ESSAYS ON REGIONAL DIFFERENCES IN TIME PREFERENCES AND ATTACHMENT TO PLACE

By

Dale Yi

A PLAN B PAPER

Submitted to
Michigan State University
In partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

Agricultural, Food, and Resource Economics

2009

ABSTRACT

ESSAYS ON REGIONAL DIFFERENCES IN TIME PREFERENCES AND ATTACHMENT TO PLACE

By

Dale D. Yi

Data from a national telephone survey of working-aged adults in the continental US is combined with US Census 2000 data to explore the determinants of attachment to place and time preferences for jobs, natural amenities, and financial assets.

Five regions in the US were delineated so that regional differences in the determinants of the dependent variables of interest could be parsed out. The regions are the Great Plains, Borderlands, Appalachia, the Plantation Belt, and the rest of the continental US.

The first essay that explores time preferences for jobs, natural amenities, and money. Each was embedded with a ten percent rate of return. In aggregate, the nation as a whole demonstrated that the discount rate for jobs, natural amenities, and financial assets were each very different. The second essay explores the determinants of attachment to place by asking respondents how much money it would take to convince them to move to another community.

Regional differences were detected both for time preferences and attachment to place. In addition to the independent variables classically used to explore our dependent variables of interest, these regional variables and their interactive expansions were observed to have a significant effect.

ACKNOWLEDGEMENTS

First, I would like to express my sincerest gratitude to my major professor, Scott Loveridge, for his guidance in research, for the many opportunities he has given me, and for the tremendous amount of support over the years. I am deeply indebted to him for his kindness.

I express my thanks to Janet Bokemeier for her guidance and pointing me to the sociology literature, and to Lindon Robison for his guidance. I benefited greatly from their guidance. I also thank Peter Schaeffer and Thomas Gould for their insights.

I am also indebted to a number of fellow graduate students in the department. I would like to thank Jordan Chamberlain for his help with GIS; Hunter Nielson for introducing me to the wonderful outreg2 command in STATA; Tim Komarek for moral and administrative support; Tina Plerhoples and Susan Chen for their endless support and encouragement.

Lastly, I thank my dear friends and family for the life and purpose they breathe into me. Their lives of humble and impassioned service are a testament to grace and a source of great inspiration to me.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ESSAY I:

REGIONAL DIFFERENCES IN TIME PREFERENCES FOR ECONOMIC DEVELOPMENT

"The two most powerful warriors are patience and time"
-Leo Tolstoy-

Introduction

"Go big or go home" seems to be the strategy for many US cities when it comes to economic development. To woo big industries into their cities, many local governments are offering giant tax incentives, lax environmental regulations, and building speculative industrial parks in an effort to stimulate economic development. However, very few communities are choosing the slower but proven way of "smart" growth that focuses on the development of existing community assets to retain and recruit industry to the area (American Planning Association, 2002).

This phenomenon may be explained by time preferences. How an economy grows is determined, in part, by how community members value future benefits. For example, individuals were asked if they preferred creating 10 jobs now or creating 16 jobs fives years later. Answers to questions such as this reveal how a community makes intertemporal choices. Communities demonstrating high preferences for immediate benefits are more inclined to make myopic policy decisions while communities that can wait for future benefits to accrue are more inclined to make longer term policy decisions.

As implied by the name, time preferences reflect the individual's utility, and are expected to vary from person to person. But in aggregate, they are expected to reflect the cost of capital. In this paper we explore whether it is reasonable to assume that a nation as large and as diverse as the United States, that time preferences would be identical

"from Detroit down to Houston and New York to L.A." The economy interacts with and is intricately tied to the regional cultural systems and institutions in which it is a part. Different regions are grappling with very different issues ranging from brain-drain to climate change. We test whether these regional differences are related to regional time preferences for private and social goods. By better developing an understanding of intertemporal choices, we can inform policy and educational programs to help communities make better decisions towards economic growth. This study puts particular emphasis on differences between regions within the United States. The rest of the paper is laid out as follows. First, we review relevant literature. Then we document methods used to assemble our data set. Next, we discuss rationale for the regions used in our analysis. Then we present basic survey results, followed by results of logistic regression analysis. Finally we discuss implications of the findings.

Literature Review

While industrial recruitment via incentives is an important and frequently used method of local economic development, it has been the subject of much debate and criticism in the literature. It has been found that local incentives are not effective in changing firm location decisions in the long run and that these incentives serve more as "corporate welfare" than as investments into local economic growth (Bartik, 1993; Wassmer, 1994;Wasylenko, 1981; Wolkoff, 1985; Mofidi and Stone, 1990).

A more feasible long term growth strategy has been developed called the "asset based" growth strategy. This is a strategy in which local governments approach economic growth by focusing on the retention and development of existing firms by enhancing

resources (human, financial, natural, cultural, social, etc.) that already exist in the community (Flora, Flora with Fey, 2003; Kretzmann et al., 1993; Moser, 2006)

Despite empirical evidence, many local governments are opting for the industrial recruitment strategy in hopes for a quick burst of economic growth. This results from short public sector election cycles, and the time preferences of the local constituency. The time preferences of community members play a critical role in the political feasibility and implementation of long run asset based growth strategies.

Time preferences have been thoroughly surveyed. Frederick et al. (2002) reviewed of over 40 empirical studies of time preferences, a documented a surprisingly high variance across the studies and across different choice scenarios. This presents empirical evidence that warrants a departure from the traditional view that time preferences are uniform for all goods, demographics, and regions.

Time preferences are often depicted in the literature as a "utility discount rate". This is the rate that utility from future consumption is discounted over time by an individual. This can be thought of as a rate of time preference. Here we illustrate the classic discount utility model.

Let u_{it} represent utility in period t (1,…,T) for individual i (*1,...,N)*. In this model, the discount rate, r, is identical for all goods, demographics, and regions.

$$PV = \sum_{t=1}^{T} (1+r)^{-t} \sum_{i=1}^{N} u_{it} \qquad (1)$$

A formula that recognizes variation in the discount rate can be illustrated as follows. In this model, the discount rate, r_i, is allowed to vary with individuals.

$$PV_i = \sum_{i=1}^{N} \sum_{t=1}^{T} u_{it}(1 + r_i)^{-t} \quad (2)$$

Previous work on the determinants of r_i has found that individual characteristics (age, gender, income, educational attainment, etc.) have significant effects in explaining r_i (Warner and Pleeter, 2001; Plantation, 1984; Hausman, 1979; Gilman, 1976). The model implied in the literature has been the following:

$$r = \alpha + \beta I + \gamma H + \varepsilon \quad (3)$$

Where I is a vector of individuals characteristics, and H is a vector of household characteristics. The model we propose in this study is as follows:

$$r_j = \alpha + \beta I + \gamma H + \delta R + \varepsilon \quad (4)$$

Where R is a vector of regional and community variables and j represents a good. This allows for variation not only across individuals but also across goods. The addition of R also allows us to measure the effects of regional culture and institutions on individuals' time preferences.

This study further explores the determinants of time preferences (discount rate) by including community and regional variables in the model, and allowing the choice of which period to receive the benefits to vary across the different social and private goods.

Survey Data Collection Method

The data were collected via a telephone survey of English-speaking adults aged 18 to 64 in the United States. The survey was administered using computer-assisted telephone interview (CATI) equipment. The sample was designed to represent a representative cross-sectional sample of English-speaking, non-institutionalized

individuals in each of two geographic strata: Census-designated rural counties and Census-designated urban and suburban counties.

Respondents for the survey were found using random digit dial telephone methods. Samples were obtained from Survey Sampling, Inc. Respondents with directory listings were mailed advance notice letters approximately one week prior to contact. The within household selection technique was a modified version of the Trohldahl-Carter procedure.

The survey began on April 4, 2006 and concluded on October 29, 2006. A total of 3,019 interviews were completed. Each interview lasted roughly ten minutes (standard deviation: 2.5 minutes). The overall completion rate was 40.9%, the refusal rate was 15.9%, the cooperation rate among eligible households was 71.9%, and the contact rate was 92.2%. The 40.9% completion rate, is lower than some other telephone survey completion rates, it is still significantly higher than mail and web based survey completion rates so we expect a small amount of sampling error to occur. In addition,the rural counties were over-represented in the sample in order to obtain sufficient numbers of responses from rural areas. A system of sampling weights were used to correct for the stated sampling errors which the sample representative of the nation as a whole. Analysis of the US without sampling weights would use somewhat different weights and produce slightly different results. Overall sampling error is estimated to be only 2.3%.

The survey contained a battery of three basic questions designed to measure the respondent's time preferences (Frederick et al., 2002). Three hypothetical choice scenarios were designed to measure whether the individual preferred immediate benefits or delayed benefits with accrued interest,. Each involved a scenario that provided a ten

percent gain per year for delaying consumption of the "good". The order of presentation of the scenarios was randomized across respondents to eliminate the possibility that the answers in the first scenario could bias the answers to the second and third scenarios.

One scenario was jobs in the community. In this scenario, the respondent was asked what they would prefer if two computer software companies were both interested in a piece of land that had been designated for development. Both companies were described as having long-term government contracts and solid futures. Company A would come now with ten jobs while company B would come in five years with sixteen jobs. In each case, the company would bring existing employees into the community, rather than hiring local people.

The second scenario was park improvements. The respondent was ask what they would prefer if an anonymous donor was willing to provide funds to improve a park in the community. The donor was characterized as being willing to provide $125K now or $200K in five years.

The third scenario involved an inheritance from a long lost relative. The respondent was asked what they would prefer if the estate were set up such that they could get $20K now or $32K in five years.

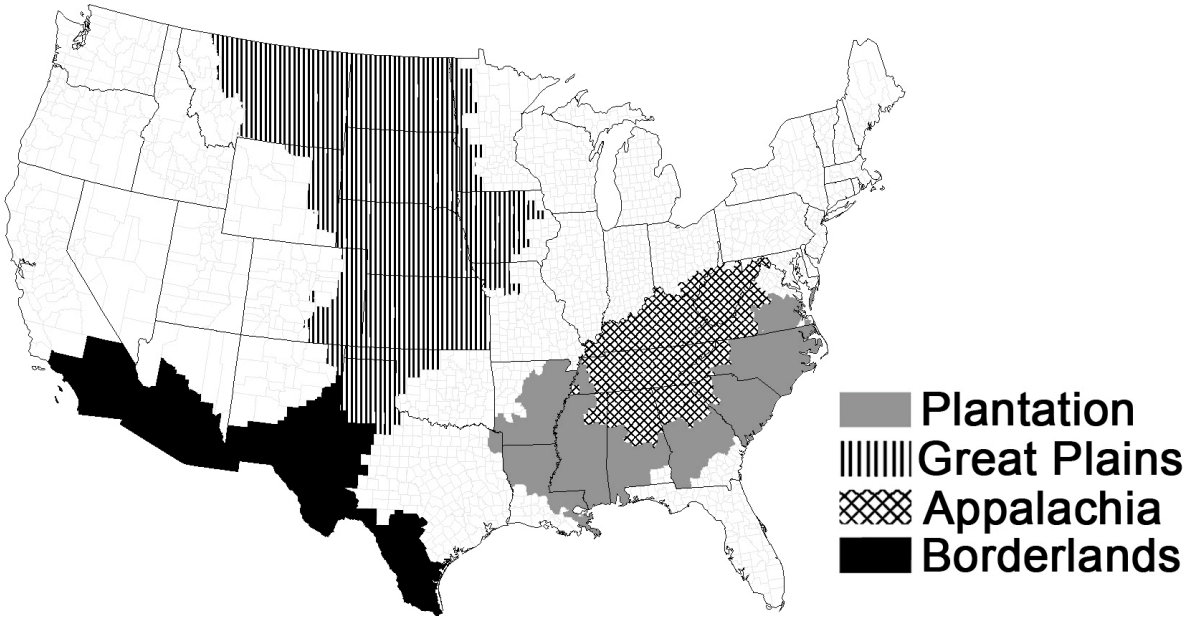
The survey asked questions designed to measure and personal savings habits. Respondents were asked to state the age at which they had started saving. In addition, the survey covered basic socio-economic indicators such as age, race, level of education, and household income. Respondents also reported their zip code. Responses to the zip code question were then matched to Census 2000 data aggregated by zip code to provide characteristics of the respondent's community. Descriptive statistics of these variable are

shown in Appendix A1.2. The data were analyzed using STATA version 8.0 for Windows.

