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Do Non-Economic Quality of Life Factors Drive Immigration? — Source link

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ABSTRACT

Do Non-Economic Quality of Life Factors Drive Immigration?

This paper contributes to the immigration literature by generating two unique non-economic quality of life (QOL) indices and testing their role on recent migration patterns. Applying the generated quality of life indices in conjunction with other independent welfare measures to an extended gravity model of immigration for 16 OECD destination countries from 1991 to 2000 suggests an insignificant role for QOL in the immigration process. The panel results suggest that other economic variables such as the stock of immigrants from the source country already living in the OECD destination country, population size, relative incomes, and geographic factors all significantly drive the flow of immigration for the sample.

JEL Classification: F22, C51, D63

Keywords: immigration, quality of life, gravity model

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I. Introduction

Migration patterns have been a major force for the past three decades. The habitual immigrant receiving countries such as the United States, Canada and Australia has not only seen an increase in numbers but also a change in the composition of said immigrants. There has been a significant change in that immigrants are now predominantly originating from countries in Africa, Asia and Latin America rather than from the historically prevailing Europe, see Massey *et al*. (1993).

In explaining the reasons for international migration and changes in the overall pattern, a number of theoretical models has been used but even if the ultimate goal of these models remain the same, they utilize fundamentally different concepts, assumptions and frames of reference.

This paper will focus on modeling international migration for sixteen[1] OECD countries between 1991 and 2000. Many of the explanatory variables that appear frequently in the trade literature are also used in this paper – stock of immigrants, population size, income differences, common language, colonial ties, etc. The contribution of this paper is twofold. First, we will focus on generating two unique quality of life (QOL) indices that are objective but non-economic in nature. Following Rossouw and Naudé (2008), we construct a comprehensive demographic and geographical QOL index, for all source and destination countries used in our data sample. Consequently, the second contribution of this paper focuses on the empirical link between QOL and migration patterns for the OECD group of countries.

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[1] These include Australia, Belgium, Canada, Denmark, Finland, France, Germany, Hungary, Japan, Netherlands, Norway, Portugal, Sweden, Switzerland, United Kingdom, and the United States.

This paper proceeds as follows: section II provides a literature review in terms of QOL and its link to migration, section III details the development of two indices of quality of life to be applied, section IV develops an immigration model based on gravitational factors, section V reports and discusses the results of the panel data, and section VI concludes and offers future research direction using the quality of life measures.

II. Literature review

Migration is caused by a push from behind and/or a pull from an appealing prospect in front. The combination of push and pull factors and research into which specific determinants play a significant role in migration patterns has received a lot of attention in the empirical literature. For example, recent research includes work by Hatton and Williamson (2003), Pedersen *et al.* (2004), Tolbert *et al* (2006), Mayda (2007), Naudé (2008), Warin and Svaton (2008), and Zaiceva and Zimmermann (2008). In general, many of the determinants of migration flows can be categorized under four headings: Political, Economic, Demographic and Environmental factors. Economic factors have undoubtedly received the most attention[2], probably partly because of data availability, which increases the ease with which it can be statistically investigated. There is now a sizeable set of literature that has uncovered a very strong correlation between the rate of emigration and better economic conditions in the host country, compared to the source country.

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[2] Michalos (1997) ventured that economic variables are the most important indicators with respect to an individual's migration decision. He also argued that it is likely that quality of life factors and purely economic factors be considered in juxtaposition when investigating the complex migration decision.

In terms of studies pertaining to QOL, its measurement and impact on daily life, it can in essence be divided into two categories; objective/economic QOL and subjective/non-economic QOL studies. Objective QOL measures are influenced by economic variables as these are more readily accepted by policymakers and are more easily interpreted, see Sumner (2003). Two of the best known composite objective QOL measures are the Physical Quality of Life Index (Morris, 1979) and the Human Development Index (UNDP, 1990). The primary problems with these two measures are that they do not cover enough QOL domains (for example, the Human Development Index only consists of three variables) and GDP per capita often plays too important a role in these indices. This had led to the construction of more recent, broader defined QOL indices such as the Index of Economic Well-being (Osberg and Sharpe, 2000) and the Economics Intelligence Unit's (2005) QOL index.

