

**Economic migration and happiness:
comparing immigrants' and natives'
happiness gains from income**

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Abstract

Research on happiness casts doubt on the notion that increases in income generally bring greater happiness. This finding can be taken to imply that economic migration might fail to result in increased happiness for the migrants: migration as a means of increasing one's income might be no more effective in raising happiness than other means of increasing one's income. This implication is counterintuitive: it suggests that migrants are mistaken in believing that economic migration is a path to improving one's well-being, at least to the extent that well-being means (or includes) happiness. This paper considers a scenario in which it is less likely that migrants are simply mistaken in this regard. The finding that increased incomes do not lead to greater happiness is an average (non)effect – and migrants might be exceptional in this regard, gaining happiness from increased incomes to a greater extent than most people. The analysis here, using data from the World Values Survey, finds that the association between income and happiness is indeed stronger for immigrants in the USA than for natives – but even for immigrants that association is still relatively weak. The discussion then considers this finding in light of the fact that immigrants also report lower levels of happiness than natives after controlling for other variables.

Key words: happiness/life satisfaction; international migration; income

1 Introduction

There are good reasons to suspect that economic migrants – those who are motivated mainly by the prospect of higher incomes – might end up disappointed after gaining entry to a wealthy country. Though perhaps counterintuitive, this possibility emerges quite plausibly from consideration of the more general relationship between happiness and income: income is indeed related to happiness, but only weakly, and in pursuing greater incomes via migration migrants might unwittingly make sacrifices in relation to other factors that are more important for happiness. Even economic factors such as income might not work in economic migrants' favor: while migrants to wealthy countries can typically gain higher incomes in absolute terms, their relative position is likely to be lower, particularly to the extent that migration leads to settlement and their "reference group" comes to include others in the destination country. More generally, while people in wealthy countries are on average happier than people in poorer countries, this cross-sectional fact does not by itself mean that migration to the former leads reliably to increased happiness for migrants.

Even so, it is disconcerting to imagine that economic migrants are mistaken in their beliefs about the benefits of migration, as the previous paragraph implies. In some conventional perspectives – particularly the "revealed preferences" assumption of neo-classical economics – the very fact that some people choose to engage in migration is sufficient evidence that they are indeed better off for having done so. Happiness studies adopts a different approach to defining and measuring "better off", rejecting revealed preferences. But the fact that pessimistic implications about economic migration can be derived from happiness studies is likely to provoke substantial skepticism: surely those who seek a better life in the world's prosperous countries are not fundamentally misguided in doing so?!

Research on internal migration suggests that migrants within Thailand were indeed less satisfied with their lives after migration (De Jong et al. 2002; see Michalos 1996 on internal migration more generally). Direct empirical testing of the notion that *international* economic migration leads to disappointment is not possible with existing data, however. The appropriate form of analysis would require a panel dataset that collects data from migrants

before and after migration (and includes questions about happiness). But large data collection efforts (even coordinated surveys conducted in many countries) are still in the main nationally-bounded enterprises that inhibit longitudinal analysis of international migration almost by definition. Immigrants can become part of, say, an American dataset after arrival, but a typical American dataset will not contain data collected from immigrants prior to their leaving their country of origin.¹ Likewise, emigration is one of the mechanisms that lead panel members to disappear from the panel and become “missing”. An alternate strategy – comparing “stayers” to emigrants in a cross-sectional analysis – would be possible in principle using coordinated international datasets such as the World Values Survey (WVS). Even if one can use the WVS to compare the happiness of, say, Poles in the UK to that of Poles in Poland, however, a cross-sectional analysis of this type would fail to address questions of selection and reverse causation, i.e., are happier people more inclined to emigrate vs. does migration lead to increases in happiness.

In lieu of a more direct approach to the question, this paper therefore adopts an indirect approach that considers a more optimistic scenario in which it is less likely that economic migrants are simply mistaken about the happiness consequences of migration to a wealthy country. This scenario begins by revisiting the widespread perception in happiness studies that income in an “absolute” sense (as against relative income, on which more below) is only weakly related to happiness. This core happiness studies finding emerged first in the “Easterlin paradox” (1974) and was the subject of a recent article by Ball and Chernova (2008) (with a great many intervening publications, summarized in Diener and Biswas-Diener 2002 and Graham 2009).

The main hypothesis considered here is that this generally weak association between absolute income and happiness is different – stronger – for those who choose to engage in economic migration. Ball and Chernova’s finding of a weak relationship is an *average* association for the general population. As with any average, different individuals – and perhaps different sub-groups as well – will have values dispersed around that average: in

¹ The Mexican Migration Project overcomes this type of limitation to a degree, though it does not contain questions/variables related to happiness.

general most people will not gain all that much happiness from an increase in absolute income, but it is possible that small numbers of people *do* gain more happiness from an increase in absolute income. That possibility is particularly worth consideration in relation to migrants because international migration is, in relative terms, quite rare: the vast majority of the world's population does not engage in international migration (migrants in 2007 totaled 200 million people, roughly three percent of global population, Castles and Miller 2009). Migrants are known different from the general population in particular ways (for example, entrepreneurship, on which e.g. Light and Bonacich 1991). The possibility to be considered here is that they are different in the degree to which income and happiness are related as well. If that association is stronger among immigrants, then perhaps economic migration is more beneficial to them than a more general reading of happiness studies would imply.

2 Previous Research on Happiness, Income, and Migration

The Easterlin paradox is the touchstone for many discussions of income and happiness. Easterlin (1974) determined that, while people in wealthier countries were on average happier than people in poorer countries, that relationship was not strong – and at least for relatively wealthy countries there was essentially no relationship between happiness and income (growth) over time. A particularly stark example of this point is Japan, where economic output increased by several hundred percent during its long economic boom beginning in the 1950s but average happiness did not rise (Easterlin 2005). Happiness has even declined in recent decades in the USA; increasing difficulties with stability in marriage/relationships and employment are possible reasons, for which higher average incomes are insufficient compensation (Blanchflower and Oswald 2004).

