Title
The car, immigrants and poverty: implications for immigrant earnings and job access

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The car, immigrants and poverty: implications for immigrant earnings and job access.[1]

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Abstract

There is an implicit, and often explicit, policy view that cities need to provide increased public transit and access to that transportation for low-income and immigrant populations. In this perspective, only by providing increased access to public transit will society overcome the travel problems for these disadvantaged populations. Still, studies of mostly welfare populations have suggested that while public transportation is not unimportant, the car is a critical factor in moving from welfare to work. This paper extends that work by examining the job access behavior of both the low-income population in general and the foreign born population. How much do low-income households in the Los Angeles metropolitan area use public transportation in their journey to work? Are the foreign-born population public transportation users and can we determine the relative trade-off of public transit and car use by these households? We show that the car provides a real gain for low income and foreign born populations but that the gain is not without a potential wider problem – many poor and foreign born populations use the car without the full societal costs as large proportions of these populations use the car without carrying car insurance. We conclude that the gains may well be a mixed blessing if there are gains to these poor and foreign born populations but the costs are born, at least in part by society at large. .

1.0 Introduction

There is an increasing interest and research on how low-income populations use transportation in general and public transportation specifically. Most of that research has been concerned with the welfare population, as there has been significant policy interest in how this population can be re-introduced into the workforce. That research has mainly tended to use the spatial mismatch paradigm as the focus of examination. Now, not only are there questions about the relevance of the spatial mismatch thesis, there is mounting evidence that the car may be a more critical component of access to work for welfare populations than is public transportation. None of this is to argue that public transportation is not important for low income and welfare populations but the focus on public transportation needs to be balanced by a general concern with access to transportation in general. The obvious extension of the work to date is whether the findings for welfare populations are relevant for low-income populations more generally. In this study we pose the question, how much do low-income households in the Los Angeles metropolitan area use public transportation in their journey to work? Are the foreign-born population particularly heavy users of public transportation and can we determine the relative trade-off of public transportation and car use by these households? In addition, if there is a tendency to increasingly rely on the car for job access, are their wider social implications of car dependence?

The research hypotheses are generated out of a literature which has been concerned with the locational choices of immigrants and if and how these choices are sensitive to public transportation (Cutler and Glaser, 2005). The hypotheses also reflect

the attempt to understand the trade-offs between public transportation and car pooling (Pisarski, 1996) and the relative impacts of the use of the car on earnings and access to employment (Blumenberg and Ong, 2001). How much does car access increase earnings for those who are employed – is there a beneficial gain from auto use alone? Is there a "car-benefit" to earnings and how much is it? From other research we know that transit use is associated with lower earnings but we know much less about the relative gains in earnings from automobile use. As a part of this research we examine where Hispanics are working and whether the notions of spatial mismatch are relevant to Hispanic immigrant employment.

The paper has three main sections – (1) an examination of the relative use of public transportation and the automobile, (2) an analysis of the relative gains from car use and (3) a discussion of the wider issue of the social costs of car use – something which has not been undertaken in previous research.

2.0 Previous work and context

Two questions have dominated recent research on urban form and access to jobs – the first examines the issues of the spatial mismatch, that there is an increasing geographical division between the location of low-income households and low-income jobs and that minority households in particular are disadvantaged by their inner city locations as jobs have decentralized into the suburbs. As a sub- text the research asks about whether or not public transit can address an imbalance between housing and job

locations especially for low-income households. A second question focuses on what are the gains, to earnings, from car use.

The spatial mismatch research was driven by a concern with whether or not minorities and women paid a commute penalty in their travel behavior. Much of the literature on the spatial mismatch focused on black inner city communities and the way in which suburbanizing jobs may have disadvantaged black workers (Ihlanfeldt, 1998; Press, 2000; Stoll, 2000). In general the early work supported the notion of a disadvantage for inner city low income residents and especially for women. However, recent work which re-examined the question of whether or not longer commutes involved a commute penalty for women; that is, do women who commute longer distances earn less than men and women who commute shorter distances, did not find a negative effect for women (Clark and Wang, 2005). Data from the Los Angeles Family and Neighborhood Survey showed that earnings increased with increased commutes (distance) and it was true for both women and men. As expected, Latinos earn less than whites and of course there is a penalty for using public transportation but interestingly there is no penalty for being foreign born. Overall, the commute distance has a positive relationship with earnings but public transportation has a negative effect on income, more for men than for women and more for foreign born women than for Hispanic native born women. This suggests that the spatial mismatch is more complicated than often suggested and that if anything it may not be so much a mismatch between jobs and houses as a geographical disadvantage, but as others have suggested, a disadvantage generated by relatively slow,

