An Analysis of Income Inequality and U.S. City Growth

Earl L. Della Barca
The College of New Jersey

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Abstract

This paper examines the relationship between income inequality and economic growth in cities. Prior research has focused only on the country or state level. Also, previous research on countries has found contradicting conclusions in the inequality/growth link. Using data from the 1980 and 2000 Censuses, I investigated income inequality in the 99 largest cities in the United States (by population) as it is related to income growth, population growth, percentage of the population with a college degree, percentage of the population employed in manufacturing, percentage of the population unemployed, percentage of the white population, percentage of the population age 65 and up, and percentage of households headed by a female. The analysis suggests that having a college degree is the most consistent way to decrease inequality. Another somewhat consistent determinant was the percentage of the population age 65 and up: the older one gets, the poorer one becomes. Overall, the findings have interesting policy implications for city politicians.

1. Introduction

The consequences of economic growth have been a topic of debate for economists and politicians for years. Economic growth raises living standards and provides better employment opportunities. However, the effect of growth may be uneven across members of the population: some may benefit, others may not. Thus, a major disadvantage of growth is that it might lead to higher levels of income inequality. Previous research has primarily focused on income inequality and growth at the country or state level. However, it is of equal importance to look at these phenomena in cities. Cities are critical gathering points of economically diverse residents. Some of the poorest people in America, as well as some of the richest live in cities. City politicians must balance the growth of their city against the prospects of greater income inequality.

Prior research on countries has found contradicting conclusions in the inequality/growth link. Some studies found that growth hampers inequality, while others find the two are positively correlated. Most analyses of cities center on either the determinants of economic growth, or inequality between cities and suburbs. However, not many studies have looked at the income-distribution and economic growth linkage in cities. This study compares the inequality in cities to key aspects of growth such as income growth, population growth, education, employment in the manufacturing sector, race, unemployment, age, and family structure. The findings suggest that education is the most consistent variable that determines the percentage of households in the lowest or highest income category. The results for education and some other variables have many public policy implications for city politicians. Some of the most interesting results include the effects of female headed households and employment in the manufacturing sector on income inequality. Surprisingly, an analysis over time revealed that it is easier to

explain the factors which place households in the lowest quintile than which factors are important for the highest quintile.

2. Literature Review

There is a shortage of literature regarding the linkage between income inequality and economic growth. Some studies, such as Levernier et al. (1998) and Wheeler (2004), focus on Metropolitan Statistical Areas (MSA), which are generally counties, to examine any income inequality and economic growth links. Levernier et al. (1998) studied U.S. family income inequality using 1990 Census data for 3109 counties in the 48 contiguous states. This paper also used MSAs and nonmetropolitan counties to examine the relationship between income inequality and structural economic change. It initially suggested that counties that undergo larger industry reallocations also may have greater inequality. Income inequality was measured using both family-income Gini coefficient and the variance of the log of family income. The results showed that, even after accounting for differences in observable county characteristics, central city MSA counties and single-county MSAs had more family income inequality than nonmetropolitan counties. In addition, suburban counties had the least amount of income inequality. It also found that the restructuring of industries is a direct cause of income inequality. Structural change increases income inequality for about two to five years, but the effects disappear after 5 years.

Wheeler (2004) analyzed the connection between the growth of three measures of economic activity – population, employment, and real per capita income – and three measures of wage inequality – overall, residual, and between-education-group – across a sample of US metropolitan areas over the years 1970, 1980, and 1990. Wheeler examined Census data and

worker earnings. He only looked at white males between the ages of 18 and 65, who worked at least 14 weeks in the previous year, were not in school, and earned at least 67 dollars a week. This is an extremely narrow focus.

Wheeler concluded that despite some differences in the strength of the relationship in certain situations; growth reduces inequality. Wheeler compares his results to a few existing theories. His results are consistent with theories based upon human capital accumulation. In other words, more human capital drives urban growth. He states that the results are also compatible with a migration-based model. Employers flock to cities with relatively low wages, increasing the demand for labor. However, the idea that technological change drives city growth is not supported by the results. This paper uses per-capita income (rather than household income) and finds that it only accounts for a small portion of inequality.

