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# "Can't Buy Me Wealth": Racial Segregation and Housing Wealth in Hillsborough County, Florida

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“Can’t Buy Me Wealth”:  
Racial Segregation and Housing Wealth  
in Hillsborough County, Florida

by

Natalie Delia Deckard

A thesis submitted in partial fulfillment  
Of the requirement for the degree of  
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**Abstract:**

Informed by the literature regarding the gap in wealth between white and non-white households in the United States, as well as the literature on segregation and neighborhood preference, this research explores the home value component of the wealth gap in Hillsborough County, Florida. It finds that homes in Predominantly Black or Hispanic neighborhoods are not only undervalued compared to Predominantly White and heterogeneous neighborhoods, but have appreciated more slowly at least since 2000. The research also finds that buyers identifying as black or Hispanic are more likely than those identifying as white or “other” to purchase homes in Predominantly Black or Hispanic neighborhoods. Controlling for income, loan amount and loan product, buyers identifying as Black or Hispanic select neighborhoods with lower median home values and lower rates of appreciation than do those identifying as white. Given that these homebuyers spend as much both initially and in payments over time as do those who identify as white, while their purchases are worth less and appreciate less, this research contributes to the literature by positing that the racial wealth gap will increase as blacks and Hispanics receive lower returns on their comparatively greater home investments than do whites.

**Introduction:**

A move towards home ownership is, among other things, a move towards relative residential stability. Renters change homes at approximately three times the rate of home owners, which contributes to tenures in their homes that are about 6.5 years shorter than homeowners (Boehm and Schlottman 2006; Ioannides 1987). Purchasing a home represents an investment in a neighborhood and lifestyle that renting an apartment does not and, accordingly, the home purchase decision is often as much about neighborhood choice as it is home choice (Cashin 2001; Krysan 2002; Walker and Li 2006).

The importance of neighborhood for individual homebuyers is well-established. Although low quality housing stock is associated with poor psychological and physical well-being (Diez Roux 2001), negative neighborhood characteristics are linked to inadequate educational opportunities, exposure to violent crime, frequent joblessness and negative mental and physical health outcomes (Diez Roux 2001; Massey, Gross and Eggers 1991; Massey and Denton 1993; Wilson 1987). In choosing a property and neighborhood, homebuyers place themselves in a socio-economic class by consuming a good that very publically marks their level of affluence and by positioning themselves spatially to take part in the occupations, educations and levels of prestige that denote class in America today (Conley 1999; Massey and Denton 1993; Wilson 1987). Because “success breeds success,” as common knowledge and sociological literature both argue, the effects of positive neighborhood characteristics go far beyond the homeowners that enjoy them at any given time (DiPrete and Eirich 2006). Growing up in a “good”

neighborhood continues to benefit the children of past homeowners well into their own adulthoods, no matter where they choose to live themselves (DiPrete and Eirich 2006).

Beyond these social consequences, the neighborhood in which a home is located largely determines the total worth of the home, which is a large determinant of the amount of home equity that homeowners in the neighborhood enjoy. Homes in neighborhoods deemed marginal or undesirable are worth comparatively less money than similar homes in “better” neighborhoods and, more problematically, appreciate far less quickly, or even depreciate, in comparison to homes in more desirable settings (Conley 1999; Massey and Denton 1993). This means that homeowners in some neighborhoods do not gain the financial benefits enjoyed by homeowners in other neighborhoods and thus see their overall net worth – wealth, in the parlance of sociology – suffer in comparison to these other homeowners. Although rapid neighborhood home appreciation results in displacement of homeowners who cannot afford to make the increased property tax payments associated with higher values, these homeowners reap significant profits upon the sale of their homes. Their move to a more affordable neighborhood with property taxes more in line with their income is associated with a net gain to their wealth position, a gain that will not be experienced by homeowners in under-valued neighborhoods experiencing either less rapid appreciation or depreciation. The wealth gap between homeowners in desirable neighborhoods and homeowners in undesirable neighborhoods will worsen with time, as the disparate rates of return on the home investment will compound over years.

One of the most salient characteristics of American neighborhoods, in terms of the valuation of their homes, is their varying racial and ethnic compositions (Harris 1999;

Massey and Denton 1993). Although neither race nor ethnicity is a biological reality and each functions only in relation to the society in which it exists, both race and ethnicity are constructed in such a way as to be social realities. Characterizing a person as essentially “black” or “Asian” is problematic, but noting that this is the manner in which a person characterizes him or herself is less so. Tukufu Zuberi (2001) notes that statistical work predicated on the differentiation of racial and ethnic groups is fundamentally limited by the shifting nature of racial and ethnic categories, and while this limitation must be acknowledged, a belief that racial and ethnic constructions cannot be quantitatively explored as variables in statistical analyses would greatly limit sociological investigation of very real social phenomena.

Neighborhoods in which a majority of residents identify as black or as members of other minority groups continue to occupy surprisingly discrete spatial areas of the American landscape (Fasensfest, Booza and Metzger 2004; Massey 2007). Not only are there still “Black Neighborhoods” and “Hispanic Neighborhoods,” as opposed to integrated ones, but these neighborhoods are overwhelmingly poorer, with fewer public services, weaker schools, and less opportunity for social and economic mobility (Massey and Denton 1993; Massey 2007). Additionally, “Black Neighborhoods,” “Hispanic Neighborhoods,” and “Asian Neighborhoods,” are undervalued to a larger extent than what can be attributed to non-racial socio-economic factors (Harris 1999; Massey and Denton 1993). If, for example, a house with certain amenities can be expected to be valued at some median price in its region, one can expect a significant discount to that price if the house were to be located in a neighborhood with high rates of poverty, weak schools and few public services. Controlling for these factors and numerous others,

research shows that the house must then be additionally discounted to compensate homebuyers if more than, say, 10% of that neighborhood's residents are identified as being black (Anacker 2010; Harris 1999). Anacker (2010) refers to this additional discount as a "race tax" on home values.

With the passage of the Fair Housing Act in 1968 and the Community Reinvestment Act in 1977, overt racism among real estate agents and mortgage bankers came to an end – yet factors at both the individual and societal level have worked to keep segregation alive in the United States (Wilson 1987; Massey and Denton 1993). Much of the existing sociological literature on this topic argues that ongoing discrimination against minority homebuyers is one of the most important causes of segregation's enduring power, and scholars find that minorities encounter obstacles to home ownership and integration at each stage of the home purchase process (Austin Turner and Skidmore 1999; Conley 1999; Massey 2007; Massey and Denton 1993; Shear and Yezer 1985; Seitles 1996; Wilkes and Iceland 2004). Because the accumulation of home equity is such an important part of the accumulation of household wealth, racial discrimination in the housing market translates directly into racial disparities in the wealth-building process.

Although the existence of racial and ethnic discrimination in the housing market is undisputed, much research has also been done regarding the importance of simple individual preference in residential segregation. This work investigates how homebuyers' races and ethnicities correlate with their preferences for neighborhoods of particular racial compositions (Adelman 2005; Bruch and Mare 2006; Clark 1991; Emerson, Chai and Yancey 2001; Krysan 2002; Krysan, Couper, et al. 2009; Walker and Li 2006; Zubrinsky and Bobo 1996). These studies are generally based on surveys in

which interviewers present respondents with hypothetical neighborhood racial and ethnic compositions and ask whether or not they would live in, move to or leave these neighborhoods based on these compositions. They consistently found that subjects identifying as white had considerably lower tolerance levels for black neighbors than black subjects had for white neighbors, with subjects identifying as black expressing strong preferences for integrated neighborhoods with significant percentages of both black and white residents and whites choosing neighborhoods that are either entirely white or have only a token number of black residents.

The connection between individual homebuyers' incomes and neighborhood preferences has also been explored (Allen and Turner 2009; Zubrinsky and Bobo 1996). In investigating the relationship between income and residence in an ethnic enclave, Allen and Turner (2009) found that a significant minority of relatively wealthy Asian and Hispanic homeowners prefer to live in neighborhoods in which co-ethnics are a significant and visible minority. They do not find, however, a preference in any minority ethnic group, among subjects at any level of income, for neighborhoods in which co-ethnics predominate. Zubrinsky and Bobo (1996) find similar results, despite not focusing their research on the middle and upper classes. Irrespective of social class, Zubrinsky and Bobo (1996) found only small levels of same-group preference among racial and ethnic minorities – while subjects identifying as white had strong preferences for largely white neighborhoods. These findings do not appear to contradict the idea that there is still significant anti-minority prejudice among homeowners that identify as white, whereas non-white homeowners seem to not express an aversion to white neighbors.

Of course, where people would prefer to live is a factor in, but does not decide, where they ultimately choose to purchase a home. Yet although neighborhood preference has been studied extensively, research regarding what factors influence actual neighborhood selection is surprisingly limited. In one of the few studies of its kind, Clark and Ledwith (2007) analyze the residential movements of both buyers and renters in Los Angeles and find that, with increasing income, individuals identifying as both white and Hispanic choose significantly whiter neighborhoods. This finding implies its contrapositive – for whites and Hispanics, lower income rates constrain individuals to neighborhoods with lower percentages of white residents (Clark and Ledwith 2007). Although renters and homebuyers who identify as black are not included in the Clark and Ledwith study, the finding that people can effectively buy into “whiter” neighborhoods means that research regarding neighborhood selection must control for income.

Rather than treating income *per se*, much of the literature on segregation addresses the disparity between ideal and actual in terms of discrimination by real estate agents and sellers in the housing market, mortgage finance policies like redlining, and asset and credit unavailability for African Americans (Conley 1999; Farley, et al. 1993; Massey and Denton 1993; Massey 2007; Seitles 1996). This literature explores broad patterns at the Census metropolitan statistical area (Massey and Denton 1993; Farley et al. 1993) or national (Conley 1999; Massey 2007; Seitles 1996) level, but gives no treatment to the individual choices of individual actors.

The current segregation literature is also lacking a comprehensive treatment of the role of federal home mortgage finance policy on neighborhood racial and socio-economic composition, despite extensive historical precedent of these policies influencing

American residential spaces (Benston 1981; Massey and Denton 1993). Although home finance discrimination (Austin Turner and Skidmore 1999; Shear and Yezer 1985) is comprehensively treated on a macro-level and provides another piece of evidence that institutional racism remains a problematic contributor to the segregation of homebuyers identifying as black and Hispanic, the existing literature appears to focus on discrimination at key points in the home purchase transaction – discrimination in home loan application approval (Austin Turner and Skidmore 1999), for example, or discrimination in the sale of particular homes in an audit (Galster 1990). Until now, there has been no systematic exploration of the choices individuals make that takes into account not only race and ethnicity, but income, mortgage financing and total home spending. More importantly, the question of how these choices affect the accumulation of housing wealth on the macro-level remains unexplored.

In this research, I argue that homebuyers identifying as black or Hispanic are more likely to purchase in Predominantly Black and Hispanic neighborhoods than are their white counterparts in Hillsborough County, even after controlling for income, loan choice and loan amount. I posit that the homes that blacks and Hispanics purchase are systematically undervalued and appreciate more slowly, thereby adversely affecting the wealth positions of these minority homeowners in comparison to those of homeowners identifying as white.



**Research Questions:**

Given the findings of scholars such as Massey and Denton (1993), Conley (1999), Kaufman and Krivo (2004) and Harris (1999) that find that properties in neighborhoods with significant minority populations are systematically undervalued, this research explores whether, and to what extent, this undervaluation occurs in Hillsborough County. Additionally, building on the findings of Flippen (2004) and Di (2005), this research questions whether homes in neighborhoods with a large proportion of minorities appreciate at a slower rate than do neighborhoods populated almost exclusively by white residents.

Informed by the work on mortgage finance discrimination and the disparity in home loan availability to buyers of different racial and ethnic identifications (Austin Turner and Skidmore 1999; Gabriel 1996; Shear and Yezer 1985), this research also seeks to explore a number of questions regarding home financing patterns. On a neighborhood level, it investigates whether loan product availability is significantly different in neighborhoods of differing racial and ethnic compositions. On an individual level, it explores whether there is a pattern of homebuyers of different racial and ethnic groups applying for and receiving different types of home loans and whether loan product choice affects homebuyer choice of neighborhood.

Largely because of the work of Clark and Ledwith (2007), this research examines buyer household income and the relationship that income may have in neighborhood

selection, asking “How does income interact with racial and ethnic identity to influence neighborhood selection in Hillsborough County?”

Finally, this research consolidates the literature on segregation and investigates whether buyers that identify as black and Hispanic actually purchase homes in neighborhoods that are valued at lower prices and appreciate less rapidly than do their white counterparts.

### **Review of the Literature:**

In his recent and well-received work, *Racism Without Racists: Color-blind Racism and the Persistence of Racial Inequality in the United States* (2006), Eduardo Bonilla-Silva sets the theoretical tone for any discussion of systematic discrimination based on race and ethnicity in the post-Civil Rights era. Since the passage of the various civil rights acts that outlawed discrimination in the residential home market, explicitly racist mechanisms in home lending and real estate sales have, for the most part, come to an end. Bonilla-Silva (2006) would argue, however, that these mechanisms have been systematically replaced not by equal treatment, but rather by more subtle but equally effective forms of discrimination. For example, while signs that say “New homes for sale to whites only” are a thing of the past, people identifying as racial and ethnic minorities may encounter a sign that says “New homes for sale,” followed by a conversation in which they are informed that the homes in question have, in fact, just been sold. In either case, minorities do not have the option of purchasing the hypothetical home, but in today’s case it is more difficult for the individual to be sure that discrimination has taken place. The homes, after all, may really have been sold.

### ***Causes of Racial Residential Segregation:***

The history of discrimination in this country’s housing market is extensive and colors the industry, as well as any discussion of the possibility that ongoing segregation is somehow organic. Although discrimination is present in both rental and sales markets, it

is in the market for the sale and purchase of homes that most influences this research. The research focuses on home ownership because the move towards home ownership is, among other things, a move towards relative residential stability. Renters change homes at approximately three times the rate of home owners, which contributes to tenures in their homes that are about 6.5 years shorter than homeowners (Boehm and Schlottman 2006; Ioannides 1987). Purchasing a home represents an investment in a neighborhood and lifestyle that renting an apartment does not and, accordingly, the home purchase decision is often as much about neighborhood choice as it is home choice (Cashin 2001; Krysan 2002; Walker and Li 2006).

The importance of neighborhood for individual homebuyers is well-established. Although low quality housing stock is associated with poor psychological and physical well-being (Diez Roux 2001), negative neighborhood characteristics are linked to inadequate educational opportunities, exposure to violent crime, frequent joblessness and negative mental and physical health outcomes (Diez Roux 2001; Massey, Gross and Eggers 1991; Massey and Denton 1993; Wilson 1987). In choosing a property and neighborhood, homebuyers place themselves in a socio-economic class by consuming a good that very publically marks their level of affluence and by positioning themselves spatially to take part in the occupations, educations and levels of prestige that denote class in America today (Conley 1999; Massey and Denton 1993; Wilson 1987). Because “success breeds success,” as common knowledge and sociological literature both argue, the effects of positive neighborhood characteristics go far beyond the homeowners that enjoy them at any given time (DiPrete and Eirich 2006). Growing up in a “good” neighborhood continues to benefit the children of past homeowners well into their own

adulthoods, no matter where they choose to live themselves (DiPrete and Eirich 2006). For this reason, Massey and Denton (1993:150) note that “barriers to spatial mobility are barriers to social mobility,” and that from the mid-nineteenth century until the late 1960s, Americans identifying as black or Hispanic were denied the freedom of spatial mobility through overt institutional and individual discrimination and segregation (Massey and Denton 1993; Massey 2007).

Before minority homebuyers could even begin to search for suitable properties, they encountered discriminatory effects in the home mortgage market. According to Benston (1981), before the Community Reinvestment Act of 1977 that criminalized the practice, predominantly minority neighborhoods were routinely “red-lined” by banks and other lending institutions. That is, properties within the boundaries of ethnic enclaves were not eligible for financing through normal mortgage channels. Because of this, most homebuyers identifying as minorities did not even have the opportunity to apply for credit – their neighborhoods had already been declined.

Another early work, “Discrimination in Urban Housing Finance: An Empirical Study across Cities” by Shear and Yezer (1985), presents an excellent survey of the mechanisms of institutionalized discrimination both pre- and immediately post-Fair Housing legislation accompanied by an individual-level analysis of all home loan applications in eight cities across the nation. Shear and Yezer note significant discriminatory actions in the conventional mortgage market, controlling for borrower income, creditworthiness and down payment (1985). They also empirically explore the dissipation of this discrimination in FHA programs during the approximately 20 years that had passed since the passage of the Fair Housing Act and they find no significant

remaining tendency among FHA underwriters to red-line minority neighborhoods (1985). They posit that because FHA programs gave the same interest rate to all approved homebuyers at any given time and because people identifying as minorities experienced much less discrimination in the approval process using FHA programs, homebuyers identifying as black or Hispanic were likely to continue using FHA loans in disproportionate numbers to their representation among homebuyers, especially in regions where discrimination in the private sector was particularly acute (1985:301). Using the American Housing Survey, Krivo and Kaufman (2004) find that 36% of homeowners identifying as black and 33% identifying as Hispanic held FHA or VA mortgages on their homes in 2001 – compared to only 18% of homeowners identifying as white (2004:592).

