Are Migrants Going Up a Blind Alley? Economic Migration and Life Satisfaction around the World: Cross-National Evidence from Europe, North America and Australia.

Analia Olgiati[1], Rocio Calvo[12], Lisa Berkman[1], Yuhui Zheng[1] and Santosh Kumar[13]

Abstract

Are migrants satisfied with their decision to move to another country? Research shows that the income-happiness relationship is weak in wealthy countries, usually countries of destination. Are economic migrants mistaken? Employing data from the Gallup World Poll, a representative sample of the world's population, we investigate whether a general pattern of association exists between income and life satisfaction, and whether this pattern differs by immigration status in 16 high-income countries. In only a handful of countries we find a distinctive immigrant advantage in translating income either into global life evaluation or life satisfaction: Australia, Belgium, the Netherlands, Portugal and Sweden. For immigrants in these countries income increases wellbeing even in the fifth quintile. Immigrants in Denmark, Finland, Italy, Spain and the US only have positive income-wellbeing associations at or below the third quintile. We take this as evidence that, among recent arrivals, income improves wellbeing up to the point in which non-pecuniary factors associated with long-term residence become dominant. We also find a number of "frustrated achievers" among the foreign born in Ireland and France with negative SWB-income associations in absolute value.

[1] Harvard Center for Population and Development Studies
[2] Boston College Graduate School of Social Work
[3] Washington University

Introduction

Are migrants satisfied with their decision to move to another country? The popular believe is that they are. This is especially assumed of economic migrants who are supposed to move voluntarily from poor origins to wealthier destinations seeking better opportunities for themselves and their families. Why otherwise would emigrants leave family and culture to face countless obstacles such as learning a new language and working in jobs for which they are overqualified? Why would they endure discrimination and marginalization and even risk their lives in the migratory process?

Research, however, shows that although people in wealthy countries are more satisfied with their lives than counterparts in poorer countries, the relationship is only weak. Furthermore, income growth is not related to a happier life in the long run (Easterlin 1974, 2005). And, at least in the U.S., there seems to be a satiation point at which more income does not translate into more joy, stress or sadness (Kahneman and Deaton, 2010). Are therefore migrants who seek better economic conditions mistaken? Is there a positive association between economic migration and life satisfaction?

Following the lead of Bartram (2011) who found that the association between income and life satisfaction was stronger in the US for immigrants than for natives, we employ a representative sample of the population of the world to investigate whether a general pattern of association exists between income and subjective well-being (SWB) for migrants residing in high income countries.

Furthermore, we also examine whether migrants and native-born have different satiation points, at which more income no longer increases happiness. We then evaluate

to which extent we can generalize this satiation effect across Europe, North America and Australia.

Subjective Well-Being, Income and Migration: Concepts and Evidence.

It is well documented that greater wealth does not bring extra happiness (Easterlin 1974, 1995). Recent evidence on the United States, a paradigmatic country of this paradox, shows that Americans are less happy than their parents despite substantial post-war economic growth in per capita income (Blanchflower and Oswald 2004). Similarly, Chinese people are as satisfied with their lives nowadays as they were before the enormous economic progress experienced in the last few decades (Brockmann et al. 2009). However, relative wealth does indeed contribute to individuals' well being, better-off individuals are happier than poor counterparts (Diener and Biswas-Diener 2002; Cramm et al. 2010). Researchers have sought for an answer to this paradox and for the *recipe to happiness* for the last few decades, and although the literature offers a myriad of potential explanations a satisfactory theory is still lacking.

A popular explanation of this puzzle is that people adjust to income gains and return to a baseline life satisfaction. A classical example is Brickman and colleagues' study (1978) on state lottery winners who were only slightly more satisfied with their lives than a control group. More recent analysis of panel data finds that 65 percent of the yearly income impact on happiness is lost over the following four years (Di Tella et al. 2007). Evidence suggests that economic growth and SWB are correlated only until a certain point. Once a level of subsistence has been reached other aspects become more relevant to SWB than economic growth. For instance, the post-move dissatisfaction with

employment and living conditions experienced by Thailand rural migrants in urban areas -despite economic gains- decreased upon returning to their impoverished rural communities of origin (De Jong et al. 2002).

A complementary hypothesis is that the impact of economic gains on SWB is mediated by the group one's use as referent. For instance, although urban Chinese are economically better off than people in rural areas, they are also unhappier because the mismatch between their economic aspirations and the group they employ as referent of economic success (Knight et al. 2010a). This pattern is also observed among immigrants who become *frustrated achievers* post-migration – experience a decline in life satisfaction after moving despite positive changes in income- (Graham and Pettinato 2002). For instance, despite economic growth, Chinese rural immigrants were unhappier after moving to urban areas because they gauged their success against a more affluent group (Knight et al. 2010b). Easter European immigrants' were less satisfied with their post-migration life, although they were more satisfied with the societal conditions of the host society than their native counterparts. The paradox is explained because they used natives as the referent group to evaluate life as a whole, while the home country was the referent to determine societal satisfaction (Baltatescu 2007). Even after adjusting for difficulty of transferring credential from abroad, educated immigrants were less satisfied with their lives in the U.S. than uneducated peers -income did not exert an influence on how satisfied were immigrants with life in the U.S.- Massey and Redstone (2006), argued that well-educated immigrants hold high expectations and negative experiences in the U.S., such as discrimination and isolation, propel them to look at other destinations where they feel that have better options. Highly educated immigrants also were less satisfied

with their lives in Israel than counterparts without an academic degree. However, unlike other studies, a high standard of living was the strongest significant predictor of life satisfaction for immigrants in Israel, even after adjusting for demographic and social characteristics and immigration motives (Amit 2010; Amit and Litwin 2010). Life satisfaction for immigrants in the U.S. also stem from their income, even to a higher degree than for natives and after adjusting for a series of demographic and socioeconomic characteristics (Bartram 2011).

Evidence is mixed on the relationship between income, immigration and well-being. Economic theory sustains that the decision to migrate is made after assuming that the utility of living in the destination country will be higher than the utility of living in the home country net of migration costs (Sjaastad 1962). Theoretically, therefore, immigrants would feel higher satisfaction with their lives abroad than comparable natives. This is what we investigate in the present study. Unlike previous research, however, we distinguish between two indicators of well-being, cognitive and affective. Subjective well-being (SWB) is a complex concept that lacks universal definition, although it is often understood as a personal assessment of one's life which revolves around two components: (1) a long-term cognitive dimension -life satisfaction- and (2) a temporal affective dimension -positive affect, and low levels of negative affect- (Diener 1984). Research on SWB has favored its cognitive dimension because it is related to the eudaimonic philosophical approach as it entails the realization of one's potential in accordance with one's true nature and therefore has been considered a more reliable indicator of life satisfaction than the affective dimension of SWB which relates to hedonic philosophical tradition as it stresses the immediate feeling of pleasure and the

avoidance of pain (Ryan and Deci 2001). However, recent evidence shows that these two constructs of SWB behave differently on their relationship with income (Kahneman and Deaton 2010). We investigate whether this is the case and immigrants in Europe, North America and Australia with high income express higher life satisfaction and positive feeling than comparable natives. Moreover, we also investigate if the SWB threshold stemming from income is different between the two groups.