inflexible and limited public transit services (Shen, 2001, Taylor and Ong, 1995, Ong and Miller, 2005).

It is that latter issue, the role of how "disadvantaged" populations commute to work and particularly the relationship of public transportation versus the car in the journey to work which is the focus of this research. As we noted earlier most of the previous research has tended towards questions of car use by welfare recipients especially because low-income households receiving Temporary Assistance for Needy Families (TANF) have quite low rates of automobile ownership. Even within the studies of welfare recipients however, there is a debate between those who found improved accessibility with public transit and those who emphasize the role of the auto in generating improved access. Sanchez (1999) found that access to public transit was a significant factor in improving average rates of labor force participation. Ong and Houston (2002) too, found that single women on public assistance who did not have autos benefited from transit access and that the level of transit service near a recipient (welfare) home makes a "moderate, yet statistically significant contribution to increasing the probability of employment and transit use for work-related trips. In contrast, other studies have tended to down play the role of public transit vis a vis autos. A more recent study by Ong and Miller (2005), using aggregate data, suggests that simply adding transit routes of additional service on existing routes may not be enough to overcome transportation barriers to employment (p.53). They find, that car ownership contributes to improved labor market outcomes for welfare populations.

Deciding how much the car contributes to increased labor force participation and increased earnings is complicated by the question so simultaneity between employment outcomes and household cars. Quite clearly cars can contribute to higher employment rates and higher wages but it is also possible that full employment and higher wages allow workers the resources to purchase cars. It is important not to overstate causality. Early work did not specifically address the simultaneity issue (Ong, 1996) but later papers have provided some creative attempts to address the issue especially for the welfare to work population, including Ong (2002) and Gurley and Bruce (2005). Still, as they note, it is difficult to come up with the data to fully implement a two stage least squares or instrumental variable approach.

Still, the research with OLS models does show evidence of gains for automobile use. In an extensive review of the literature on access and transit use, again mostly focused on welfare recipients, Blumenberg (2004) finds that the literature provides mounting evidence that low-income travelers accrue significant benefits from driving automobiles. Private vehicles typically increase the number of available jobs within a reasonable commute distance (Blumenberg and Ong, 2001). Blumenberg following Law (1999) suggests that there is a need to move beyond the journey to work and think more broadly about the relationship between gender and daily mobility. At the same time while the research may provide additions to our understanding of how the car plays a role in access to employment and to the gains in wages, there are some serious “downside questions” about the use of the car by low income and foreign born populations which we explore in the final section of this paper.

In recent and comprehensive work Cervero et al (2002) conclude, "private mobility is more important than public mobility in getting inner-city residents completely off welfare and into gainful employment" (p.61). Still, they also concluded that "those who were within walking distance of bus and rail stops were better able to reach job opportunities". However, it is clear that Cervero and his colleagues are concerned that the research will generate further negative views of the value of public transportation and the importance of the findings based on one county in California deserve more extended analysis. Thus, this paper does extend an evaluation of car use[2] and a relative evaluation of car use versus public transportation but it also takes up a heretofore hidden dimension of car use by low income populations. Is car use without other social costs?

The present study generalizes the Cervero findings from one Northern California County and elaborates the Ong and Miller (2005) study of car use for welfare populations. An issue in their study is the problem caused by the multi-collinearity in the aggregate census tract data. The individual data used in this paper overcomes the multi-collinearity problem and provides data on the individual gains and their size when the car is used versus public transportation. The study can be used as a confirmation of the Ong and Miller findings and an extension of the Cervero et al (2000) results. Overall the research advances our understanding of just how public transit and car use vary in low-income and foreign-born populations.