Kimble (2007) and Gabriel (1996) explore the role of the FHA in providing home credit to homebuyers identifying as black and Hispanic in their own research. Although Kimble focuses on the role of the FHA in the 1930s and 1940s and its policies of apartheid-level racial segregation in residential neighborhoods, he acknowledges the FHA's role as the mortgage-finance arm of federal residential policy. Kimble finds that, before World War II, the federal government was strongly against integration at any level. It follows, therefore, that in the post-Civil Rights era, the federal government would again look to the FHA to make integration possible.

Gabriel (1996) argues this very point – in “The Role of FHA in the Provision of Credit to Minorities,” he posits that the FHA program is essentially charged with acting as the only truly non-discriminatory actor in an industry beset by de facto racism. With widely disparate research questions, both Kimble and Gabriel each come to the

conclusion that FHA programs are extremely influential in the home purchase processes of black and Hispanic homebuyers. Finally, Berkovec et. al. (1998) find no evidence of discrimination based on race or ethnicity in FHA loan originations in the late 1990s – a powerful finding in an area of research normally beset by racial and ethnic variables whose significance remains after controlling for all other variables. Because of these findings and the extensive history of the FHA home loan program, this research includes measurements of neighborhood FHA eligibility and FHA loan use as control variables.

In their exhaustive review of the mortgage discrimination literature, Austin Turner and Skidmore (1999) confirm that extensive discrimination in the conventional mortgage market continues to exist (1999). They also note that mortgage lenders appear to push applicants identifying, or being identified, as minorities into FHA home loan programs (1999). In this respect, Austin Turner and Skidmore appear to concur with the argument put forth by Shear and Yezer in 1985 – as discrimination in the conventional mortgage market worsens, the representation of minorities among FHA home loan recipients will increase. They also explicitly agree with the overall tone of most sociological literature on the subject of mortgage discrimination, stating that disparate rates of denial between applicants identifying as black or Hispanic and applicants identifying as white cannot be accounted for by differences in creditworthiness, income or down payment but rather are related to race and ethnicity in and of themselves (Austin Turner and Skidmore 1999).

The discrimination in home loan financing is only the first hurdle to home ownership that must be cleared by homebuyers identifying as minorities. These homebuyers have also traditionally faced significant discrimination in the real estate

market. Seitles (1996) gives a comprehensive survey of the discriminatory mechanisms that have kept segregation, especially between Americans identifying as black and those identifying as white, at what Massey and Denton (1993) identify as apartheid-like levels. Seitles (1996) identifies the federal government as having been the primary perpetrator of influential racist policies in the pre-Civil Rights era. Seitles argues that, after charging the Federal Housing Administration with the task of keeping Predominantly Black neighborhoods apart from Predominantly White neighborhoods, the federal government created an interstate highway system to facilitate the creation of homogenously white residential neighborhoods while facilitating the movement of major businesses – and jobs – out of the central cities. He then points to rampant steering among real estate agents and other real estate professionals as being among other factors working to exclude homeowners identifying as black from high-appreciation, Predominantly White, neighborhoods. The practice of steering, both Seitles (1996) and Jones-Correa (2000) note, was actually codified for decades leading up to the Fair Housing Act using formal racial restrictive covenants, which restricted owner deeds to being conveyed exclusively to property buyers of the same racial affiliation. Satter (2009), in exploring pre-Civil Rights Chicago, notes that physical violence by white neighbors was not uncommon when mortgage discrimination, realtor discrimination and legal discrimination were not sufficient to keep homeowners identifying as black from moving into Predominantly White neighborhoods.

Although discrimination against homebuyers identifying as black and Hispanic appears to have decreased in practice since the passage of the Fair Housing Act, Pager and Shepherd (2008) note the on-going problem with this type of discrimination in



housing. In their survey of the literature, Pager and Shepherd find that it uniformly reports that homebuyers identifying as black or Hispanic are pushed into higher poverty, lower median home value areas in which co-ethnics predominate, while being steered away from more desirable and highly valued, Predominantly White, areas. Although this steering has arguably become more subtle over time – more in the style of Bonilla-Silva’s “smiling face discrimination” (2006:3) – the effects are consistently segregatory.

A particularly interesting exploration of this topic can be found in Krysan (2007), who investigates what a search for housing looks like for perspective homebuyers and renters of differing racial and ethnic affiliations by face-to-face surveying a sample of 734 Detroit householders. She notes differences in the types of neighborhoods in which different races and ethnic groups search, as well as the fact that homeseekers that identify as minorities put in more offers for homes before getting under contract. New homebuyers that identify as black or Hispanic appear less satisfied after closing, are more likely to believe that they were taken advantage of during the home search process, and report having had more difficulties during the home search process.

Work by Bobo and Zubrinsky (1996) illuminates one possible explanation for Krysan’s findings, the most puzzling of which may be the willingness of homebuyers identifying as minorities to continue forward with a home purchase despite a widespread belief that they have been “taken advantage of.” These researchers contend that, especially in the area of residential housing, there is a clear racial hierarchy with Americans identifying as white at the top and Americans identifying as black on the bottom (Bobo and Zubrinsky 1996). Combining Krysan and Bobo and Zubrinsky’s research, one could argue that homebuyers identifying as black look at homes in more

neighborhoods attempting to climb the social hierarchy constructed around ethnicity, and are systematically denied that opportunity – leading to greater disillusionment with the entire process. Other work by Krysan (2002) and Krysan et. al. (2009) concurs with these findings – subjects systematically prefer to live in neighborhoods populated by co-ethnics or ethnics ranked more highly on Bobo and Zubrinsky’s hierarchical scale and will avoid those neighborhoods that do not fit these parameters. In a separate study (Zubrinsky and Bobo 1996), the researchers find that homebuyers identifying as white express stronger preferences towards living with other whites than any other racial or ethnic group expresses toward living with co-ethnics – which fits within their larger argument for the existence of a hierarchy.

Although audit studies (Galster 1990) and other types of quantitative analyses are certainly persuasive, Roscigno, et. al. (2009) have explored housing discrimination qualitatively in a very effective manner. They mine thousands of Ohio discrimination claims for victims’ experiences. Using excerpts from these complaints, the authors are able to make a compelling point that discrimination on the part of real estate agents, property managers, landlords and banking institutions is not only still present, but still hurts and damages the black and Hispanic communities in real ways.

Some would argue, however, that despite overwhelming evidence of discrimination in the housing market, other factors are more significant to the creation of segregated metropolitan areas in the United States today. The major “challenger” is the preference viewpoint. Using the mathematical framework posited by Charles Schelling (1971), scholars like Adelman (2005), Clark (1991), Clark and Fossett (2008), and Bruch and Mare (2006) explore the mathematical effects and implications of a disparity in

preferences for neighborhood racial composition. Schelling's (1971) original argument posits that, given individuals with differing tolerance levels for neighbors of different racial and ethnic affiliations, neighborhoods would become completely segregated as individual homeowners reach their individual thresholds and move, causing other co-ethnics to then reach their individual thresholds, and so on until all neighborhoods are completely segregated – even though this was not necessarily the preference of the vast majority of homeowners. But subsequent scholars have found that differences in professed preferences do not, in fact, account for the vastly segregated state of metropolitan America or the actual neighborhood choices of homebuyers (Adelman 2005). Even given the intuitive prisoner's dilemma Schelling sets up, the domino effect is actually both mathematically impossible and disproven by the disparate actual neighborhood compositions of homeowners identifying as black versus those of homeowners identifying as white. Adelman (2005) confirms that this disparity exists even when one has controlled for income and socio-economic factors – in his research homeowners identifying as white consistently purchase in neighborhoods that are more heavily populated by white residents than the hypothetical neighborhood compositions that they express a preference for, whereas homeowners identifying as black experience the opposite effect. As may be expected, Flippen (2001) finds that segregation decreases the likelihood of home purchase by Americans identifying as minorities, and especially those identifying as black – because prospective homeowners identifying as black prefer to live in integrated neighborhoods. When this is impossible, they often do not buy homes at all.

One symptom of the unwillingness of homebuyers identifying as white to live in integrated neighborhoods is the increasing number of Predominantly Black suburban neighborhoods. The dynamic appears to work in the same way as earlier “white flight” from the central cities, with new residents who identify as black moving into neighborhoods with bigger, better housing stock and amenities, only to have the prior residents leave. New residents moving into a suburban neighborhood seek the same amenities as the existing residents – good schools, larger homes and big box stores – and these new residents happen to identify as black. But, as Schneider and Phelan (1993) point out in their influential “Black Suburbanization in the 1980s,” white suburbanites appear to leave when the community reaches a so-called racial “tipping point,” and an all-black suburban neighborhood quickly results. Although the existence of Predominantly Black suburbs would not be problematic in and of itself, as Cashin (2001) points out in her excellent exploration of the history and modern reality of the affluent black suburbs of Washington D.C., the fact that these suburbs become, almost without exception, nearly as beset with financial and social challenges as the central cities their residents sought to leave behind, is a large and difficult problem that can only be associated with segregation *ipso facto* as a social bad (Farley et. al. 1993; Massey et. al. 1991; Schneider and Phelan 1993).

### ***Measuring Segregation:***

Massey and Denton (1993) comprehensively explore and define what “segregation” means in their *American Apartheid: Segregation and the Making of the Underclass*. Massey and Denton identify five major components of segregation: unevenness, isolation, clustering, centralization, concentration (1993). They then make

the distinction between segregation and hypersegregation, which they define as positive measurements on each of the five components of segregation. Massey and Denton argue that Americans identifying as black are systematically hypersegregated in neighborhoods throughout the United States. Although Johnston, Poulsen and Forrest (2007) are unable to duplicate Massey and Denton's findings, they appear to concur with the basic theoretical underpinnings of Massey and Denton's argument. The researchers systematically explore different ways to define the concept of segregation, and explore the subtle differences between determining the extent of a minority group's separation from the dominant racial or ethnic group using Dissimilarity Indices or Isolation Indices. Although Massey and Denton do extremely thorough work on the structural mechanisms through which those identifying as black are made into members of an underclass, one that remains relevant over fifteen years later, the position of Americans identifying as Hispanic and as members of other racial and ethnic categories is not fully treated in *American Apartheid*. Although Moore and Pinderhughes (1993) begin to address the ramifications of segregation on the Latinos in the United States, theirs is a largely theoretical work with little empirical analysis.

Iceland and Nelson (2008) are the latest researchers to attempt to fill this gap in the sociological literature. Exploring the segregation of Americans identifying as Hispanic, these researchers find that the phenomenon has become more pronounced over time and is beginning to rival that of Americans identifying as black. They also find that segregatory effects in the Hispanic community are highly correlated with the percentage of the Hispanic population in the MSA and the region in which the MSA is located (Iceland and Nelson 2008). Zubrinsky and Bobo (1996) examined segregation from the

viewpoint that the United States has moved from having a color binary to a prismatic hierarchy and find that, although people who identify as Hispanic or Asians are also segregated within communities, their levels of segregation do not approach those of people identifying as black.

Breaking with the standard of defining segregation in terms of one particular racial or ethnic group's separation from the dominant white group and creating a framework from which this research draws, Fasenfest et. al. (2004) attempt to characterize residential neighborhoods in terms of integration rather than segregation. They develop typologies to describe the types of ethnic mixes that exist in today's metropolitan areas (Fasenfest et al. 2004) and therefore present the first real alternative to the paradigm in which neighborhoods are binarily "segregated" or "not segregated." The fact that Fasenfest et al. find that segregation of Americans identifying as black is slowly ebbing from difficult-to-contemplate highs, while that of Americans identifying as Hispanic or Asian is increasing is incidental to the real work of the research – to present a different manner in which to contemplate the spatial separation of Americans with different racial and ethnic identifications. Fasenfach et at. meaningfully add to the discourse in two distinct ways: by creating a popular system for neighborhood typology, they give "prismatic" reseach in the style of Zubrinsky and Bobo (1996) a standard nomenclature and they create a theoretical framework for the type of research presented by Greenbaum (2002), which questions the wisdom of assuming segregation is negative in and of itself.

### *Consequences of Segregation:*

In her “Report from the Field” (2002), Susan Greenbaum effectively questions the wisdom of the classic sociological conception of social capital – the theory of which underpins much of the criticism of segregation. The classic sociological argument, expounded upon most comprehensively by William Julius Wilson (1978; 1987), is that an individual has access to social capital commensurate with his or her class, race, ethnicity and spatial position. This social capital grants one access to network ties that facilitate entrance to good jobs, prestigious schools and preferential housing – all of which in turn lead to more social capital. Thus, this theory argues, ghettoization in segregated communities denies racial and ethnic minorities access to even limited social capital and thus denies them access to any means of social mobility. Greenbaum directly contradicts this theoretical framework, however, by positing members of the lower and underclasses have social capital as well and that, by blindly insisting upon the benefits of desegregation, this social capital can be diminished (2002). She argues that although the social capital available in poorer, predominantly minority, neighborhoods may not grant residents access to exclusive social clubs, it does assist in the acquisition of barter services like childcare, eldercare, transportation and handyman services – things that low-income people have to pay for when they live outside of the “ghetto” and are in fact stripped of social capital. Greenbaum appears to argue that sociologists systematically undervalue the worth of this type of capital, and thus falsely believe largely segregated ghettos to be without positive attribute.

Although Greenbaum’s argument does appear to make much intuitive sense, one type of capital is fairly immune to value judgments – financial. Hypothetically, if people identifying as black or Hispanic were to have access to fewer dollars, then their stock of

financial capital, their wealth, would be diminished. Extensive literature has determined the importance of wealth in determining life chances. Orr (2003), building on 20 years of research discussing wealth and educational achievement, finds that parental wealth is one of the most important independent variables in the prediction of student school achievement – surpassing the significance of race and ethnicity. Smith (2004), in seeking to summarize research on health disparities based on class, confirms the significant correlation between wealth and morbidity (2004). Bond Huie et al. (2003) go as far as to show a significant correlation between wealth and mortality that significantly lessens the influence on death that is typically attributed to racial identity. In perhaps the most comprehensive and thorough exploration of the connection between racial and ethnic affiliation, wealth, and life chances, Conley (1999) draws relationships between disparities in wealth and those in education, health, income, violence, incarceration, crime, single parenthood, out-of-wedlock birth and other common measures of life chances. Conley (1999) argues that the wealth gap between Americans that identify as white and those that identify as black represents the most salient disparity between the races and is the most influential factor in undermining real equality in the post-Civil Rights era.

Although the wealth gap has many contributing factors, one of the most important may be the widely disparate accumulation of home equity between Americans who identify as white and those who do not (Di 2005; Flippen 2004; Krivo and Kaufman 2004). A variety of factors that have already been mentioned have kept prospective homebuyers who identify as black or Hispanic from acquiring homes in non-segregated environments and, in many cases, from acquiring homes at all. Unmentioned thus far,



however, is the prominence of home equity in the investment portfolios of all Americans, regardless of racial identity, and how the undervaluation of property located in Predominantly non-white neighborhoods undermines the home equity investments of homeowners who identify as black or Hispanic. Not only does home equity represent an important bank of wealth, especially for lower income Americans of all racial and ethnic identities (Flippen 2001), but, using the re-finance process, that equity can be put into childrens' educations, small business start-ups, lucrative investments or towards high interest debt that would otherwise pose an undue burden on income (Conley 1999; Hodge et al. 2007).

Hodge et al. (2007) note that, while homeowners identifying as white can easily re-finance their homes, those identifying as black experience discrimination in the re-finance process. They posit that this systematically undermines the wealth positions of homeowners identifying as black as they are excluded from higher-return activities that would otherwise benefit them financially. Although Hodge et al. (2007) do not discuss the myriad of negative consequences that can result from re-financing home equity, including the diminishment of long-term equity through loan amortization in favor of the credit purchase of consumer goods, the argument that homeowners that identify as black or Hispanic should not have a disparate set of options from those identifying as white and that any such disparity in choice would be negative to their overall financial position appears broadly sound.

Rather than exploring re-financing, however, much of the literature regarding the connection between race and ethnic identity and home equity wealth regards the appreciation of homes owned by people identifying as black or Hispanic in comparison to

that of homes owned by people identifying as white. Given that prospective homebuyers manage to qualify for some type of financing and then purchase some type of home, if their rates of return on their home investment are systematically different than that of other racial or ethnic groups, then their wealth at retirement will be significantly different as well. Although appreciation rate and price are subtly different concepts – with appreciation rates being calculated from the change in prices over some given period of time – an exploration of lower appreciation rates in Predominantly Black or Hispanic neighborhoods should begin with a discussion of systematically lower home prices in these communities.

According to Harris (1999), whose research completed a hedonic price analysis of geo-coded data from the Panel Study of Income Dynamics, there are two types of reasons that a large percent of residents identifying as black in a given neighborhood could make homes in that neighborhood worth less money: race and racial proxy. Harris hypothesizes that “...housing in neighborhoods with a high percentage of black residents is less valuable not because of an aversion to blacks per se, but rather because people prefer affluent, well-educated neighbors, and these traits are more common among whites than blacks” (1999:476). Harris’s (1999) findings, though, contradict this clear racial proxy argument. Rather, he finds that homes in neighborhoods in which 60% of residents identify as black are priced 59% lower than comparable homes in Predominantly White neighborhoods when the majority of units are owner-occupied. When controlling for socio-economic markers such as percent of residents living in poverty, percent unemployed and percent without college degrees, the value gap was a very significant 21% (Harris 1999).

