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## Here to Stay—The Effects of Community Satisfaction on the Decision to Stay

CHARLOTTA MELLANDER, RICHARD FLORIDA & KEVIN STOLARICK

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**ABSTRACT** *Why do some people stay in locations while others move? While most research has examined the factors which encourage people to move to new locations, we focus our research on the effects of satisfaction with individuals' current location on the decision to stay. To do so, we examine the relative effects of three kinds of factors: (1) satisfaction with community or place-based factors such as aesthetic appeal, outdoor space and recreational amenities, artistic and cultural amenities, the ability to meet people and make friends; (2) community economic conditions; and (3) individual-level demographic factors such as income, human capital, and age. Our findings indicate that place-based factors, in particular the beauty and physical appeal of the current location and the ability to meet people and make friends, explain more of the desire to stay than do community economic conditions or individual demographic characteristics.*

### **J'y suis, j'y reste—Effet de la satisfaction au niveau de la communauté sur la décision de rester**

**RÉSUMÉ** *Pourquoi certaines personnes restent-elles au même endroit, alors que d'autres se déplacent? Tandis que la plupart des travaux de recherche se sont penchés sur les facteurs encourageant les gens à changer d'endroit, nous nous concentrons sur les effets du degré de satisfaction des particuliers avec l'endroit où ils résident sur leur décision de rester. Pour ceci, nous examinons les effets relatifs de trois types de facteurs: (1) la satisfaction avec la communauté ou avec des facteurs propres à l'endroit, par exemple l'esthétique du lieu, les espaces au grand air et les aménagements de loisirs, artistiques et culturels, la capacité de rencontrer des gens, de nouer des liens d'amitié; (2) des conditions économiques propres à la communauté; et (3) des facteurs démographiques au niveau personnel: revenus, capital humain, âge, entre autres. Nos conclusions indiquent que des facteurs basés sur les lieux, notamment la beauté et l'attrait physique du lieu, et la capacité de rencontrer des gens et de nouer des liens d'amitié, expliquent le désir de rester sur place plutôt que des conditions économiques propres à la communauté ou des facteurs démographiques.*

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## La decisión de afincarse—Los efectos de la satisfacción de la comunidad sobre la decisión de afincarse

**RÉSUMÉN** ¿Por qué algunas personas se afincan en un lugar mientras que otras se mudan? Aunque en la mayoría de los estudios se han analizado los factores que motivan a las personas a mudarse a otros lugares, centramos nuestro estudio en los efectos de la satisfacción con el lugar actual del individuo sobre su decisión de afincarse. Para hacer esto, analizamos los efectos relativos de tres tipos de factores: (1) la satisfacción con la comunidad o factores basados en el lugar por ejemplo, la estética del lugar, el espacio exterior y los servicios recreativos, las prestaciones artísticas y culturales, la posibilidad de reunirse con la gente y hacer amigos; (2) las condiciones económicas de la comunidad; y (3) los factores demográficos a nivel individual, por ejemplo, los ingresos, el capital humano y la edad. Nuestras conclusiones indican que los factores basados en el lugar, en especial la belleza y el aspecto físico del lugar actual y la posibilidad de reunirse con gente y hacer amigos, explican mejor el deseo de afincarse que las condiciones económicas de la comunidad o las características demográficas individuales.

### 留下来—社区满意度对长住决定的影响

**摘要**：为什么有些人长住某地而有些人不断迁徙？大多数研究考察了促使人们迁徙的因素，而笔者则将研究的重点放在个人对当前所住地点的满意程度如何影响长住的决定。为此，笔者考察了三种因素的相对作用：（1）对社区或地点因素的满意度，例如审美诉求、户外空间和娱乐设施、艺术和文化设施、社交和交友的机会；（2）社区经济状况；以及（3）个人水平上的人口因素，例如收入、人力资本，以及年龄。研究发现，与社区经济状况和个人人口特点相比，在长住的原因中，地点因素较多，尤其是当前地点的审美和物理外观，以及社交和交友机会。

**KEYWORDS**: *Community satisfaction; migration; mover; stayer*

**JEL CLASSIFICATION**: R23; Z1

## 1. Introduction

Economists, demographers and social scientists have long sought to identify the factors that shape the migration of people across regions and the factors that shape the location choices of individuals. Economics research on individual location choice has been framed largely by Tiebout's (1956) classic contribution which modelled location choice as an optimization process to maximize individual utility.

Following Tiebout, there has been a strong focus on the factors that shape the decision to move to new locations. Empirical studies in this tradition have found income levels, job supply and housing market conditions to be key factors in explaining the decision to move (Tiebout, 1956; Herzog & Schlottmann, 1986; Whisler *et al.*, 2008). Others (Rosen, 1979; Roback, 1982) later expanded the basic Tiebout framework to include quality-of-life factors, treating them as residuals. Further research in this area shifted the focus from why people leave regions to the factors that attract individuals, particularly highly-mobile workers, to certain regions (Glaeser *et al.*, 2001; Florida, 2002; Gottlieb & Joseph, 2006).

Research by behavioural psychologists has focused on the role of regional characteristics (Wolpert, 1965; Fawcett & De Jong, 1982; Landale & Guest, 1985), finding that likelihood of individual migration depends on the individual's fit with

their current location and the real or perceived quality-of-life of alternative locations.

Most recent research on individual migration and location choice focuses on the factors that shape in-migration and the choice of 'new' locations. Our research flips the question around so to speak, and focuses on the factors that affect the intentions of individuals to stay in their current location. It probes the effects of three classes of factors—individual demographic characteristics, local economic conditions and the supply of public goods, and community or place-based characteristics that shape community satisfaction on the decision to stay. To examine the effects of these factors, it employs data from a large scale survey sample of individuals from the Gallup Organization. The survey asked a series of key questions about the desire of individuals to stay in their current location. It also asked questions related to community satisfaction overall and various dimensions of community satisfaction, including place-based factors such as artistic and cultural amenities, outdoor recreation, the aesthetics or beauty of locations, the supply of public goods, and the ability to meet people and make friends. The survey also asked questions about the economic conditions and public goods provision of individuals' locations as well as collecting detailed demographic data on survey respondents.