Regional Delineations

Observations were coded to be in one of five cultural regions: The Great Plains, The Plantation Belt, Borderlands (Southwest), Appalachia, and Rest of the Continental US (RoCUS). Census migration statistics and physical geography were used to delineate the Great Plains region. The other regions were delineated using Census demographic statistics using an approach similar to that employed by Nostrand (1970). The purpose of the delineations was to create distinct cultural regions to compare and contrast with a base region (what we call "RoCUS" or Rest of Continental United States). Some considerations were also given to physical geography when delineating regions. Figure 1 shows which counties are included in the regions.

Figure 1. Regional Delineations



Great Plains

The Great Plains region is experiencing rapid population decline, particularly in rural counties. The agriculture sector is employing fewer people and population density is low (Johnson, 2006). These trends may have become cultural norms, which could be manifest in respondent's time preferences with regards to job creation and perhaps windfall inheritance.

The Great Plains was delineated to be the contiguous set of counties in the general Great Plains physical geographical region that demonstrated net outmigration. It must be noted that although not an ethnic majority, Native Americans make up a substantial proportion of the population and are an integral part of the culture in this region. We hypothesize that Native Americans living in or near their ancestral areas are more culturally rooted than the general population, which may significantly affect an individual's time preferences.

Appalachia

This region has been described by as a "colony" where absentee owners strip the land of its resources (Hurst, 1992). This region's history of natural resource extraction and destruction of natural amenities has created a unique attachment to place and regional identity for those who live in this region. This relatively isolated area is a distinct cultural region and it is hypothesized to have significant effects in determining an individual's time preferences.

We deviate from more traditional delineations of the Appalachia region by putting more emphasis on demographic rather than physical geographic variables when

demarcating the borders. In particular, Appalachia is designated as a contiguous region in which counties report "American" as the modal response to Census questions of ethnic origin. As a result we have excluded Pennsylvania and parts of New York which have traditionally been included in the region and are part of the federally funded Appalachian Regional Commission service area.

The Plantation Belt

The Plantation Belt (Black Belt) is arguably the nation's most underdeveloped economy. This region's reliance on the declining agriculture sector has made it home to 45% of the nation's rural poverty This region's unique history of plantation farming and the resultant culture is hypothesized to affect the time preferences of this region's residents (Baharanyi et al., 2000) .

Similar to Appalachia, the Plantation Belt is a contiguous region including parts of several states in the southeastern region of the US in which the majority of counties report Black/African American as the modal ethnic origin.

Borderlands

The Borderlands (Southwest) are contiguous counties in the desert Southwest physical geographical region where the modal ethnicity is Hispanic. Formerly a part of Mexico, this region has always been culturally distinct from the rest of the United States. Though it is now separated by a political border, cultural and economic exchanges with Mexico remain strong, which has produced a unique cultural identity in the region. The

institutions of Hispanic culture in the Borderlands are constantly reinforced and the Borderlands cultural identity is secured (Nostrand).

Rest of the Continental US (RoCUS)

The remaining region encompasses all parts of the continental US not contained in one of the defined regions. Thus RoCUS is quite large, encompassing regions of the US that have more mixed patterns of ethnicity and migration.

Basic Results

Table 1 provides basic frequencies for the three time preferences scenarios. The overall results show that respondents displayed impatience for job creation, willingness to wait for park construction, and were evenhanded for a windfall inheritance. The contrast between the different scenarios demonstrates that an assumption of the classic Discount Utility model is violated. Because preference varied even though each scenario used the same different discount rate (rate of time preference), this demonstrates that there is not a universal discount rate for all goods, but that different goods are discounted at different rates.

Table 1
Preferred Timing of Benefits

	Jobs			**Park**		**Inheritance**	
	10 now	*16 5yr*	*Neither*	*125k now*	*200k 5 yr*	*20k now*	*32k 5 yr*
Appalachia	66.0	21.0	13.0	24.4	75.6	58.1	41.9
Borderlands	53.9	27.9	18.3	33.6	66.4	45.2	54.8
Great Plains	82.2	10.1	7.8	29.1	70.9	60.8	39.2
Black Belt	62.3	23.5	14.2	28.4	71.6	54.1	45.9
RoCUS	67.2	22.8	10.0	25.8	74.2	53.2	46.8
Overall	66.1	22.5	11.3	26.8	73.2	53.4	46.6

Percent Responding

For the job creation scenario, there is a substantial difference for the Borderland and Great Plains Regions from the overall percentage breakdown. The Great Plains is much more impatient for job creation while the Borderlands demonstrates the opposite trend. We must also note that the Borderlands demonstrates the strongest aversion to job creation overall with 18.3% of respondents preferring neither 10 jobs now or 16 jobs in five years.

For the Park construction scenario, there appears to be more uniformity in the responses. The only notable difference being that the Borderlands demonstrates a slightly higher discount rate for parks than the others. In the inheritance scenario, the Great Plains and Appalachia regions appear to demonstrates impatience for benefits to accrue while the Borderlands regions demonstrates a higher willingness to wait than the overall nation.

The contrasting responses for the different social and private goods demonstrates that another assumption of the classic discount utility models does not hold. The differing time preferences among the goods shows that there is not a universal discount rate for all goods, but a good specific rate of time preference.

Although informative, Table 1 begs the question of whether the regional differences are due to some common condition of the economy in the respondent's region, or simple demographic differences across regions (eg. older regions such as the northeast versus regions where there are more young people such as the southwest). Table 1 does not take into account these other variables that influence time preferences and therefore does not accurately represent the true relationship between the regional

variable and time preferences. To explore the data further we turn to logistic regressions to estimate the relationship between time preferences and a variety of other variables.

Logistical Regression Analysis

Table 2 provides a summary of the fit of the three equations, one for each of the tradeoffs in the survey.

Table 2
Summary Statistics for Logistic Regressions

Variable	**Log Likelihood**	**Pseudo R2**
Jobs Tradeoff*	-1960.9876	0.1643
Park Tradeoff	-1438.5652	0.1153
Inheritance Tradeoff	-1744.3942	0.0751

*Multinomial Logit

Table A1.2 in Appendix A1 provide estimated parameters for the independent variables in each of the three equations. We summarize the findings here in this section.

Respondent Individual Characteristic Variables

The age of the respondent was significant for the job creation scenario. Younger adult populations were more patient for job creation. Females were more likely to choose immediate benefits for jobs, but gender was not significant for the other scenarios. Employment status was also significant. Retired and unemployed individuals were significantly less likely to wait for a larger inheritance payment.

The respondent's race had significant impacts on the time preference scenarios. Table 1 illustrated a regional difference for job creation in the Borderlands region but this regional difference is almost completely explained by the respondent's race. The Borderlands region is predominantly Hispanic, and when this variable was controlled for,

there was no significant difference in this region. For the park construction scenario, Native Americans demonstrated significantly higher willingness to wait, while African Americans demonstrated impatience for the inheritance.

Respondent Household Variables

Marital status was significant in the job creation scenario. Respondents who were married and who were a couple demonstrated a higher propensity to wait for job creation benefits to accrue. The number of children in a household was also significant. More children in a household resulted in impatience for jobs, but more patience for park construction.

Household income was significant in the job creation and park construction scenarios. The middle income groups demonstrated the most patience for the job and park scenarios, while the highest and lowest income groups were impatient. For job creation, the 20-40k group was more likely to be patient than the highest and lowest income groups. For the park construction scenario, 10-50k group demonstrated the most patience with sharp increases in the rate of preference for the earlier payoff in higher and lower income groups.

Community Variables

Racial composition of the respondent's zip code was significant only for the park construction scenario. A higher percentage of African Americans in the respondent's community resulted in a lower proportion of respondents willing to wait for park construction.

The rate of poverty in the respondent's zip code was only significant in the park construction scenario. Higher rates of poverty led to less patience for park construction.

No significant relationships were detected in the other scenarios. This could be a result of the delineation of regions with high rates of poverty, but even regions with high levels of poverty have zip codes with high income levels.

Zip codes with higher employment in the manufacturing sector showed less patience for the park construction scenario. The percentage employed in agriculture and mining was not significant in any scenario.

Regional Variables

The rural Great Plains region demonstrated very high impatience for job creation compared to the base (RoCUS). Urban portions of the Great Plains demonstrated significantly higher impatience for financial benefits to accrue as well. The region's strong preference for immediate job creation and inheritance payment may be reflecting the region's perceived need for economic development and the need to address the issues of population decline and brain drain.

After controlling for other variables, the Borderlands region was only significant for the job creation scenario. Urban portions of Borderlands demonstrated significantly higher patience for job creation. Despite the region's unique culture and its difference in time preferences observed in the descriptive statistics, controlling for respondent's race eliminated most of the effect of the regional variable on time preferences.

The Plantation Belt demonstrated a significant difference only for the park construction scenario. Rural portions of the Plantation Belt demonstrated less patience for park construction benefits. However, the region was not significantly different than the base region for the other choice scenarios.

The Appalachia region did not show any significant regional differences in time preferences. It appears that the time preferences in this particular region remain indistinguishable from the rest of the nation. The underlying conditions appear to be rather well explained by the other socio-economic variables in the equation, rather than a more generalized cultural or regional phenomenon.

Summary and Conclusion

A national telephone survey of over 3000 households was conducted to explore time preferences using three hypothetical scenarios, each embedded with ten percent rates of return. The scenarios were job creation, park construction, and windfall inheritance. Basic results show that there is a strong preference for immediate payout in the US for job creation, the opposite for park construction, and an even distribution across now versus in five years for windfall inheritance at a ten percent rate of return.

Results of logistical regression show that there is regional variation in time preferences. The Borderlands and the rural Great Plains regions demonstrate high rate of impatience for job creation, which may be a result of declining economic conditions and cultural change in both regions. The rural parts of the Plantation Belt demonstrate high rates of impatience for park construction. And residents of the Great Plains demonstrates impatience for windfall inheritance. Overall, it is apparent that different regional cultures affect how communities and individuals make intertemporal decisions.

These findings have important implications for cost-benefit analysis that value social benefits in the future. The time preferences for private financial payouts like a windfall inheritance are not necessarily equivalent to aggregated social time preference

for public good payouts, like park construction or job creation. Nor can the same discount rate be used across the nation. There appears to be a discount rate that is specific not only to the good being discounted, but also to the region in which the good is discounted.

This study is not without its weak points. The delineation of cultural regions using quantitative methods is difficult, to say the least, when "there are no census data which directly measure a way of being, thinking and feeling" (Ray 1971). Also, hypothetical scenarios in a telephone survey may not accurately represent how people actually behave.

In summary, with respect to local economic development policy, to rally support for more long term growth strategies that require delayed payouts, it appears that the demographic to target would be younger middle class people. Advocates for asset-based growth may have a particularly hard time convincing people in the Borderlands and the rural Great Plains to adopt longer term viewpoints in choice of local economic development method.

