whether happiness should be a policy objective. Are happy people successful, for example, or simply complacent? There is some evidence that happier people, on average, perform better in the labor market and are healthier.[50] In other words, being happy seems to have positive causal effects on behavior. And certainly very unhappy or depressed people have all sorts of related negative externalities. But the evidence also suggests that there is a top limit to this. Psychologists find that those that answer happiness questions near the top end of a 10-point scale are indeed more successful, but the effects are stronger around the 7-9 range rather than at the very top of the scale.[51] And there are certainly examples of very successful and creative people who are miserable for most of their lives. On average, though, it seems that happiness is correlated with better outcomes than is unhappiness or misery, and that eliminating the latter seems a worthwhile objective for policy.

The definition of happiness is fundamental to resolving these questions. Attempting such a definition is clearly beyond the scope of such a paper—and of the author's expertise. Philosophers have provided a range of definitions over centuries, and a more recent attempt to define happiness by Kenny and Kenny (2006), seems particularly well-suited to policy.[52] Kenny and Kenny define happiness as having three separate components: contentment, welfare, and dignity. Happiness defined simply as contentment seems an inappropriate objective for public policy. Yet when it is defined as a combination of these three factors, it seems more relevant, particularly for a region where the major policy challenge is not extreme poverty but relative poverty, vulnerability, and inequality of income and opportunity.

Imposing a definition of happiness does not answer the question of how much weight policymakers should put on happiness as an objective versus others such as growth, policy reforms, and fiscal stability. There are inter-temporal considerations as well. Reforms can and do make people unhappy in the short term, but in the long run are likely to guarantee them more prosperity and possibly greater happiness. There is a significant body of evidence, from both the behavioral economics and the happiness literatures, that individuals are loss averse and value losses disproportionately to gains. The happiness literature additionally shows that individuals adapt very quickly to income gains but much less quickly to losses, and more quickly to changes in income than to changes in status.

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[50] Graham, Eggers, and Sukhtankar (2004).
[51] Lucas (2007).
[52] Kenny and Kenny (2006).

There is also significant evidence of hyperbolic discounting: individuals will trade off much larger future benefits for much shorter short-term ones; it is not a coincidence that most developed economies have forced savings schemes. Our own work, meanwhile, which is in the initial stages, suggests that high levels of inequality or low levels of social mobility, and related low expectations, can result in higher discount rates (and therefore more hyperbolic discounting) for those in the lower income ranks. This discounting can apply to areas such as public health as well as in the income realms, and may help explain why phenomena such as obesity are concentrated among lower-income cohorts, at least in the developed economies.[53]

Certainly, understanding these behaviors is important information for policymakers. But can we use short-term happiness questions and measures as a gauge for policy? The information may be more useful for explaining lack of public support for optimal policies than it is as a guide to policy choice. Structural policy reforms, for example, can result in major changes in income and status and related unhappiness for particular cohorts, at least in the short term, while producing gains in the aggregate in the long term.

Latin America is a region that has for years suffered from the threat and the reality of populist politics and policies, which have primarily manifested themselves in fiscal profligacy for short-term political gain at the expense of longer-term investments in the structural changes in the macroeconomic and social policy realms that could generate sustainable growth and poverty reduction.[54] With the widespread turn to the market and acceptance of democratic institutions throughout most of the region in the 1990s, voting behavior seems to have matured and in some countries has begun to resemble patterns in developed countries. There have been several rounds of leadership change in countries ranging from Chile and Brazil to Peru and El Salvador, though without fundamental changes in economic policy. There have also been cases of countries undergoing significant economic crisis and still retaining democratic institutions and some continuity in economic management, as in Argentina. In the majority of countries, patterns are increasingly resembling retrospective voting, where voters judge past governments by their economic performance, and/or the patters are influenced by some degree of party or ideological loyalty. Voters are, for the most part, also making the important distinction that characterizes

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[53] Graham and Felton (2006); Felton and Graham (2005).
[54] See, for example, Dornbusch and Edwards (1991).

mature democracy: that between support for systems of government and economic arrangements as opposed to specific governments in power.[55]

At the same time, there are also significant pockets of political instability and increasing support for populist politicians and policies, such as Venezuela, Ecuador, and Bolivia, where popular backlash against market reforms has also resulted in an erosion of democratic institutions. In these countries, the future of constitutional democracy as well as of pro-market policies is at risk. Meanwhile, support for many reforms, such as privatization, is remarkably shallow in the rest of the region, and governments face significant challenges in mustering the political support that is necessary to deepen reforms and make the structural and institutional changes that are necessary to establish the sustained and higher levels of growth that are necessary for poverty reduction. At the same time, inequality remains a challenge that defies established policy prescriptions and likely undermines support for reform. How can surveys of happiness be relevant in such a context?

