

**VULNERABILITIES AND ECONOMIC  
WELLBEING OF HISPANICS IN NON-METRO MISSOURI**

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## **Abstract**

Non-metro Missouri has observed a net in-migration in the last decennial period and great part of these immigrants are Latinos (Lazos and Jeanetta). The literature contends that Latinos are being pulled into the rural areas by large agricultural operations and pushed out of urban areas by harsh immigration laws, and low job availability. The “context of reception” (Portes and Rumbaut) of communities where Latino newcomers settle impacts on how well they can integrate to the economy and settle as residents. This research addresses the factors explaining vulnerabilities faced by Latinos, and their economic conditions in non-metro Missouri, using the 2000 Census and Public Use Microdata Sample (PUMS) as well as county level data on racial profiling and the Department of Elementary and Secondary Education (DESE) database.

The livelihoods framework (Chambers and Conway; Valdivia and Gilles; Bebbington; Ellis), a focus on capabilities, capitals, and the enabling context frames the study of the vulnerability of Latinos with respect to economic success. Racial profiling is a measure of the enabling context in communities. Regression of US born Latino wages on educational attainment, English interacting with education, work experience and mobility are significant. For foreign born Latinos significant factors are education, the interaction of education and good and low English ability, gender, work experience, racial profiling, and mobility. Being a foreign born Latina, racial profiling and mobility have all negative effects on earnings. Both low and high English ability interacting with education has a positive impact. Mobility’s negative effect suggests further study of moving, which may be related to the Context of Reception.

**Key Words:** context of reception, immigration, Latinos, livelihood, racial profiling, vulnerability

## Introduction

The United States (US) has experienced successive waves of immigration. Currently, in the US, Latinos make up 60 percent of immigrants each year (Lazos; Census, 2004). In Missouri, 2.3 percent of the total population is of a Latino<sup>3</sup> origin and is still increasing. While this might come across as an unimpressive portion of the population, the reality is very different in some counties in non-metro Missouri<sup>4</sup>. The most common pull to these areas have been food processing, manufacturing and services, located in these areas. Some of the challenges experienced include low English proficiency, different cultural capital, to unfamiliarity with the local public services and the law. Jobs in this sector are high injury risk, and low pay, especially in the case of immigrants (Rosenbloom; Bowe). One question often raised as communities change is: What is the economic impact of Hispanics? This requires answering “how are Latinos doing in economic terms, and what factors and how affect earnings”.

The climate in receiving communities, policies, and people’s attitude towards Latinos are considered ambivalent at best in Missouri (Vazquez-Case and Campbell; Wirth). This affects the strength of local institutions, limiting investments to build “bridges” between newcomers and rural communities. The cultural capital of new comers often creates difficulties when their world view differs from US institutions, such as law enforcement and social services (Lazos; Valdés).

The study tests how income earning ability of Latinos in non-metro Missouri if affected by human capital and the climate of the receiving communities- the context of reception - to enhance our understanding of what benefits economic integration.

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<sup>3</sup> Some authors distinguish between Latinos and Hispanics. Here I am using them interchangeably.

<sup>4</sup> For a lack of a better term non-metro Missouri has been chosen to refer to the whole part of the state of Missouri excluding those areas covered by St. Louis and Kansas City.

## Literature Review

### *Historical Perspective on Immigration*

Immigration is a particularly complex issue and objectives that force individuals or groups to immigrate also vary by ethnic group, age and locale (Roberts). For Latinos, a significant reason to immigrate is economic opportunity (Browning and Rodriguez). Immigrants to the US eventually are supposed to naturalize, abandoning commitments to the country of origin. While west and east European immigrants to the US have, Latinos, especially Mexicans, have been the least likely group to naturalize (Martin and Midgley; Martin and Widgren). With the 1848 Treaty of Guadalupe Hidalgo, Mexico ceded to the US the territory that is now Texas, New Mexico, Arizona, California, Nevada, Utah, and Colorado (Acosta-Belén). Movement of the border meant native Mexicans “moved” to the US.

A great part of the Mexican-American population today is a direct result of immigration in the 20<sup>th</sup> century (Davis). The onset of the depression era, in the 1930s, prompted deportation of more than 400,000 Mexicans (Borjas and Tienda). During the World War II, the *braceros*<sup>5</sup> program brought temporary workers to the US because of the shortage of labor in the defense industry (Martin and Midgley; Martin and Widgren). This program, until its termination in 1964, brought around 4.8 million Mexicans to the US (Hernandez). The *braceros* program helped cement the image that Latinos were essentially temporary, unskilled workers, and an image of temporary migration. Migration after the 1960s continued with the economic deterioration and political upheaval in South America and the Caribbean, and the *braceros* mentality of ‘*siempre hay trabajo*’ – “there is always work”- (Hernandez; Borjas and Tienda; Davis et al; Beck). Cubans in the US increased dramatically after the fall of Fulgencio Batista’s regime in 1959, a

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<sup>5</sup> This could be loosely translated as ‘strong arm’ (Martin, a; b).

mainly political push factor (Davis). By 1980 the combined effect of post-revolution exile, and other events, approximately 725,000 Cubans migrated to the US, mostly to Florida, New Jersey and New York (US census bureau, 2000; Davis). Puerto Ricans on the other hand, have been citizens of the US since 1917, through the Jones Act (Chávez). Even Puerto Ricans were viewed as immigrants with negative connotations attached (Valdés).

In Missouri Latinos were present as early as 1830 (Kansas State Historic Society [KSHS]). Kansas City, connected to Mexico via Atchison, Topeka, and the Santa Fe Railroad, benefited immensely from trading with Mexicans (Lazos and Jeanetta). During the 1900s, political instability, poor living conditions in rural areas, job scarcity and the recruitment of cheap labor by US businesses led to increased migration to the US (). The Santa Fe Railroad, meatpackers in Kansas City, and sugar beet farms in Finney County in Kansas were main sources of employment (Lazos and Jeanetta). The Mexican pattern of immigration was mostly seasonal (Green and Barham).

Current immigration to small towns in Missouri has been mostly fueled by meat packing plants (KSHS). These towns have no reservation labor and high turnover in plants designed for more than 1000 employees, forcing managers to hire 'headhunters' to find workers (Rosenbloom). Local communities respond in some cases with ambivalence to the recent and fast immigration, creating challenges to adjustment to the newly arrived residents.