This reading of the data has not gone unchallenged. Easterlin's argument rested in part on his finding that the relationship between income and happiness was weaker in wealthier countries than in poorer countries – suggesting a “threshold effect”, i.e., above a certain level, extra income does not add much (if anything) to happiness. Stevenson and Wolfers (2008), armed with more data (as well as more recent data), assert that that relationship is equally strong in wealthy and poor countries. They also consider a variety of

issues including question wording, question order, and variations in sampling strategies, and they argue that the finding of no relationship between economic growth and happiness is unduly sensitive to researchers' decisions on these matters (cf. Graham 2009). But they also acknowledge that "[t]he time-series part of our analysis [demonstrating a positive longitudinal relationship] is necessarily only suggestive..." (2008:29), and Easterlin and Angelescu (2009) in a direct response assert that a time-series analysis demonstrates that there is indeed no relationship.

Crucially, economic growth does not result only in higher levels of income: one consequence of growth is more "goods", but growth also creates qualitative changes in people's lives. To the extent that change itself is uncomfortable for some, we can think of growth as producing "dislocations" (Graham 2009). Deaton (2008) found a negative association between economic growth and life satisfaction when income levels are controlled, though that association perhaps disappears if former Soviet-block countries, where data quality is arguable lower, are removed (cf. Diener et al. 1993). There is currently no indication that happiness researchers have abandoned the view that economic growth contributes little if anything to happiness (though some do reject it, to be sure).

The Easterlin paradox is sometimes misconstrued as consisting of the claim that money is unimportant for happiness (cf. Diener 2008). Phrased in those terms, the claim is obviously false and overlooks key distinctions. The most important of these is the distinction between relative and absolute income for the individual. The notion that economic growth does not increase *average* levels of happiness is consistent with the possibility that individuals might experience changes in happiness in part as a result of changes in income. Within countries, wealthier people are on average happier than poorer people. One main reason is that money is in part a positional good, a sign of status: if one can raise one's position in the income distribution, an increase in happiness is likely to follow (though for others it might decline – Boyce et al. 2010). But economic growth cannot raise everyone's status, and if economies grow while individuals' positions remain unchanged, happiness is likely to remain unchanged. Income in a relative sense matters for happiness, but a key implication of the Easterlin paradox is that income in an absolute sense does not.

A recent paper by Ball and Chernova (2008) demonstrates that even this strong conclusion about absolute income is overstated – slightly. Using a very large multi-country sample, Ball and Chernova found statistically significant associations between absolute income and happiness even after controlling for the effects of relative income (as well as other variables explaining variation in happiness). But the strength of the association was very weak. Relative income showed a stronger association with happiness. But other (non-economic) factors matter much more – in particular, marriage (or having an intimate partner even if not married), employment and health. Ball and Chernova quantify this point: “For a median individual who is single, getting married or finding a domestic partner would increase happiness as much as an increase in absolute income of 767% ... or 1948% [depending on the regression specification used]” (2008: 523). Even larger ratios follow from finding employment and gaining improvements in health. The effect of relative income is roughly three to four times larger than that of absolute income, but non-monetary factors are still much more important.²

At the level of folk wisdom and popular culture, the notion that money contributes little to happiness comes as no surprise (cf. Gershwin: “The man who lives for only making money / lives a life that isn’t necessarily sunny...”). It clashes with a great deal of economic theory, however – particularly the assumption of revealed preferences. Many people act in ways that provide apparent evidence of a real desire for more money (Lee 2006). But Gilbert (2006) argues persuasively that some of our desires are dysfunctional in the sense that fulfilling them fails to bring satisfaction, and Kahneman et al. (2006) argue that a “focusing illusion” leads to exaggerated expectations of happiness benefits from income in particular and thus to misallocation of time (and, one presumes, effort).

Happiness researchers point to three related psychological processes to explain why life choices based primarily on desire for money often result in some disappointment. One is adaptation: any initial greater satisfaction from a higher income (or the purchases it

² As with many studies of this type, Ball and Chernova’s analysis is based on cross-sectional data. Clark and Oswald (2002) assert that the structure of equations based on panel data is similar to those derived using cross-sectional data, suggesting that “omitted dispositions” is not a problem for the latter.

facilitates) erodes as we become accustomed to it (Frederick and Loewenstein 1999, Easterlin 2001; cf. Scitovsky 1992). A second process is aspiration: as income increases, our aspirations (i.e., for even greater income) increase as well (Easterlin 2001, Stutzer 2003, van Praag 1993). What matters for happiness in this regard is the degree to which income matches income aspirations, so that greater income is no guarantee of greater satisfaction. The third process is social comparison, and happiness researchers note a trend in which people whose income rises alter their reference groups for comparison: instead of deriving satisfaction from giving salience to one's improved position relative to a stable reference group, increased income leads people to compare themselves to a wealthier reference group (Clark et al. 2008), perhaps in excess of a tendency to weight upward comparisons more heavily (Boyce et al. 2010). As indicated above, a common psychological dynamic concerning the relative dimension of income undermines the potential for income increases to lead to greater happiness. Consideration of these processes is consistent with the finding that those who show evidence of a materialist orientation generally report lower levels of happiness than those who give priority to other types of goals (Kasser 2003, Frank 1999).

That point suggests that a degree of skepticism might be appropriate in relation to international migration motivated primarily by economic considerations. Migrants from poorer countries who gain entry to wealthy countries might not benefit much from the absolute dimensions of an increased income, and in relation to relative income migration might be disadvantageous insofar as one's relative position in the destination country is likely to be lower than it was in the sending country (Portes and Bach 1985). Particularly if migration leads to permanent settlement, one's reference group will likely come to include people in the destination country, and difficulties with language and recognition of qualifications might mean that those who were middle-class in the sending country will encounter obstacles to finding middle-class jobs in the destination. Happiness among immigrants is particularly affected by discrepancies between prior expectations and realities after migration, raising the possibility of unrealistic expectations (Vohra and Adair 2000; on discrepancies more generally, see Michalos 1985). Happiness is determined in part by personality/temperament (Diener et al. 1999, Lykken and Tellegen 1996), and to the extent

that migration was motivated by a sense of frustrated ambitions one might find that that feeling persists after migration despite economic gains (cf. Graham 2009). Economic migrants typically make sacrifices in other areas of life (e.g. separation from family) for the sake of the increased income migration can bring (e.g. Dreby 2010) – but if the benefits of increased income prove chimerical then the sacrifices might amount to pure loss.