## **2. Theory and Concepts**

Tiebout (1956) seminaly argued that instead of making attempts to change the already existing situation in a region, individuals vote with their feet and locate in the community that offers the bundle of public services and taxes that they like best. In the same way that an individual satisfies the demand for private goods by purchasing them at the market, the demand for public services will be satisfied by moving to a region with the appropriate selection of taxes and services, and that this, in the end, would create a market-like solution to the local public goods problem. In other words, migration becomes a solution for people to find their fit.

In traditional economics literature, migration is considered the adjustment of disequilibria within various markets—for labour, jobs, housing, etc.—across space. A vast literature has tried to explain the driving forces behind this constant re-allocation of the population, often with a focus on the final destination point. In the human capital model (Sjaastad, 1962) an individual takes the expected future benefits and costs into account, and makes the move if the expected benefits exceed the costs. The disequilibrium model predicts that in order to maximize utility, individuals tend to move to regions where the real wage is relatively high. This implies that regions with a higher real wage level have a positive net migration. Due to changes in labour supply, the regional wage level decreases in regions with positive net migration and increases in regions attributed with negative net migration. The migration process ceases when the real wage among the regions becomes equal (Thirlwall, 1966; Greenwood, 1973).

However, despite the theoretical claim that migration reduces regional wage disparities, the gaps both within and between earnings across regions have increased over time. Furthermore, Census data on migration indicate that between 30 and 40 million Americans change their place of residence each year.

Rosen (1979) and Roback (1982) note that amenities and increases in quality-of-life compensate for lower wages and increased housing values when migration takes place. In other words, when making locational choices individuals are likely

willing to accept a lower wage or higher cost of housing in exchange for an increase in the overall quality of life. Blomquist *et al.* (1988) demonstrate that these tradeoffs are evident for movements both within and across regions.

A considerable body of research has explored the relationship between particular quality of life factors and migration across regions from many different angles. Gyourko & Tracy (1991) show that fiscal conditions and local leadership as well as regional environmental amenities are important. In 2001, Glaeser *et al.* analysed the importance of consumer and personal service industries such as restaurants, theatres, and museums, recasting urban regions as ‘consumer cities’. Simultaneously, Lloyd & Clark (2001) and Clark *et al.* (2002) stressed the role of lifestyle—in the form of entertainment, nightlife, culture, and so on—and demonstrated how the city functions as an entertainment machine. Florida (2002) introduced the role of openness, tolerance and low barriers to entry, and argued for their importance in the location choices of highly-skilled, creative class workers.

Much of this research has also demonstrated how place-based factors are evaluated differently by various population groups. For example, locational preferences are conditioned by life-stage factors such as investment in human capital (Becker, 1993; Faggian *et al.*, 2007a) or marriage (Mincer, 1978; Graves, 1979, 1983; Graves & Linneman, 1979). Rogers (1988) and Pandit (1997) both highlight the relation between age and migration patterns. Edlund (2005) argues for a gender effect in migration patterns, where both greater labour market and marriage market prospects (due to the greater presence of high-income males) leads to over-representation of women in large cities in the Western world and under-representation in rural regions. Faggian *et al.* (2007b) found that women are more likely to stay than men. However, for the women who leave, they are more likely to keep on moving than men. Traditional economics has also developed so-called mover – stayer models (Blumen *et al.*, 1955) to separate the population into two groups—those with a higher likelihood to move from those who are more probable to stay put. Individuals with a higher propensity to migrate tend to be young and highly educated since both are expected to get higher returns from migration. Older and married individuals tend to have higher costs related to migration, and therefore are more likely to belong to the stayer group.

While most of these studies of inter-regional migration consider the factors that attract groups of individuals toward particular destinations, there is also a line of research that focuses on the attributes of the departure regions. Herzog & Schlottmann (1986), analysing the extent to which the metrics employed in the *Places Rated Almanac* publication statistically correlated with out-migration choices in US metropolitan regions, found that housing, crime, education and recreation opportunities were important considerations. Whisler *et al.* (2008) work from the same published dataset for a later year but stratify the results according to life-stages. The authors find that among the quality of life factors, the presence of cultural and recreational amenities lowers the out-migration rates of young, college-educated groups, while safety and climate are the primary retentive factors for older, college-educated groups.

Behavioural science researchers argue that the subjective perceptions of migrants themselves are also important determinants of individual location choice. Wolpert (1965) argues that individual-level behavioural traits are critical to understanding migration patterns. He suggests that there are three critical dimensions to understanding migration behaviour: the utility that individuals

realize from their current location and anticipate realizing from possible alternative locations; the constraints under which they receive information about both the current location (e.g. biased by spatial and social proximities) and alternative locations; as well as personal characteristics—age, race, income, education, occupation, and so on. The individual's ability to get objective information and thus form attitudes about other places is invariably limited and filtered by the perception of the current location and its surroundings. Moreover, the fact that these attitudes are further complicated by individual traits and life-stage factors results in a situation where the subjects in this analysis are as heterogeneous as the places they choose between. As a result, any research into migration decision-making must acknowledge that location-based attitudes and choices are formed within the highly personal setting of lived experience. It is both difficult and problematic to use some fixed criteria about the quality of life within regions to explain migration behaviour without accounting for how these factors are individually perceived. It is critical therefore that these perceptions, captured in terms of satisfaction level, be understood with respect to migration choices.

Rossi (1955) studied residential moves of families and concluded that the most important factors were housing and income. The drive was to find a house in a place that fit their needs, but only as far as their income would allow. So, in a way it was dissatisfaction that motivated the move rather than the search for something better. Cutrona *et al.* (2006) show how negative neighbourhood characteristics (e.g. levels of poverty or unemployment) cause depression and affect the formation of bonds between people. While this work does not address migration directly, it highlights how place-based characteristics shape individuals' attitudes about places, and can do so to a greater extent than individual characteristics such as income, education, and personal status. Landale & Guest (1985) question the explanatory power of highly subjective variables and caution that people are influenced as much by their web of social relationships as the attitudes and preferences they profess in making location decisions. The work by Putnam (2000) has also highlighted the role of social capital, social engagement and the role of trust.

There is also a considerable literature on the psychological dimensions of location choice. Fawcett & De Jong (1982) analyse the content of the migration decision, rather than the dynamics of the actual choice itself. They state that place utility should be a function of both personal goals as well as the expectancy to attain those in other places, as understood in a larger socio-economic context. Haberkorn (1981) extensively analysed the migration decision process decomposed in several stages: the estimated challenge, the search for and weighing of alternative locations, as well as considerations of current commitments and the outcomes of the final decision.