### ***Wellbeing, Risk and the Livelihoods Framework***

The literature on sustainable livelihoods focuses on how individuals and households manage their assets, often defined as capitals, along with their capabilities, to negotiate the effects of institutions, markets, and policies, to make a living (de Haan; Ellis; Valdivia and Gilles). Wellbeing is achieved as the individual and household strategies lead to accumulation of

capital, and integration to the community. Vulnerability on the other hand is shaped by the capacity, or lack of, to deal with risks. In developing country economies lack of safety nets are a major source when couple with environmental risk or civil strife. In economies like the US, poverty, insecurity in employment, lack of access to safety net institutions, and the policies of immigration lead to vulnerable livelihoods for immigrants coming to work (Rupasingha and Goetz). The development economics literature focusing on risk minimizing strategies highlights the various strategies to reduce risk (Davis; Morduch; Binswanger and Rosenzweig; Corbett; Valdivia et al). The household strategies to cope with risk ex-ante or ex-post consist of income smoothing (income diversification) and consumption smoothing (Morduch; Valdivia et al). The ability to smooth income and/or consumption is a function of different capabilities and capitals a household or individual can access, control, or own. These various types of “capital” can be created/acquired and depleted (Valdivia and Gilles; Chambers and Conway). A capital is the product of investment which yields a flow of benefits over time. These capitals are: human, financial, natural, physical, cultural and social<sup>6</sup> (Valdivia and Gilles).

Migration has been used as a coping strategy (after the shock), and as an income diversification strategy for rural households. Building capital, such as human, cultural and social, is critical to households in the south. These capitals in the process of migration are transferred to new context. For example Latin Americans bring their culture, knowledge and networks to the communities where they settle.

Income accumulation in capitals builds financial/liquid assets that mitigate risks. Economies with well functioning markets provide access to insurance mechanisms, reducing the impact of the realization of risk (Morduch). Some individuals are precluded from participation, or lack access to these institutions. The majority of citizens in the developed world tend to take

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<sup>6</sup> Some authors identify cultural capital as a building block of social capital others use it as a stand alone category.

jobs, early in life that provide a comfortable balance of expected earnings and risk. In the US there are many alternative forms of income smoothing, especially the poor. Temporary assistance is provided for low income households and vulnerable children, through welfare programs. However, the extremely high eligibility requirements and the rigid way that most of these programs operate alienate those who need it the most (McDonough and Korte).

In the context of Latinos, human capital refers mostly to English proficiency, educational attainment, and work experience. Financial capital, which is the level of savings or liquid assets a given individual is able to command for investing, is fungible and may be invested in creating new capital. For instance a secure, high paying job may provide enough savings to acquire land (natural capital) and may also allow the acquisition of a house (physical capital) and status, and connectedness in the community (social capital). For Latinos, especially newcomers settling in new communities, four capitals are very important: human, financial, cultural, and social. Cultural includes their local knowledge and cultural values, and social relates to the networks (kin and friendship) that build their support system for finding jobs, settling, and social validation. This framework is relevant in studying the vulnerabilities of newcomers because of the importance of these capitals in shaping their livelihood strategies.

### ***English proficiency***

Good command of the English language has been considered one of the most important factors influencing the adjustment of the Latino immigrant in the US. Abalos stated that for immigrants moving to the US it should be expected that the ability to read and write be given special consideration. However, studies carried out on the subject of English literacy of Latino immigrants have produced mixed results at best. For instance, Borjas, Reimers (a, b) using data from the census, the department of commerce, and Rivera-Batiz, with results of a standardized

test of reading comprehension, did not find a significant impact of English literacy on the earning ability of Latinos in the US. These authors suggested that English proficiency may not be the only factor influencing Latinos' earnings in the US economy. On the other hand, studies that used extensive measures of English proficiency concluded that lack of good command of the English language limited ability to enter the mainstream job market, thus higher earnings (Grenier; McManus et al; Tainer). In Missouri's southwest a study that subdivided respondents into three distinct types: Latino adults, Latino youth and social workers serving Latinos in that area showed that Latinos had a genuine concern in learning English (Wirth). A qualitative study in selected non-metropolitan counties of Missouri (Vasquez-Case and Campbell) found that ability to properly speak English affects Latino social integration to the local community.

### ***Educational attainment***

There has been extensive use of the capability theory in the analysis of access to and use of resources by minorities in the US. Latinos have long been stereotyped as being less educated than other ethnic minorities in the US (Melendez, Rodriguez and Figueroa). Roderick argues that education has historically been the most important factor of social mobility for immigrants and non-immigrants alike because it enables access to higher paying jobs, enhances the ability to make important cultural and intellectual contributions, and to gain access to the political process. However, the National Council of La Raza reports [NCLR] that new Latino immigrants face barriers towards improving their education. These are: unfamiliarity with the American educational system, language, overcrowding in urban and rural schools, low quality education in poor areas, family and social disruption, and discrimination by schools and teachers often unfamiliar with the new group's cultural norms. Quantitative studies find that a combination of low parent education, low income, and family language status explain a large part of the poor

school performance and low educational attainment (Figueroa). Children are believed to emulate their parents' achievements, though on-going research points that students also emulate mentors. Lack of a home environment conducive to higher levels of learning is also a barrier, because parents can't assist with homework, and don't have the technology that wealthier families do. Although in Missouri (OSED) Latinos have lower levels of educational attainment, there has been an overwhelming increase of enrollment in rural schools.

The interaction effect of Latino language and education to wages *per se* has been given scant attention. Reimers introduced the interaction effect of foreign education and foreign born. She assumed the foreign born variable would capture both foreign education to wage, and the effect of language. Her results showed the interaction effect increased the returns to income for all major groups, except Cubans and other Hispanics. Chiswick and Hurst, and Reimers found that Latinos' lower wage earnings were mainly due to lower human capital. Rodriguez studying the effect of human capital by gender, of Puerto Ricans residing in New York, found that neither race or gender had effect on returns to wage, excepting of manufacturing blue collar work.