[2] We recognize that access is not simply the presence of a car, it is also related to the number of adults or drivers which we will explore in additional research.

3.0 Data and research strategy

The data used in this analysis is from the first wave of the Los Angeles Family and Neighborhood Survey (LAFANS), a longitudinal study of families in Los Angeles County[3]. The first wave of interviews with approximately 6000 residents in 3500 households was completed in January 2002. The survey encompasses households in 65 neighborhoods distributed across Los Angeles County. Approximately 40 to 50 households were selected from each neighborhood (census tract). Thus, the data set includes a very diverse sample from the 88 cities within Los Angeles County. The LAFANS is a stratified random sample designed to over-sample poor and very poor tracts. Twenty tracts were chosen from the very poor, twenty from the poor strata and 25 tracts to the non-poor stratum. The probability that a tract was included in the LAFANS sample differed across the three strata.

The LAFANS survey has a number of distinct modules dealing with health, residence, education and neighborhood perception but in this research the data is drawn primarily from the modules that examine household composition, housing structure, workplace and residence location and changes in those locations. The first module, the roster, includes information for all part-time and full-time residents of the dwelling unit, including relationships among household members and basic characteristics of all household residents (e.g. age, ethnicity, and education). The household questionnaire collected information on income of family members from all sources during the

[3] This section draws heavily on Sastry et. al. (2003). For a more detailed description of the survey process, including the constructions of weights, their article is available at www.lasurvey.rand.org.

preceding calendar year, and on assets of respondent and spouse/partner. The adult questionnaire collected information about the family background, educational history, fertility and relationship history, social ties, residential history, employment, welfare, and health status. The sample is predominantly Latino and white, although Asian and Black households are included. When the data are weighted the sample is broadly representative of the Los Angeles County population. The sample is diverse as is the County of Los Angeles. The data set provides an opportunity to consider job access in a multi-ethnic context and evaluates differences which occur across ethnicities. Because the data are geocoded both to the tract and to individual street addresses we can calculate exact distances traveled and relate these distances to employment and earnings.

Specific research questions

The research is built around two pairs of questions:

(a) Do immigrants use public transport significantly more than the native born and does poverty interact with public transportation use?
(b) Are there differences in levels of employment for those with a car and without? Does the car increase the chance of being employed?

(c) Does car ownership increase earnings for those who are currently employed?
(d) How much does car ownership contribute to increased wages?

4. Analysis

The car versus the bus- does public transportation matter?

The quick answer to the question of public transportation use by foreign and native born populations - is that it matters but only at the margin. The majority of job trips in Los Angeles County are by car, although there are fewer by car for Hispanics, both native and foreign born, than for the white population as a whole. Table 1 presents the weighted breakdown of commute modes. We provide data on car and public transport use by the white population (native and foreign born) as a context for our analysis of the Hispanic population in Los Angeles County. There are no surprises for the white population - the majority of the currently employed, native born or foreign born use the car to commute to work. For people that work fulltime, the percentage is around ninety percent for both the foreign born and the native born. For part time employees, 87% of the native born use the car for commuting purposes, which is 6% higher than the foreign born.

For the Hispanic population, the real difference in mode use revolves around whether or not it is full time or part time work as well as native born and foreign born. Public transportation is more important for the foreign born than the native born – nearly eight times more important for Hispanic foreign born full time workers. But the most striking feature of the table is the difference between part-time and full-time workers. While there is about a 15 percent fall off in car owner trips to work for Hispanic native and foreign born , that fall off for the part-time workers is to just above 50 percent of the

trips by car owners for part-time workers. In addition, a new finding is that the native born, including full time workers and part time workers, are more inclined to use "other modes"--- (main modes: chauffeured (carpool) 35%, working at home 25% and walking 21%)--- than the foreign born, although all the proportions as well as the differences are relatively small.