Data

Data comes from the Gallup World Poll (GWP), which began in 2005 and collected data annually from representative samples in 150 countries, - representing 95% of the world's adult population. Starting in 2005 the survey has annually sampled around 1000 individuals from each country, although not all countries were sampled every year. The target population for the Poll was the entire civilian, non-institutionalized population, aged 15 and older. Since 2006 the GWP has routinely included a battery of questions on subjective well-being (SWB), such as global life evaluation, life satisfaction, happiness and positive as well as negative feelings. In order to study the income-SWB association by immigration status we used data for the 2006-2011 (the last year available) period. Details on the sampling frame and survey protocols are provided in Gallup Annual Report (Gallup 2008).

Although this paper builds on Ball and Chernova (2008) and Bartram (2011), we depart from their analyses in a number of ways. Most evidently, we use data from the Gallup World Poll rather than from the World Values Survey (WVS). The main advantage of using the GWP is that the identifying question on foreign born status was

consistently asked in most of these countries throughout the span of the survey. This substantially increases the sample size through repeated cross sections and gives us enough power to look at a myriad of non-linear interactions that would not be otherwise supported.

Secondly, while Bartram limits his analysis only to the US, we revert to Ball and Chernova's (2008) study of multiple countries, but we only focus on recent countries of immigration: the original 15 countries that formed the European Union (EU-15), plus the United States, Canada and Australia. One of Bartram's (2011) main concern with this type of analysis is the potential for composition effects to limit the comparability of the results (mainly that immigrants to the US are very different from immigrants in the EU), but it is precisely these differences that we want to look at. In particular, to account for the strong country fixed effects, we run the specifications for each country separately, taking advantage of the multiple cross-sections available in the Gallup World Poll.

We analyze two measures of life satisfaction available from the survey: global life evaluation (GLE) and life satisfaction (LS). The GLE measure asks respondents to evaluate their present life in a ladder scale from 0 to 10, with 0 representing the worst possible life and 10 the best possible life. The GLE question was asked in all rounds of the GWP. We also examine the LS measure that asks for responses to the question "All things considered, how satisfied are you with your life as a whole these days?" also ranging from 0 to 10, but only included in the 2007 and/or 2008 rounds of the Gallup World Poll (only a handful had it in both years).

Both the GLE and LS are 11-point related ways to evaluate life, but while life satisfaction refers to an individual everyday experience, life evaluation refers to the

thoughts people have when they think about it in general (Kahneman and Deaton, 2010). In addition, while GLE has a tighter relationship to income and is preferred as a cognitive measure, LS is more widely used (for instance in Bartam (2011)) and provides more comparability with other studies (Helliwell et al., 2010).

The main explanatory variables are annual household income (in logarithm scale) and immigration status. Depending on the country, income is asked as a continuous variable, or as a series of income brackets. In the second case, household income is converted into a continuous variable by taking the midpoint of the bracket. The continuous measure in local currency is then divided by the 2009 US inflation-adjusted PPP using the World Bank's Global Purchasing Power Parities and Real Expenditures 2005 International Comparison Program. This income variable is comparable across all communities, local regions, countries and global regions (i.e. not only within Europe and North America but also across). Researchers at Gallup have obtained a Pearson Correlation of 0.94 with the World Bank estimate of per-capita GDP (PPP) (Gallup, 2012).

Immigration status is coded as a dummy variable that takes the value of 1 if the respondent answered "no" to the question "*were you born in this country?*" and 0 otherwise. Because we do not have information on year of migration we will be comparing recent arrivals with individuals who may have become citizens a long time ago. In this sense, we refer to immigrants and foreign-born indistinguishably throughout the text. The question on foreign-born status was not included in the German questionnaire and thus, we drop this country in the analyses that follow.

The rest of the variables considered are the standard determinants of subjective well-being reported in the literature and, most importantly, included in Ball and Chernova's

(2008) and Bartram (2011)'s specification. We control for age and age squared to take into account the quadratic relationship between age and SWB. The dummy female takes the value one if the respondent is a woman and zero if it is a man. Marital status is coded as a series of binary indicators identifying individuals who are single, in a union (married or domestic partnership), divorced or widowed from responses to the question "*what is your current marital status?*" We follow Bartram in including a dummy for unemployment status instead of the more comprehensive labor force participation categorization of Ball and Chernova (who distinguish between students, retirees, unemployed, part-time and full-time employees).

Because of differences in the WVS and GWP, we must depart from Ball and Chernova and Bartram in the specification of three covariates. While these authors include a ten-point rating of the importance of God in the respondents' life, analogous question in the Gallup World Poll is "*Is religion an important part of your daily life?*", which we code as one if the respondent answered "yes" and zero if not. While they control for health status using a five-point rating of the respondent's physical health, the GWP asks "*Are you satisfied or dissatisfied with your personal health?*" which we code as one if the respondent answered "*satisfied*" and zero if "*dissatisfied*". Finally, both studies include indicators for the number of children, but in the GWP variables are at the level of the household or the respondent, and scarce information is reported on individual variables for the other members of the household. In this sense, we do not have details on household composition, but simply a measure of household size, corresponding to the response to the question: *"Including yourself, how many people who are residents of [country], age 15 or over, currently live in this household?"*

There are a number of variables that have been traditionally used to assess immigrant wellbeing that we fail to account for using the Gallup World Poll. In particular, facility with the dominant language, time since arrival or social capital networks can all affect subjective wellbeing and income-generating mechanisms simultaneously (Amit, 2010; Neto, 1995). In this sense, in the analysis that follows we will not be able to speak of causality but of positive and negative income-SWB associations.

The values of the wellbeing variables as well as the covariates used in the regression analysis are summarized in Table 1 by immigration status. Instead of reporting differences by country, we report the means for the pooled sample together with the minimum and maximum country-specific values. Natives are slightly more satisfied with life, older, wealthier and more likely to be widowed. The foreign born are more likely to be in a union, divorced, more religious, and more likely to report satisfaction with personal health.

Furthermore, while the minimum and maximums do not substantially vary *by immigration status*, columns 2, 3, 5 and 6 show that there are substantial differences in all the variables being considered *across countries*. Global health evaluation is highest in Denmark (7.8 for natives and 7.7 for the foreign born), and lowest in Portugal (5.4 for natives) and in Greece (5.5 for foreign born), while income ranges from approximately 20,000 dollars in Greece to 64,000 dollars in the US. Usually the same country is observed at the extreme of several distributions of socio-economic indicators. Spain presents the largest households and is the youngest country both for natives (hh. size=2.6; mean age=47) and immigrants (hh. size=2.9; mean age=37), and also presents the lowest fraction of native divorces (4.3%). The Netherlands has the oldest population of

immigrants (54), the lowest proportion of females (52.6%) and the highest proportion of college education (42%) among natives. France presents the highest fraction of native women (61%) and the highest fraction of divorce among the foreign born (19%). Italy has the largest proportion of immigrant women (71.1%) and the lowest fraction of widowed immigrants (2%). Finland has the smallest households (1.9 in both groups), the oldest population of native born (mean age=54), and the lowest fraction of women (51%), divorces (2%) and religiousness (24.5%) among the foreign-born population. Finally, Finland is also the country for which we have the smallest sample size of immigrants (N=67), and consequently that with the lowest fraction of foreign born (2.6%). Australia is the country for which we have the largest number of foreign-born observations (N=719) and the highest fraction (23.5%).

Because most of these settings have different languages and cultural traditions, it is a sensible question to wonder about the comparability of the variables listed in Table 1 across countries. The survey is designed to maintain international comparability of all questions on socio-economic status. In terms of questions about well-being that might be more prone to linguistic susceptibilities or social conventions, the literature has not found evidence of translation or cultural biases across countries in survey questions about well-being (Ouweneel and Veenhoven, 1991; Diener et al, 1995; Ball and Chernova, 2008).