### ***Industrial distribution***

Overall the number of Latinos in industries requiring high intellectual input increased in the US (Ortiz). The vast majority, 22 percent, is still in the service industry (Hurst and Cheswick). Recent studies link Latinos with the agricultural industry and those that require high physical work (Portes and Rumbaut). In the industrial distribution literature there is no agreement regarding differences due to being born in the US or not –nativity. Hurst and Cheswick state that Latinos born in the US tend to prefer urban settings, comparatively less physical jobs, and have the citizenship requirements to work in the public administration. Work ability is also measured by experience. Anecdotal evidence from Latinos working in Missouri's

poultry industry indicates they were recruited directly from outside Missouri and/or their home country provided they had been working before in *haciendas*<sup>7</sup>. Thus, previous hard manual work signals their willingness to carry out menial labor in the future (Bowe).

### ***Social Networks and Capital***

Portes defines social networks as “sets of recurrent associations between groups of people linked by occupational, familial, cultural, or affective ties” (p.8). The size and densities of these networks are very important in regulating individual’s activity in the society. Size refers to the number of participants in a network, and density to the number of ties between them (Portes). Networks, also described as social capital, provide avenues for acquisition of information, resources, and capital that an individual could otherwise not access. Putnam (cited by Flora) described social capital as “features of social organization, such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit; social capital enhances the benefits of investment in physical and human capital” (p. 45).

For the poor or families lacking in other capitals, collective action is a means to access to scarce resources, such as tips about employment, interest-free loans, best schools for children, access to welfare programs, acquisition of formal documents and the like (Portes). Immigration is seldom an individual activity; it involves a collective effort of many individuals within a well established social network. Thus when an individual moves from one place to another, it is actually its network that is moving because he/she uses the information and resources created by the network in order to leave the place of origin and settle safely at the destination (Roberts). The literature identifies Latinos mostly with menial jobs in service and agricultural industries and portrays the Latino as a very young ethnic group (Rosenbloom; Bowe; Hurst and Cheswick). The

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<sup>7</sup> These are large farms in Latin American countries.

high turnover rate and physical requirements of these jobs would lead us to expect that age will have a negative effect on earnings i.e. the older you get the lower you earn.

### ***Nativity***

Much of individual's human capital is country specific and, as the social science literature contends, foreign born Latinos tend to be disadvantaged because their cultural and social capital does not readily fit in the US labor market (Bean and Tienda). Reimers suggested that within the Latino population there are significant differences which have some bearings on their success in the labor market. For instance, Valdes (1996) argued that Latinos' perception towards the future and the means to achieve their objectives varied by nativity: foreign born were more driven to work, less selective on the type of work, and their benchmark of success was much lower as compared to US born Latinos. On the demand side, Roberts (1995) argued that foreign born Latinos are viewed by their employers as temporal workers therefore not worthy of positions with a high degree of responsibility.

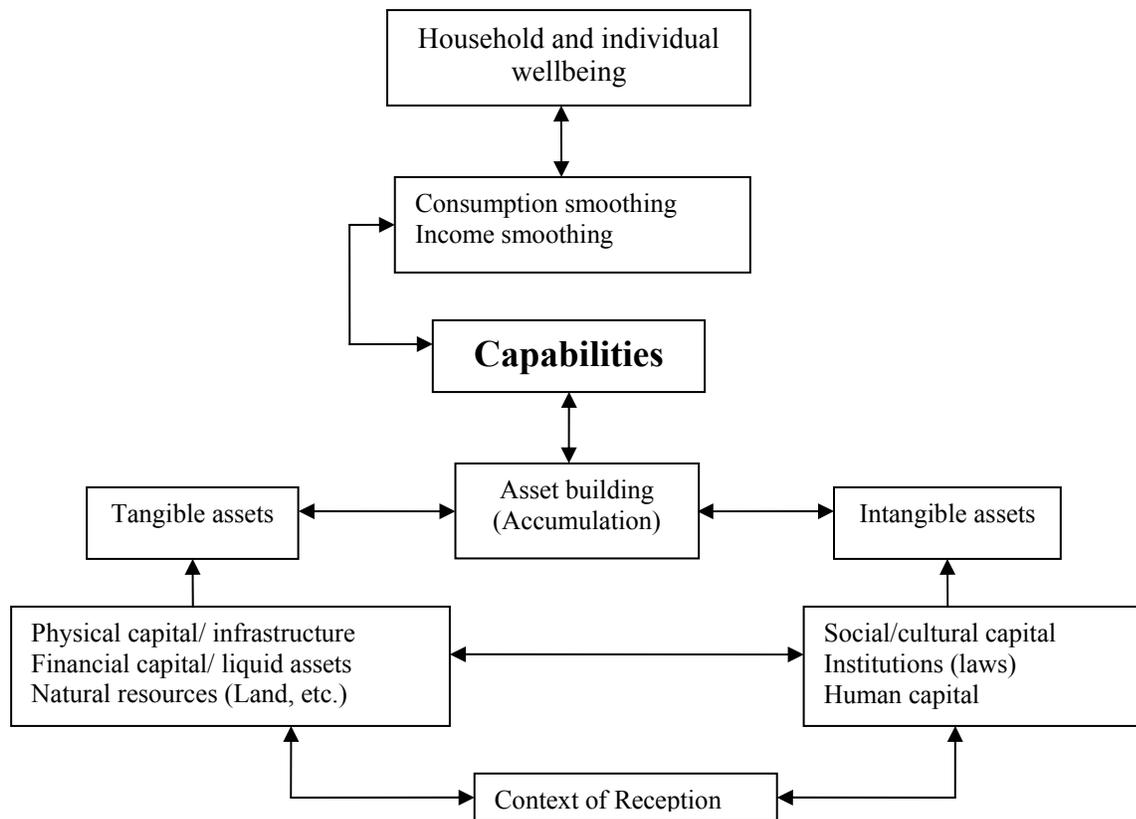
## **Methodology**

### ***Theoretical Framework***

Capability (Sen; Dreze and Sen) refers to the ability to pursue activities to make a living. Capability incorporates the ability to cope with stress and shocks, and to find and make use of livelihood opportunities. The notion of agency, being proactive, and able to change and adapt are elements of capability. Examples include gaining access to and using services and information, exercising foresight, experimenting and innovating, competing and collaborating with others, and exploiting new conditions and resources (Valdivia and Gilles). From the livelihood's

framework, this study focuses on human capital, which refers to educational attainment, language proficiency, and relevant work experience.