Other studies examine income inequality between cities and suburbs. Leichenko (2001) focuses on trends of urban change in the United States between 1970 and 1997 particularly differential growth across cities, and decentralization of population and employment from cities into surrounding suburban areas. The study centers around three interrelated questions: (1) what factors account for the differential rates of growth of cities and suburbs? (2) are city and suburban growth interrelated? And (3) how have the determinants of city and suburban growth changed over time? The model that Leichenko used involved the following variables: demographic characteristics (percentage of the population over age sixty-four, percentage of the population that is non-white, and percentage of the population that is foreign-born), human capital (high school education and college education), income inequality (inequality in the city and between the city and suburbs), density, amenities (weather, precipitation, crime rate), industrial structure (manufacturing, services), business climate (unionization rate, taxes),

annexation, and region. She then looked at all of these variables over three decades, the 1970s, 1980s, and 1990s. I obtained many of the variables for my study based on this study.

The modeling approach Leichenko used allowed for two types of simultaneity: between population and employment and between cities and suburbs. The results showed that there was evidence of simultaneity between population growth and employment growth in cities during all three decades. The study found that job losses in the central city let to population migration to the suburbs, but this migration also led to job losses. In addition, suburban growth had an important effect on cities during all three decades. The results suggested that city growth was strongly tied to conditions within the city, particularly demographics, population density, crime rates, and income inequality. Industry structure was only important in the 1980s and 1990s. Conversely, suburban growth was more influenced by national and regional factors such as climate and regional location. This study found that human capital was not significant in any of the city or suburban model. This completely contradicts previous research done by Glaeser and others, as well as the findings of my research (as will be discussed later). This study is important because it includes a very broad range of determinants in city growth.

The bulk of the literature involving cities has centered on the determinants of economic growth. These studies try to examine which aspects of a cities' economy (such as population, per capita income, education, etc.) contribute the most towards economic growth. Simon (2004) focuses on patterns and determinants of sectoral and industry employment growth across 316 US cities between 1977 and 1997. It also evaluates previous theories such as learning by doing, industry-specific location fundamentals, human capital externalities, and hiring costs. Between 1977 and 1997, employment in manufacturing industries slowed, while employment in services, especially those using skill intensively, rose. Using data on employment growth in 39 industries

and over 300 US cities, the study attempted to determine which, if any, of the above explanations were crucial to the success of some cities and failures of others.

The study found that a larger initial presence of an industry in a city was associated with slower subsequent growth. Also, there is evidence that employment grew more slowly in cities with higher wage levels, especially in newer, skill-intensive industries. Next, cities with larger manufacturing shares experiences slower growth in rising, service-based industries. This finding is consistent with the learning-by-doing explanation that states that cities specializing in older technologies had a greater difficulty adjusting to new ones. The abundance of human capital (specifically college graduates) had a positive effect on employment growth. This is consistent with the human capital explanation that states that skill-intensive industries locate where human capital is abundant to reduce search and hiring costs. This study gives an in-depth look at one factor of growth in cities: industrial reallocation. This helps shape the overall story of economic growth in cities. Simon (2004) is important to this study because employment in the manufacturing factor ended up being an extremely significant determinant of income inequality.

Similar to Simon (2004), Shaffer (2002) focuses on one aspect of economic growth in cities (in this case, firm size). This study uses a sample of more than 700 cities and analyzes the linkage between firm size and income growth. Shaffer uses a theoretical framework that focuses on the role of innovation and firm size in a Solow-type growth model. Growth is described as the average percentage change in real median household income from 1979 to 1989. Firmsize is measured as the average number of employees per manufacturing firm, average sales per retail firm and per wholesale firm, and average receipts per service firm. Other variable included are government expenditure, population density, climate, education, initial per capita income, percentage Caucasian, and manufacturing share.