Indeed, taken at face value, happiness surveys could, at least in theory, lend support to populist politicians. If the results of a national happiness survey show that the majority of citizens prefer inflation to unemployment (as happiness surveys in most contexts, including Latin America, suggest), those results could fuel irresponsible fiscal policies in countries that are very vulnerable to hyper-inflation (which indeed makes people very unhappy). The kinds of structural reforms that are necessary for long-term growth, meanwhile, are unlikely to be supported by a population that has a high tendency for hyperbolic discounting. For example, how many voters will report that they are happier than before in the throes of a controversial privatization or tax reform, the benefits of which are not immediately clear? How can happiness surveys be useful in such a context?

Surely there are risks. Yet our previous work also shows that economic crisis makes people very unhappy, and that happier people are more supportive of democracy and market reforms.[56] While the direction of causality is not clear (happier people may be more supportive of whatever policy context they live in), it does suggest that happiness is not inherently linked to support for irresponsible or anti-reform politics. And the same literature that finds that crisis reduces happiness in Latin America also finds that crisis is linked to decreased support for how

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[55] Stokes (1996); Weyland (2002); Lora and Olivera (2005); Graham and Sukhtankar (2004).
[56] Graham and Sukhtankar (2004).

markets and democracy are working but *increased* support for markets and democracies as systems.

Perhaps the most useful role for happiness surveys in the context of Latin American economic policy, where there is reform fatigue, risk and loss aversion due to past experience with macroeconomic volatility and other crises, and a large proportion of the population that is, at least in theory, vulnerable to hyperbolic discounting, is in helping us understand and better navigate the political outcomes that can result. Is it really irrational if one is poor and unemployed in Ecuador, for example, to support an anti-system politician in the hope of change and a possible short-term improvement? And understanding what makes people most unhappy with the policy context, via well-being surveys, might also help reformists avert the kind of policy mistakes that lead to populist or "hyperbolic" politics.

7. What Happiness Surveys Can Contribute to Quality of Life Measures

The Inter-American Development Bank's attempt to develop better quality of life measures for the region focuses on income and non-income measures. Happiness surveys from the region tell us about many of these measures – and how they compare to each other in relative terms in determining well being. While it is not accepted practice to compare coefficients on equations based on categorical variables, as is the case with the ordered logits that are typically used for happiness studies, the results of OLS regressions on the same data and with the same specifications typically yield very similar results. The latter can be used as a basis for attaching relative weights to the coefficients on independent variables, such as income and health. They can also highlight areas where we need to know more to better understand quality of life in the region.

7.1 Happiness and Income

Perhaps the most studied and least well understood relationship is that between happiness and income. Virtually all studies find that there is some relationship, but it varies across contexts and is mediated by a range of variables. Our study of happiness in Latin America shows that there is, as in the OECD countries, a strong and consistent relationship between income and happiness

within countries, but it is non-linear. Nor is it the most important determinant of happiness, with other variables such as health and unemployment having stronger effects.[57] (See Table 1.)

Moreover, again as in the case of the OECD countries, there is no cross-country relationship between income and happiness. (See Figure 1.) What is most surprising about the Latin America findings, meanwhile, is that the non-linear relationship between income and happiness holds for countries that are at very low levels of GDP per capita, like Honduras and Guatemala. Earlier literature on the developed economies posited that non-linearities set in well after basic needs were met, at roughly $10,000 per capita. The Latin America results suggest that the level is much lower.

Similarly, the strong results that we obtain on the effects of relative income differences on happiness support this proposition. Average country income levels had no significant effects on happiness in any of the countries that we studied, even the very poor ones, while relative income differences dominated. Average income levels only mattered in a positive way for small, poor towns. At other levels of aggregation, such as medium and large cities, average income levels actually had a negative effect on happiness, as in the case of Luttmar's work on Public Use Microdata Areas (PUMAs) in the United States.

In addition to inequality, our work also highlights an important role for volatility in undermining whatever positive effects income gains may have for happiness. Income gains, even relatively large ones, in the context of high levels of volatility, do not have the expected positive effects on happiness, at least not over time, as suggested by the results from our Peruvian frustrated achievers.

