

# **Ethnic Economies in the Age of Retail Chains: Comparing the Presence of Chain-Affiliated and Independently Owned Ethnic Restaurants in Ethnic Neighborhoods**

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## ***Abstract***

Many entrepreneurs in ethnic economies start out by serving fellow community members in their local ethnic neighborhood. Large corporations, however, are creating retail chains that target the ethnic market and expand into ethnic neighborhoods. Little research has determined the extent to which chain retailers are co-existing or overtaking independently owned businesses in ethnic neighborhoods. This paper uses negative binomial regressions on over 50,000 ethnic restaurants in the New York metropolitan area taken from Yelp.com in 2015 to demonstrate the pervasiveness of the ethnic chain restaurant industry in ethnic neighborhoods. For ethnic populations whose cuisines are popular with mainstream consumers, such as Italians, Chinese, and Mexicans, results follow the traditional theory in which chains are more likely to locate away from ethnic neighborhoods. For groups whose cuisines are less popular, such as Caribbeans, Indians, and Koreans, however, a new pattern emerges in which chains exist alongside independent businesses in ethnic neighborhoods. In some cases, chains are more likely than independently owned restaurants to locate in ethnic neighborhoods, which may complicate the ability of local ethnic communities to form ethnic economies and confound the ways in which ethnic economies can help immigrants achieve socioeconomic mobility.

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## ***Introduction***

Ethnic economies are clusters of businesses in which a shared ethnic identity facilitates raising startup capital, finding a job, identifying suppliers, and learning trade skills. Examples include the firms in a Chinatown or Little Italy. Ethnic economies sometimes provide low-skill immigrants with an alternative path to upward socioeconomic mobility that sidesteps the traditional labor market. According to classic theory, a common way in which ethnic economies grow is for ethnic minorities to set up independently owned businesses that cater to the needs of their local ethnic neighborhood (Aldrich *et al.* 1985; Butler 2005; Light and Gold 2000, 184-187; Portes and Bach 1985). From there, successful ethnic economies can accrue enough capital to branch out into other markets and industries that cater to non-ethnic clientele (Waldinger *et al.* 1990, 124-127).<sup>1</sup>

Despite the classic narrative, a chain retailing industry has rapidly grown that treats local ethnic communities as an untapped market. This is remarkably true in the restaurant sector, where ethnic eateries comprise over 40 percent of the industry (Gallo-Torres 2014). For example, Paradise Biryani Pointe, the largest Indian restaurant chain in the U.S. (Yin 2013), encourages franchisees to locate in areas with a strong South Asian presence.<sup>2</sup> Other retailers, including global chains such as Jollibee and Pollo Campero, explicitly seek out locations near large diasporic immigrant communities (Bartlett and O'Connell 1998). Contemporary ethnic

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<sup>1</sup> Successful ethnic economies sometimes become ethnic enclave economies (Gold 2015). In this paper, I discuss successful ethnic economies more generally, although the discussion can extend to ethnic enclave economies as well.

<sup>2</sup> <http://www.paradisebiryaniporte.com/franchise.php>

economy literature acknowledges that minority entrepreneurs may affiliate with chains through franchising arrangements, particularly in the food retailing industry (Dhingra and Parker 2015; Parker 2013; Rangaswamy 2007). This literature, however, has yet to determine the extent to which chain retailers are co-existing or overtaking independently owned businesses in ethnic neighborhoods.

Studying the geography of ethnic chain retailers has important implications for ethnic economy theory and the study of immigrant adaptation. Chains are less likely than independent entrepreneurs to generate revenue that stays within the local community. Franchises in the retail industry, in addition, are more likely to close down and earn lower profits than independent businesses (Bates 1995; Welsh *et al.* 2011), which can adversely affect efforts at local economic development. Some scholars even claim that franchises are a tool that large-scale capitalists use to exploit the entrepreneurial drive of minority businesspeople. Large corporations can profit off of ethnic economy growth when the ethnic economy is full of franchises, which must pay royalties to the franchisor (Light and Bonacich 1988, 373-378). In sum, if ethnic chain retailers are a common presence in ethnic neighborhoods, then researchers must reevaluate how local ethnic communities incubate ethnic economies and reexamine how ethnic economies promote socioeconomic mobility.

This paper will examine the types of neighborhoods in which ethnic chain restaurants tend to be located. Restaurants are one of the most common types of ethnic business (Waldinger *et al.* 1990) and frequently locate in or near the markets to which they cater (Waldfogel 2008). There are two primary research questions:

- 1) *Is there an association between where ethnic populations live and where ethnic chain restaurants are located?*

2) *Why are some ethnic neighborhoods more likely than others to contain chain-affiliated rather than independently owned ethnic restaurants?*

To answer these questions, I conduct negative binomial regressions on the locations of over 50,000 restaurants in the New York metropolitan area taken from Yelp.com in 2015. The results reveal a strong presence of ethnic chain retailers in some ethnic neighborhoods. For ethnic populations whose cuisines are popular with mainstream consumers, such as Italians, Chinese, and Mexicans, results follow the traditional theory in which chains are more likely to be located away from ethnic neighborhoods. For groups whose cuisines are less popular, such as Caribbeans, Indians, and Koreans, however, a new pattern emerges in which chains exist alongside independent businesses. In some cases, chains are more likely than independently owned restaurants to locate in ethnic neighborhoods, suggesting that some chains deliberately target ethnic populations. These findings suggest new directions for the study of ethnic economies and immigrant adaptation, on which I elaborate in the paper's conclusion.

***Ethnic Neighborhoods and Ethnic Economy Growth***

Much literature on ethnic economies focuses on independent businesses, particularly sole proprietorships, which are often smaller and have fewer employees than incorporated businesses (Boyd 1990; Hipple 2010). Incorporation is the process by which an entrepreneur sets up their business as a unique legal entity whose assets are separate from the entrepreneur's assets. Virtually all chains are incorporated, and most franchises require that their franchisees incorporate their businesses. Franchises are businesses owned and operated by individual entrepreneurs who pay royalties to the parent company in order to use the parent company's name, brand, and business model. Although a handful of ethnic economies, such as the Chinese

business cluster outside of Los Angeles, include large, incorporated industrial and financial firms (Li 2009), it is more often the case that ethnic economies are comprised of sole proprietors running small firms in industries such as retailing, construction, and personal services (Engelen 2001; Light *et al.* 1995; Lo *et al.* 2003; Waldinger 1995). Businesses in these industries tend to require little startup capital and less specialized entrepreneurial experience (Demirguc-Kunt *et al.* 2006; Light and Gold 2000).

Given their typical industrial profile, many ethnic economies begin by serving the basic needs of the local ethnic market. Local ethnic communities tend to demand goods and services that mainstream businesses are either unwilling or unable to supply, such as ethnic foods or travel services to immigrants' home countries (Waldinger *et al.* 1990). Because entrepreneurs in these areas do not have to compete with better capitalized mainstream firms, dense settlements of immigrants and ethnic minorities have been called 'protected markets' for locals who want to start businesses (Aldrich *et al.* 1985). Over time, successful business owners may earn enough capital to move outside of the neighborhood or branch into economic niches that cater to non-ethnic clientele (Nee *et al.* 1994; Zhou 2004). Even when ethnic economies are so successful that they can compete in lucrative niches of the larger economy, they may be rooted in local ethnic neighborhoods, which provide successful entrepreneurs with access to co-ethnic labor and relevant business knowledge (Bailey and Waldinger 1991; Portes and Bach 1985; Zhou 1998).

Before the ethnic community can produce a locally controlled ethnic economy, entrepreneurs from another ethnic group may start businesses to meet local demand. These entrepreneurs are called middleman minorities, a prominent example of which is Korean-run grocery stores in urban African-American neighborhoods (Min 2008). Middleman minorities can stunt the growth of ethnic economies in the local communities they serve. Despite the existence

of middleman minorities, ‘every immigrant group or ethnic minority has an ethnic economy’ (Light and Gold 2000, 15), and the early stages of ethnic economy creation are often tied to local ethnic neighborhoods (Waldinger *et al.* 1990).

The traditionally strong ties between ethnic neighborhoods and ethnic economies has led some researchers to view ethnic restaurants as symbols of neighborhoods untouched by commodification. These scholars argue that independent, local entrepreneurs operate restaurants in ethnic communities, and that ethnic neighborhoods are only influenced by large-scale capitalization during processes such as gentrification (Drucker 2003; Mele 1996, 6). This sentiment is captured effectively in the quote, ‘ethnic spaces are still the anti-Starbucks’ (Zukin 2008, 735).