Anacker (2010) endeavors to establish that the undervaluation of homes in neighborhoods with large percentages of residents identifying as black or Hispanic is a universal American phenomenon. She investigates the prevailing belief that, as a rule, homes in suburban neighborhoods appreciate more than those in central city or urban communities. Whereas much of the earlier literature implied that most of the opportunity to accumulate home equity that was lost by homeowners who identified as black or Hispanic was lost primarily because of their disproportionate representation in undesirable inner city neighborhoods, Anacker (2010) uses Fasenfest's (2004) neighborhood typologies and Census tract data to establish that suburban neighborhoods that are Predominantly Black or Predominantly Hispanic have lower median home values, and that their racial and ethnic compositions remain significant predictors of home values, even after controlling for a vast array of socio-economic characteristics. She argues that neighborhoods that are populated predominantly by those not identifying as white are, almost by definition, undesirable in the American market – regardless of their location.

Flippen (2004) uses a hedonic price analysis of Health and Retirement Study data to find clear evidence that neighborhoods with high levels of residents identifying as black or Hispanic have lower appreciation rates than comparable neighborhoods in which the majority of residents identify as white. This is especially true in the case of Predominantly Black neighborhoods. She makes a distinction between Predominantly Black and Predominantly Hispanic communities, however, likening Hispanic neighborhoods in the 1990s to black communities of the pre-Civil Rights era (Flippen 2004). She posits that Predominantly Hispanic neighborhoods are not as undervalued as

their black counterparts, not because of less discrimination on the part of homebuyers identifying as white, but rather because there is still a large influx of new residents identifying as Hispanic who may express a clear preference for living in what are essentially ethnic enclaves (Flippen 2004:1544).

In another piece using the Health and Retirement Study, Flippen asserts the need for more research on the dynamics of Hispanic residential segregation and its effects on the wealth gap between Americans identifying as Hispanic and those identifying as white in “Racial and Ethnic Inequality in Homeownership and Housing Equity” (2001). In it, she argues that homeowners identifying as Hispanic appear to be superficially privileged over homeowners identifying as black in their accumulation of home equity. However, once she controls for marital status and geographic location, Americans identifying as Hispanic are just as disadvantaged as those identifying as black (2001:144). These controls were necessary because married people are more likely to own homes and to have higher mean equity than non-married people, and people identifying as Hispanic are more likely to be married. Geographic location was important because people identifying as Hispanic are disproportionately located in regions of the country in which homeownership is more likely and mean home equity is higher. The fact that these demographic differences between the black and Hispanic communities in the United States explain the seeming disparity in homeownership rates between the two groups indicates that non-white status, rather than particular racial or ethnic identity, may be the most influential in determining the likelihood of owning a home (Flippen 2001). This study is limited, however, by Flippen’s (2001) use of a pre-retirement aged sample – which makes it difficult to generalize her findings across age groups.

In their exhaustive research of the sources of home equity gaps between homeowners identifying as white, black, Hispanic and Asian, Krivo and Kaufman (2004) foreshadow Flippen (2010) in finding that factors exogenous to the housing market explain most of the gap between mean Hispanic housing equity and mean black housing equity. They posit that the structural derivation of many of these factors – family status and region, for example – acts as more evidence that prospective homebuyers do not enter the market equally and are already burdened or privileged (Krivo and Kaufman 2004). Additionally, Krivo and Kaufman (2004:598) find that variables that positively influence the ability of homeowners identifying as white to accumulate home equity – household income, education, large down payments and age – influence homeowners identifying as black and Hispanic to a far lower magnitude. That is, homeowners identifying as white are able to translate their income, education, existing assets and years of life into housing wealth more efficiently than are homeowners identifying as black or Hispanic.

Although the existing literature is certainly largely comprehensive and explores many facets of the correlations between racial and ethnic identity, income, loan products and neighborhood choice, while focusing on discrimination at key points in the home purchase transaction, little attention has been paid to the choices individuals make, given that they have been approved for particular loan programs and that they have managed to purchase some home. The ramifications for wealth accumulation on a macro level remain largely unexplored. The existing literature does not substantially treat the differing availability of homes in different neighborhoods for real actors, or the choices that real actors make in a given metropolitan area. It does not address how these choices, and the

racial and ethnic affiliations of the people who make them, affect homebuyers' ability to accumulate housing wealth. Nor does it combine systematic analyses of the macro- and micro-level patterns occurring in a single place during a given time period. This research begins to close this gap.

**Hypotheses:**

The research questions and review of the literature lead to the use of two levels of analysis to investigate the interaction of race and wealth: analysis of neighborhood dynamics and analysis of individual choice. For this reason, there are hypotheses at both the neighborhood and individual transaction levels.

***Neighborhood Level Hypothesis:***

1. Because of the extensive literature regarding the under-valuation of and lower rates of return on properties in neighborhoods in which the majority of homeowners are non-white, this research hypothesizes that Predominantly Black and Hispanic tracts will have significantly lower median home values and significantly lower home appreciation rates than Predominantly White tracts. Additionally, drawing on Massey and Denton's extensive work, this research hypothesizes that these correlations will remain significant after controlling for rates of college completion, poverty and single parent householding.

***Individual Level Hypothesis:***

2. In keeping with the segregation literature, as well as research done on preference, homebuyers who identify as black will be more likely to purchase in Predominantly Black tracts and homebuyers who identify as Hispanic will be more likely to purchase

in Predominantly Hispanic tracts. This relationship will remain even after controlling for income and loan type. Thus, homebuyers identifying as black or Hispanic will purchase homes that are in tracts with lower median home values and lower appreciation rates. These relationships will remain after controlling for income, loan type and value.



## **Research Methods**

This research employs two levels of analysis to investigate the interaction of race and wealth – analysis of neighborhood characteristics and analysis of individual choice. At the level of neighborhoods, it explores the influence of neighborhood racial and ethnic composition on the value of neighborhood homes and their rates of appreciation. To analyze neighborhoods, the thesis could evaluate census blocks, tracts or zip codes. Although zip codes may have proven the most convenient way of grouping neighborhoods, this research uses census tracts as the primary unit of analysis for the neighborhood selection dependent variable because prior researchers have recommended tracts as the most useful for gauging neighborhood dynamics (Iceland and Steinmetz 2003). At the level of individuals, it explores the influence of homebuyers' races and ethnicities on homebuyers' neighborhood selections in Tampa and its suburbs. At both levels of analysis and informed by the existing literature, it controls for appropriate socio-economic variables. Both neighborhood and individual analyses are completed through the use of thorough statistical analyses of existing large data sets.

## **Data**

### ***Neighborhood Level Analysis***

#### The 2000 Census

The 2000 Census was taken on April 1, 2000. In conjunction with its publication, the Census Bureau updated tract boundaries within counties – creating 249 tracts in Hillsborough County, Florida. The census collected a *short form*, asking a limited number of questions, from every person in the United States, and a *long form* from approximately 1 in 6 households. Census long forms are considerably longer and more comprehensive than short forms, asking questions regarding educational attainment, place of birth, native language and disability.

#### The American Community Survey

The American Community Survey is a representative survey completed by the Census Bureau annually. Recipients of survey forms are required by Title 13 of the US Code to complete the questions to the best of their ability and knowledge. The Census Bureau makes data available on an annual basis for geographies and populations of more than 65,000 people. They also compile 3-year data for geographies and populations of 20,000 and 5-year data for all geographies and populations – including census tracts. The compilation of 3 and 5-year data increases the statistical significance of survey data,

allowing the data user to use data on progressively smaller populations with confidence. On the tract level, the 2005-2009 data offers both the most recent and most accurate information about demography and housing characteristics available.

### The Multiple Listing Service

The Greater Tampa Association of Realtors (GTAR) gave this researcher access to limited data from their proprietary Multiple Listing Service (MLS). Complete MLS data includes an almost unlimited data regarding home sales – including home address, date it was listed for sale, date it was sold, county property parcel identification number (PIN), availability for loan programs, and square footage. For the purposes of this research, GTAR provided:

- PINs
- Sold Dates
- Sold Prices
- Financing Eligibility

### The Property Appraiser Dataset

The Hillsborough County Property Appraiser maintains a dataset of information regarding all land parcels in the county. This dataset includes not only information regarding the land, but the buildings and structures erected on the land. Information included in the dataset include property parcel identification numbers, physical addresses, acreage, square footage of building(s), year of construction, just taxable value, sales records and tax information. This research uses the property appraiser data

mainly as a keyed table to join MLS data to physical addresses using PIN numbers present in both datasets.

### *Individual Level Analysis*

#### The Home Mortgage Disclosure Act Data

The Home Mortgage Disclosure Act (HMDA) provides the research with extensive data regarding home mortgage applications. The dataset from 2008 is used in this research and includes, by law, all depository and non-depository institutions that made home mortgage loans in that year. Data variables in the HMDA dataset include:

- The loan amount
- The purpose of the loan (home purchase, home improvement, refinancing)
- The type of property involved (single-family, multifamily)
- The loan type (conventional loan, FHA loan, VA loan)
- The location (state, county, MSA and census tract) of the property
- The race of the borrower(s)
- The ethnicity (Hispanic or non-Hispanic) of the borrower(s)
- The gender of the borrower(s)
- Whether or not the loan was granted

## **Analytic Strategy**

Using American Community Survey data from 2005-2009 and Multiple Listing Service data from 2008, this research analyzes socio-economic and racial/ethnic data on a tract-level for Hillsborough County neighborhoods. The thesis uses OLS regression and controls for neighborhood socio-economic characteristics and loan program availability in tracts, while exploring the relationship between the neighborhoods' racial and ethnic composition, their median home values and their home appreciation rates.

Using HMDA and ACS data, this research also explores the choices of individual homeowners. Measures of individual racial and ethnic affiliation, income, loan value and mortgage finance choice are tested for correlation with selected neighborhood typology. The thesis uses OLS and logistic regressions, as appropriate, to control for non-racial predictors of neighborhood selection.

## **Data Collection and Sample**

The use of various datasets is distributed between this research's two levels of analysis.

### ***Neighborhood Level of Analysis:***

- Census tract boundaries for Hillsborough County tracts are determined by the Census 2000 data.
- Census tract demographics for Hillsborough County, including racial and ethnic composition are determined using ACS data from the 2005-2009 survey.
- Census tract socio-economic statistics, including poverty rates, rates of single parent householding and educational attainment, are determined using ACS data from the 2005-2009 survey.
- Median home values are from the ACS data from the 2005-2009 survey.
- Appreciation rates are calculated using the difference between 2000 Census median home values and 2005-2009 ACS values.
- Loan product availability rates for tracts were determined by joining MLS data to Property Appraiser data – joining Property ID numbers to Addresses. Using look-up functionality made available by the Census Bureau, this research joins property addresses to tracts, determining the percent of homes in each tract that were available for purchase by homebuyers with various types of financing.

***Individual Level of Analysis:***

- Data regarding the neighborhood choice of individual homeowners are from the HMDA dataset for 2008. These data included information on buyer racial and ethnic identification, buyer loan type and value and buyer income as well as the census tract that the loan is being written in.

Only home loan applications are used in this data analysis, and loan applications for property improvements or mortgage refinances are discarded. Analysis is also restricted to approved home loan applications in order to avoid the logical fallacy of considering people’s wishes to be equivalent to their choices – excluding those loan applications that were denied, withdrawn, or recorded as part of the institutional re-sale process. After this data cleansing, 11,637 originated applications for new home purchases remained for analysis. These 11,637, applications do not represent a sample of Hillsborough homebuyers for 2008 – they are the full universe of applications for that location and year. These numbers are presented in Table 1.

**Table 1:** Full Universe of Home Mortgage Disclosure Data 2008

<b>Action Type</b>	<b>Improvements</b>		<b>New Purchases</b>		<b>Refinances</b>		<b>Total</b>	
<b>Accepted, Not Originated</b>	373	0.6%	<b>1,799</b>	<b>2.9%</b>	2,426	4.0%	4,598	7.5%
<b>Denied</b>	1,795	2.9%	<b>4,905</b>	<b>8.0%</b>	10,912	17.9%	17,612	18.8%
<b>File Not Complete</b>	102	0.2%	<b>739</b>	<b>1.2%</b>	1,114	1.8%	1,955	3.2%
<b>Purchased by Institution</b>	120	0.2%	<b>4,921</b>	<b>8.1%</b>	3,584	5.9%	8,625	14.1%
<b>Originated</b>	<b>1,087</b>	<b>1.8%</b>	<b>11,637</b>	<b>19.1%</b>	<b>9,852</b>	<b>16.1%</b>	<b>22,576</b>	<b>37.0%</b>
<b>Withdrawn</b>	303	0.5%	<b>2,033</b>	<b>3.3%</b>	3,363	5.5%	5,699	9.3%
<b>Total</b>	3,780	6.2%	<b>26,034</b>	<b>42.6%</b>	31,251	51.2%	61,065	100.0%

*Table compiled by author using HMDA data 2008*

Of the 11,637 available applicant records, the research excludes another 1,473 applications, or 12.7% of the total, because they will not be owner occupied upon closing. Buyers are required to disclose on their mortgage applications whether or not they will occupy the home as a primary residence. Because this research concerns patterns of residential segregation among homeowners, investment properties are excluded. This reduction leaves an N of 10,164 for analysis and represents the full universe of originated applications for the new purchase of homes by owner occupants in Hillsborough County in 2008.

Tampa was chosen as the MSA for this research for a number of reasons. Despite higher-than-average rates of homeownership, with 73% of Hillsborough County residents owning their homes in the second quarter of 2009 (US Census Bureau 2009), compared to 67% of Americans nation-wide (US Census Bureau 2009b), and the ongoing demographic shift in the United States towards the Southern metropolises (Campbell 1997), Southern metropolises are largely ignored in the research on neighborhood selection. Also, because Southern cities suffer from lower levels of spatial segregation than Northern and Midwestern cities (Massey and Denton 1993), they are largely missing from the segregation literature as well.

Hillsborough County was also chosen as a sample of convenience because of the researcher's location at the University of South Florida Tampa campus. This physical proximity made the Greater Tampa Realtors' Board far more helpful in opening access to their proprietary Realtor Multiple Listing Service than another Realtor board would have been. These data were indispensable to the analysis and access to it made Hillsborough County the natural choice for this analysis.



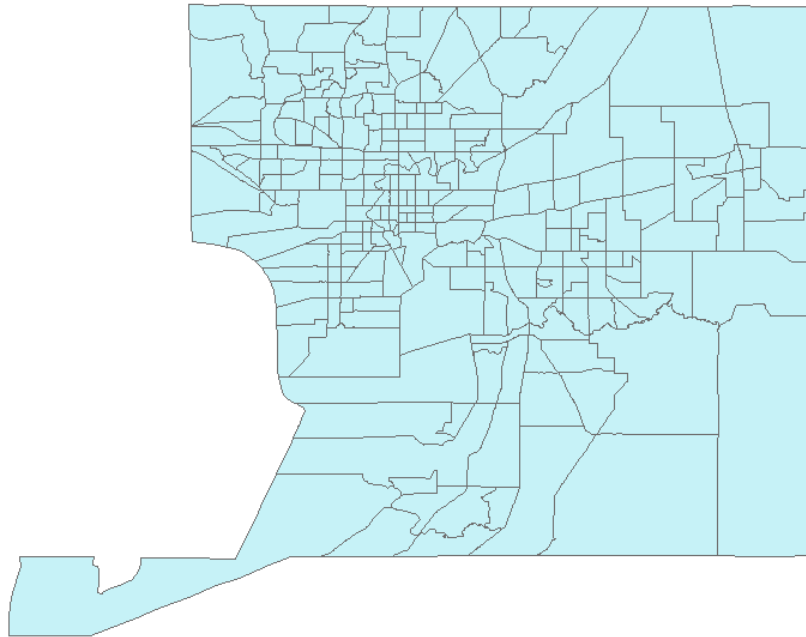
This research explored HMDA and MLS data for the year 2008 – a choice that has both significant benefits and drawbacks. As much of the recent literature in economics has demonstrated (Cecchetti 2008; Taylor 2008), 2008 was a year marked by financial uncertainty, stagnation in both the housing market and the larger economy, and widespread foreclosures and “short sales.” Because of the multiple crises in 2008, the results of this study will almost certainly not be applicable to other, more typical, historical periods or future years. The stringent underwriting guidelines that prevailed in 2008, however, allow this research to explore the roles of financing and income in neighborhood choice without having to consider vastly disparate and complex issues of sub-prime loans, predatory lending and vastly inflated home prices.

## Measures

### *Neighborhood Level*

#### Census Tract

For the purposes of this research, “neighborhood” is defined as census tract. There are 249 census tracts in Hillsborough County, pictured in Figure 1, and they vary in population from 513 to 14,308 residents. They also vary in such measures as race and ethnicity, availability of loan programs, median value of owner occupied units, appreciation rates of owner occupied units, single parent householding, poverty, and educational attainment, as well as within tract boundaries.



**Figure 1:** Hillsborough County Census Tracts – 2000 Enumeration  
*Compiled by the author using shapefile data from the US Census Bureau (US Census Bureau 2001)*

### Racial and Ethnic Composition

The research explores the racial and ethnic compositions of the neighborhoods that buyers of varying races, incomes and loan choices choose, and operationalizes the rather nebulous concept of “neighborhood composition” using tract racial and ethnic statistics from the 2005-2009 ACS. Using Fasenfest et al.’s (2005) neighborhood typologies, this research uses ACS data to classify tracts by the racial or ethnic group with which most residents identify. Per this research, tracts labeled “Predominantly White” are those in which at least 80% of all residents identify as white. At least 50% of all residents in “Predominantly Black” neighborhoods identify as black and over 50% of all residents in “Predominantly Hispanic” neighborhoods identify as Hispanic (Fasenfest et al. 2005). Fasenfest et al. (2005) also designate a “Predominantly Other” neighborhood typology, in which greater than 50% of residents identify as either Asian, Pacific Islander or Native American. There are no “Predominantly Other” census tracts in Hillsborough County, and so this designation is not used in this research.