7.2 Happiness and Education

Education has a remarkably small effect on happiness among Latin American respondents. When income is included in the equation, education is typically insignificant, in contrast to OECD countries, where for the most part it has a modestly significant and positive effect in addition to income. (See Tables 1 and 3.) In all of these contexts, income and education are highly correlated. As our findings on unemployment above suggest, there are certain non-linearities in

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[57] We do not have a reported income variable in the Latinobarómetro survey, as accurate reporting of incomes in contexts where a large percent of the population is in the informal sector is rife with error problems. Instead, we rely on a wealth index, which we construct based on the ownership of a range of assets, ranging from indoor plumbing to computers and second homes.

the Latin American context, which those respondents who have either completed or near completed secondary school most vulnerable to unemployment, while those with completed higher and technical education earn the highest rewards in both relative and absolute terms. Those non-linearities, no doubt, mediate the education and happiness relationship.

This is one instance where happiness surveys can highlight discrepancies between the predicted effects of variables which are typically associated with higher levels of quality of life, such as more years of education, and actual outcomes. While the surveys do not provide a clear policy solution, they provide an important first step towards understanding the problem.

7.3 Happiness and Health

Health is one of the most important determinants of well being nd, as some studies show, higher levels of well-being are also often associated with better health outcomes. Latin America is no exception. Of all of the variables in our happiness equations, health status, as gauged by an index of a number of pointed questions on self-reported health, has the strongest coefficient. (See Table 1.) This is consistent with studies in other contexts in both developed and developing countries.

An area where we know much less is how the health-happiness relationship works among the poor. The poor are notorious for under-reporting health problems, not least because they rarely stay home from work when they are ill. Targeted happiness and health studies among lower income cohorts might help understand the variables mediating the relationship at lower levels of income, as well as factors which could encourage the poor (and their governments) to make better investments in their health.

7.4 Happiness and Employment Status

Another key determinant of happiness, everywhere that it has been studied, is employment status.   The experience of unemployment is one of the most deleterious events as far as happiness is concerned, and is one experience that most individuals do not adapt back from, as discussed above. Latin America is no exception. As shown in Table 1, the (negative) coefficient on unemployment is actually higher than that of either health or wealth, although the t-statistic on the other two variables is actually higher (most likely because of the smaller numbers of unemployed respondents as opposed to those that report their wealth or income).

This result is hardly surprising in a region where there is, for the most part, no unemployment insurance or other safety net for the unemployed. In other contexts, while the

unemployed are still unhappier than others, they are less unhappy where there are more unemployed around them and/or where there is more support for unemployment benefits, as there is less stigma and less insecurity surrounding unemployment. Our findings on less negative effects of unemployment in higher inequality countries, where unemployment or at least informal employment levels are typically higher, supports the less stigma channel. Yet our higher levels of fear of unemployment (which has very negative effects on happiness) among employed respondents in the same countries supports the higher insecurity channel. A third area where employment status findings are different in Latin America is in the case of self-employment. While the self-employed in the U.S. and Europe, for example, are on average happier than others, in Latin America they are less happy than the average. Here again is an instance where happiness surveys can yield insights into quality of life. In the former context the self-employed are usually self-employed by choice. In Latin America, in contrast, the majority of self-employed are working in the informal sector due to lack of available jobs in the formal sector and consequently have a lower quality of life.

7.5 Other Key Variables and Happiness

There are a number of areas where happiness surveys could yield valuable insights into quality of life in the region, but where more work remains to be done. One is in the area of social safety nets and other forms of social insurance. Our work on frustrated achievers and fear of unemployment suggests that insecurity and volatility are major causes of unhappiness in the region. But are respondents with access to better social welfare systems and other safety nets happier? This is an open question for research and could help provide insights into the kinds of social arrangements that best mediate this insecurity.

Another area is inequality. We have some sense that inequality and perceived differences in rank, status, and access to opportunities have negative effects on happiness (at least for the poor) in the region. Do other kinds of inequality, such as racial and gender inequality, have similar effects? Which kinds of inequality are most important? Again, happiness surveys could help us better understand the role of these variables and their relative roles in determining quality of life in the region. A third area is job quality. Our self-employment results are certainly suggestive, but again this is an area where modest research efforts, building from existing findings, could yield very useful insights.

Finally, happiness surveys could help us track the effects of different policy arrangements, such as inflation versus unemployment and local versus centralized governments/democracy on quality of life. Frey and Stutzer, cited above, show that participating in direct democracy has positive effects on happiness above and beyond the benefits of living in a direct democracy, and Helliwell and Putnam (2005) find that citizens living in contexts of greater social capital are also happier.[58] Better understanding these factors in Latin America could contribute to better measurement of quality of life more generally. Public health arrangements—such as access to health insurance, particularly in a context where many people lack coverage—may also matter to happiness. Analysis of such variables via happiness surveys would give us one way to weight their relative importance to quality of life.

