Hispanic Culture, Local Return Chasing, and Momentum Returns*

Jawad M. Addoum
Cornell University

Carina Cuculiza
University of Miami

Alok Kumar
University of Miami

Stuart J. Webb
University of Miami

March 2, 2017

Preliminary Draft. Comments Welcome.

Abstract – We examine the effect of Hispanic culture on portfolio choice decisions and asset returns in the United States. We demonstrate that investors residing in predominantly Hispanic ZIP codes are significantly more likely to chase returns and overweight small, local stocks than the average U.S. investor. Importantly, we find that these results cannot be attributed to unobserved heterogeneity correlated with Hispanic population concentration. We also find evidence that Hispanic investors' preferences affect prices and returns in local asset markets. In particular, momentum in stock returns is more pronounced (nonexistent) among firms headquartered in MSAs with a high (low) proportion of Hispanics. Further, high-Hispanic MSAs experience larger housing booms and subsequent busts than low-Hispanic localities.

Keywords: Culture, style investing, momentum.

JEL classification: G11, G12.

*Please address all correspondence to Stuart J. Webb, Department of Finance, School of Business Administration, University of Miami, 5250 University Drive, Coral Gables, Florida 33134 *Phone:* 305-284-9493; *Email:* swebb@bus.miami.edu. Jawad Addoum can be reached at 607-254-8308 or jaddoum@cornell.edu. Carina Cuculiza can be reached at 305-284-9801 or c.cuculiza@umiami.edu. Alok Kumar can be reached at 305-284-1882 or akumar@miami.edu. We thank Tim Burch, George Korniotis, Indraneel Chakraborty, Narasimhan Jegadeesh, Sheridan Titman, and seminar participants at the University of Miami for helpful comments and valuable suggestions. We are responsible for all remaining errors and omissions.

1 Introduction

In this paper, we consider the effect of Hispanic culture on portfolio choice decisions and asset returns. Specifically, we examine the extent to which Hispanic culture affects investment decisions and explore the effects of these decisions on stock and real estate returns. Our focus on Hispanic culture is primarily motivated by the continued growth of the Hispanic population in the United States. For example, 2014 U.S. Census estimates suggest that there are over 55 million residents of the United States who have Hispanic roots.[1] Further, by 2060 the Hispanic population in the United States is projected to grow to about 120 million individuals, constituting almost 30% of the U.S. population. Thus, to the extent that Hispanic households exhibit stock selection preferences that differ from the rest of the American population, this demographic shift could generate sizable effects in asset markets.

Our conjecture that Hispanic culture potentially affects investor choice is guided by the extant literature on the effects of culture in shaping economic decisions.[2] For example, Guiso, Sapienza, and Zingales (2003) and Kumar, Page, and Spalt (2011) show that religion affects trust, savings, and portfolio decisions. Similarly, Guiso, Sapienza, and Zingales (2004a,b, 2006) demonstrate that nationality affects trust, an implicit requirement for economic exchange. Additionally, the nationality of American-born individuals' ancestors has been shown to affect women's labor force participation (Fernández, Fogli, and Olivetti, 2004) and fertility decisions (Fernandez and Fogli, 2009). Overall, these papers demonstrate that various facets of culture are important drivers of economic decisions.[3]

[1] See http://www.census.gov/newsroom/facts-for-features/2015/cb15-ff18.html.

[2] Guiso, Sapienza, and Zingales (2006) provide a broad survey of the literature on culture and economics. Karolyi (2016) provides a more recent review of the literature on culture in finance.

[3] Consistent with these results, Becker (1996) argues that "culture exercises a sizable influence over preferences and individual behavior" because it is "largely "given" to individuals throughout their lifetimes." In particular, he argues that "individuals have less control over their culture than over other social capital" since "they cannot alter their ethnicity, race, or family history, and only with difficulty can they change their country or religion." Further, Becker asserts that it is difficult to change culture and that culture exhibits a low depreciation rate, suggesting that the effects of culture may be long-lived and passed on through generations.

While the effects of culture on a variety of economic choices have been demonstrated, how culture affects stockholding preferences remains an open question. In this paper, we aim to fill this gap by examining how Hispanic culture affects investment decisions. Further, we extend our analysis to examine the effect of such culture-driven decisions on returns in markets for stocks and housing.

Hispanic culture exhibits several features that suggest Hispanics might display equity preferences that differ from those of the rest of the U.S. population. In particular, Hispanic immigrants generally come from countries with corrupt institutions relative to those of the United States (TransparencyInternational, 2007). As such, they may be more dependent on social networks for advice when making consumption, savings, and investment decisions. Consistent with this notion, studies in marketing document a herding effect in Latino communities, whereby products that are used by many are more appealing than products that are used by only a few (Korzenny and Korzenny, 2011).

There is also reason to believe Hispanics may exhibit stronger "Keeping-up-with-the-Joneses" preferences (Demarzo, Kaniel, and Kremer, 2004; Hong, Jiang, Wang, and Zhao, 2014). For example, Korzenny and Korzenny (2011) argue that in Hispanic communities it is desirable to conform to one's neighbors. In particular, visible departures of an individual's wealth from the wealth from that of their neighbors can generate significant disutility. Importantly, Hong, Jiang, Wang, and Zhao (2014) show that Keeping-up-with-the-Joneses preferences can be linked to return chasing behavior by investors.

Taken together, this evidence motivates our conjecture that individuals in Hispanic communities may be prone to return chasing behavior. As more people buy a stock, it's price increases *and* it becomes more desirable. In turn, this induces even more individuals to buy it, pushing the price up further.

The tendency toward collectivism in Hispanic communities, as opposed to the individualistic nature of broader American culture, also suggests a potential channel for differing

equity preferences among Hispanics. Specifically, Hispanics exhibit strong community connections and dependence on local social networks. For example, it is very common in Hispanic communities for multiple families to pool resources to buy a home without a loan. After the families have saved enough, they buy another home (Korzenny and Korzenny, 2011). In the context of portfolio choice, this collectivism may generate excessive local bias in Hispanics' portfolios (Coval and Moskowitz, 1999). Further, the evidence of Hong, Jiang, Wang, and Zhao (2014) suggests that Hispanics' tendency to exhibit Keeping-up-with-the-Joneses preferences may also lead them to overweight local stocks.

Thus, our key conjectures are that Hispanics are likely to exhibit stronger return chasing and local bias tendencies than the average U.S. investor. We test our conjectures using data from a large discount brokerage house.[4] Since we cannot directly observe the ethnic group of each investor, we rely on the concentration of Hispanic residents in an investor's ZIP code as reported by the U.S. Census. Controlling for a large set of known determinants of stock selection, we find that investors residing in predominantly Hispanic ZIP codes are significantly more likely to chase returns when picking stocks. Further, we find that such investors exhibit a much stronger local bias than the average U.S. investor in our sample. They also exhibit a relative overweighting of small stocks.

To mitigate the concern that our portfolio choice results are driven by unobserved heterogeneity across ZIP codes that is correlated with Hispanic concentration,[5] we add ZIP code fixed effects and interactions to our baseline specification. Specifically, we follow the approach of Rajan and Zingales (1998), and find that holding cross-sectional differences in financial sophistication constant,[6] investors living in high-Hispanic localities continue to exhibit stronger local bias and return chasing behaviors.

Next, we examine whether Hispanic investors' preferences affect the stock prices and

[4]See Barber and Odean (2000) for a detailed discussion of these data.

[5]One particular concern is that investors who exhibit stronger return chasing and local bias tendencies may differ on the dimension of financial sophistication.

[6]We measure financial sophistication as portfolio concentration (Grinblatt and Keloharju, 2001).

returns of companies headquartered in areas with high Hispanic concentration. Our results so far indicate that in areas with a concentrated Hispanic population, investors are likely to chase returns among local stocks, buying local stocks that have done well recently and selling those that have performed poorly. Further, since investors in these areas tend to trade in small stocks, their trades may aggregate and generate predictable price continuation patterns in locally headquartered companies' stock returns.[7] In other words, we conjecture that price momentum (Jegadeesh and Titman, 1993, 2001) is likely to be stronger among firms headquartered in areas with a high concentration of Hispanics.

We test this idea using a double-sorted portfolio approach. Specifically, we sort all companies into quintiles based on the concentration of Hispanics in the Metropolitan Statistical Area (MSA) where the company is headquartered. Then, we sort all stocks within each quintile into winners and losers based on lagged 6-month formation period returns. We find that the winner-minus-loser momentum returns formed using companies headquartered in high-Hispanic concentration areas is highly profitable, generating an average monthly return of 0.852% (t-statistic = 2.97). In contrast, the momentum portfolio formed using firms headquartered in areas with the lowest ratio of Hispanics generates a statistically insignificant average monthly return of just 0.388% per month (t-statistic = 1.39).

Furthermore, we find that the risk-adjusted returns between high-Hispanic and low-Hispanic momentum portfolios are significantly different. In particular, we find that across various linear factor models, the alpha of the high-Hispanic momentum portfolio exceeds that of the low-Hispanic portfolio by between 0.495% and 0.556% per month. Moreover, the risk-adjusted outperformance is consistently significant at the 5%-level.

Finally, we extend our analysis to examine the effect of Hispanic culture on real estate

[7]This argument mirrors that of Jegadeesh and Titman (1993), who argue that "positive feedback traders", i.e. those exhibiting trend chasing behavior, can cause momentum patterns in asset returns. Further, De Long, Shleifer, Summers, and Waldmann (1990) posit that by purchasing stocks with recent price increases, uninformed investors with extrapolative expectations can induce rational investors, hoping to profit from uninformed investors' continued purchase of increasing assets, to chase returns as well. The end result of this feedback is the well documented momentum anomaly.

returns. Since real estate assets are plausibly subject to much higher local ownership levels than stocks, our conjecture is that the effect of local investors' preferences should be detectable in real estate prices and returns. In the case of localities with a large local Hispanic population, we expect that local return chasing behavior could lead to more pronounced price runups and subsequent downturns in housing prices, as well as higher realized volatility.