Figure 1. Conceptual Framework of Wellbeing



Source: adapted from Chambers and Conway (1992)

Institutions, the sources of norms and laws that prescribe and coordinate behavior in a society (Douglass), can facilitate or destabilize wellbeing for a given individual. This study adds to the livelihoods model by considering the context or climate of the receiving community. In the analysis of settlement of Hispanics in the Midwest, is there an ‘enabling environment’, does it facilitate inclusion? Latino immigration to the US has been affected by ambivalent principles, which has been aptly termed “legal inconsistency” (Lazos). ‘Legal inconsistency’ is manifest in

the apparent contradiction of enforcement of laws; some industries have been employing immigrants without proper documentation and have gone unmolested by the authorities (Bowe). Lazos (2004), quoting Tom Donahue, the President of US Chamber of Commerce, said that if immigrants were actually sent home the US economy would virtually stop dead in its tracks – there is a need for clear stand on issues. Ability of the communities to respond to the growth may affect income earning capacity.

### ***Site and Data***

The main source of data used in this research is the Public Use Microdata Sample 5 percent (PUMS 5 –census 2000) for Missouri. The study excludes St. Louis and Kansas City. The area covered is called “non-metro Missouri”. Reasons for the exclusion of the metropolitan areas are: first, their long experience with Hispanics and immigrants with extensive resources to serve incoming immigrants; second, growth rates of Hispanics are largest in non metro areas. This study uses the 5 percent sample *persons*<sup>8</sup> file of the PUMS with their respective weights. Racial profiling data obtained from the Assistant Attorney General’s website<sup>9</sup>. The PUMS and racial profiling database are merged through the use of a specially created crosswalk file. The crosswalk file consists of PUMS codes and the respective county names from the racial profiling data. Given that main focus of the study is on earnings, unless indicated, all results will be based on persons between 16 and 65 years old.

### **Empirical Model**

First a probit regression analysis is performed to determine if representative and probability of a Latino to be present in either the labor market or in an academic setting given a

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<sup>8</sup> The is also a 5% *household* PUMS

<sup>9</sup> For more information please see the following website: <http://www.ago.mo.gov/racialprofiling/racialprofiling.htm>

specific set of human capital and nativity. Second, two separate semi-log wage equations are estimated in order to determine the effect of human capital and context of reception on Latino earnings in non-metro communities.

### ***Empirical analysis***

Wage is used as proxy for earnings. The earnings equation estimated in the literature is non-linear. The dependent variable is normally transformed to a linear logarithm because of the skewed distribution of earnings. The relationship of wages and explanatory variables is specified below (Hayashi):

$$W_{ij} = \exp(\beta_{ij}S_j) \exp(\delta' \mathbf{h}) \exp(\varepsilon_{ij}) \quad i = 1 \dots n \quad (1)$$

By taking linear logarithms on both sides, equation (2) below is obtained, semi-log form. The non-constant regressors ( $S$  and  $\mathbf{h}$ ) are not in log form because it has been established in the labor economics literature that in large cross-section data, the relationship between these variables and wage is linear (Card). Therefore, earnings and its determinants are given by:

$$\ln W_{ij} = \beta_{ij}S_j + \delta' \mathbf{h}_j + \varepsilon_{ij} \quad i = 1 \dots n \quad (2)$$

Where  $\ln W$  is the natural logarithm of the wage rate for the individual  $i$  in group  $j$ , where  $j$  consists of 2 different groups: US and foreign born Latinos.  $\beta$  is a vector of coefficients to be estimated,  $S_i$  is a matrix of human capital and  $\mathbf{h}$  represents the vector observable demographic characteristics and institutional environment influencing the wage rate of individual  $i$ ,  $\delta$  is the associated vector of coefficients, and  $\varepsilon$  is the unobservable error term with zero mean and variance  $\sigma^2$ . Rationale for selection of variables, defined in Table 1, follows.

The coefficients are interpreted as percent changes, not absolute changes, e.g., a value of 0.09 for  $\beta_1$  means that an additional year of education has the effect of raising the wage by 9

percent. The difference in interpretation is due to the fact that the dependent variable is a logarithm of the wage rate, and the change in logs equals the percent change in levels.

**Table 1 Definition of Variables Used in the Maximum Likelihood Probit and Semi-Log Analyses.**

<b>Variable</b>	<b>Description</b>
Age	= Age in years
E_1	= English ability (1 if speaks English very well or well and 0 otherwise)
E_2	= English ability (1 if speaks English not well and 0 otherwise)
Ed_Att	= Highest level of educational attainment in years
Gender	= 1 if female and 0 otherwise
EdXE1	= Interaction effect of educational attainment and good English ability
EdXE2	= Interaction effect of educational attainment and poor English ability
NPF	= Number of Persons in the Family
Rac_Pr	= Racial Profiling (the level of over or under representation in traffic stops)
Wrk_Exp	= Potential Work Experience
Mov	= Mobility

Because the study aims to assess the Latino population, it is necessary to know how representative the selected sample is of Latinos in non-metro Missouri. Heckman postulated a two stage binary probit approach, where a person in the wage sample is given a value of 1, and 0 if not. For instance, an individual could choose to participate in the labor market or to be a full-time/part-time student. Thus, the probability that an individual *i* will participate in the wage sample is represented by:

$$P_i = F(\alpha + \gamma S_i) = F(Z_i) \quad (3)$$

Where  $\mathbf{F}$  is a cumulative probability function and  $\mathbf{S}$  is a vector of individual characteristics and is stochastic; and  $\gamma$  represents the vector of unknown coefficients. In this case an assumption is made that  $Z_i$  is a theoretical index determined by explanatory variables represented by  $\mathbf{S}$  vector. The index  $Z_i$  is assumed to be continuous and normally distributed to satisfy the Best Linear Unbiased Estimator (BLUE) requirements. Therefore, the index is:

$$Z = \alpha + \gamma\mathbf{S}_i \quad (4)$$

The probit specification can be interpreted as an estimate of the conditional probability that an individual will participate in the wage sample, as long as that individual possesses the set of characteristics specified in the vector  $\mathbf{S}$ .