The results showed that average sizes of manufacturing firms and of retail firms were strongly and inversely associated with growth. The average size of wholesale firms and service firms were not significantly associated in most of the regressions. The author acknowledges the possibility of reverse causality and spurious correlation mandates caution in drawing conclusions. However, she suggests that economic development could be facilitated by attracting smaller manufacturing and retail firms (and possibly service firms) to a city. While firm size was not looked at in this study, some of the lesser variables were researched.

Perhaps the foremost researcher of economic growth in cities is Glaeser. He has written numerous papers on this topic. Specifically, Glaeser (1995) analyzes the economic forces that explain city growth from 1960 to 1990 in a cross-section of U.S. cities. The factors included were location, initial population, initial income, past growth, output composition, unemployment, inequality, racial composition, segregation, size and nature of government, and the education of their labor force. Glaeser explains that studying cities is advantageous because they are completely open economies in which there is a tremendous movement of capital, labor, and ideas. He also examines the political and social characteristics of cities to provide evidence on how these factors effect growth. For this study, Glaeser states that the primary measure of city growth is the growth of population. This is different from other studies which measured growth as growth in income. Glaeser's reason for not primarily using income growth (although it was used) is that it will capture some portion of productivity growth, but will also measure declines in quality of life. Therefore, income growth is a less straightforward measure of urban success.

The results show that the initial education level of the population is a key variable for cities. Initial unemployment and exposure to manufacturing were also important factors. There was less success in identifying social and political variables. However, it was concluded that

segregation was positively correlated with income and population growth. Overall, the most important finding was that of human capital and education. There was a robust relationship between schooling and growth for MSAs, city employment, and city income growth. This study showed a different way of looking at city growth by measuring population as well as income and the determinants of each.

Building on the findings of Glaeser (1995), Glaeser and Saiz (2004) give a more in-depth look at the importance of human capital/education to city growth. This study is also significant because it compares cities to MSAs. The authors used four approaches to address the possibility that the rise of educated cities is a result of a correlation between skills and other characteristics of urban cities. First, they showed that local human capital is essentially unrelated to other factors such as weather. Second, they showed that the effect of metropolitan-area human capital included fixed effects. Third, they examined the connection between number of colleges per capita in 1940 and growth between 1970 and 2000. Fourth, the tested whether skilled workers flocked to growing cities. Overall, they found that the evidence supported the view that skills induce growth. In their findings, the conclusions were slightly different for cities than for MSAs. For example, they found that college education is a more powerful predictor of growth at the MSA level than growth at the city level.

Glaeser and Saiz conclude that human capital is as good a predictor of population and productivity growth at the city and metropolitan-area level as it is of income growth at the country level. They found that high-skill areas have been getting more populous, better paid, and more expensive. They also found that at the metropolitan level, skills increase productivity but not amenities. However, at the city level, skills do increase amenities. The results suggest that city growth can be increased with strategies that increase the level of human capital within the

city. Providing basic quality education may both produce and attract the educated to the city. This study is extremely significant because its findings suggest that education is a major determinant of economic growth. For my study, I examined how education serves as a predictor of income inequality.

3. Data

Data on income distribution characteristics across cities was gathered from Berube and Tiffany (2004). This article observed the trends from 1979-1999 of the 100 largest cities in the United States and reported the percentage of the population that fell into each quintile of the income distribution nationally. I used the same cities as this report, however I dropped Augusta-Richmond, GA as this area is classified as a county. I used the County and City Data books (published by the U.S. Census Bureau) for 1970, 1983, 1988, and 2000 to obtain the data for the independent variables.