We test this assertion using MSA-level housing price indices from the Federal Housing Finance Agency. As before, we sort MSAs into quintiles on the basis of the concentration of Hispanics in the local population. We then calculate growth in house prices by equally weighting each MSA in a quintile. We find that between 1990 and 2015, a clear pattern consistent with our earlier evidence emerges. High-Hispanic MSAs experience larger housing booms and subsequent busts than MSAs with a low concentration of Hispanics. Further, we find that the volatility of housing returns is higher in high-Hispanic MSAs.

This paper contributes to several strands of the finance literature. First, we contribute to the growing literature examining determinants of individuals' stock investment decisions. For example, Barber and Odean (2000, 2001, 2008) show that investors, especially males, tilt their portfolios toward small, value stocks with high market betas. Further, Kumar (2009) demonstrates that investors prefer stocks with lottery-like payoffs. More recently, Cronqvist, Siegel, and Yu (2015) show that investors' stock preferences are partially driven by a biological component. Our results contribute to these findings, showing that Hispanic culture is an important determinant of portfolio choice decisions.

Our paper also contributes to the large literature examining the momentum return anomaly first documented by Jegadeesh and Titman (1993). A large literature debates the underpinnings of the momentum effect, with most stories boiling down to behavioral under-reaction (e.g., Jegadeesh and Titman (2001)) or rational risk-based arguments (e.g., Conrad and Kaul (1998)). For example, some proposed determinants of momentum profits

include lagged market returns (Cooper, Gutierrez, and Hameed, 2004; Moskowitz, Ooi, and Pedersen, 2012; Stambaugh, Yu, and Yuan, 2012), investor sentiment (Antoniou, Doukas, and Subrahmanyam, 2010), market illiquidity (Avramov, Cheng, and Hameed, 2015), and macroeconomic factors (Liu and Zhang, 2008). The paper most related to ours is that of Chui, Titman, and Wei (2010), who argue that the strength of momentum profits in international markets can be attributed to individualism. While we also show that culture influences the profitability of the momentum strategy, our work focuses on cross-sectional variation in the United States and documents the importance of the Hispanic minority population. Furthermore, our asset pricing tests are grounded in portfolio-level evidence of the return chasing behavior of Hispanics in the United States.

The rest of the paper is organized as follows. Section 2 discusses the related literature in more detail and develops our hypotheses. Section 3 describes the data used in the analysis. Our empirical results are presented in Section 4. Section 5 provides a brief discussion and concludes.

2 Related Literature and Hypothesis Development

It is clear that culture has important effects on the economic decisions of individuals.[8] Additionally, there is an ongoing debate in the United States regarding the influx of Hispanic immigrants and their effects on U.S. economics and culture. In this context, we are interested in determining the effects of Hispanic culture on stock market decisions and more generally on asset prices.

There is an existing literature in marketing about the differences between Hispanic consumers and their white American peers. Specifically, Korzenny and Korzenny (2011) and Cartagena (2013) discuss the ongoing demographic shift toward Hispanic culture in the United States and what businesses must do to capture the consumption decisions

[8]See Guiso, Sapienza, and Zingales (2006) for a discussion of the literature on culture and economics to date

of Hispanic consumers. They discuss the salient features of Hispanic culture, including community leadership, emphasis on social networks and collectivism, that drive differing consumption decisions of Hispanics vs. their white peers. Based on this, there is reason to speculate there are differences in asset market decisions as well.

According to Korzenny and Korzenny (2011), Hispanic consumers are more likely to find a product used by many to be highly desirable, as opposed to a product used by only a few people. As more and more individuals buy an item, it becomes more desirable. In the context of the stock market, this effect becomes even stronger. As more individuals buy a stock, they can induce a high return, giving two channels through which that particular stock becomes more desirable to others in the Hispanic community.

Additionally, Hong, Jiang, Wang, and Zhao (2014) link Keeping-Up-with-the-Joneses preferences (e.g., Gali (1994) and Demarzo, Kaniel, and Kremer (2004)) with trend chasing behavior. Based on Korzenny and Korzenny (2011), who claim that in Hispanic communities being similar to one's neighbors is desirable, we expect Hispanics to exhibit stronger Keeping-Up-with-the-Joneses preferences than other U.S. communities. This leads to our first hypothesis: Hispanic individuals will chase returns.

Korzenny and Korzenny (2011) also point out the collectivist nature of Hispanic culture relative to the more individualistic nature of mainstream U.S. culture. As a group, Latinos are very community oriented and highly dependent on their social network. In the context of asset markets this could manifest as a strong local bias, through at least two possible channels. First, the collectivist nature of the Hispanic community could induce preferences to invest in locally headquartered firms because individuals feel they are contributing to their community by doing so. Secondly, through their strong social networks it may be that Hispanic individuals have friends or family working at these local firms. They feel they know (or actually know) more about a firm at which their friend is employed than a firm headquartered hundreds of miles away. Thus, our second hypothesis is that Hispanic

individuals will exhibit a strong local bias in their stock preferences.

Jegadeesh and Titman (1993) first document the well known momentum phenomenon among U.S. equity returns. They argue that this is consistent with trend chasing behavior explained by De Long, Shleifer, Summers, and Waldmann (1990). Jegadeesh and Titman (2001) explore the ability of rational, risk-based explanations (e.g. Conrad and Kaul (1998)) and behavioral explanations (e.g. Hong and Stein (1999), Daniel, Hirshleifer, and Subrahmanyam (1998), and Barberis, Shleifer, and Vishny (1998)) to explain momentum profits. Jegadeesh and Titman (2001) reject the rational explanations in favor of a behavioral channel. Chui, Titman, and Wei (2010) examine the momentum phenomenon around the world, linking it with the cultural attributes of each country. Combining our hypothesized local bias and return chasing behaviors of Hispanics within the U.S. with the link between trend chasing and momentum profits, our third hypothesis is that momentum returns should be stronger for firms headquartered in areas with high concentrations of Hispanics.

Finally, if cultural influences on stock preferences affect stock prices and returns, we should see this preference effect in other assets as well. Specifically, we look at residential real estate markets across the country. Given the immovable nature of residential real estate, we expect the local ownership level of residential real estate to be very high. The return chasing and preference for commonly used products in Hispanic communities implies that as more families buy real estate in areas with a high concentration of Hispanic residents, more people will find owning desirable and drive up prices. This is our final hypothesis: the culturally driven preferences of Hispanic individuals affect residential real estate markets, specifically causing pronounced price runups and subsequent downturns and therefore more volatility in real estate returns.

3 Data and Summary Statistics

In this section, we briefly describe the data used in our empirical analysis. We use several data sources, including decennial census data from the United States Census Bureau, brokerage data from a large discount brokerage house, and data from the Center for Research in Security Prices (CRSP) and COMPUSTAT.

3.1 Household level brokerage and demographic data

For investigating investor preferences, we employ retail investment account data from a large discount brokerage house. Data include household portfolio holdings and transactions at the security level and monthly frequency for 51,957 households from January 1991 through December 1996. Panel A of Table 1 presents summary statistics for these brokerage data. Of the nearly 52,000 households 74% are married and almost 97% own their own home. Consistent with the empirical fact that men are more likely to participate in the stock market, 88% of the heads of household in our sample are men. Households in our sample have high incomes relative to the United States in general, with median income of $62,500. These households hold on average almost three securities in their brokerage portfolio, with an average dollar value in each security of a little over $9,000 and portfolios have an average Sharpe Ratio of 12.4%.

3.2 United States Decennial Census

We combine the investor data with data from the Decennial Census of the United States Census Bureau. Our analysis of preferences utilizes the 1990 census, while our asset pricing tests use every decennial census from 1970 through 2010. Panel B of Table 1 presents summary statistics for all 29,305 zip codes in the 1990 decennial census of the United States, while Panel C presents zip code level summary statistics for the 10,485 zip codes in which at least one household from our brokerage sample resides during the sample period.

The brokerage customers tend to reside in zip codes with larger populations of 17,397 as compared to the average population of all U.S. zip codes of 8,486. The zip codes in which our brokerage households reside also tend to be relatively wealthier, with an average median income of over $62,000, closely matching our investor data. Zip codes in which brokerage households reside also tend to be more urban. Finally, a higher percentage of residents in brokerage zip codes are Hispanic (6.1% in brokerage zip codes versus 4.4% in general in the United States), but a very similar percentage of residents identify as being Black in both samples (7.1% in all U.S. zip codes versus 7.4% in brokerage zip codes.)

3.3 Equity Data

We also use the standard data sets when analyzing common stocks, CRSP and COMPUSTAT. From CRSP we use monthly stock prices, returns and shares outstanding from January 1950 through December 2011. We restrict our sample to include only common shares, using observations with share codes of 10 or 11. We then merge in the location of each company's headquarters from the annual COMPUSTAT data files, and augment this with monthly Fama-French factors from Kenneth French's data library. The liquidity factor from Lubos Pastor's website is also included.

4 Main Empirical Results

4.1 Identifying Cultural Style Preferences

There is substantial evidence that both religion and language can affect investment style and preferences. Kumar, Page, and Spalt (2011) show that religious beliefs and gambling attitudes can affect the way institutions invest. Specifically, the authors show that in regions with a higher proportion of Catholics relative to Protestants, investors exhibit a stronger propensity to invest in lottery-type stocks, consistent with the relatively liberal

attitude of Catholics toward gambling affecting investment preferences. Grinblatt and Keloharju (2001) show that language can affect the investment choices of individuals. Using data on individual investors in Finland, where both Finnish and Swedish are spoken, an individual whose first language is Finnish will overweight companies that deliver annual reports in Finnish, and an individual whose first language is Swedish will overweight companies reporting in Swedish. Religion and language are two of the most important characteristics that define the culture of a group within society. We investigate the investment preferences of the largest and fastest growing subculture within the United States: Hispanic Americans.