The expected values of equation (4) above, conditional on wage rate will have the following specification:

$$\text{Ln}W_i = (W_i | \mathbf{S}_i, W_i > 0) = \beta'\mathbf{S} + E(\varepsilon_i | W_i > 0) \quad (5)$$

Where  $\mathbf{S}$  is the vector of human capital and demographic characteristics needed to derive the semi-log model specified in (2) above.

$W_i$  is **wage earnings** by individual in 1999. Wage is skewed, therefore transformed to a natural logarithm. A new variable is created from each respondent's reported wage in the PUMS database.

This study includes only Latinos who were working at the time of the census and who answered *all explanatory variables*. The statistical software does not handle missing values. Students working part-time were excluded from the study given that they may distort the results because they choose based on convenience and not on their full human potential (Reimers).

The variables included in the model, represented by vector  $\mathbf{S}_i$ , are defined using human capital theory (Willis cited in Rivera-Batiz). The theory suggests human capital can be used to

explain skills, which can then be a proxy for productivity and thus labor market earnings.

Individual skills can be acquired through formal schooling, vocational and on-site training, all measured in years.

**Educational attainment** is measured in years of schooling as reported in the Census and expected to have a positive effect on earnings.

**English proficiency** is likely to have a positive effect on productivity, therefore on earnings. The census question related to ability to speak English is the individual's rating of his/her level of English ability.

Formal education is not the only means of acquiring knowledge. Therefore a measure of *potential work experience* is introduced: years a person spent working in an industry. This is calculated by age of the person minus preschool years (5) and formal school years, including only respondent who have been working in the past 10 years. Therefore, it is expected that the higher the potential work experience the higher their earning ability.

**Mobility** indicates Latinos who moved into the area in the past five years. It measures how newcomers are faring when compared to those who have been in the area for a longer period. Newcomers are assumed to have fewer connections and less knowledge of the area, which precludes them from getting the better-paying jobs. It is expected that the constant movement of Latinos will have a negative effect on income because they are not moving as a result of work contracts but to look for work, and likely to start at a lower level of earnings. This is opposite the US labor force that moves to improve earnings.

**Age** is expected to impact positively on income earnings.

**Gender** closely related to type of work, the recruiting process, the immigration rigor, and the age group. Gender is expected to explain lower income levels of women.

**Disparity index** measures racial profiling as proxy for the context of reception in non-metro Missouri. Disparity index is the ratio of stops made to an individual member of a specific ethnic group over the total number of individuals of same ethnic group living in a specific area. Two variants are used: the “worst case” scenario, and the “normal” level. The first is the highest level of disparity index reported in each major area. The Assistant Attorney General Office State of Missouri maintains a database of racial profiling activity by police department in all state. Reports include number of traffic stops, searches and arrests made by race/ethnic group. The disparity index is a proxy measure of a society’s attitude, assuming that this is reflected in its institutions. The industries that immigrants normally work in, by their very nature, are located mostly on the peripheries of these towns. Public transportation is almost non-existent. Thus, the ability to be mobile, e.g., having a car is very important. However, the ability to be mobile can be severely constrained if the police “profile” citizens of certain characteristics. Racial profiling indicates the degree of over-representation or under-representation bias that law enforcement has over a given race/ethnic group, which can severely hinder (or foster, in case of under representation) their ability to move around and travel to work.

Finally, because **nativity** makes a difference (US born vs. foreign born) in earnings, as the rights and privileges are different, i.e., citizens’ rights outweigh those of the foreign born, two separate regressions are estimated, one for Latinos born in the US, and one for foreign born Latinos, to capture differences in nativity<sup>10</sup>. It is expected that most of the independent variables will behave differently for US and foreign born Latinos. This will not be correctly captured with a dummy variable.

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<sup>10</sup> For more see the above discussion on the research done on the nativity difference.

The wage earning rate is a function of educational attainment, English language proficiency, work experience, age, mobility, racial profiling, and nativity and the interaction effects of English ability and education.

The model that explains the wage rate of Latinos in non-metro Missouri is the following:

$$\ln W_i = \alpha + \beta_1 Ed_i + \beta_2 E\_1_i + \beta_3 E\_2_i + \beta_4 W_i + \beta_5 M_i + \beta_6 A_i + \beta_7 RP_i + \beta_8 G_i + \beta_9 EdxE1 + \beta_{10} EdxE2 + \varepsilon_i \quad (6)$$

Where LnW in the linear logarithm wage rate, Ed is the educational attainment of individual i measured in years of schooling; E\_1 and E\_2 are binary and represent English proficiency. EdxE1 and EdxE2 are interaction effects. W is the potential work experience, M is mobility, A represents age, RP represents racial profiling for PUMSi. G represents gender.

## Results and Analysis

### *Effects of human capital and demographic factors on the Probability of employment*

The probit model was segregated by nativity (US and foreign born Latinos). The dependent variable was participation in the labor market. The regressors have a significant impact on the final decision making process on whether to be on the labor market or not, as the Likelihood Statistic is 19.40 (for US-born) and 21.12 (for foreign born), ( $p$  0.0013 and 0.0011 respectively) (Table 2).

For US born Latinos age, education and number of persons in the family are statistically significant, and English and gender are not. For the foreign born Latinos, all variables are statistically significant on the probability of participating in the labor market.

Age has a negative effect on the market participation by the Latinos. A possible explanation is as Latinos grow older they become less apt to perform demanding physical activities, and therefore lower income returns. For US born Latinos, their citizenship status

allows them to get greater access to other forms of compensation. Latino males have a higher probability of being in a wage sample when compared to females, which may be due to the dynamics of immigration and the highly demanding physical jobs. English ability is a factor for foreign born Latinos. However, the situation here is reversed: foreign born Latinos that speak English well and very well have a lower probability of being in the wage sample, which suggests that they prefer being in school rather than in the labor market.