Fasenfest et al. (2005) make a compelling argument for the use of static percentages in the designation of neighborhood typologies. Using comparative percentages, which would take into account the overall ethnic and racial composition of an MSA or county and define relative homogeneity based on standard deviations from that composition, would not only make neighborhoods in which no change in ethnic or racial composition have occurred subject to changes in classification should the composition of the region change but would allow, for example, a tract in Salt Lake City that was 5% black to be labeled “Predominantly Black,” because the MSA is only 1%

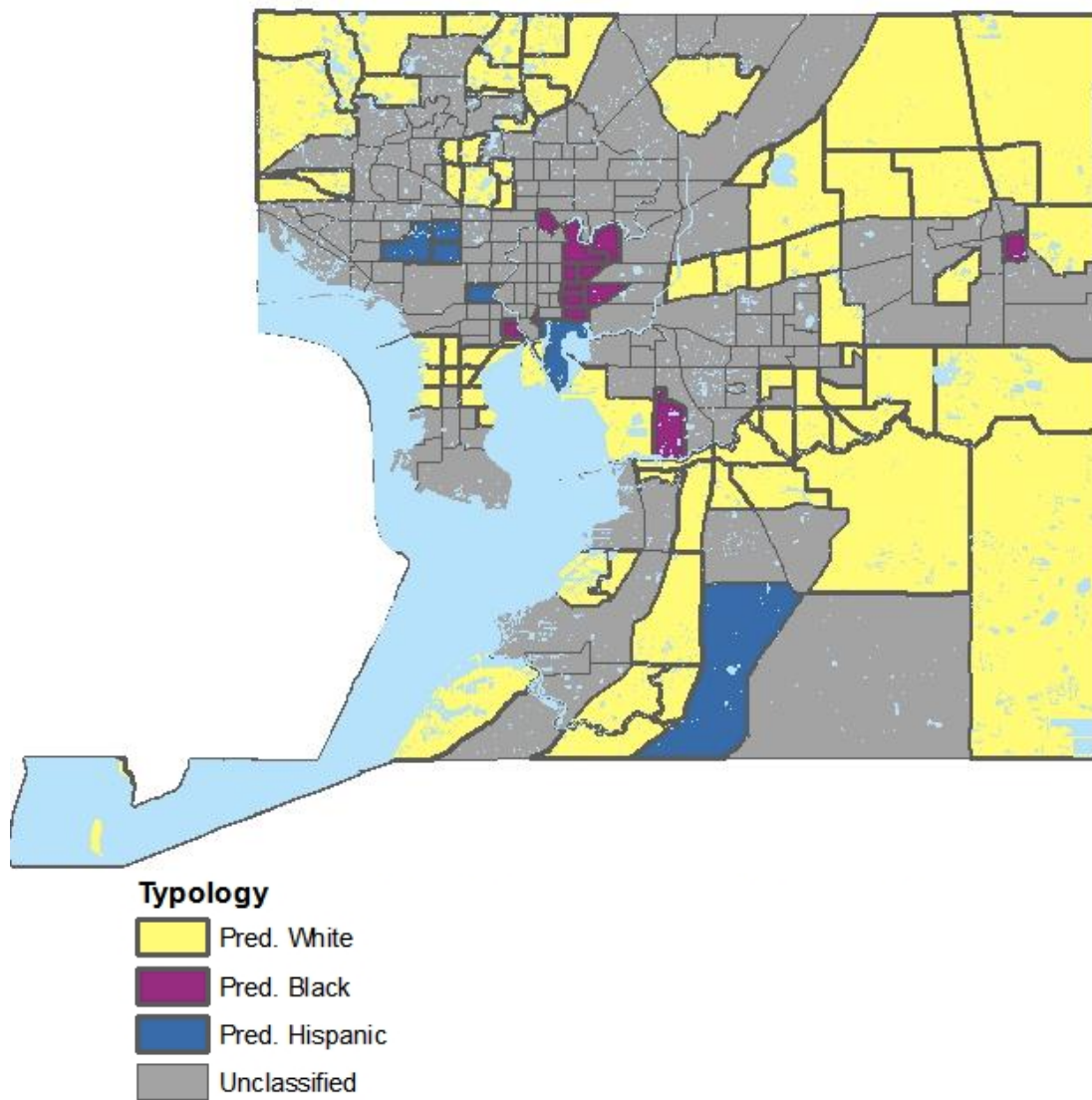
black overall. For these reasons, Fasenfest et. al. (2005) insist on an absolute typology. The threshold for “Predominantly White” is higher than the corresponding thresholds for “Predominantly Black” or “Predominantly Hispanic” in recognition of the fact that most Americans identify as white. The authors posit that a neighborhood in which 75% of residents identify as white and 25% identify as black is not considered particularly “white,” whereas one in which 75% of neighborhood residents identify as black – six times as many as do in the United States as a whole – that neighborhood can be characterized as “Predominantly Black.”

As shown in Table 2, there were 155 relatively heterogenous, or “unclassified” neighborhoods, in Hillsborough County. There were 94 homogenous, “classified,” neighborhoods, which represented nearly 40% of the tracts in the county. Just over a third of the population lived in a neighborhood with a racial typology – 28.5% in Predominantly White neighborhoods, 4.8% in Predominantly Black neighborhoods, and 3.4% in Predominantly Hispanic neighborhoods – while 63.3% lived in unclassified, relatively heterogeneous neighborhoods.

**Table 2:** Neighborhood Typologies of Hillsborough County Census Tracts

	<b>Number of Tracts</b>	<b>Total Population</b>
Predominantly White (>80%)	75 (30.1%)	284,227 (28.5%)
Predominantly Black (>50%)	13 (5.2%)	48,193 (4.8%)
Predominantly Hispanic (>50%)	6 (2.4%)	33,575 (3.4%)
<b>Classified Neighborhood</b>	<b>94 (37.8%)</b>	<b>365,995 (36.6%)</b>
<b>Unclassified Neighborhood</b>	<b>155 (62.2%)</b>	<b>632,953 (63.3%)</b>
<b>Total</b>	<b>249 (100%)</b>	<b>998,948 (100%)</b>

*Data compiled by author using Fasenfest et. al (2005) and ACS data*



**Figure 2:** Neighborhood Typologies of Hillsborough County Census Tracts  
*Map created by author using Fasenfest et. al (2005), Census 2000 and ACS data*

Figure 2 depicts the spatial distribution of neighborhood typologies in Hillsborough County. Predominantly Black neighborhoods are located just north of Downtown Tampa and east of Nebraska Avenue – a large, continuous area covering much of Ybor City, Sulphur Springs and East Tampa. Predominantly Hispanic neighborhoods, designated in blue, are mainly in the western part of the county in a

neighborhood referred to as Town 'n' Country. A smaller enclave is just northwest of downtown Tampa and is referred to as West Tampa. Predominantly White neighborhoods are located in costly South Tampa and rural, exurban areas of the county – essentially split between exclusive, desirable tracts and low-income, low-education agricultural communities.

Referring to Massey and Denton's (1993) five elements of segregation, one can begin to characterize its relative levels in Hillsborough County. The spatial distribution of Predominantly Black tracts show that they conform to the clustered, centralized form described in *American Apartheid* as typical of segregated neighborhoods. This is less true of Predominantly Hispanic neighborhoods in Hillsborough County which, while somewhat clustered, are less so than their Predominantly Black counterparts and not particularly centralized. The donut-like pattern made by Predominantly Black, heterogeneous and Predominantly White neighborhoods is one that is familiar to most scholars of racial segregation, as it shows tracts predominantly populated by minorities closest to the central city, followed by largely integrated inner-ring suburbs and then Predominantly White exurban and rural areas.

#### Median Value of Owner Occupied Units

Using ACS data from the 2005-2009 5-year estimates (US Census Bureau 2010), this research also includes the median value of owner-occupied units. These data were a critical variable in the characterization of census tracts for the purposes of this research. Median values vary considerably and move from a low of \$19,200 to a high of \$684,000. The median value of owner occupied housing in Hillsborough County was \$200,600.

Two tracts were missing data on the median value of owner occupied units – 73 and 109. Tract 73, MacDill Airforce Base, had no owner occupied units. Tract 109, largely the University of South Florida, did not have values computed by the Census Bureau. Table 3 shows the distribution of median values among census tracts, with four tracts having median home values beneath \$50,000 while thirty have home values exceeding \$300,000.

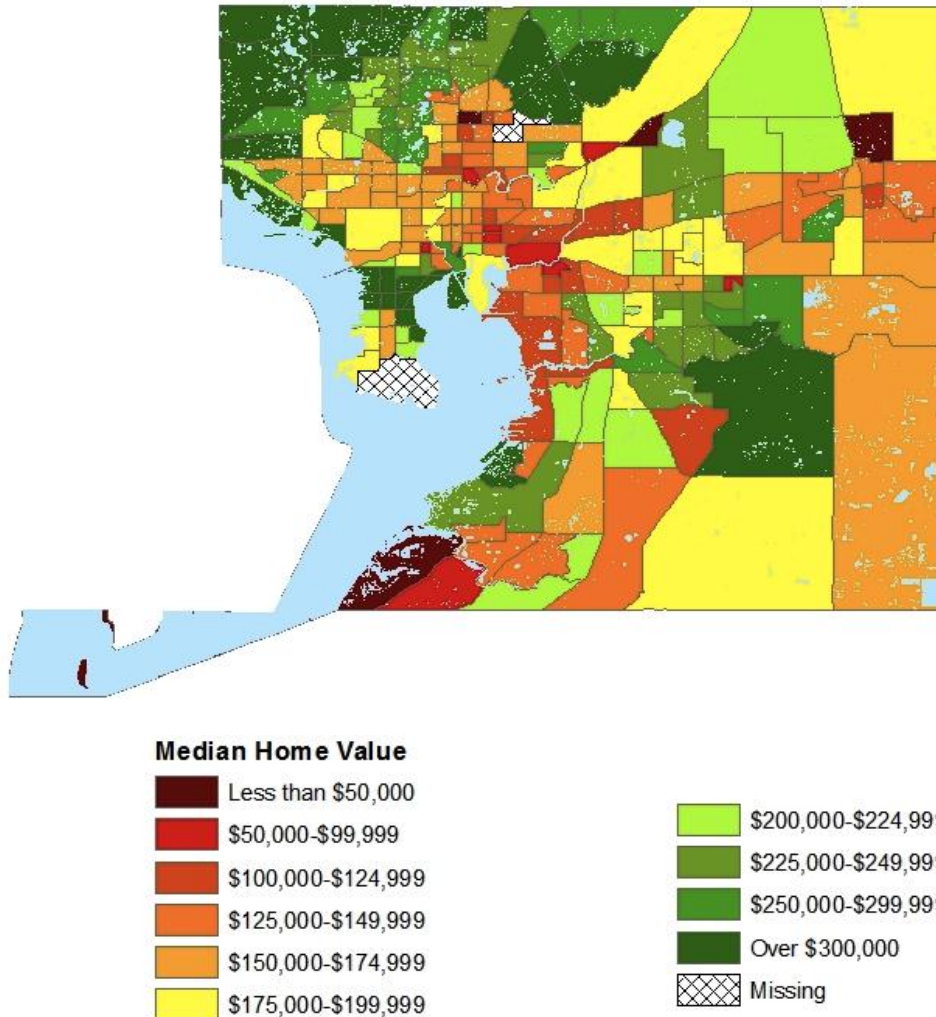
**Table 3:** Median Value of Owner Occupied Units, Distribution among Census Tracts

<b>Median Home Value Price</b>	<b>Number and Percentage of Tracts</b>	
Less than \$50,000	4	2%
Between \$50,000 and \$99,999	9	4%
Between \$100,000 and \$124,999	17	7%
Between \$125,000 and \$149,999	37	15%
Between \$150,000 and \$174,999	50	20%
Between \$175,000 and \$199,999	29	12%
Between \$200,000 and \$224,999	26	11%
Between \$225,000 and \$249,999	24	10%
Between \$250,000 and \$299,999	21	9%
Over \$300,000	30	12%
<b>Total</b>	<b>244</b>	<b>100%</b>

*ACS Data, compiled by author.*

Figure 3 explores these data spatially and shows the lowest Median Home Values to be in Tampa’s central city and its furthest exurbs. Communities in the far western edges of the county, along Tampa Bay and bordering wealthy areas of Pinellas County, as well as South Tampa, Lithia in the southern part of the county and most of the Northwestern suburbs, including Lutz, had the highest median home values. Not surprisingly, tracts that were close spatially tended to be similar in value, with low and high-value areas clustered together. That suburban homes in Hillsborough County are

valued higher than either exurban or central city locations is to be expected given the work of Anacker (2010), Flippen (2004), and Krivo and Kaufman (2004), and this is the pattern we see in Hillsborough County.



**Figure 3:** Median Value of Owner Occupied Units, Distribution among Census Tracts

#### Appreciation Rate of Owner Occupied Units

Using ACS data from the 2005-2009 5-year estimates (US Census Bureau 2010) and data from the 2000 decennial Census, this research also includes the appreciation rate of owner-occupied units in Hillsborough County tracts. These data were a critical



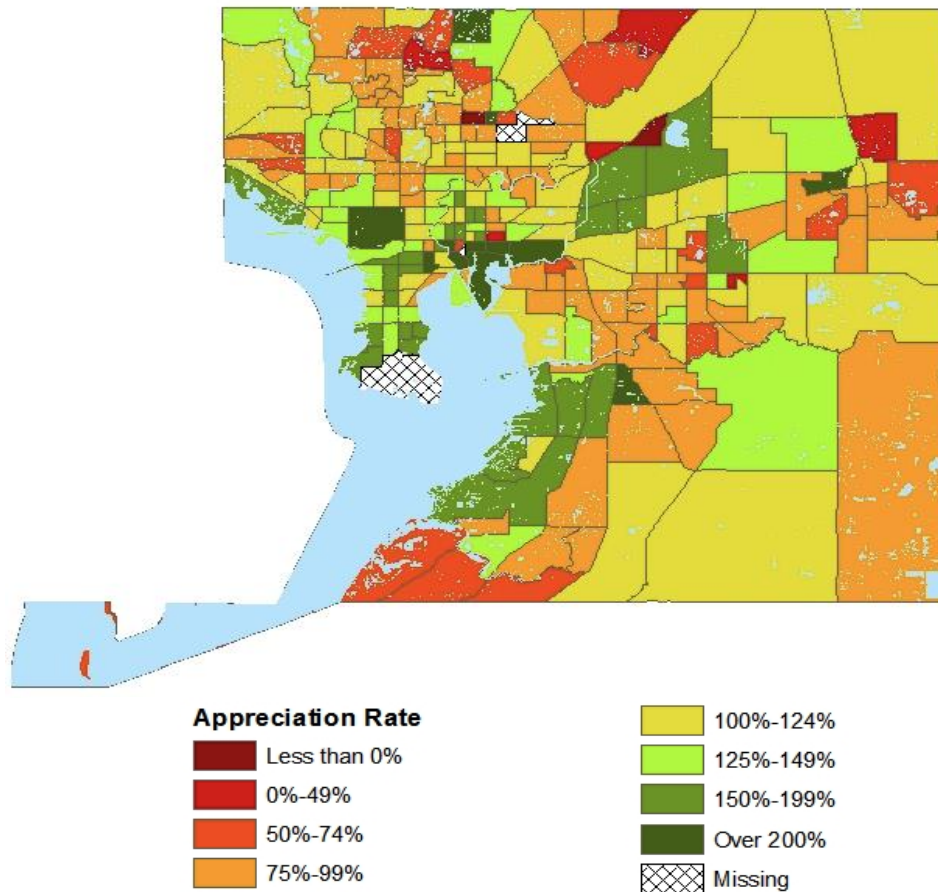
variable in the characterization of census tracts for the purposes of this research in that home appreciation determines the rate of return on a home investment. The median tract appreciation rate in Hillsborough County during this time period was 107.5% and the mean was 116.7%. As mentioned, two tracts, 73 and 109, were missing data on the median value of owner occupied units, and one tract, 40, had a margin of error that exceeded \$100,000 in the ACS data and was converted into a missing value. Before it was redacted, census tract 40, a small, mainly commercial tract near downtown Tampa, was a far outlier, as its rate of appreciation appeared to be over 1,600%.

**Table 4:** Appreciation in Value of Owner Occupied Units between 2000 and 2009, Distribution among Census Tracts

<b>Appreciation in Home Values</b>	<b>Number and Percentage of Tracts</b>	
Depreciation - Less than 0%	2	1%
Between 0% and 49%	6	2%
Between 50% and 74%	19	8%
Between 75% and 99%	77	31%
Between 100% and 124%	67	27%
Between 125% and 149%	35	14%
Between 150% and 199%	28	11%
Over 200%	12	5%
<b>Total</b>	<b>246</b>	<b>100%</b>

*ACS Data, compiled by author.*

As Table 4 shows, two tracts experienced depreciation from 2000 to 2009. On the other side of the appreciation spectrum, twelve tracts experienced appreciation rates that exceeded 200%. Figure 4 presents this information spatially, showing the highest levels of appreciation in the “gentrifying” areas of Hyde Park, Seminole Heights and Palm Cove.