Empirical Strategy

Linear associations with income

For each one of the 16 countries, *c,* we estimate the associations between the two dependent variables (Y={GLE, LS}), income and nativity status using the following specification:

$$Y_{ic}=a + \beta_c Inc_{ic} + \gamma_c FB_{ic} + \delta_c(Inc_{ic}*FB_{ic}) + \theta_c X_{ic} + \varepsilon_{ic} \quad (1)$$

For each individual *i* income (*Inc*) is measured as the natural logarithm of monthly household income in international dollars, and the binary variable *FB* takes the value of 1 if the respondent answered "no" to the question "*were you born in this country?*" and 0 otherwise. In linear regression analysis we also include time effects and a vector of covariates, *X*, that controls for age, sex, marital status, religiosity, personal health and employment status.

We use ordinary least-square regressions analysis to estimate the coefficients in (1), arguing that the 11-item questions on life evaluation and life satisfaction offer a good approximation of the latent continuous variable such that the assumptions of OLS are met. Although OLS does not provide the best fit for ordinal data, it is more appropriate for a variable with 11 response options than for an ordinal variable with a handful of categories. In addition, Blachflower and Oswald (2004) find that the results from an OLS model are similar to those from an ordered logit model for a three-category response variable on happiness. A similar finding is reported in Bartram (2011), where the life satisfaction dependent variable takes on 10 possible values and the ordinal variable is fitted both through OLS and a generalized ordered logit model.

Non-linear associations with income

We also extend (1) to examine the existence of satiation points. For comparability purposes we calculate income quintiles within each country and re-estimate (1) stratified by income quintile.

Because the position in the income distribution is highly positively correlated with years since immigration (Borjas, 1994) we take advantage of this exercise to take into account a factor that we cannot otherwise control for with the Gallup World Poll. We will proxy recent arrival as immigrants in the first and second income quintiles and long-term residents as immigrants in the third, fourth and fifth. Marked differences in behaviors across these two groups should shed some light on the influence of time in country of destination on the income-SWB association.

Results

Table 2 shows the results when we pool all the countries into a single sample and include country and time fixed effects. This specification effectively replicates that in Ball and Chernova (2008), except that we do not have any detailed information on household composition, only household size, and that the employment indicator is not available for 2008, the only year in which LS was measured.

All the coefficients corresponding to socio-economic variables go in line with the previous literature on income and happiness. Keeping income and country of birth constant, we find that subjective well-being follows a quadratic association with age, and that women, those in a union and those with better health (or reporting so) are more likely to report higher levels of subjective well-being. We also find that those who are divorced

or widowed report lower SWB. We find these coefficients both for GLE and LS. Furthermore, when the dependent variable is GLE, we also find that unemployment is strongly negatively associated with subjective well-being. And when we model Life Satisfaction, we find that those who are more religious are more likely to be satisfied with their lives.

Regarding income and country of birth, our results confirm what plenty of others in the literature have found: Income is significantly and positively associated with subjective well-being. However, doubling the median annual household income ($33,000) in the full sample increases GLE by 0.22 points ([ln(66,000)-ln(33,000)]*0.332) and LS by 0.12 points. In other words, the association between subjective well-being and income is very small. This is especially true if we notice that the association with SWB of doubling the median income is equivalent or smaller to any of the other associations. This result not only is consistent with Ball and Chernova (2008) and Bartram, but the point estimate is actually very similar to the latter's (0.198).

Less encouraging, however, are the findings for the foreign born. Although the point estimates go in the "right" direction, they are not significant in any of the regressions. At least in the pooled sample, we do not find any evidence that "money buys income" disproportionately for the foreign born.

To shed more light on this issue we now turn to the country-specific analysis. Instead of showing regression outputs for all countries in the sample, we show the coefficients corresponding to Ln(income) (representing the association for natives, with solid bars) and the interaction term (representing the additional advantage of foreign born over that

of natives, with shallow bars) together with their 95% confidence intervals in Figures 1 and 2.

Figure 1 presents the estimates when the dependent variable is GLE. All countries show positive and significant associations with income at the 10% confidence level, and only three (Netherlands, Ireland and Denmark) fall outside the 95% confidence interval (i.e. the error bars cross the y-axis). The associations range from 0.09 (Denmark) to 0.80 (Spain). Consistent with the results for the pooled sample, however, only three out of the 17 countries show positive and significant interactions between logged income and foreign born status: Belgium (δ=0.46), Netherlands (δ=0.47) and Portugal (δ=0.84). In all cases, they more than double the association for natives. Interestingly, Austria also shows a large interaction coefficient (δ=-0.86), not only negative but more than two times larger than that of the natives (δ=0.31), such that doubling the median Austrian income among the foreign-born (US$28,000) actually reduces global life evaluation by 0.4 points in the GLE scale (0.31*[ln(56,000)-ln(28,000)]+(-0.86)* [ln(56,000)-ln(28,000)]).

The results are very similar when we look at the results for LS, displayed in Figure 2. Again all countries (except Canada) exhibit positive associations between income and LS, although only half of them are significant at the 90% confidence level. The fact that LS is not as strongly correlated with income as GLE is has been extensively discussed in Helliwell et al. (2010). Because one the main reasons for studying the associations with LS is to provide comparability with Bartram results for the US, it is important to notice that, although insignificant, we find the US logged income coefficient to be 0.167, very similar to Bartram's 0.198.

If we focus on the interaction term for the LS models, we again find that only three out of the 17 countries have significant and positive interactions with income: Sweden (δ=0.51), the Netherlands (δ=0.58) and Australia (δ=0.7). The foreign-born in Ireland have a negative income-LS association, with an interaction term that is twice as large in absolute value as than of the natives (δ=0.2; β=0.1), although only statistically significant at the 90% confidence level.

These analyses suggest that Bartram's result of a stronger income-life satisfaction association for migrants in the U.S. might be quite unique. Not only we do not find a global pattern of migrants better able to translate income into happiness than the natives, we do not find this result to hold in the US sample of the Gallup World Poll either.

One possible explanation for these conflicting results might be different sampling populations across the surveys. Table 3 reproduces Bartram's table of descriptive statistics together with the descriptive statistics for the US sample in the Gallup World Poll 2006-2011. It is straightforward to see that the samples look remarkably similar in terms of the questions for which we have perfect overlap. In addition, the proportion of foreign born sampled was 7.8% in the WVS and 5.4% in the GWP; not different enough to generate substantially different standard errors. One of the main differences rest in the annual household income: while the WVS average is $39,416, in the GWP this is $61,428. When we compare these numbers with those from the US Census Bureau, we get that the mean annual household income in current dollars in 1998 was $51,855, while it was $67,645 for the period 2006-2010 (US Census Bureau, 2012). In this sense, we seem to have a more accurate approximation to household income than Bartram's, implying that the 0.56 immigrant advantage he finds is likely biased downwards due to

measurement error. In essence, this does not explain the large standard errors we find in our specification.

Our next step is to look for a trend in the coefficient on the interaction term. The year 1998 was very close to the 1996 immigration reform act and it could be possible for immigrants to find it harder to gain increases in happiness through income as regulations became tougher. Because the comparable Life Satisfaction question was only asked in the US in 2007, we include the interaction term's point estimate and 95% confidence interval (95% CI) as reference values (δ=0.05; 95% CI: -0.53 – 0.64) but we focus on the Global Life Evaluation question, which is comparable and is available over time. Figure 3 shows the interaction's point estimates and confidence intervals for the year-specific analyses of models for GLE. Our hypothesis of a trend is not supported at all by the data. If anything, it seems to display a zigzag pattern, with a negative interaction coefficient followed by a positive one. Furthermore, out of the six estimates, three are marginally significant (at the 10% level), with two negative (years 2006 and 2008) and one positive (year 2010).