APPENDIX A1

Table A1.1 Detailed Regression Results (Coefficients)
Robust standard errors in parentheses

	Jobs		Park	Inh
	Later	Never	Later	Later
Yrs in Comm	-0.002	-0.005	0.006	0.000
	(0.00641)	(0.00718)	(0.00459)	(0.00429)
Born in Comm	-0.234	0.223	-0.095	-0.014
Age	(0.232)	(0.255)	(0.168)	(0.149)
25-30	-1.705***	-0.683	0.088	-0.123
	(0.443)	(0.493)	(0.395)	(0.334)
30-40	-1.111***	-0.711	-0.430	0.329
	(0.332)	(0.47)	(0.328)	(0.288)
40-50	-1.443***	-0.909**	-0.261	0.259
	(0.319)	(0.422)	(0.314)	(0.289)
50-60	-1.496***	-0.333	-0.123	0.327
	(0.346)	(0.445)	(0.324)	(0.305)
60+	-1.766***	-0.557	-0.378	0.044
	(0.437)	(0.502)	(0.369)	(0.338)
Martial Status				
Gender	-0.452**	0.515**	-0.173	0.250*
	(0.2)	(0.229)	(0.151)	(0.144)
Married	0.705***	0.192	-0.201	-0.114
	(0.264)	(0.302)	(0.216)	(0.204)
Divorced	0.157	-0.242	-0.107	-0.278
	(0.364)	(0.412)	(0.268)	(0.282)
Seperated	0.098	0.089	-0.628	-0.632
	(0.588)	(0.668)	(0.621)	(0.514)
Widowed	-2.098*	0.047	0.185	0.301
	(1.267)	(0.716)	(0.633)	(0.666)
Couple	1.787***	0.934	-0.482	0.103
	(0.68)	(0.886)	(0.773)	(0.695)
Education				
<High School	-1.185***	-0.963**	0.323	0.337
	(0.42)	(0.417)	(0.417)	(0.35)
Some College	-0.838**	-1.268***	0.580	0.217
	(0.423)	(0.43)	(0.417)	(0.355)
College	-0.970**	-1.530***	0.618	-0.120
	(0.431)	(0.443)	(0.427)	(0.354)
Grad Degree	-1.122**	-1.130**	0.736*	0.350
	(0.44)	(0.463)	(0.438)	(0.363)
Other Degree	-0.623	-1.377**	0.123	1.041**
	(0.59)	(0.607)	(0.55)	(0.468)

Table A1.1 Detailed Regression Results (Coefficients)
(Continued)

	Jobs		**Park**	**Inh**
	Later	Never	Later	Later
Money to Move	-0.000374*	0.000	-0.000314*	0.000
	(0.000216)	(0.000262)	(0.000166)	(0.000153)
Rspnt Race *(base:white)*				
Black	0.642**	0.687**	-0.811***	-0.901***
	(0.326)	(0.328)	(0.299)	(0.274)
Pacific islander	1.119	0.473	-0.646	-0.776
	(1.069)	(1.013)	(0.911)	(0.941)
Asian	-0.322	1.192**	0.058	0.176
	(0.737)	(0.57)	(0.484)	(0.508)
Native American	-0.601	0.181	1.254**	0.571
	(0.816)	(0.756)	(0.565)	(0.51)
Hispanic	0.943***	0.741*	-0.503*	-0.421
	(0.317)	(0.41)	(0.278)	(0.308)
Employment Status				
Part-time Work	0.582*	-0.486	0.265	-0.290
	(0.306)	(0.369)	(0.242)	(0.259)
Prt-time Stdnt	0.333	-0.407	0.136	-0.009
	(0.552)	(0.752)	(0.506)	(0.436)
No Work	0.631	0.133	-0.799	1.134
	(0.911)	(0.976)	(0.819)	(1.008)
Unemployed	-0.869	0.253	0.410	-1.178**
	(0.827)	(0.894)	(0.553)	(0.54)
Retired	-0.405	-0.256	-0.355	-0.706***
	(0.454)	(0.433)	(0.277)	(0.261)
Full Student	0.585	-0.213	-0.309	0.785*
	(0.462)	(0.626)	(0.504)	(0.464)
Homemaker	0.071	0.111	0.084	-0.237
	(0.339)	(0.349)	(0.272)	(0.239)
Disabled	0.257	0.832*	0.058	-0.575
	(0.501)	(0.495)	(0.377)	(0.364)

Table A1.1 Detailed Regression Results (Coefficients)
(Continued)

	Jobs		**Park**	**Inh**
	Later	Never	Later	Later
HH Income *(Base:<10K)*				
10k-20k	0.115	0/884**	0.989**	-.747*
	(0.466)	(0.425)	(0.412)	(0.423)
20k-30k	0.583*	-0.467	1.074***	-0.036
	(0.335)	(0.387)	(0.333)	(0.28)
30k-40k	0.804***	0.185	0.884***	-0.335
	(0.294)	(0.361)	(0.287)	(0.268)
40k-50k	0.441	-0.037	0.549**	-0.508**
	(0.332)	(0.342)	(0.225)	(0.212)
50k-60k	0.069	-0.127	0.560*	0.320
	(0.405)	(0.499)	(0.305)	(0.27)
60k+	-0.172	0.426	-0.098	-0.008
	(0.31)	(0.338)	(0.205)	(0.199)
Household Size	0.047	0.109	0.111*	0.044
	(0.0666)	(0.0681)	(0.059)	(0.0559)
Share of HHI	-0.092	-0.141	0.026	0.050
	(0.157)	(0.198)	(0.122)	(0.119)
Age Strt Save *base: <18*				
18-22	0.347	-0.520	0.211	0.130
	(0.283)	(0.36)	(0.249)	(0.232)
23-25	0.213	0.082	0.110	0.218
	(0.342)	(0.357)	(0.264)	(0.247)
26-30	-0.041	-0.517	-0.092	-0.017
	(0.326)	(0.368)	(0.257)	(0.239)
31-65	0.210	-0.302	-0.042	0.011
	(0.317)	(0.342)	(0.246)	(0.229)
Don't Know	0.309	0.803	-0.128	-0.345
	(0.677)	(0.632)	(0.54)	(0.674)
% Racial Comp Zip				
Black	0.001	-0.005	-0.010	0.000
	(0.00773)	(0.00914)	(0.00692)	(0.00615)
Nat Amer	0.020	0.041	-0.025	0.000
	(0.0372)	(0.0286)	(0.0188)	(0.0165)
Ehtnic Diversity	-0.035	-0.004	-0.077	0.032
	(0.0777)	(0.0566)	(0.0508)	(0.00473)

Table A1.1 Detailed Regression Results (Coefficients)
(Continued)

	Jobs		**Park**	**Inh**
	Later	Never	Later	Later
Nat Amenit	0.0597*	0.0863*	-0.0659**	-0.008
	(0.0357)	(0.0517)	(0.0302)	(0.0278)
Urban Inf	-0.475*	-0.100	-0.163	0.239
	(0.253)	(0.308)	(0.195)	(0.183)
Associations	.006	-.008	-.009	-.001
	(0.0056)	(0.0078)	(0.0059)	(0.0047)
PopDens	0.000	0.000	0.000	0.000
	(0.0000309)	(0.0000442)	(0.0000326)	(0.0000284)
% Migrants	0.004	-0.007	0.005	0.007
	(0.00815)	(0.00923)	(0.0056)	(0.00579)
Ag,Min empl %	0.002	-0.015	-0.012	0.010
	(0.0143)	(0.02)	(0.0115)	(0.0111)
Manu empl %	-0.001	-0.002	0.0218**	-0.012
	(0.0112)	(0.0104)	(0.00905)	(0.00736)
Poverty Rate	0.004	0.006	-0.0253**	0.005
	(0.0128)	(0.0148)	(0.0101)	(0.0105)
bsns_bad	0.186	-0.361	-0.281	0.316*
	(0.225)	(0.256)	(0.179)	(0.17)
bsns_nth	-0.127	0.158	0.552**	-0.107
	(0.28)	(0.311)	(0.235)	(0.207)
Local Gov Effec	-0.040	0.153	-0.048	-0.105
	(0.101)	(0.111)	(0.0776)	(0.0763)
Regions				
Great Plains	-0.729	-0.036	0.177	-0.615*
	(0.829)	(0.559)	(0.495)	(0.326)
Plantation Belt	-0.577	0.366	0.287	-0.078
	(0.411)	(0.374)	(0.287)	(0.264)
Borderlands	-1.823*	0.025	1.174	0.669
	(1.099)	(1.152)	(0.72)	(0.654)
Appalachia	0.099	-0.094	0.295	0.165

Table A1.1 Detailed Regression Results (Coefficients)
(Continued)

	Jobs		**Park**	**Inh**
	Later	Never	Later	Later
Interact w/Rural	(0.379)	(0.414)	(0.281)	(0.28)
Great Plains	-33.42***	-1.872	0.862	-0.566
	(1.047)	(1.237)	(1.043)	(0.794)
Plantation Belt	-1.335	-0.009	-1.508**	-0.395
	(1.167)	(0.738)	(0.738)	(0.545)
Borderlands	1.598	0.458	-0.347	-1.195
	(1.224)	(1.293)	(0.845)	(0.814)
Appalachia	-2.067	0.098	0.651	-0.918
	(1.286)	(0.902)	(0.686)	(0.663)
inter_ge	-0.190	-0.198	-0.210	-0.026
	(0.194)	(0.217)	(0.156)	(0.144)
Constant	0.620	-0.888	1.431*	-0.502
	(0.904)	(1.053)	(0.821)	(0.749)
Observations	2687.000	2687.000	2691.000	2723.000
R-squared	0.1643		0.1153	0.0751

*** p<0.01,
** p<0.05,
* p<0.1
Robust standard errors in parentheses

Table A1.2 Detailed Regression Results (Odds Ratios)
Robust t-statistics in parentheses

	Job		***Park***	***Inheritance***
	Later	*Never*	*Later*	*Later*
Years in Comm	-0.00181	-0.00453	0.00568	-0.000344
	(-0.282)	(-0.631)	(1.238)	(-0.0802)
Born in Comm	-0.234	0.223	-0.0947	-0.014
Age	(-1.011)	(0.874)	(-0.564)	(-0.0944)
25-30	-1.705***	-0.683	0.0876	-0.123
	(-3.852)	(-1.386)	(0.222)	(-0.367)
30-40	-1.111***	-0.711	-0.43	0.329
	(-3.345)	(-1.513)	(-1.310)	(1.142)
40-50	-1.443***	-0.909**	-0.261	0.259
	(-4.521)	(-2.157)	(-0.831)	(0.897)
50-60	-1.496***	-0.333	-0.123	0.327
	(-4.321)	(-0.747)	(-0.380)	(1.073)
60+	-1.766***	-0.557	-0.378	0.044
	(-4.044)	(-1.110)	(-1.023)	(0.13)
Marital Status				
Gender	-0.452**	0.515**	-0.173	0.250*
	(-2.263)	(2.246)	(-1.150)	(1.732)
Married	0.705***	0.192	-0.201	-0.114
	(2.67)	(0.637)	(-0.935)	(-0.560)
Divorced	0.157	-0.242	-0.107	-0.278
	(0.431)	(-0.587)	(-0.398)	(-0.985)
Seperated	0.0977	0.0887	-0.628	-0.632
	(0.166)	(0.133)	(-1.011)	(-1.231)
Widowed	-2.098*	0.0466	0.185	0.301
	(-1.655)	(0.0651)	(0.292)	(0.452)
Couple	1.787***	0.934	-0.482	0.103
	(2.628)	(1.053)	(-0.623)	(0.148)
Education *(base:High School)*				
<High School	-1.185***	-0.963**	0.323	0.337
	(-2.819)	(-2.309)	(0.775)	(0.963)
Some College	-0.838**	-1.268***	0.58	0.217
	(-1.979)	(-2.951)	(1.39)	(0.612)
College	-0.970**	-1.530***	0.618	-0.12
	(-2.250)	(-3.453)	(1.448)	(-0.339)
Grad Degree	-1.122**	-1.130**	0.736*	0.35
	(-2.550)	(-2.442)	(1.679)	(0.966)
Other Degree	-0.623	-1.377**	0.123	1.041**
	(-1.055)	(-2.268)	(0.224)	(2.222)