To determine which independent variables would be appropriate, I examined the previous research for economic growth and U.S. state data. Leichenko (2001) and Glaeser (1995) were my main sources of information. I believed that determinants of U.S. state growth would also be helpful in determining city growth. The variables I selected were per capita income growth, population growth, percentage of the population with a college degree, percentage of the labor force in manufacturing, percentage of the population that is unemployed, percentage of the population that is white, and percentage of the population age 65 and up. Each of these variables was used in at least one of the articles mentioned above. For this study, I added the percentage of households that are female headed to the list of variables. I thought it was an important variable because many policies have been adopted over the last few decades to assist single-

parent households. Therefore, I wanted to see how important this variable was in determining income inequality.

Table 1 reports the means, standard deviations, minimums, and maximums for all of the variables used in this study.[1]

4. Results

Table 2 shows the results for regressions on the percentage of the city population that falls into the lowest quintile nationally and the percentage of the city population that falls into the highest quintile nationally for both 1979 and 1999. The significant determinants for the percentage of households in the lowest quintile in 1979 (%Low79) are income growth (Incgrow6979), percentage of the labor force in manufacturing (%Manufact80), percentage of the population age 65 and older (%65+80), and percentage of female headed households (%FemHH80). There is an inverse relationship between income growth and the percentage of households in the lowest quintile. A one point increase in the per capita income growth rate would decrease the percentage of households in the lowest income category by 6.066 percentage points. This finding is particularly interesting because it reveals that income growth during that time pulled people out of poverty.

There was also an inverse relationship between households in the lowest quintile and the percentage of the labor force employed in manufacturing. As more of the labor force entered into (or retained) manufacturing jobs, the percentage of households in the lower income quintile declined. A one percentage point increase in employment in the manufacturing sector leads to a 0.166 percentage point decrease in the percentage of households in the lowest income category.

[1] There was only one missing observation in this study, which was the 1969 per capita income of Plano, TX. The reason for this is that Plano did not have a large enough population at the time for the Census to calculate this statistic.

The two remaining significant variables each have a positive relationship with %Low79. The more elderly and the more female headed households there were in 1980, the more households there were in the lowest income quintile. If there is an increase of one percentage point in the elderly population (65+), then there will be an increase in the percentage of households in the lowest quintile of 0.636 percentage points. An increase of one percentage point in the percentage of female headed households corresponds with an increase in the percentage of households in the lowest income category by 0.954. These results are interesting because it shows that households headed by a female were more likely to be found in the lowest income quintile. More generally, it was harder for single-parent homes to earn more income.

Each of the variables mentioned above were also significant for the percentage of households in the highest income quintile in 1980 (%Hi79). However, each coefficient had the opposite sign (which makes sense). For example, a one point increase in the per capita income growth rate leads to an increase in the percentage of households in the highest income category by 9.898 percentage points. For employment in the manufacturing sector, the effect is almost exactly opposite (-0.166 as stated above for low versus 0.170 for high). The magnitude for the elderly and for female headed households is slightly less than it was for the low income category. A one percentage point increase in the percentage of the population age 65 and up is followed by a 0.423 percentage point decrease in the percentage of households in the highest income quintile. A one percentage point increase in the percentage of female headed households leads to a decrease of 0.541 percentage points in the percentage of households in the highest income category. One key difference across the equations was the effect of percentage of the population with a college degree. College degrees have no effect on the number in the lowest quintile, but exert a strong positive effect: A one percentage point increase in the percentage of the

population with college degrees corresponds to a 0.249 increase in the percentage of households in the upper quintile.

The story changes if we examine the results for 2000. First, income growth is no longer significant for the low and the high income quintiles. For 2000, population growth is also extremely significant in determining inequality (it was not significant in 1980). There is an inverse relationship between population growth and the lowest income quintile and a positive relationship with the highest income quintile. The magnitude is very high for both the lowest and highest income categories. A one point increase in the population growth rate will decrease the percentage of households in the low category by 10.601 and increase the percentage in the high category by 16.216 percentage points.