8. Conclusions

Happiness studies can provide critical insights into quality of life in Latin America, in areas ranging from income, poverty and inequality to public health and political arrangements. Those studies can provide a method for gaining insights into many other questions, such as the effects of the environment or commuting time or modality on quality of life in the region. Likewise, cautiously used national well-being indicators, used cautiously, meanwhile, can be a good tool for tracking welfare, quality of life, and other well being measures across countries and over time, and attaching relative weights to different variables. In the same way that GNP allows us to track economic growth within and across countries, national well-being measures provide a complementary tool for assessing welfare trends. Yet for all of the reasons cited above, including the happy peasant problem, adaptations and set points, hyperbolic discounting, and the absence of clarity on a definition of happiness, among others, caution is necessary before directly applying the results of happiness surveys to policy.

Happiness economics opens a field of research questions which still need to be addressed, both more generally and as applied to quality of life in Latin America. These include the implications of well-being findings for national indicators and economic growth patterns; the effects of happiness on behavior such as work effort, consumption, and investment; and the effects on political behavior. In the case of the latter, surveys of unhappiness or frustration may be useful for gauging the potential for social unrest in various contexts. The Inter-American

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[58] Helliwell and Putnam (2005)

Development Bank's new focus on quality of life indicators will, hopefully, provide some impetus to this novel body of research.

In order to answer many of these questions, researchers need more and better quality well-being data, particularly panel data, which allow for the correction of unobserved personality traits and correlated measurement errors, as well as for better determining the direction of causality (for example, from contextual variables such as income or health to happiness versus the other way around). These are major challenges in most happiness studies. Hopefully, the combination of better data and increased sophistication in econometric techniques will allow economists to better address these questions in the future and increase the potential of such surveys to become a critical component of defining and measuring quality of life in Latin America.

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Figures and Tables

Figure 1. Happiness and Income Per Capita, 1990s
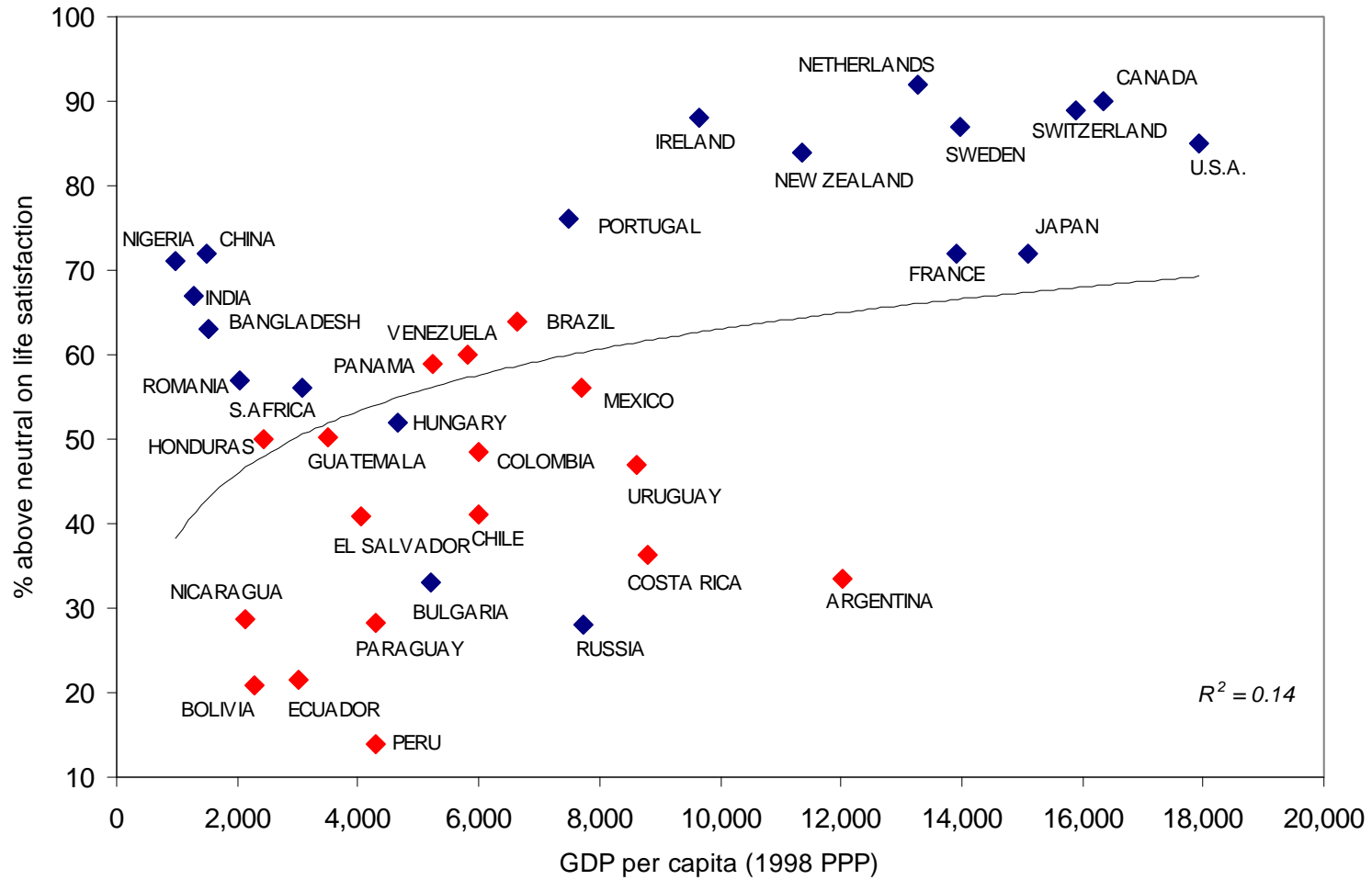
Source: Graham and Pettinato (2002).