In considering subjective QOL studies, one must note that this area of QOL has been greatly influenced by Sen's (1984, 1993) capabilities approach. Sen's idea that a person's capabilities influences his/her functioning's has led to a wealth of studies such as those done by Griffin (1986, 1991, pp.45-69), Cummins (1996), Narayan *et al* (2000), and Alkire (2002), all of which add to shaping the current trends in measuring subjective QOL. The basic reasoning in using subjective QOL measures stem from the idea that an individual should be consulted when determining his/her perceived QOL. One of the arguments against using subjective QOL measures lie in the inevitable human nature; if one is in a bad mood today all his/her answers might be influenced by their negative emotional state.

Although little empirical work has been done in linking QOL (be it objective or subjective of nature) to migration patterns, the earliest paper discussing this possibility dates back to Liu (1975). In his study, he found that net migration rates between 1960 and 1970 in all 50 States as well as the District of Columbia in the United States (U.S) responded positively and significantly to overall QOL indices. However, many of the QOL measures used in his study were economic in nature, e.g. cost-adjusted personal income per capita.

More recently, Osborne (2003) attempted to link global migration flows to several factors considered in the happiness literature – such as infant mortality rate, the nation's carbon dioxide emissions, crime rate, and the level of political freedom. He applied this to migration to and within the United States. His research found that the most consistent motivator of the migration decision was economic reasons. There was little evidence of the importance of environmental conditions, and insignificant impacts of crime and political freedom.

Rebhun and Raveh (2006) also focused on migration flows to the U.S. and within the U.S. when examining its relationship with QOL. They focussed on two time periods 1965-1970 and 1985-1990. In the first time period, it was striking that many of the QOL variables were found to be insignificant. Three variables were found to be significant in explaining interstate migration and even more interesting is that two of these variables are economic variables – income per capita and employment. In the latter time period, employment opportunities was again found to be significant and across both time periods, the only non-economic QOL variable that was significant in both models, was the crime rate.

In general, there appears to be a sparse set of literature that links migration flows with QOL indicators. In fact, some studies go to the next step and just assume that migration will improve QOL and happiness, e.g. Blanchflower (2008) used life satisfaction data to forecast migration flows. It is also important to note that from the few studies that do investigate the link between immigration and QOL, most include economic factors such as per capita income, and most are focused on the United States.

A review of the above literature helped us in identifying a gap and accordingly the contribution of this paper is twofold. Firstly, our paper will focus on generating two unique QOL indices that are objective but non-economic in nature. This is unique as most QOL studies focus either on subjective non-economic or objective economic measures. In following Rossouw and Naudé (2008), this paper applies 22 variables to construct a separate demographic and geographical QOL index for each of the source and destination countries used in the paper's sample. The second contribution of this paper is to focus on a significant sample of high-income countries, as most of the past limited research focuses on the U.S., and to our knowledge, no research has investigated in detail the possibility of a statistical relationship between QOL and migration flows for the OECD.

III. Constructing the Quality of Life Measures

Quality of life (QOL) is a concept that has experienced wide-spread theoretical and empirical research. It is well recognized that GDP per capita does not solely reflect quality of life and that growth in per capita income does not always equate to increases in human well-being and development, see Qizilbash (1996).

As mentioned in section II, much of the past literature on the non-economic QOL has been done with the use of subjective indicators in order to measure how people perceive their non-economic QOL. Instead, we focus on using objective indicators in constructing our non-economic QOL indices for the 82 countries used in our analysis.[3] To date, the most progress in determining the true non-economic QOL has been made by McGillivray (2005). He extracted, by means of principal component analysis, the maximum possible information from various standard national non-economic quality of life achievement measures. McGillivray (2005) then empirically identified the variation in this extraction not accounted for by variation in income per capita, which he named μ_i. This variable was then defined as being the residual yielded by cross-country regression of the extraction on the natural log of Purchasing Power Parity (PPP) GDP per capita. The variable μ_i can therefore be interpreted *inter alia* as a measure of non-economic quality of life achievement, in the sense that it captures quality of life achieved independently of income.