**Figure 4:** Appreciation in Value of Owner Occupied Units between 2000 and 2009, Spatial Distribution among Census Tracts

The appreciation rates shown on Figure 4 appear to relate more to patterns of gentrification and “urban renewal” than to race *per se*. In fact, cursory inspection appears to show the opposite pattern from that which would be expected given the literature – it appears that appreciation rates may be higher in urban locations and lower in suburban tracts. Although the lowest appreciation rates appear to be in exurban and rural tracts, where there were also some of the lowest median home values, suburban neighborhoods near Brandon and North Tampa suffered nearly as badly. Above average appreciation

rates, given the pattern shown in Figure 4, appeared to have occurred in central Tampa and dissipated with distance from downtown.

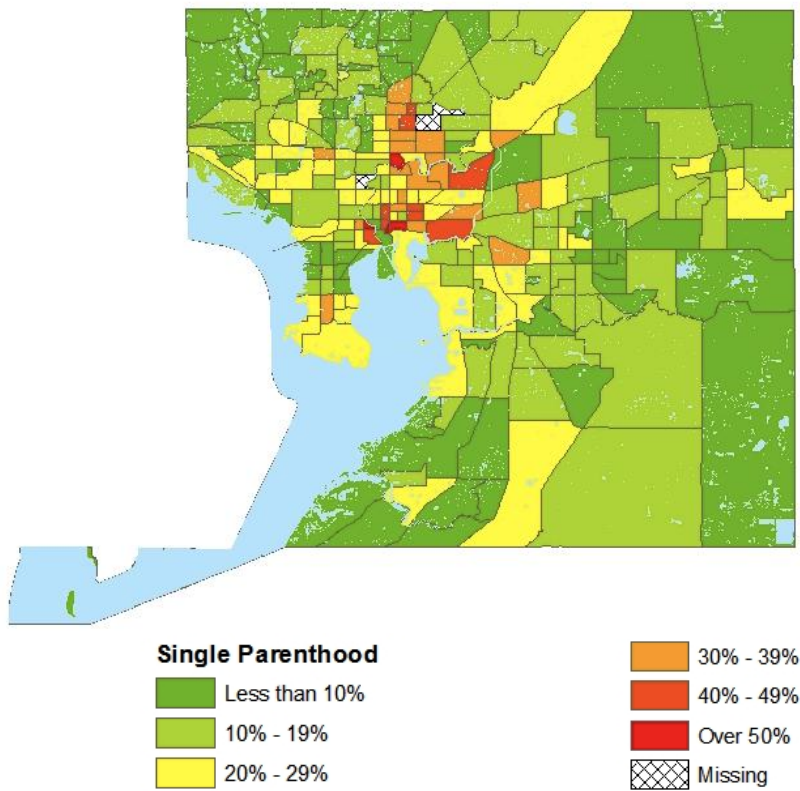
### Single Parent Householding

Using ACS data from the 2005-2009 5-year estimates (US Census Bureau 2010), this research includes the percent of tract families with children under 18 in the home who are headed by unmarried men or women. Hillsborough County families are headed by, on average, single parents 17% of the time. Tract 43, a small area known as Bowman Heights located just west of Ybor City, had the highest rate of single parenthood – 71% of families were headed by an unmarried person. Five tracts had extremely low rates of single parenthood, with rates that were lower than a quarter of one percent. As Table 5 shows, four tracts had rates of single parent householding that exceeded 50%, while the vast majority – nearly 87% – had less than 30%.

**Table 5:** Families Headed by a Single Parent, Distribution among Census Tracts

<b>Percent of Families – Single Parent</b>	<b>Number and Percentage of Tracts</b>	
Less than 10%	70	28%
Between 10% and 19%	82	33%
Between 20% and 29%	62	25%
Between 30% and 39%	20	8%
Between 40% and 49%	9	4%
More than 50%	4	2%
<b>Total</b>	<b>247</b>	<b>100%</b>

ACS Data, compiled by author.



**Figure 5:** Families Headed by a Single Parent, Distribution among Census Tracts

These data are presented in Figure 5. The map clearly shows a preponderance of single parent headed households in Central and East Tampa, with rates becoming lower

as the distance from city center increases. Rural tracts in exurban Hillsborough County, as well as those in South Tampa, appear to have some of the lowest rates of single-parent headed households.

Rates of single parent householding are also highly correlated to neighborhood typology. As Table 6 shows, census tracts that are Predominantly White have rates of single parent householding that are over 10% lower than those of unclassified neighborhoods. Predominantly Black tracts, however, have rates that are over 15% greater. The difference in single parent householding rates between Predominantly Hispanic and unclassified neighborhoods was statistically insignificant. Because of the relationship between rates of single parent householding and neighborhood typology, tract rates of single parent householding are included in neighborhood level analyses as a control variable.

**Table 6:** OLS Regression of Rates of Single Parent Householding, by Neighborhood Typology

	<b>Single Parent Householding b</b>
<b>Constant</b>	20.273***
<b>Unclassified Tract</b>	reference
<b>Predominantly White Tract</b>	-10.199***
<b>Predominantly Black Tract</b>	15.543***
<b>Predominantly Hispanic Tract</b>	0.216

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

#### Poverty Status in Previous 12 Months

Using ACS data from the 2005-2009 5-year estimates (US Census Bureau 2010), this research includes the percent of tract households whose income for the previous 12

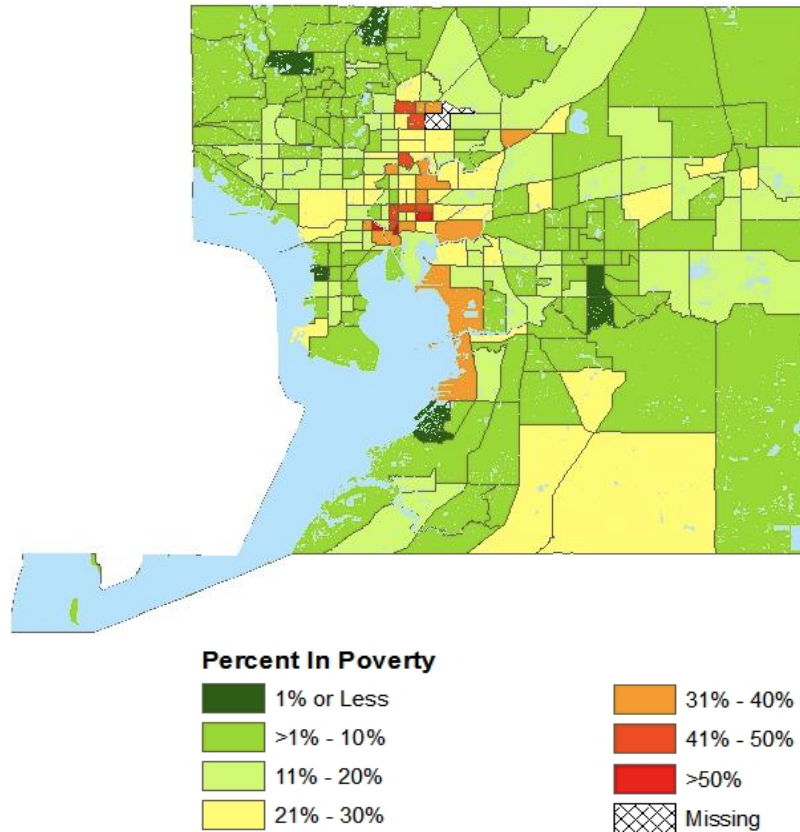
months was beneath the poverty level for a household of that size. In Hillsborough County as a whole, 13.5% of households lived in poverty in the period between 2005 and 2009. Individual tracts varied in their poverty rates from a low of .36% to a high of 85.66%. As presented in Table 7, six tracts had a poverty rate that was below 1%, while in three tracts, the majority of households were below the poverty level.

Figure 6 shows that the distribution of poverty in Hillsborough County was clustered around the central city, with neighborhoods in East Tampa and Sulphur Springs suffering from some of the highest levels of poverty in Hillsborough County. Palm River and Gibsonton, on the east coast of Tampa Bay, were also beset with high poverty rates. In a pattern that is becoming familiar, poverty rates then seem to generally decline as one moves out from the central city, rising slightly in the exurbs in the south of the county.

**Table 7:** Households Below the Poverty Level, Distribution among Census Tracts

<b>Percent Below Poverty Level</b>	<b>Number and Percentage of Tracts</b>	
1% or fewer	6	2%
Between 1% and 10%	108	44%
Between 11% and 20%	77	31%
Between 21% and 30%	34	14%
Between 31% and 40%	13	5%
Between 41% and 50%	7	3%
More than 50%	3	1%
<b>Total</b>	<b>247</b>	<b>100%</b>

*ACS Data, compiled by author.*



**Figure 6:** Households Below the Poverty Level, Distribution among Census Tracts

Rates of poverty, as one may deduce from the spatial data, are significantly correlated to neighborhood typology. Table 8 shows the results of an OLS regression of neighborhood typology on poverty rates and shows that a census tract being Predominantly White predicts 9.3% fewer households in the tract living in poverty than would in an unclassified neighborhood. A tract being Predominantly Black, however, predicts rates that are nearly 19% greater. Predominantly Hispanic tracts tend to have slightly higher rates of poverty than unclassified tracts, but this difference may be chance and may also be singular to the Tampa Region, which has a relatively affluent Hispanic population.

These findings are certainly in line with the literature that finds that Predominantly Black neighborhoods are not only poorer, but have higher levels of unemployment, welfare dependency and incarceration (Massey, Gross and Eggers 1991; Massey and Denton 1993; Wilson 1987). Because of the relationship between rates of poverty and neighborhood typology, tract rates of poverty are included in multivariate neighborhood level analyses as a control variable. This inclusion will prevent the conflation of the effects of poverty and those of race and ethnicity.

**Table 8:** OLS Regression of Rates of Poverty, by Neighborhood Typology

	<b>Percent of Households in Poverty b</b>
<b>Constant</b>	16.563***
<b>Unclassified Tract</b>	reference
<b>Predominantly White Tract</b>	-9.312***
<b>Predominantly Black Tract</b>	18.662***
<b>Predominantly Hispanic Tract</b>	1.322

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

#### Educational Attainment

Using ACS data from the 2005-2009 5-year estimates (US Census Bureau 2010), this research includes the percent of tract residents with a college degree in its characterization of census tracts. In Hillsborough County, 28.65% of adults over the age of 25 have completed at least a Bachelor’s degree. There is, however, not an equal distribution of college degrees throughout the county. As Table 9 shows, thirty-eight tracts have college completion rates of less than 10%, and in six tracts fewer than 5% of adults over 25 have college degrees. On the other side of the spectrum, in 10% of tracts



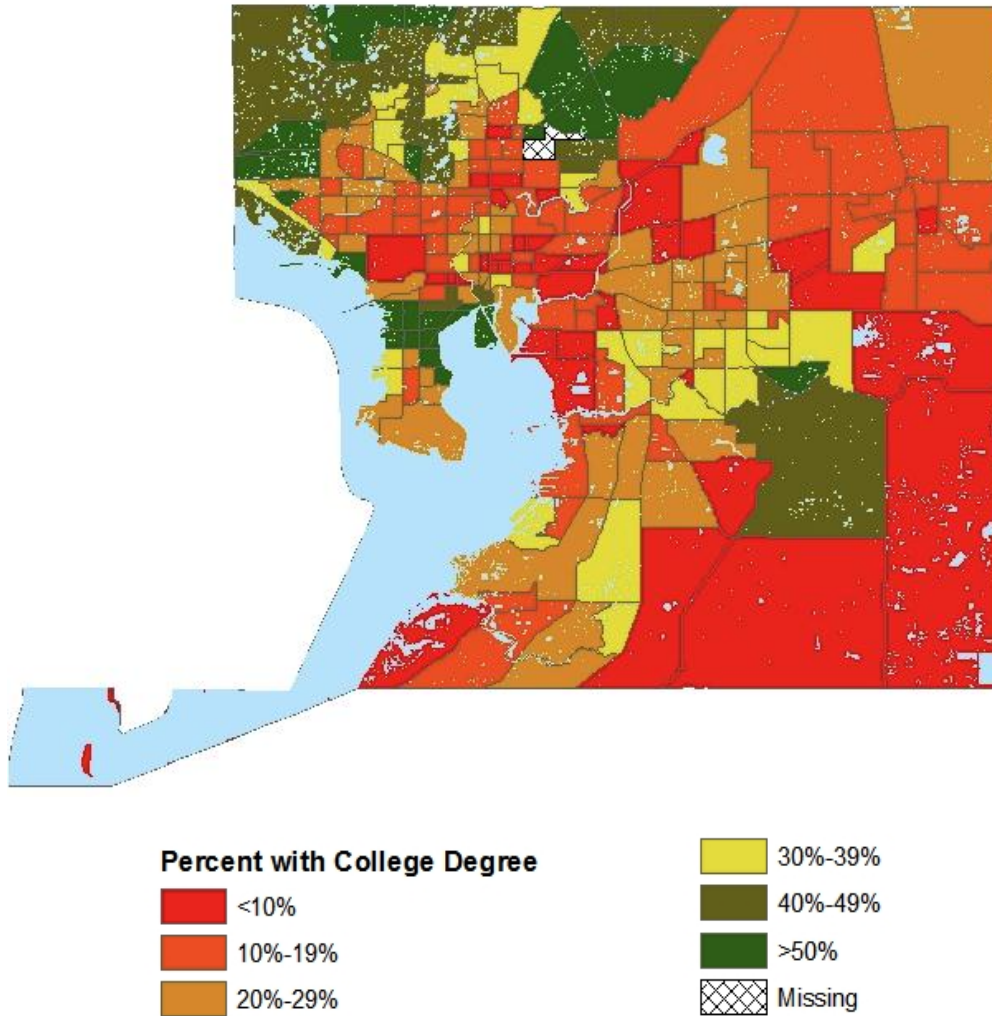
the majority of adults have college degrees and, in two tracts, more than three in four adults have completed college.

**Table 9:** Residents with a Bachelor’s Degree, Distribution among Census Tracts

<b>Percent with a Bachelor’s Degree</b>	<b>Number and Percentage of Tracts</b>	
Less than 10%	38	15%
Between 10% and 19%	66	27%
Between 20% and 29%	59	24%
Between 30% and 39%	35	14%
Between 40% and 49%	25	10%
More than 50%	25	10%
<b>Total</b>	<b>248</b>	<b>100%</b>

*ACS Data, compiled by author.*

Figure 7 shows that the distribution of educational attainment in Hillsborough County is distributed unevenly and, to a degree, unexpectedly throughout the county. Although areas with high median home values in South Tampa and around Lutz in the north of the county have the highest rates of college completion, areas around the central city do not appear to have the lowest. Although East Tampa has low rates of college completion, the area around Sulphur Springs has a relatively high percentage of adults with college degrees. Exurban areas in the south and east of the county consistently appear to have some of the lowest rates of college completion.



**Figure 7:** Residents with a Bachelor’s Degree, Distribution among Census Tracts

The majority of the literature points to lower rates of college completion and overall educational attainment in Predominantly Black and Predominantly Hispanic neighborhoods. William Julius Wilson (1987) and Massey and Denton (1993) all set the standard for the sociological research on this point – people identifying as black or Hispanic have lower mean rates of educational attainment than their white counterparts, and neighborhoods in which minorities are segregated suffer from lower rates of high

school and college completion as the few members of each group that manage to obtain the education necessary to excel in the job market leave these neighborhoods.

Table 10 shows that, in Hillsborough County, rates of college completion are significantly correlated to neighborhood typology, but in the opposite manner from what the literature would lead us to expect. Table 10 presents the results of an OLS regression of neighborhood typology on college completion rates and shows that a census tract being Predominantly White predicts 10.2% fewer adults over the age of 25 in the tract having completed a BA than would have in an unclassified neighborhood. A tract being Predominantly Black, however, predicts rates that are over 15% greater. Predominantly Hispanic tracts also tend to have higher rates of college completion than unclassified tracts, but this difference is slight and not statistically significant.

**Table 10:** OLS Regression on Rates of College Completion

	<b>Percent of Adults over 25 with College Degrees b</b>
<b>Constant</b>	20.273***
<b>Unclassified Tract</b>	reference
<b>Predominantly White Tract</b>	-10.199***
<b>Predominantly Black Tract</b>	15.543***
<b>Predominantly Hispanic Tract</b>	0.216

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

It can be posited that the rates of college completion in Hillsborough County, much like rates of appreciation, are influenced by recent patterns of gentrification. Drawing again from Figure 7, it appears to be those Predominantly Black and Predominantly Hispanic neighborhoods that are closest to the central city that have

relatively higher levels of college completion among adults. Given the influx of relatively well-educated, creative professionals to these neighborhoods, these tracts may have higher levels of educational attainment than predicted by the literature on inequality only because this literature does not treat gentrification as a concurrent phenomenon. The reason behind this correlation notwithstanding, tract college completion rates are included in multivariate neighborhood level analyses as a control variable to isolate results of education from those of racial and ethnic composition.

### Mortgage Financing Availability

One of the major characteristics of a given tract is the availability of its property to prospective buyers using various loan programs. Given the literature that shows a disparity in home loan program usage between homebuyers of different racial and ethnic identities, this research considers how a greater or lower proportion of FHA homes may affect the desirability of census tracts. Using MLS data for every home sold in 2008, this research compiles data on the percentage of homes available to be purchased using FHA and other government guaranteed programs for each census tract. The mean FHA eligibility of tracts in Hillsborough County was 25.67%. As Table 11 shows, these numbers vary greatly. The lowest percentage of any of the 249 tracts in Hillsborough County was 0% and the highest 100%. Three tracts – 40, 43 and 73 – were missing data on this measure in the MLS dataset. Two of these tracts, 40 and 43, are mainly commercial and had no homes listed for sale during 2008. One, 73, is MacDill Airforce Base and thus had no homes for sale on the private real estate market.