While the group of people forced to identify as Hispanic on official United States documents (in this the case the Decennial Census) is extremely diverse, the majority (79%) of Hispanic individuals in the United States have origins in one of three countries: Mexico, Puerto Rico and Cuba. Approximately 62% of individuals identifying as Hispanic on the U.S. Census in 1990 claimed Mexico as their country of heritage. Puerto Rico was claimed as the country of heritage by approximately 12% of Hispanic individuals and nearly 5% claimed Cuba. Of the other countries claimed, the majority of individuals had origins in Central America or the Dominican Republic, but every Hispanic country is represented. In this study, we will abstract from the inherent diversity within the population of Hispanics and treat them as a single subculture within the United States.

Our primary results showing the influence of an investor's culture on her investment preferences are presented in Tables 2 and 3. We regress the excess weight of household i's portfolio on the set of stocks s at time t normalized by the market weight of set s, that is $EW_{i,s,t} = (w_{i,s,t} - w_{m,s,t})/w_{m,s,t}$, on a vector of zip code and household level variables. For example, in column 1 of Table 2, the set of stocks s is the lowest size decile of all CRSP firms, and the dependent variable is the excess weight in the household's portfolio on the lowest size decile of stocks over the market weight of those stocks. Persons is the census

count of individuals in household i's zip code, and B/W and H/W is the census count of Blacks and Hispanics divided by the census count of White individuals in household i's zip code, respectively. Foreign and Density are also zip code level variables. Foreign is the proportion of foreign born individuals in the zip code and Density is the total population of the zip code divided by its land area, or the population density. Additionally, we include several household level controls, including indicators if the head of the household is male ($\mathrm{I}_{\mathrm{Male}}$), if it's a married household ($\mathrm{I}_{\mathrm{Married}}$) and if the household owns its home ($\mathrm{I}_{\mathrm{Own}}$). The age of the head of the household and the Sharpe Ratio (SR) of the household portfolio over the sample period are also included. All non-indicator variables are standardized, and household clustered t-statistics are presented in parentheses below point estimates.

In columns (1) and (2), coefficients are presented where the dependent variable is excess weight with respect to the lowest decile of the size distribution of CRSP stocks. Column (2) includes state fixed effects for the state in which household i resides, while column (1) does not. Columns (3) and (4) are analogous, but for the largest decile of the size distribution. In columns (1) and (2), we see that coefficients on B/W and H/W are large in magnitude and statistically significant. The coefficient of -25.783 on B/W in column (2) should be interpreted as a one standard deviation change in B/W for household i's zip code translates to a 25% lower weight in stocks in the smallest decile of the size distribution for household i. Similarly, the coefficient on H/W shows a one standard deviation increase in H/W for household i's zip code translates to an over 50% increase in the weight on small stocks. This shows a sharp contrast in investment behavior between high B/W zip codes and high H/W zip codes, demonstrating a possible link between culture and investment preferences.

It is worth commenting on the large positive coefficient on the indicator $\mathrm{I}_{\mathrm{Male}}$ and on the large negative coefficient on the indicator for household i owning their own home, $\mathrm{I}_{\mathrm{Own}}$. These make sense given the increased volatility of small stocks and the large literature

documenting higher risk tolerance for men relative to women (Jianakoplos and Bernasek, 1998; Sunden and Surette, 1998). The large negative coefficient on I_{Own} is consistent with what is likely a highly leveraged position in the household's primary residence.

When s is the set of stocks in the top decile of the size distribution, I_{Male} has a large negative association of approximately -8 with excess weight, indicating men underweight large stocks in their portfolio by 8% relative to market weight. Education, marriage and age are positively associated with a household over-weighting large stocks, but are relatively small in magnitude.

Columns (5) and (6) presents results where excess weight in the household portfolio is measured with respect to the bottom decile of the book-to-market (BE/ME) ratio distribution, which we term growth stocks in the tradition of the field. Columns (7) and (8) present results for the top decile of this distribution, which we will call value stocks. We see in columns (5) and (6) that the larger H/W is in a household's zip code, the more likely they are to hold growth stocks, albeit very slightly, with a coefficient of 1.93. This shows Hispanic households over weight growth stocks relative to their White peers. In columns (5) and (6), as before, I_{Male}, I_{Own} and Age also have a statistically significant effect, positively in the case of I_{Male}, and negatively with respect to I_{Own} and Age. Magnitudes are relatively small.

In columns (7) and (8) coefficients on B/W, Density, Education, I_{Male}, $I_{Married}$ I_{Own} and Age are statistically significant, but magnitudes are universally smaller than other models, ranging from (in column (8)) 0.033 on Density to 0.339 on I_{Male}. There is little literature to suggest what direction we would expect these coefficients to go, but given the small magnitudes there are few conclusions that can be drawn from this result.

To summarize results so far, we only observe a strong association of culture with investing in small stocks. However, Table 3 shows strong evidence that culture influences preferences for local stocks and recent winners. Columns (1)-(3) present regression coeffi-

cients where the dependent variable is household i's excess weight on local stocks at time t, where "local" is defined as companies headquartered in a zip code within 60 miles of household i's zip code. Column (1) includes only zip code level variables, column (2) adds household level demographic controls and column three accounts for geographic heterogeneity at the state of residence level with state fixed effects.

In all three models the coefficient on B/W is negative and significant, showing investors in high B/W zip codes invest relatively less in local companies compared to the market weight. In column three, the coefficient is -48.9, showing a one standard deviation increase in B/W is associated with a decrease in local stocks of almost one half. This is a large effect, however we see the results for high Hispanic areas relative to the Caucasian population are even stronger. In column (3) the concentration of Hispanic residents, as measured by H/W, has a large positive and statistically significant coefficient of 220.33. This means that a one standard deviation increase in H/W is associated with a portfolio weight in local stocks more than three times the market weight. This result is robust across all three models for local stocks.

From the last three columns of Table 3, we see that residents of high H/W zip codes also relatively over-weight stocks that have recently had high returns. The dependent variable in these models is excess weight on stocks in the top decile of returns over the last twelve, six and one month, respectively. Coefficients on H/W are highly statistically significant for the most recent twelve and six month returns with coefficients of 2.04 and 1.72 as the local bias results, they are very statistically significant.[9]

These results are consistent with culture affecting investment preferences. One channel through which culture could lead to local bias is language. Grinblatt and Keloharju (2001) show investors are more likely to invest in firms who report in the investor's native language. While firms in the U.S. do not report in Spanish, firms located near large Hispanic

[9]Magnitudes are much smaller relative to the results for local bias due to the relatively small market weight of "local" stocks for most investors.

populations presumably cater to Spanish language speakers. In fact, de la Torre (2014) suggests companies looking to succeed in targeting Hispanic consumers suggests companies "use Spanish language content." This local bias for Hispanic areas also makes sense in light of the fact that Hispanics are extremely brand loyal (de la Torre, 2014; Cartagena, 2013; Korzenny and Korzenny, 2011). Local firms catering to Hispanic people are likely to garner loyalty not just in sold goods, but also in stock investments.

As well, local bias and return chasing behavior in high Hispanic areas makes sense in the context of "keeping-up-with-the-Jones" type preferences. Demarzo, Kaniel, and Kremer (2004) show local bias can be obtained when households want to maintain consumption at the same level as their neighbors. According to Soriano (1995), Hispanics are generally very concerned with social status, making them likely to have some form of "keeping-up-with-the-Jones" preferences. Finally, Hong, Jiang, Wang, and Zhao (2014) show that "keeping-up-with-the-Jones" preferences can lead to return chasing behavior, particularly in local stocks. Overall, our results are consistent with this type of story.

4.2 Robustness: Controlling for Unobserved Heterogeneity

An important criticism of our results thus far is that there could be an unobserved variable correlated with the concentration of Hispanic residents that is driving our results. In this section, we try to address this concern following the method of Rajan and Zingales (1998). Our baseline household investment preference regressions are augmented with zip code level fixed effects, and all controls measured at the zip code level are omitted, including our measure of Hispanic concentration. This should control for unobserved geographic heterogeneity at the zip code level that could be correlated with Hispanic concentration. In addition, we interact H/W with two measures of the concentration in household i's portfolio, CONC (defined as CONC = 10 - NSTOCKS, where NSTOCKS is the number of stocks in household i's portfolio) and HERF (a Herfindahl index of for the portfolios

of all long-only investors). A household that has a higher concentration in its investment portfolio is likely to be less financially sophisticated than a similar household with a less concentrated portfolio, and is expected to exhibit higher local bias and stronger return chasing behavior (Grinblatt and Keloharju, 2001). Therefore, if Hispanic concentration (H/W) predicts local bias and return chasing, then for two investors with the same level of portfolio concentration living in different zip codes, we expect the investor living in the zip code with higher Hispanic concentration to exhibit *stronger* local bias and return chasing, even for those already expected to exhibit these investing characteristics, that is with a more concentrated portfolio.

Results from this analysis are presented in Table 4. In our regression framework with zip code level fixed effects, Hispanic concentration affecting local bias and return chasing translates to a positive and significant coefficient on the interaction term H/W×CONC (H/W×HERF), which is what we see. In column (1) our measure of excess weight on small stocks is regressed on the interaction term H/W×CONC and a vector of additional controls measured at the household level. We see that the coefficient is positive, albeit small, and statistically significant, with a coefficient of 0.048 and t-statistic of 2.95. Standard errors are clustered at the household level. Moreover, looking at column (3) we see the results for local stocks are *very* strong. The coefficient of 95.74 is highly economically significant. For example, consider two households, both with a portfolio concentration equal to the median of 7, but one lives in a zip code at the 75^{th} percentile of Hispanic concentration (H/W = 0.102) and the other lives in a zip code at the 25^{th} percentile of Hispanic concentration (H/W = 0.017). The household that lives in the 75^{th} percentile zip code is predicted to invest $95.74 \times (.102 - .017) \times 7 = 56.97\%$ of market weight *more* of its portfolio in local stocks than the household that lives in the 25^{th} percentile zip code. Results are very similar looking at the interaction of Hispanic concentration and the Herfindahl index of households' portfolios in column (4). [10] If we consider two households with portfolios at

[10]Note that the large coefficient is because of not standardizing the interaction term. The scale of

the median level of concentration (0.536) as measure by the Herfindahl index, results are very similar. The household that lives in the 75^{th} percentile zip code is predicted to invest $1,216.83 \times (.102 - .017) \times 0.536 = 55.44\%$ of market weight more of its portfolio in local stocks than the household that lives in the 25^{th} percentile zip code.