The speculative tone of the previous paragraph recalls a point made in the introduction: there is currently no empirical research enabling us to know whether migration leads to increased happiness. Scott and Scott (1989) determined that most immigrants to Australia reported being happier and more satisfied with their lives relative to five years previously, a span that would capture the period prior to migration for some. But most people report, at any given point, that they are happier than they used to be (Hagerty 2003), and Scott and Scott indeed found that immigrants were similar to native-born Australians in this regard.

While the absence of research means it would be unwise to claim that we can know that migration *does not* lead to greater happiness, it seems equally unwise to claim that we can be confident that it *does* lead to greater happiness. We would likely be more confident about happiness consequences if most economic migrants originated in the world's poorest countries. But migration requires resources, and the very poorest typically do not have the resources for migration. To the extent that economic migration involves people whose basic survival is not threatened but who “merely” want to raise their standard of living, happiness studies leads us to the suggestion that an increased standard of living accomplished via migration might not result in greater happiness.

Some migration researchers, not studying happiness directly, write about the difficulties faced by immigrants in ways that resonate with the notion that migration might not bring happiness. Parreñas (2001), for example, portrays the “dislocations” particularly of female migrants, and Sayad refers to the “suffering of the immigrant” and even the “‘hell’ of immigration” (2004:88) There is evidence that immigrants in some wealthy countries report lower levels of life satisfaction than natives, controlling for other determinants (Safi 2009). In addition, this divergence shows little sign of dissipating over time. Even the notion that

migration involves a sacrifice that one makes for the sake of one's children is not obviously borne out in the experience of the children: Safi found that the gap in happiness with respect to natives was no smaller for the second generation than for the immigrants themselves.³ Even so, these findings do not mean that happiness for migrants was lower after migration than before. We simply can't answer that longitudinal question with the cross-sectional data available.

In lieu of a direct test of that question, then, this paper considers a possibility in which economic migrants might experience greater happiness following migration to a wealthier country. When happiness researchers assert, on the basis of a coefficient in a model equation, that the effect of increased income is small, the correct interpretation of that assertion is that the *average* effect is small, i.e., for most people. As with any average, one expects to find that the values for individuals are dispersed around that average, such that a small number of individuals are likely to have values that are located quite some distance from the average value. Again, international migrants constitute a very small part of the world's population; migrants are "exceptional", likely to be different from the general population in a variety of ways, some of which lead them to choose migration (within a structural context of opportunities, constraints, and ideas). The main question addressed in this paper, then, is whether migrants are exceptional with regard to the relationship between income and happiness. If migrants gain more happiness from income than an average individual, then perhaps economic migration is a more sensible choice than would appear from a straightforward reading of the research literature on happiness and income.

3 Data and Methods

Data for this analysis are drawn from the World Values Survey, which includes questions on happiness and life satisfaction as well as a number of other variables widely understood to

³ Migrants might well *believe* that migration is a sacrifice worth making for the sake of their children – but that belief might be inaccurate in relation to actual consequences for the second generation, particularly if the children themselves show evidence of downward mobility as per the segmented assimilation thesis (Portes and Zhou 1993). Beliefs about remittances might be similar in this respect: Borraz et al. (2007) found that emigrants' families back home were less happy than non-migrant families despite the greater income brought by remittances.

be important for analysis of happiness. I use data from the 1995 (third) wave; analysis specifically of immigrants using later waves is not possible because the question enabling the comparison between immigrants and natives is no longer used. The sample size is 1542, with an age range from 18 to 94.

In certain respects the analysis here builds on that of Ball and Chernova, but I depart from them in a number of ways. To begin, I limit my analysis to the USA, instead of attempting to cover a large number of countries. Different countries attract different kinds of immigrants, with different motivations and with different contexts of opportunity. It seemed unwise to include countries in the European Union, for example, given the opportunity for unrestricted movement internally and relatively greater closure to migrants from outside the EU.

The WVS question on life satisfaction (V65) was used by Ball and Chernova for their analysis of the relationship between income and happiness. Their decision to denote as “happy” a life satisfaction variable is slightly odd (particularly since the dataset contains a variable addressing happiness directly, V10) though defensible: life satisfaction is typically viewed as the cognitive/evaluative component of happiness (the latter also encompassing an affective dimension e.g. the prevalence of positive feelings). Blanchflower and Oswald establish (2004) that empirical models are not very different when using happiness versus life satisfaction as the dependent variable; Schyns (1998) found that the correlation between the two variables was extremely high (e.g. 0.90). In common with many researchers, I therefore use the terms life satisfaction and happiness interchangeably here. The question on life satisfaction (“All things considered, how satisfied are you with your life as a whole these days?”) offers respondents a ten-point scale for response, with 1 labeled “dissatisfied”, 10 labeled “satisfied”, and the intervening values unlabeled. The fact that this variable derives from ten response options (as against four options for the variable asking specifically about happiness, V10) offers some technical advantage, as will become clear below.

One key independent variable of interest is income. The WVS asks respondents (V227) to select from ten income brackets the range in which their household’s income falls. Following Ball and Chernova I convert this variable into data on actual (absolute) income

using the midpoint of each income bracket to approximate respondents' household income, expressed here in US\$ thousands. (The highest option contains only a minimum figure, and so I use 120% of this minimum to approximate the income of people in the highest range.)

As noted above, a key finding of happiness studies is that income matters not only in an absolute sense but in a relative sense. To capture the relative dimension of income, Ball and Chernova construct two measures. One is the percentile in the overall income distribution in which a respondent's household income falls (the percentage of respondents in the sample with incomes equal to or less than his or hers). The second is the ratio of one's absolute income to the sample median (\$35,000 in the USA in 1995).