Another extremely important result was the findings on percentage of people with college degrees. Having a college degree was important in 1980, but it is much more significant in 2000. In 2000, having a degree is significant for %Low99 (a change from 1980), and is almost twice as important for %Hi99. An increase of one percentage point decreases the percentage of households in the lowest quintile by 0.165 and increases the percentage in the highest quintile by 0.408 percentage points. This implies that the importance of education has increased tremendously over those 20 years. It can be assumed that this trend will continue over the next 20 years. This also has public policy implications for city politicians. It is important to put funding into education and to promote education in order to pull people out of poverty.

For 2000, the percentage of the labor force employed in manufacturing is still significant, but only at the 0.1 level. An increase of one percentage point in the percentage of the labor force employed in manufacturing corresponds to a 0.138 percentage point decrease in the lowest income category and a 0.192 increase in the highest income category. This is particularly

interesting because manufacturing has declined over the last 20 years as a large portion of the industry environment in the United States. The U.S. has become much more of a service-oriented economy than one that employs heavily in manufacturing. The data shows that employment in manufacturing is still important when considering inequality.

Another interesting result is that the percentage of the population that is unemployed is significant in 2000. The magnitude is much higher for the lowest income category than for the highest (though both are significant). An increase of one percentage point for this variable corresponds to an increase of 2.649 percentage points for the percentage of households in the lowest quintile and a decrease of 0.591 percentage points for the highest quintile. The data corresponds with common sense: If more people are unemployed, the percentage of households in the lowest income quintile rises while the percentage in the highest quintile falls. It is interesting that this was not a factor in 1980.

In addition, there were numerous other important differences between 1980 and 2000 that are noteworthy. First, the percentage of people that are white is significant but only for %Hi99 and there is an inverse relationship. An increase of one percentage point leads to a decrease of 0.060 in the percentage of households in the highest income quintile. This means that if the percentage of the population of white people increases, then the percentage of households in the highest income quintile decreases. This is counterintuitive because it is commonly thought that, in general, the white population is richer than other races. The significance of the percentage of the population age 65 and up is similar to 1980's level of significance with the notable difference that in 2000, the variable is only significant for %Low99 (the coefficient is now 0.586). Finally, another striking difference between the two periods is that the percentage of female headed households is no longer significant. This also has intriguing public policy implications. This

finding indicates that there must have been laws passed that help single-parent families. As of 2000, it was no longer an issue for families headed only by a female.

Next, I wanted to see which variables (if any) were significant over time. This information could be valuable for policy makers for when they are determining what to focus on in order to lower income inequality. The findings are reported in Table 3. The first interesting aspect of the results is that there are twice as many significant variables in explaining the lowest income category than the highest income category. Therefore, there must be other factors determining the percentage of households in the highest income quintile besides the variables I tested. The variables that were significant for the LowTime regression were IncTime, DegreeTime, ManufacTime, UnempTime, WhiteTime, and 65+Time. For the HiTime regression, the significant variables were IncTime, DegreeTime, and 65+Time.

There were many results that were predictable after looking at Table 2. First of all, the percentage of households headed by a female was significant in 1979, but was not in 1999. It was also not significant in each of the time regressions. Another predictable result was the importance of having a college degree. Education appears to be the one consistent way of moving up the income quintiles. Having a degree is inversely related to the percentage of households in the low category and positively related to the percentage in the high category. A one percentage point increase in this variable leads to a decrease of 0.187 percentage points for the percentage of households in the lowest quintile over time (LowTime) and an increase of 0.292 for HiTime. The only other consistent variable was the percentage of the population age 65 and up. A one percentage point increase in 65+Time corresponds with an increase of 0.115 in LowTime and a decrease of 0.079 in HiTime. This reveals that the older one gets, the more likely they will be in the lowest income quintile. An additional interesting result is that income

growth is significant for both LowTime and HiTime and population growth is not significant for either. This is surprising because population growth was significant for both categories in 2000 and neither in 1980, and income growth was significant for both categories in 1980 and neither in 2000. The population growth result could imply that, over time, this statistic has no bearing on income inequality. The results for income growth are also intriguing. The findings reveal that as income growth occurs over time (one point increase), the percentage of households in the lowest income quintile declines (by 0.322), while the percentage of people in the highest quintile increases (by 0.424). This implies that income growth over time actually helps alleviate inequality.