The same methodology is applied in this paper, in order to determine the non-economic QOL residuals for all 82 countries included in our sample. It is important to note that the trends in the calculated residuals are determined by the choice of variables included as well as by trends in those variables. With the aim of constructing a non-economic index, the variables selected for this analysis are described in Table 1.

INSERT TABLE 1 ABOUT HERE

[3] 82 countries cover all source countries and the 16 OECD destination countries, on which data is available on migration patterns via the OECD migration database. The complete list of source countries per OECD country can be obtained from the authors upon request.

After the selection of variables, the data were divided into two distinct groups as argued by Johansson (2002) and Erickson (1993, pp.67-83). Following Rossouw and Naudé (2008), the first group consists of variables pertaining to man and everything man made (called hereafter demography) and the second group is purely geographical and environmental of nature (called hereafter geography).

The next step after the categorization of the variables under the headings of demography and geography was to apply principal components analysis.[4] It was found that the first three components of demography (must have an eigenvalue above 1) explained 71.97 per cent of the variation in that QOL index and the first four components of geography explained 67.15 per cent of its variance.

To compile the two separate indices from these seven components, different weights had to be appointed to each one. Unfortunately, there is no proxy to use for the selection of weights and it is not statistically acceptable to apply equal weights to each of the components. Thus, the first component of each group (seeing as the first principal component accounts for the most variance and the components are ordered in size as they are extracted) was used in compiling separate demography and geography QOL indices.

In the same vein as McGillivray's (2005) methodology, a regression analysis was next completed in order to determine the residual values of the demography and geography QOL indices. Similarly, the Human Development Index (HDI) was also used as an alternative QOL index, since this index is widely used and acknowledged, and will

[4] Although there are contradictory theories regarding the appropriate methodology in constructing indices (See Lubotsky and Wittenberg, 2006), we find that principal component analysis is the optimal method, given our data and research focus in this paper.

provide a good test of robustness of results. The three equations for country i at year t (t =1991-2000) are specified as follows:

(1) $$\ln GEOQoL_{it} = \alpha_{3it} + \beta_{3it} \ln percapita_{it} + \mu_{3it}$$

(2) $$\ln DEMQoL_{it} = \alpha_{2it} + \beta_{2it} \ln percapita_{it} + \mu_{2it}$$

(3) $$\ln HDIQoL_{it} = \alpha_{1it} + \beta_{1it} \ln percapita_{it} + \mu_{1it}$$

The above three equations aim to extract the part of the QOL index that cannot be explained by per capita income, and therefore reflects a more accurate and objective measure of non-economic QOL. It is these extracted residuals that provide values for the non-economic QOL for the 82 countries in our data sample and which may help in explaining immigration patterns in the OECD.

IV. Model and Data

As mentioned in section II, economic incentives to migrate are a function of both undesirable conditions in the source country and attractive conditions in the destination country. Incentives to migrate are generally called pull-factors, and include higher wages, economic freedom, property rights protection, employment opportunities, and social mobility. However, there are formal and informal costs of moving, such as transportation costs, entry visas, and time of travel. Immigrants also face significant stay-away factors such as language barriers, discrimination, and uncertainty. For a detailed discussion of immigration decision factors see Bodvarsson and Van den Berg (2009).