The public transportation alternative - largely a bus alternative in Los Angeles is also not prevalent among Hispanic populations, although more so than the White populations. As we noted above, nearly three quarters of the foreign born and native born Hispanic populations who work fulltime use the car to get to work but only about half of those in parttime work also use the car. Public transportation use is significantly higher for parttime work and higher for the foreign born but it is still a quite small proportion of the total transportation picture. The answer to our first question is clearly yes, immigrants are more likely to be dependent on public transportation, but at the same time only 10 percent of Hispanic foreign born fulltime workers use public transportation. Clearly, there is a difference in use but the actual proportion is relatively small in the larger picture. The car makes up the major share of the transportation matrix. Perhaps what is of real interest is the use of "other modes"-(main modes: chauffeured 43%, car pooling 17% and walking 20%). Their proportions are higher than public transportation for full time and parttime workers, although the difference between parttime and full time workers is notable. For both the native born and the foreign born Hispanics, one third of the part-time workers use neither the car nor the bus. Foreign born part timers are twice as likely

to use other modes to work than the fulltimers whereas the native born part timers are only about fifty percent more likely than the full time workers.

The patterns described for the Hispanic population as a whole is replicated at somewhat lower levels for the Hispanic population in poverty (family yearly earning less than $18,000). The car is still the major means of transportation. More than 60% of full time workers still use the car to work. This is a finding that confirms the work we reviewed about poverty and welfare populations in general, but again it is the foreign born population which is most dependent on modes other than the car. About one fifth of all the foreign born fulltime and part-time workers use public transportation in their journey to work. It is this finding which constitutes the basis for arguments about the role and importance of public transportation for disadvantaged populations. While this finding re-emphasizes the role of public transportation, again it is notable that about a quarter of the fulltime and around 40 percent of the part time employed who are in poverty use some other form of transportation to get to work.

The car and employment – how much does car matter for employment?

The results from the above section also throw light on the issue of whether the car matters in the likelihood of being employed. If we examine the weighted proportion of workers with a car and a job across ethnicity and foreign and native born we find that while there is a small difference between Hispanic and white populations in fact less than

10 percent of all households are without a car and a job (Table 2). Of Hispanics with a job only 17 percent did not have a car. The proportion is even lower for whites – less than 8 percent. These numbers decline for those who have worked in the past year, not just those who are currently employed. Between the native born and foreign born, the proportions of populations lacking a car and a job are very close across ethnicity, however, the foreign born have higher proportions of those without car but a job than the native born. For the White population, the proportion is 13% for the foreign born compared with 7% for the native born. For Hispanics, the proportions differ by 8% with 19% for the foreign born and 11% for the native born.

In order to evaluate statistically the effect of car use on employment, we construct binomial logit regression models to examine how standard compositional measures-education (college vs. non-college), age, language (English vs. Spanish), household head (female headed vs. male headed), citizenship, foreign born, car ownership and occupation (professional vs. non-professional) influence the likelihood of a person's employment. The model predicts two possible outcomes (employed vs. unemployed). Unemployed is used as the reference group for the dependent variable (Table 3). Again here we use white population as a context for our analysis of the Hispanic population in Los Angeles County and the results are proportionately weighted.

For white population that were employed last year, the results indicate that education, citizen, car and occupation increase a person's likelihood of being employed (Table 3). People with some college education and above are 1.5 times more likely to

have a job in the past year than those without any college education. Being a citizen makes one 3.6 times more likely to have been hired in the past year. Owning a car doubles the likelihood of having a job and a professional is 3.7 times more likely to be employed than a non-professional. Age and foreign born are the last two significant variables in the model. Both of them decrease the likelihood of employment.

For all Hispanics employed in the past year, citizen, foreign born, owning a car and professional occupation are all significant as is education. The car increases the likelihood of being employed in the past year by 2 times. Interestingly the likelihood of being employed does not go up with being a citizen but it is positively related to being foreign born. This maybe simply a fact of the now very large foreign born Hispanic population. For the Hispanic foreign born the likelihood of being employed is again lower for citizens but higher for those with professional occupations. The car is significant, though the odds ratio is lower than that of the Hispanics as a whole. Owning a car is 1.4 times more likely to be employed for the Hispanic foreign born. Age and education are marginally influential at the .10 significance level.