Table A1.2 Detailed Regression Results (Odds Ratios)
(Continued)

	Job		***Park***	***Inheritance***
	Later	*Never*	*Later*	*Later*
Money to Move	-0.00037*	0.000172	-0.00031*	0.000118
	(-1.728)	(0.656)	(-1.895)	(0.77)
Respndt Race *(Base: White)*				
Black	0.642**	0.687**	-0.811***	-0.901***
	(1.969)	(2.096)	(-2.716)	(-3.292)
Pacific islander	1.119	0.473	-0.646	-0.776
	(1.047)	(0.467)	(-0.710)	(-0.825)
Asian	-0.322	1.192**	0.0577	0.176
	(-0.438)	(2.092)	(0.119)	(0.347)
Native American	-0.601	0.181	1.254**	0.571
	(-0.737)	(0.24)	(2.219)	(1.119)
Hispanic	0.943***	0.741*	-0.503*	-0.421
	(2.976)	(1.808)	(-1.808)	(-1.366)
Employment Status				
Part-time Work	0.582*	-0.486	0.265	-0.29
	(1.901)	(-1.317)	(1.092)	(-1.120)
Part-time Student	0.333	-0.407	0.136	-0.00868
	(0.604)	(-0.541)	(0.269)	(-0.0199)
No Work	0.631	0.133	-0.799	1.134
	(0.692)	(0.136)	(-0.976)	(1.124)
Unemployed	-0.869	0.253	0.41	-1.178**
	(-1.051)	(0.283)	(0.74)	(-2.182)
Retired	-0.405	-0.256	-0.355	-0.706***
	(-0.892)	(-0.591)	(-1.283)	(-2.706)
Full Student	0.585	-0.213	-0.309	0.785*
	(1.265)	(-0.340)	(-0.614)	(1.689)
Homemaker	0.0711	0.111	0.084	-0.237
	(0.209)	(0.319)	(0.309)	(-0.989)
Disabled	0.257	0.832*	0.0579	-0.575
	(0.514)	(1.683)	(0.154)	(-1.581)

Table A1.2 Detailed Regression Results (Odds Ratios)
(Continued)

	Job		***Park***	***Inheritance***
	Later	*Never*	*Later*	*Later*
HH Income *(base: <10k)*				
10k-20k	0.115	0.884**	0.989**	-0.747*
	(0.246)	(2.08)	(2.4)	(-1.764)
20k-30k	0.583*	-0.467	1.074***	-0.0356
	(1.743)	(-1.207)	(3.226)	(-0.127)
30k-40k	0.804***	0.185	0.884***	-0.335
	(2.737)	(0.512)	(3.075)	(-1.250)
40k-50k	0.441	-0.0371	0.549**	-0.508**
	(1.329)	(-0.108)	(2.44)	(-2.397)
50k-60k	0.0694	-0.127	0.560*	0.32
	(0.172)	(-0.254)	(1.835)	(1.187)
60k+	-0.172	0.426	-0.0981	-0.00766
	(-0.552)	(1.261)	(-0.479)	(-0.0385)
Household Size	0.0472	0.109	0.111*	0.0443
	(0.708)	(1.605)	(1.887)	(0.792)
Share of HHI	-0.0916	-0.141	0.0261	0.0501
	(-0.584)	(-0.715)	(0.214)	(0.422)
Age Started Save				
18-22	0.347	-0.52	0.211	0.13
	(1.226)	(-1.446)	(0.848)	(0.559)
23-25	0.213	0.0818	0.11	0.218
	(0.623)	(0.229)	(0.416)	(0.884)
26-30	-0.041	-0.517	-0.0921	-0.0169
	(-0.126)	(-1.404)	(-0.358)	(-0.0707)
31-65	0.21	-0.302	-0.0424	0.0109
	(0.661)	(-0.882)	(-0.172)	(0.0477)
Don't Know	0.309	0.803	-0.128	-0.345
	(0.457)	(1.27)	(-0.237)	(-0.511)
Racial Composition ZIP				
Black	0.000702	-0.00511	-0.00998	-0.000384
	(0.0908)	(-0.559)	(-1.441)	(-0.0625)
Nat Amer	0.0204	0.0413	-0.0248	-0.0000818
	(0.548)	(1.446)	(-1.319)	(-0.00495)
Ehtnic Diversity	-0.0346	-0.00415	-0.0774	0.0318
	(-0.536)	(-0.0534)	(-1.368)	(0.627)

Table A1.2 Detailed Regression Results (Odds Ratios)
(Continued)

	Job		***Park***	***Inheritance***
	Later	*Never*	*Later*	*Later*
Nat Amen	0.0597*	0.0863*	-0.0659**	-0.00826
	(1.674)	(1.671)	(-2.181)	(-0.297)
Urban Inf	-0.475*	-0.0995	-0.163	0.239
	(-1.879)	(-0.323)	(-0.834)	(1.309)
Associations	0.00604	-0.00819	-0.0085	-0.00118
	(1.075)	(-1.045)	(-1.453)	(-0.249)
PopDens	0.0000155	0.0000145	0.0000219	0.00000637
	(0.502)	(0.329)	(0.671)	(0.224)
% Migrants	0.00401	-0.00672	0.00508	0.00706
	(0.492)	(-0.727)	(0.906)	(1.218)
Ag,Min empl %	0.00205	-0.0148	-0.0123	0.00955
	(0.143)	(-0.743)	(-1.068)	(0.863)
Manu empl %	-0.000626	-0.00194	0.0218**	-0.0117
	(-0.0557)	(-0.186)	(2.413)	(-1.586)
Poverty Rate	0.0039	0.00588	-0.0253**	0.00482
	(0.306)	(0.398)	(-2.502)	(0.46)
bsns_bad	0.186	-0.361	-0.281	0.316*
	(0.828)	(-1.409)	(-1.569)	(1.857)
bsns_nth	-0.127	0.158	0.552**	-0.107
	(-0.452)	(0.508)	(2.351)	(-0.516)
Local Gove Effective	-0.0402	0.153	-0.0475	-0.105
	(-0.398)	(1.379)	(-0.612)	(-1.379)
Regions				
Great Plains	-0.729	-0.0355	0.177	-0.615*
	(-0.879)	(-0.0635)	(0.358)	(-1.886)
Plantation Belt	-0.577	0.366	0.287	-0.0783
	(-1.405)	(0.979)	(1.001)	(-0.297)
Borderlands	-1.823*	0.0246	1.174	0.669
	(-1.659)	(0.0213)	(1.631)	(1.022)
Appalachia	0.0992	-0.0937	0.295	0.165
	(0.262)	(-0.227)	(1.051)	(0.589)

Table A1.2 Detailed Regression Results (Odds Ratios)
(Continued)

	Job		***Park***	***Inheritance***
	Later	*Never*	*Later*	*Later*
Interact w/Rural				
Great Plains	-33.42***	-1.872	0.862	-0.566
	(-31.93)	(-1.513)	(0.827)	(-0.713)
Plantation Belt	-1.335	-0.00941	-1.508**	-0.395
	(-1.144)	(-0.0127)	(-2.043)	(-0.726)
Borderlands	1.598	0.458	-0.347	-1.195
	(1.306)	(0.354)	(-0.410)	(-1.468)
Appalachia	-2.067	0.0976	0.651	-0.918
	(-1.607)	(0.108)	(0.948)	(-1.384)
inter_ge	-0.19	-0.198	-0.21	-0.0261
	(-0.977)	(-0.916)	(-1.350)	(-0.181)
Constant	0.62	-0.888	1.431*	-0.502
	(0.687)	(-0.843)	(1.743)	(-0.670)
Observations	2687		2691	2723
R-squared	0.1643		0.1153	0.0751

*** p<0.01, ** p<0.05, * p<0.1
Robust z statistics in parentheses

Table A1.3 Descriptive Statistics of Independent Variables

Variable	Mean	Std. Dev.	Min	Max
Regions				
Plantation	0.13	0.34	0	1
Borderland	0.07	0.25	0	1
Appalachia	0.07	0.26	0	1
Great Plains	0.05	0.23	0	1
Age				
18-25	0.07	0.31	0	1
25-30	0.06	0.24	0	1
30-40	0.16	0.37	0	1
40-50	0.25	0.43	0	1
50-60	0.30	0.46	0	1
60+	0.15	0.36	0	1
Marital status				
Female	0.57	0.49	0	1
Married	0.62	0.49	0	1
Divorced	0.12	0.32	0	1
Seperated	0.01	0.12	0	1
Widowed	0.03	0.18	0	1
Couple	0.01	0.09	0	1
Household				
adults in HH	1.93	0.78	1	6
Children in HH	0.76	1.12	0	10
Community				
Poverty Rate	11.50	9.10	0	100
$ to Move	84.47	158.18	0	1000
Education				
High School	0.25	0.43	0	1
Some College	0.28	0.45	0	1
College Grad	0.20	0.40	0	1
Some Grad	0.18	0.38	0	1
Graduate	0.05	0.21	0	1
Saving Age				
0-17	0.07	0.25	0	1
18-22	0.21	0.41	0	1
23-25	0.15	0.36	0	1
26-30	0.18	0.38	0	1
31-65	0.26	0.44	0	1
don't know	0.02	0.13	0	1
Race				
White	0.85	0.36	0	1
Black	0.07	0.26	0	1
Pac Isl	0.00	0.05	0	1
Asian	0.01	0.11	0	1
Native Am	0.02	0.14	0	1
Hispanic	0.04	0.20	0	1

Table A1.3 Descriptive Statistics of Independent Variables (continued)

Variable	Mean	Std. Dev.	Min	Max
Employment Status				
Part-time	0.10	0.31	0	1
Part Student	0.02	0.13	0	1
No Work	0.01	0.09	0	1
Unemployed	0.02	0.14	0	1
Retired	0.08	0.27	0	1
Full Student	0.02	0.15	0	1
Home-Maker	0.09	0.29	0	1
Disabled	0.03	0.18	0	1
Household Income				
<10k	0.03	0.16	0	1
10k-20k	0.06	0.23	0	1
20k-30k	0.08	0.27	0	1
30k-40k	0.12	0.32	0	1
40k-50k	0.11	0.31	0	1
50k-60k	0.07	0.26	0	1
60k+	0.13	0.34	0	1

REFERENCES

American Planning Association. 2002. Policy Guide on Smart Growth. Accessible at <http://www.planning.org/policyguides/pdf/SmartGrowth.pdf>

Baharanyi, Ntam, Robert Zabawa, Evelyn Boateng, 2000. "America's Forgotten People and Places: Ending the Legacy of Poverty in the Rural South: Discussion" J*ournal of Agricultural and Applied Economics* 32(2):357-361.

Bartik, T.J. 1993. Federal policy toward state and local economic development in the 1990s, In Structuring Direct Aid: People versus Places, ed. R.D. Norton. *Research in Urban Economics 15:161-178.*

Plantation, Matthew. "Personal Discount Rates: Estimates for the Military Population." Final Report of the Fifth Quadrennial Review of Military Compensation, Vol. 1B, Appendix I, U.S. Department of Defense, Washington, DC, January 1984.

Calhoun SD, Reeder RJ & Bagi FS. 2000. "Federal Funds in the Plantation Belt," *Rural America* 15:20-27. Flora, Cornelia, Jan L. Flora, with Susan Fey. 2004. Rural Communities: Legacy and Change. 2nd Edition. Westview. Boulder, Co.