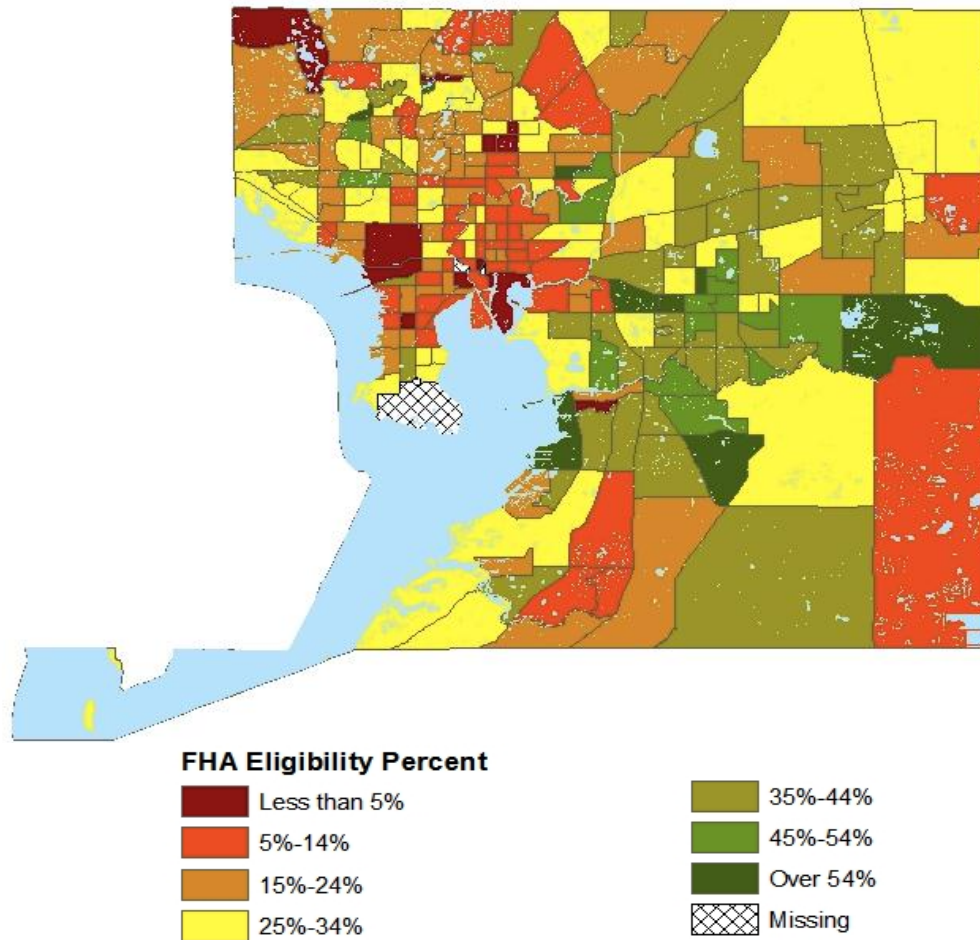
**Table 11:** FHA Financing Availability Distribution among Census Tracts

<b>Percent of Homes Eligible for FHA Financing</b>	<b>Number and Percentage of Tracts</b>	
Less than 5%	12	4.9%
5%-14%	52	21.1%
15%-24%	60	24.4%
25%-34%	58	23.6%
35%-44%	40	16.2%
45%-54%	15	6.1%
More than 54%	9	3.7%
Total	246	100%

*MLS data, compiled by author.*

Availability of home loan programs is also related to neighborhood racial and ethnic typology. Figure 8 shows a clear pattern of high availability in middle-value suburban neighborhoods and low availability in both the central cities and pricy enclaves. Notably, neighborhoods that experienced some of the lowest rates of appreciation between 2000 and 2009 appear to have some of the lowest rates of FHA eligibility.

Table 12 seems to concur with this observation, showing that census tracts that are homogenous, whether Predominantly Black, Hispanic or White, have a lower proportion of homes eligible to be sold with FHA home mortgages than do unclassified neighborhoods. The disparities between FHA availability in unclassified neighborhoods and other neighborhood types are not always statistically significant, however. This is true even when controlling for the value of homes in the neighborhood, desirable in a full model to control for the probability that higher valued homes will be in better condition and thus more likely to be eligible for more stringent loan collateral standards.



**Figure 8:** FHA Financing Availability Distribution among Census Tracts

According to Table 12, Predominantly Black neighborhoods, even after controlling for their lower median home values, have far fewer homes that are available to be purchased using FHA home loans than unclassified neighborhoods. While, controlling for median home value, a predicted 31.2% of homes in unclassified neighborhoods are eligible for FHA financing, only 18.5% of homes in black neighborhoods are eligible for the program.

**Table 12:** OLS Regressions on FHA Availability

<b>Independent Variables</b>	<b>Restricted Model b</b>	<b>Full Model b</b>
<b>Constant</b>	0.271***	0.312***
<b>Unclassified Tract</b>	reference	reference
<b>Predominantly White Tract</b>	-0.022	-0.006
<b>Predominantly Black Tract</b>	-0.113*	-0.127**
<b>Predominantly Hispanic Tract</b>	-0.081	-0.086
<b>Tract Median Home Value</b>		-2.190E-7*
<b>R-Squared</b>	0.032	0.047

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

The relative lack of availability of FHA homes in Predominantly Black neighborhoods is unexpected, given the findings of Gabriel (1996) and Berkovic et al. (1994). If the FHA program is non-discriminatory in its lending practices, then one would expect to see an equal distribution on FHA eligibility over all neighborhood typologies. This does not appear to be the case, however. Because of the association between neighborhood typology and FHA loan eligibility, this research uses the rate of FHA loan eligibility as a control variable in multivariate analyses.

### ***Individual Level***

#### **Race and Ethnicity**

This research measures racial identification consistently throughout this thesis using the census and HMDA data categories: American Indian or Alaska Native, Asian, African American or black, Native Hawaiian or other Pacific Islander, white and multi-racial. For the purposes of this study, Hispanic ethnic origin or ancestry is calculated as a

racial category among HMDA mortgage applicants. This was done by combining the ethnicity and race categories of applicants – when the individual chose “Hispanic” as an ethnicity, they were considered to be “Hispanic,” irrespective of their racial identification. For those applicants marking “Non-Hispanic” as an ethnicity, their self-identified racial category was retained. The original ethnic and racial identification among HMDA cases show that the majority of Hispanics – 1,358 of 1,470 Hispanics reporting, or 92% – originally identified as white. Only 3% of those self-identifying as black and 0.5% identifying as Asian also identified as Hispanic and were ultimately classified as Hispanic. Seven people, or 17% of those identifying as Native American said they were ethnically Hispanic – probably descendants of Mayans in Mexico or Central America – and were classified as Hispanic.

**Table 13:** Hispanic Ethnicity in the HMDA Data

<b>Racial Identification</b>	<b>Ethnic Identification</b>				<b>Total</b>	
	<b>Hispanic</b>		<b>Not Hispanic</b>			
Asian	8	0.1%	<b>318</b>	3.6%	326	3.7%
Black	43	0.5%	<b>910</b>	10.3%	953	10.8%
Native American	7	0.1%	<b>35</b>	0.4%	42	0.5%
Pacific Islander	54	0.6%	<b>27</b>	0.3%	81	0.9%
White	1,358	15.4%	<b>6,055</b>	68.7%	7,413	84.1%
<b>Total</b>	<b>1,470</b>	16.7%	7,345	83.3%	8,815	100%

*HMDA Data, compiled by author.*

Unexpectedly, 67% of applicants racially identifying as Pacific Islander also gave their ethnicities as Hispanic. Given the work done by Mays et al. (2003) regarding the tendency of Filipinos to self-classify as Asian, but to choose Native Hawaiian/Pacific Islander in a significant minority of cases, while generally choosing Hispanic as an



ethnicity, it can only be assumed that these 54 applicants were of Filipino descent. They are classified as Hispanic in this research. As seen in Table 13, these calculations yielded a total of 1,470 homebuyers identifying as Hispanic, 318 as Asian, 910 as black, 35 as Native American, 27 as Pacific Islanders, and 6,055 as white.

Many applicants in the HMDA data set – 978, or 9.6% of the total – did not identify either an ethnicity or a race. A small number, 3.7% of the total, answered either an ethnicity or a race, but not both. Applicants who did not answer the race or ethnicity question, as well as those who did not answer the race question were assigned missing status. Of those who did not answer the race question, 82 self-identified as being of Hispanic ethnicity. These applicants were classified as “Hispanic,” as they would have been irrespective of racial affiliation, raising the number of applicants with racial affiliations in this research to 8,897 and the number of homebuyers identifying as Hispanic to 1,552. In order to simplify most regressions, this research combines Asian, Native American and Pacific Islander into a single “other” category that comprises 380 applicants, or 4%, of the total.

### Income

Income is measured, in thousands, as the gross total income declared for the purposes of acquiring a home loan. When a single head of household applies for a home loan, only his or her income is reported on the home loan application. When a married couple or other partnership applies jointly, it is this joint income that is used in regression models. Although this practice necessarily doubles income figures for some people of the same socio-economic class solely by virtue of their having acquired a partner, it is an

accurate reflection of the partnership's buying power, which fuels the home purchase and neighborhood selection decision.

Median incomes among households applying to purchase new homes in Hillsborough County were higher than for households in the county in general – \$72,000 versus \$49,594 (US Census Bureau 2010). The mean income for these households was much higher than the median, \$101,100, and was skewed upwards by the presence of incomes far higher than the median, including 32 incomes of over \$1,000,000 each.

Table 14 presents the distribution of median household incomes among homebuyers in Hillsborough County. Notably, only 1.6% of homebuyers made less than \$25,000 a year, despite the fact that there were many homes available for less than \$75,000 – homes which would have been easily affordable to buyers in this income bracket. Approximately one-quarter of homebuyers made less than the median household income in Hillsborough County, and approximately one-quarter made more than twice the median household income.

**Table 14:** Household Incomes Distributions among Homebuyers

<b>Median Household Income</b>	<b>Number and Percentage of Buyers</b>	
Less than \$25,000	164	1.6%
Between \$25,000 and \$49,999	2,397	23.9%
Between \$50,000 and \$74,999	2,738	27.3%
Between \$75,000 and \$99,999	1,791	17.8%
Between \$100,000 and \$149,999	1,616	16.1%
Between \$150,000 and \$199,999	538	5.4%
Between \$200,000 and \$299,999	457	4.6%
Between \$300,000 and \$999,999	305	3.0%
Over \$1,000,000	32	0.3%
<b>Total</b>	<b>244</b>	<b>100%</b>

*HMDA Data, compiled by author.*

### Mortgage Finance Choice

The data used in this research contains information on three types of home mortgages – conventional, FHA-insured and VA-insured. Finance choice is treated as a binary, however, by aggregating FHA and VA mortgages. These programs have functionally equal underwriting guidelines regarding property and buyer eligibility and the application and qualification processes are very similar. The only large, albeit significant, difference between the two is that only U.S. military veterans are eligible for the marginally cheaper VA loans. Given this, keeping VA loans separate from FHA loans would actually function to add a fourth independent variable to the model, military status, rather than illuminate mortgage finance choice’s correlation to neighborhood selection.

Cash transactions are also not included in this analysis, although the rejection of mortgage use could, in a sense, be considered a mortgage finance choice. This decision was made for both practical and philosophical reasons. Cash transactions are outside of the purview of my data sets and are very difficult to collect information on, as they can

only be deduced by the subtraction of county mortgage lien rolls from property sales records. They can also be extremely misleading – how do you control for intra-family property transactions in which parents sell their primary residence to a child for a token sum, for example? Although this topic is not extensively explored, investors, corporations and others purchasing property for business rather than for personal consumption may be disproportionately represented among cash buyers and there is no way separate them from buyers who intend to live in the home. These challenges caused a restriction of this analysis to only those buyers applying for and receiving loans for their home purchases.

Because the type of loan is the single most distinguishing characteristic of the loan application, there are no missing data in this variable. As shown in Table 15, FHA loans comprised 31.9% of loans underwritten in Hillsborough County in 2008. When other government-backed loans were added, they comprised 42.3% of all loans. Conventional loans were 57.7% of all loans underwritten.

**Table 15:** Loan Choice among Home Buyers

<b>Financing Type</b>	<b>Number and Percentage of Buyers</b>	
FHA	3,247	31.9%
Federally Guaranteed	74	0.7%
VA	976	9.6%
<b>All Gov't (FHA in this research)</b>	<b>4,297</b>	<b>42.3%</b>
<b>Conventional</b>	<b>5,867</b>	<b>57.7%</b>
<b>Total</b>	<b>10,164</b>	<b>100.0%</b>

*HMDA Data, compiled by author.*

## Loan Value

All data regarding loan values come from data reported by individual applicants through the HMDA. The median loan amount originated was \$174,000 and mortgages for as little as \$5,000 and as much as \$3,000,000 were written in 2008. Unsurprisingly, the mean loan amount – \$208,790 – was significantly higher than the median because of substantial amounts of very highly priced loans.

Table 16, shown below, presents the distribution of loan values in the HMDA data. For FHA loans, these represent 97% of the total sales price of the home. For conventional loans, these generally represent 80% of the total sales price of the loan – but may represent as little as 10% or as much as 30% of the total sales price. One percent of the loans were for less than \$25,000 dollars, while 3% were for greater than \$500,000.

**Table 16:** Loan Value Distributions among Home Buyers

<b>Loan Value</b>	<b>Number and Percentage of Buyers</b>	
Less than \$25,000	96	1%
Between \$25,000 and \$74,999	515	5%
Between \$75,000 and \$124,999	1,701	17%
Between \$125,000 and \$174,999	2,849	28%
Between \$175,000 and \$224,999	2,058	20%
Between \$225,000 and \$299,999	1,513	15%
Between \$300,000 and \$399,999	759	8%
Between \$400,000 and \$499,999	396	4%
Between \$500,000 and \$749,999	136	1%
Between \$750,000 and \$999,999	79	1%
Over \$1,000,000	62	1%
<b>Total</b>	<b>10,164</b>	<b>100%</b>

*HMDA Data, compiled by author.*

## Neighborhood Selection

The research explores the neighborhood selections that homebuyers ultimately make. In this respect, the typology of the neighborhood in which the homebuyer selects a home is a variable in the individual level analysis. As one can see in Table 17, 42.1% of homebuyers purchased homes in classified neighborhoods, 87% of these, or 36.8% of the total, purchased in Predominantly White neighborhoods. A slim majority of homebuyers, 57.8%, chose unclassified, heterogeneous neighborhoods. These data indicated that classified, homogenous, neighborhoods were preferred by homeowners – only 36.7% of the population of Hillsborough County lived in these neighborhoods, but 42.1% of homebuyers chose them for home purchases. Unclassified neighborhoods experienced the opposite effect, while 63.3% of the population lived in them, only 57.8% of homeowners chose these neighborhoods.

**Table 17:** Homebuyer Neighborhood Typology Selections

<b>Number and Percentage of Homebuyers</b>	
Predominantly White (>80%)	3,746 (36.8%)
Predominantly Black (>50%)	367 (3.6%)
Predominantly Hispanic (>50%)	173 (1.7%)
<b>Classified Neighborhood</b>	<b>4,286 (42.1%)</b>
<b>Unclassified Neighborhood</b>	<b>5,880 (57.8%)</b>
<b>Total</b>	<b>10,169 (100%)</b>

*Data compiled by author using Fasenfest et. al (2005) and MLS data*

## **Multivariate Analysis:**

### ***Neighborhood Level Analysis***

As the Restricted Model of Table 18 reports, Predominantly White tracts have significantly higher median home values than unclassified neighborhoods, while Predominantly Black or Predominantly Hispanic tracts have significantly lower median home values than unclassified neighborhoods. They also have significantly higher median home values than tracts that are unclassified typologically. The typical home in an unclassified neighborhood in Hillsborough County, Florida, is valued at \$185,968.63. If that home is located in a Predominantly White neighborhood, this research finds that one can anticipate the home being valued 40% higher, at \$261,141.34. Conversely, if the home is located in a Predominantly Black neighborhood, it will be valued 28% lower – for a predicted value of \$133,746.16. The disparity between unclassified neighborhoods and Predominantly Hispanic neighborhoods is not statistically significant, but the relationship appears to be negative.

The relationship between median home values and neighborhood typology loses significance when loan availability data and socio-economic characteristics of the neighborhood are introduced, as can be seen in the Full Model presented in Table 14. In these data, home valuation can be more accurately ascribed to poverty levels, residents' educational attainment and the availability of FHA home loans in the neighborhood than they can be ascribed to neighborhood racial and ethnic typologies *per se*. As can be seen

by the adjusted R-square values reported in Table 14, using neighborhood typologies as the sole independent variables will create a model that accounts for 15.4% of the variance in median home values across census tracts. Including socio-economic variables in this model, however, increases explanatory power to 39.9% and including the additional variable of percentage of homes available for FHA loan further increases the percent of variance predicted by the model – to 46.9%. These adjusted R-squared values imply that, while just over 15% of median home value can be attributed to racial composition, approximately twice that figure can be attributed to non-racial socio-economic and home finance variables.