The other primary independent variable is immigrant status. The third wave of the WVS asks respondents whether they were born in the US – and, if not, they are then asked to report region of birth (Latin America, Canada, Europe, Africa, Asia, other). Using this question, I construct an “immigrant” variable, 0 if an individual was born in the US and 1 otherwise. Variations on this scheme are explored further in the next section.

The analysis also uses a range of control variables commonly included in statistical models of happiness. Marital status is indicated with three dummy variables (the reference category is single): “partner” (for those who are married or living with a partner), “split” (for those who are divorced or separated), and “widowed”. Sex is indicated with zero for male and one for female. “Age” is given in years; the square of age (divided by 100) is included to take account of the curvilinear relationship between age and happiness (with declining happiness in middle age, followed by an increase when other variables are controlled). Respondents report their “health” on a five-point scale, indicated here with one as very good and five as very poor. A variable for number of children is recoded with two dummy variables (reference category is no children): one for one child and another for two or more children. Religiosity is captured by a variable that asks respondents to rate the importance of “God” on a ten-point scale (one indicates least important).

A variable for employment status is also included as a control. Ball and Chernova use six dummy variables, to capture the separate effects of being a student, retired, employed part-time, etc., relative to being employed full-time. For the analysis presented here, I adopt

a different approach, constructing a single dummy variable for “unemployed” relative to all other employment statuses (not unemployed, thus including those who are retired, students, etc.). I adopted this simplification of Ball and Chernova’s model after determining that for this sample only unemployment indicated a significant association with life satisfaction; nothing was gained via separate analysis of the other employment statuses.

For assessing happiness among immigrants previous research suggests that additional variables might be relevant – in particular, facility with the dominant language and time since immigration (e.g. Ying 1996, Neto 1995, Amit 2010). Time since migration is indicated with a variable asking those born abroad how many years ago they came to the USA (with answers given in ranges, e.g. 6-10 years ago, 11-15 years ago, etc.). Another variable indicates which language respondents normally speak at home; this variable admittedly does not capture problems with ability to speak English, as those who normally speak a different language at home might nonetheless speak English well.

The values of these variables for natives and immigrants are summarized in Table 1. The analysis later introduces a distinction between immigrants from Europe and Canada on one hand and immigrants from Africa, Latin America, Asia and “other” on the other hand, and the third and fourth columns of Table 1 provide separate values for respondents in those two groupings.

(Table 1 here)

4 Analysis and Results

The dependent variable, deriving from a question on life satisfaction with ten options for response, is ordinal, and an appropriate form of analysis thus uses an ordered logit model (on which see O’Connell 2006). Strictly speaking, ordinary least-squares regression is inappropriate because the underlying variable is in principle continuous, with possible non-integer values – but these are not captured via the integers offered to respondents on the questionnaire. Nor can one assume that the intervals between the integers are applied

equally by respondents throughout the range of the response options. This issue is revisited below.

Key variables of interest relate to respondents' household income. As noted above, previous research shows that happiness is associated with income in both an absolute sense and a relative sense. In analysis here, for both approaches to relative income (as a percentile, and as a ratio to median income) the correlation between relative income and absolute income was so high that the resulting collinearity made it impossible to include both measures in the model. Given that the main question addressed in this paper relates to absolute income, the relative income variables were therefore dropped from the analysis (with no notable consequences for other variables in the model apart from absolute income). Absolute income is strongly skewed to the right, and so consistent with previous research the model here uses the natural logarithm of absolute income.

Early attempts to fit an ordered logit model using Stata resulted in failure to satisfy the assumption of parallel lines (equal effects of all independent variables at all levels of the dependent variable). I therefore aggregated the sparsely populated lower ranges of life satisfaction (one through four) and used "gologit2" (Williams 2006) to determine a partial proportional odds model, which enables estimation of a model in which coefficients for independent variables are allowed to vary across different levels of the dependent variable if necessary.

The primary question raised in this paper is whether the relationship between happiness and absolute income is different for immigrants, relative to that relationship for the general population. The fact that the coefficient for the interaction term in Table 2 is significant at conventional levels is consistent with the hypothesis that immigrants are indeed different in this association: a higher income raises the odds for higher levels of life satisfaction to a greater extent for immigrants than it does for natives.

(Table 2 here)

A second finding of interest in this model is the fact that being an immigrant in the US is associated with significantly lower odds of higher levels of life satisfaction relative to

natives (in line with results reported for Europe by Safi, 2009; cf. Bălțătescu 2007). The coefficient is not just statistically significant but is large in absolute terms: immigrants have significantly higher odds, relative to natives, of reporting lower levels of life satisfaction when other variables are controlled.⁴ Interpretation of this association is revisited below.

Other variables in the model behave mostly as expected. As in previous research, the coefficient for logged absolute income is positive and statistically significant at conventional levels. Other results include higher odds of greater life satisfaction among people who are married or living with a partner and lower odds of higher life satisfaction among the unemployed. The quadratic term age-squared indicates that life satisfaction starts rising in later life if other variables are controlled (though in reality other variables aren't controlled, e.g. as health declines with age, cf. Ball and Chernova 2008). Life satisfaction is higher for those who are more religious. Those with two or more children are less satisfied than those with no children; there is no difference between the childless and those with one child, as in Ball and Chernova's models. The table does not report a coefficient for health because in the partial proportional odds model the impact of health was not consistent across the different levels of life satisfaction. It was however a significant variable: the coefficients ranged from -0.933 to -0.418 , with poorer health having stronger negative impacts at the lower levels of life satisfaction (all coefficients highly significant at $p < .001$). Coefficients for variables on age and sex showed the expected sign (e.g. life satisfaction declining with age), but they were not statistically significant and were removed from the model for the sake of parsimony, with no consequences for the values of other variables.⁵ The variables on language and time since immigration also showed no significant association with the dependent variable and were not retained.

⁴ When one considers that particularly unhappy migrants might be more inclined to return to their country of origin (or to move on to another destination), the size of this negative coefficient might be even larger if migrants who had already left were included in the sample. As noted above, national constraints on data collection inhibit measurement of immigration-related processes like this.