Generally speaking, there is a cleavage between economics and psychological approaches to individual location choice. Economists focus in the main on the interaction between individual characteristics, such as income and local characteristics like job opportunities, housing prices, taxes, and the provision of public goods, while psychologists emphasize the fit between individual needs and the subjective characteristics of places. Economists also focus more on the decision to move to a new location, while psychologists and behavioural scientists look more closely at the conditions of the current location.

Our research examines the relative role played by both economic and psychological factors in individual location decisions. Our approach builds on that of Herzog & Schlottmann (1986) and Whisler *et al.* (2008), the relationship

between individuals' satisfaction with their current location and how that affects the decision to stay rather than to move. We consider the decision to stay as elements of individual location choice. Our research uses data from a large-scale survey sample to examine the decision to stay in light of three classes of factors—individual-level demographic characteristics such as income, education, age and so on; economic characteristics of locations such as job opportunities and housing costs; and factors that affect community-satisfaction.

### 3. Methodology and Concepts

Our research examines these issues through a statistical analysis of a large scale survey sample from the Gallup Organization. The survey covered roughly 28,000 people across all 50 US states, all major US cities and metro regions and includes some 8,000 communities across the United States nationwide. Carried out by the Gallup Organization in July – August in 2006 the survey sample is Gallup's panel and is representative across states, cities, metros, and type of community, that is, urban, suburban and rural. It is also fully representative across income, occupation, education, age, race and ethnicity, household type, and sexual orientations. The response rate was 70.3%.

Taking the factors we are concerned with here, questions related to the decision to stay, and those concerned with community characteristics had a response rate of 50.7%.

### 4. Variables

#### 4.1. *Dependent Variable*

The dependent variable measures the *stated likelihood to stay*. Specifically, it is based on the survey question: 'How likely are you to continue to live in the city or area where you live?'. Responses were ranked on a 1 – 5 Likert scale, where 1 = not at all likely, and 5 = extremely likely. It is important to remember that the scale is not by definition inversely symmetrical, and that a low likelihood of staying does not necessarily imply leaving.

#### 4.2. *Independent Variables*

The survey enables us to probe three sets of independent variables; dimensions of community satisfaction, community economic conditions, and individual characteristics.

- *Dimensions of Community Satisfaction:* the first are factors related to community satisfaction. A series of independent variables were designed to gauge the various dimensions of perceived community satisfaction (see Table 1 below). All questions were phrased as 'How would you rate the city or area where you live?' and response categories were based on a 5-point Likert scale where 1 = very bad and 5 = very good.
- *Community Economic Conditions:* the survey also asked questions about perceived community economic conditions, including job opportunities, current economic conditions, and future economic conditions. These questions were phrased the same as the community satisfaction questions detailed above.

- *Individual Characteristics*: the survey also mapped characteristics of the individual, including factors such as age, gender, income, education level, children and how long they had stayed in that place.

Unfortunately, the variables related to individual characteristics reduce our sample significantly from 14,189 to 2,029 observations. We will therefore run our model in two different versions—one full model with fewer observations, and one restricted with more observations. We will also run the restricted model but with the same observations that are included in the full model. From this, we can see if any differences are caused by the inclusion of individual control variables or if it is due to the reduced sample size.

Table 1 illustrates the descriptive statistics for the restricted model (descriptive statistics for the full model are available in Appendix 1), and includes minimum, maximum, and median scores as well as the standard deviations for community satisfaction and community economic conditions. It is interesting to see that most of the mean scores are relatively high—all are above the scale midpoint value 3, except for the public transportation satisfaction variable. This implies that most people on average tend to be relatively satisfied with most aspects of their communities. We find the biggest standard deviations for the variables related to vibrant nightlife, public transportation, cultural opportunities, and job opportunities within your field.

We also ran a correlation analysis to search for possible relationships between our independent variables. Most of the correlation coefficients range between 0.2 and 0.4, while some of the relations are insignificant. We found the strongest

**Table 1.** Descriptive statistics for variables—restricted model

	N	Minimum	Maximum	Mean	Std. deviation
Likelihood to stay	14,189	1.00	5.00	4.0593	1.12858
Quality of the public schools	14,189	1.00	5.00	3.5732	1.16370
Quality of colleges and universities	14,189	1.00	5.00	3.9694	1.09606
Cultural opportunities	14,189	1.00	5.00	3.5067	1.29067
Job opportunities in your field	14,189	1.00	5.00	3.3082	1.24843
Religious institutions that meet your needs	14,189	1.00	5.00	4.2229	0.97393
A good place to meet people and make friends	14,189	1.00	5.00	3.6595	1.08700
Vibrant nightlife	14,189	1.00	5.00	3.1510	1.29586
Affordable housing	14,189	1.00	5.00	3.0585	1.22162
Public transportation	14,189	1.00	5.00	2.7380	1.29141
Being able to get from place to place with little traffic	14,189	1.00	5.00	3.2903	1.26476
Quality health care	14,189	1.00	5.00	3.9422	1.08117
Climate	14,189	1.00	5.00	3.7015	0.98147
Air quality	14,189	1.00	5.00	3.7631	1.04674
Beauty or physical setting	14,189	1.00	5.00	4.0271	1.01870
Outdoor parks, playgrounds, and trails	14,189	1.00	5.00	4.1140	1.01235
Current economic conditions	14,189	1.00	5.00	3.3026	0.99732
Future economic conditions*	14,189	1.00	3.00	1.9998	0.73309
Valid N (listwise)	14,189				

Note: \* Future economic conditions were ranked on a 1 – 3 scale.

relationship between quality of colleges and universities and cultural opportunities (0.60) and job opportunities in your field and cultural opportunities (0.56). The relationship between beauty or physical setting and outdoor parks, playgrounds and trails was also strong with a correlation of 0.58. The correlation between air quality and beauty or physical setting was also one of the stronger with a correlation coefficient of 0.47.<sup>1</sup>

#### 4.3. Research Methods

We use multivariate statistical techniques to examine the relative effects of individual- and community-level factors on community satisfaction as outlined above. We run an ordered logit given the structure of the data, in particular the fact that the dependent variable is based on a 1-to-5 Likert scale. We present the results from the overall ordered logit estimation (Table 2), and also the marginal effects for each of the different city satisfaction rank outcomes.