Frederick, Shane, George Lowenstein, and Ted O'Donoghue, 2002. "Time Discounting and Time Preference: A Critical Review," *Journal of Economic Literature,* 40:351-401.

Gilman, Harry J. "Determinants of Implicit Discount Rates: An Empirical Examination of the Pattern of Voluntary Pension Contributions of Employees in Four Firms." Center for Naval Analyses, Arlington, VA, 1976.

Hausman, Jerry A. "Individual Discount Rates and the Purchase and Utilization of Energy-Using Durables," Bel l Journal of Economics, Spring 1979, 10(1), pp. 33-54.

Hurst, Charles. 1992. "Inequality in Appalachia," Social Inequality: Forms, Causes, and Consequences, Pearson Education: 56-61.

Kretzmann, John P., and John L. McKnight. 1993. Building Communities from the Inside Out: A Path Toward Finding and Mobilizing Community Assets. ACTA Publications: Chicago.

Mofidi, A., and J.A. Stone. 1990. "Do state and local taxes affect economic growth?" *Review of Economics and Statistics* 72(4):686-691.

Nostrand, Richard. 1970. "The Hispanic-American Borderland: Delimitation of an American Culture Region" *Annals of the Association of American Geographers* 60(4): 638-661.

Ray, Michael. 1971. “From Factorial to Canonical Ecology: The Spatial Interrelationship of Economic and Cultural Differences in Canada,” *Economic Geography*(47):344-367.

Thomas, Margaret. 1995. “Sustainable Rural Development in the Great Plains,” Conservation of Great Plains Ecosystem: Current Science, Future Options: 97-107.

Warner, John T. and Pleeter, Saul. "The personal discount rate: Evidence from Military Downsizing Programs." American Economic Review 2001, 91(1) pp. 33-53.

Wassmer, R.W. 1994. “Can local incentives alter a metropolitan city's economic development?” *Urban Studies 31(8):1251-1278.*

Wasylenko, M. 1981. “The location of firms: the role of taxes and fiscal incentives,” In Urban Government Finance: Emerging Trengds, ed. Roy, B. *Urban Affairs Annual Reviews,* Vol. 20, Beverly Hills: Sage Publications.

Wolkoff, M.J. 1985. “Chasing a dream: the use of tax abatements to spur urban economic development.” *Urban Studies* 22(4):305-315.

ESSAY II:

COMMUNITY AMENITIES AND WILLINGNESS TO MOVE

Introduction

A large proportion of the Great Plains has faced substantial out-migration in recent years. To better cope with this situation, policy makers need information on reasons why people choose to leave or stay in a community. It is easy to attribute human movement to simple job opportunities, but the true picture is more complex. A community is more than just a dot on a map. It is where our lives take place. It is the group of friends we've known for years. It is the office where we got our first jobs. All of our institutions, our activities, and our identities are emplaced in a community (Gieryn 2000). So when an individual is deciding to move away from a community, there is more at stake than dollars and cents.

The United States population is highly mobile, with fully 45.7% of persons over age 5 moving between 1995 and 2000 (U.S. Census, 2003). Nationally, the majority of these moves are within a region (U.S. Census, 2003), but the Great Plains is notable for its propensity for outmigration. Montana, North Dakota, South Dakota, Nebraska, Iowa and Kansas all experienced net outmigration in the 1995 – 2000 period. A declining place wishing to stabilize its population must reduce movement away, increase inward movement, or both. From a practical standpoint, keeping current residents seems less challenging, and motivates our focus on the determinants of attachment to place in the Great Plains.

A migration decision involves more than comparing incomes and costs of living in a potential destination and origin together with the out-of-pocket expenses of closing

the old house and setting up a new house. In addition to job prospects, people consider many other conditions and attributes of the sending and receiving communities when deciding to migrate. A decision to move out of a community also reflects an individual's (and household's) utility that considers an array of different factors.

In addition to these factors, attachments to place change over time. As we finish our education, have children, or buy a retirement home, our attachment to community changes to reflect our tastes and preferences at the time. So attachment to place varies not only from person to person, but across the lifespan.

In addition to local amenities and community attributes, individuals are tied to broader regional culture systems and institutions that shape individuals' utility. For example, an individual living in a place with a unique regional identity and culture, like Appalachia, may have a different attachment to place than a person who lives in a more culturally homogenized location. In this paper, we test to see if it is reasonable to assume that attachment to community is uniform across the United States, or if different regions exhibit differing levels of attachment to place *ceteris paribus*.

The various regions in the United States exhibit very different cultures, values, and preferences. The Great Plains region in particular has been experiencing lower net migration rates than other regions in the United States for many decades (Rathge & Highman, 1998). Migration trends have been traditionally explained by economic and amenity factors, but perhaps determinants of migration are different in the Great Plains. The relationship between an individual's willingness to move and various other factors may help in the understanding of problems and solutions that are specific to the Great Plains.

To explore how attachment to place differs between the Great Plains and other regions, we developed and analyzed a national telephone survey to measure attachment to place. Respondents were asked how much additional income it would take for them to move from their current community to a similar community 500 miles away. Answers ranged from $0, by those who are apparently desperate to move, to infinity (no amount could ever move me) for individuals firmly anchored in their communities.

This financial representation of willingness to move reflects individual-specific utility, and is expected to vary from person to person, from county to county, and perhaps region to region. In this paper we explore the relationship between willingness to move and individual, community, and regional characteristics. We also test to see if willingness to move is uniform throughout the continental United States, or if certain regions, the Great Plains in particular, demonstrate significantly higher or lower willingness to move.

By better understanding willingness to move, policy makers can be equipped to make more informed decisions regarding population retention and growth in their respective communities, and understand which demographic characteristics and community amenities are most critical.

Literature Review

In neoclassical economic theory, migration occurs because there are spatial discrepancies in the demand and supply of labor. In Sjaastad's (1962) human capital model of migration, individuals migrate to another place if the net present value of living (income minus cost of living) was higher in the receiving region than in the sending region. The model was expanded by Todaro (1968, 1969, 1970) to include expected

values in the calculation of the discounted financial benefits. In these models the expected income stream and age of migrant determine net benefits of a migration decision.

Information symmetry has been assumed in the previous models, but this is not the case in reality. Although individuals have perfect (full) information regarding their own abilities, the employer in the receiving region cannot know the migrant's full capability. Therefore, the new potential employers, having only generic résumé criteria, rely on social networks to gather and process relevant information regarding applicant's marginal productivity. This suggests that social capital plays a large role in signaling information in the labor market (Stark, 1991). Bauer and Zimmerman (1997) also find that social networks are important for migration decisions.

Although these models explain a large proportion of migration behavior, they leave out important elements regarding individual tastes and preferences that have been developed in sociological literature regarding "attachment to place".

Previous work on attachment to place has largely relied upon Likert-scale survey instruments that measured attachment to place by constructing an index of "interest in community" variables ("How interested are you to know what goes on in your community?") and sentiment regarding place variables ("Would you say you feel 'at home' here?") In these models, attachment to place was measured primarily as an affective attachment (Kasarda & Janowitz, 1974; Goudy, 1990).

The respondent's length of residency in the community has been the primary variable of interest in this literature and has been found to significantly affect attachment

to place by allowing for social and place based ties to build up over time (Elder, 1996; Herting, 1997; Beggs et al., 1996; Goudy, 1990; Kasarda & Janowitz, 1974).

Recent works also include other community attribute variables in the modeling of migration and attachment to place. Natural amenities (McGranahan, 1999; Cromartie & Wardwell, 1998; Rudzitis 1998), proximity to services, population density (Brown et al., 2000; Allen & Filkins, 2000), social ties (Brehm et al., 2004), and presence of creative class (McGranahan & Wojan, 2007; Florida, 2002) have all been found to be associated with migration patterns and attachment to place.

Albrecht (1993) has also found that the determinants of migration in the Great Plains are changing over time. This suggests that push and pull factors are not consistent over time, but adapting to the tides of broader regional culture. Also, Mincer (1978) finds that migration is not only an individual decision, but a decision made by the household collective. This suggests that household size, number of children, and marital status are important determinants of a respondent's willingness to move.

Working in the social capital paradigm, attachment to place can be thought of as "socio-emotional goods [that] become associated with or embedded in objects such as … place" (Robison et al., 2002). Attachment to place is expected to reflect the value of socio-emotional goods invested by the individual in their communities. So individual attachment is expected to reflect not only the tangible attributes and benefits of a community, but also the socio-emotional goods embedded in the community by the individual. These attachments are expected to vary from individual to individual.

Attachment to place in this study was measured by the amount of additional income a respondent required to be convinced to move away from their community. This

variable is expected to reflect not only the individual's affective attachment to place, but also the individual's monetary valuation of community attributes, use values of social networks, and perception of local economic conditions.

This study explores willingness to move (attachment to place) in the context of a migration decision. Migration behavior and willingness to move are different concepts. While migration explains actual behaviors, willingness to move describes utility functions in regards to attachment and reliance on communities. In this study we explore the pushing and retaining factors of migration that individuals consider when deciding to migrate out of their communities.

The model we use to explain willingness to move (WTM) is as follows:

$$WTM = \alpha I + \beta H + \gamma C + \delta R \quad (1)$$

I~Individual={Age, Race, Gender, Employment Status, Marital Status, Length of residence}
H~Household ={Household Income, Household Size}
C~Community={County demographics, Economic Outlook, Natural Amenities, Social Capital}
R~Region={Great Plains, Borderlands, Appalachia, Plantation Belt}

Survey Data Collection

The data were collected via a telephone survey of English-speaking adults aged 18 to 64 in the continental United States. The survey was administered using computer-assisted telephone interview (CATI) equipment. The sample was designed to represent a representative cross-sectional sample of English-speaking, non-institutionalized individuals in each of two geographic strata: Census-designated rural counties and Census-designated urban and suburban counties.

Respondents for the survey were found using random digit dial telephone methods. Samples were obtained from Survey Sampling, Inc. Respondents with directory

listings were mailed advance notice letters approximately one week prior to contact. The within household selection technique was a modified version of the Trohldahl-Carter procedure.

The survey began on April 4, 2006 and concluded on October 29, 2006. A total of 3,019 interviews were completed. Each interview lasted roughly ten minutes (standard deviation: 2.5 minutes). The overall completion rate was 40.9%, the refusal rate was 15.9%, the cooperation rate among eligible households was 71.9%, and the contact rate was 92.2%. To obtain sufficient numbers of responses from rural areas, the rural counties were over-represented in the sample. Analysis of the US without distinction between rural and urban areas would use somewhat different weights and produce slightly different results. Overall sampling error is estimated to be roughly 2.3%.

Variables and Estimation

Respondents were asked to supply their zip code. Local socio-economic variables were added to the dataset by importing Census 2000 ZCTA (Zip Code Tabulation Area) data to provide respondent community characteristics such as racial composition, age composition, population density, poverty levels, and percent employed by sector. The ethnic diversity variable was generated by summing the squares of racial percentages in the ZCTA. The same was done to measure age diversity in each ZCTA.

Data from Rupasingha et al.'s (2006) study describing the number of important social associations in a county was added to the dataset. This variable is a count of the number of businesses, religious, political, and various other social organizations that were present in the county.

A natural amenities scale obtained from McGranahan's (1999) study was added to the dataset. The scale was constructed by adding standardized measures of natural amenities that individuals typically value. The scale describes the presence of natural amenities such as climate, sunlight, humidity, topography, water area, and other measures of natural amenities. Data used was a standardized scale of natural amenities by county. See Appendix A2 for more information on the mean, standard deviation, and range of this variable by region.