⁵ The age variable was statistically significant in Ball and Chernova's models – presumably because their sample was much larger ($>20,000$). Even with the larger sample, sex was not significant in their models.

It bears exploring further how the negative value of the coefficient for the “immigrant” variable comes about. Examination of bivariate associations in Table 1 showed that in the absence of control variables immigrants do not report lower average levels of life satisfaction ($\bar{x} = 7.5$, vs. $\bar{x} = 7.7$ for natives – not a statistically significant difference). But immigrants rate more highly than natives on many of the characteristics that are positively associated with happiness: they show higher rates of marriage and lower rates of divorce, they are younger, and they have fewer children. Only on unemployment do immigrants fare worse than natives. The fact that they nonetheless do not report higher levels of life satisfaction (i.e., in a bivariate comparison, without controls) helps account, in part, for the negative association between immigrant status and life satisfaction.

We thus see evidence consistent with two propositions here: being an immigrant is associated with lower life satisfaction, and the positive effect of income on life satisfaction is stronger for immigrants than for natives. To make greater sense of these two results, the analysis turns now to a less well-specified model that has the virtue of facilitating more accessible interpretation. Table 3 presents a model that departs from Table 2 in that it employs ordinary least-squares (OLS) regression, proposing that the ten-item question on life satisfaction provides a sufficient approximation of the underlying continuous variable to meet the assumptions of OLS. Again, strictly speaking OLS is not appropriate for ordinal data (though many researchers use it anyway). But it is more plausible for an ordinal variable with ten response categories than for an ordinal variable with only three or four categories, and Blanchflower and Oswald (2004) find that an OLS model of even a three-category response variable on happiness gives results that are roughly equivalent to an ordered logit model. Using a cautious approach to interpretation, the point is to gain greater insight into the two main findings of the ordered logit analysis.

(Table 3 here)

The first observation regarding the model in Table 3 is that the effect of absolute income is small. The variable expresses (logged) US\$1000s. A coefficient of .198 for a logged income variable suggests that doubling the median income of \$35,000 would result in an

increase of less than one-seventh of a point on that scale ($\ln 70 - \ln 35 = .6935$, and $.198 * .6935 = .137$). This result is consistent with Ball and Chernova's main finding: the effect of absolute income on happiness is very small.⁶ It is worth emphasizing in this context that in practice very few people are capable of doubling their income: achievable increases in income for most people likely have very small positive effects on their life satisfaction.

Given the inclusion of interaction term between income and immigrant status in this model, the coefficient for income in the table (.198) applies to natives (for whom "immigrant" = 0). The coefficient for the interaction term, .563, suggests that the income coefficient for immigrants is .761 instead of .198. This is indeed a larger figure – but it is still small, insofar as it suggests that doubling the median income of \$35,000 (while holding other variables constant) would result in an increase in happiness for immigrants of just over half a point on the ten-point scale. (Given the presence of the interaction term, this calculation is more complicated, requiring comparison of life satisfaction for two hypothetical individuals via the regression equation – see the Appendix for calculation, which results in a difference/gain of .527). Even for immigrants, then, the association between income and life satisfaction is not large (though quite a bit larger than for natives), particularly when we consider income increases that are likely to be achievable.

As in the ordered logit model, the coefficient for immigrant status is negative and statistically significant. The presence of the interaction term between immigrant status and income induces a further requirement for caution in interpretation: one cannot interpret the immigrant coefficient directly, as this would constitute a comparison between an immigrant and a non-immigrant with no income. Instead, consider the difference between an immigrant and a native both earning the median income, \$35,000 (and holding identical values for the other variables): using the model we would predict that happiness for the immigrant would be .189 lower than for the native (see the Appendix for calculation). Other results, for the various control variables, show similarity to the ordered logit specification.

⁶ This statement assumes that the direction of causality, if any, runs from income to life satisfaction. The reverse is plausible, as often noted: more satisfied people might be able to earn higher incomes.

So far the analysis has turned on a straightforward comparison between natives and immigrants. This approach is not necessarily the best way to address the question posed in the introduction, insofar as that question asks about the determinants of happiness among *economic* migrants in particular. The experience of immigrants from poorer countries is therefore of particular interest. The motivation for immigrants from wealthier countries might also be “economic” in the sense that one is drawn by a job opportunity, but for immigrants from poorer countries the prospect of greater income is particularly relevant, and in any event greater income is a key element of such immigrants’ experience after migration. The analysis therefore turns now to a model that distinguishes between immigrants from Europe and Canada on one hand and immigrants from Asia, Latin America, Africa, and “other” on the other hand.⁷

It appears that this distinction might indeed matter. Table 4 presents the results of an OLS model: immigrants from Europe and Canada do not report significant differences in life satisfaction (controlling for other factors), while the negative coefficient (statistically significant at conventional levels) for immigrants from (mainly) Asia, Latin America and Africa suggests that they do experience lower levels of satisfaction. (One could quibble about the p-value of .053 for that coefficient – though doing so would fetishize the conventional cutoff of .05.) The same conclusion is apparent for the different relationship between income and life satisfaction: the interaction term with respect to immigrants from Asia, Latin America and Africa is statistically significant (using a one-tailed hypothesis test – appropriate to the extent that one would predict that economic migrants would benefit more, not less, than natives from greater income), while for immigrants from Europe and Canada it is clearly not. It appears that immigrants to the US from poorer countries find greater satisfaction from higher absolute incomes (in comparison to natives), while the same conclusion for immigrants from wealthier countries cannot be drawn from these data.

⁷ There is, unavoidably, a degree of imprecision in designating (all) countries in Asia as poorer than the US: that designation would not be correct for Japan, in particular. In addition, “other” would likely include Australia and New Zealand – though it would also include immigrants from the Caribbean.