Full data on individual demographic and economic characteristics were reported for only 2,029 observations. We thus run the regressions with and without these variables and compare the results. We also re-run our restricted model using only the observations that are included in the full model. This is illustrated in the third column in Table 2. Table 3 illustrates the results with control variables and Table 4 the results without. The marginal effect results for our restricted control model can be found in Appendix 2. In other words, we run three regressions:

$$\begin{aligned} & \text{Likelihood of Staying} \\ & = \text{Community Satisfaction} + \text{Economic Conditions} \\ & \quad + \text{Individual Characteristics} \end{aligned} \tag{1}$$

$$\text{Likelihood of Staying} = \text{Community Satisfaction} + \text{Economic Conditions} \tag{2a}$$

$$\text{Likelihood of Staying} = \text{Community Satisfaction} + \text{Economic Conditions} \tag{2b}$$

where model (2a) is based on 14,189 observations, while model (2b) is only based on 2,029 observations (in other words, the same number of observations as model (1)).

It is also important to point out that all community-related variables, as well as our dependent variable (likelihood of staying) are stated and not revealed preferences. The *ex post* revealed migration behaviour may be different from the *ex ante* stated behaviour, and the actual revealed behaviour can be affected by e.g. external shocks. It is also important to note that there might be a certain selection bias, since most respondents most likely did not move in the past, and earlier research (Faggian *et al.*, 2007b) has shown that this decreases the likelihood of future migration too. By definition, we would thereby expect a majority of the respondents to state that they have a high likelihood of staying.

## 5. Findings

We now report the findings for our multivariate analysis of the factors associated with the likelihood to stay. Table 2 presents the results of the ordered logit

estimations. The community characteristics and economic conditions variables are classified in four major groups together: economic security, basic services, openness and social capital, and aesthetics, with or without control variables included. The inclusion of control variables reduces the sample significantly because of the lower number of responses to questions relating to those variables. Therefore, we run the same regressions a second time excluding the control variables. Our discussion of the results reflects the results from the ordered logit with control variables included, but we report the results with and without these variables and check for any differences or inconsistencies. We will also report for any inconsistencies with our restricted model with the same observations that are included in the full model (column 3, Table 2).

We focus on the  $z$ -values in our analysis, since there is certain scaling variation among the variables, to examine the relative strength of the different explanatory factors. The strongest variables in both regressions (that is, those with and without control variables) are the beauty or physical setting, a good place to meet and make friends as well as being able to get from place to place. Earlier research has shown the importance of beauty for community satisfaction (Florida *et al.*, 2011), and these results indicate that the physical setting also is of importance for the likelihood of staying. The social factor, meeting and make friends, indicates that social capital plays an important role in migration decisions. The high score for the congestion factor is also interesting. Congestion is a major problem faced in bigger cities today. An effective infrastructure, with little time spent on commuting, is of importance for the decision to stay. It should be noted that the pseudo  $R^2$  is not comparable to the  $R^2$  of an OLS regression, and the pseudo  $R^2$  cannot be interpreted as a 'goodness to fit'-measure in the same way as the  $R^2$  value from an OLS, and that pseudo  $R^2$ s of 0.1281 – 0.1327 are at an acceptable level. It is worth noting that the pseudo  $R^2$  value differs very little between the two regressions (with or without control variables). This indicates that community characteristics tend to explain a lot more than individual characteristics when it comes to the decision to stay. If we re-run the ordered logit regression, letting only individual characteristics explain the likelihood to stay, the pseudo  $R^2$  gets reduced to 0.0223. When we re-run the restricted model but with the same observations that are included in the full model (column 3 in Table 2), we see that most of the coefficients stay more or less the same as the coefficients from the ordered logit with control variables (column 1). We note that cultural opportunities and current economic conditions go from being significant at the 10% level to become insignificant. The pseudo  $R^2$  goes from 0.1327 to 0.1237, by leaving out the individual characteristics.

To derive more information about the estimated coefficients for each of the possible outcomes (likelihood to stay 1 – 5), we now move on to the marginal effects, both with individual control variables (Table 3) and without them (Table 4). These tables present the derivatives as well as the  $z$ -score values. The coefficients will tell us how much each of the variables relates to the likelihood of staying at the margin. We once more focus on the  $z$ -scores to discuss the relative strength of the explanatory variables in the estimations of the models where we include the individual characteristics control variables. We will report for differences in the results compared to our restricted model with the same observations that are included in the full model (full table available in Appendix 2).

**Table 2.** Results for ordered logit regressions (dependent variable: rank of likelihood to stay)

	Ordered logit with control variables	Ordered logit without controls	Control ordered logit
Quality of public schools	0.15392*** (3.40)	0.16305*** (9.86)	0.15654*** (3.51)
Quality of colleges and universities	0.06132 (1.17)	0.04552** (2.31)	0.07292 (1.41)
Cultural opportunities	-0.09268* (-1.75)	0.00024 (0.01)	-0.07453 (-1.43)
Job opportunities in your field	0.10785** (2.24)	0.07458*** (4.10)	0.10231** (2.16)
Religious institutions that meet your needs	0.16126*** (3.06)	0.18860*** (9.53)	0.17712*** (3.38)
A good place to meet and make friends	0.32862*** (5.68)	0.32660*** (14.99)	0.35231*** (6.15)
Vibrant nightlife	-0.02389 (-0.49)	-0.04590** (-2.46)	-0.03916 (-0.82)
Affordable housing	0.02209 (0.53)	0.06125*** (3.82)	0.02394 (0.58)
Public transportation	-0.01148 (-0.28)	-0.07017*** (-4.64)	-0.03180 (-0.79)
Being able to get from place to place with little traffic	0.23068*** (5.41)	0.1952*** (12.06)	0.22556*** (5.41)
Quality health care	0.04511 (0.90)	0.03810** (1.99)	0.07527 (1.54)
Climate	0.11334** (2.08)	0.16525*** (8.06)	0.11690** (2.16)
Air quality	0.00590 (0.11)	0.08963*** (4.38)	0.00640 (0.12)
Beauty or physical setting	0.43219*** (7.30)	0.30257*** (13.69)	0.42978*** (7.42)
Outdoor activity	0.04197 (0.73)	0.05797*** (2.73)	0.03961 (0.69)
Current economic conditions	0.10878* (1.73)	0.18059*** (7.78)	0.09253 (1.49)
Future economic conditions	0.10752 (1.54)	0.10051*** (3.94)	0.09014 (1.30)
Age	0.09891** (2.47)		
Gender	0.21942** (2.44)		
Marital status	-0.06251** (-2.00)		
Education level	0.09109*** (2.70)		
Children, under age 3	-0.17004 (-1.04)		
Children, age 3 - 7	0.22493* (1.81)		
Income	-0.07558** (-2.40)		
Own or rent	-0.44915*** (-2.80)		