This paper will argue that a model based on geographic and gravitational factors, which has been traditionally applied to trading patterns, can sufficiently be used to explain immigration patterns. Following the work of Lewer and Van den Berg (2008), the underlying immigration-gravity relationship is expressed:

(4) $IMMIGRATION_{ij} = f[(RELY_{ij}, POP_i \bullet POP_j) / DIST_{ij}]$,

where, immigration to country i from country j is a positive function of $RELY_{ij}$, the per capita income ratio of country i and j, and a negative function of distance between capital cities. Population size is the "mass" variable; c*eteris paribus*, the more people there are in a source country, the more people are likely to migrate, and the larger the population in the destination country, the larger is the labor market there. These considerations suggest a gravity equation as:

(5) $immigration_{ij} = a_0 + a_1(pop_i \bullet pop_j) + a_2(rely_{ij}) + a_3(dist_{ij}) + u_{ij}$,

in which $immigration_{ij}$ represents immigration to destination country i from source country j, and $rely_{ij}$ is the ratio of destination to source country real per capita income. It is expected that the coefficients from a_1 and a_2 will be positive and that a_3 will be negative.

In many cases, researchers may want to control for other factors of immigration. The literature suggests that immigration is path dependent in that current immigration flows are related to past immigration patterns. For example, Kahan (1978), Murayama (1991), Rephann and Vencatasawmy (2000) find distinctive ethnic concentrations of immigrants, and Zawodny (1997) find that family connection is the most significant immigrant determination factor. Additional evidence suggests that immigration flows are larger, *ceteris paribus*, when a common language is spoken. Adding these and other considerations to the model above creates the augmented immigration gravity equation:

$$(6) \quad immigration_{ij} = a_0 + a_1(pop_i \bullet pop_j) + a_2(rely_{ij}) + a_3(dist_{ij}) + a_4(stock_{ij}) + a_5CONT_{ij} + a_6LANG_{ij} + a_7LINK_{ij} + u_{ij},$$

in which $stock_{ij}$ is the stock of immigrants from an immigrant's source country already living in the destination country, $CONT_{ij}$, $LANG_{ij}$, and $LINK_{ij}$ are dummy variables which take the value 1 for pairs of countries which have a contiguous border, common language, and common colonial linkage, respectively. The anticipated sign on all three dummy variables is positive, reflecting the idea that proximity, common language, and common historical ties create immigration networks.

To robustly test the role that quality of life measures have on immigration patterns, we apply six unique indices of QOL to equation (6). First, this paper utilizes the two non-economic indices generated in section III above: (1) GEOQoL and (2) DEMQoL as well as the income adjusted United Nation's HDI (3) HDIQoL. The other three QOL proxies include: (4) the Frazier Institute's economic freedom index (Free), (5) the World Database of Happiness happiness index (Happy), and (6) the Socioeconomic Data and Applications Center's environmental sustainability index (ESI).

Table 2 provides the definitions, sources and descriptive statistics of all data used in this paper. It is worth noting that the total sample of immigrant source countries captures nearly seventy percent of total immigration to the 16 OECD countries over the time-series.[5]

INSERT TABLE 2 ABOUT HERE

The six QOL indices mentioned above were collected for both the immigrant source country and destination country. They are added to equation (6) in the form of relative ratios and relative differences, yielding the equations of interest:

$$\text{(7)}\quad immigration_{ij} = a_0 + a_1(pop_i \bullet pop_j) + a_2(rely_{ij}) + a_3(dist_{ij}) + a_4(stock_{ij}) + a_5CONT_{ij} + a_6LANG_{ij} + a_7LINK_{ij} + a_8(QOL_i / QOL_j) + u_{ij},$$

$$\text{(8)}\quad immigration_{ij} = a_0 + a_1(pop_i \bullet pop_j) + a_2(rely_{ij}) + a_3(dist_{ij}) + a_4(stock_{ij}) + a_5CONT_{ij} + a_6LANG_{ij} + a_7LINK_{ij} + a_8(QOL_i - QOL_j) + u_{ij},$$