Table 1. Happiness in Latin America, 2001

Dependent Variable: Happiness

Independent variables	Coef.	z
Age	-0.025	-4.21
Age squared	0.000	4.72
Male	-0.002	-0.07
Married	0.056	1.63
Log wealth index	0.395	10.56
Years of education	-0.003	-0.64
Minority	-0.083	-2.49
Student	0.066	1.01
Retired	-0.005	-0.06
Homemaker	-0.053	-1.04
Unemployed	-0.485	-7.54
Self employed	-0.098	-2.33
Health (self-reported)	0.468	24.58

Pseudo R^2	*0.062*
Number of obs.	*15209*

Source: Author's calculations based on Latinobarómetro, 2001.

Table 2. Happiness in Russia, 2000

Dependent Variable: Happiness

Independent variables	Coef.	z
Age	-0.067	-7.42
Age squared	0.001	7.15
Male	0.152	2.80
Married	0.088	1.40
Log equivalent income	0.389	11.48
Education Level	0.015	0.96
Minority	0.172	2.46
Student	0.199	1.59
Retired	-0.378	-3.97
Housewife	0.049	0.33
Unemployed	-0.657	-6.51
Self employed	0.537	2.23
Health index	0.446	3.82

Pseudo R^2	*0.033*
Number of obs.	*5134*

* Ordered logit estimation

Source: Graham, Eggers and Sukhtankar (2004).

Table 3. Happiness in the United States, 1972-1998

Dependent Variable: Happiness

Independent variables	Coef.	z
Age	-0.025	-5.20
Age squared	0.038	7.53
Male	-0.199	-6.80
Married	0.775	25.32
Log income	0.163	9.48
Education	0.007	1.49
Black	-0.400	-10.02
Other race	0.049	0.59
Student	0.291	3.63
Retired	0.219	3.93
Housekeeper	0.065	1.66
Unemployed	-0.684	-8.72
Self employed	0.098	2.29
Health	0.623	35.91
Pseudo R ^{2}	*0.075*	
Number of obs.	*24128*	

* Ordered logit estimation; year dummies included but not shown.
Source: Author's calculations based on General Social Survey (GSS) data.