**Table 2** (Continued)

	Ordered logit with control variables	Ordered logit without controls	Control ordered logit
How long have you lived at this residence	0.07312 (1.24)		
Urbanicity	-0.07285 (-0.98)		
Observations	2,029	14,189	2,029
R2/Pseudo R2	0.1327	0.1281	0.1237
Prob > chi2	0.000	0.000	0.000

Notes:  $z$ -statistics in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

### 5.1. Community-level Characteristics

Generally speaking the  $z$ -values indicate relatively strong explanatory power from the perceived community characteristics variables. While more or less all of them are significant when no individual characteristics control variables are included (Table 4), we can see that they become relatively weaker by the inclusion of, e.g. age, education levels and the own or rent variable. We summarize our findings here by the variables with largest  $z$ -values.

*5.1.1. Beauty and physical setting.* This variable asked respondents specifically for their rating of the beauty or physical setting of their current location. The  $z$ -value was consistently one of the highest (ranging from 5.98 to 7.30 with control variables, and 12.17 to 13.70 without control variables), and the coefficient was significant across all levels of likelihood to stay. This result is also in line with that from Florida *et al.* (2011) who found that beauty and physical setting is highly related to community satisfaction.

*5.1.2. The ability to meet people and make friends.* Another strong variable was the ability to meet people and make friends, with  $z$ -values of 4.99 – 5.68 (with control variables) or 13.00 – 14.99 (without control variables). This is in line with earlier research on the importance of social networks for community attachment and satisfaction by behavioural psychologists and sociologists, but a factor seldom included in economics migration studies. This result is in line with earlier research by Landale & Guest (1985) and Putnam (2000), who all stress the importance of social relations.

*5.1.3. Mobility.* The variable for the question concerning ‘being able to get from one place to another with little traffic’ was also a factor that was significant and relatively influential within the model (with  $z$ -values of 4.81 – 5.41 or 10.96 – 12.05). Transportation exerts significant costs, both in terms of time and money. Congestion intensifies both of these costs, thus affecting the way that individuals access other amenities offered by the community.

*5.1.4. Schools.* The quality of public schools was also of importance in order to explain the likelihood to stay and significant across all levels of likelihood to stay ( $z$ -values of 3.23 – 3.40 or 9.24 – 9.86). However, availability of higher education was not significant when control variables were included, and only significant at the 5% level without controls. We re-ran the regression and split the file according to age to try to isolate college-age populations, but the variable for higher education remained insignificant with control variables, and only significant at the 10% level without control variables.

**Table 3.** Ordered logit regression results with control variables—marginal effects (dependent variable: rank of likelihood to stay)

How would you rate the city or area where you live on ...	$\frac{\partial \Pr(y = 1)}{\partial x}$	$\frac{\partial \Pr(y = 2)}{\partial x}$	$\frac{\partial \Pr(y = 3)}{\partial x}$	$\frac{\partial \Pr(y = 4)}{\partial x}$	$\frac{\partial \Pr(y = 5)}{\partial x}$
Quality of public schools	−0.00361*** (−3.23)	−0.00654*** (−3.29)	−0.01383*** (−3.34)	−0.01427*** (−3.28)	0.03826*** (3.40)
Quality of colleges and universities	−0.00144 (−1.16)	−0.0026 (−1.16)	−0.00551 (−1.16)	−0.00569 (−1.16)	0.01524 (1.17)
Cultural opportunities	0.00218* (1.73)	0.00394* (1.74)	0.00832* (1.75)	0.00859* (1.74)	−0.02303* (−1.75)
Job opportunities in your field	−0.00253** (−2.19)	−0.00459** (−2.21)	−0.00969** (−2.22)	−0.01000** (−2.21)	0.02680** (2.24)
Religious institutions that meet your need	−0.00379*** (−2.93)	−0.00686*** (−2.98)	−0.01449*** (−3.02)	−0.01495*** (−2.97)	0.04008*** (3.06)
A good place to meet and make friends	−0.00771*** (−4.99)	−0.01397*** (−5.20)	−0.02952*** (−5.41)	−0.03047*** (−5.21)	0.08168*** (5.68)
Vibrant nightlife	0.00056 (0.49)	0.00102 (0.49)	0.00215 (0.49)	0.00222 (0.49)	−0.00594 (−0.49)
Affordable housing	−0.00052 (−0.53)	−0.00094 (−0.53)	−0.00198 (−0.53)	−0.00205 (−0.53)	0.00549 (0.53)
Public transportation	0.00027 (0.28)	0.00049 (0.28)	0.00103 (0.28)	0.00106 (0.28)	−0.00285 (−0.28)
Being able to get from place to place with little traffic	−0.00541*** (−4.81)	−0.00981*** (−5.01)	−0.02072*** (−5.19)	−0.02139*** (−4.97)	0.05733*** (5.41)
Quality health care	−0.00106 (−0.90)	−0.00192 (−0.90)	−0.00405 (−0.90)	−0.00418 (−0.90)	0.01121 (0.90)
Climate	−0.00266** (−2.03)	−0.00482** (−2.05)	−0.01018** (−2.07)	−0.01051** (−2.05)	0.02817** (2.08)
Air quality	−0.00014 (−0.11)	−0.00025 (−0.11)	−0.00053 (−0.11)	−0.00055 (−0.11)	0.00147 (0.11)
Beauty or physical setting	−0.01014*** (−5.98)	−0.01837*** (−6.38)	−0.03882*** (−6.78)	−0.04008*** (−6.34)	0.10742*** (7.30)
Outdoor activity	−0.00099 (−0.73)	−0.00178 (−0.73)	−0.00377 (−0.73)	−0.00389 (−0.73)	0.01043 (0.73)
Current economic conditions	−0.00255* (−1.71)	−0.00462* (−1.71)	−0.00977* (−1.72)	−0.01009* (−1.72)	0.02704* (1.73)