In summary, according to classic approaches, ethnic minority entrepreneurs often use the local ethnic market as a stepping stone to larger economic success. Ethnic neighborhoods frequently host independent businesses owned and operated by local community members, which ideally generate opportunities for socioeconomic mobility within the ethnic community. Therefore, I hypothesize that ethnic neighborhoods are more likely to contain independently owned rather than chain-affiliated ethnic retailers.

*Hypothesis 1a: As the proportion of a neighborhood’s population of a given ethnicity increases, the number of chain restaurants of that ethnicity in the neighborhood decreases.*

It is important to note that, rather than relying on *a priori* distinctions about which neighborhoods are ethnic neighborhoods, I operationalize the ethnic quality of a neighborhood in Hypothesis 1a by the proportion of the neighborhood’s population of a given ethnicity. In

robustness checks reported later on, I apply *a priori* definitions of ethnic neighborhoods, which provide similar results.<sup>3</sup>

### ***The Presence of Chains in Ethnic Neighborhoods***

The ethnic restaurant industry presents a unique opportunity to explore any connections between ethnic neighborhoods and chain retailers. As mentioned earlier, restaurants, which frequently locate in or near the markets to which they cater (Waldfogel 2008), are one of the most common types of immigrant and ethnic minority-owned business. It is estimated that 29 percent of restaurants in the United States are immigrant-owned, compared to 14 percent of businesses overall (Wright-Bower 2017). In addition, the ethnic restaurant industry is notable for how suddenly chain retailing caught on. A geographic survey of ethnic restaurants in the United States conducted in 1985 ignored chains because, according to its author, ‘the franchising of ethnic restaurants ha[d] scarcely begun’ (Zelinsky 1985, 56).

There are numerous explanations for the swift proliferation of ethnic chain restaurants since the 1980s. First, as the food retailing industry matured, large corporations lamented

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<sup>3</sup> I could have formulated Hypothesis 1a, along with Hypothesis 1b, using a proportional outcome. As the proportion of a neighborhood’s population of a given ethnicity increases, in other words, there may be an increase in the *proportion* of the neighborhood’s ethnic restaurants comprised of chains. This formulation would have been ineffective, however, because ethnic chain restaurants are not found in large numbers across all neighborhoods. The small Ns lead to highly misleading proportions and result in unstable linear and logistic regression models, so I avoid using proportional dependent variables in the analyses.

stagnating sales (Paskowski 1984). To reinvigorate the industry, they began to segment the mass market and create ethnic chain restaurants, in part fueled by the growth in demographic diversity and the increased purchasing power of ethnic minorities in the last quarter of the 20th Century (Gabaccia 1998). Second, ethnic chains embarked on unique strategies to downplay community resistance as they entered ethnic neighborhoods. For example, Golden Krust, ‘the first Caribbean-owned business in the U.S. to be granted a franchise license,’<sup>4</sup> offers services such as a scholarship program for first- and second-generation immigrants in the United States and Jamaica.<sup>5</sup> Efforts such as these help Golden Krust solidify its connection to the Caribbean community without serving the needs of any one particular local neighborhood. Finally, ethnic chains sometimes enter ethnic neighborhoods to profit off of non-ethnic tourists rather than locals. Tourists may visit the neighborhood to eat at its local ethnic restaurants, shop at its local stores, or take part in its community festivals (Rath 2007).

The growth of chains in ethnic neighborhoods has caused tensions among local, independent businesspeople who fear being displaced or put out of business. For instance, the entrance of ethnic chains into Los Angeles’s Little Tokyo and New York’s Chinatown generated considerable protest from traditional mom-and-pop merchants (Lin 1998, 332-333). In the San Fernando Valley, local Korean mom-and-pop retailers picketed and boycotted when two Korean supermarket chains moved into the area (Bernstein 1992). This evidence suggests that ethnic

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<sup>4</sup> <http://www.goldenkrustbakery.com/content/index.php?do=company&sect=overview>

<sup>5</sup> <http://www.goldenkrustbakery.com/content/index.php?sect=viewArticle&do=pressReleases&categoryId=3&contentTypeCode=article&pressReleaseId=56&am>



chains can have a considerable presence in some ethnic neighborhoods, which would complicate traditional theories linking ethnic neighborhoods to ethnic economy growth.

*Hypothesis 1b: As the proportion of a neighborhood's population of a given ethnicity increases, the number of chain restaurants of that ethnicity in the neighborhood increases.*

### ***Variations by Ethnicity and Cuisine***

Despite any broad hypotheses regarding the association between ethnic neighborhoods and the location of ethnic chains, the reality likely varies across different ethnicities and their associated cuisines. Certain cuisines, in particular Chinese, Italian, and Mexican, have been part of the U.S. restaurant industry since the 19th Century (Smith 2007). The longstanding presence of these ethnic cuisines contrasts with others such as Korean and Indian, which did not penetrate U.S. markets until the post-1965 Asian migration boom. Popular cuisines with strong historical roots in U.S. culinary culture are more likely to attract large-scale retailing efforts because major corporations can readily package these cuisines for mainstream consumers (Gallo-Torres 2014). Therefore, among popular cuisines, chains may overlook the ethnic market, focusing instead on mainstream retail corridors, preserving ethnic neighborhoods as spaces for independently owned restaurants to blossom.

*Hypothesis 2: Among ethnicities whose cuisines are popular with mainstream consumers, as the proportion of a neighborhood's population of a given ethnicity increases, there is a stronger increase in the number of independently owned ethnic restaurants than chain-affiliated ethnic restaurants in the neighborhood.*

Unlike their popular counterparts, less popular cuisines are more unfamiliar to mainstream consumers and have less in common with the ingredients and modes of preparation of popular cuisines (Hwang and Lin 2010). Mass market retailers may consequently have little interest in creating chain restaurants that specialize in unpopular cuisines. Nevertheless, aforementioned restaurants such as Pollo Campero, Jollibee, and Paradise Biryani Pointe are part of a rapidly growing niche chain restaurant industry that targets ethnic neighborhoods in the United States (Bartlett and O’Connell 1998). These types of chains, which specialize in cuisines that are unpopular with mainstream consumers but highly popular with the ethnic minority groups whose cuisines they represent, may have as large a presence in some ethnic neighborhoods as independently owned restaurants. In rare cases, ethnic chains may even have a stronger presence in ethnic neighborhoods than independently owned restaurants.

*Hypothesis 3: Among ethnicities whose cuisines are less popular with mainstream consumers, as the proportion of a neighborhood’s population of a given ethnicity increases, there is an equal or weaker increase in the number of independently owned ethnic restaurants than chain-affiliated ethnic restaurants in the neighborhood.*

### ***Data***

Data on restaurants come from listings on Yelp.com, the largest publicly available repository of restaurants that includes information on location and cuisine. In 2015, I collected data on restaurants in each major cuisine category in each neighborhood of New York City and

each Census-defined place in the New York metro area.<sup>6</sup> The New York metro area is the largest immigrant gateway in the United States and is heralded as a ‘restaurant capital of the world’ (Batterberry and Batterberry 1998, 336). Zoning determines a great deal about where certain food retailers, such as grocery stores, can locate. New York City, however, frequently zones restaurants in residential areas using commercial overlay districts. This means that the first floor of many dense residential buildings is dedicated to retail stores such as restaurants. For all demographic information on local areas, I use data from the 2010 Decennial Census and the 2006-2010 American Community Survey 5-year estimates.

### *Operationalizing Ethnic Cuisine*

To grasp the relationship between restaurants and the markets they serve, there must be a sufficient number of restaurants and consumers to be meaningful. I therefore limit my analysis to two types of mutually inclusive cuisines. The first set of cuisines comes from countries in which at least 100,000 foreign-born residents reside in the New York metro area. The second set comes from cuisines that were mentioned on Yelp.com by at least 500 New York area restaurants. Although many foreign-born groups meet the 100,000 cutoff, not all associated cuisines had many restaurants, so I dropped those cuisines. The final list of cuisines includes Italian, Chinese, Mexican, Latin American (excluding Mexican), Mediterranean, Southeast Asian, Indian,

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<sup>6</sup> Beyond New York City, there are smaller towns that have outright banned chain stores from entering their communities. Only one exists in the New York metro area, Port Jefferson, NY (Institute for Local Self Reliance 2006). Results remain unchanged with this place taken out of the analysis.