(Table 4 here)

A number of caveats are in order, particularly in relation to the previous paragraph. In making the distinction between two different types of immigrants, we run the risk of failing to reject false null hypotheses purely because the subsamples are small. In the sample analyzed here, there are 35 immigrants from Europe and Canada as against 65 immigrants from Asia, Latin America, Africa and “other”. The relevant coefficients for the Europe/Canada group show signs consistent with results in previous tables: a lower level of life satisfaction and a stronger relationship between absolute income and life satisfaction, relative to natives. The small size of this group might be the major factor in failing to find that the difference in life satisfaction is statistically significant – though the coefficient is smaller than the coefficient for immigrants from poorer countries. The same point might hold in relation to the interaction term, though here as well the coefficient for the interaction term pertaining to immigrants from Europe and Canada is smaller.

The issue of small subsamples raises a more general question: how well does this sample represent the population of immigrants in the USA? Immigrants (the foreign-born) constitute 8.3 percent of this sample – a figure that is not too far off the percentage of foreign-born in the US population: 8.8 percent in 1995 (SOPEMI 2000, using figures from the US Census Bureau). To the extent that the sample here fails to capture the full range of the immigrant population, we would expect that it fails to fully represent undocumented immigrants in particular. Their probable under-representation is unfortunate insofar as undocumented immigrants are especially likely to fit the concept of economic migrants. Even so, undocumented immigrants are in all likelihood more similar to those in the sample from Asia, Latin America and Africa than to those from Canada and Europe; many probably originate from Latin America. It therefore seems unlikely that their inclusion would undermine the associations found in the analysis presented above; if anything, their inclusion might well reinforce those associations.

The finding of a negative association between immigrant status and life satisfaction (particularly for those from poorer countries) begs the question: how might we explain such

an association?⁸ We cannot point to other variables included in the analysis, as the coefficient for immigrant status is determined in part by controlling those other variables. One might suspect that income itself is responsible, but the effect of income is evidently small even for immigrants from poorer countries, and in any event immigrants in that group report a mean household income that is not much smaller than the average income of natives (roughly \$37,200 vs. \$39,200, not a statistically significant difference). Even though migrants from poorer countries succeed, on average, in earning incomes on par with natives and experience larger happiness benefits from income, that latter effect is not sufficient to counteract whatever it is that results in the negative association between immigrant status and life satisfaction.

One possibility for explaining that negative association arises from consideration of their satisfaction with their financial situation. Financial satisfaction is measured in the WVS with a variable similar to life satisfaction (on a 10-point scale). Immigrants report substantially lower satisfaction with their household financial situation than natives: $\bar{x} = 5.9$ vs. $\bar{x} = 6.6$. The difference is even larger for immigrants from Asia, Latin America and Africa, whose average level of financial satisfaction is 5.5 – again, despite average earnings equivalent to those of natives. If we add the financial satisfaction variable to the equation reported in Table 3 (results in Table 5, left-hand columns), the noteworthy consequence is that the “immigrant” variable is no longer statistically significant ($p=0.134$). The same result follows from adding the financial satisfaction variable to the equation in Table 4 (results in Table 5, right-hand columns): the coefficient for the variable denoting immigrants from the poorer countries is no longer significant ($p=0.106$).

(Table 5 here)

⁸ One might wonder whether immigrants and natives would tend to answer the life satisfaction question differently perhaps for cultural reasons. But data from this type of question are regularly used for international comparisons of happiness, and while there are indeed cultural differences (on which see Suh et al. 1998) there is no apparent reason to believe that any “bias” arising from cultural factors would work solely in one direction, given that immigrants to the US come from a very wide range of countries.

A highly plausible interpretation is that immigrants are less satisfied with their lives than natives in part because they are less satisfied with their financial situation. Perhaps, then, economic migrants to the USA develop (or bring) exaggerated income aspirations – exactly as one might expect via extrapolation from previous research on income and happiness (Easterlin 2001). On average, even immigrants from poorer countries earn incomes in line with the incomes of natives – but it seems that in the course of achieving incomes higher than they would have earned in the country of origin these immigrants are also developing income aspirations in excess of the income aspirations of natives. It would then make sense that average incomes go with below-average life satisfaction for immigrants (i.e., lower than would be anticipated given other characteristics).

A final scenario that might shed light on the negative “immigrant” coefficient returns us to the fact that in determining the models presented above it was necessary to remove the relative income variable. As Ball and Chernova demonstrate (2008), when one controls for relative income, the effect of absolute income is very small. Insofar as the models presented above do not control for relative income, they are almost certainly overstating the effect of absolute income, in comparison to a model that does control for relative income. The suggestion that doubling the median income would result in an increase in life satisfaction of .137 for natives and .527 for immigrants fails to consider that part of any increase in life satisfaction resulting from increased income would be attributable to one’s higher position, i.e., one’s status in an income hierarchy, not only from direct enjoyment of the income per se or the acquisitions it would facilitate (“absolute” income). As noted earlier, Ball and Chernova find that the relative effect is larger than the absolute effect.

We can then consider plausible scenarios in relation to what immigrants from poorer countries are likely to experience. I suggested above that very few people are capable of doubling their income – but a significant increase in income is exactly what economic migrants by definition set out to do, and moving to a wealthier (high-wage) economy no doubt enables some people from poorer countries to accomplish such a goal (though consideration of the point raises an additional complication of purchasing power). But many economic migrants are likely to experience a decline in relative position in the process, as

noted above (i.e., a lower relative position in the destination, as against a higher relative position in the origin). Economic migrants are said to be less concerned with local status hierarchies early in their migration histories, but if they become more or less permanent settlers their status orientation (reference group) is likely to include natives to a greater extent (Piore 1979). Perhaps, then, the small effect of an increase in absolute income is outweighed by a plausibly larger negative effect of a decline in relative position. This is another way we might make sense of the negative association between immigrant status and life satisfaction when other variables are controlled. There are of course a number of other factors not included in the model presented above that could also be relevant to immigrants' happiness – e.g. the simple fact of being a foreigner, of adapting to a different culture and perhaps a different language.