**Table 18:** OLS Regression on Predicted Median Home Values among 249 Census Tracts in Hillsborough County, Florida

<b>Independent Variables</b>	<b>Restricted Model b</b>	<b>Model with SES Markers b</b>	<b>Full Model b</b>
Constant	185,968.63***	225,074.53***	273,126.03***
Unclassified Tracts	reference	reference	reference
Predominantly White	75,172.71***	32,423.30**	18,374.34
Predominantly Black	-52,222.47*	5,284.99	658.27
Predominantly Hispanic	-22,268.63	-15,728.37	-18,603.61
Percent in Single Parent Household		-998.65	-992.38
Percent In Poverty		-2,427.76***	-3,959.90***
Percent Population College Degree		2,239.11***	2,060.23***
Percent of homes that are FHA Eligible			-796.07*
R-Squared	0.164	0.414	0.484
Adjusted R-Squared	0.154	0.399	0.469

*Markers of statistical significance – \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1*



Additionally, it should also be noted that when these control variables are introduced, being in a Predominantly Black neighborhood may work to increase home valuation – although this relationship is not statistically significant and may be only chance. This apparent contradiction of existing literature may be true in Hillsborough County, where Predominantly Black, low-income, central city neighborhoods have experienced considerable resurgence in comparison to Predominantly White, low-income, rural areas that are far from transportation and employment.

Surprisingly, and in contradiction of generally accepted rules of supply and demand, increased availability to FHA homebuyers in a given neighborhood is associated with lower home prices, and an increase of 1% of housing stock eligible for FHA financing predicts a tract median home price that is \$797 lower, controlling for other factors. This may indicate that more eligibility for FHA loans makes a neighborhood more accessible to the lower-income, minority homebuyers that use these products – and thus perceived as less exclusive, which may depress home values.

The findings detailed in Table 18 indicate that low property values in Hillsborough County are more about socio-economic status proxies than race or ethnicity *per se*. Homebuyers appear willing to spend more to live near well-educated, middle-class and affluent neighbors. Racial and ethnic measures seem to proxy these effects when they are not specifically controlled for but, once these socio-economic measures are added to the model predicting home values, they become the sole significant predicting variables.

These findings are surprising given the research of Harris (1999), Massey and

Denton (1993) and Anacker (2010). Each of these researchers finds a relationship between low home values and racial and ethnic composition that exists independent of socio-economic factors. Despite controlling for similar socio-economic variables as those used in this research, they maintain that there is a sizeable and statistically significant “discount” associated with a home being in a Predominantly Black or Predominantly Hispanic neighborhood.

Looking at home value appreciation over time rather than home values, Table 19 reports that neighborhood racial typology is not, *ipso facto*, a significant predictor of likely home appreciation in Hillsborough County – even when socio-economic factors are not included in the model. Although the pattern of correlation indicates that both Predominantly White and Predominantly Black neighborhoods appreciate at a slower rate than Predominantly Hispanic and unclassified neighborhoods, this pattern is not statistically distinguishable from zero. This restricted model is not, itself, statistically significant, lending another level of dubiousness to these findings.

The full model, which includes both socio-economic variables and neighborhood typology ones, is statistically significant and yields more concrete results than the restricted model. As seen in Table 19, controlling for socio-economic factors, homes in Predominantly Black neighborhoods appreciated 23% less than homes in unclassified neighborhoods between 2000 and 2005-2009. This means that a home purchased in 2000 for \$100,000 in an unclassified, heterogenous neighborhood would have been worth, on average, \$197,050 in 2005-2009 – while a home in a Predominantly Black neighborhood with similar socio-economic characteristics would have been worth only \$174,040.

Levels of significance in predicting appreciation were far lower than in predicting home value, however. The negative affect of “Predominantly Black” on home value appreciation was significant to a  $p < 0.10$ , a low value when compared to levels of significance in the earlier models. Overall adjusted R-squared figures were also far less than those that emerged from the regression models used to predict median home values. A full model – including both neighborhood typologies and socio-economic characteristics – predicts only 4.5% of the variance in home value appreciation between census tracts in Hillsborough County.

**Table 19:** OLS Regression on Predicted Home Value Appreciation among 249 Census Tracts in Hillsborough County, Florida

Independent Variables	Restricted Model b	Model with SES Markers b	Full Model b
Constant	120.38***	97.05***	98.228***
Unclassified Tracts	reference	reference	reference
Predominantly White Tracts	-11.39	-5.21	-5.21
Predominantly Black Tracts	-10.63	-23.01†	-23.07†
Predominantly Hispanic Tracts	13.78	-14.23	-13.79
Single Parent Household		0.66	0.66
Percent In Poverty		0.26†	0.27
Percent Population College Degree		0.63**	0.62**
Percent of homes that are FHA Eligible			-0.44
R-Squared	0.011	0.075	0.073
Adjusted R-Squared	-0.001	0.052	0.045

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

Home appreciation rates appear to have a fundamentally different relationship with racial and ethnic composition than do median home values. While the latter look as if they are governed by socio-economic factors like poverty rates and educational attainment, home appreciation rates seem to have a relationship with racial and ethnic composition – specifically, the percentage of residents that identify as Black – that exists independent of socio-economic factors. While only including racial and ethnic measures produces a statistically insignificant model with no statistically significant relationships between any of the neighborhood typologies and neighborhood appreciation rates, the full model that accounts for socio-economic variables present a different story. Controlling for poverty rates, single parent householding and educational attainment means that a neighborhood being Predominantly Black is clearly correlated with a 23% decrease in the appreciation rate from 2000 to 2009.

These findings may be again related to gentrification patterns in Hillsborough County – appreciation rates were highest in tracts that gentrified over the given period. Overwhelmingly, tracts that gentrified began this transition with less desirable socio-economic conditions. Higher rates of poverty and single parent householding are thus nominally correlated with increased rates of appreciation. However, higher rates of college completion, generally agreed to be a socio-economic positive, are also associated with higher rates of appreciation – perhaps this is an indication that gentrification is more likely to take place in those tracts with a significant population of well-educated residents, a population which would grow as a result of the gentrification it initially attracted. The results of this research indicate that, controlling for these socio-economic

variables, there was significantly less appreciation in Predominantly Black neighborhoods than in other, socio-economically comparable, tracts.

Although these initial findings show that the socio-economic characteristics of a neighborhood are at times more clearly correlated with both median home value and home appreciation than are neighborhood racial and ethnic typologies, this research has already demonstrated that these socio-economic markers are in turn closely associated with neighborhood racial and ethnic typologies. In other words, despite the fact that single parent householding, poverty rates and educational attainment play a large role in the valuation of housing and its appreciation rates, one that seems to exceed the role of race *per se* in the former case, these variables are also strongly associated with neighborhood typology.

### ***Individual Level Analysis***

Tables 20 and 21, presented below, detail the neighborhood typologies of home purchases among individual homebuyers. Restricted models consider solely the racial and ethnic identities of homebuyers, while full models consider their incomes and loan programs. As shown in Table 20, homebuyers identifying as black are 673% more likely to purchase homes in Predominantly Black neighborhoods than are homebuyers identifying as white. Controlling for homebuyer income and loan program – the two elements that determine a purchaser’s real estate buying power – homebuyers identifying as black remain 442% more likely to purchase in a Predominantly Black neighborhood.

**Table 20:** Logistic Regression - Likelihood of Purchasing in a Predominantly Black Neighborhood

Independent Variables	Restricted Model Exp(b)	Full Model Exp(b)
Constant	.022***	.121***
White Identification	reference	reference
Black Identification	7.729***	5.738***
Hispanic Identification	1.737***	1.239
“Other” Identification	.980	1.193
FHA Loan		1.720***
Income (thousands)		.994**
Loan Amount (thousands)		.991***
N	8,894	8,823

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

Table 21 illustrates that the same principle holds for homebuyers identifying as Hispanic, though the likelihood of a homebuyer identifying as Hispanic choosing a home in a Predominantly Hispanic neighborhoods is not as great. Using only racial and ethnic identities as predictor variables, homebuyers identifying as Hispanic are 352% more likely than those identifying as white to purchase homes in Predominantly Hispanic neighborhoods. Once loan program and income have been controlled, homebuyers identifying as Hispanic actually become even more likely to buy in Predominantly Hispanic neighborhoods – 368% more likely than homebuyers identifying as white.

**Table 21:** Logistic Regression – Likelihood of Purchasing a Home in a Predominantly Hispanic Neighborhood

Independent Variables	Restricted Model Exp(b)	Full Model Exp(b)
Constant	.012***	.015***
White Identification	reference	reference
Black Identification	.866	.933
Hispanic Identification	4.527***	4.632***
“Other” Identification	1.391	1.362
FHA Loan		.772
Income (thousands)		1.000*
Loan Amount (thousands)		.999
N	8,894	8,823

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

Using an FHA loan, which homebuyers identifying as black are more likely to do (Krivo and Kaufman 2004; Shear and Yezer 1985), further increases the likelihood of a homebuyer selecting a Predominantly Black tract by 40%. Each increase of one thousand dollars of income makes a homebuyer that identifies as black approximately 2% less likely to purchase a home in a Predominantly Black neighborhood. Homebuyers that identify as Hispanic experience the opposite effects. Using an FHA loan product makes a homebuyer identifying as Hispanic approximately 22% less likely to purchase in a Predominantly Hispanic neighborhood. Income does not affect homeowners that identify as Hispanic – money does not appear to make them more or less likely to purchase in Predominantly Hispanic tracts.

The finding that use of FHA loan programs is associated with an increased selection of Predominantly Black tracts was particularly unexpected given earlier

findings, shown in Table 12, that presented the relative unavailability of FHA loans in Predominantly Black neighborhoods. Despite having access to fewer FHA-eligible homes from which to choose within their selected neighborhoods, homebuyers identifying as black who use FHA loans are still far more likely to purchase in Predominantly Black tracts than their white counterparts.

Neighborhood-level analyses have shown that Predominantly Black and, to a lesser degree, Predominantly Hispanic tracts, have lower median home values than unclassified or Predominantly White neighborhoods and it is not surprising that individual-level analyses show the effects of this. As shown in Table 22, identifying as Black predicts purchase of a home in a neighborhood with mean home values that are \$59,132.27 lower than the neighborhood in which a homebuyer identifying as white would buy. Assuming that a homeowner identifying a black earns the same income, has the same loan product and borrows the same amount of money as a homebuyer identifying as white, he or she can expect to purchase a home in a neighborhood with homes worth \$38,270.80 less than does a buyer identifying a white. These figures are statistically significant at  $p < .001$  and, to a lesser extent, hold for homebuyers identifying as Hispanic.



**Table 22: OLS Regression of Median Home Values of Neighborhoods Selected**

Independent Variables	Restricted Model b	Full Model b
<b>Constant</b>	\$250,018.43***	\$209,617.08***
<b>White Identification</b>	reference	reference
<b>Black Identification</b>	-\$59,132.27***	-\$38,270.80***
<b>Hispanic Identification</b>	-\$42,719.78***	-\$27,133.23***
<b>“Other” Identification</b>	-\$4,740.80	-\$12,128.62**
<b>Income (thousands)</b>		\$0.54
<b>FHA Loan</b>		-\$35,111.89***
<b>Loan Amount (thousands)</b>		\$250.62***
<b>R-Squared</b>	0.052	0.248
<b>Adjusted R-Squared</b>	0.052	0.247

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

Table 23 confirms the relationships seen between appreciation rates and Predominantly Black and Predominantly Hispanic neighborhoods in the purchase decisions of individuals. A restricted model that regresses only buyer racial and ethnic identity on appreciation rate of selected neighborhood shows that homebuyers identifying as black purchase in neighborhoods with appreciation rates that are 4.28% lower than do homebuyers identifying as white and homebuyers identifying as Hispanic have appreciation rates that are 4.66% lower. Controlling for income, loan program and loan amount yields appreciation rates that are -3.58% lower for homebuyers identifying as black and -4.07% lower for those identifying as Hispanic. Although appreciation models explained a negligible amount of variance in appreciation rates – less than 1% – the

correlation between racial and ethnic identity and appreciation rate in the selected neighborhood is statistically significant.

**Table 23:** OLS Regression of Appreciation Rates of Neighborhoods Selected

Independent Variables	Restricted Model b	Full Model b
<b>Constant</b>	116.62***	115.61***
<b>White Identification</b>	reference	reference
<b>Black Identification</b>	-4.28**	-3.58†
<b>Hispanic Identification</b>	-4.66**	-4.07**
<b>“Other” Identification</b>	-5.42†	-5.46†
<b>Income (thousands)</b>		0.01
<b>FHA Loan</b>		-0.984
<b>Loan Amount (thousands)</b>		0.004
<b>R-Squared</b>	0.002	0.002
<b>Adjusted R-Squared</b>	0.002	0.002

*Markers of statistical significance – \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$*

These findings are especially important given the earlier results of neighborhood-level analysis of appreciation rates. Although the role of racial and ethnic composition on neighborhood appreciation rates is significant when socio-economic factors are controlled, the additional finding that members of racial and ethnic minorities purchase homes in neighborhoods with significantly lower rates of appreciation is important. Regardless of the possible influence of gentrification patterns in Hillsborough County, homebuyers identifying as Black or Hispanic purchased in neighborhoods that appreciated less from 2000 to 2009 than did homebuyers identifying as white.

## **Discussion**

The findings of this study were surprising in many ways. While decades of segregation literature has shown a clear and significant association between a neighborhood's racial and ethnic composition and a variety of socioeconomic indicators, this research found that socio-economic measures like single parent householding, educational attainment and poverty rates explain, to far greater degree than measures of racial and ethnic composition, disparities in median home values across neighborhoods. Although Predominantly Black and Predominantly Hispanic tracts are characterized by lower socio-economic indicators than other tracts, once a neighborhood's racial typology and its socioeconomic indicators are included in the same predictive model, it is clear that the neighborhood's socioeconomic indicators have a greater influence on median home values. This finding contradicts the results of Harris (1999), Anacker (2000) and Flippen (2004). Less surprising was the significance of some neighborhood racial typologies in predicting home appreciation rates after controlling for socio-economic measures, as existing literature (Harris 1999; Flippen 2004) indicates that racial and ethnic composition is paramount in the determination of a neighborhood's appreciation.

Findings regarding the likelihoods of homebuyers identifying as black to move into Predominantly Black neighborhoods and those identifying as Hispanic to move into Predominantly Hispanic neighborhoods clearly supports much of the sociological literature on segregation. Given differences in the socio-economic characteristics, home

values and home appreciation rates of tracts in varying racial compositions, one would think that homebuyers identifying as black or Hispanic, if they are motivated in their home purchase decisions by a desire to build equity and wealth, would prefer to purchase homes in Predominantly White tracts, which enjoy higher home values, higher rates of college completion, and lower rates of poverty. Furthermore, one would think that the greater availability of FHA loans in predominantly White neighborhoods would further motivate Blacks and Hispanics to purchase homes in these areas. My data indicate, however, that regardless of what the actual motivations of individual homebuyers are, blacks and Hispanics are not purchasing homes in Predominantly White, or unclassified, neighborhoods. Neither income, nor loan type, nor loan amount diminishes racial and ethnic minorities' propensity to purchase homes in neighborhoods in which co-ethnics predominate. Whether this is due to a continuation of discriminatory forces in the marketplace, or individual homebuyers' neighborhood preferences, or some combination of both, cannot be determined by this research because of the absence of direct measures of discriminatory forces and individual preferences. However, in light of previous research that has been done in this area, the pattern observed in these data is likely due to a combination of both factors.

Homebuyers that identify as Black or Hispanic are both more likely to choose homes in neighborhoods in which co-ethnics predominate and in which various socio-economic characteristics are less desirable. This fact holds true even when controlling for the income and purchasing power of individual black and Hispanic homebuyers, suggesting that race itself – be it due to continuing experiences of discrimination or race-specific neighborhood preferences – continues to influence neighborhood choice for

many black and Hispanic homebuyers. This presents compelling evidence in support of the arguments presented by such leading scholars of racial residential segregation like Massey and Denton, who argue that racial segregation has more to do with race than class. In their seminal work *American Apartheid*, Massey and Denton presented compelling evidence in refutation of William Julius Wilson's arguments that racial residential segregation was more about class than about race. My work, at least on the individual level of analysis, supports to conclusions of Massey and Denton and challenges the arguments presented by William Julius Wilson. While Wilson makes the consistent argument that as blacks enter the middle class, they become more likely to relocate from inner city neighborhoods to predominantly white suburbs, my research in Hillsborough County appears to concur with Massey and Denton's view that race, *ipso facto*, plays a large role in determining the neighborhood selections of homebuyers identifying as black.

Moreover, my findings show that even though the percentage of homes eligible for FHA financing is greater in Predominantly White neighborhoods, and even though homebuyers identifying as black and Hispanic are more likely than those identifying as white to use FHA loan programs, homebuyers identifying as black still opt to purchase in Predominantly Black neighborhoods and homebuyers identifying as Hispanic purchase in Predominantly Hispanic neighborhoods. This means that, irrespective of income, loan program, or loan amount, homebuyers identifying as black or Hispanic are obtaining homes that are in less desirable and less costly neighborhoods. It is disconcerting to find that, although the FHA seeks to allow homebuyers to participate in the positive financial aspects of home ownership, use of FHA products does not make minority homebuyers

any more likely to select neighborhoods with high median home values or appreciation rates.

The finding that the buying power of homebuyers identifying as black and Hispanic translates into less future value than that of homebuyers identifying as white is, clearly, extremely troubling. One could make the argument, however, that homebuyers of all racial and ethnic affiliations are influenced by preference for neighborhoods in which co-ethnics predominate. If given only this information, one could argue that, perhaps, overall wealth positions are not influenced because although homeowners identifying as Black or Hispanic are buying in neighborhoods with lower median values, they will pay less money for these homes themselves and merely shift some proportion of their household wealth to forms other than home equity. This does not appear to be the case in these data, however, at least not for homebuyers identifying as black. Controlling for income and loan type, black homebuyers borrow more in comparison to neighborhood median home value than homebuyers who identify as white. This suggests that buyers spend according to variables other than racial or ethnic identity, or neighborhood typology, but buyers identifying as black or Hispanic simply do not receive the same return in terms of neighborhood value.