Data measuring the percent of the population was considered part of the "creative class" obtained from McGranahan & Wojan's (2007) study was also merged with the data. This data describes the relative size of the creative population in a given county and it was measured as the percentage of jobs held in a county requiring high levels of creative thinking (ie. designing, developing, creating new applications and ideas).

Willingness to move is the main dependent variable of this study. Willingness to move was determined by respondent's answer to the following question:

> *If you had an opportunity to move to a similar community 500 miles away, what amount of increased income would it take for you to agree to move?*

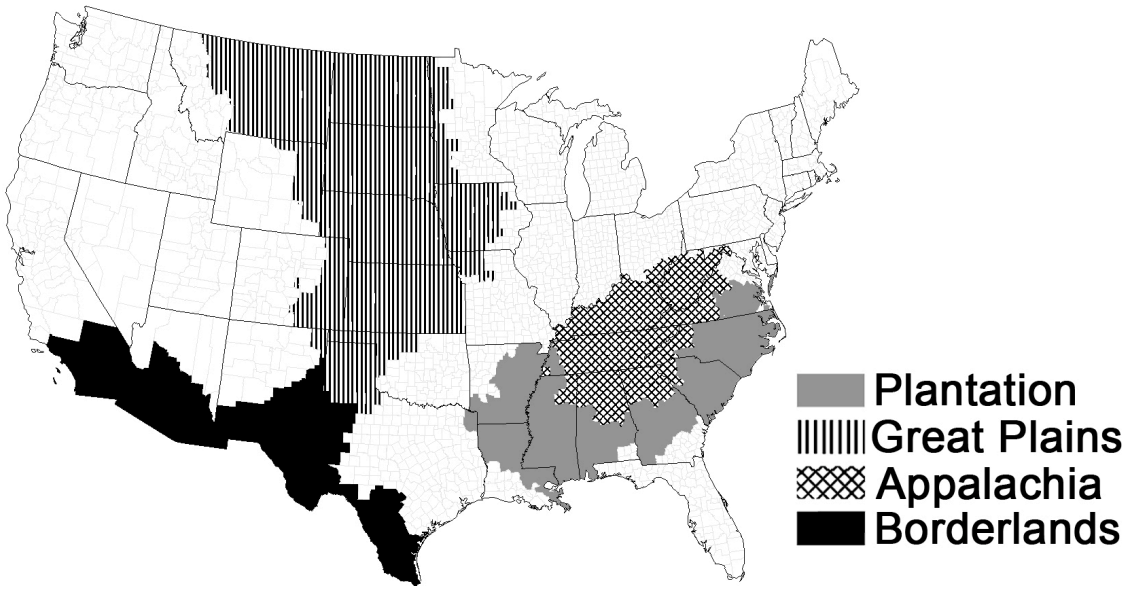
This question was constructed to measure an individual's attachment to place embodied in social networks and cultural artifacts of the community that is independent of the individuals' preferences for other types of communities (Cordes et al., 2003). By asking individuals to move to a *similar* community instead of *any* community, we remove potentially confounding factors from our dependent variable of interest.

Answers ranged from zero to "no amount of money could make me want to move". Respondents requiring more than $500,000 to move and respondents responding "no amount of money could make me want to move" to this question were coded to be unconditionally rooted. Respondents answering $0 to move were coded as being unconditional migrants.

Regional Delineations

Observations were coded to be in one of five cultural regions: The Great Plains, The Plantation Belt, Borderlands (Southwest), Appalachia, and Rest of Continental US (RoCUS). Census migration statistics and physical geography were used to delineate the Great Plains region. The other regions were delineated using Census demographic statistics using an approach similar to that employed by Nostrand (1970), with emphasis on the region's modal ethnic group. Some considerations were given to physical geography. Figure 1 shows which counties are included in the regions.

Figure 2. Regional Delineations



Great Plains

The Great Plains region is experiencing rapid population decline, particularly in rural counties. The agriculture sector is employing fewer people and population density is low (Johnson, 2006). These trends may have become cultural norms, which could be manifest in respondent's willingness to move.

The Great Plains was delineated to be the contiguous set of counties in the general Great Plains physical geographical region that demonstrated net outmigration. It must be noted that although not an ethnic majority, Native Americans make up a substantial proportion of the population and are a crucial part of the culture in this region. We hypothesize that Native Americans living in tribal areas are more rooted than the general population, which may act as a partial brake on Great Plains outmigration.

Appalachia

This region has been described by many as a "colony" where absentee owners strip the land of its resources (Hurst, 1992). This relatively isolated region is known to have a distinct regional culture and identity and is hypothesized to have a very low willingness to move.

We deviate from more traditional delineations of the Appalachia region by putting more emphasis on demographic rather than physical geographic variables when demarcating the borders. In particular, Appalachia is designated as a contiguous region in which counties report "American" as the modal response to Census questions of ethnic origin. For example, we have excluded parts of Pennsylvania and New York which have

traditionally been included in the region and are part of the federally funded Appalachian Regional Commission service area.

The Plantation Belt

The Plantation Belt (aka Black Belt) is arguably the nation's most underdeveloped economy. It is home to 45% of the nation's rural poverty. The rural economy remains stagnant as conditions in the agricultural sector slowly deteriorate, which may have led to increased willingness to move in the region (Baharanyi et al., 2000)

Similar to Appalachia, the Plantation Belt is a contiguous region including parts of several states in the southeastern region of the US in which the majority of counties report Black/African American as the modal ethnic origin.

Borderlands

The Borderlands (Southwest) are contiguous counties in the desert Southwest physical geographical region where the modal ethnicity is Hispanic. Formerly a part of Mexico, this region has always been culturally distinct from the rest of the United States. Though it is now separated by a political border, cultural and economic exchanges with Mexico remain strong, which has produced a unique cultural identity in the region. The institutions of Hispanic culture in the Borderlands are constantly reinforced and the Borderlands cultural identity is secured (Nostrand).

Rest of Continental US (RoCUS)

The remaining region encompasses all parts of the continental US not contained in one of the defined regions. Thus "RoCUS" is quite large, encompassing regions of the US that have more mixed patterns of ethnicity and migration.

Basic Results

Table 1 below shows the means of the "Money to Move" variable, and the percentage of those who are unconditional migrants, and unconditionally rooted by region. The mean in the Great Plains and Borderlands are below the RoCUS region which demonstrates a higher willingness to move overall in these regions. While, the Plantation belt and Borderlands regions, on the other hand, have higher means, demonstrating lower willingness to move. Also, the percentage of unconditional migrants is relatively similar across the regions, while the percentage of unconditionally rooted individuals show more variation among the regions.

Table 1 also shows some curious results. The Borderlands has a lower mean for money required to move (thus more willing to move), while there is a higher percentage of people in the region that are unconditionally rooted (less willing to move). These seemingly conflicting results suggest that there are different processes determining the amount of money required to move and the probability of being an unconditional migrant. In other words, attributes that make a community more valuable, and attributes that make a community priceless could very well be different. We explore this further in the next section with OLS and logistic regressions.

Figure A1 in the appendix provides additional information on the spread and standard deviation of our variable of interest by region.

Table 3: Basic Results, Willingness to Move

	Additional Income to Move*	Unconditional Migrants**	Unconditionally Rooted**
Great Plains	49.59	2.20	32.09
Plantation	63.95	2.74	23.17
Appalachia	95.91	3.73	38.38
Borderlands	43.17	2.76	39.83
RoCUS	61.25	2.79	33.31

* Means in Thousands of dollars

** Percentages

Estimation

To explore further these variables we turn to regression analysis. Ordinary Least Square and Multinomial Logit regressions were used to explore the relationship between our independent variables and willingness to move.

First, OLS regression was used in analyzing the relationships between the independent variables and the additional income required for individuals to move. In this OLS regression, respondents that required an amount greater than $500,000 and those who answered “no amount of money could make me want to move” were considered to be “unconditionally rooted” and were excluded from this regression.

Second, because many individuals responded as unconditionally rooted (“no amount of money could make me want to move”) and unconditional migrant (requiring $0 to move), a multinomial logit regression was used to explore the qualitative dimensions of this variable. Multinomial logit regression was utilized to analyze the likelihood of being an unconditionally rooted resident and the likelihood of being an

unconditional migrant. Individuals that were neither unconditionally rooted nor unconditional migrants were treated as the base category for our multinomial logit model.

Regression Analysis

Table A1 in the appendix provides detailed results for each of the regressions used. Table 2 below provides a summary of the fit for the two regressions.

Table 4

Multinomial Logit			OLS		
Pseudo R-Squared	*Log Likelihood*	*Observations*	*R-Squared*	*F Statistic*	*Observations*
0.1526	-1640.006	2671*	0.1885	4.02	1674

* 348 observations dropped due to missing values in independent variables

Respondent Individual Characteristics

As expected, the number of years that an individual has lived in their community was a significant factor in explaining willingness to move. Individuals who had lived in a community longer were much less willing to move (requiring more money to move). Interacting this variable with the Great Plains showed that respondents who had lived longer in the Great Plains were significantly more likely to be unconditionally rooted in their communities.

Respondents who were born in their current communities required significantly more money to move away, but were not any more likely to be unconditionally rooted or to be an unconditional migrant.

Also, respondents with graduate degrees were more attached to their communities than the base of high school graduates. Although it has been hypothesized that individuals with advanced education relied less on local social capital, this seems to

demonstrate that those with graduate degrees value their communities more than individuals with less education. It may be that persons with advanced degrees have more choice in their location decision after completing university studies, and, having made that choice, are satisfied with it.

Respondents in the 40 to 49 age group required a significantly larger amount of money to move than the base group (age 30-39). In addition, the 18-21 age group was found to be much more likely to be unconditionally rooted than the base. A significant proportion of this age group may be attending college, or emotionally or otherwise dependent on family support, causing them to be unconditionally rooted in their current community. Also, individuals in the 50-59 and 60+ (because the survey focused on working age adults, no respondents were older than 65) were found to be both more likely to be unconditionally rooted to their community, and more likely to be unconditional migrants. This may be because those who are retiring soon want to move away to their retirement destination now, and those who have already found a place to retire are firmly rooted in their communities.

Respondent Household Variables

Contrary to predictions, after controlling for other variables, neither the number of children nor the number of adults in respondents' households had significant effects on the respondent's willingness to move or on the likelihood of being an unconditional migrant or unconditionally rooted.

The respondent's proportion of household income was also significantly related to reported willingness to move. Respondents earning smaller shares of household income

were also significantly less likely to be unconditionally rooted in their communities. This suggests perhaps that the quality and availability of spousal employment in the community influences a household's decisions to move out of a community.

Also, respondents from households earning between twenty and sixty thousand dollars were significantly more willing to move than respondents in other income categories. They required significantly less additional income to be convinced to move, but the household income variables had little effect on the likelihood of the respondent being a unconditional migrant or of being unconditionally rooted.

Community Demographic Variables

As expected, population density in the respondent's ZCTA had a significant relationship with willingness to move. Respondents demonstrated lower willingness to move in areas with higher population densities.

Age composition of the ZCTA was also a significant determinant in willingness to move. Respondents from communities with higher proportions of people in the 10-19 age group were much less likely to be unconditionally rooted. The increased presence of retirement age individuals in a community decreased the likelihood of the respondent being an unconditional migrant. It may be that a certain age structure with many retirees creates a kind of tipping point for individuals in age groups most likely to consider moving. This may have implications for communities considering pursuit of retirees as a local economic development strategy.

Although the racial composition of the ZCTA did not have a significant impact on the amount of additional income a respondent required to move away, the composition

significantly affected a respondent's likelihood of being an unconditional migrant. Respondents from counties with larger African American and Native American populations were significantly less likely to be an unconditional migrant. Respondents from ZCTAs with higher racial diversity (Hirschman-Herfindahl Index with racial composition) were significantly less likely to be unconditionally rooted, and more likely to be unconditional migrants.