**Table 2 Probit Analysis Results for Labor Market Participation**

Variables	US Born		Foreign Born	
	Estimate	Std. Error	Estimate	Std. Error
Intercept	0.5381*	0.2302	0.6786*	0.0481
Gender	- 0.0022	0.5041	- 0.0621*	0.0311
Age	- 0.0122*	0.0088	- 0.0093*	0.0072
Eng_1	0.0101	0.0033	- 0.0176*	0.0118
Eng_2	0.0014	0.0191	0.0189*	0.0319
Ed_Att	0.1399*	0.0183	0.0691*	0.0255
NPF	0.0163*	0.0831	0.0211*	0.0121
Likelihood Ratio	19.4019		21.1180	

\* Significant at 5 percent level.

Source: 2000 Census, Public Use Microdata 5% Sample (PUMS).

### ***Determinants of Wage for Latinos in Non-metro Missouri***

Two ordinary least squares models (separated by nativity) are estimated. Regression results are presented in Table 3. All things equal, US born Latinos have higher wage earnings than foreign born Latinos. Both reported wage rates are an improvement from the rates found in previous studies by Reimers (1988) and Rivera-Batiz (1991) with mean hourly wage of \$ 6 and

\$7.8 respectively. The effect of education wage earnings is significant and positive, and each additional educational year has the effect of increasing the returns to wage by 6 percent for US born and 4 percent for the foreign born Latinos.

**Table 3 Results of the Semi-Log Wage Estimations on the Effect of Human Capital and Demographic factors on Latinos in Non-metro Missouri in 2000**

Variables	US Born		Foreign Born	
	Estimate	Std. Error	Estimate	Std. Error
Intercept	9.3046*	0.3709	8.0191*	0.6217
Ed_Att	0.0631*	0.0977	0.0371*	0.0165
Eng_1	0.0012	0.4505	-0.0501	0.1249
Eng_2	0.0001	0.0089	0.0452	0.4501
EdXE1	0.1611*	0.0781	0.0911*	0.0114
EdXE2	0.0112	0.0055	0.0502*	0.0291
Age	0.0231	0.1175	0.0406	0.0881
Gender	0.0012	0.0544	-0.0188*	0.0461
Wrk_Exp	0.0921*	0.0442	0.1409*	0.0049
Rac_Pr <sup>11</sup>	-0.0181	0.0033	-0.0116*	0.6278
Mov	0.0211*	0.0187	-0.0497*	0.0072
F	19.5		8.33	
R <sup>2</sup>	0.28		0.32	

\* Significant at 5 percent level; Source: 2000 Census, Public Use Microdata 5% Sample.

The education variable here might offer almost the same information as English ability, and they are interlinked. Having sufficient grasp of English language might help improve returns

<sup>11</sup> When modeled for the worse case scenario (the highest values of disparity index) US born = - 0.0188\*; Foreign born = - 0.0588\*.

to earnings, however, it does not ensure by itself access to high status or higher hourly wages in the US labor market.

The literature's position on this issue is, at best, not firm on the effects of English proficiency on earnings of Latinos in the US, and from the results of this study, it looks like this issue merits further research. Additionally, the problem with English proficiency might arise because the variable is a self-reported one rather than based on a formal test of some kind.

The interaction effect of educational attainment and good English proficiency (EdXEng\_1) had a significantly large positive effect on Latinos wage earnings for both US (16%) and foreign born (9%). On the other hand, the interaction effect of educational attainment and poor English proficiency, as expected, had a lower impact on wages. For the US born is not significant, while for foreign born is positive, smaller, and significant.

On a positive note, the coefficients of these interactions are positive, which means they are synergistic. The results indicate that a Latino will observe a higher increase in earnings if education increases concomitantly with the level of English proficiency. For foreign born Latinos, educational attainment has the effect of boosting earnings for those whose English proficiency is poor. This may signal that US employers have the perception that educational attainment signals other economically productive qualities such as discipline, perseverance, and occupationally specific skills (Bishop). The proposition is that Latinos who have poor English skills stand a better chance of improving their earnings if they improve their education.

For foreign born Latinos, being female has an estimated effect of decreasing wage earnings by 2 percent. This could be related to the terms of employment. The service/retail industry mostly employs women on a temporary basis – this could explain the observed results. For the foreign born Latinos a very important issue arises: almost 56 percent is female and

employment discrimination might imply that a majority of the group is vulnerable, making less income.

Potential work experience has the greatest impact on wage for both US and foreign born Latinos, with 9 and 14 percent respectively. This result supports anecdotal evidence that most employers engage scouts to search for those with work experience wherever they are (Rosenbloom). A very important pattern arises. US employers, especially those located in non-metro Missouri, are trying to reduce their costs of production. Therefore the decision to locate their operations closer to the source of raw materials (Green and Barham); erecting basic housing facilities closer to the factory thus eliminating housing and transport allowances (Ziebarth); and finally, the issue of industrial and functional training that most employers do not want to deal with (Green). These issues raise questions about discrimination against women, especially for foreign born Latinos. Employers contend that foreign born Latinos have different cultural capital, which makes women a less stable investment (e.g., training); because women can leave anytime and are not likely to accept working grueling hours under harsh conditions as men do (Green).

Mobility provides a boost of 2 percent in wage of US born Latinos. The effect is negative and significant for foreign born Latinos, reducing their wage by more than 4 percent. A likely reason is the entry level type of work. Occupational distribution shows a considerable percentage of US born Latinos in positions requiring higher skill (37%). On the other hand there is a considerable percent of foreign born Latinos in low skill positions (41%) with high turn over rates. Age is not significant. This may be because employers might be interested in Latinos' experience rather than their age *per se*.

Racial profiling has a negative effect on Latinos wage for foreign born. Racial profiling is reported by each police department and sheriff station around Missouri. In order to derive county

disparity indexes, police departments and county sheriff's data were averaged. When the regression is carried out using the highest disparity index value of each county (which was assumed to be the worse case scenario) the estimates for the variables are significant at one percent, and negative for both US born (2.1%) and foreign born Latinos (3.4%).

## **Conclusions and Implications**

This research focused on the opportunities and vulnerabilities of Latinos in Missouri, through the lenses of the immigration, well-being, and capability building. This framework is relevant as capitals, capabilities and the enabling environment are factors that affect well-being, measured here as earnings. Latinos are viewed under the umbrella of immigrants even though most are actually US born. However, more than 50% do not have good English proficiency, and have an average educational attainment just below the high school level.