V. Empirical Results and Discussion

Most studies estimate equations (7) and (8) by using double logarithmic form. However, one problem with this technique is that country pairs whose immigration flows are zero are omitted. This paper includes all data by applying the methods recommended by Feenstra (2004) who prescribes using the scaled ordinary least squares (SOLS) method with fixed effects when working with censored data. An additional benefit from

[5] Because there are unequal immigrant observations per destination country over time (1991-2000), an uneven panel is constructed with 2710 total observations per variable. The panel is a consistent with respect to inclusion, however. The same source countries are used for all variables across the time periods. Roughly 39.4 percent of immigrants were intra-OECD, while the remaining 60.4 percent were from outside OECD countries. Data for Happy and ESI were only available for year 2000 and have 253 and 250 data points, respectively.

this method is that it corrects for standard error clustering, see Redding and Venables (2000) and Rose and van Wincoop (2001).

Tables 3 and 4 report the results from estimating the gravity model of immigration specified in equations (7) and (8) above. Most variables in the model, with exception of contiguous boarder and the various QOL indices, are highly significant and of the correct sign. The adjusted R-square measure indicates that the model performs well. It is worth noting the large and highly significant immigrant stock coefficient, $stock_{ij}$, which confirms that immigration is indeed path dependent, see Zawodny (1997), Hatton and Williamson (2003) and Pedersen *et al.* (2004).

INSERT TABLE 3 ABOUT HERE

INSERT TABLE 4 ABOUT HERE

The primary contribution of this paper is to test the QOL-immigration relationship. The findings of this paper indicate that non-economic quality of life influences are not a significant immigration driver, and suggests that economic and geographic factors are the primary determinants of immigration to high income countries. These findings are in support of Michalos (1997), Osborne (2003), Pedersen *et al.* (2004), Rebhun and Raveh (2006), and Zaiceva and Zimmermann (2008).

VI. Conclusions

This paper contributes to the immigration literature in two ways; first, constructing objective non-economic QOL measures for OECD countries using 10 and 12 variables for the demographic and geographical indices respectively, and by robustly testing the quality of life-immigration relationship.

Using an extended gravity model of international migration for sixteen OECD countries from years 1991 to 2000, the fixed effects panel indicates that non-economic QOL measures play little role in determining immigration flows. The stock of immigrants from the source country already living in the destination country, population size, destination country income, common language, historical colonial ties all significantly increase the flow of immigration to the OECD sample countries. Geographical distance is found to erode the flow of immigration.

There is significant potential for testing the role of objective and non-economic QOL has on other economic outcomes. Future studies may want to examine the linkages between QOL and economic growth rates and QOL and labor productivity among other areas.

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Table 1:
Variables Used in the Quality of Life Indices

Variable	Focus Area	Expected Influence on Quality of Life
Size of the population (total)	Demographic focus	Positive/Negative
Population growth rate	Demographic focus	Negative
Population density	Demographic focus	Negative
Population older than 65 years of age (% of total population)	Demographic focus	Positive
Population below the poverty line (%)	Demographic focus	Negative
Combined primary, secondary and tertiary gross enrolment ratio (%)	Demographic focus	Positive
Number of economically active population (total)	Demographic focus	Positive
Number of people unemployed (total)	Demographic focus	Negative
Immunization, measles (% of children ages 12-23 months)	Demographic focus	Positive
Immunization, DPT (% of children ages 12-23 months)	Demographic focus	Positive
Urbanisation rate	Geographical focus	Negative
Size of the area (km^2)	Geographical focus	Positive
Forest (km^2)	Geographical focus	Positive
Waterbodies (km^2)	Geographical focus	Positive
Malaria cases per 100 000 people	Geographical focus	Negative
CO_2 emissions per 1000 people	Geographical focus	Negative
PM 10 (particulate matter)	Geographical focus	Negative
Wildness of the land area (%)	Geographical focus	Positive
Average annual precipitation in largest city (mm)	Geographical focus	Positive
Electricity production (kHz)	Geographical focus	Positive
Energy use (kg of oil equivalent per capita)	Geographical focus	Negative
Fixed lines and mobile subscribers (per 100 people)	Geographical focus	Positive

Note: The focus area is the group of variables under a common domain.