It would seem that going into the home purchase transaction while identifying as black is to have fewer choices of homes in a neighborhood because of a loan type that you are likely to take despite your income and ability to financially qualify for a conventional loan. It is to buy in a neighborhood with less desirable economic characteristics, one that is disproportionately likely to be subject to a “race tax” on median home values. It is to spend more and borrow more to live in that neighborhood,

with its undervalued homes and below average appreciation rates, than a similarly situated white homebuyer would spend to live in a more desirable neighborhood. In sum, to go into the home purchase process as a black homebuyer is to watch your investment increase the wealth gap between yourself and your white counterpart. Neither the Fair Housing Act nor FHA's non-discriminatory lending practice has been sufficient to reverse this most fundamental cause of racial inequality in the United States today.

## **Conclusions**

This research investigated neighborhood and individual level variables to explore the interaction of racial and ethnic typology on neighborhood median home value and appreciation rates. It also explores the ways in which racial and ethnic identity correlate with neighborhood selection. Using census and MLS data, neighborhoods were characterized in terms of their racial and ethnic compositions, socio-economic characteristics and home loan availability and these measures were investigated for a correlation with neighborhood median home values and appreciation rates. These analyses found that including socio-economic measures in those models predicting median home values meant that racial and ethnic composition variables retained no significant correlations. It was also found that, in contrast, specific racial and ethnic compositions gained significance in their relationship with neighborhood appreciation rates only after the inclusion of socio-economic variables in the model. Using HMDA data, individuals were characterized by their racial and ethnic identification, income, loan products and loan amounts and these measures were investigated for a correlation with neighborhood selection. These analyses found that no control variable mitigated the increased likelihood of blacks and Hispanics to purchase homes in neighborhoods in which co-ethnics predominate.

These findings largely supported the hypotheses with which this research began, with the large exception of the findings regarding neighborhood appreciation rates. The original hypotheses did not account for the consequences of gentrification in



Hillsborough County – a trend that may have had some influence over the complex relationship between socio-economic variables, race, ethnicity and appreciation in Hillsborough County. Future research should explore this connection and the ways in which the process of gentrification has influenced appreciation patterns in black and Hispanic communities. The original hypothesis regarding the over-arching importance of race and ethnicity on median home values, while not completely erroneous, was also not entirely supported, as socio-economic factors were more closely correlated to home values than were racial and ethnic composition.

Because this research focuses on homebuyers in 2008, a convenient recent sample that gives a reasonably good snapshot of the post-apocalyptic homebuyer, the effects of home devaluation on non-whites is not explored. Is there a difference between homebuyers in 2008 and 2005? What about 2000? The suspicion that homebuyers identifying as black or Hispanic were more likely to have bought late in the boom, when there was the most money to have been lost, should be investigated, in order to explore the implications of bust-related home devaluation on wealth accumulation.

How will the housing crisis of the late-2000s, with the tsunami of foreclosures that followed it, affect the patterns of segregation seen in this research? Did the foreclosures occur uniformly in all neighborhoods, as many popular media outlets appear to imply, or were Predominantly Black and Predominantly Hispanic tracts disproportionately affected? If they were, then the rapid devaluation of neighborhoods affected by foreclosures would have hurt homebuyers more than what this research implies – probably much more.

This research, like most, engenders as many questions as it answers. Although it makes connections between neighborhood choice and race that had not been addressed previously in the literature, its timing at the end of one of the larger financial crises in modern history begs further research into the implications of this crisis on the role of home equity in the racial wealth gap.

## Works Cited

- Adelman, Robert M. 2005. "The Roles of Race, Class, and Residential Preferences in the Neighborhood Racial Composition of Middle-Class Blacks and Whites." *Social Science Quarterly* 86(1):209-228.
- Allen, James, and Eugene Turner. 2009. "Ethnic Residential Concentrations with Above-Average Incomes." *Urban Geography* 30(3):209-238.
- Anacker, Katrin B. 2010. "Still Paying the Race Tax? Analyzing Property Values in Homogenous and Mixed Race Suburbs." *Journal of Urban Affairs* 32(1):55-77.
- Austin Turner, Margery, and Felicity Skidmore. 1999. *Mortgage Lending Discrimination: A Review of Existing Evidence*. Washington, DC: The Urban Institute.
- Benston, George J. 1981. "Mortgage Redlining Research: A Review and Critical Analysis Discussion." *Journal of Bank Research* 11:8-23.
- Bobo, Lawrence, and Camille Zubrinsky. 1996. "Attitudes on Residential Integration: Perceived Status Differences, Mere In-Group Preference, or Racial Prejudice?" *Social Forces* 74(3):883-909.
- Boehm, Thomas, and Alan Schlottman. 2006. "A comparison of household mobility for owned manufactured, traditional owned, and rental units using the American Housing Survey." *Journal of Housing Economics* 15(2):126-142.
- Bonilla-Silva, Eduardo. 2006. *Racism Without Racists: Color-blind Racism and the Persistence of Racial Inequality in the United States*. Lanham, Maryland: Rowman and Littlefield.
- Campbell, Paul. *Population Projections: States 1995 - 2025*. Current Population Reports, Washington DC: US Census Bureau, 1997.
- Cashin, Sheryll. 2001. "Middle-Class Black Suburbs and the State of Integration: A Post-Integrationist Vision for Metropolitan America." *Cornell Law Review* 86:729-776.

- Cecchetti, Stephen G. 2008. *Crisis and Responses: The Federal Reserve and the financial crisis of 2007-2008*. Working Paper, National Bureau of Economic Research.
- Clark, WAV. 1991. "Residential Preferences and Neighborhood Racial Segregation: A Test of the Schelling Segregation Model." *Demography* 28(1):1-19.
- Clark, William AV, and Mark Fossett. 2008. "Understanding the Social Context of the Schilling Segregation Model." *Proceedings of the National Academy of the Sciences of the United States of America* 105(11):4109-4114.
- Clark, William, and Valerie Ledwith. 2007. "How much does income matter in neighborhood preference?" *Population Research and Policy Review* 26(2):145-161.
- Conley, Dalton. 1999. *Being Black, Living in the Red: Race, Wealth and Social Policy in America*. Berkeley and Los Angeles, California: University of California Press.
- Di, Zhu Xiao. 2005. "Does Housing Wealth Contribute to or Temper the Widening Wealth Gap in America?" *Housing Policy Debate* 16(2):281-296.
- Diez Roux, Ana. 2001. "Investigating Neighborhood and Area Effects on Health." *American Journal of Public Health* 91(11):1783-1789.
- DiPrete, Thomas, and Gregory Eirich. "Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments." *Annual Review of Sociology* 32:271-297.
- Emerson, Michael O, Karen J Chai, and George Yancey. 2001. "Does Race Matter in Residential Segregation? Exploring the Preferences of White Americans." *American Sociological Review* 66:922-935.
- Farley, Reylonds, Charlotte Steeh, Tara Jackson, Maria Krysan, and Keith Reeves. 1993. "Continued Residential Segregation In Detroit: "Chocolate City Vanilla Suburbs" Revisited." *Journal of Housing Research* 4:1-38.
- Fasenfest, David, Jason Booza, and Kurt Metzger. 2004. *Living Together: A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1990-2000*. Living Cities Census Series, Center on Urban and Metropolitan Policy, The Brookings Institution, Washington DC: The Brookings Institution.
- Flippen, Chenoa. 2001. "Racial and Ethnic Inequality in Homeownership and Housing Equity." *The Sociological Quarterly* 42(2):121-149.
- Flippen, Chenoa. 2001. "Residential Segregation and Minority Home Ownership." *Social Science Research* 30(3):337-362.

- Flippen, Chenoa. 2004. "Unequal Returns to Housing Investments?: A Study of Real Housing Appreciation Among Black, White and Hispanic Households." *Social Forces* 82(4):1523-1551.
- Gabriel, Stuart A. 1996. "The Role of FHA in the Provision of Credit to Minorities." In *Mortgage Lending, Racial Discrimination, and Federal Policy*, by John Goering and Ron Wienk, 183-250. Washington DC: Urban Institute Press.
- Galster, George. 1990. "Racial Discrimination in Housing Markets during the 1980s: A Review of the Audit Evidence." *Journal of Planning Education and Research* 9(3): 165-175
- Greenbaum, Susan. 2002. "Report from the Field: Social Capital and Deconcentration: Theoretical and Policy Paradoxes of the HOPE VI Program." *North American Dialogue* 5(1): 9-13.
- Harris, David. 1999. "'Property Values Drop When Blacks Move In Because...' Racial and Socioeconomic Determinants of Neighborhood Desirability." *American Sociological Review* 64(3):461-479.
- Hodge, Michael, Mark Dawkins, and Jaxk Reeves. 2007. "A Case Study of Mortgage Refinancing Discrimination: African American Intergenerational Wealth." *Sociological Inquiry* 77(1):23-43.
- Iceland, John, and Erika Steinmetz. 2003. *The Effects of Using Census Block Groups Instead of Census Tracts When Examining Residential Housing Patterns*. US Census Bureau.
- Iceland, John, and Kyle Anne Nelson. 2008. "Hispanic Segregation in Metropolitan America: Exploring the Multiple Forms of Spatial Assimilation." *American Sociological Review* 73(5):741-765.
- Ioannides, Yannis M. 1987. "Residential mobility and housing tenure choice." *Regional Science and Urban Economics* 17(2):265-287.
- Johnston, Ron, Michael Poulsen, and James Forrest. 2007. "Ethnic and Racial Segregation in US Metropolitan Areas, 1980-2000: The Dimensions of Segregation Revisited." *Urban Affairs Review* 42(4):479-504.
- Jones-Correa, Michael. 2000. "The Origins and Diffusion of Racial Restrictive Covenants." *Political Science Quarterly* 115(4):541-568.
- Kimble, John. 2007. "Insuring Inequality: The Role of the Federal Housing Administration in the Urban Ghettoization of African Americans." *Law and Social Inquiry* 32(2):399-434.

- Krivo, Lauren, and Robert Kaufman. 2004. "Housing and Wealth Inequality: Racial-Ethnic Differences in Home Equity in the United States." *Demography* 41(3):585-605.
- Krysan, Maria. 2002. "Community Undesirability in Black and White: Examining Racial Residential Preferences through Community Perceptions." *Social Problems* 49(4):521-543.
- Krysan, Maria. 2007. "Does Race Matter in the Search for Housing? An Exploratory Study of Search Strategies, Experience and Locations." *Social Science Research* 37(2):581-603.
- Krysan, Maria, Mick Couper, Reynolds Farley, and Tyrone Forman. 2009. "Does Race Matter in Neighborhood Preferences? Results from a Video Experiment." *American Journal of Sociology* 115(2):527-559.
- Massey, Douglas. 2007. *Categorically Unequal: The American Stratification System*. Washington DC: The Russell Sage Foundation.
- Massey, Douglas S, and Nancy A Denton. 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, Massachusetts: Harvard University Press.
- Massey, Douglas, Andrew Gross, and Mitchell Eggers. 1991. "Segregation, the Concentration of Poverty, and the Life Chances of Individuals." *Social Science Research* 20(4):397-420.
- Mays, VM, NA Ponce, DL Washington, and SD Cochran. 2003. "Classification of race and ethnicity: Implications for public health." *Annual Review of Public Health* 24:83-102.
- Moore, Joan and Raquel Pinderhughes. 1993. *Barrios: Latinos and the Underclass Debate*. New York, NY: Russell Sage Foundation.
- Roscigno, Vincent, Diana Karafin, and Griff Tester. 2009. "The Complexities and Processes of Racial Housing Discrimination." *Social Problems* 56(1):49-69.
- Satter, Beryl. 2009. *Family Properties: Race, Real Estate, and the Exploitation of Black Urban America*. New York, NY: Metropolitan Books.
- Schelling, Thomas. 1971. "Dynamic Models of Segregation." *Journal of Mathematic Sociology* 1(2):143-186.
- Schneider, Mark, and Thomas Phelan. 1993. "Black Suburbanization in the 1980s." *Demography* 30(2):269-279.

- Seitles, Marc. 1996. "The Perpetuation of Residential Racial Segregation in America: Historical Discrimination, Modern Forms of Exclusion, and Inclusionary Remedies." *Journal of Land Use and Environmental Law* 14:89-119.
- Shear, William B, and Anthony MJ Yezer. 1985. "Discrimination in Urban Housing Finance: An Empirical Study across Cities." *Land Economics* 61(3):292-301.
- Smith, James. 2004. "Unraveling the SES: Health Connection." *Population and Development Review* 30:108-132.
- Taylor, John B. 2008. *The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong*. Presentation, Bank of Canada.
- US Census Bureau. *2005-2009 American Community Survey 5 year Estimates*. November 15, 2010.  
[http://factfinder.census.gov/servlet/CTGeoSearchByListServlet?ds\\_name=ACS\\_2009\\_5YR\\_G00\\_&\\_lang=en&\\_ts=313543478860](http://factfinder.census.gov/servlet/CTGeoSearchByListServlet?ds_name=ACS_2009_5YR_G00_&_lang=en&_ts=313543478860) (accessed November 15, 2010).
- . *2007-2009 American Community Survey Custom Report*. December 15, 2010.  
[http://factfinder.census.gov/servlet/CTTable?\\_bm=y&-context=ct&-ds\\_name=ACS\\_2009\\_3YR\\_G00\\_&-mt\\_name=ACS\\_2009\\_3YR\\_G2000\\_B03002&-tree\\_id=3309&-redoLog=false&-geo\\_id=05000US12057&-search\\_results=01000US&-dataitem=ACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_1\\_EST%7CACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_2\\_EST%7CACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_3\\_EST%7CACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_4\\_EST%7CACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_5\\_EST%7CACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_6\\_EST%7CACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_7\\_EST%7CACS\\_2009\\_3YR\\_G2000\\_B03002.B03002\\_12\\_EST&-format=&-\\_lang=en](http://factfinder.census.gov/servlet/CTTable?_bm=y&-context=ct&-ds_name=ACS_2009_3YR_G00_&-mt_name=ACS_2009_3YR_G2000_B03002&-tree_id=3309&-redoLog=false&-geo_id=05000US12057&-search_results=01000US&-dataitem=ACS_2009_3YR_G2000_B03002.B03002_1_EST%7CACS_2009_3YR_G2000_B03002.B03002_2_EST%7CACS_2009_3YR_G2000_B03002.B03002_3_EST%7CACS_2009_3YR_G2000_B03002.B03002_4_EST%7CACS_2009_3YR_G2000_B03002.B03002_5_EST%7CACS_2009_3YR_G2000_B03002.B03002_6_EST%7CACS_2009_3YR_G2000_B03002.B03002_7_EST%7CACS_2009_3YR_G2000_B03002.B03002_12_EST&-format=&-_lang=en) (accessed December 15, 2010).
- . *2007-2009 American Community Survey Custom Report*. December 18, 2010.  
[http://factfinder.census.gov/servlet/STTable?\\_bm=y&-qr\\_name=ACS\\_2009\\_3YR\\_G00\\_S1901&-geo\\_id=05000US12057&-context=st&-ds\\_name=ACS\\_2009\\_3YR\\_G00\\_&-tree\\_id=3309&-\\_lang=en&-format=&-CONTEXT=st](http://factfinder.census.gov/servlet/STTable?_bm=y&-qr_name=ACS_2009_3YR_G00_S1901&-geo_id=05000US12057&-context=st&-ds_name=ACS_2009_3YR_G00_&-tree_id=3309&-_lang=en&-format=&-CONTEXT=st) (accessed December 18, 2010).
- . *Census Tract Boundary Maps - Florida - Hillsborough*. 2001 23-April.  
[http://www2.census.gov/plmap/pl\\_trt/st12\\_Florida/c12057\\_Hillsborough/](http://www2.census.gov/plmap/pl_trt/st12_Florida/c12057_Hillsborough/) (accessed 2011 2-February).
- . "Demographic Trends in the 20th Century." *US Census Bureau*. 2002 November.  
<http://www.census.gov/prod/2002pubs/censr-4.pdf> (accessed 2010 23-April).

- . *Graph of Homeownership Rates*. 2009 June.  
<http://www.census.gov/hhes/www/housing/hvs/qtr209/graph209.html> (accessed 2009 16-September).
- . "Housing Vacancies and Homeownership." *US Census Bureau*. 2009 September.  
<http://www.census.gov/hhes/www/housing/hvs/qtr309/q309tab5.html> (accessed 2009 23-April).
- Walker, Joan, and Jieping Li. 2006. "Latent lifestyle preferences and household location decisions." *Journal of Geographical Systems* 9(1):77-101.
- Wilkes, Rima, and John Iceland. 2004. "Hypersegregation in the Twenty-First Century." *Demography* 41(1):23-36.
- Wilson, Julius Wilson. 1978. *The Declining Significance of Race: Blacks and Changing American Institutions*. Chicago: University of Chicago Press.
- . 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. Chicago: University of Chicago Press.
- Zuberi, Tukufu. 2001. *Thicker than Blood: How Racial Statistics Lie*. Minneapolis, MN: University of Minnesota Press.
- Zubrinisky, Camille, and Lawrence Bobo. 1996. "Prismatic Metropolis: Race and Residential Segregation in the City of the Angels." *Social Science Research* 25: 335-374.