We take this brief exercise as evidence that, at least for the data from the Gallup World Poll, a survey highly consistent in terms of questionnaire and sampling frame over the years, we cannot argue for an immigrant advantage in the income-happiness relationship in the US simply based on a random cross-section. Pooling the data from multiple cross-sections smoothes out some of the noise and allows for a more precise estimate of the association. Unfortunately, the question enabling the comparison between immigrants and natives was dropped from the US WVS and estimates over time or from repeated cross-sections of the interaction coefficients are not possible. We fail to replicate Bartram's findings with our data.

Non-linear associations with income

As the findings in the previous section suggest, immigrants do not seem to be better able to turn income into well-being than natives, except in a handful of countries such as Australia (LS), Belgium (GLE), the Netherlands (both), Portugal (GLE) and Sweden (LS). Furthermore, immigrants in Austria derive not only less well-being from income than the native born but, in fact, less well-being from income in absolute terms. This last result, in particular, seems to contradict standard findings in the migration literature: migrants should be positively selected in terms of a wide range of characteristics, from health, to education, to willingness to work (Schiffauer, 1991; Constant and Massey, 2003; Palloni, 2004). It is only natural that they are also better able to use their income for well-being gains.

One possible explanation for the limited number of countries in which we find a SWB-Income immigrant advantage is the existence of satiation points. If there exists a (country-specific) income level above which increases in income do not translate into improvements in well-being and the immigrant population is over-represented in this tail of the distribution, the excess association between income and SWB should be insignificant.

Figure 4 shows that, indeed, immigrants seem to dominate the upper ends of the income distributions in several countries, most notably the US, but also in Australia, France, Ireland, Italy, Portugal and the United Kingdom, all countries where we would expect to find an immigrant advantage but where we fail to do so.

For exposition purposes, Table 4 displays the coefficients of interest from estimating eq. (1) stratified by income quintile in the pooled sample of countries. The first thing to

notice is that there is no Income-SWB association neither for natives nor immigrants in the lowest end of the income distribution. This goes against the proposed idea that well-being returns to income only exist for those below a subsistence level (Clark et al., 2008). In effect, for the pooled sample and when the well-being measure is GLE we do not find a satiation point: while there seems to diminishing GLE returns to income in the upper tail, these are still highly positive and significant. In fact, for those in the fourth quintile, a doubling of their income almost increases GLE by one point. We do find that income does not but improvements in life satisfaction further than the second quintile, locating the global satiation point for LS around $27,000 international dollars (the minimum income for those in the third quintile). In this global sample we do not find differential income-SWB behaviors for the foreign-born.

Figures 5 (GLE) and 6 (LS) present the quintile-specific analyses disaggregated by country. Due to the large number of parameters and for sake of exposition, we only present the coefficients that were significant at the 90% confidence level with their corresponding 95% confidence intervals. For instance, the regression for the US only yield significant coefficient for natives in the fourth and fifth quintile and so we present only those (solid bars).

Except for Australia, Denmark, Greece, the Netherlands and Sweden, all countries present a positive association between income and GLE for natives in at least one income quintile. Because we are running each country-quintile-specific analysis separately, we may not have enough power to find associations that are too small at the 90% confidence level. These five countries have some of the lowest income coefficients in the pooled samples: from 0.09 in Denmark (the smallest out of all countries) to 0.39 in Australia.

Contrary to the satiation hypothesis, we find six out of the 16 countries with positive and significant associations between income and GLE for natives well into the fifth quintile: US (δ=0.61), UK (δ=0.67), Portugal (δ=1.04), Ireland (δ=0.53), France (δ=0.58) and Austria (δ=0.82). Granted, these estimates are some of the lowest (among those significant), but it does look like even the very rich have SWB improvements from income gains. Because this is based only on the behavior of those in the fifth quintile, there might still be a satiation point further up in the income distribution. For the case of the US, for instance, these results are consistent with previous work from Kahneman and Deaton (2010) who found, using the same data set, that the "effects of income on individual's life evaluations showed no satiation, at least to an amount well over $120,000" (p.16,491).

The other five countries show satiation points for the natives somewhere between the second and the fourth quintiles. Interestingly, the "subsistence level hypothesis" arguing that income can only increase happiness among individuals below a certain income level (Lane, 2000; Frey and Stutzer 2002; Darrin McMahon, 2006) is not borne out of our data.

The story for immigrants is different. Remember that we had originally found positive associations between GLE and income for Portugal, the Netherlands and Belgium. By disaggregating across quintiles the hope is to uncover positive income associations at the lower end of the income distributions, such that those on the other side of the satiation point drive the estimates downwards.

As expected, these three countries have at least one quintile in which the association is positive and significant. Furthermore Belgium and Portugal present these positive associations in the fifth quintile, exhibiting no satiation in the income-GLE association.

Out of the 13 other countries without an immigrant advantage in the pooled sample, we still fail to find one for the US, the UK, Ireland and Canada. Five out of the remaining nine countries present higher SWB gains from income increases in at least one part of the income distribution. While Finland shows no satiation point for immigrants, the foreign-born in Sweden, Spain, Italy and Denmark all sate at or below the third quintile. This is also the case for the Netherlands. While we did not find any evidence of subsistence level effects for natives, these findings suggest that they do exist for immigrants. The foreign-born at the lower part of the income distribution are more likely to be recent arrivals, and in this sense, more likely to be wellbeing-seeking migrants.

On the other hand, there are four countries that present negative interaction terms: Spain (Q3), Italy (Q4), France (Q3) and Austria (Q3). In all four cases these terms are in absolute value larger than the coefficient for the natives. This means that there are some parts of these countries' foreign-born income distributions in which the immigrants are "frustrated achievers" (Graham and Pettinato, 2002; Becchetti and Rossetti, 2009): increases in income does reduce their absolute level of SWB. These are likely not the wellbeing-seeking recent arrivals, but the well-established, long-term resident, high middle-income immigrants. As long as these increases in income do not buy them out of their given quintile, the additional money only reminds them of what they have failed to obtain. Because in all four countries either there is an immigrant advantage in some other quintile (Spain: Q1; Italy: Q3) or a native positive income-GLE association not significantly different than the immigrant's, the negative associations disappear when all quintiles are pooled together. The only exception is Austria, where the negative association permeates into the pooled estimate (see Figure 1).

Finally, Figure 6 replicates this exercise with our Life Satisfaction measure. Notice first that we do not find significant quintile-specific income-LS associations for natives in five of the six countries that reported this association in the pooled samples (the only exception is Italy, for the first, third and fifth quintile). Small quintile-specific samples might be to blame here. Most countries only have this measure for one survey round, rendering the quintile-specific sample as small as 80 observations. We may not have enough power to find small associations. We do find previously hidden native income-LS associations for Canada (Q5), Ireland (Q2), the Netherlands (Q5) and Portugal (Q5). As with GLE, most of these associations extend to the fifth quintile, contradicting the satiation hypothesis for the native-born.

When studied within quintiles, life satisfaction appears much more responsive to income among the foreign-born than global life evaluation and that among the natives. This supports the hypothesis of low income-LS correlations among natives (Helliwell et al. 2010), but offers a novel view from the immigrant's perspective. In particular, we find a disproportionate number of negative interactions, registered at all parts of the income distribution. Most of these are larger in absolute value than the corresponding estimate for natives. It would seem that immigrants have stronger short-term reactions to the problems brought about by money gains than natives, but that at least the low-income, well-being seeking migrants manage to keep a global positive perspective about their life.