Because a very large proportion of foreign born Hispanics are concentrated in inner city neighborhoods, we examine the model of employed in the past year for inner city versus suburban neighborhoods. Only the car, language and occupation increase the likelihood of being employed in the past year for inner city communities while for the peripheral regions being foreign born and not a citizen also play a role. The most

important measure for this analysis is that owning a car doubles the chance of being employed in the past year for people from both inner city and suburban neighborhoods.

Car ownership and earnings

Again the initial answer to whether earnings increase with car ownership is yes, and the increase is substantial. To more accurately find out the extent, we use ordinary least squares (OLS) models to examine how the factors mentioned above affect a person's log weekly wage. The results of the weighted OLS models are presented in Table 4.

For the white population that are currently employed, age, car and occupation are the only significant indicators and the R-square value is fairly low. The model can only explain 10% of the variability of the log wage. Owning a car increases the wage 1.7 times when holding other variables constant. For the Hispanic population as a whole that are currently employed, speaking English increases the log wage and female head decreases the log wage. The log wage is positively related to citizenship and negatively related to being foreign born as we would expect. Being a citizen raises the weekly wage 1.5 times and being a foreign born decreases the weekly wage 1.2 times. Car is again a critical variable in the size of the wage. Owning a car increases a person's wage 1.5 times when holding other independent variables constant. Not surprisingly having a professional occupation increases a person's log wage.

For the Hispanic foreign born population currently employed, the results are in the same directions as those for the Hispanic population as a whole. Wages increase with being able to speak English, with not being a female head, with citizenship, with owning a car and with professional occupation. Citizenship and car ownership are equally important in increasing wages, by 1.5 times independently when other variables are held constant. Regarding the currently employed Hispanic population in the inner city vs. the suburban communities in Los Angeles, the car and occupation increase wages for people from both locations. The car raises earnings 1.5 times in both models. In the inner city, being foreign born increases wage income. On the contrary, in the suburbs, being a citizen increases income whereas being foreign born decreases earnings. Among all five OLS models, the model for the Hispanic population in the inner city has the highest R-square and explains 43% of the variability of the earnings.

Owning a car and the social implications for transportation to work

We have demonstrated the advantages of owning a car for improving wages and employment. For low income households and foreign born households, while the advantages are clear, there are of course significant costs associated with car ownership including the cost of insurance. Some data suggest that in fact low income households may be reducing their transportation costs by not insuring their cars with the associated contextual problems for drivers and residents in general.

California collects data on vehicle registrations and insured vehicles and provides that data at both county and zip code levels (State of California, Insurance Commissioner, 2002). In 2001, the most recent year for which data is publicly available, there were approximately 22 million vehicles registered in California and approximately 16 million were insured. The uninsured rate was about 21 percent.

The aggregate rates of insurance vary considerably across zipcodes in Los Angeles County. There are central city zip codes with uninsured rates over 50 percent while most suburban zipcodes have aggregate insurance rates of well over 90 percent. For the present paper the question is about the relationship of concentrations of foreign born populations, proportions in poverty and uninsured rates, and the implications for society in general from the use of uninsured cars in the journey to work. The data is aggregated by zip code and not individual data, but it is possible to provide some general observations on the relationship between the geography of uninsured rates and the geography of poverty and the foreign born and without examining specific costs to make some comments on the wider implications of the inter-relationships.

Correlations of the proportion without insurance and the proportion foreign born and in poverty across zip codes, and cross classifications of poverty and foreign born status reveal some of the potential problems underlying the complexity of the links between poverty, citizenship and the foreign born population (Table 5). The correlation coefficient of uninsured owners and poverty is .82, and between uninsured owners and being foreign born is .64. While these are ecological correlations their very size suggests

that they are real representations of the patterns of car ownership and insurance. Not surprisingly, as the proportion in a zip code who are in poverty and/or foreign born increases, the likelihood of being uninsured also increases. While 8 to 10 percent of individuals do not have insurance when less than 10 percent of the population is in poverty and or are foreign born, that outcome changes to more than 60 percent when 30 percent of the population is in poverty or are foreign born. We can emphasize the extreme outcomes by noting that when more than half the population of a zip code are foreign born and are also 40 percent or more in poverty then the proportion without insurance reaches more than three quarters of the drivers in that zip code. This is the cloud to the silver lining of improved access with the car. The car does improve access to jobs and increased wages, but if the outcome is also driving without insurance to meet the costs of car transportation, then the costs of car use are being passed on to society in general. Large numbers of poor, foreign born residents do not carry insurance – some because they cannot afford the costs, others because they may choose to chance the risks of driving without insurance and still others who cannot access insurance because they do not have documentation. While we may find the increased earnings with car use to be a positive outcome, the cost of uninsured drivers is a very real wider societal cost.