Columns 5 through 10 of Table 4 present regressions of excess weight in recently performing stocks on our interaction term. The coefficient on the interaction term when the dependent variable is excess weight on stocks in the top decile of most recent twelve-month returns is small and statistically insignificant. However, when we look at the most recent six and one-month returns, we get positive and statistically significant coefficients. For the six-month return regression, we have a coefficient of 3.14 and t-statistic of 3.38. In the one-month return regression, the coefficient on our interaction term is 5.89 with a t-statistic of 4.74. Both are statistically significant at the 1% level. They show that the return chasing behavior observed in Table 3 is not due to an omitted variable that correlates with our H/W measure. These observed coefficient values are economically significant, for example, once again consider two investors with portfolio concentrations at the median, that is CONC = 7 (HERF = 0.536). One of the investors lives in a zip code at the 75^{th} percentile of Hispanic concentration and the other lives in a zip code at the 25^{th} percentile of Hispanic concentration. The household that lives in the high concentration zip code will invest 5.89×(.102-.017)×7=3.50% (5.00% as measured by the Herfindahl index) of market weight *more* in the best performing stocks over the last month than the household that lives in the low concentration zip code. These are large deviations from market weight.

The propensity for investors in zip codes of high Hispanic concentration to invest in small stocks and local stocks and to chase returns suggests the possibility that the well documented momentum effect (Jegadeesh and Titman, 1993, 2001) might exhibit some geographic dislocation, being more pronounced in areas of high Hispanic concentration

H/W×HERF is much smaller than that of H/W×CONC. Looking at the net effect of living in a higher concentration zip code, we get very similar results for both interaction terms.

than in areas of low Hispanic concentration. In the next section, we explore this possibility.

4.3 Sorting Results

The propensity for investors to chase returns is one mechanism by which the well documented momentum effect is created. By purchasing stocks that have recently done well, investors drive prices up even further. If at least some portion of these purchases are financed by selling stocks that have done poorly recently, the momentum effect obtains. Our earlier results showing that investors in high Hispanic concentration zip codes prefer small stocks, local stocks, and recent winners suggest that the momentum effect may be stronger for firms headquartered in or near areas of high Hispanic concentration.

To test this, we aggregate population statistics to the MSA level using Decennial Census data at the zip code or county level. For the decade beginning with 1970, census data is only available at the county level, however for all other time periods, zip code level data was used. The data is aggregated to the MSA level because previous results suggest that households favor companies within sixty miles of their home zip code. This radius is well outside their home zip code, but likely in the same MSA.

Next, we sort stocks into quintiles based on the most recent observation of our concentration measure, the Hispanic-to-White ratio, in the MSA in which the firm is headquartered for the period of January 1970 to December 2011, then we sort firms in each of these quintiles into equally weighted portfolios of "winners" and "losers". We follow Jegadeesh and Titman (1993) and sort all stocks into deciles at the beginning of each month based on their previous six-months return. We then create portfolios holding the stock for the subsequent six months, skipping a month between formation and holding periods to avoid microstructure biases (short-term reversals, bid-ask bounce, lead-lag reaction effects and price pressure). "Winners" are the top decile of the return distribution while "losers" are the bottom decile. Momentum portfolios are created by buying winners and selling losers.

Results from this double sort are presented in Table 5. The returns to winners are unrelated to Hispanic concentration, as seen in the first column of the table. However, returns to losers are nearly monotonically decreasing with the H/W ratio, with the exception of the highest quintile. This translates to nearly monotonically increasing returns in the momentum portfolio. Momentum returns in the highest quintile are almost the same as in the 4^{th} quintile. A test of the high Hispanic concentration momentum portfolio (MOM_5) being greater than the low concentration momentum portfolio (MOM_1) is statistically significant with a t-statistic of 1.84, which has a p-value of 0.033.

Figure 3 shows a visual summary of the findings from Table 5: the cumulative monthly log-returns for winners and losers in Hispanic concentration quintiles 1 and 5, as well as for the overall market and risk-free asset, for comparison. The winners in both sets of companies had similar returns. A dollar invested in the winners headquartered in areas of low Hispanic concentration at the beginning of 1950 was worth \$4,209.47 in 2011 while a dollar invested in winners headquartered in areas of high concentration was worth \$3,943.52. The major differences in returns comes from the "loser" portfolios. The final dollar value from holding losers in the highest quintile of concentration was just $2.21/81.29 = 2.7\%$ of the dollar value of holding losers in the bottom quintile of H/W. This is consistent with Moskowitz and Grinblatt (1999), who showed that momentum profits were due to the short leg of the strategy. Additionally, with a final dollar value of \$570.64, the total return on the market was significantly less than for either portfolio of "winners".

While the momentum phenomenon is well documented, this is the first study showing geographic dislocation in momentum returns. Our hypothesis, based on the preference results presented in the previous section, that momentum returns should be concentrated in areas of high Hispanic concentration is found in the data. We conclude that the geographic dislocation in momentum returns documented here is due to the preferences of local investors in and near the locale in which firms are headquartered.

4.4 Performance Estimates using Various Factor Models

The sorting results above show unconditional means for culture enhanced momentum strategies. In this section, we investigate risk-adjusted returns, showing our measure of culture's ability to explain the momentum effect in stock prices is not the result of background correlation with known risk factors.

Table 6 presents risk-adjusted estimates of momentum returns for firms located in areas of low Hispanic concentration and areas of high Hispanic concentration. Momentum returns for quintiles 1 and 5 are regressed on the three Fama-French factors (Fama and French, 1992), the short term reversal factor (Jegadeesh, 1990; Conrad and Kaul, 1998) and the long term reversal factor (De Bondt and Thaler, 1985; Jegadeesh, 1990; Conrad and Kaul, 1998). Odd numbered columns present results for quintile 1 and even numbered columns present results for quintile 5.

Results show that neither the CAPM, the three Fama-French factors nor short or long term reversal factors can explain the difference in momentum profits across H/W quintile. Alphas in all models are large and statistically significant for the highest quintile of firms with all alphas ranging from 0.92% per month in the CAPM model to 1.19% per month in the Fama-French plus reversal factor model. Differences in alphas within each model and across high and low quintiles are also large, with momentum returns from the low portfolio having alphas approximately half of those in the highest quintile portfolio. Importantly, all differences in alphas are statistically significant with p-values of less than 0.05. It is worth noting the the addition of short and long-term reversal factors improve the model fit, but primarily in the high H/W areas, suggesting there could be a cultural or geographic component to these factors' ability to explain momentum profits.

4.5 Hispanic Culture and Real Estate Market Returns

Culture's effect on an individual's decision is not limited to a single domain. As discussed earlier, it affects everything from trust to fertility decisions, and as we have shown, stock preferences. We turn to one of the most important asset markets in the United States, real estate, to show that this cultural effect is not limited to the stock market. Figure 1 shows the cumulative returns of housing prices for the 100 largest core based statistical areas (CBSAs) in the United States.[11] CBSAs are sorted into quintiles of Hispanic concentration as measured by the Hispanic-to-White ratio, H/W. Figure 1 shows that CBSAs with the highest concentration of Hispanic residents exhibit the largest swings in real estate prices.

Additionally, if we look at the variance of real estate returns, we see that areas with a high Hispanic area exhibit more variance in annual returns. Figure 2 shows the raw returns for the different quintiles of Hispanic concentration and it is clear that CBSAs with a higher concentration of Hispanic residents experience more dramatic variation in returns on single family homes. In fact, a statistical test of equality of variance in house price returns between Hispanic concentration quintile 1 and quintile 5 is rejected at the 1% level, in favor of the alternative hypothesis that variance is greater in quintile 5.

Taken together with the findings on the stock market, results from the housing market are consistent with Hispanic culture significantly affecting two of the largest asset markets in the U.S.

5 Summary and Conclusion

In this paper, we consider the effect of Hispanic culture on portfolio choice decisions and asset returns. Specifically, we examine whether and to what extent Hispanic culture affects investment decisions and explore the effects of these decisions on stock and real estate

[11] Data are from the Federal Housing Finance Agency's House Price Index, which is based on transaction data for single family homes.

returns. We find that investors living in cities with a high concentration of Hispanic residents chase returns and prefer smaller local stocks. These preferences have aggregate effects on the stock market, specifically we find that the well known momentum effect is significantly stronger for companies headquartered in cities with a high concentration of Hispanic residents. We also show that the effects of Hispanic culture on asset markets are not limited to the stock market, but are observed in the more pronounced swings in housing market prices in cities with a high Hispanic concentration.

Overall, these results present a strong link between the culture of investors and their asset preferences. Additionally, it shows that culturally driven preferences of individuals can have profound effects on a macro scale. We focus on Hispanic culture, which is important given the large and growing Hispanic population in the United States. It is likely that the effects of Hispanic culture on other asset markets is significant and should be investigated in future research.

References

Antoniou, Constantinos, John A Doukas, and Avanidhar Subrahmanyam, 2010, Sentiment and momentum, Working Paper.

Avramov, Doron, Si Cheng, and Allaudeen Hameed, 2015, Time-varying liquidity and momentum profits, *Journal of Financial and Quantitative Analysis*.

Barber, Brad M, and Terrance Odean, 2000, Trading is hazardous to your wealth: The common stock investment performance of individual investors, *Journal of Finance* 55, 773–806.