Table 2
Data Definitions and Descriptive Statistics

Variable	Definition	Source	Mean	Standard Deviation	Maximum	Minimum
$immigration_{ij}$	Immigration to destination country i from source country j logged	OECD International Migration Database	7.583	1.710	13.760	0.000
$pop_i \bullet pop_j$	The product of destination and source country population logged	World Bank World Development Indicators	7.275	1.893	12.799	0.262
$dist_{ij}$	The distance between capital cities logged	U.S. Geological Survey	8.185	1.156	11.515	4.430
$rely_{ij}$	Ratio of destination to source country per capita income	World Bank World Development Indicators	13.917	11.120	233.35	0.120
$stock_{ij}$	Stock of immigrants from an immigrant's source country already living in the destination country logged	OECD International Migration Database	9.476	2.053	14.441	0.000
$CONT_{ij}$	Common border dummy	CIA World Factbook	0.100	0.300	1.000	0.000
$LANG_{ij}$	Common language dummy	CIA World Factbook	0.138	0.345	1.000	0.000
$LINK_{ij}$	Common colonial link dummy	CIA World Factbook	0.131	0.337	1.000	0.000
$GEOQoL_i$	Geographic quality of life index destination country	Authors	1.186	0.933	2.050	-1.800
$GEOQoL_j$	Geographic quality of life index source country	Authors	0.074	1.266	2.104	-2.831
$DEMQoL_i$	Demographic quality of life index destination country	Authors	0.837	0.431	1.443	-1.267
$DEMQoL_j$	Demographic quality of life index destination country	Authors	0.050	0.889	1.483	-1.992
$HDIQoL_i$	Human Development Index destination country	United Nations Human Development Report	0.863	0.083	0.940	0.595
$HDIQoL_j$	Human Development Index source country	United Nations Human Development Report	0.763	0.113	0.945	0.503
$Free_i$	Economic freedom index destination country	Frazier Institute	7.656	0.012	8.600	5.100
$Free_j$	Economic freedom index source country	Frazier Institute	6.176	0.042	9.100	3.200
$Happy_i$	Happiness index, "How much people enjoy their life-as-a-whole on scale 0 to 10"	World Database of Happiness	7.217	0.666	8.400	5.500
$Happy_j$	Happiness index, "How much people enjoy their life-as-a-whole on scale 0 to 10"	World Database of Happiness	6.437	0.962	8.400	3.200
ESI_i	Environmental sustainability index destination country	Socioeconomic Data and Applications Center	67.058	7.692	80.470	44.100
ESI_j	Environmental sustainability index source country	Socioeconomic Data and Applications Center	53.924	11.993	80.470	29.830