Caribbean, and Korean. I discuss later the composition of grouped cuisines such as Mediterranean and Southeast Asian.

It should be noted that restaurants' cuisine categories are user-generated. Yelp.com allows a restaurant to identify itself using up to three categories. If the business owner claims a restaurant entry, then the business picks its own categories; if not, users supply the categories. Because users regularly search for restaurants by category, business owners, market research firms, and the Yelp Corporation police categories to ensure their accuracy (Salt 2011).

### *Operationalizing Chain Restaurants*

I operationalize chains as any restaurant whose name appears more than once in the data set, following a technique used in prior research (Kovács *et al.* 2013). The method does not assure that two restaurants sharing a name are part of a chain, however. For all potential chains, I conducted online searches to verify that restaurants were part of a chain, as determined by whether or not they shared a common website listing multiple locations. The legal structure of chain affiliation can nonetheless be specific to a parent-affiliate relationship. Therefore, as a robustness check, I conduct an analysis of legally defined national chains listed in InfoUSA's *List of Chains and Franchises* combined with those from *WorldFranchising.com*, Source Book Publication's online companion to Bond's Franchise Guide. In further robustness checks, I disaggregate chains and franchises. Although these latter approaches ensure higher construct validity, they likely miss many local and smaller chains that the former method captures. I consequently use the former set of chains as the base data set for the analysis.

Overall, the data set includes 56,608 businesses in the New York City Metropolitan Statistical Area (MSA). Of these businesses, 16,097 (28 percent) were chain-affiliated, while

40,511 were independently run. There is no reliable sampling frame of restaurants in the New York City MSA, but there is one for New York City itself. According to the New York City Department of Health and Hygiene, there were roughly 25,199 restaurants in New York City.<sup>7</sup> Within New York City, my data set includes 22,880 restaurants, representing coverage of about 91 percent. Although scholars have shown some bias in user-generated websites such as Yelp.com toward wealthier areas characterized by better Internet access (Shelton *et al.* 2015), the effect of this bias is likely small in the data set.

### ***Variables and Methods***

The dependent variable of the analysis is the number of restaurants in a given census tract. I use census tracts to approximate local neighborhoods.<sup>8</sup> In 2010, there were 4,532 census tracts in the New York City MSA. I conduct a pair of negative binomial regressions for each cuisine. The first uses the *number of chain restaurants* as its dependent variable, and the second uses the *number of non-chain (i.e. independently owned) restaurants* as its dependent variable. Certain census tracts have exceptionally large counts of ethnic restaurants, which result in

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<sup>7</sup> <http://a816-restaurantinspection.nyc.gov/RestaurantInspection/SearchBrowse.do>

<sup>8</sup> Given the arbitrary boundaries of Census tracts, it is possible that results would differ if I operationalized neighborhoods using different geographical units. In robustness checks, I buffered neighborhood boundaries one kilometer and five kilometers outside of Census tract boundaries, and findings changed very little. Results of these robustness checks are available from the author.

overdispersed count data, making negative binomial regression more appropriate than traditional Poisson regression.

The independent variable is the *Ethnic Share* of a tract's population, by which I mean the percentage of the tract's population that is of the same ethnicity as the restaurant. Ethnic share is operationalized as the proportion of a tract's population that was born in the country or countries associated with the cuisine. Although this variable biases the results toward foreign-born residents, it is likely a sufficient operationalization of the ethnic community that supports local establishments such as ethnic restaurants. Research on ethnic economies explains that native-born ethnics are much less likely than foreign-born ethnics to own, work in, or patronize ethnic businesses. Native-born ethnics likely have more human and cultural capital than immigrants do, which enables the former group to incorporate into the mainstream labor force and consumer base more easily (Light and Gold 2000).

Because Hypotheses 2 and 3 concern whether differences in the ethnic share of a community are more strongly associated with increases in the number of chain rather than non-chain restaurants, I run the regressions using seemingly unrelated estimation (SUE). SUE combines the covariance matrices of the models for chains and non-chains together, which allows me to test for cross-model effects (Greene 2003, Ch. 14; StataCorp 2005). In other words, within each cuisine, SUE enables me to directly compare the magnitude of the associations between ethnic share of a community and chains versus non-chains. The comparison is done with a Wald test on the equality of coefficients across paired columns. Although SUE alters the standard errors for each regressor, parameter estimates are identical to what would be found using traditional negative binomial regression. In the models presented below, the statistical

significance of associations between the independent and dependent variables are no different from what would be found using traditional negative binomial regression.

The ethnic share of the local population may not matter for where restaurants are located. Instead, restaurant location may be associated with other factors, which I include as control variables. First, chains retailers tend to locate where there is a larger, more densely populated group of relevant consumers. I consequently include *population size* and *population density* (number of people per square mile) in the regression models. Many retailers also locate near high income consumers, so I include a measure of *median household income* (Turhan *et al.* 2013). Beyond population and income, I control for the percentage of the tract's population in the *Creative Class*. The Creative Class consists of those 'people [who work] in science and engineering, architecture and design, education, arts, music, and entertainment whose economic function is to create new ideas, new technology, and new creative content' (Florida 2012, 8). The Creative Class is attracted to places containing ethnic restaurants (Park 2015), which may mean chains are located near the Creative Class. I additionally control for the percentage of the tract's population that has *moved in the past year*. Neighborhoods whose populations are rapidly changing are less inclined to resist chain retailer growth because the local community likely feels less attachment to local mom-and-pop stores and is less able to organize political action against chain retailers (Carroll and Torfason 2011). Finally, I control for the logged *number of restaurants* in the tract to account for the desire of restaurants to locate near one another.

## ***Results***

Table 1 shows the immigrant groups and cuisines that I include in the analysis, ranking them in terms of how popular their associated cuisines are. The table also explains the

composition of groupings such as Caribbean and Southeast Asian food. Extending a measure used by Zelinsky (1985, 56), I ascertain a cuisine's popularity by how often restaurants use the cuisine as a genre. I count cuisines instead of restaurants because restaurants can specialize in multiple cuisines. All the cuisines in the analysis were relatively popular, but Italian, Chinese, and Mexican cuisines were exceptionally so. Studies note how uniquely these three ethnic cuisines perform against others in the U.S. marketplace (Neal 2006). Italian, Chinese, and Mexican foods have long histories in the United States and have become commonplace across U.S. towns, large and small (Smith 2007). Their ubiquity is striking given the makeup of the other top cuisines. The largest category is American, with 6,436 mentions, followed by Pizza, with 5,702 mentions, and Coffee & Tea, with 5,574 mentions. Mexican food is sandwiched between Fast Food at number ten and Burgers at number 12. Overall, Italian, Chinese, and Mexican food seem to be highly popular among consumers overall, while the remaining cuisines are less popular and likely more exotic to mainstream consumers. Table 1 breaks up cuisines into highly popular, moderately popular, and less popular cuisines in order to simplify the analysis.

[Table 1]

Table 2 displays the top three largest chain restaurants in the New York area by cuisine. Chains popular among mainstream markets, such as Taco Bell and Pizza Hut, dominate certain categories. Other types of chains exist, however, including Golden Krust and Paradise Biryani Pointe. Table 2 demonstrates that different cuisines contain different types of chains, and the next section more forcefully describes how variation across cuisines translates into differences in the degree to which chains have penetrated ethnic neighborhoods.

[Table 2]



### *Ethnic Chains and Ethnic Neighborhoods*

Figure 1 shows how many of the 4,532 census tracts in the New York metropolitan area had at least one non-chain (i.e. independently owned) or chain (i.e. chain-affiliated) ethnic restaurant by cuisine. Non-chains occurred in far more communities than chains, regardless of cuisine. In addition, Italian, Chinese, and Mexican foods were more ubiquitous than other cuisines, a spatial verification of those cuisines' popularity. Figure 2 supplements this finding by showing that, among less popular cuisines, particularly Indian, Caribbean, and Korean foods, chains were more likely to occur in communities whose ethnic share of residents was larger. Each bar of Figure 2 is the mean percentage of the local population that was of the same country of origin as the cuisine. The stars above certain pairs of bars indicate that, within those cuisines, t-tests of ethnic population proportions were statistically significantly different across non-chains and chains.