If we look satiation points for immigrants, we find that Austria, the Netherlands and Sweden present positive LS-income associations for immigrants within the fifth quintile, over and above that of natives, arguing against the satiation hypothesis. In the five countries that do present satiation points for immigrants, all LS improvements are

registered in the first quintile. As with GLE, the subsistence-level hypothesis seems to be more predominant among the foreign-born. One of the countries for which we find income-LS satiation after the first quintile is the US. The existence of satiation for LS but not GLE in the US is consistent with Kanheman and Deaton's findings of satiation with other measures of wellbeing (positive affect, blue affect and stress) but not with life evaluation.

Discussion

Using the Gallup World Poll for sixteen high-income countries of immigration, we find that individuals do not seem to be particularly selected into migration based on a disproportionate ability to derive subjective wellbeing from income gains. In only a handful of countries do we find a distinctive immigrant advantage either on global life evaluation or life satisfaction: Australia, Belgium, the Netherlands, Portugal and Sweden. We do not find satiation points in any of these countries: for immigrants, income increases wellbeing even in the fifth quintile. There are five countries for which we do find satiation points: Denmark, Finland, Italy, Spain and the US. In all five cases these are at or below the third quintile. We take this as evidence of a subsistence effect among recent arrivals, with income improving well-being up to the point in which non pecuniary factors associated with long-term residence become dominant. We also find a disproportionate number of "frustrated achievers" among the foreign born. Most significantly, immigrants in the second and third quintiles in Ireland and France respectively show negative SWB-income associations in absolute value. Finally,

immigrants in the UK and Canada are completely assimilated into the wellbeing-seeking behaviors of the natives, as we fail to find any significant associations at all.

With respect to previous evidence finding a distinctive immigrant advantage in the US, we fail to replicate this pattern, although we show that the estimate is highly volatile over time and evidence from a single cross-section might not depict the whole picture. Our findings are consistent with other studies using US data, where no satiation point was found for the cognitive component, but where it existed for the hedonic and more transitory measures of subjective wellbeing.

As these findings show, the U.S. is not a country where the experience of immigration is different from anywhere else in the world. It is Australia, Belgium, the Netherlands, Portugal and Sweden where economic migrants seem to get it right: they migrate to a place where income translates easily into well-being, and it does not stop even after they have been settled for a while. Immigrants to other countries, in contrast, do not enjoy this possibility and, furthermore, in some places they seem to become unhappier the richer they get, even in absolute terms. This contraposition is puzzling. And while it provides additional evidence of why Australia is the country with the (second to Saudi Arabia) largest fraction of immigrants in the world, it cannot speak to whether it is a composition effect or an environment effect. In other words, are the wellbeing-seeking migrants selecting these destinations at random? Or is it that the bureaucracy and, in particular, the assimilation processes are radically different between the countries? We hope that these findings motivate further research in the area and help disentangle these effects. Our paper identifies some interesting case studies to begin with.

References

Amit, K. (2010). Determinants of life satisfaction among immigrants from western countries and from the PSU in Israel. *Social Indicators Research*, 96(3) 515-534.

Amit, K. & Litwin, H. (2010). The subjective well-being of immigrants aged 50 and older in Israel. *Social Indicators Research, 98,* 89-104.

Ball, R., & Chernova, K. (2008). Absolute income, relative income, and happiness. *Social Indicators Research*, 88(3), 497–529.

Baltatescu, S. (2007). Central and eastern Europeans migrants' subjective quality of life. A comparative study. *Journal of Identity and Migration Studies, 1,* 67-81.

Bartram, D. (2011). Economic Migration and Happiness: Comparing Immigrants' and Natives' Happiness Gains From Income. *Social Indicators Research*, 103:57–76.

Blanchflower, D. & Oswald, A. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics*, 88: 1359-86.

Becchetti, L. & Rossetti, F. (2009). When money does not buy happiness: The case of "frustrated achievers". *The Journal of Socio-Economics*, 38:159-67.

Borjas, G. (1994). The economics of immigration. *Journal of Economic Literature*, 32(4): 1667-1717.

Brickman, P., D. Coates, R. Janoff-Bulman. (1978). Lottery winners and accident victims: is happiness relative? Journal of Personality and Social Psychology, 36 (8) pp. 917–927

Brockmann, H., Delhey, J., Welzel, C., & Hao, Y. (2009). The China puzzle: Falling happiness in a rising economy. Journal of Happiness Studies, 10, 387–405.

Clark et al. (2008). Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles. *Journal of Economic Literature*, 46: 95-144.

Constant, A., Massey, D. (2003). Self-selection, earnings, and out-migration: a longitudinal study of immigrants to Germany. Journal of Population Economics 16, 631–653.

Cramm, J. M., Møller, V., Nieboer, A. P. (2010). Improving subjective well-being of the poor in the Eastern Cape. Journal of Health Psychology. *vol. 15, 7, 1012-1019*

Diener E. 1984. Subjective well-being. Psychol. Bull. 95:542–75

Diener E, Biswas-Diener R. 2002. Will moneyincrease subjective well-being? A literature review and guide to needed research. Soc. Indic. Res. 57:119–69

Diener, Ed., Suh, E. M., Smith, H. L., & Shao, L. (1995). National differences in reported subjective wellbeing: Why do they occur? Social Indicators Research, 34, 7–32.

Di Tella, R., Haisken-De New, J., MacCulloch, R., 2007. Happiness adaptation to income and to status in an individual panel, NBER Working Paper No. W13159.

Easterlin, R. A. (1974). Does economic growth improve the human lot? In P. A. David & M. W. Rede (Eds.), Nations and households in economic growth: Essays in honor of Moses Abramowitz (pp. 89–125). New York: Academic Press.

Easterlin, R. A. 1995. "Will Raising the Incomes of All In- crease the Happiness of All?" Journal of Economic Behavior and Organization 27:1, pp. 35-48.

Easterlin, R. A. (2005). Easterlin, R. A. (2005). Diminishing marginal utility of income? Caveat emptor. Social Indicators Research, 70(3), 243–255.

Frey, B. & Stutzer, A. (2002). What can economists learn from happiness research? Journal of Economic Literature, 40(2): 402-35.

Gallup State of the World: 2008 *Annual Report*.

Gallup (2012). Worldwide research methodology and codebook. Gallup, Inc.

Graham, C. and Pettinato, S. (2002) Frustrated achievers: Winners, losers, and subjective

well-being in new market economies. Journal of Development Studies, 384 (April), pp. 100–140.

Helliwell, J. Barrington-Leigh, C., Harris, A. et al. (2010). International evidence on the social context of well-being. In E. Diener, J. Helliwell and D. Kahneman (Eds), International Differences in Well-Being. New York: Oxford University Press.

Kahneman, D. and Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. Proceedings of the National Academy of Science, 107(38), 16489-93.

Knight, J., and Gunatilaka, R. (2010a). The rural-urban divide in China: Income but not happiness? Journal of Development Studies 46:3, 506-534

Knight, J., and Gunatilaka, R. (2010b). The Subjective Well-being of Rural–Urban Migrants in China, World Development, Volume 38, Issue 1, January 2010, Pages 113-124,

Lane, R. (2000). The loss of happiness in market democracies.

Massey, D. & Akresh, I. (2006). Immigrant intentions and mobility in a global economy: The attitudes and behavior of recently arrived U.S. immigrants. Social Science Quarterly, 87, 954-971.

McMahon, 2006. Happiness: A history.