Table 3
Tests of Relative Quality of Life on Immigration Patterns

	Equation (7)	Equation (7)	Equation (7)	Equation (7)	Equation (7)	Equation (7)
Constant	4.516 (15.77)**	4.514 (15.78)**	4.692 (15.30)**	4.531 (15.84)**	4.939 (5.88)**	4.885 (5.84)**
$pop_i \bullet pop_j$	0.204 (13.80)**	0.204 (13.79)**	0.209 (13.83)**	0.203 (13.67)**	0.254 (5.71)**	0.241 (5.03)**
$rely_{ij}$	0.00003 (1.99)**	0.00003 (1.99)**	0.00003 (2.02)**	0.00003 (1.91)*	0.00006 (0.62)	0.00004 (0.42)
$dist_{ij}$	-0.216 (-7.73)**	-0.215 (-7.73)**	-0.215 (-7.73)**	-0.221 (-7.81)**	-0.247 (-3.11)**	-0.247 (-3.03)**
$stock_{ij}$	0.391 (34.32)**	0.391 (34.33)**	0.391 (34.34)**	0.391 (34.35)**	0.325 (10.08)**	0.316 (9.61)**
$CONT_{ij}$	0.090 (1.13)	0.090 (1.12)	0.076 (0.94)	0.088 (1.11)	0.406 (1.82)*	0.368 (1.62)
$LANG_{ij}$	0.235 (3.05)**	0.237 (3.05)**	0.240 (3.12)**	0.243 (3.14)**	0.239 (1.12)	0.196 (0.86)
$LINK_{ij}$	0.164 (1.95)*	0.164 (1.95)*	0.168 (2.01)**	0.156 (1.84)*	0.080 (0.34)	0.111 (0.44)
$GEOQoL_i/GEOQoL_j$	0.0003 (0.31)					
$DEMQoL_i/DEMQoL_j$		0.0006 (0.57)				
$HDIQoL_i/HDIQoL_j$			-0.173 (-1.53)			
$Free_i/Free_j$				0.022 (0.98)		
$Happy_i/Happy_j$					0.068 (0.23)	
ESI_i/ESI_j						0.251 (1.23)
Adjusted R^2	0.684	0.684	0.684	0.684	0.713	0.705
Observations	2600	2600	2600	2600	253	250

Notes: Figures in parentheses are heteroskedasticity-consistent *t*-statistics. ** indicates significant at the 95% level and * at the 90% level. The joint hypothesis of the cross-section units having a common intercept is rejected (Ho: $\gamma_2 = \gamma_3 = \ldots = \gamma_{16} = 0$, Fcalc = 8.93 > Fcrit = 1.30).

Table 4
Tests of Quality of Life Differences on Immigration Patterns

	Equation (8)	Equation (8)	Equation (8)	Equation (8)	Equation (8)	Equation (8)
Constant	4.524 (15.82)**	4.523 (15.82)**	4.524 (15.82)**	4.553 (15.81)**	5.018 (6.24)**	5.125 (6.19)**
$pop_i \bullet pop_j$	0.208 (13.75)**	0.207 (13.69)**	0.207 (13.75)**	0.203 (13.65)**	0.253 (5.67)**	0.241 (5.06)**
$rely_{ij}$	0.00003 (2.03)**	0.00003 (2.02)**	0.00003 (2.03)**	0.00003 (1.89)*	0.00006 (0.64)	0.00005 (0.48)
$dist_{ij}$	-0.216 (-7.75)**	-0.216 (-7.76)**	-0.216 (-7.75)**	-0.221 (-7.78)**	-0.250 (-3.14)**	-0.245 (-3.01)**
$stock_{ij}$	0.391 (34.35)**	0.391 (34.35)**	0.391 (34.35)**	0.391 (34.35)**	0.325 (10.08)**	0.315 (9.55)**
$CONT_{ij}$	0.077 (0.96)	0.080 (1.00)	0.078 (0.97)	0.088 (1.11)	0.412 (1.84)*	0.372 (1.64)
$LANG_{ij}$	0.237 (3.08)**	0.237 (3.08)**	0.237 (3.08)**	0.244 (3.14)**	0.247 (1.15)	0.212 (0.93)
$LINK_{ij}$	0.167 (1.99)**	0.167 (1.98)**	0.167 (1.99)**	0.161 (1.92)*	0.072 (0.31)	0.101 (0.41)
$DifGEOQoL_{ij}$	-0.018 (-1.16)					
$DifDEMQoL_{ij}$		-0.019 (-0.86)				
$DifHDIQoL_{ij}$			-0.207 (-1.16)			
$DifFree_{ij}$				0.008 (0.92)		
$DiffHappy_{ij}$					0.031 (0.51)	
$DifESI_{ij}$						0.006 (1.19)
Adjusted R^2	0.684	0.684	0.684	0.684	0.713	0.705
Observations	2600	2600	2600	2600	253	250

Notes: Figures in parentheses are heteroskedasticity-consistent *t*-statistics. ** indicates significant at the 95% level and * at the 90% level.