[Figure 1]

[Figure 2]

According to Figure 2, independently owned Mexican restaurants were more common among Mexican populations than chain-affiliated restaurants. For less popular cuisines, the opposite was true: Chains were more likely than non-chains to locate within neighborhoods whose ethnic share was larger. In general, restaurants belonging to highly popular cuisines were more likely to be found in non-ethnic communities, no matter if the restaurant was chain-affiliated or independently owned. Less popular cuisines were much more likely to be found in communities with a larger ethnic share of residents. Figure 2 provides strong evidence that some chains may indeed profit from locating within or near a large ethnic community.

Figure 2 speaks to the average ethnic share in neighborhoods that contain at least one non-chain or chain restaurant. Nevertheless, the figure does not account for the unequal distribution of ethnic restaurants across neighborhoods or control for alternative factors that may influence the location of restaurants. In order to address these weaknesses, Table 3 shows the results of negative binomial regressions using seemingly unrelated estimation. The table demonstrates how a one-unit increase in a given variable was associated with an increase in the expected log count of restaurants in a community. Appendix Table A displays univariate statistics associated with Table 3.

[Table 3]

Regression results uphold Hypothesis 1b, which predicted an increase in the number of chain restaurants as the ethnic share of a neighborhood's population grows. In fact, both chains and non-chains were more likely to occur in ethnic neighborhoods. Some of the associations between ethnic neighborhoods and chains were small, however. The association between ethnic share and the number of Chinese chain restaurants was 0.01, for example, translating into a scant one percent growth ( $e^{0.01} = 1.01$ ) in chain restaurants for each one-unit increase in ethnic share. Nevertheless, there were meaningful disparities between ethnic share's association with chains and non-chains across popular cuisines. The final row of Table 3 presents Wald statistics testing whether or not the association between ethnic share and non-chains was of the same magnitude as the association between ethnic share and chains. For highly popular cuisines, such as Italian, Chinese, and Mexican, ethnic neighborhoods were more strongly associated with independently owned restaurants. In each of these three cuisines, the effect size for non-chains was stronger than for chains, and the Wald statistic was statistically significant at the 0.001 level. To describe an example, the statistically significant Wald statistic for Italian cuisine means that the stronger

association of ethnic share with non-chains rather than chains in Table 3—0.12 for non-chains and 0.08 for chains—was unlikely due to chance. This finding confirms traditional ethnic economy theory for popular cuisines: Italian, Chinese, and Mexican neighborhoods were more likely to contain independent ethnic restaurants.

For many of the less popular cuisines, on the other hand, the presence of an independent or chain-affiliated ethnic restaurant was equally associated with the neighborhood's ethnic share. Wald statistics indicate that there were two cases—Southeast Asian and Caribbean cuisines—in which chains were more likely than non-chains to locate in neighborhoods whose ethnic shares were high. These findings are sufficient to support Hypotheses 2 and 3 and complicate prior wisdom about ethnic economies: Among less popular cuisines, ethnic chains were as likely, and sometimes more likely, than independent restaurants to locate in ethnic neighborhoods.

Control variables indicate that alternative explanations for the location of ethnic chains do not detract from the importance of ethnic share and cuisine type. Population size and density have inconsistent associations with chains and non-chains across cuisine. Household income is almost always negatively associated with independent restaurant counts, likely because these restaurants tend to be located in areas where low-capital entrepreneurs are able to form ethnic economies. The Creative Class and percent of movers mattered little for ethnic restaurant counts. The only control variable notably associated with ethnic restaurant counts was the logged number of restaurants overall in the neighborhood. It is unsurprising that restaurants agglomerate whenever possible. Regardless of agglomeration effects, the ethnic chain restaurant industry appears to be pervasive in some ethnic neighborhoods.

### *Robustness Checks*

The analysis above may have incorrectly operationalized chain restaurants. A formal definition of chains should include those restaurants legally incorporated as chain affiliates. Table 4 reproduces the regressions with a definition of chains taken from InfoUSA and Bond's Franchise Guide. The table includes fewer cuisine types than Table 3 because, according to this new definition, there are no Mediterranean, Southeast Asian, Indian, or Korean chains in the United States. Despite the different operationalization of chains, the finding holds that, among less popular cuisines, ethnic neighborhoods had an equal or greater likelihood of containing chain-affiliated rather than independently owned ethnic restaurants. In addition, for Italian and Mexican foods, two popular cuisines, ethnic share was more strongly associated with non-chains rather than chains, supporting the results in Table 3. A key difference between Tables 3 and 4, however, is the difference in ethnic share's association with Chinese restaurants. The Wald statistic for ethnic share between Chinese non-chains and chains is no longer statistically significant. Despite the lack of a statistically significant Wald statistic, ethnic share was still statistically significantly associated with an increase in Chinese non-chains but not with Chinese chains.

[Table 4]

Chain affiliates come in two varieties, corporate-owned chains and franchises. Because franchises may be owned and operated by local community members, the presence of corporate-owned chains rather than franchises in ethnic neighborhoods would be a larger departure from the sole proprietorships discussed by traditional ethnic economy theory. Using InfoUSA and Bond's Franchise Guide, one can distinguish corporate-owned chains from franchises. Popular cuisines contained a sizeable number of franchises. Franchises comprised 17 percent of Chinese,

64 percent of Mexican, and 71 percent of Italian chain-affiliated restaurants. Among less popular cuisines, however, there were virtually no corporate-owned chains. Franchises comprised 94 percent of Caribbean and 100 percent of Latin American chain-affiliated restaurants. The niche chain restaurant industry that likely targets ethnic neighborhoods is therefore heavily composed of franchises. Chain affiliates in ethnic neighborhoods, in other words, may be run by local community members who operate franchises and rely on the same sorts of financial and social capital that supports traditional types of ethnic economies (Dhingra and Parker 2015). Even if this is the case, the use of franchise fees by franchisors suggests that major corporations play an important role in the environments in which ethnic economies grow, and that the conclusions drawn from Tables 3 are valuable in light of alternative definitions of the ethnic retail chain.

It is further possible that operationalizing the ethnic neighborhood in terms of ethnic share is invalid. Ethnic neighborhoods play a salient cultural role, providing meeting points for spatially dispersed groups (Zhou 1992), destinations for international migrants (Massey 1985), and historical landmarks in the myth-making of ethnic minority groups (Rath 2007). Ethnic share cannot capture the cultural dynamics of ethnic neighborhoods. No official list of New York's ethnic neighborhoods exists, but there do exist guides for tourists on the best neighborhoods in which to eat traditional ethnic foods. Table 5 reproduces the analysis in Table 3, replacing ethnic share with *Ethnic District*, a dummy indicating if a neighborhood was considered by a reputed tourist booklet as part of a famous ethnic district that contained authentic, community-run

eateries (Berman 2004).<sup>9</sup> The guide mentioned no Mexican, Latin American, or Southeast Asian neighborhoods in the New York area, so these cuisines are omitted from the regressions.

[Table 5]

Even when looking at ethnic districts rather than ethnic share of a neighborhood's population, there is evidence of an ethnic chain restaurant industry that likely targets ethnic neighborhoods. Among popular cuisines, Chinese and Italian districts are strongly associated with non-chains rather than chains, which supports earlier findings. Among less popular cuisines, the evidence continues to suggest an equal or greater likelihood of ethnic chains to locate in ethnic neighborhoods. In sum, the original message of the analysis remains: An extensive ethnic chain retailing industry exists in some ethnic neighborhoods, which complicates received wisdom about how ethnic neighborhoods provide conditions that support the growth of ethnic economies full of sole proprietorships.

### ***Summary and Discussion***

This paper provided a new lens with which to analyze the association between ethnic economies and ethnic neighborhoods. Classic theory argues that the local ethnic market and its

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<sup>9</sup> If a Census tract is in a relevant Neighborhood Tabulation Area (NTA), as defined by the New York City Department of Planning, then I treat the Census tract as part of an ethnic district. The relevant NTAs are: SoHo-TriBeCa-Civic Center-Little Italy, Bensonhurst, and Belmont for Italians; Chinatown, Sunset Park, and Flushing for Chinese; Astoria and Brooklyn Heights-Cobble Hill for Mediterraneans; Murray Hill-Kips Bay and Jackson Heights for Indians; Washington Heights and Flatbush for Caribbeans; and Flushing for Koreans.

demand for goods and services provides the first impetus for many ethnic economies to grow (Aldrich *et al.* 1985; Butler 2005; Light and Gold 2000; Portes and Bach 1985; Waldinger *et al.* 1990). The existence of an ethnic chain retailing industry that targets ethnic neighborhoods complicates the ways in which minority entrepreneurs can exploit the local ethnic market to achieve economic success and social mobility. This paper analyzed the locations of a common type of business—the ethnic chain restaurant—in order to determine the markets in which ethnic chains take part and the degree to which chains have penetrated ethnic neighborhoods. Findings show that, among groups whose cuisines are rarely popular with mainstream consumers, such as Koreans, Indians, and Caribbeans, ethnic neighborhoods had an equal or greater likelihood of containing chain-affiliated rather than independently owned ethnic restaurants. In contrast, groups whose cuisines were highly popular with mainstream consumers, such as Italians, Chinese, and Mexicans, followed the traditional theory in which chains were more likely to be located away from ethnic neighborhoods.