There are two relevant points about the social costs of insurance. First, insurance is required for automobile registration in California and there is now California Low Cost Auto Insurance Program. The program was initiated with a pilot program in Los Angeles and has now, as of the Fall 2007), been extended to all California counties. The issue in the program is the uptake rates and there is still insufficient data to know if the program will go some way to solving the social issues of under- insurance. Second, many

uninsured cars are only marginally functional and because they are unregistered people are less likely to use them on a regular basis and this in turn lowers the effectiveness of these cars in terms of spatial access.

5. Observations and conclusions

The ongoing debate about public transportation versus the car as means of job access is a central component of understanding the access of low income and new immigrant populations. The general tendency to come down on the side of the increased advantages of car ownership and use for improved access and increased wages is confirmed in this study, as in several recent studies of the welfare population. It is clear in this study as in the other research that low- income populations overcome the work residence separation by the car and thus the calls for more transit, especially for inner city populations need to be tempered with the reality of our modern transportation systems. .

The findings show that although public transportation use has a bearing on employment, especially for immigrants, its effect is minimal. On the contrary, the car plays a much more important role in aiding low income populations in accessing work and increasing their income. Nearly three quarters of the native and foreign born Hispanic fulltime workers use the car as their means of transportation to work. These numbers stay high even for the poverty population, where almost 60 percent use the car for the journey to work. While the foreign born Hispanic population is close to eight times more likely to use public transportation than the native born, the actual proportion using public

transportation is less than 10%. Other modes, primarily chauffeured, car pooling and walking account for higher proportions than public transportation. The data for the poverty population shows a similar pattern. The car also doubles the chances of being employed for the Hispanic population in general and increases the chances 1.4 times for the foreign born population. For the Hispanic population, both native and foreign born, the car significantly increases wages, by fifty percent.

There is no question that households continue to struggle with the commute, especially low-income households who even if they have a car are concerned about reliability and public transportation may be an important back-up for such households. The discussions of congestion, and the surveys that document the increasing problems surrounding the daily commute, are only the surface manifestation of one of the continuing crises of residential responses in large urban areas. The research from this paper shows that low-income populations are using the car and are more likely to use the car than public transportation. Public modes may be an important backup but it is the car which is critical in having a job and in having higher wages in Los Angeles County.

At the same time the research suggests a hidden problem in the turn to automobile use by low income and foreign born populations. While we have only aggregate data on insurance use by geographic area the aggregated data for Los Angeles County shows that many of these low income and poor car owners and users are minimizing their costs by not insuring their cars. The implications for overall car use costs and the costs to other car users are obvious. The costs of commuting without insurance can only be measured by

accident and other measures of social costs. Until we have those data we cannot compute the real costs and benefits of car use versus public transportation. That the foreign born and undocumented population is an increasing proportion of the large California metropolitan areas makes further research on car use and its relationship to alternative transportation uses even more relevant.

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Table 1 Commute modes by foreign and native-born

a. Percent White Currently employed by foreign and native-born*

		car to work	Use public transportation to work	Other mode
Foreign Born	Fulltime	89.1	6.5	4.4
	Parttime	80.7	12.9	6.5
Native Born	Fulltime	92.3	0.8	6.9
	Parttime	87.0	1.9	11.1

b.Percent Hispanic Currently employed by foreign and native-born

		car to work	Public Transportation	Other mode
Foreign Born	Fulltime	73.4	9.9	16.7
	Parttime	53.2	13.5	33.3
Native Born	Fulltime	75.7	1.2	23.1
	Parttime	59.2	7.0	33.8

c. Percent Hispanic Currently employed in poverty by foreign and native-born

		car to work	Public transportation	Other mode
Foreign Born	Fulltime	59.5	18.5	22.0
	Parttime	37.0	20.4	42.6
Native Born	Fulltime	70.2	2.7	27.1

Parttime	48.3	13.8	37.9

* We also calculated the percentages for currently employed in poverty for White by foreign born and native-born, however, the observation numbers are too small to make the comparisons meaningful, therefore the results are not reported here.