Community Attributes and Outlook

The number of associations (social businesses and organizations) in a county had no significant effect on respondent's willingness to move. However, respondents from the Great Plains region were significantly more likely to be unconditionally rooted when there was a higher availability of natural amenities in the respondent's county. This suggests that the valuation of natural amenities is contingent upon the region. Natural amenities in the Great Plains are an important determinant of willingness to move while they are not an important determinant in the rest of the nation.

Figure A2 in the appendix gives additional information on the mean and spread of the Natural Amenities scale by regions. We can see from the figure that the Great Plains region has lower levels of natural amenities relative to the nation. Due to the relative lack of natural amenities in the Great Plains region, residents of the region may have become more attached to communities with relatively greater availabilities of natural amenities. In other words, scarcity of the good (in this case, amenities) may increase its value within the Great Plains region.

The size of the creative class in a county also showed regional differences in

preferences. While the presence of the creative class had no discernable effect on willingness to move, when it was interacted with the Great Plains region, significant effects were detected. The significance of the squared term and linear term in both of the regressions demonstrates that the Great Plains demonstrates preference regarding the relative size of the creative class in a county. This may be due, in part, to the region's high reliance on the volatile agricultural and natural resource sector. The Great Plains may be under heavier pressure to diversify jobs and business opportunities than the rest of the nation. This may have resulted in a higher demand for the skills and resources of a creative class base. In contrast to the increasing number of natural resource based communities that are depopulating in the Great Plains, perhaps the presence of the creative class is perceived by residents to provide assurances of longer term economic viability of the community. Again, this result demonstrates that regional differences exist in the valuation of and attachment to community attributes.

Percentage of people employed in agriculture was not a significant determinant of willingness to move. However when interacted with the Great Plains variable, results show that respondents in the Great Plains region from ZCTAs with higher dependence on the agricultural sector required significantly less additional income to move away. Again, this variable was related to willingness to move of respondents in the Great Plains in a very different way than respondents in the rest of the United States.

Regional Variables

Controlling for other variables, the respondents from the Great Plains were less likely to be unconditional migrants while residents in the borderlands were significantly

more likely to be unconditional migrants.

Interviewer Gender

The gender of the interviewer significantly affected respondent's willingness to move. Those interviewed by female enumerator were significantly more likely to state that they were unconditional migrants. By controlling for interviewer gender, we remove this potential source of response bias.

Summary & Conclusion

A national telephone survey of 3019 households explored individual's willingness to move. Respondents were asked how much money it would take to convince them to move to another similar community 500 miles away. Answers ranged from zero dollars to "no amount of money could convince me to move".

Supporting previous research, significant relationships were detected between willingness to move and economic conditions, income, length of residency, age, population density and poverty levels. However, further analysis with regional interaction terms show that these variables affect regions differently.

It appears that individuals under the age of 25 are not as footloose as thought. Because they have a significantly lower probability of being an unconditional migrant, this age group may be the group to target in efforts to retain population in a community by developing career strategies and amenities. Conversely, our results provide some evidence of a previously undetected potential disadvantage to retiree recruitment as an economic development strategy. Areas with a higher proportion of retirees enjoy less

attachment from residents who are working-aged adults.

For policy makers in the Great Plains, it appears that conserving and enhancing natural amenities may be one way to decrease willingness to move away from the region. Counties in this region that move away from an agriculture-dominated local economy will also decrease willingness to move away from the area. The Great Plains has also demonstrated a size preference for the creative class. Retaining and growing the creative class in the Great Plains may help in decreasing willingness to move of other residents of the county. Lastly, because the length of residency in the Great Plains resulted in significantly decreased willingness to move, investments into population retention, or recapture of those who have moved away for college or military service may help stabilize the population base.

When interpreting these results it is important to keep in mind that migration is a segmented process that does not include everyone who wants to move. People who were very willing to move (requiring $0 to move) in the survey had not yet moved away. This study is on pushing and pulling forces originating from the region of origin. To gain a larger picture of migration, we must not only take into consideration the push and pull factors presented in this study, we must also take into account pulling factors in the region of destination.

Appendix A2

Figure A2.1: Unconditional and Conditional Migrant Income Required to Move to a Similar Community 500 Miles Away. (Range, Standard Deviation, and Mean)

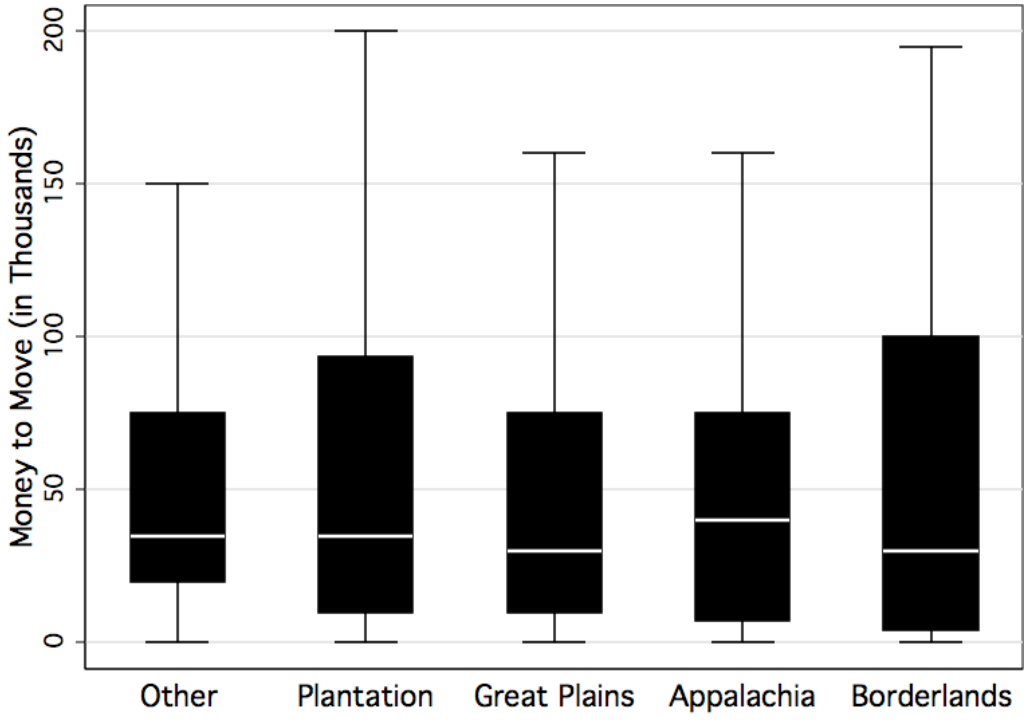


Figure A2.2: Natural Amenities Scale by Region (Standardized)

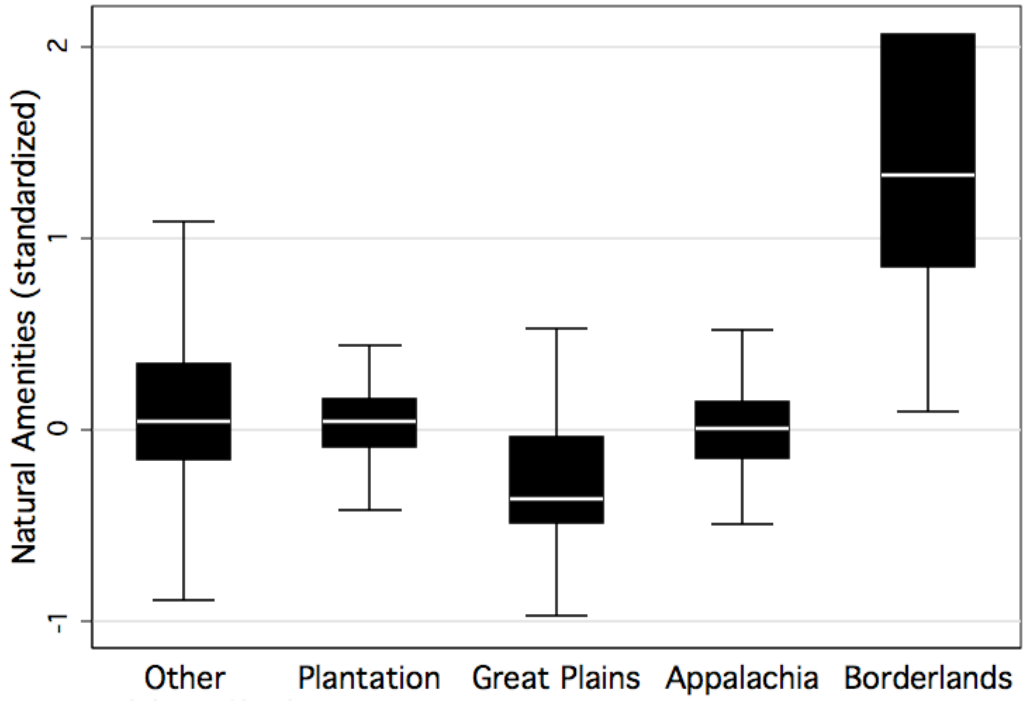


Table A2.3 Detailed Regression Results (Coefficients)

	OLS	*Multinomial Logit*	
Ind Characteristics	*Money to Move*	*Rooted*	*Migrant*
Yrs in Comm	0.589*	0.00539	-0.0128
	(1.937)	(1.204)	(-1.140)
Brn in Comm	24.05***	-0.0359	0.0194
	(2.609)	(-0.214)	(0.0567)
Age (base 30-39)			
18-21	19.73	0.421	-70.29***
	(1.142)	(1.001)	(-3.865)
22-25	-14.83	-0.61	0.322
	(-1.504)	(-1.327)	(0.489)
26-29	-6.926	-0.516	-0.0243
	(-0.824)	(-1.359)	(-0.0368)
40-49	17.06**	0.287	0.36
	(1.981)	(1.421)	(0.775)
50-59	-6.06	0.397*	1.459***
	(-0.812)	(1.817)	(3.522)
60+	14.57	0.903***	1.354**
	(1.012)	(3.203)	(2.195)
Marital Status			
Gender	0.857	0.301**	0.499
	(0.137)	(2.037)	(1.455)
Married	11.55	0.506**	-1.020**
	(1.566)	(2.073)	(-2.509)
Divorced	6.192	0.238	-0.0992
	(0.674)	(0.834)	(-0.184)
Seperated	-23.37	-0.838	1.174
	(-1.596)	(-1.245)	(1.26)
Widow	-1.203	0.0629	-42.45***
	(-0.0429)	(0.153)	(-29.90)
Couple	10.37	0.182	-41.18***
	(0.654)	(0.277)	(-34.61)
Education			
High Sch	14.59	-0.278	0.618
	(1.346)	(-0.819)	(0.611)
Some Coll	6.163	-0.153	-0.076
	(0.697)	(-0.451)	(-0.0731)
College	17.64	-0.156	0.0605
	(1.565)	(-0.449)	(0.0576)
Grad Deg	28.33**	-0.0299	-0.185
	(2.502)	(-0.0786)	(-0.171)
Other	24.43*	0.699	-1.057
	(1.655)	(1.371)	(-0.820)
Ethnicity			
White	6.799	0.283	-0.64
	(0.752)	(0.91)	(-1.011)

Table A2.3 Detailed Regression Results (Coefficients)
(Continued)