The findings hold despite some limitations of the analysis. Perhaps the biggest limitation is that the analysis was cross-sectional, meaning that the causal relationship between the dependent and independent variables was impossible to determine. Chains may have chosen to locate in demographically unique communities, or the existence of chains may have caused demographically unique communities to move in and live near chains. Although either causal pathway may have occurred—and future research should certainly determine which causal pathway is the correct one—the statistically significant association between chain retailers and ethnic neighborhoods should give pause to scholars who ignore that chains are a part of the economic landscape that ethnic entrepreneurs must navigate, even in their own communities.

In addition, the analysis never tested the role of the state, which can promote the growth of chains in particular neighborhoods in order to stimulate economic development. Business improvement districts, economic empowerment zones, and zoning changes can alter the path of economic development, including where chains end up locating (Benediktsson *et al.* 2016). Nevertheless, chains aim to locate as close to their consumer base as is reasonable. This includes chains like Paradise Biryani Pointe, discussed earlier, which encourages franchisees to locate as close to South Asian residential concentrations as possible. Politics is an important moderator of where chains are located, but it does little to alter the reality that a chain retailing industry exists in many local ethnic communities for which scholars have few theoretical and analytical tools.

### ***Conclusion***

This paper offers important conclusions for scholars of ethnic economies and immigrant adaptation. There are valuable lessons for urban studies scholars as well. Immigration scholarship is only beginning to grapple with the fact that ethnic economies can be heavily comprised of chain-affiliated retailers. There is a growing literature that shows how ethnic economies can form among franchises that target mainstream markets (Dhingra 2012; Parker 2013). An evocative example is Indians who dominate Dunkin' Donuts franchises in the Midwest (Rangaswamy 2007). Little to no research, however, analyzes those chains and franchises that target ethnic markets. Ethnic neighborhoods were once seen as 'protected markets' for aspiring entrepreneurs in the local community because major corporations were unwilling or unable to provide ethnic goods and services (Aldrich *et al.* 1985). Today, the protected market hypothesis is likely no longer true. Chains target ethnic neighborhoods, meaning that many ethnic economies comprised of sole proprietorships must compete with



chains in ways they previously did not. Importantly, this paper explained that ethnic chain restaurants in ethnic neighborhoods are frequently franchises. Entrepreneurs in ethnic economies composed of franchises may rely on the same sets of social and financial capital that sole proprietorships do (Dhingra and Parker 2015). An ethnic economy full of franchises is nonetheless a means by which mainstream capitalists can earn fees off of the creation of ethnic economies (Light and Bonacich 1988). Scholars must do more research on the role of chains in ethnic economies and ethnic neighborhoods. More generally, scholars of immigration must investigate what impact chains and franchises in ethnic neighborhoods may have on the social and economic attainment patterns of workers and entrepreneurs who take part in ethnic economies.

This paper also addresses the debate in urban studies over how chain stores impact local communities. Evidence is mixed on what factors encourage or discourage the presence of chain retailers in neighborhoods. For instance, the presence of chains increases along with the income of an area, yet some affluent communities resist the growth of chain retailers (Halebsky 2004; Schuetz *et al.* 2010). Residents may even disagree amongst themselves about the benefits of having chain retailers in their local neighborhoods (Brown-Saracino 2004). Part of this confusion is likely due to the broad strokes with which researchers of urban studies often paint chain retailers. Chain retailers include upscale shops such as Starbucks and fast food restaurants that target lower-income communities such as McDonald's. Chains that target communities based on ethnicity also exist, such as those analyzed in this paper. Scholars must acknowledge the diversity of chains and their locational patterns before fully understanding the impact of chains on local neighborhoods.

Ethnic chain restaurants are tied to the presence of large corporations in other aspects of ethnic neighborhood life, such as the growth of ethnic grocery store chains (Nicholls 2003) and the corporate sponsorship of ethnic community festivals (Yeh 2008). Indeed, restaurants and other organizations may manipulate perceptions of authenticity in order to make themselves appear as part of the ethnic community (Lu and Fine 1995). Ethnic branding has become a profitable business, making ethnic economies contested territory for residents and entrepreneurs alike. The implications of this fact must be investigated in future research.

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**Table 1. Immigrant Groups and Cuisines in New York**

Degree of Popularity	Regional Group	Foreign-Born Population		Popularity on Yelp.com	
		Total	% of Overall Population	Total Cuisine Mentions	Rank Among Cuisines
High	Italian	134,610	0.72%	4,283	4
	Chinese	422,164	2.26%	3,879	6
	Mexican	312,596	1.67%	2,242	11
Moderate	Latin American <sup>a</sup>	1,150,309	6.15%	1,539	16
	Mediterranean <sup>b</sup>	151,991	0.81%	1,446	18
	Southeast Asian <sup>c</sup>	222,579	1.19%	1,017	27
Low	Indian	288,612	1.54%	885	29
	Caribbean <sup>d</sup>	1,202,865	6.43%	714	31
	Korean	149,304	0.80%	531	37
Total in New York Metro Area		18,700,715	---	83,674	---
Total Number of Cuisines		---	---	---	120

Sources: American Community Survey 2006-2010 5-Year Estimates and Yelp.com.

a. Latin American includes any cuisine labeled Argentine, Brazilian, Colombian, Cuban, Ecuadorian, Guatemalan, Guyanese, Latin American, Peruvian, Puerto Rican, or Salvadoran.

Note that this category excludes Mexican food and immigrants from Mexico.

b. Mediterranean includes any cuisine labeled Croatian, Egyptian, Greek, Lebanese, Mediterranean, Middle Eastern, Moroccan, or Turkish. I include immigrants from all countries touching the Mediterranean Sea excluding France, Spain, and Italy. I associate Italy with Italian cuisine. French and Spanish cuisine have unique histories, and French and Spanish immigrants in the U.S. are exceptionally well off. When French and Spanish immigrants are included in the analysis, estimates become unstable.

c. Southeast Asian includes any cuisine labeled Burmese, Cambodian, Filipino, Indonesian, Thai, or Vietnamese.

d. Caribbean includes any cuisine labeled Caribbean, Dominican, Haitian, Jamaican, or Trinidadian.

*Table 2. Top Three Chain Restaurants in the New York Area, By Cuisine*

Italian		Chinese		Mexican	
Restaurant	N	Restaurant	N	Restaurant	N
Pizza Hut	77	P.F. Chang's	11	Taco Bell	121
Olive Garden	27	Panda Express	11	Chipotle Mexican Grill	110
Sbarro	14	Xi'an Famous Foods	10	Moe's Southwestern Grill	36
<b>Total # of Chain-Affiliated Restaurants</b>	<b>677</b>	<b>Total # of Chain-Affiliated Restaurants</b>	<b>640</b>	<b>Total # of Chain-Affiliated Restaurants</b>	<b>729</b>
<b>Total # of Independent Restaurants</b>	<b>3,606</b>	<b>Total # of Independent Restaurants</b>	<b>3,239</b>	<b>Total # of Independent Restaurants</b>	<b>1,513</b>
Latin American		Mediterranean		Southeast Asian	
Restaurant	N	Restaurant	N	Restaurant	N
Pollo Campero	11	Chickpea	13	Spice	8
Pio Pio	7	Pita Grill	10	Num Pang Sandwich Shop	6
Sophie's Cuban Cuisine	6	Crisp	5	Hanco's	3
<b>Total # of Chain-Affiliated Restaurants</b>	<b>163</b>	<b>Total # of Chain-Affiliated Restaurants</b>	<b>165</b>	<b>Total # of Chain-Affiliated Restaurants</b>	<b>118</b>
<b>Total # of Independent Restaurants</b>	<b>1,296</b>	<b>Total # of Independent Restaurants</b>	<b>1,142</b>	<b>Total # of Independent Restaurants</b>	<b>883</b>
Indian		Caribbean		Korean	
Restaurant	N	Restaurant	N	Restaurant	N
Paradise Biryani Pointe	7	Golden Krust	74	BCD Tofu House	3
Brick Lane Curry House	5	Bahama Breeze	5	Bonchon Chicken	3
The Kati Roll Company	4	Fisherman's Cove	4	Glaze Teriyaki Grill	3
<b>Total # of Chain-Affiliated Restaurants</b>	<b>149</b>	<b>Total # of Chain-Affiliated Restaurants</b>	<b>124</b>	<b>Total # of Chain-Affiliated Restaurants</b>	<b>69</b>
<b>Total # of Independent Restaurants</b>	<b>736</b>	<b>Total # of Independent Restaurants</b>	<b>590</b>	<b>Total # of Independent Restaurants</b>	<b>462</b>