**Table 3** (Continued)

How would you rate the city or area where you live on ...	$\frac{\partial \Pr(y = 1)}{\partial x}$	$\frac{\partial \Pr(y = 2)}{\partial x}$	$\frac{\partial \Pr(y = 3)}{\partial x}$	$\frac{\partial \Pr(y = 4)}{\partial x}$	$\frac{\partial \Pr(y = 5)}{\partial x}$
Future economic conditions	-0.0025 (-1.53)	-0.00457 (-1.53)	-0.00966 (-1.53)	-0.00997 (-1.53)	0.02672 (1.54)
Age	-0.00232** (-2.40)	-0.00420** (-2.42)	-0.00888** (-2.45)	-0.00917** (-2.42)	0.02458** (2.47)
Gender	-0.00515** (-2.37)	-0.00933** (-2.40)	-0.01971** (-2.42)	-0.02035** (-2.39)	0.05454** (2.44)
Marital status	0.00147** (1.97)	0.00266** (1.98)	0.00561** (1.98)	0.00580** (1.98)	-0.01554** (-2.00)
Education level	-0.00214*** (-2.62)	-0.00387*** (-2.65)	-0.00818*** (-2.67)	-0.00845*** (-2.64)	0.02264*** (2.70)
Children, under age of 3	0.00399 (1.03)	0.00723 (1.03)	0.01527 (1.03)	0.01577 (1.03)	-0.04226 (-1.04)
Children, age 3 - 7	-0.00528* (-1.78)	-0.00956* (-1.79)	-0.02020* (-1.80)	-0.02086* (-1.79)	0.05591* (1.81)
Income	0.00177** (2.34)	0.00321** (2.36)	0.00679** (2.38)	0.00701** (2.36)	-0.01878** (-2.40)
Own or rent	0.01054*** (2.71)	0.01910*** (2.74)	0.04035*** (2.76)	0.04165*** (2.74)	-0.11163*** (-2.80)
How long have you lived at this residence	-0.00172 (-1.23)	-0.00311 (-1.24)	-0.00657 (-1.24)	-0.00678 (-1.24)	0.01817 (1.24)
Urbanicity	0.00171 (0.98)	0.00310 (0.98)	0.00654 (0.98)	0.00676 (0.98)	-0.01811 (-0.98)

Notes: z-values within brackets. \*\*\* indicates significance at the 1% level; \*\* at the 5% level; and \* at the 10% level.

5.1.5. *Religious institutions.* Having access to religious institutions that meet the individual's needs was significant at the 0.01 level, from low to high likelihood to stay ( $z$ -values of 2.93 – 3.06 or 8.97 – 9.53). It may be that religious institutions are somewhat related to the variable, meet people and make friends, especially in locations with higher levels of religiosity. We ran a correlation analysis between the two, which turned out to be significant with a correlation coefficient of 0.48. This indicates that they are related, but that they do not include exactly the same information. We also re-ran the regression as an OLS, checking for collinearity effects, but the VIF values turned out to be at an acceptable level.

5.1.6. *Climate.* Climate is a factor often considered important for migration patterns. In this context it was significant at the 0.05 level with control variables, and at the 0.01 level without controls. The  $z$ -values ranged from 2.03 to 2.08 or 7.71 to 8.01.

The following factors were weakly significant or insignificant in the analysis when control variables were included (Table 3). Among community level factors, these included availability of cultural opportunities (significant at the 0.1 level), air quality, access to outdoor parks, playgrounds and trails, availability of quality health care, and nightlife. In the case of the nightlife variable, we re-ran the regressions splitting the file according to different age cohorts, but nightlife availability was not significantly related to the likelihood to stay among younger age cohorts. When we re-ran the marginal effects for the restricted model but with the same observations that are included in the full model (see Appendix 2), cultural opportunities became insignificant for our five staying probability outcomes.

## 5.2. Community-level Economic Factors

We now turn to the results for community level economic factors such as job opportunities, current economic and future economic conditions.

5.2.1. *Job opportunities.* This variable was the strongest of the three, being significant at the 0.05 level with control variables included, with  $z$ -values ranging from 2.19 to 2.24 or 4.05 to 4.10. In other words, the variable for job opportunities, while related to the likelihood to stay, was not one of the more important factors. This result is somewhat surprising, since job opportunities are often seen to be a key factor in individual mobility.

5.2.2. *Current economic conditions.* This variable was significant at the 0.1 level, and with a low level of effect ( $z$ -values of 1.71 – 1.73 or 7.45 – 7.78.). This is somewhat surprising, since earlier studies (Florida *et al.*, 2011) have shown that current economic conditions have a strong impact on the overall community satisfaction. However, our analysis here indicates that it has little influence on the decision to stay.

5.2.3. *Future economic conditions.* This variable was insignificant when control variables were included. We find this surprising as well, since one may expect prospects for the future to have an impact on the decision to stay, but the results indicate that this is not the case. We also tested for collinearity effects with other variables in an OLS regression, but once more the VIF values excluded that this variable includes the same information as the other explanatory variables in the regression.

**Table 4.** Ordered logit regression results without control variables—marginal effects (dependent variable: rank of likelihood to stay)