Figure 2. Long-Term Perceived Mobility vs. 1991-2000 Income Mobility, Peru 2000
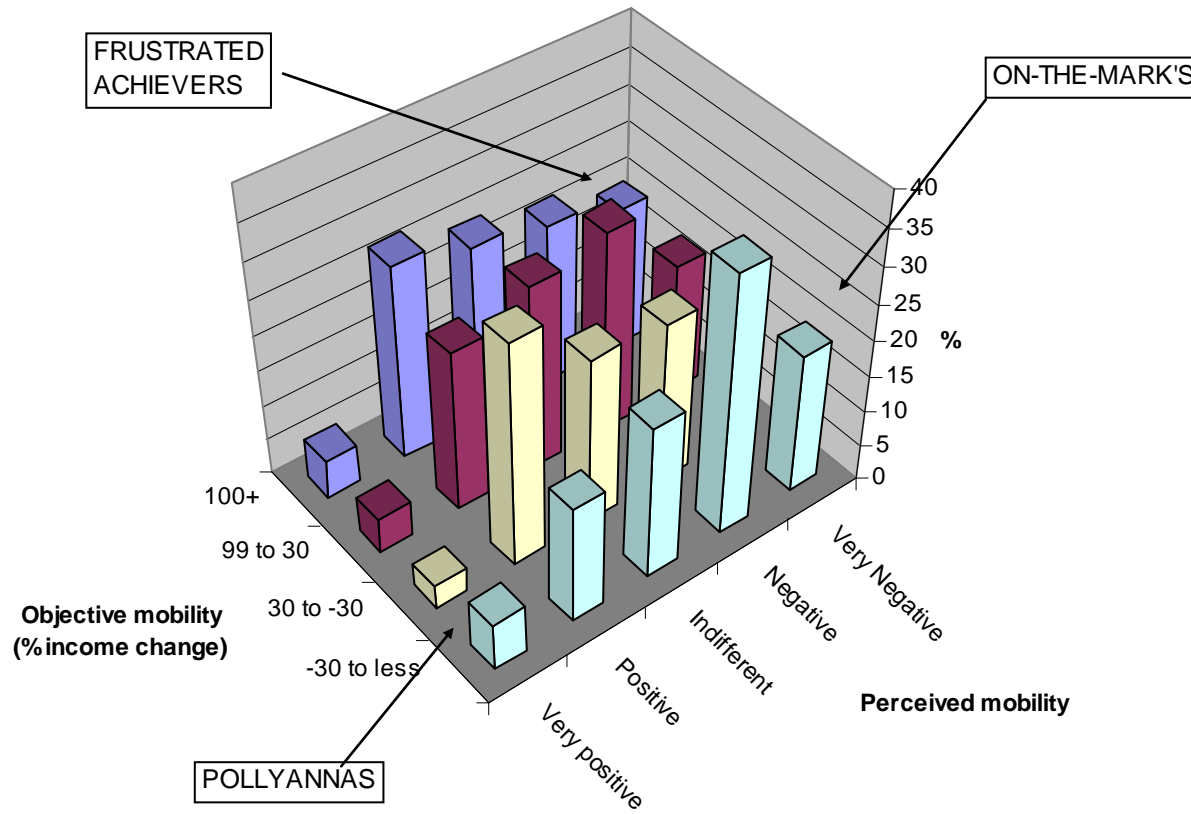
Source: Graham and Pettinato (2002).

Figure 3. Perceived Past Mobility vs. 1995-99 Income Mobility
Russia, 1999

Source: Graham and Pettinato (2002).

Table 4. Average vs. Relative Wealth

Ordered logit estimation of a 1-4 scale of happiness

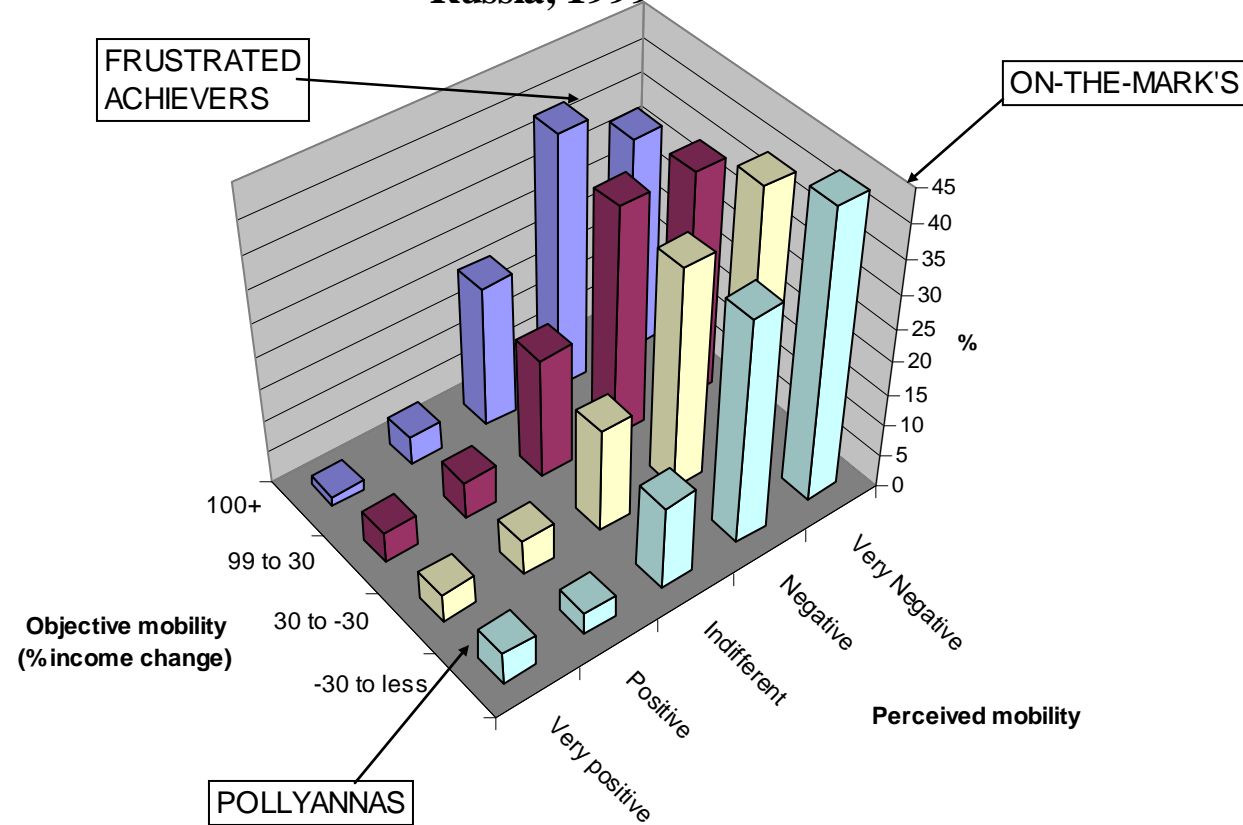|	Average wealth calculated by:					
	country	country	country city size	country city size	country city size	country city size
individual wealth	0.111758 5.44**		0.112175 -6.9**		0.096802 7.96**	
average wealth	-0.052326 -0.70	0.059433 0.78	0.0543354 -0.92	0.057839 0.99	-0.080508 -2.19*	0.016294 0.42
relative wealth		0.111758 5.44**		0.112175 6.9**		0.096802 7.96**
country dummies*	N	N	N	N	Y	Y
citysml dummies	Y	Y	Y	Y	Y	Y
cluster by:	country	country	country citysml	country citysml	country citysml	country citysml