Neto, F. (1995). Predictors of satisfaction with life among second generation migrants. Social Indicators Research. 35(1): 93-116.

Ouweneel, P., & Veenhoven, R. (1991). Cross-national differences in happiness: Cultural bias or societal quality. In N. Bleichrodt, & P. J. D. Drenth (Eds.), Contemporary

issues in cross-cultural psychology. Amsterdam: Swets and Zeitlinger.

Palloni, A. (2004). Hispanic Paradox

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. Annual Review of Psychology, 52, 141–166.

Sjaastad, L. A. (1962). The costs and returns to human migration. Journal of Political Economy, 70, 80–93.

U.S. Census Bureau, Statistical Abstract of the United States: 2012

Table 1. Summary Statistics by Foreign Born Status

	Natives			Foreign Born		
Variable	Average	Min	Max	Average	Min	Max
	(1)	(2)	(3)	(4)	(5)	(6)
Mean GLE	7.09	5.36	7.81	6.81	5.51	7.72
	(1.83)	(2.03)	(1.50)	(2.00)	(2.22)	(1.48)
Mean LS	7.54	5.68	8.17	7.52	6.64	8.47
	(1.72)	(2.03)	(1.38)	(1.76)	(1.84)	(1.31)
Income	42,659	22,342	63,227	40,519	18,433	65,875
	(37,071)	(15,889)	(57,945)	(34,949)	(11,123)	(48,410)
Mean age	50.94	47.30	53.53	46.04	37.16	53.80
	(16.85)	(17.11)	(17.59)	(16.35)	(11.70)	(14.22)
% Female	56.85	52.64	61.11	56.48	51.02	71.11
	(49.53)	(49.95)	(48.76)	(49.59)	(50.57)	(45.84)
% In a union	61.06	52.05	64.98	62.21	54.71	69.39
	(48.76)	(49.97)	(47.71)	(48.50)	(49.93)	(46.57)
% Divorced	9.27	4.32	13.81	10.74	2.04	18.95
	(29.00)	(20.33)	(34.51)	(30.97)	(14.29)	(39.29)
% Widowed	9.42	6.43	13.07	6.78	2.22	11.29
	(29.21)	(24.53)	(33.73)	(25.15)	(14.91)	(31.78)
% Employed	56.02	45.01	65.21	60.07	32.69	87.10
	(49.63)	(49.77)	(47.65)	(48.99)	(47.37)	(34.08)
Average Household Size	2.22	1.85	2.64	2.32	1.90	2.90
	(1.11)	(0.82)	(1.16)	(1.19)	(0.84)	(1.24)
% Religious	41.27	15.39	72.68	48.37	24.49	73.97
	(49.23)	(36.09)	(44.57)	(49.98)	(43.45)	(43.97)
% Satisfied with their	83.10	75.13	88.15	84.75	73.39	93.67
Personal health	(37.48)	(43.24)	(32.33)	(35.96)	(44.37)	(24.50)
N. Obs	46232	1331	4691	4772	67	719

Notes: Standard errors in Parentheses

Table 2. OLS regression results for determinants of Global Life Evaluation and Life Satisfaction, Pooled sample

	GLE	LS
	(1)	(2)
Ln(Income)	0.332***	0.185***
	(0.022)	(0.026)
= 1 if Foreign Born	-0.458	-1.257
	(0.547)	(0.794)
Ln(Income) X (Indicator Foreign Born)	0.016	0.119
	(0.052)	(0.075)
Age	-0.041***	-0.036***
	(0.004)	(0.006)
Age^2	0.0004***	0.0004***
	(0)	(0)
=1 if female	0.215***	0.164***
	(0.025)	(0.035)
=1 if in a union	0.065*	0.282***
	(0.036)	(0.052)
=1 if divorced	-0.216***	-0.176**
	(0.06)	(0.084)
=1 if widowed	-0.407***	-0.237**
	(0.068)	(0.095)
Household Size	0.003	-0.005
	(0.013)	(0.018)
= 1 if unemployed	-0.776***	
	(0.064)	
= if religious	0.023	0.212***
	(0.028)	(0.04)
= if satisfied with personal health	1.219***	1.067***
	(0.038)	(0.056)
Constant	3.327***	5.056***
	(0.238)	(0.297)
N. Observations	51004	13447

*** p-value <0.001; ** p<0.05; * p<0.1. Robust standard errors in parenthesis.

The regressions control for a full set of country and time fixed effects (not shown).