——— , 2001, Boys will be boys: Gender, overconfidence, and common stock investment, *Quarterly Journal of Economics* pp. 261–292.

——— , 2008, All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors, *Review of Financial Studies* 21, 785–818.

Barberis, Nicholas, Andrei Shleifer, and Robert Vishny, 1998, A model of investor sentiment, *Journal of Financial Economics* 49, 307–343.

Becker, Gary S, 1996, *Accounting for Tastes* (Harvard University Press).

Cartagena, Chiqui, 2013, *Latino Boom II: Catch the Biggest Demographic Wave Since the Baby Boom* (Worthy Shorts, Incorporated).

Chui, Andy C.W., Sheridan Titman, and K.C. John Wei, 2010, Individualism and momentum around the world, *Journal of Finance* 65, 361–392.

Conrad, Jennifer, and Gautam Kaul, 1998, An anatomy of trading strategies, *Review of Financial Studies* 11, 489–519.

Cooper, Michael J, Roberto C Gutierrez, and Allaudeen Hameed, 2004, Market states and momentum, *Journal of Finance* 59, 1345–1365.

Coval, Joshua D, and Tobias J Moskowitz, 1999, Home bias at home: Local equity preference in domestic portfolios, *Journal of Finance* 54, 2045–2073.

Cronqvist, Henrik, Stephan Siegel, and Frank Yu, 2015, Value versus growth investing: Why do different investors have different styles?, *Journal of Financial Economics* 117, 333–349.

Daniel, Kent, David Hirshleifer, and Avanidhar Subrahmanyam, 1998, Investor psychology and security market under- and overreactions, *Journal of Finance* 53, 1839–1885.

De Bondt, Werner F.M., and Richard Thaler, 1985, Does the stock market overreact?, *Journal of Finance* 40, 793–805.

de la Torre, Martha, 2014, How companies are able to successfully reach the Hispanic market, .

De Long, J Bradford, Andrei Shleifer, Lawrence H Summers, and Robert J Waldmann, 1990, Positive feedback investment strategies and destabilizing rational speculation, *Journal of Finance* 45, 379–395.

Demarzo, Peter M., Ron Kaniel, and Ilan Kremer, 2004, Diversification as a public good: Community effects in portfolio choice, *Journal of Finance* 59, 1677–1716.

Fama, Eugene F., and Kenneth R. French, 1992, The cross-section of expected stock returns, *Journal of Finance* 47, 427–465.

Fernandez, Raquel, and Alessandra Fogli, 2009, Culture: An empirical investigation of beliefs, work, and fertility, *American Economic Journal: Macroeconomics* 1, 146–177.

Fernández, Raquel, Alessandra Fogli, and Claudia Olivetti, 2004, Mothers and sons: Preference formation and female labor force dynamics, *Quarterly Journal of Economics* pp. 1249–1299.

Gali, Jordi, 1994, Keeping up with the joneses: Consumption externalities, portfolio choice, and asset prices, *Journal of Money, Credit and Banking* 26, 1–8.

Grinblatt, Mark, and Matti Keloharju, 2001, How distance, language, and culture influence stockholdings and trades, *Journal of Finance* 56, 1053–1073.

Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2003, People's opium? religion and economic attitudes, *Journal of Monetary Economics* 50, 225–282.

——— , 2004a, Cultural biases in economic exchange, Discussion paper, National Bureau of Economic Research.

——— , 2004b, The role of social capital in financial development, *American Economic Review* 94, 526–556.

——— , 2006, Does culture affect economic outcomes?, *Journal of Economic Perspectives* 20, 23–48.

Hong, Harrison, and Jeremy C Stein, 1999, A unified theory of underreaction, momentum trading, and overreaction in asset markets, *Journal of Finance* 54, 2143–2184.

Hong, Harrison G., Wenxi Jiang, Na Wang, and Bin Zhao, 2014, Trading for status, *Review of Financial Studies*.

Jegadeesh, Narasimhan, 1990, Evidence of predictable behavior of security returns, *Journal of Finance* 45, 881–898.

——— , and Sheridan Titman, 1993, Returns to buying winners and selling losers: Implications for stock market efficiency, *Journal of Finance* 48, 65–91.

——— , 2001, Profitability of momentum strategies: An evaluation of alternative explanations, *Journal of Finance* 56, 699–719.

Jianakoplos, Nancy Ammon, and Alexandra Bernasek, 1998, Are women more risk averse?, *Economic Inquiry* 36, 620–630.

Karolyi, G Andrew, 2016, The gravity of culture for finance, *Journal of Corporate Finance* 41, 610–625.

Korzenny, Felipe, and Betty Ann Korzenny, 2011, *Hispanic Marketing* (Routledge).

Kumar, Alok, 2009, Who gambles in the stock market?, *Journal of Finance* 64, 1889–1933.

——— , Jeremy K. Page, and Oliver G. Spalt, 2011, Religious beliefs, gambling attitudes, and financial market outcomes, *Journal of Financial Economics* 102, 671–708.

Liu, Laura Xiaolei, and Lu Zhang, 2008, Momentum profits, factor pricing, and macroeconomic risk, *Review of Financial Studies* 21, 2417–2448.

Moskowitz, Tobias J., and Mark Grinblatt, 1999, Do industries explain momentum?, *Journal of Finance* 54, 1249–1290.

Moskowitz, Tobias J, Yao Hua Ooi, and Lasse Heje Pedersen, 2012, Time series momentum, *Journal of Financial Economics* 104, 228–250.

Newey, Whitney K, and Kenneth D West, 1987, A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix, *Econometrica* 55, 703.

Rajan, Raghuram G., and Luigi Zingales, 1998, Financial dependence and growth, *American Economic Review* 88, pp. 559–586.

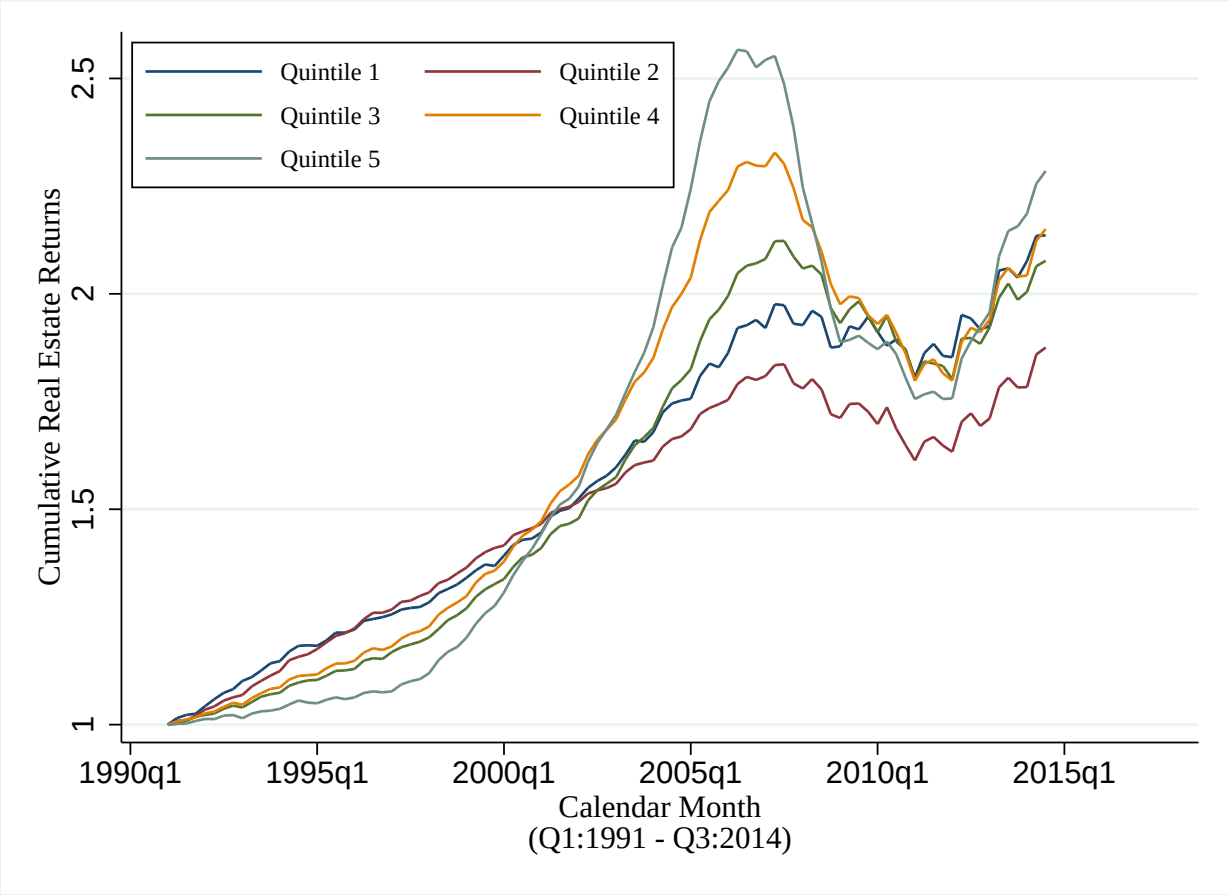
Soriano, Marcel, 1995, Latinos in rehabilitation: Implications for culturally-appropriate counseling, *NARPPS Journal* 10, 67–72.

Stambaugh, Robert F, Jianfeng Yu, and Yu Yuan, 2012, The short of it: Investor sentiment and anomalies, *Journal of Financial Economics* 104, 288–302.

Sunden, Annika E., and Brian J. Surette, 1998, Gender differences in the allocation of assets in retirement savings plans, *American Economic Review* 88, 207–211.