5 Conclusion

The immediately preceding comments are quite speculative, and even if it were possible to indicate the likely dimensions of the various suggested associations (e.g. their relative weights), we would still lack the longitudinal data required to address the questions in a more definitive manner. It is therefore worth returning to what we can assert with a reasonable degree of confidence rooted in analysis of data.

The analysis presented above confirms for the USA what Safi (2009) found for immigrants in Europe, i.e., that being an immigrant is associated with lower levels of life satisfaction than natives. The ordered logit model indicates that being an immigrant lowers the odds of reporting higher life satisfaction scores, and coefficients from the OLS models suggest that immigrants earning average incomes are approximately one-fifth of a point lower on the ten-point scale than similarly-placed natives (i.e., when other variables are controlled). In distinguishing between the two broad groups of immigrants, it appears that this association emerges particularly from the experience of immigrants from poorer countries, as against immigrants from other wealthy countries.

Immigrants do appear to evince a stronger relationship between income and happiness, in line with the hypothesis that motivated this paper. Here as well the disparity is

stronger for immigrants from poorer countries (and possibly there is no difference in this regard between natives and immigrants from Europe and Canada, though the small subsample size might be the best explanation for that result). But it bears emphasizing that, even though immigrants from poorer countries seem to gain more happiness from income than natives, the effect is nonetheless small, particularly when we recall that the indicated values are almost certainly exaggerated quite substantially by the omission of a relative income variable from the models. Moreover, it appears that the extra happiness migrants get from the absolute dimension of their incomes is outweighed by the fact that they are less satisfied than natives with the incomes they have achieved. This is more a paradox than a contradiction: it suggests that immigrants might indeed gain more happiness than natives from having even greater incomes, but they are also more frustrated than natives by not being able to achieve greater incomes than the ones they have in reality.

The analysis presented in this paper is consistent with two interpretations regarding whether economic migration generally increases happiness for the migrants. If one is inclined to believe that migrants generally make choices well grounded in an understanding of their own goals and the conditions they are likely to encounter in the destination, then upon finding that they experience lower life satisfaction in the destination relative to natives one will probably conclude that their life satisfaction in the country of origin must have been even lower – i.e., migration is a path to improvement. If, on the other hand, one is more inclined to believe that migrants (like most people) sometimes hold mistaken beliefs about whether a particular choice will result in increased happiness, then the fact that migrants' life satisfaction is lower than that of natives might suggest that economic migration is indeed sometimes a mistake in terms of its consequences for happiness.

It is not possible, with the survey data available, to adjudicate between these two possibilities. The former, more optimistic scenario likely predominates among many migration scholars, at least as an implicit assumption. It is also a premise of many discussions of the ethics of migration control policies: the best reason for mounting an argument favoring open borders is the belief that migrants would benefit from the opportunity for

migration (Bartram 2010), and happiness is arguably a compelling way of specifying “benefit” (Sumner 1996).

If the pessimistic (second) scenario is more accurate, then there is a deep irony. In general, happiness researchers find that wealthier countries are more conducive to higher average levels of individual happiness than poor countries (in part because of political and institutional factors – e.g. wealthier countries generally embody a higher level of freedom, see e.g. Frey and Stutzer 2002; Radcliffe 2002; Diener et al. 2009); such countries are said to be more “livable” (Veenhoven and Ehrhardt 1995; cf. Veenhoven 1991). But it would be an ecological fallacy to conclude on that basis alone that one can achieve a higher level of happiness via migration to a wealthy country. Migration is a longitudinal process, and the Easterlin paradox can be taken to imply that migration as a means of raising one’s income might be no more effective at increasing happiness than other means of increasing one’s income. Happiness for immigrants in wealthy countries might result from different processes, relative to natives in those countries, and even if it were established that income increases do in general result in greater happiness, it does not necessarily follow that income increases accomplished *via migration* bring greater happiness. The consequences of increased income are probably separable from the consequences of the *means* by which one gains increased income (Diener and Biswas-Diener 2002).

Immigrants no doubt benefit in a number of ways from gaining access to a wealthy country. Subjective well-being is hardly the only relevant issue, and an ethical position that saw no problem when people are happy despite objective deprivation would be highly objectionable (Sen 1999). But it seems less likely that they benefit specifically from having gained access to higher incomes, relative to the incomes they earned in their country of origin. It appears from the analysis above that they benefit more than natives from achieving higher incomes – but the magnitude of that benefit is still small, especially considering that the models presented here overstate the association with “absolute” income. Whether the other benefits of migration are generally outweighed by costs of various types – and indeed whether migration generally brings an increase or a decrease in happiness (or no change) – is surely a question worthy of further attention.

Appendix

The presence of the interaction term in Table 3 means that the only way to determine the difference in life satisfaction between two immigrants, one earning the median income of \$35,000 and the other earning twice that, is to use the equation specified by the model. I show here the calculations that produce the result indicated above. The values of the other variables do not matter for this purpose as long as they remain constant for the comparison, but they are required for the calculation: our individual is therefore married, with no children, not unemployed, 40 years old, in “good” health (=2), and attributes a moderate degree of importance of God in his life (=5). (Recalling that income in this model is logged, the first term after the constant below uses the natural logarithm of 35, thus 3.555.)

For an immigrant with these characteristics earning a median income, then, life satisfaction is predicted by $y = 6.843 + .198 (3.555) - 2.189 (1) + .563 (1 * 3.555) + .720 (1) - .320 (0) - .042 (0) - .314 (0) - .429 (0) + .019 (40^2/100) - .466 (0) + .09 (5) - .608 (2) = 7.339$.

For an immigrant earning twice the median income, life satisfaction is predicted by $y = 6.843 + .198 (4.2485) - 2.189 (1) + .563 (1 * 4.2485) + .720 (1) - .320 (0) - .042 (0) - .314 (0) - .429 (0) + .019 (40^2/100) - .466 (0) + .09 (5) - .608 (2) = 7.866$. The difference between the two is .527.

In addition, the presence of an interaction term whose counterpart is income means that the OLS coefficient for the “immigrant” variable in model 2 cannot be interpreted directly. A direct comparison between immigrants and non-immigrants using this coefficient would be misleading insofar as it would describe individuals whose amount of income is zero.