**Table 3. Seemingly Unrelated Negative Binomial Regressions of Ethnic Restaurant Counts on Key Variables, By Cuisine and Restaurant Type**

Variable	Italian		Chinese		Mexican		Latin American		Mediterranean		SE Asian		Indian		Caribbean		Korean	
	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains
Ethnic Share	0.12*** (0.01)	0.08** (0.03)	0.03*** (0.00)	0.01*** (0.00)	0.08*** (0.01)	0.04*** (0.01)	0.06*** (0.00)	0.05*** (0.01)	0.19*** (0.03)	0.15*** (0.04)	0.09*** (0.01)	0.14*** (0.02)	0.15*** (0.01)	0.14*** (0.02)	0.08*** (0.00)	0.09*** (0.00)	0.27*** (0.02)	0.28*** (0.04)
Total Pop (in 1,000s)	0.04** (0.01)	0.10*** (0.02)	0.04*** (0.01)	0.08*** (0.02)	-0.03 (0.02)	0.04 (0.02)	-0.03 (0.02)	0.00 (0.04)	-0.05* (0.02)	-0.07 (0.04)	0.01 (0.02)	0.04 (0.05)	-0.04 (0.03)	-0.09 (0.06)	-0.07* (0.03)	-0.02 (0.07)	0.00 (0.05)	-0.23** (0.08)
Pop Density	-0.05*** (0.00)	-0.07*** (0.02)	-0.00 (0.01)	-0.02 (0.01)	0.07*** (0.01)	-0.02 (0.01)	0.07*** (0.01)	0.10*** (0.02)	0.04*** (0.01)	0.07* (0.03)	0.03* (0.01)	0.01 (0.03)	0.07*** (0.02)	0.05 (0.03)	0.01 (0.02)	-0.12** (0.04)	-0.03 (0.03)	0.05 (0.06)
HH Income (in \$10,000s)	0.03*** (0.01)	0.04* (0.02)	-0.02 (0.01)	-0.01 (0.02)	-0.04* (0.02)	0.03 (0.02)	-0.12*** (0.03)	-0.04 (0.05)	-0.07*** (0.02)	0.03 (0.04)	-0.02 (0.02)	0.03 (0.05)	-0.07** (0.02)	0.05 (0.04)	-0.10** (0.03)	-0.20** (0.06)	-0.02 (0.04)	0.05 (0.06)
% in Creative Class	0.01*** (0.00)	0.01 (0.00)	-0.01*** (0.00)	-0.01 (0.00)	-0.01*** (0.00)	-0.01 (0.00)	-0.01* (0.00)	-0.02 (0.01)	0.02*** (0.00)	0.02* (0.01)	0.01*** (0.00)	0.01* (0.01)	0.01* (0.00)	0.00 (0.01)	-0.01* (0.00)	0.01 (0.01)	0.01 (0.01)	0.01 (0.02)
% Moved in the Last Year	-0.01* (0.00)	-0.02* (0.01)	-0.01*** (0.03)	-0.01* (0.01)	0.01* (0.00)	0.00 (0.00)	0.01* (0.01)	0.02 (0.01)	0.01 (0.00)	0.01 (0.01)	-0.01 (0.01)	-0.02 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.03** (0.01)	0.06** (0.02)
log(# of Restaurants)	1.04*** (0.03)	1.07*** (0.05)	0.86*** (0.03)	0.87*** (0.05)	1.06*** (0.04)	1.24*** (0.05)	1.07*** (0.04)	0.99*** (0.11)	1.18*** (0.05)	1.39*** (0.13)	1.31*** (0.05)	1.67*** (0.15)	1.14*** (0.07)	1.45*** (0.14)	0.80*** (0.05)	0.96*** (0.11)	1.42*** (0.13)	1.25*** (0.21)
Intercept	-3.56*** (0.09)	-5.35*** (0.20)	-2.14*** (0.08)	-4.13*** (0.17)	-3.77*** (0.12)	-5.51** (0.18)	-3.59*** (0.17)	-5.98*** (0.39)	-4.83*** (0.17)	-8.59*** (0.44)	-6.02*** (0.18)	9.29*** (0.53)	-5.38*** (0.24)	-8.14*** (0.48)	-3.49*** (0.22)	-5.39*** (0.51)	-7.88*** (0.42)	-9.12*** (0.59)
Ln( $\alpha$ )	-1.72*** (0.18)	-1.06** (0.32)	-2.22*** (0.29)	-2.59 (1.61)	-1.26*** (0.12)	-2.55* (1.00)	-0.07 (0.11)	0.65 (0.34)	-0.28 (0.16)	0.56* (0.32)	-0.77*** (0.21)	0.88** (0.32)	0.42** (0.15)	0.16 (0.35)	0.06 (0.18)	0.81* (0.38)	1.22*** (0.19)	-1.73*** (0.29)
Wald Stat <sup>a</sup>	18.50***		19.82***		17.54***		1.47		0.98		4.10*		0.48		5.27*		0.02	

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

a. This row reports chi-squared values of Wald tests (using one degree of freedom) comparing the effect size of ethnic share on restaurant counts. Within each cuisine, the null hypothesis is that the association of ethnic share with the expected log count of chain restaurants is equal to the association of ethnic share with the expected log count of non-chain restaurants. If the null hypothesis is rejected, then the difference in the size of the two associations is unlikely due to chance.

**Table 4. Seemingly Unrelated Negative Binomial Regressions of Ethnic Restaurant Counts on Key Variables Using InfoUSA and Bond's Definition of Chain Restaurants**

Variable	Italian		Chinese		Mexican		Latin American		Caribbean	
	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains
Ethnic Share	0.12*** (0.01)	-0.06 (0.07)	0.03*** (0.00)	0.02 (0.03)	0.08*** (0.01)	-0.04 (0.03)	0.06*** (0.00)	0.11* (0.03)	0.08*** (0.00)	0.09*** (0.01)
Total Pop (in 1,000s)	0.04*** (0.01)	0.15*** (0.03)	0.05*** (0.01)	-0.03 (0.09)	-0.02 (0.01)	0.05 (0.03)	-0.03 (0.02)	0.37** (0.13)	-0.07* (0.03)	-0.01 (0.07)
Pop Density	-0.05*** (0.01)	-0.22*** (0.05)	-0.00 (0.01)	-0.22** (0.08)	0.06*** (0.01)	-0.13*** (0.03)	0.07*** (0.01)	-0.17 (0.38)	0.01 (0.02)	-0.12** (0.04)
HH Income (in \$10,000s)	0.03*** (0.01)	0.01 (0.04)	-0.02 (0.01)	-0.02 (0.02)	-0.03* (0.01)	0.05* (0.02)	-0.11*** (0.02)	-0.41 (0.54)	-0.10** (0.03)	-0.20** (0.06)
% in Creative Class	0.01*** (0.00)	0.00** (0.01)	-0.01*** (0.00)	-0.02 (0.02)	-0.01* (0.00)	0.00 (0.01)	-0.01** (0.00)	-0.07** (0.07)	-0.01* (0.00)	0.01 (0.01)
% Moved in the Last Year	-0.01*** (0.00)	0.01 (0.01)	-0.01*** (0.00)	0.03 (0.03)	0.01* (0.00)	0.01 (0.01)	0.01** (0.00)	-0.14 (0.09)	0.01 (0.00)	0.01 (0.01)
log(# of Restaurants)	1.05*** (0.03)	0.97*** (0.11)	0.86*** (0.03)	1.19*** (0.31)	1.10*** (0.03)	1.30*** (0.08)	1.06*** (0.04)	0.52*** (0.35)	0.80*** (0.05)	0.96*** (0.11)
Intercept	-3.47*** (0.10)	-6.12 (0.42)	-2.03*** (0.07)	-6.84*** (0.95)	-3.74*** (0.11)	-6.29*** (0.29)	-3.52*** (0.16)	-3.80 (2.19)	-3.48*** (0.22)	-5.39*** (0.51)
Ln( $\alpha$ )	-1.76*** (0.17)	-0.37 (0.70)	-2.50*** (0.33)	1.89** (0.65)	-1.37*** (0.17)	-0.78 (0.50)	-0.10 (0.10)	0.45 (0.34)	0.06 (0.18)	0.81* (0.38)
Wald Stat <sup>a</sup>	6.52*		0.04		18.59***		1.33		5.27*	

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

a. This row reports chi-squared values of Wald tests (using one degree of freedom) comparing the effect size of ethnic share on restaurant counts. Within each cuisine, the null hypothesis is that the association of ethnic share with the expected log count of chain restaurants is equal to the association of ethnic share with the expected log count of non-chain restaurants. If the null hypothesis is rejected, then the difference in the size of the two associations is unlikely due to chance.