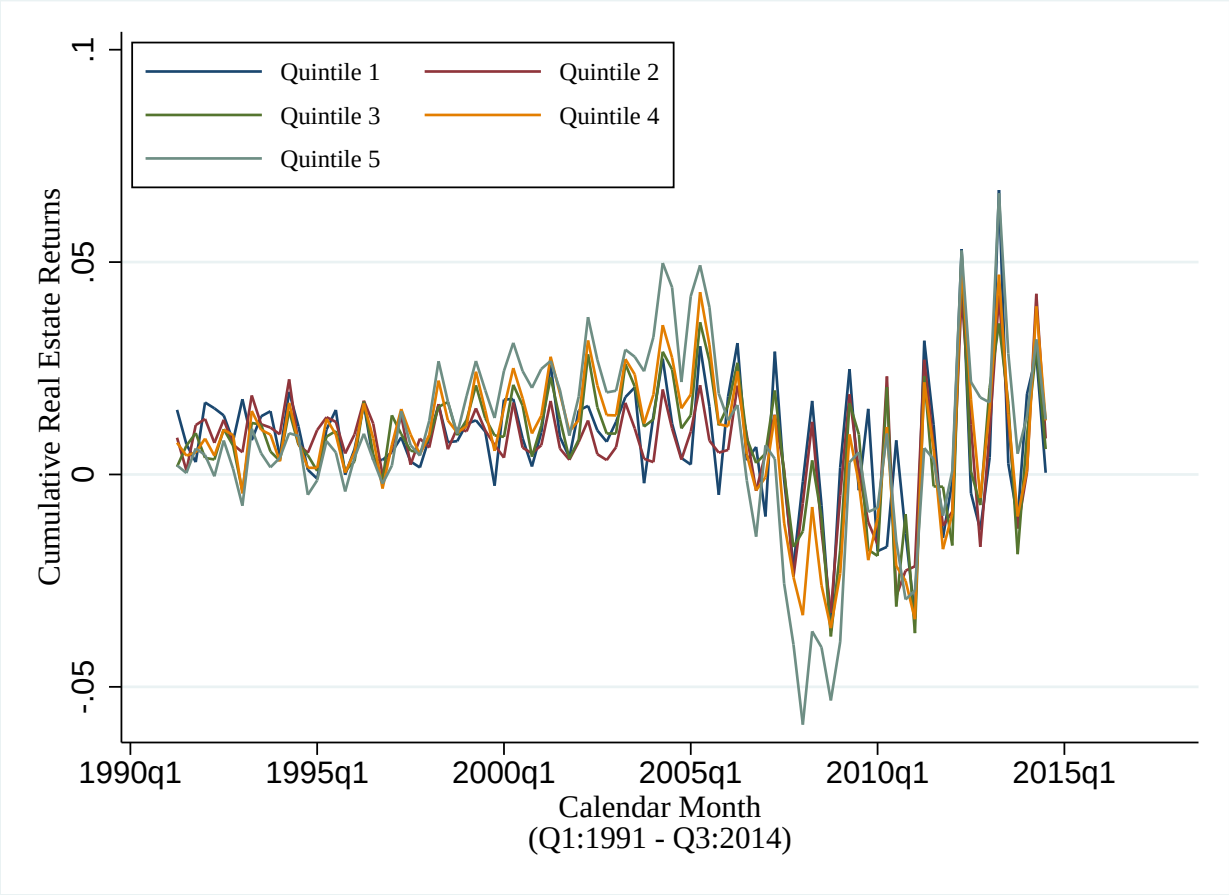
TransparencyInternational, 2007, *Global Corruption Report 2007: Corruption in Judicial Systems* . Transparency International Global Corruption Reports (Cambridge University Press).

Figure 1
Cumulative Real Estate Returns by H/W Quintile



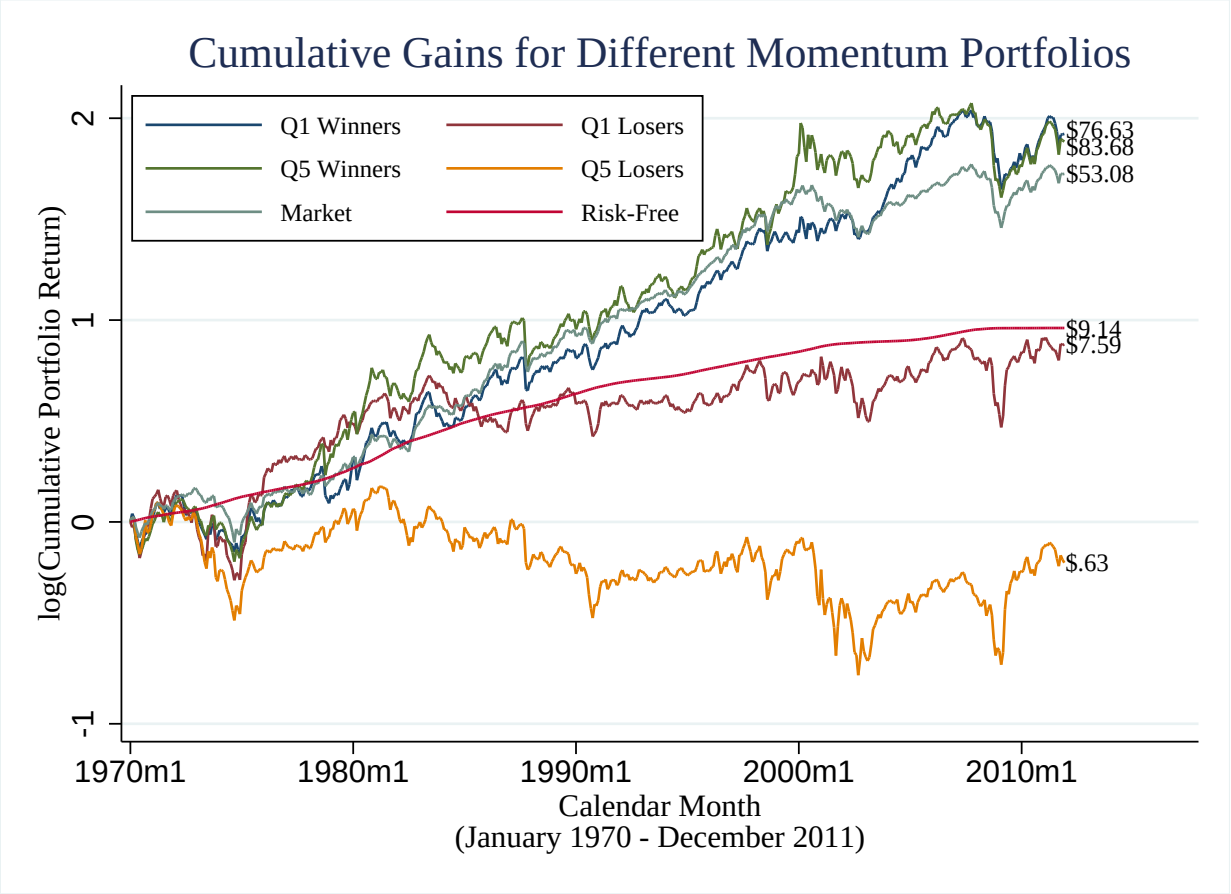
This figure plots cumulative returns for the Federal Housing Finance Agency's purchase only house price indexes for the 100 largest MSAs in the country. These MSAs are sorted on their concentration of Hispanic residents (as measured by H/W) and the cumulative returns for these 5 categories from 1991Q1 to 2014Q3 are plotted. Quintile 1 corresponds to the lowest concentration of Hispanic residents, while Quintile 5 corresponds to the highest concentration of Hispanic residents.

Figure 2
Raw Real Estate Returns by H/W Quintile



This figure plots raw returns for the Federal Housing Finance Agency's purchase only house price indexes for the 100 largest MSAs in the country. These MSAs are sorted on their concentration of Hispanic residents (as measured by H/W) and the raw returns for these 5 categories from 1991Q1 to 2014Q3 are plotted. Quintile 1 corresponds to the lowest concentration of Hispanic residents, while Quintile 5 corresponds to the highest concentration of Hispanic residents.

Figure 3
Cumulative Gains for Winners and Losers



This figure plots the cumulative returns for different momentum portfolios from 1970 to 2014. Specifically, we have four momentum portfolios corresponding to stocks headquartered in either areas of high Hispanic concentration (as measured by H/W) or areas of low Hispanic concentration and winners or losers. Concentration is measured at the beginning of each decade based on the most recent census and is held constant for that decaded. The thick blue line is low Hispanic winners and the thick red line is low Hispanic losers. The thin green line is high Hispanic winners and the yellow line is high Hispanic losers. For comparison, the market return (thin blue line) and risk free rate (1 year T-bill, red line) are also plotted.

Table 1
Summary Statistics

This table presents summary statistics for the data used in the paper. Panel A presents investor-level summary statistics for investors at a large discount brokerage house. Monthly data cover the period from January of 1991 to December of 1996. Age of Head is the age of the household head, Married is the percentage of married households. Own Home gives the percentage of investors who own their home. Number of Adults gives the number of adults in the household, and Male gives the percentage of households for which the head is male. Income is the household income as calculated using nine income categories with midpoints (in thousands) of 7.5, 17.5, 25, 35, 45, 62.5, 87.5, 112.5 and 250. The income of the household is assumed to be the midpoint value. Number of Securities is the number of securities owned by the household and held in the brokerage account and Portfolio Value is the total value of the portfolio, in thousands. Avg Sec Value is the average dollar value (in thousands) of all securities held in the brokerage account, while Portfolio Return and Sharpe Ratio are the average annual return and sharpe ratio of the brokerage account over the six year sample period. Panel B gives zip code level demographic summary information for all U.S. zip codes, according to the 1990 Census. Total Population is the number of people living in each zip code, while Median Age, Median Income and Median Education are the median age, median household income, in thousands, and median level of education in years in each zip code. Minority is the percentage of the population classified as belonging to a minority (non-white) in each zip code. Male-female is the ratio of men to women in each zip code and Urban is the percentage of people residing in each zip code the Census Bureau classifies as living in an urban setting. Hispanic and Black are the percentage of people identifying as having Hispanic ancestry or Black in each zip code. Panel C presents the same zip code level demographic summary information as presented in Panel B, but only for those zip codes in which at least one household from the brokerage data resides.