Demographic variables in all regressions: age, age squared, years education, married, male, health, unemp, selfemp, retired, and student

* When calculating average wealth at the country level, country dummies cannot be included in the regression due to multicollinearity. When we run split sample regressions, by city size, average wealth is positive and significant for small cities.

* t-statistics underneath coefficients   \

Figure 4. Happiness Gap in Honduras and Chile

Rich Hondurans: wealth = 8.0
Rich Chileans: wealth = 10.3

Average Honduran wealth: 4.8

Honduran gap: 3.3

Chilean gap: 2.5

POOR   RICH

Honduran gap: 2.1

Chilean gap: 2.5

Average Chilean wealth: 7.8

Poor Hondurans: wealth = 2.6
Poor Chileans: wealth = 5.3
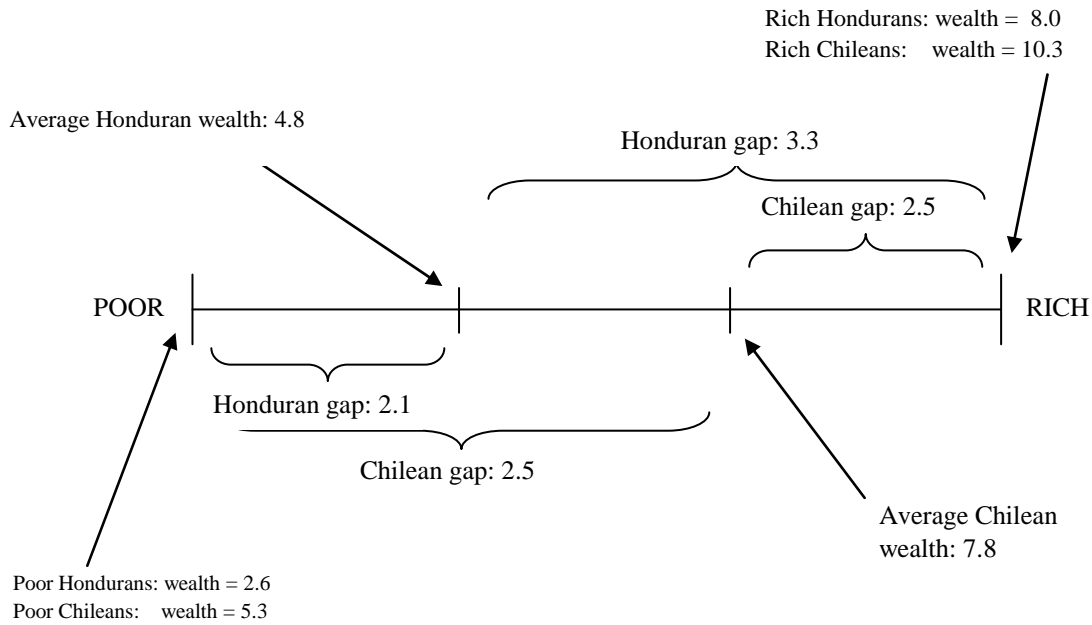
Happiness Gap = wealth gap * coefficient ÷ 4

Calculated Happiness Gap		
	Poor	Rich
Chile wealth gap	-2.489	2.521
Honduras wealth gap	-2.142	3.261
Chile-Honduras difference	0.347	0.740
difference * coefficient / 4 = Honduran happiness differential	**0.43%**	**0.93%**