*Table 5. Seemingly Unrelated Negative Binomial Regressions of Ethnic Restaurant Counts on Key Variables Using an Alternative Definition of Ethnic Neighborhood*

Variable	Italian		Chinese		Mediterranean		Indian		Caribbean		Korean	
	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains
In Ethnic District	0.53*	0.46	1.29***	0.54**	1.17***	0.16	1.54**	1.82**	0.62**	1.52***	4.12***	2.43**
	(0.22)	(0.39)	(0.00)	(0.19)	(0.24)	(0.54)	(0.45)	(0.55)	(0.26)	(0.40)	(0.66)	(0.88)
Total Pop (in 1,000s)	0.03**	0.10***	0.04***	0.08***	-0.05*	-0.08	0.04	0.02	-0.11***	-0.06	-0.11	-0.29**
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.05)	(0.03)	(0.06)	(0.03)	(0.08)	(0.06)	(0.10)
Pop Density	-0.06***	-0.07***	0.01	-0.02	0.04**	0.07**	-0.01	-0.07	0.09***	0.01	-0.09**	-0.04
	(0.00)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.04)	(0.02)	(0.03)	(0.03)	(0.05)
HH Income (in \$10,000s)	0.03**	0.04*	-0.02*	-0.01	-0.09***	0.01	-0.09**	0.01	-0.11***	-0.19**	-0.13*	-0.04
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.04)	(0.03)	(0.05)	(0.03)	(0.06)	(0.06)	(0.07)
% in Creative Class	0.01***	0.01	-0.01***	-0.01	0.02***	0.02*	0.02**	0.01	-0.03***	-0.02	0.02	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.02)
% Moved in the Last Year	-0.01**	-0.02**	-0.02***	-0.01	-0.01	0.01	0.01	0.02	0.00	0.01	0.02	0.05**
	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
log(# of Restaurants)	1.03***	1.06***	0.86***	0.87***	1.18***	1.40***	1.07***	1.34***	0.61***	0.67***	1.49***	1.31***
	(0.02)	(0.05)	(0.02)	(0.05)	(0.05)	(0.13)	(0.08)	(0.13)	(0.04)	(0.08)	(0.15)	(0.20)
Intercept	-3.39***	-5.24***	-2.07***	-4.12***	-4.55***	-8.28***	-5.01***	-7.87***	-1.80***	-3.21***	-6.09***	-7.11***
	(0.09)	(0.05)	(0.08)	(0.17)	(0.17)	(0.44)	(0.25)	(0.48)	(0.18)	(0.39)	(0.40)	(0.60)
Ln( $\alpha$ )	-1.68***	-1.02**	-2.37***	-2.56	-0.14	0.59	1.12***	1.25***	0.81	1.63***	2.55***	2.73***
	(0.14)	(0.31)	(0.24)	(1.51)	(0.18)	(0.32)	(0.25)	(0.34)	(0.14)	(0.37)	(0.16)	(0.40)
Wald Stat <sup>a</sup>	0.05		13.84***		3.45		0.59		3.87*		2.49	

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

a. This row reports chi-squared values of Wald tests (using one degree of freedom) comparing the effect size of ethnic share on restaurant counts. Within each cuisine, the null hypothesis is that the association of ethnic share with the expected log count of chain restaurants is equal to the association of ethnic share with the expected log count of non-chain restaurants. If the null hypothesis is rejected, then the difference in the size of the two associations is unlikely due to chance.

## Appendix A. Univariate Statistics of Key Variables

Variable	Italian		Chinese		Mexican		Latin American		Mediterranean		SE Asian		Indian		Caribbean		Korean	
	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains	Chains	Non-Chains
Ethnic Share	0.94 (1.39)	0.93 (1.35)	2.83 (7.51)	2.31 (6.26)	2.45 (5.21)	3.82 (6.19)	11.80 (10.29)	10.73 (9.81)	1.48 (2.57)	1.45 (2.13)	2.85 (4.72)	2.06 (3.61)	6.46 (9.74)	4.18 (7.44)	14.29 (14.35)	10.70 (12.91)	10.42 (10.98)	5.88 (8.60)
Total Pop (in 1,000s)	5.02 (2.24)	4.64 (1.97)	5.04 (2.40)	4.74 (2.04)	4.87 (2.12)	4.77 (2.00)	5.03 (2.33)	4.69 (1.96)	4.73 (2.36)	4.65 (2.15)	5.08 (2.04)	4.89 (2.19)	4.83 (2.39)	4.83 (2.26)	4.17 (3.00)	-0.09 (1.38)	4.10 (1.99)	4.78 (2.23)
Pop Density <sup>a</sup>	2.34 (3.68)	2.31 (3.34)	3.13 (3.86)	3.16 (3.65)	3.11 (3.90)	4.15 (3.99)	4.99 (4.20)	4.22 (3.77)	4.25 (4.22)	3.83 (3.89)	4.03 (4.12)	3.68 (4.21)	3.66 (4.08)	3.87 (4.01)	3.75 (3.41)	4.86 (1.86)	3.42 (3.43)	3.64 (3.94)
HH Income (in \$10,000s)	8.31 (3.17)	8.00 (3.29)	7.17 (3.07)	6.87 (3.10)	7.49 (3.16)	6.33 (3.11)	5.78 (3.08)	5.72 (2.63)	8.19 (3.31)	7.19 (3.15)	7.91 (3.31)	7.64 (3.23)	8.27 (3.45)	7.29 (3.12)	5.31 (2.24)	0.96 (0.87)	7.52 (2.61)	7.66 (3.20)
% in Creative Class	45.76 (16.53)	43.73 (16.48)	40.47 (16.87)	38.67 (16.59)	43.56 (18.24)	37.48 (19.15)	32.89 (19.56)	33.82 (18.68)	52.43 (18.82)	45.46 (17.89)	48.48 (17.87)	46.53 (17.68)	51.14 (17.55)	46.20 (18.52)	31.94 (16.07)	31.99 (16.80)	48.55 (17.67)	47.48 (17.26)
% Recent Movers	10.94 (7.50)	10.85 (7.49)	11.31 (8.16)	10.67 (6.84)	12.78 (8.44)	13.01 (7.88)	13.50 (7.91)	13.04 (7.27)	16.43 (12.32)	12.99 (8.62)	13.60 (8.11)	13.02 (8.90)	15.62 (10.18)	13.77 (8.91)	12.58 (9.38)	11.98 (6.72)	17.26 (11.53)	15.17 (9.12)
# of Restaurants <sup>b</sup> (Min - Max)	1 (1 - 5)	1 (1 - 40)	1 (1 - 4)	1 (1 - 52)	1 (1 - 6)	1 (1 - 13)	1 (1 - 4)	1 (1 - 16)	1 (1 - 6)	1 (1 - 17)	1 (1 - 5)	1 (1 - 9)	1 (1 - 5)	1 (1 - 24)	1 (1 - 3)	1 (1 - 6)	1 (1 - 4)	1 (1 - 41)
N <sub>Tracts W Rests</sub> <sup>c</sup> (% of Tracts)	527 (12)	1,725 (38)	547 (12)	1,864 (41)	557 (12)	912 (20)	140 (3)	752 (17)	129 (3)	675 (15)	96 (2)	555 (12)	113 (2)	409 (9)	107 (2)	431 (10)	46 (1)	165 (4)
N <sub>All Tracts</sub>	4,532		4,532		4,532		4,532		4,532		4,532		4,532		4,532		4,532	

a. Population Density is in units of population in 10,000s per square mile. In supplementary analyses, I logged this value, but it made little difference in the reported results.