SOURCE: Los Angeles Family and Neighborhood Survey, 2001

Table 2: The relationship of car and employment by White and Hispanic

		No car/no job(%)	No car/job (%)
White	All	4.3	7.6
	Native born	4.3	6.9
	Foreign born	3.4	12.7
Hispanic	All	7.7	16.9
	Native born	7.1	10.8
	Foreign born	7.8	19.1

SOURCE: Los Angeles Family and Neighborhood Survey, 2001

Table 3: Estimated coefficients and odds ratios for five binomial logit regionssion models

	White		Hispanic		Hispanic-Foreign Born		Hispanic-Inner city		Hispanic-Suburb	
Parameter	Estimate	Odds Ratio	Estimate	Odds Ratio	Estimate	Odds Ratio	Estimate	Odds Ratio	Estimate	Odds Ratio
Intercept	7.11		0.37		0.86***		1.18*		1.80***	
Age	-0.02***	0.98	0.00	1.00	0.01	1.01	-0.00	1.00	.00	1.00
Education	0.42**	1.52	0.23*	1.25	0.20	1.22	-0.19	.83	0.23*	1.26
Language	-6.32	0.00	-0.05	0.95	0.07	1.07	0.78*	2.17	0.09	1.09
Female Head	-0.04	0.96	0.04	1.04	-0.19	0.83	-0.10	0.90	0.03	1.03
Citizen	1.29*	3.63	-0.64***	0.53	-0.56***	0.57	-0.02	0.98	-0.77***	0.46
Foreign Born	-1.18*	0.31	0.48**	1.62	------	------	-0.57	0.57	0.66***	1.93
Car	0.71***	2.04	0.79***	2.13	0.32**	1.38	0.71***	2.04	0.79***	2.20
Occupation	1.33***	3.77	2.00***	7.36	2.37***	10.67	1.5*	4.38	2.11***	8.20

*p<.05. **p<.01. ***p<.001.

Table 4. Parameter estimates for of log wages for currently employed

	White	Hispanic	Hispanic-Foreign born	Hispanic-Inner city	Hispanic-Suburb
Intercept	6.05***	6.50***	5.42***	7.06***	6.34***
Age	0.01***	0.00	-0.00	-0.00	0.00
Education	0.02	0.00	-0.06	-0.03	-0.02
Language	-0.53	0.13*	0.15**	-0.61***	0.06
Female Head	-0.19	-0.14*	-0.18*	-0.13*	-0.12
Citizen	0.15	0.40***	0.40***	-0.07	0.56***
Foreign Born	-0.25	-0.39***	------	0.27***	-0.61***
Car	0.51***	0.42***	0.42***	0.40***	0.43***
Occupation	0.36***	0.28***	0.39***	0.25***	0.39***
R-Square	0.10	0.31	0.34	0.43	0.32
Adj R-Sq	0.09	0.31	0.34	0.42	0.31

*p<.05. **p<.01. ***p<.001.

TABLE 5: Percent of drivers without automobile insurance by poverty and foreign born status in Los Angeles County

		Percent in Poverty in Zipcode				
		<10	10-20	20-30	30-40	40-50
Percent Foreign Born in Zipcode	<10	8.5	15.7			
	10-20	20.7	32.6	11.0		
	20-30	19.1	34.7	39.4	68.8	74.8
	30-40	22.2	36.5	55.7	75.9	
	40-50		40.7	52.0	73.3	89.1
	50-60		42.1	58.5	67.8	88.3
	60-70		73.3	48.7	64.5	76.0
	70-80			59.9	68.4	

Source: State of California, Commissioner of Insurance