Wealth quintile	Mean Happiness (1-5 scale)			Mean Wealth (1-11 scale)		
	Chile	Honduras	Overall	Chile	Honduras	Overall
1	2.54	3.11	2.73	5.26	2.64	3.12
2	2.74	3.15	2.85	7.00	4.00	5.00
3	2.77	3.17	2.91	8.00	5.00	6.00
4	2.94	3.13	2.97	9.00	6.00	7.46
5	3.08	3.30	3.08	10.27	8.04	9.63
Total	2.79	3.17	2.88	7.76	4.78	5.81

Regionwide results: rich are 3.83 points higher than mean; poor are 2.68 points lower than mean. These gaps * .05/4 = 5% > happiness for the rich and 3% < happiness for the poor.

Table 5a. Components of the ELQ and Relative ELQ

OLS regression of a 1-10 scale of the economic ladder question

Controls include standard demographic variables and country dummies, clustered by country/city size

Average ELQ is computed at the country/city size level

ELQ	coefficient	z-score	relative ELQ	coefficient	z-score	relative ELQ	coefficient	z-score
age	-0.026	-5.98 **	age	-0.026	-6.14 **	age	-0.026	-6.040 **
age squared	0.000	4.56 **	age squared	0.000	4.59 **	age2	0.000	4.580 **
education	0.059	11.05 **	education	0.056	10.74 **	yedu	0.057	10.830 **
wealth	0.188	21.71 **	wealth	0.184	22.21 **	wealth	0.186	22.000 **
married	0.034	1.52	married	0.030	1.32	married	0.031	1.390 *
male	-0.107	-4.29 **	male	-0.106	-4.26 **	male	-0.106	-4.280 **
health	0.228	9.59 **	health	0.226	9.57 **	health	0.227	9.580 **
unemployed	-0.103	-2.59 **	unemployed	-0.105	-2.6 **	unemp	-0.105	-2.600 **
self-employed	-0.023	-0.85	self-employed	-0.016	-0.6	selfemp	-0.019	-0.680
retired	0.098	1.44	retired	0.091	1.34	retired	0.093	1.380
student	0.098	1.69	student	0.091	1.58	student	0.093	1.620
small town	0.047	0.69	small town	0.214	4.47 **	smalltown	0.157	4.080 **
big city	0.080	2.12 **	big city	-0.291	-8.74 **	bigcity	-0.164	-5.490 **
						avgELQ	-0.341	-6.750 **

Table 5b. Average and Relative ELQ and Happiness

OLS regression of a 1-5 scale of happiness

Controls include standard demographic variables and country dummies, clustered by country/city size

Average ELQ is computed at the country/city size level

happy	coefficient	z-score
average ELQ	0.1297	1.76
relative ELQ	0.1245	6.65 **

OLS regression of a 1-5 scale of happiness

Controls include standard demographic variables and country dummies, clustered by country/city size

Average personal economic satisfaction is computed at the country/city size level

happy	coefficient	z-score
average personal economy	1.006	4.12 **
relative personal economy	0.623	14.9 **

Table 6a. Cost of Unemployment

Ordered logit regression of a 1-5 scale of happiness for 2004 data set
Controls include standard demographic variables and country dummies

	coefficient	z-score
unemployed	-0.342	-6.05 **

Ordered logit regression of a 1-5 scale of happiness for pooled 1997-2004 data set
Controls include standard demographic variables and year dummies

	coefficient	z-score
unemployed	-1.347	-5.18 **
unemployed*gini coefficient	0.018	3.80 **

Ordered logit regression of a 1-5 scale of happiness
Controls include standard demographic variables and country dummies
Costs of unemployment by education level. Base case is illiterate

	coefficient	z-score
unemployed (incomplete primary)	-0.485	-3.83 **
unemployed (completed primary)	-0.205	-1.63
unemployed (incomplete secondary)	-0.511	-4.46 **
unemployed (completed secondary)	-0.562	-5.17 **
unemployed (incomplete tertiary)	0.027	0.13
unemployed (completed tertiary)	-0.246	-1.39

Table 6b. Fear of Unemployment

Ordered logit regression of a 1-5 scale of fear of unemployment
Controls include standard demographic variables (except dummy variables for jobs
that are not in the workforce) and country dummies

	coefficient	z-score
small town	-0.256	-4.34 **
big city	0.081	1.87

Ordered logit regression of a 1-5 scale of fear of unemployment
Controls include standard demographic variables (except dummy variables for jobs
that are not in the workforce)

	coefficient	z-score
gini coefficient	0.017	4.45 **