As stated earlier, there are three additional variables that were significant for LowTime, but not for HiTime: ManufacTime, UnempTime, and WhiteTime. Only UnempTime was significant at the 1% level and a one percentage point increase in it corresponds to a 0.230 percentage point increase in LowTime. This expectedly implies that over time, as the percentage of the population that is unemployed increases, the amount of poor people increases. Both ManufacTime and WhiteTime decrease the percentage of households in LowTime (coefficients of 0.219 and 0.169 respectively). The manufacturing variable was expected as it was significant for each of the four categories in the previous regression. However, the white variables were only significant in %Hi99. The results imply that over time, employment in manufacturing and the percentage of the population that is white will help to decrease the percentage of households in the lowest quintile.

5. Conclusion

The link between economic growth and income inequality has been extensively researched for counties, states, and countries, but not for cities. Cities are extremely important economic centers. They are home to some of the wealthiest and some of the poorest people in America. This paper examined economic growth and income inequality for the 99 largest cities (by population) in the United States. The results were interesting and also had numerous policy implications for city politicians.

The most significant finding was the importance of higher education. Having a college degree is much more significant today than it was over 20 years ago. Education pulls people out of poverty and it increases the size of the largest income quintile. This is extremely important for city politicians. Increasing funding for primary and secondary schools could increase the chances of the youth in the city to attend college in the future. Also, increasing funding for colleges within the city could increase the attendance rates, which could lead to future residents of the city being better off.

The results also suggest that the programs put in place years ago concerning single-parent families (e.g. better enforcement of alimony and child support) has helped alleviate inequality. This is tremendously important considering the rising divorce rate. The results show that the percentage of households headed by a female was once significant; however, it is not today. This implies that the politicians should continue their policies concerning aid to single mothers.

Surprisingly, the effect of manufacturing is about the same today as 20 years ago despite the decline in manufacturing as a percentage of total employment. In contrast, unemployment rates now exert a much stronger effect than 20 years ago.

Finally, I found that over time, it is easier to predict the percentage of households in the lowest income quintile, than for the highest quintile. Out of the eight independent variables for LowTime, six were significant; whereas only three were significant for HiTime. This reveals that there are other factors than the ones I used in determining what places a household in the highest income quintile.

For further research on this topic, one should consider that economic growth causes income inequality, but the reverse could also be true. Therefore, when running a regression one should use an instrument that takes this point into account.

Table 1. Means and Standard Deviations

Variable	Mean	Standard Deviation	Minimum	Maximum
%Low79	21.59	6.49	5.84	39.55
%Hi79	18.92	5.96	7.38	48.24
%Low99	23.38	6.99	6.34	42.58
%Hi99	16.82	5.89	7.05	45.61
Incgrow6979	1.29	0.19	0.82	1.69
Incgrow8999	0.47	0.11	0.16	0.76
Popgrow7080	0.22	0.6	-0.27	3.05
Popgrow9000	0.11	0.16	-0.12	0.85
%Degree80	18.49	6.03	6.3	38.1
%Degree00	26.4	8.63	9	53.3
%Manufact80	18.21	7.34	3.2	35.4
%Manufact00	11.25	5.06	1.5	28.1
%Unemp80	6.65	2.72	2.1	18.5
%Unemp00	4.57	1.37	2.3	9
%White80	72.49	16.48	27.37	97.47
%White00	59.18	16.59	12.3	92.2
%65+80	10.99	3.61	2	25.8
%65+00	11.04	2.63	4.9	17.8
%FemHH80	13.08	3.87	6.6	28.3
%FemHH00	59.91	5.82	38.6	72