US born Latinos living in Missouri have higher yearly wages when compared to foreign born. For Latinos in the lower skill category it is assumed that they are less demanding on the type of jobs that they take. This implies that Latinos have a lower reservation wage as compared to non-Hispanics, and a competitive advantage in accessing lower skill jobs.

English proficiency alone is not significant determinant of earning ability. One of the most important reasons is English proficiency characteristics might also be found in the educational attainment variable and thus being partially stripped of its importance. Potential work experience has the most important influence on wages, and therefore on wellbeing. The high turnover nature of low skilled jobs suggests that Latinos have to keep on moving in order to secure work that will allow them to get access to income – and mobility has been shown to have a negative influence on earnings. This might lead to the conclusion that Latinos do not move from one job to another or one county to another to get a better job but to merely have a source

of income. However, the results of this study are, as described above, at best conservative because undocumented Latinos are not captured. If the results are extrapolated to undocumented Latinos, the negative effect might have been even larger.

Racial profiling, or a non welcoming context, negatively influences the ability of Latinos to generate income in non-metro Missouri. This is a new element in understanding vulnerability, and ability to integrate. Understanding the facilitating institutions, which build the bridges should also be included. Racial profiling may be a lack of understanding of different cultural capitals and institutions, or it may reflect the attitude of the local community. Case studies should be used to understand the relationship between integration and context.

Some policy implications can be derived from these results. The education of new comers is not readily transferable to American society. A majority of the foreign born Latinos do not have good English ability skills, which has been shown to improve Latinos earnings when combined with education. Job and English training are factors that can increase income. An extension of the situation exposed above goes on to the creation of policies that support service organizations that build on the competencies of new comers in most of these non-metro Missouri areas. The results also seem to suggest that Latinos are in non-metro Missouri mostly due to the pull forces created by the employment opportunities generated by emerging businesses, which can not be fulfilled by the locals. Therefore, the institutions should intervene by helping create better context of reception in the receiving communities, by educating members on the negative aspects of prejudice and racial profiling, on the newcomers' livelihood. Additionally, Latinos have different cultural capital, which makes their interpretation of the law and law enforcing agencies differently. So, racial profiling works more as an inhibitor of their normal activities. Also the fact that the police now is being asked to act as immigration

agents only exacerbates Latinos vulnerability, given that now they will see the police as a deporting agent too. Therefore, law enforcement agencies should try to use ambivalent policies to protect the residents of the communities, rather than become immigration police. Finally, mobility has a negative impact on new comers' earnings. Moreover, for foreign born Latinos, experience has a very positive effect on their earnings. This suggests that policies that reduce mobility of newcomers, may contribute to gaining work experience, and creation of networks a social capital to reduce vulnerability.

## References

- Abalos, David T. *The Latino Male: A Radical Transformation*. Lynne Rienner Publishers, Boulder. 2002.
- Acosta-Belén, Edna. *From Settlers to Newcomers: The Hispanic Legacy in the United States*. In Acosta-Belén and B. R. Sjoström (eds.) *The Hispanic Experience in the United States: Contemporary Issues and Perspectives*, Praeger, New York. 1988.
- Bebbington, Anthony. Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty. *World Development*, 27(12): 2021-2044. 1990.
- Beck, Roy H. *The Case against Immigration: The Moral, Economic, Social, and Environmental Reasons for Decrease US Immigration Back to Traditional Levels*. W. W. Norton and Company Inc., New York. 1996.
- Bishop, J. H. Is the Test Score Decline Responsible for the Productivity Growth Decline? *American Economic Review*, 79, 178-197. 1989.
- Borjas, George. The Labor Supply of Male Hispanic Immigrants in the United States. *International Migration Review*, 17, 653-671. 1983.
- Borjas, G. and M. Tienda. *Hispanics in the United States Economy: Modern Views*. Kluwer-Nijhoff, Boston. 1985.
- Bowe, John. A Shameful Harvest. *The American Prospect* 14 (7) July, 2003.
- Browning, H. L. and N. Rodriguez. *The Immigration of Mexican Indocumentados as a Settlement Process: Implications for work.* In Borjas, G. J. and M. Tienda (eds.) 1985.

- Cafferty, Pastora S. J. *The Language Question*. In Cafferty, S. J. and D. W. Engstrom (eds.) *Hispanics in the United States*, Transaction Publishers, New Brunswick. 2000.
- Card, D. Earnings, Schooling, and Ability Revisited, *Research in Labor Econ*, 14, (1995): 23-48.
- Chambers, R. and G. R. Conway. *Sustainable Rural Livelihoods: Practical Concepts for the 21<sup>st</sup> Century*. Institute of Development Studies, London. 1992.
- Chiswick, B. R. and M. E. Hurst. Hispanics and the American Labor Market. In Cafferty, S. J. and D. W. Engstrom. (eds.) *Hispanics in the United States*, Transaction Publishers, 2000.
- Corbett, J. Famine and Household Coping Strategies *World Development* 16(9)(1988):1099-112.
- Davis, S. *Adaptable Livelihoods*. Claredon Press, UK. 1996.
- de Haan, Nicoline. Of Goats and Groups: A Study on Social Capital in Development Projects. In *Agriculture and Human Values*, 18, (2001): 71-84.
- Dreze J. and A. Sen. *Public Action for Social Security: Foundations and Strategy*. London School of Economics, 20, London. 1989.
- Engstrom, D. W. Hispanic Immigration at the New Millennium. In Cafferty, S. J. and D. W. Engstrom. (eds.) *Hispanics in the United States*, Transaction Publishers. 2000.
- Figueroa, J. B. A Comparison of Labor Supply Behavior among Single and Married Puerto Rican Mothers. In Melendez E., C. E. Rodriguez and J. B. Figueroa. (eds.) *Hispanics in the Labor Force: Issues and Policies*, Plenum Press, New York. 1991.
- Flora, Cornelia B. Access and Control Issues: Lessons from the SANREM CRSP. In *Agriculture and Human Values*, 18, (2001): 41-48.
- Green, J and E. Barham. 2003 Globalization and Latino Labor: Labor Advocates' Accounts of Meatpacking in Rural Missouri. *Latinos in Missouri Occasional Paper Series*. MU Columbia.
- Green, Gary P. Gender, Race and Employer-Provided Job Training in Low Wage Jobs. *Cultures, Governance and Rural Poverty in the Midwest* May 25-27, 2004, Chicago, IL.
- Grenier, G. The Effects of Language Characteristics on the Wages of Hispanics-American Males. *Journal of Human Resources*, 17, (1984): 358-370.
- Heckman, J. J. A Simple Selection Bias a Specification Error. *Econometrica* 47(1979):153-162.
- Hernandez, Hector. The Older Chicanos: Visions and Perspectives. In *Contemporary Issues*, 12, (1981): 34-44.
- Kansas State Historic Society. 2004.