Figure 1. Income-GLE association by Immigration Status

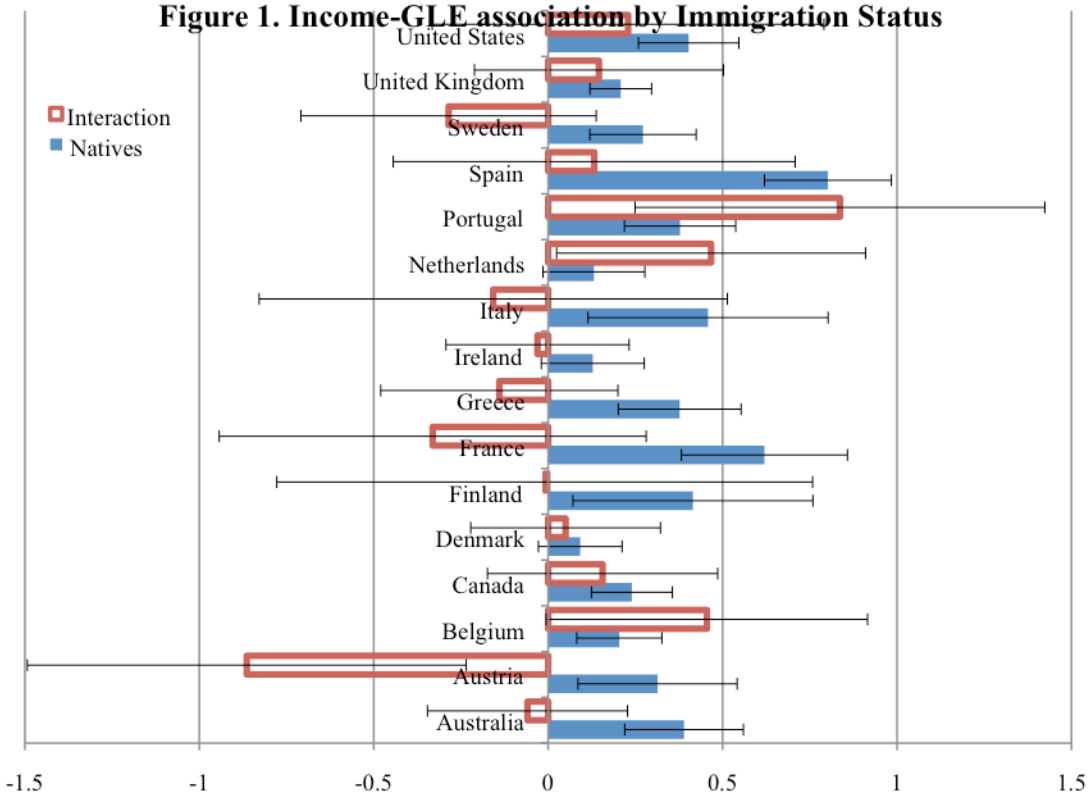


Figure 2. Income-LS association by Immigration Status

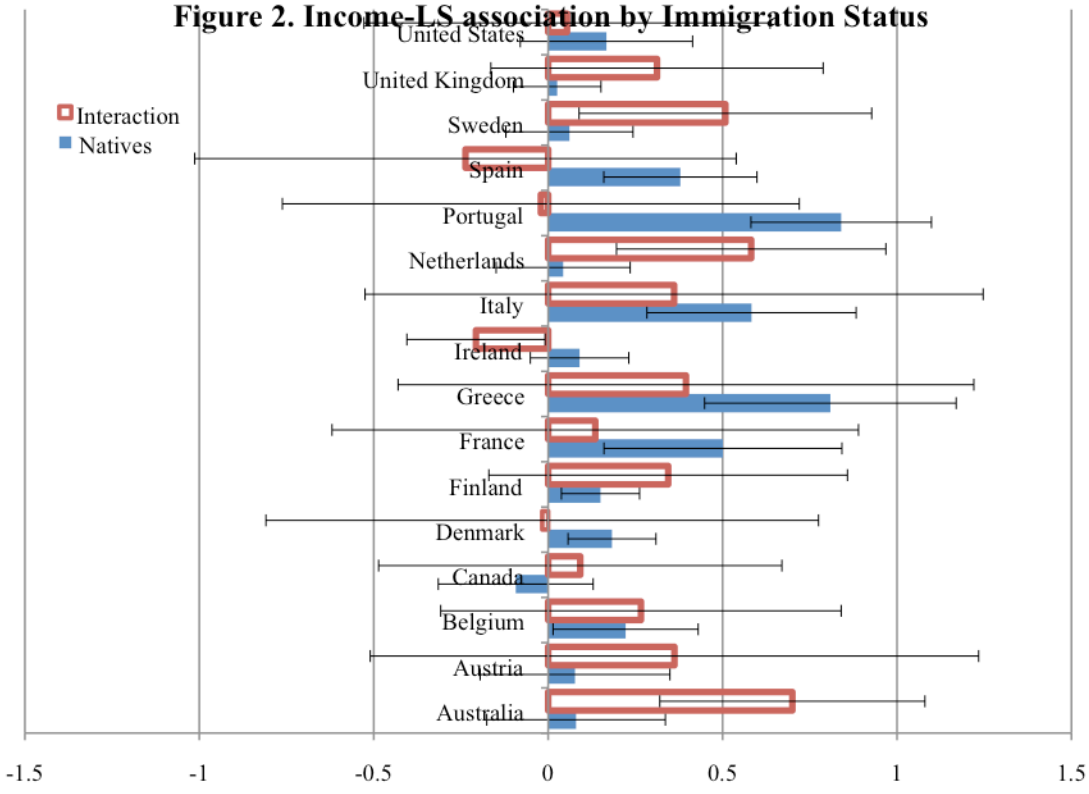


Figure 3. Interaction coefficients for Global Life Evaluation, United States 2006-2011.

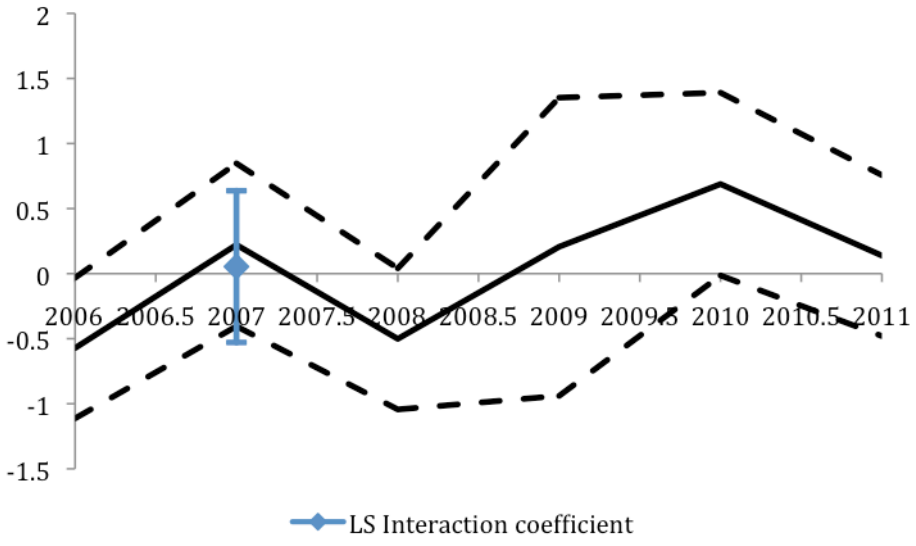


Table 3. Descriptive Statistics for US samples in WVS and WGP

	World Values Survey, 1995[a]		World Gallup Poll, 2006-2011	
	Natives	Immigrants	Natives	Immigrants
Mean Global Life Evaluation			7.34	6.99
Mean Life Satisfaction	7.68	7.46	7.85	7.74
Mean Income	39,158	42,459	61,302	64,152
% Single	14.9	15.8	21.9	23.77
% Married/cohabitating	64.8	71.7	57.9	59.23
% Divorced/separated	10.2	5.8	11.5	11.9
% Widowed	10.0	6.7	8.7	5.1
% No children	21.7	30.0		
% One child	13.1	13.3		
% Two or more children	65.2	56.7		
Household size			2.08	2.24
Mean age	48.9	41.2	52.0	46.3
% Unemployed	5.9	10.0	5.7	7.6
Mean Importance of God / Religiosity	8.2	8.0	66.2	56.3
Mean health score / satisfaction with personal health	1.9	1.8	81.7	83.7
N. Observations	1414	120	5850	336

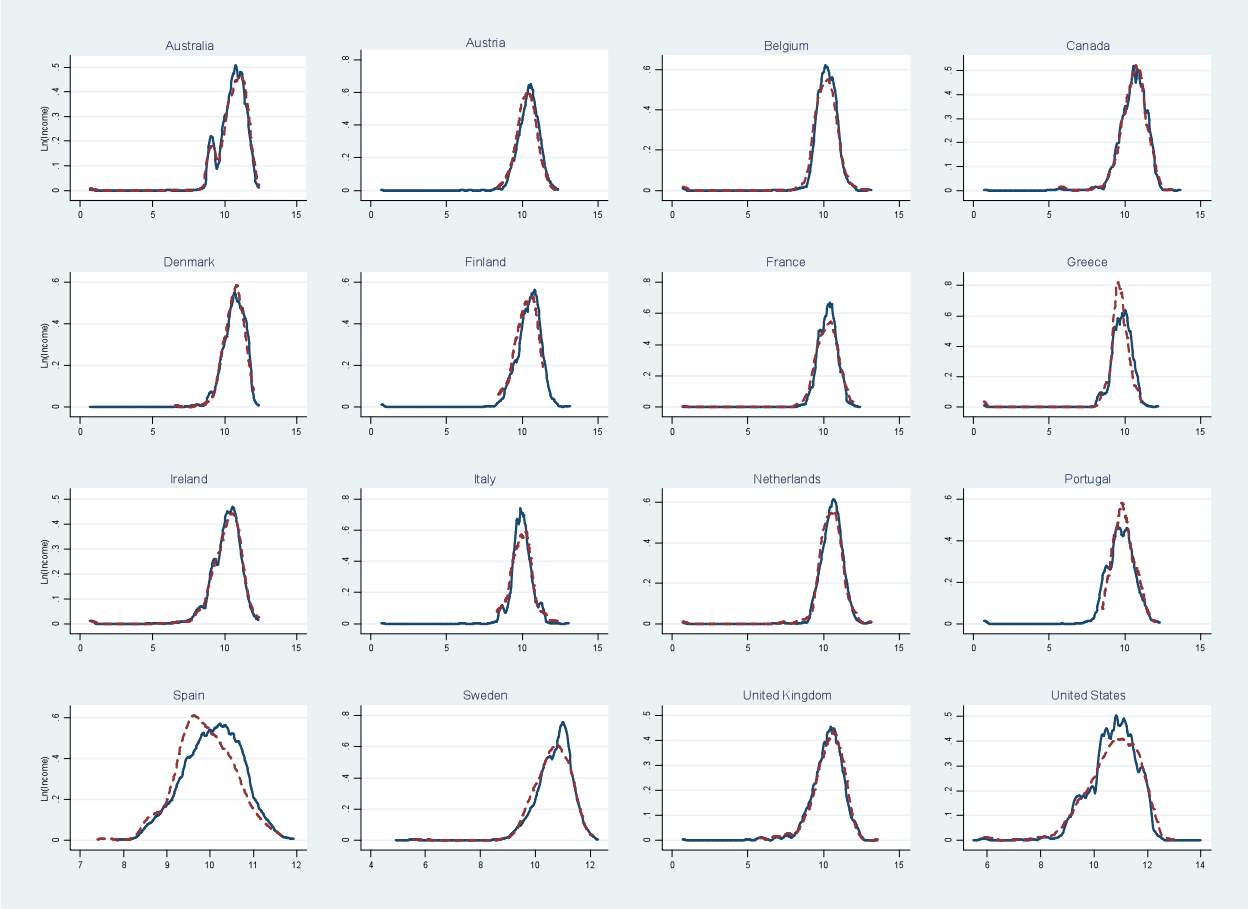
[a] Extracted from Bartam (2011), p. 64.