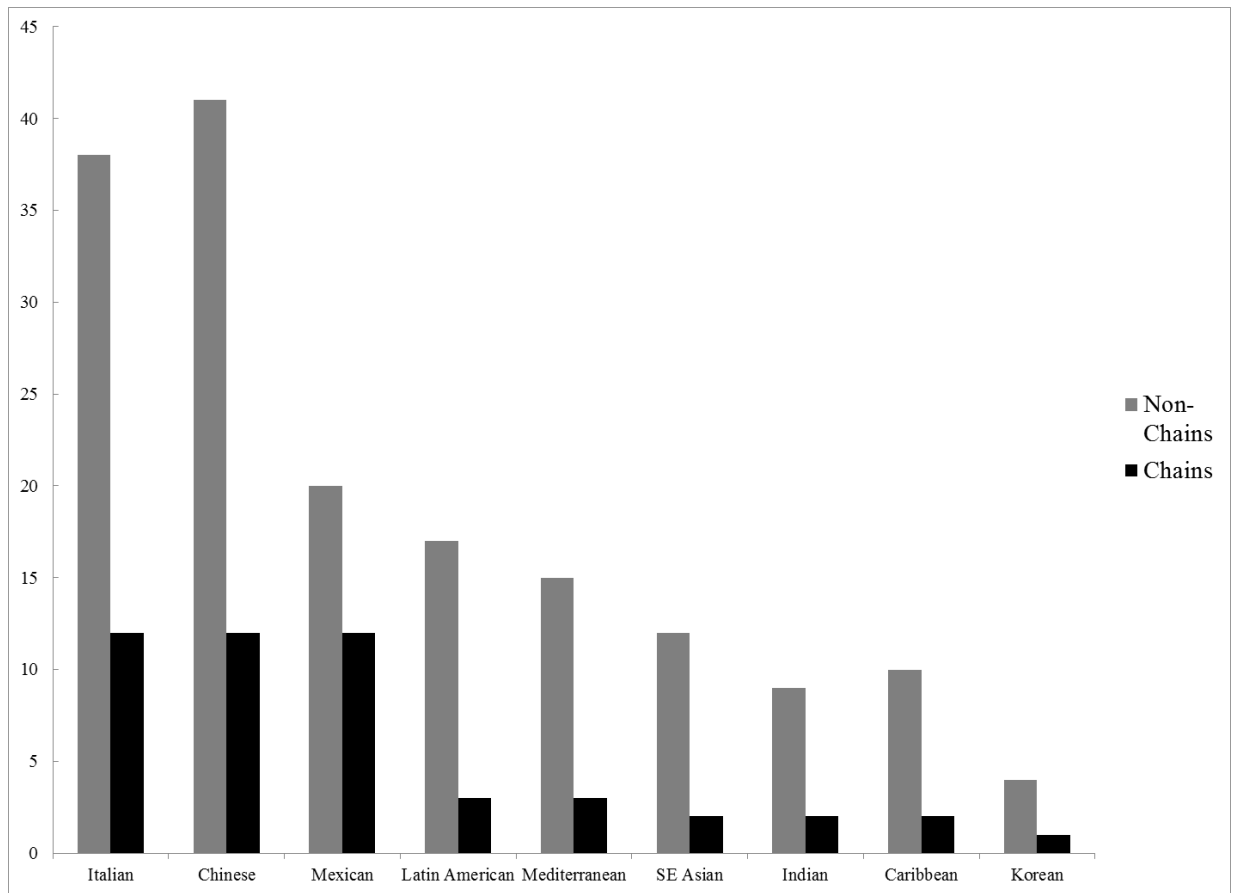
b. This row reports the median number of ethnic restaurants among neighborhoods that contained at least one ethnic restaurant.

Numbers in parentheses refer to the minimum and maximum number of restaurants across those neighborhoods.

c. 'Tracts W Rests' refers to the number of census tracts that contained at least one restaurant of a given cuisine and restaurant type.

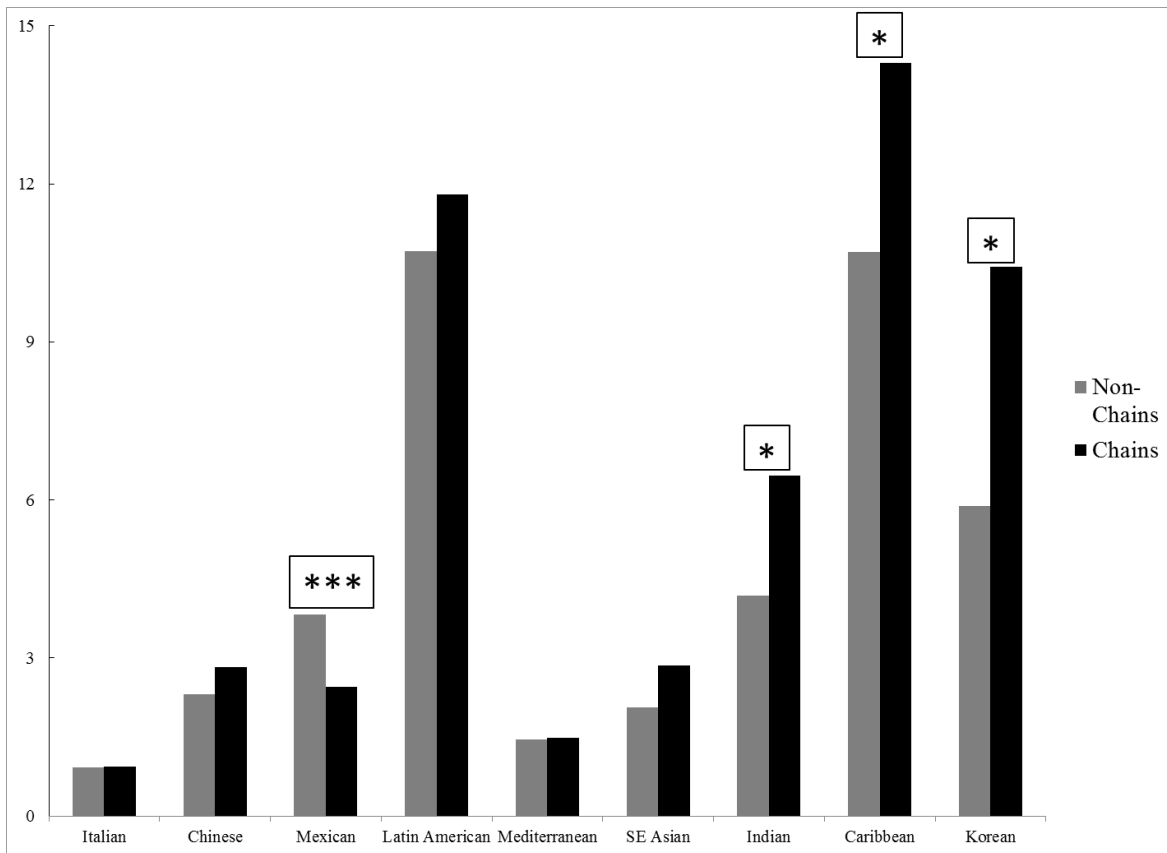
'% of Tracts' refers to the proportion of all census tracts that contained at least one restaurant of a given cuisine and restaurant type.

**Figure 1. Percentage of Neighborhoods with an Ethnic Restaurant, By Cuisine and Restaurant Type**



Note: There were 4,532 census tracts in the New York City Metropolitan Statistical Area. For the Ns associated with this figure, consult Appendix Table A.

**Figure 2. Average Ethnic Share of Communities that Had At Least One Restaurant, By Cuisine and Restaurant Type**



\*p<0.05, \*\*\*p<0.001

Note: This figure shows, of those neighborhoods that had at least one restaurant of a given cuisine and restaurant type, the mean proportion of a neighborhood’s population that was of the same ethnicity as the restaurant. The boxes with stars above certain pairs of bars indicate the statistical significance of t-tests within cuisines and across restaurant type. If there is no box above pairs of bars, then t-tests were not statistically significant at the five percent level.