The following equation using the model in Table 2 predicts the life satisfaction of a US native earning median income. As before, the values of the other variables do not matter for this purpose as long as they remain constant.

Life satisfaction, then, is predicted by $y = 6.843 + .198 (3.555) - 2.189 (0) + .563 (0 * 3.555) + .720 (1) - .320 (0) - .042 (0) - .314 (0) - .429 (0) + .019 (40^2/100) - .466 (0) + .09 (5) - .608 (2) = 7.528$.

For an immigrant with the same characteristics earning a median income, life satisfaction is, as before, 7.339. The difference, then, is 0.189.

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Table 1: Descriptive characteristics of natives and immigrants in the USA

	Natives	Immigrants	Immigrants from Europe & Canada	Immigrants from Africa , Asia & Latin America
Mean life satisfaction	7.68	7.46	8.03	7.18
(s.d.)	2.01	1.89	1.54	1.99
Mean income (\$US)	39,158	42,459	52,857	37,243
(s.d.)	24,487	27,098	27,860	25,297
% single	14.9	15.8	4.9	21.5
% married/cohabiting	64.8	71.7	78.1	68.4
% divorced/separated	10.2	5.8	7.3	5.1
% widowed	10.0	6.7	9.8	5.1
% no children	21.7	30.0	14.6	38.0
% one child	13.1	13.3	19.6	10.1
% two or more children	65.2	56.7	65.9	51.9
Mean age	48.9	41.2	50.3	36.3
% unemployed	5.9	10.0	2.4	13.9
Mean importance of God	8.2	8.0	7.7	8.1
Mean health score	1.9	1.8	1.9	1.8
N	1414	120	41	79

Table 2: Ordered Logit Regression results for determinants of life satisfaction, USA

	b	odds ratio	s.e (b)	P> t
Ln(income)	0.225	1.252	0.081	0.005
Immigrant	-2.886	0.056	1.033	0.005
Interaction	0.730	2.074	0.283	0.010
Married	0.755	2.128	0.182	0.000
Split	-0.224	0.799	0.230	0.329
Widowed	-0.319	0.727	0.381	0.401
one child	-0.356	0.700	0.189	0.060
two+ children	-0.449	0.638	0.151	0.003
Age ² /100	0.022	1.022	0.003	0.000
Unemployed	-0.421	0.657	0.227	0.064
God	0.106	1.112	0.020	0.000
Health	***			0.000
n	1339			
Wald chi2(12)	254.37			
Prob > chi2	0.0000			
Pseudo R2	0.055			

Table 3: OLS regression results for determinants of life satisfaction, USA

	b	s.e.	P> t	β
Ln(income)	0.198	0.081	0.015	0.073
Immigrant	-2.189	0.998	0.028	-0.290
Interaction	0.563	0.276	0.041	0.270
married	0.720	0.185	0.000	0.173
split	-0.320	0.230	0.163	-0.049
widowed	-0.042	0.263	0.872	-0.006
one child	-0.314	0.189	0.096	-0.054
two+ children	-0.429	0.152	0.005	-0.105
Age ² /100	0.019	0.003	0.000	0.179
Unemployed	-0.466	0.223	0.037	-0.053
God	0.090	0.020	0.000	0.116
Health	-0.608	0.062	0.000	-0.266
Constant	6.843	0.384	0.000	
n	1339			
F	21.13			
Prob > F	0.000			
Adjusted R-sq	0.153			

Table 4: OLS regression results for determinants of life satisfaction, USA

	b	s.e.	P> t	Beta
Ln(income)	0.197	0.081	0.015	0.073
Immigrant:				
Europe/Canada	-1.657	1.996	0.406	-0.131
Africa/Asia/Latin Am.	-2.261	1.170	0.053	-0.247
Interaction with Income:				
Europe/Canada	0.449	0.518	0.386	0.137
Africa/Asia/Latin Am.	0.568	0.334	0.089	0.217
married	0.719	0.185	0.000	0.173
split	-0.326	0.230	0.158	-0.049
widowed	-0.042	0.263	0.873	-0.006
one child	-0.317	0.189	0.094	-0.055
two+ children	-0.430	0.153	0.005	-0.105
Age ² /100	0.019	0.003	0.000	0.178
Unemployed	-0.464	0.223	0.038	-0.053
God	0.090	0.020	0.000	0.117
Health	-0.608	0.062	0.000	-0.266
Constant	6.847	0.385	0.000	
n	1339			
F	18.10			
Prob > F	0.000			
Adjusted R-sq	0.152			

Table 5: OLS regression results for determinants of life satisfaction, USA

	b	s.e.	P> t	b	s.e.	P> t
Ln(income)	-0.156	0.075	0.037	-0.156	0.075	0.036
Immigrant:	-1.331	0.889	0.134			
Europe/Canada				-0.385	1.775	0.828
Africa/Asia/Latin Am.				-1.684	1.040	0.106
Interaction with Income:	0.364	0.245	0.138			
Europe/Canada				0.113	0.461	0.806
Africa/Asia/Latin Am.				0.468	0.297	0.115
married	0.519	0.165	0.002	0.516	0.165	0.002
split	-0.114	0.205	0.577	-0.121	0.205	0.556
widowed	-0.190	0.234	0.416	-0.192	0.234	0.412
one child	-0.066	0.168	0.693	-0.062	0.169	0.715
two+ children	-0.196	0.136	0.150	-0.193	0.136	0.157
Age ² /100	0.003	0.003	0.335	0.003	0.003	0.341
Unemployed	-0.502	0.198	0.011	-0.500	0.198	0.012
God	0.057	0.018	0.001	0.057	0.018	0.002
Health	-0.428	0.056	0.000	-0.427	0.056	0.000
Financial Satisfaction	0.377	0.020	0.000	0.377	0.020	0.000
Constant	5.866	0.346	0.000	5.865	0.346	0.000
n	1337			1337		
F	51.87			44.93		
Prob > F	0.000			0.000		
Adjusted R-sq	0.331			0.330		