Table 4. OLS regression results for income and immigration status by income quintile
Global Life Evaluation and Life Satisfaction, Pooled sample

	GLE	LS
1st Quintile		
Ln(Income)	0.06	-0.016
	(0.059)	(0.086)
Ln(Income) X (Indicator Foreign Born)	0.177	0.305
	(0.206)	(0.29)
= 1 if Foreign Born	-1.826	-3.057
	(1.906)	(2.659)
2nd Quintile		
Ln(Income)	0.466**	0.754***
	(0.227)	(0.287)
Ln(Income) X (Indicator Foreign Born)	0.021	-0.314
	(0.781)	(0.876)
= 1 if Foreign Born	-0.557	3.302
	(7.761)	(8.693)
3rd Quintile		
Ln(Income)	0.282	0.262
	(0.221)	(0.302)
Ln(Income) X (Indicator Foreign Born)	0.699	2.376
	(0.804)	(1.662)
= 1 if Foreign Born	-7.532	-25.04
	(8.354)	(17.412)
4th Quintile		
Ln(Income)	0.795***	-0.022
	(0.186)	(0.262)
Ln(Income) X (Indicator Foreign Born)	-0.711	0.444
	(0.582)	(1.037)
= 1 if Foreign Born	7.441	-4.8
	(6.305)	(11.196)
5th Quintile		
Ln(Income)	0.407***	0.076
	(0.075)	(0.12)
Ln(Income) X (Indicator Foreign Born)	0.086	0.322
	(0.259)	(0.302)
= 1 if Foreign Born	-1.269	-3.416
	(2.961)	(3.464)

Notes: Weighted regressions. Robust standard errors in parenthesis. *** p-value<0.001; ** p<0.05; * p<0.1
Both regressions include controls for age, age squared, indicators for sex, marital status, religiosity, household size, reported satisfaction with personal health as well as time and country fixed effects.

Figure 4. Income (logged) distribution in 16 high income countries, by immigration status



Notes: Dashed distributions correspond to immigrants. Solid distributions represent natives.

Figure 5. OLS regression results by income quintile, Global Life Evaluation

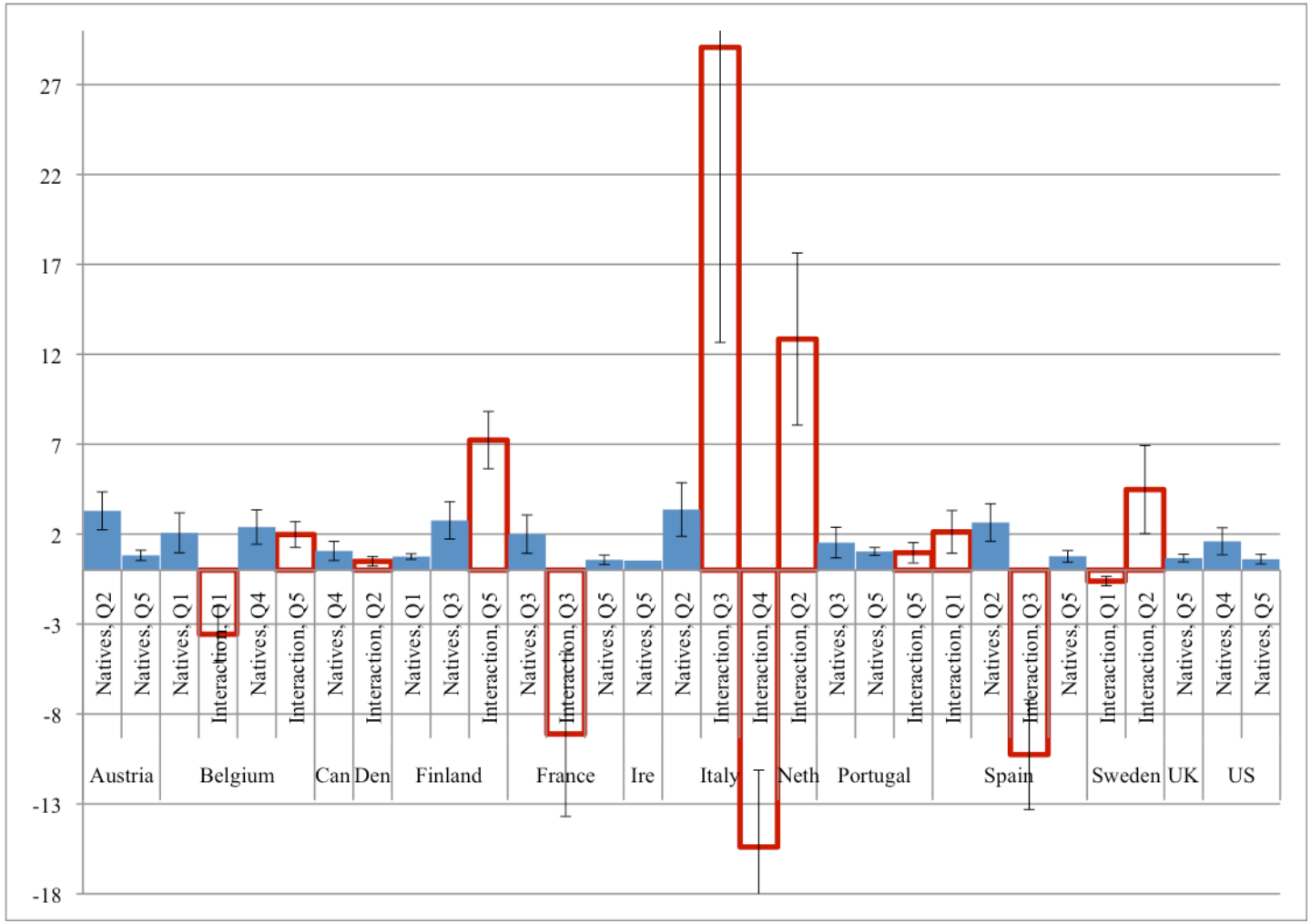


Figure 6. OLS regression results by income quintile, Life Satisfaction