How would you rate the city or area where you live on ...	$\frac{\partial \Pr(y = 1)}{\partial x}$	$\frac{\partial \Pr(y = 2)}{\partial x}$	$\frac{\partial \Pr(y = 3)}{\partial x}$	$\frac{\partial \Pr(y = 4)}{\partial x}$	$\frac{\partial \Pr(y = 5)}{\partial x}$
Quality of public schools	-0.00360*** (-9.24)	-0.00706*** (-9.49)	-0.01568*** (-9.67)	-0.01385*** (-9.40)	0.04018*** (9.86)
Quality of colleges and universities	-0.00101** (-2.30)	-0.00197** (-2.30)	-0.00438** (-2.31)	-0.00387** (-2.30)	0.01122** (2.31)
Cultural opportunities	-5.29e-06 (-0.01)	-0.00001 (-0.01)	-0.00002 (-0.01)	-0.00002 (-0.01)	0.00006 (0.01)
Job opportunities in your field	-0.00165*** (-4.05)	-0.00323*** (-4.08)	-0.00717*** (-4.09)	-0.00633*** (-4.07)	0.01838*** (4.10)
Religious institutions that meet your need	-0.00417*** (-8.97)	-0.00816*** (-9.22)	-0.01813*** (-9.38)	-0.01602*** (-9.09)	0.04648*** (9.53)
A good place to meet and make friends	-0.00721*** (-13.00)	-0.01414*** (-13.77)	-0.03140*** (-14.39)	-0.02774*** (-13.50)	0.08049*** (14.99)
Vibrant nightlife	0.00101** (2.45)	0.00199** (2.45)	0.00441** (2.45)	0.00390** (2.45)	-0.01131** (-2.46)
Affordable housing	-0.00135*** (-3.78)	-0.00265*** (-3.80)	-0.00589*** (-3.81)	-0.00520*** (-3.80)	0.01509*** (3.82)
Public transportation	0.00155*** (4.57)	0.00304*** (4.60)	0.00675*** (4.62)	0.00596*** (4.59)	-0.01729*** (-4.64)
Being able to get from place to place with little traffic	-0.00431*** (-10.96)	-0.00844*** (-11.43)	-0.01876*** (-11.75)	-0.01657*** (-11.21)	0.048010*** (12.05)
Quality health care	-0.00084** (-1.98)	-0.00165** (-1.98)	-0.00366** (-1.98)	-0.00324** (-1.98)	0.00939** (1.99)
Climate	-0.00365*** (-7.71)	-0.00715** (-7.84)	-0.01589*** (-7.96)	-0.01403*** (-7.81)	0.04073*** (8.06)
Air quality	-0.00198*** (-4.32)	-0.00388*** (-4.35)	-0.00862*** (-4.36)	-0.00761*** (-4.33)	0.02209*** (4.38)
Beauty or physical setting	-0.00668*** (-12.17)	-0.01310*** (-12.77)	-0.02909*** (-13.20)	-0.02570*** (-12.55)	0.07457*** (13.70)
Outdoor activity	-0.00128*** (-2.72)	-0.00251*** (-2.72)	-0.00557*** (-2.72)	-0.00492*** (-2.72)	0.01429*** (2.73)
Current economic conditions	-0.00399*** (-7.45)	-0.00782*** (-7.60)	-0.01736*** (-7.70)	-0.01534*** (-7.54)	0.04451*** (7.78)
Future economic conditions	-0.0022*** (-3.89)	-0.00435*** (-3.91)	-0.00966*** (-3.92)	-0.00854*** (-3.91)	0.02478*** (3.94)

Notes: z-values within brackets. \*\*\* indicates significance at the 1% level; \*\* at the 5% level; and \* at the 10% level.

### 5.3. Individual-level Characteristics

The results from our ordered logit regression with control variables (Table 3) indicate that individual characteristics have considerably less influence on the likelihood to stay than community characteristics.

**5.3.1. Education levels.** Education level was positive and significant at the 0.01 level, with  $z$ -values ranging from 2.62 to 2.70. Even if we recognize that the likelihood of moving is not the inverse of the likelihood of staying, we would still expect them to be related. It seems therefore, that despite the conventional wisdom that highly-educated individuals are among the most likely movers, they don't always see themselves that way. The fact that highly-educated individuals have a greater propensity to move, despite their stated intentions to continue living in their current community, may result from their often moving for unforeseen employment opportunities.

**5.3.2. Marital status.** Marital status was also significant in this context, at the 0.05 level ( $z$ -values of 1.97 – 2.00). As might be expected, married couples are more likely to be rooted in their current location whereas single people are less likely to indicate an intention to stay. This finding may not indicate location preferences so much as the greater constraints that face married couples in comparison to singles when making locational choices. When married couples choose to move, they are often faced with the challenge of finding a new location that provides equivalent or superior lifestyle and job opportunities for each partner. A single person typically need only take their own situation into account when considering the choice to migrate.

**5.3.3. Income.** Average income was significantly related with the likelihood to stay at the 0.05 level, with lower income individuals indicating a greater likelihood to stay in their current community. Owing to financial and associated mobility constraints, low income individuals may have inadequate information about alternative locations or simply may not have the resources to make a move. Alternatively, low income residents may indicate a greater propensity to remain in place because of the various social ties and support services present within their current community—resources that are particularly important to marginalized groups.

**5.3.4. Housing tenure.** Of all the personal characteristics that may affect propensity to stay in the model, housing tenure has the strongest influence (consistently with a 0.01 significance across all levels of likelihood to stay), with owners more likely to indicate a likelihood to remain in their current community. This finding is of course not surprising given the fact that purchasing a home, *ipso facto*, indicates a commitment to that location for a duration of time. Furthermore, homeownership can constrain relocation choices when there is a significant slowdown in housing market turnover as has been witnessed during the most recent downturn. However, it is worth noting that renters can be of two sorts—public sector housing which often includes subsidies and private sector renters. We would expect the first of these to be less mobile than the second due to lower income levels.

**5.3.5. Gender.** Although gender is not as significant as other personal characteristics in explaining intentions to stay (at the 0.05 level), women expressed a greater intention to stay in their current location. This finding is in line with the results of the Faggian *et al.* (2007b) study, which showed a greater propensity to stay among women.

The following factors were insignificant or only weakly significant: length of stay in the current residence, level of urbanicity and having children under the age of three in the household. However, having children between the ages of three and seven was significant at the 0.1 level. This indicates that as the children grow older, the more likely the household is to stay, which is not surprising given that children become established in a school.

## **6. Conclusions**

Our research has examined individual location choice—that is the decision to stay—in light of three classes of factors: individual economic and demographic characteristics; community economic conditions; and factors related to community satisfaction with quality of life.

To do so, we employed a series of ordered logit regression analyses on data from a large scale survey of individuals from the Gallup Organization. Our findings suggest that community quality-of-place characteristics matter considerably more than either community economic conditions or individual economic or demographic factors in the decision to stay. The findings of our regressions indicate that two factors—beauty or physical setting and the ability to meet people and make friends—have the largest relative effect on the likelihood for individuals to state their preference is to stay in their current location. Other factors which affect the likelihood to want to stay include the ability to get around the community without too much traffic, school quality, religious institutions, and climate. Turning to community level economic factors, job opportunities had the greatest effect on individual location choice, but considerably less than the two highest—‘meet people and make friends’ and ‘beauty and physical setting’—and about the same as ‘religious institutions’. The variables for current and future economic conditions explained very little.

Generally speaking the findings suggest that factors associated with community satisfaction are more important to individual location choice than community-level economic conditions or individual-level economic or demographic factors. Our research shows the need to pay more attention to the role of the current location in general on the decision to stay. While our results are based on stated preferences, we still think it is likely that they correlate with later revealed preferences. Our results would imply that not only is a higher level of amenities related to positive in-migration, it also implies lower levels of out-migration, and this leads to a higher growth in high amenity locations.