Panel A: Investor-level portfolio characteristics

Variable	Mean	Median	Std Dev	10^{th} Pctl	25^{th} Pctl	75^{th} Pctl	90^{th} Pctl	N
Age of Head	40.9	46	22.9	0	34	56	68	51,955
Married (%)	73.5	100	44.1	0	0	100	100	39,953
Own Home (%)	97.0	100	16.9	100	100	100	100	41,562
Number of Adults	2.0	2	1.6	-1	1	3	4	51,955
Male (%)	87.5	100	33.1	0	100	100	100	45,094
Income (000's)	88.1	62.5	64.1	25	45	112.5	250	45,240
Number of Securities	2.7	1	3.9	0	1	3	6	51,957
Portfolio Value (000's)	26.5	9.7	83.5	1.9	4.7	22.0	52.9	51,957
Average Security Value (000's)	9.2	4.4	26.5	1.0	2.2	8.9	18.3	51,957
Portfolio Return (%)	6.4	2.9	13.1	-0.5	1.0	7.1	17.0	49,776
Sharpe Ratio (%)	12.4	14.6	46.0	-8.7	5.2	21.6	29.7	43,109
Concentration	7.3	9	3.6	4	7	9	10	51,957

Panel B: Zip code level demographic characteristics (all U.S. zip codes)

Variable	Mean	Median	Std Dev	10^{th} Pctl	25^{th} Pctl	75^{th} Pctl	90^{th} Pctl	N
Total Population	8,486	2,822	12,335	353	907	10,756	26,118	29,305
Median Age	34.5	32.0	6.0	27	32	37	42	29,305
Median Income (000's)	48.6	43.8	24.8	28.75	36.25	57.5	67.5	29,305
Median Education (years)	12.6	12.5	1.0	12.5	12.5	12.5	13.5	29,305
Minority (%)	11.6	2.9	19.1	0	0.6	13.5	36.8	29,305
Married (%)	49.1	49.9	8.1	40.1	46.0	53.2	56.8	29,305
Male-female Ratio	1.01	0.97	0.46	0.86	0.91	1.03	1.13	29,305
Urban (%)	31.9	0	42.2	0	0	78.9	100	29,305
Hispanic (%)	4.4	0.7	11.5	0	0	2.7	10.6	29,305
Black (%)	7.1	0.4	15.8	0	0	4.7	23.8	29,305

Panel C: Zip code level demographic characteristics (zip codes where investors reside)

Variable	Mean	Median	Std Dev	10^{th} Pctl	25^{th} Pctl	75^{th} Pctl	90^{th} Pctl	N
Total Population	17,397	13,740	15,155	1,667	5,002	26,045	38,179	10,485
Median Age	34.2	32	5.5	27	32	37	42	10,485
Median Income (000's)	62.1	57.5	31.2	36.3	43.8	67.5	87.5	10,485
Median Education (years)	13.0	12.5	0.9	12.5	12.5	13.5	13.5	10,485
Minority (%)	13.1	6.1	17.6	0.7	2.0	16.5	35.9	10,485
Married (%)	47.4	48.5	7.5	38.2	44.4	51.7	54.5	10,485
Male-female Ratio	0.97	0.95	0.33	0.87	0.91	1.00	1.06	10,485
Urban (%)	65.1	85.9	40.5	0	26.6	100	100	10,485
Hispanic (%)	6.1	1.7	11.8	0.2	0.6	5.7	16.9	10,485
Black (%)	7.4	1.6	14.4	0	0.3	6.7	21.2	10,485
H/W	0.10	0.02	0.29	0.00	0.01	0.07	0.24	10,484

Table 2
Investment Characteristics

This table presents estimates from regressions of excess weight of household i's portfolio on the set of stocks s at time t on a vector of zip code, household and stock level covariates. Excess weight is defined as the percentage difference in household i's portfolio weight on group s from the market's weight on group s. That is, $EW_{i,s,t} = (w_{i,s,t} - w_{m,s,t})/w_{m,s,t}$. Data are monthly from January 1991 to December 1996. In the first two columns, s is the set of stocks (in each month) with a market capitalization in the lowest decile of the all CRSP stocks. In specifications (3) and (4), the set of stocks contains the highest decile of market capitalization in CRSP. The set of stocks in specifications (5) and (6) is those equities in the lowest decile of BE/ME (Growth Stocks), while in specifications (7) and (8), s contains the largest decile of BE/ME (Value Stocks). Columns (1), (3), (5) and (7) do not contain state of investor residence indicator variables, while columns (2), (4), (6) and (8) do contain state of residence indicator variables. All continuous variables are standardized and household-clustered t-statistics are presented in parentheses.

	Small Stocks		Large Stocks		Growth Stocks		Value Stocks	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Persons	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(-0.12)	(2.26)	(1.05)	(3.94)	(-0.12)	(5.58)	(0.95)	(1.51)
B/W	-28.682	-25.783	0.228	0.173	0.263	0.132	0.043	0.036
	(-3.42)	(-3.43)	(1.35)	(4.36)	(0.51)	(0.87)	(0.66)	(3.50)
H/W	61.012	53.513	-0.412	-0.487	-0.145	1.925	0.033	0.008
	(1.22)	(4.50)	(-1.09)	(-7.77)	(-0.13)	(8.05)	(0.45)	(0.52)
Foreign	-47.759	0.997	0.011	0.106	-7.038	-1.445	0.089	-0.021
	(-0.99)	(0.08)	(0.03)	(1.54)	(-6.15)	(-5.53)	(1.24)	(-1.19)
I_{Urban}	-38.27	-63.505	-0.699	-0.798	4.175	0.351	-0.086	-0.04
	(-0.43)	(-2.89)	(-1.02)	(-6.90)	(1.86)	(0.80)	(-0.66)	(-1.33)
Density	-5.921	-53.893	-0.443	-0.357	2.186	0.52	0.025	0.033
	(-0.16)	(-5.01)	(-1.41)	(-6.31)	(2.25)	(2.41)	(0.34)	(2.25)
Education	-32.516	-30.335	0.569	0.383	-1.433	1.332	-0.052	-0.09
	(-0.84)	(-2.94)	(1.82)	(7.05)	(-1.37)	(6.42)	(-0.83)	(-6.37)
I_{Male}	394.253	378.298	-7.965	-8.101	4.324	3.493	0.34	0.339
	(4.19)	(14.93)	(-9.78)	(-60.71)	(1.56)	(6.86)	(2.11)	(9.77)
$I_{Married}$	-120.208	-116.315	2.175	2.063	-0.683	-0.275	-0.314	-0.319
	(-1.45)	(-5.85)	(3.41)	(19.72)	(-0.33)	(-0.69)	(-2.44)	(-11.72)
I_{Own}	-146.94	-148.534	0.276	0.142	-1.547	-1.42	0.128	0.111
	(-1.06)	(-5.33)	(0.31)	(0.97)	(-0.52)	(-2.54)	(0.69)	(2.91)
Age	-0.465	-4.612	1.114	1.095	-3.537	-3.869	0.234	0.233
	(-0.01)	(-0.43)	(3.31)	(19.61)	(-3.14)	(-18.16)	(3.77)	(16.07)
Port. Chars	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Income	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Ind.	No	Yes	No	Yes	No	Yes	No	Yes
Adj. R^2	0.005	0.006	0.014	0.019	0.005	0.013	0.003	0.005
N	1.446M	1.446M	1.446M	1.446M	1.446M	1.446M	1.446M	1.446M

Table 3
Portfolio Weights on Local and High Momentum Companies

This table presents estimates from regressions of the excess weight of household i's portfolio on the set of stocks s at time t on a vector of zipcode, household and stock level covariates. In the first three columns, s is the set of stocks headquartered local (within 60 miles) to household i's zipcode. Column (1) includes only zip code level explanatory variables, column (2) adds household level regressors and column(3) adds state of investor residence indicator variables to the model. In columns 4-6, the set of stocks s includes those in the top decile of returns over the most recent 12, 6, and 1 month periods, respectively. B/W and H/W are the ratios of Black and Hispanic, respectively, to White individuals in household i's zipcode. $\mathrm{I}_{\mathrm{Urban}}$ is an indicator variable taking on a value of 1 if the Census Bureau classifies household i's zipcode as urban. Additional controls include income categories for household i, demographic variables such as an indicator if the head of household i is married or male, level of education and age. The set of covariates is constant across columns (3) - (6) and all continuous regressors are standardized. Heteroskedasticity robust t-statistics are presented in parentheses and are clustered at the household level.