- Lazos, Sylvia R. The “War on Terrorism,” and Immigrants: Legal Challenges Post 9/11. *Missouri Law Review*, 67 Mo. L. Rev. 775. 2002
- Lazos, Sylvia R. and Steve Jeanetta. *Cambio de Colores: Immigration of Latinos to Missouri*. University of Missouri-Columbia. 2002.
- Lazos, Sylvia R. Crouching Tiger and Hidden Jaguar: The Future of Latinos in the U.S. A Paper presented in the In Cambio de Colores 2004 Conference, UMSL. St. Louis MO.
- Martin, P., Elizabeth M. Immigration to the United States. *Population Reference Bureau*. 1999.
- Martin, P., Jonas W. International migration: Facing the challenge. *Population bulletin*, vol. 57, 1. 2002.
- McDonough, K. and A. Korte. Hispanics and the Social Welfare System. In Cafferty, S. J. and D. W. Engstrom (eds.) *Hispanics in the United States*, Transaction Publishers. 2000.
- McManus, W., W. Gould and F. Welch. 1983. Earnings of Hispanic Men: The Role of English Language Proficiency. *Journal of Labor Economics*, 1, 101-130.
- Melendez E., C. E. Rodriguez and J. B. Figueroa. Hispanics in the Labor Force: An Introduction to Issues and Approaches. In Melendez E., C. E. Rodriguez and J. B. Figueroa (eds.) *Hispanics in the Labor Force: Issues and Policies*, Plenum Press, New York. 1991.
- Morduch, J. Income Smoothing and Consumption Smoothing. *Journal of Economic Perspectives* 9(3) (1995): 103 – 114.
- NCLR. National Council of La Raza report. 2004. Washington D.C.
- Ortiz, V. Latinos and Industrial Change in New York and Los Angeles. In Melendez E., C. E. Rodriguez and J. B. Figueroa (eds.) *Hispanics in the Labor Force: Issues and Policies*. 1991.
- Office of Social and Economic Data Analysis (OSED). Demographic Profiles. [http://mcde2.missouri.edu/websas/dp1\\_2kmenus/mo/Counties.html](http://mcde2.missouri.edu/websas/dp1_2kmenus/mo/Counties.html)
- Portes, A. “Economic Sociology and the Sociology of Immigration: A Conceptual Overview.” In Portes, A. (ed.) *Economic Sociology of Immigration*, Russell Sage Foundation, NY. 1995.
- Portes, Alejandro and Ruben G. Rumbaut. *Legacies: the Story of the Immigrant Second Generation*. University of California Press, Los Angeles. 2001.
- Putnam, R. D. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press, Princeton, NJ. 1993.
- Reimers, Cornelia W. A Comparative Analysis of the Wages of Hispanics, Blacks, and Non-Hispanic Whites. In Borjas, G. J. , M. Tienda (eds.) *Hispanics in the U.S. Economy*, 1985.

- Rivera-Batiz, Francisco L. Effects of Literacy on Earnings of Hispanics. In Melendez E., C. E. Rodriguez and J. B. Figueroa (eds.) *Hispanics in the Labor Force: Issues and Policies*, 1991.
- Roberts, B. R. Socially Expected Durations and the Economic Adjustment of Immigrants. In Portes A. (ed.) *Economic Sociology of Immigration*, Russell Sage Foundation, NY. 1995.
- Roderick, Melissa. Hispanics and Education. In Cafferty, S. J. and D. W. Engstrom (eds.) *Hispanics in the United States*, Transaction Publishers, New Brunswick. 2000.
- Rodriguez, Clara E. The Effect of Race on Puerto Rican Wages. In Melendez E., C. E. Rodriguez and J. B. Figueroa (eds.) *Hispanics in the Labor Force: Issues and Policies*, 1991.
- Rosenbloom, Joseph. Victims in the Heartland. *The American Prospect*, 14 (7), July, 2003.
- Rosenzweig, M. and H. Binswanger. Wealth, Weather Risk and the Composition and Profitability of Agricultural Investments. *The Economic Journal* 103 (1993): 56-78.
- Rupasingha, A. and S.J. Goetz. The Causes of Enduring Poverty: An Expanded Spatial Analysis of the Structural Determinants of Poverty in the US. NRCRD, Penn State University. 2003.
- Sen, Amartya. *Poverty and Famines: An Essay on Entitlement and Famines*. Clarendon Press, Oxford. 1981.
- United States Bureau of Census. Census of the Population and Housing, 2000. *Public Use Microdata Sample, United States, Technical Documentation*, Washington D.C. 2003.
- Valdés, Dionicio N. Barrios Norteños: St. Paul and Midwestern Mexican Communities in the Twentieth Century. *Cambio de Colores*. 2002.
- Vasquez-Case, C. and Rex Campbell. A Study of Minorities in Selected Non-Metropolitan Communities in Missouri. Dept. of Rural Sociology, Univ of Missouri-Columbia. 2003.
- Willis, R.J. Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings functions. In Ashenfelter, O. and R. Layard (eds.) *Handbook of Labor Economics*. North Holland Publishing, Amsterdam. 1986.
- Wirth, Jim. The Story of the Hispanic/Latino Experience in Southwest Missouri: Survey of Latino Adults, Latino Youth, and non-Hispanic Service Providers/Community Residents. University of Missouri Outreach and Extension, Springfield, MO. 2001.
- Ziebarth, Ann. Housing Policy in a Cultural Context. Paper presented at the conference on Cultures, Governance and Rural Poverty in the Midwest, May 25-27, 2004, Chicago, IL.

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