Where many studies of individual location choice and of migration focus on the characteristics of ‘new’ locations, our research suggests that there is a good deal to be learned from looking at the interplay between community-level satisfaction or quality of place and the desire to stay. Our research suggests that a fuller understanding of individual location choice and of migration requires a dynamic understanding of the role of community factors in mitigating the interplay of pull and push factors. These community factors, as we have seen, play a considerably larger role than either community-level economic factors or individual-level demographic characteristics. Interestingly, the quality of place factors would appear to be more amenable to shaping via public policy than the other two. This suggests that more research is needed on quality of place and how it affects the ‘fit’ between individuals and their communities.

## Note

1. We chose not to include a full correlation matrix, due to space restrictions, given the number of explanatory variables that are included in the model.

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**Table A1.** Descriptive statistics for variables—full model

	<i>N</i>	Minimum	Maximum	Mean	Std. deviation
Likelihood to stay	2,029	1.00	5.00	4.0808	1.14500
Quality of the public schools	2,029	1.00	5.00	3.5993	1.14940
Quality of colleges and universities	2,029	1.00	5.00	3.9261	1.09439
Cultural opportunities	2,029	1.00	5.00	3.4584	1.29323
Job opportunities in your field	2,029	1.00	5.00	3.2632	1.24935
Religious institutions that meet your needs	2,029	1.00	5.00	4.2119	0.97018
A good place to meet people and make friends	2,029	1.00	5.00	3.5840	1.09799
Vibrant nightlife	2,029	1.00	5.00	3.0483	1.29771
Affordable housing	2,029	1.00	5.00	3.0601	1.22125
Public transportation	2,029	1.00	5.00	2.6067	1.28067
Being able to get from place to place with little traffic	2,029	1.00	5.00	3.3159	1.29185
Quality health care	2,029	1.00	5.00	3.9285	1.08936
Climate	2,029	1.00	5.00	3.6964	0.99282
Air quality	2,029	1.00	5.00	3.8167	1.06026
Beauty or physical setting	2,029	1.00	5.00	4.0177	1.02228
Outdoor parks, playgrounds, and trails	2,029	1.00	5.00	4.1060	1.00153
Current economic conditions	2,029	1.00	5.00	3.3307	0.99086
Future economic conditions★	2,029	1.00	3.00	1.9921	0.72565
Valid <i>N</i> (listwise)	2,029				

*Note:* ★ Future economic conditions were ranked on a 1 – 3 scale.

**Table A2.** Restricted control model—ordered logit regression results without control variables (Equation (2b))—marginal effects (dependent variable: rank of likelihood to stay)

How would you rate the city or area where you live on...	$\partial \text{Pr} \frac{(y = 1)}{\partial x}$	$\partial \text{Pr} \frac{(y = 2)}{\partial x}$	$\partial \text{Pr} \frac{(y = 3)}{\partial x}$	$\partial \text{Pr} \frac{(y = 4)}{\partial x}$	$\partial \text{Pr} \frac{(y = 5)}{\partial x}$
Quality of public schools	−0.00392*** (−3.34)	−0.00687*** (−3.39)	−0.01397*** (−3.44)	−0.01415*** (−3.38)	0.03892*** (3.51)
Quality of colleges and universities	−0.00183 (−1.40)	−0.00320 (−1.40)	−0.00651 (−1.41)	−0.00659 (−1.40)	0.01813 (1.41)
Cultural opportunities	0.00187 (1.42)	0.00327 (1.42)	0.00665 (1.43)	0.00674 (1.42)	−0.01853 (−1.43)
Job opportunities in your field	−0.00256*** (−2.11)	−0.00449** (−2.13)	−0.00913** (−2.14)	−0.00925 (−2.13)	0.02544** (2.16)
Religious institutions that meet your need	−0.00444*** (−3.22)	−0.00778*** (−3.28)	−0.01581*** (−3.33)	−0.01602*** (−3.26)	0.04404*** (3.38)
A good place to meet and make friends	−0.00882*** (−5.33)	−0.01547*** (−5.56)	−0.03145*** (−5.81)	−0.03286*** (−5.54)	0.08760*** (6.14)
Vibrant nightlife	0.0010** (0.82)	0.00172 (0.82)	0.00350 (0.82)	0.00354 (0.82)	−0.00974 (−0.82)
Affordable housing	−0.00060 (−0.58)	−0.00105 (−0.58)	−0.00214 (−0.58)	−0.00216 (−0.58)	0.00595 (0.58)
Public transportation	0.00080 (0.79)	0.00140 (0.79)	0.00284 (0.79)	0.00288 (0.79)	−0.00791 (−0.79)
Being able to get from place to place with little traffic	−0.00565*** (−4.83)	−0.00991*** (−5.02)	−0.02014*** (−5.19)	−0.02040*** (−4.96)	0.05608*** (5.41)
Quality health care	−0.00189 (−1.53)	−0.00331 (−1.53)	−0.00672 (−1.54)	−0.00680 (−1.53)	0.01872 (1.54)
Climate	−0.00293** (−2.10)	−0.00513** (−2.13)	−0.01044** (−2.14)	−0.01057** (−2.13)	0.02907** (2.16)
Air quality	−0.00016 (−0.12)	−0.00028 (−0.12)	−0.00057 (−0.12)	−0.00058 (−0.12)	0.00159 (0.12)
Beauty or physical setting	−0.01076*** (−6.09)	−0.01887*** (−6.48)	−0.03837*** (−6.87)	−0.02886*** (−6.39)	0.10686*** (7.42)
Outdoor activity	−0.00099 (−0.69)	−0.00174 (−0.69)	−0.00354 (−0.69)	−0.00358 (−0.69)	0.00985 (0.69)
Current economic conditions	−0.00231 (−1.48)	−0.00406 (−1.48)	−0.00826 (−1.46)	−0.00837 (−1.49)	0.02301 (0.49)
Future economic conditions	−0.00226 (−1.29)	−0.00396 (−1.30)	−0.00805 (−0.30)	−0.00815 (−1.30)	0.02241 (0.30)

Notes:  $z$ -values within parentheses. \*\*\* indicates significance at the 1% level; \*\* at the 5% level; and \* at the 10% level.