	HQ $<$ 60 miles			$\mathrm{Returns}_{\mathrm{p}>90}$		
Variable	(1)	(2)	(3)	12 mo.	6 mo.	1 mo.
Persons	0.003	0.001	0.001	0.0010	0.001	0.001
	(1.66)	(0.21)	(-0.15)	(2.55)	(3.62)	(3.03)
B/W	-77.842	-87.184	-48.923	-0.417	-0.514	-0.032
	(-4.86)	(-4.73)	(-9.87)	(-1.89)	(-1.79)	(-2.07)
H/W	241.943	244.48	220.327	2.043	1.721	0.034
	(5.99)	(4.07)	(28.15)	(5.85)	(3.78)	(1.38)
Foreign	-436.857	-463.009	-292.473	0.774	2.212	0.161
	(-13.36)	(-11.02)	(-34.51)	(2.03)	(4.44)	(5.97)
$\mathrm{I}_{\mathrm{Urban}}$	119.603	261.738	153.01	2.794	2.092	0.109
	(1.34)	(2.51)	(10.52)	(4.33)	(2.49)	(2.40)
Density	-139.675	-86.448	-66.796	-1.691	-2.075	-0.099
	(-10.44)	(-4.48)	(-9.52)	(-5.36)	(-5.05)	(-4.45)
Port. Chars.	No	Yes	Yes	Yes	Yes	Yes
HH Controls	No	Yes	Yes	Yes	Yes	Yes
State Ind.	No	No	Yes	Yes	Yes	Yes
Adj. R^2	0.004	0.007	0.039	0.01	0.007	0.005
N	1,868,267	1,459,830	1,459,830	1,459,830	1,459,830	1,498,075

Table 4
Controlling for Unobserved Geographic Heterogeneity

This table presents estimates from regressions of excess weight ($EW_{i,s,t}$) of household i's portfolio on the set of stocks s at time t following the methodolgy of Rajan and Zingales (1998). Regressions include fixed effects for every zip code of residence in the brokerage sample in an effort to control for unobserved geographic heterogeneity. In addition, interaction terms of H/W with measures of household i's portfolio concentration are included. CONC is measured as 10 minus the number of stocks in household i's portfolio. HERF is a Herfindahl index of household i's portfolio if i is a long-only investor. Columns (1) and (2) present results where the dependent variable is excess weight in the household's portfolio on stocks in lowest decile of of market value. In columns (3) and (4), excess weight is measured with respect to the market weight of local stocks. A firm is defined to be "local" if they are headquartered within sixty miles of household i's zipcode. The remaining columns present results where the dependent variable is the excess wieght in household i's portfolio on stocks in the top decile of returns over the last twelve, six and one months, respectively. The independent variable of interest in each model is the interaction of H/W with a measure of portfolio concentration (H/W×CONC or H/W×HERF). Controls for the household's income and portfolio characteristics are included. Note that interaction terms are not standardized to aid in comparisons across differences in H/W (see text, section 4.2). Standard errors are clustered at the household level and are included in parentheses below point estimates.

	Small Stocks		HQ < 60 Miles		$Returns_{p > 90}$					
	(1)	(2)	(3)	(4)	12 mo.		6 mo.		1 mo.	
HW×CONC	0.048		95.739		0.487		3.137		5.888	
	(2.95)		(4.32)		(0.57)		(3.38)		(4.74)	
HW×HERF		1.752		1,216.826		8.83		48.131		109.81
		(5.53)		(2.81)		(0.70)		(3.49)		(5.56)
Male	0.148	0.157	201.143	224.245	13.081	12.167	19.633	18.688	38.13	36.678
	(2.48)	(2.61)	(2.32)	(2.53)	(4.99)		(7.03)	(6.63)	(9.56)	(9.17)
Married	-0.049	-0.051	-147.781	-156.462	-2.68		-3.068	-2.403	-6.312	-6.528
	(-0.94)	(-0.96)	(-1.80)	(-1.85)	(-1.26)		(-1.35)	(-1.05)	(-1.90)	(-1.95)
Own Home	-0.095	-0.102	230.042	203.23	-2.179		-4.09	-4.333	-6.769	-6.202
	(-1.08)	(-1.13)	(2.08)	(1.75)	(-0.70)		(-1.24)	(-1.30)	(-1.39)	(-1.27)
Age	0.018	0.023	71.892	71.812	-10.266		-9.984	-10.421	-14.872	-15.208
	(0.68)	(0.82)	(1.55)	(1.51)	(-9.07)		(-8.28)	(-8.56)	(-8.46)	(-8.63)
Zip Code FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Income Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Portfolio Chars.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.103	0.106	0.317	0.323	0.064	0.065	0.064	0.043	0.064	0.034
N	1,470,511	1,386,925	1,509,087	1,399,484	1,470,511	1,386,925	1,470,511	1,386,925	1,470,511	1,386,925

Table 5
Momentum and Hispanic Origin

This table reports mean monthly returns for a winners portfolio, a losers portfolio and a winners-minus-losers momentum portfolio, by Hispanic concentration (H/W) in the zip code in which the company is headquartered. We sort all stocks into quintiles based on the ratio of Hispanic population to white population in the zip code in which the company is headquartered, according to the Decennial Census. We then sort the zip code portfolios into winners and losers. "Winners" are those companies with stock returns in the highest decile in the (t-7,t-1) period, with a one month delay in portfolio formation to avoid the short-term reversal phenomenon. "Losers" are those companies with stock returns in the lowest decile in the (t-7,t-1) period. t-statistics are presented in parentheses and are corrected for heteroscedasticity and serial correlation using the method of Newey and West (1987). Point estimates and t-statistics from a test of equality of returns between low and high H/W location companies presented in the last two rows.

Individual Stocks					
	Winners (W)		Losers (L)		Momentum Portfolio (W-L)
	Raw Return	Mean H/W	Raw Return	Mean H/W	Raw Return
Low H/W	1.082	.010	.694	.011	.388
	(3.67)		(1.82)		(1.39)
2	1.290	.027	.511	.027	.778
	(4.05)		(1.35)		(3.36)
3	1.172	.054	.325	.055	.847
	(3.62)		(0.89)		(3.46)
4	1.062	.098	.203	.101	.859
	(3.22)		(0.52)		(3.38)
High H/W	1.172	.331	.320	.338	.852
	(3.19)		(0.77)		(2.97)
H-L	0.09		-0.374	$MOM_5 - MOM_1$	0.464
	(0.54)		(-1.54)		(1.84)

Table 6
Alpha Estimates of Cultural Momentum Returns

This table reports risk-adjusted performance estimates for the winner-minus-loser momentum strategy in low H/W zip codes (odd numbered columns) and in high H/W zip codes (even numbered columns). Component returns are those of equally weighted portfolios of companies in high H/W zip codes and low H/W zip codes. The set of factors includes the market excess return (RMRF), size (SMB), value (HML), short-term reversal factor (STR) and long-term reversal factor (LTR). t-statistics are presented in parentheses and are adjusted for autocorrelation and heteroscedasticity following Newey and West (1987). Alpha Difference is the difference in the alpha of the momentum strategy between the high and low H/W zipcodes, the a p-value testing equality of alphas presented in parentheses. The estimation period is January 1950 to December 2011.

	(1)	(2)	(3)	(4)	(5)	(6)
Alpha	.422	.917	.529	1.066	.634	1.190
	(1.59)	(3.45)	(1.99)	(3.81)	(2.32)	(4.00)
RMRF	-.076	-.146	-.123	-.217	-.056	-.137
	(-0.91)	(-1.40)	(-1.48)	(-2.04)	(-0.53)	(-1.04)
SMB			.011	.039	.049	-.039
			(0.08)	(0.17)	(0.34)	(-0.20)
HML			-.218	-.306	-.178	-.420
			(-1.55)	(-1.30)	(-1.00)	(-1.55)
STR					-.306	-.394
					(-2.05)	(-1.87)
LTR					-.010	.351
					(-0.06)	(1.55)
					(0.75)	(0.89)
Alpha Difference (5-1)	.495 (0.045)		.537 (0.041)		.556 (0.029)	
Adj. R^2	0.002	0.01	0.01	0.028	0.034	0.078
N	504	504	504	504	504	504

Table 7
Hispanic Concentration and Real Estate Dynamics

	(1) SD(Ret.)	(2) Cum. Ret. 96-07	(3) Cum. Ret. 08-11	(4) SD(Ret.)	(5) SD(Ret.)	(6) SD(Ret.)	(7) Cum. Ret. 96-07	(8) Cum. Ret. 96-07	(9) Cum. Ret. 96-07	(10) Cum. Ret. 08-11	(11) Cum. Ret. 08-11	(12) Cum. Ret. 08-11
HW_2	0.00	-0.05	-0.05	0.01	0.01	0.03	0.05	0.10	0.33	-0.08	-0.09	-0.23
	(0.34)	(-0.66)	(-0.80)	(0.90)	(1.13)	(3.91)	(0.44)	(0.72)	(3.82)	(-1.01)	(-1.13)	(-4.92)
HW_3	0.01	0.13	-0.06	0.01	0.02	0.03	0.14	0.16	0.32	-0.06	-0.07	-0.21
	(1.51)	(1.21)	(-0.93)	(1.18)	(1.24)	(4.15)	(0.99)	(1.08)	(2.56)	(-0.81)	(-0.85)	(-4.31)
HW_4	0.02	0.23	-0.12	0.02	0.02	0.04	0.18	0.15	0.34	-0.10	-0.09	-0.25
	(2.76)	(2.19)	(-1.76)	(1.73)	(1.38)	(6.24)	(1.35)	(1.04)	(3.06)	(-1.32)	(-1.13)	(-7.97)
HW_5	0.05	0.37	-0.19	0.05	0.04	0.07	0.28	0.22	0.37	-0.17	-0.15	-0.32
	(5.56)	(4.08)	(-2.78)	(3.90)	(3.15)	(5.55)	(2.19)	(1.54)	(2.97)	(-2.08)	(-1.72)	(-5.43)
RE Elasticity				0.00	0.00	0.00	0.01	0.01	0.01	-0.00	-0.00	-0.00
				(4.58)	(4.95)	(2.49)	(5.46)	(5.46)	(3.37)	(-3.32)	(-3.48)	(-2.46)
WRI					0.01	0.01		0.16	0.14		-0.05	-0.03
					(3.49)	(1.58)		(5.37)	(2.76)		(-2.40)	(-0.76)
Avg. Imm.						-0.00						
						(-0.22)						
Avg. Imm. 96-07									0.13			
									(0.53)			
Avg. Imm. 08-11												0.10
												(0.99)
Constant	0.03	1.28	0.88	0.02	0.02	0.01	1.09	1.11	0.92	0.93	0.92	1.04
	(4.70)	(19.10)	(14.35)	(1.81)	(1.76)	(1.31)	(8.88)	(7.99)	(13.28)	(12.23)	(11.33)	(32.55)
R^2	0.385	0.194	0.204	0.509	0.574	0.505	0.453	0.541	0.499	0.315	0.373	0.314
N	77	77	77	77	77	49	77	77	49	77	77	47