	Money to Move	*Rooted*	*Migrant*
Black	33.85**	0.139	-0.598
	(2.183)	(0.355)	(-0.728)
Haw/Pac	21.79	-4.144***	-40.26***
	(0.802)	(-3.601)	(-32.29)
Asian	-18.92	-0.294	1.438
	(-1.118)	(-0.363)	(1.591)
Nat Amer	-5.717	-0.18	0.11
	(-0.356)	(-0.363)	(0.105)
Hispanic	-0.00116	-0.693*	-73.84***
	(-0.000122)	(-1.923)	(-2.963)
Employment			
Part time	-8.103	0.336	-0.0258
	(-0.943)	(1.384)	(-0.0464)
Part Stu	73.32*	0.239	-40.06***
	(1.656)	(0.468)	(-62.57)
No Work	15.57	1.211**	-39.25***
	(0.761)	(1.973)	(-31.91)
Unemp	-16.73	0.0765	-1.758
	(-1.102)	(0.169)	(-1.569)
Retired	-1.004	0.36	0.726
	(-0.0671)	(1.347)	(1.141)
Full Stu	-25.40**	0.795*	0.91
	(-1.996)	(1.827)	(1.119)
Home-maker	-4.904	0.217	1.454***
	(-0.341)	(0.837)	(2.947)
Disabled	-32.58**	0.752**	-0.926
	(-2.507)	(2.107)	(-0.748)
HH Characteristics			
HH Income			
10_20	-17.37	0.0704	-2.502*
	(-1.510)	(0.191)	(-1.890)
20-30	-19.58**	-0.301	-0.492
	(-2.082)	(-1.008)	(-0.839)
30-40	-21.52**	0.121	0.0411
	(-2.324)	(0.47)	(0.0811)
40-50	-21.05**	-0.705***	0.141
	(-2.081)	(-2.971)	(0.306)
50-60	-29.48***	-0.0762	-0.243
	(-3.520)	(-0.257)	(-0.375)

Table A2.3 Detailed Regression Results (Coefficients)
(Continued)

	Money to Move	*Rooted*	*Migrant*
60+	-11.92	-0.301	0.494
	(-1.396)	(-1.139)	(1.189)
HH size	2.638	-0.0403	-0.152
	(0.719)	(-0.706)	(-1.291)
Inc Share	-7.5	-0.241**	0.427
	(-1.371)	(-1.976)	(1.53)
Community Characteristic			
Age % in community			
<10	10.85	-0.277	-1.882
	(0.295)	(-0.225)	(-0.966)
10_19	-16.01	-2.804**	-0.602
	(-0.408)	(-2.112)	(-0.212)
20-29	67.43	1.549	0.859
	(1.139)	(1.474)	(0.518)
30-39	-35.46	1.289	1.181
	(-0.696)	(0.852)	(0.46)
50_59	-60.22	-0.611	-1.605
	(-1.053)	(-0.460)	(-0.661)
60_69	35.59	-0.889	-7.892*
	(0.7)	(-0.737)	(-1.711)
70+	62.26	0.312	3.845
	(0.934)	(0.162)	(1.213)
Ethnic Composition			
Black	0.0339	0.00757	-0.0641***
	(0.165)	(1.116)	(-2.763)
Nat Amer	0.6	0.00268	-0.133*
	(0.7)	(0.136)	(-1.790)
Ethnic Div	-1.808	0.124*	-0.301**
	(-0.869)	(1.906)	(-2.156)
Attributes			
Pop Dens	0.00316*	-0.00000116	-0.000106
	(1.677)	(-0.0417)	(-0.551)
Pop Count	-0.0000309	-1.19e-05**	-0.0000172
	(-0.149)	(-2.147)	(-1.280)
Migrant %	0.0207	-0.0113*	0.0042
	(0.0741)	(-1.796)	(0.29)
Emp Ag	-0.0145	-0.011	0.0295
	(-0.0302)	(-0.969)	(1.466)
Emp Manu	0.196	-0.00585	-0.0244
	(0.622)	(-0.715)	(-1.325)
Poverty Rate	-0.962***	0.00876	0.00282
	(-2.608)	(0.869)	(0.145)
Creative %	93.75	-1.849	14.58
	(0.411)	(-0.337)	(1.089)
Creative% ^2	-170.8	2.851	-32.19
	(-0.419)	(0.292)	(-1.240)

Table A2.3 Detailed Regression Results (Coefficients)
(Continued)

	Money to Move	*Rooted*	*Migrant*
Natur Amen	2.489	-0.045	-0.19
	(1.561)	(-0.891)	(-1.335)
Urban Inf	-8.842	0.19	0.19
	(-0.856)	(0.884)	(0.417)
Soc Cap.	-0.00108	0.00493	-0.013
	(-0.00688)	(0.922)	(-1.033)
Bsns bad	-10.32	-0.00273	0.872**
	(-1.371)	(-0.0157)	(2.41)
Bsns nth	-6.03	0.145	0.334
	(-0.674)	(0.637)	(0.696)
Local gov eff	0.199	-0.086	0.216
	(0.0679)	(-1.094)	(1.429)
Regions			
Great Plains	21.25	-7.532	-163.3***
	(0.133)	(-1.014)	(-2.684)
South	-2.314	-0.478*	0.412
	(-0.206)	(-1.723)	(0.773)
Borderlands	-13.27	0.316	2.270***
	(-0.972)	(0.661)	(2.63)
Appalachia	31.79	0.225	0.422
	(1.34)	(0.858)	(0.726)
Interviewer Characteristics			
Interviewer Gender	-8.259	0.121	0.735**
	(-1.180)	(0.789)	(2.103)
Interviewer Age	2.418	-0.155	0.187
	(0.626)	(-0.806)	(0.316)
Interviewer Age^2	-0.0237	0.0013	-0.00532
	(-0.487)	(0.563)	(-0.793)
Interaction Terms			
Yrs Com * Natmn	-0.0914	0.00272	-0.00315
	(-1.025)	(1.491)	(-0.621)
GPLN * Natamn	0.759	0.319*	0.819
	(0.207)	(1.74)	(1.601)
GPLN * Yrs Comm	-0.694	0.0568**	0.115***
	(-0.937)	(2.111)	(3.458)
GPLN * Pop	0.0227	-0.000447	0.0685*
	(0.964)	(-0.342)	(1.769)
GPLN * Urb Inf	-12.15	-1.666	-24.71
	(-0.365)	(-0.839)	(-1.469)
GPLN * Emp Ag	-2.424**	0.0592*	0.0166
	(-2.224)	(1.957)	(0.26)

Table A2.3 Detailed Regression Results (Coefficients)
(Continued)

	Money to Move	*Rooted*	*Migrant*
GPLN * Retired	-30.91	1.713	-26.25***
	(-0.874)	(1.222)	(-5.373)
GPLN * Bsn Cond	17.54	-0.623	-7.209**
	(0.779)	(-0.784)	(-2.478)
GPLN * Age Div	16335	-1449	-7604
	(0.414)	(-1.046)	(-0.737)
GPLN * Ethn Div	14.98	0.263	3.694**
	(1.514)	(0.716)	(2.484)
GPLN * Creative	-1463**	66.66**	1711**
	(-2.308)	(1.985)	(2.132)
GPLN * Creative ^2	2279**	-109.1*	-5622**
	(2.113)	(-1.851)	(-2.019)
Constant	33.67	-1.153	-1.414
	(0.698)	(-0.875)	(-0.479)
Observations	1674	2671	2671
R-squared	0.189	.	.

*** p<0.01, ** p<0.05, * p<0.1
Robust t statistics in parentheses

REFERENCES

Albrecht, D. 1993. *The Renewal of Population Loss in the Nonmetropolitan Great Plains*. Rural Sociology, 58(2):273-280

Allen, C., R. Filkens. 2000. Optimum Rural Community Size: Relationships Between Community Attributes and Residential Preference. Department of Agricultural Economics and Center for Rural Community Revitalization and Development. University of Nebraska-Lincoln.

Baharanyi, Ntam, Robert Zabawa, Evelyn Boateng, 2000. "America's Forgotten People and Places: Ending the Legacy of Poverty in the Rural South: Discussion" Journal of Agricultural and Applied Economics 32(2):357-361

Bauer, T., K. Zimmerman. 1997. *Network Migration of Ethnic Germans*. International Migration Review 31(1):143-149

Beggs, J.J., J.S. Hurlbert, and V.A. Haines. 1996. ''Community attachment in a rural setting: A refinement and empirical test of the Systemic Model.'' Rural Sociology 61:407–426.

Brown, D., G. Fuguitt, T. Heaton. 2000. *Continuities in the Size of Place Preference in the United States, 1972-1992*. Rural Sociology 62(4):408-428.

Brehm J., B. Eisenhauer, R. Krannich. 2004. "Dimensions of Community Attachment and Their Relationship to Well-Being in the Amenity-Rich Rural west" *Rural Sociology* 69(3):405-429.

Cordes, S., J. Allen, R. Bishop, G. Lynne, L. Robison, and V, Ryan and R. Shaffer. 2003. Social capital, attachment value, and rural development: a conceptual framework and application of contingent valuation. *American Journal of Agricultual Economics*. 85(5): 1201-1207.

Cromartie, J.B. and J.M. Wardwell. 1998. ''Migrants settling far and wide in the rural West.'' Rural Development Perspectives 14:2–8.

Florida R. 2002. "The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life" Basic. New York, NY.

Goudy, W.J. 1990. ''Community attachment in a rural region.'' Rural Sociology 55:178–198.

Hurst, Charles. 1992. "Inequality in Appalachia," Social Inequality: Forms, Causes, and Consequences, Pearson Education: 56-61.

Johnson, K.M. and C.L. Beale. 1994. ‘‘The recent revival of widespread population growth in nonmetropolitan areas of the United States.’’ Rural Sociology 59:655–667.

Johnson, K. 2006. Demographic Trends in Rural and Small Town America. Durham: Carsey Institute.

Kasarda, J.D. and M. Janowitz. 1974. ‘‘Community attachment in mass society.’’ American Sociological Review 39:328–39.

McGranahan, D. 1999. Natural Amenities Drive Population Change. Agricultural Economics Report No. 781, USDA, Washington DC, US Government Printing Office. < http://www.ers.usda.gov/Data/NaturalAmenities>

McGranahan, D. and T. Wojan. 2007. “Recasting the Creative Class to Examine Growth Processes in Rural and Urban Counties” Regional Studies 41(2):197-216 <http://www.ers.usda.gov/Data/CreativeClassCodes/>

Mincer, J. 1978. “Family Migration Decisions.” *Journal of Political Economy* 86:749-73.

Nostrand, R. 1970. “The Hispanic-American Borderland: Delimitation of an American Culture Region” Annals of the Association of American Geographers 60(4): 638-661

Rathge, R. and P. Highman 1998. "Population Change in the Great Plains. A History of Prolonged Decline," *Rural Development Perspectives* 13, pp. 19-26.

Rathge, R., K. Olson, R. Danielson, M. Clemenson. 2001. *Demographic Chartbook: Profiling Change in the Great Plains.* Prepared for the Great Plains Poplation Symposium in Bismark, ND

Robison, L., M. Siles, A. Schmid. 2002. “Social Capital and Poverty Reduction: Toward a Mature Paradigm”. Agricultural Economics Report No. 614, Department of Agricultural Economics, Michigan State University.

Rudzitis, G. 1998. ‘‘Amenities increasingly draw people to the rural west.’’ Rural Development Perspectives 14:9–13.

Rupasingha, A., S. Goetz, D. Freshwater. 2006. *The production of social capital in US counties*. The Journal of Socio-Economics 35:83-101

Sjaastad, L. 1962. *The Cost and Returns of Human Migration.* The Journal of Political Economy. 70(5):80-93.

Stark, O. 1991. *The Migration of Labor.* Regional Science and Urban Economics. 23(3):453-457

U.S. Census. 2003. Domestic Migration Across Regions, Divisions, and States, 1995-2000.