%Low = Percentage of Households in the Lowest Income Quintile for 1979 and 1999 for City i.
%Hi = Percentage of Households in the Highest Income Quintile for 1979 and 1999 for City i.
Incgrow = Per Capita Income Growth in absolute terms for 1969-1979 and 1989-1999 for City i.
Popgrow = Population Growth in absolute terms for 1970-1980 and 1990-2000 for City i.
%Degree = Percentage of Population with a College Degree for 1980 and 2000 for City i.
%Manufact = Percentage of the Labor Force in Manufacturing for 1980 and 2000 for City i.
%Unemp = Percentage of the Population that is Unemployed for 1980 and 2000 for City i.
%White = Percentage of the Population that is White for 1980 and 2000 for City i.
%65+ = Percentage of the Population Age 65 and older for 1980 and 2000 for City i.
%FemHH = Percentage of Households that are Female Headed for 1980 and 2000 for City i.

Table 2. Regression Results.

	%Low79	%Hi79	%Low99	%Hi99
Variable	1	2	3	4
Popgrow7080	-0.429	1.062		
	(-0.753)	(1.038)		
Popgrow9000			-10.601***	16.216***
			(-4.421)	(3.980)
Incgrow6979	-6.066**	9.898***		
	(-2.360)	(2.840)		
Incgrow8999			5.602	-3.006
			(1.630)	(-0.955)
%Degree80	-0.035	0.249***		
	(-0.429)	(2.776)		
%Degree00			-0.165***	0.408***
			(-3.015)	(6.280)
%Manufact80	-0.166***	0.170***		
	(-4.310)	(3.454)		
%Manufact00			-0.138*	0.192*
			(-1.772)	(1.788)
%Unemp80	0.0855	0.240		
	(0.499)	(1.238)		
%Unemp00			2.649***	-0.591*
			(5.672)	(-1.904)
%White80	0.0112	-0.053		
	(0.352)	(-1.526)		
%White00			-0.006	-0.060**
			(-0.149)	(-2.060)
%65+80	0.636***	-0.423***		
	(5.412)	(-3.319)		
%65+00			0.586***	-0.140
			(3.184)	(-0.683)
%FemHH80	0.954***	-0.541***		
	(5.699)	(-3.003)		
%FemHH00			-0.065	-0.074
			(-0.820)	(-1.130)
n	98	98	99	99
R^2	0.83	0.70	0.81	0.76
Adj. R^2	0.81	0.67	0.79	0.74

T-statistics in parenthesis, *** = significant at 0.01, ** = significant at 0.05, * = significant at 0.1

Table 3: Regression Over Time

	LowTime	HiTime
Variable	1	2
IncTime	-0.322**	0.424*
	(-2.294)	(1.789)
PopTime	0.000	-0.001
	(0.045)	(-0.449)
DegreeTime	-0.187***	0.292***
	(-3.947)	(4.528)
ManufacTime	-0.219**	0.207
	(-2.212)	(1.421)
UnempTime	0.230***	0.090
	(2.875)	(0.957)
WhiteTime	-0.169*	0.193
	(-1.981)	(1.480)
65+Time	0.115*	-0.079*
	(1.767)	(-1.725)
FemHHTime	-0.014	0.002
	(-1.549)	(0.169)
N	98	98
R^2	0.54	0.35
Adj. R^2	0.50	0.29

LowTime = (%Low99 - %Low79) / %Low79
HiTime = (%Hi99 - Hi79) / Hi79
IncTime = (Incgrow8999 – Incgrow6979) / Incgrow6979
PopTime = (Popgrow9000 – Popgrow7080) / Popgrow7080
DegreeTime = (%Degree00 - %Degree80) / %Degree80
ManufacTime = (%Manufact00 - %Manufact80) / %Manufact80
UnempTime = (%Unemp00 - %Unemp80) / %Unemp80
65+Time = (%65+00 - %65+80) / %65+80
FemHHTime = (%FemHH00 - %FemHH80) / %FemHH80
T-statistics in parenthesis, *** = significant at 0.01, ** = significant at 0.05, * = significant at 0.1

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