The Exploration of Demographic Factors on The Survival State of Chinese Movie Theaters in LA

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Introduction

The research is a part of a big project about Chinatown Movie Theaters in North America. Theaters in North America screened Chinese-language movies as early as the 1920s, while the peak of such theaters extended from the 1960s through the 1990s, as Hong Kong distributors disseminated Cantonese and Mandarin films on circuits through dozens of dedicated theaters in various cities. This summer, we mainly focus on the Chinese movie theaters in LA, which differentiate from other cities' theaters since they are mainly concentrated in two clusters.

Similar to other Chinese-language theaters that peaked in the 1970s and 1980s while declining in the 1990s, their financial health changed coincidently with the demographic shift created by a new wave of immigrants from Asia and Central America, primarily fueled by the Alien Quota Act in 1965. The development of Chinatown downtown could also reveal this change as it became more diversified in the 1960s. However, unlike other cities, LA experiences another immigration trend in the 1980s. The post-1980 globalization trend has profoundly shaped Asian immigration, assimilation, and development in a new ethnoburb, San Gabriel Valley. These two Chinese aggregations match the clusters on the map where Chinese-language movies theaters locate. Therefore, we aim to solve two research questions related to this phenomenon. One is exploring the demographic factors contributing to the opening or closing state of Chinese-language theaters and their financial health. The other is finding whether location (either downtown or suburban) is a significant factor in affecting the Chinese-language theaters' survival.
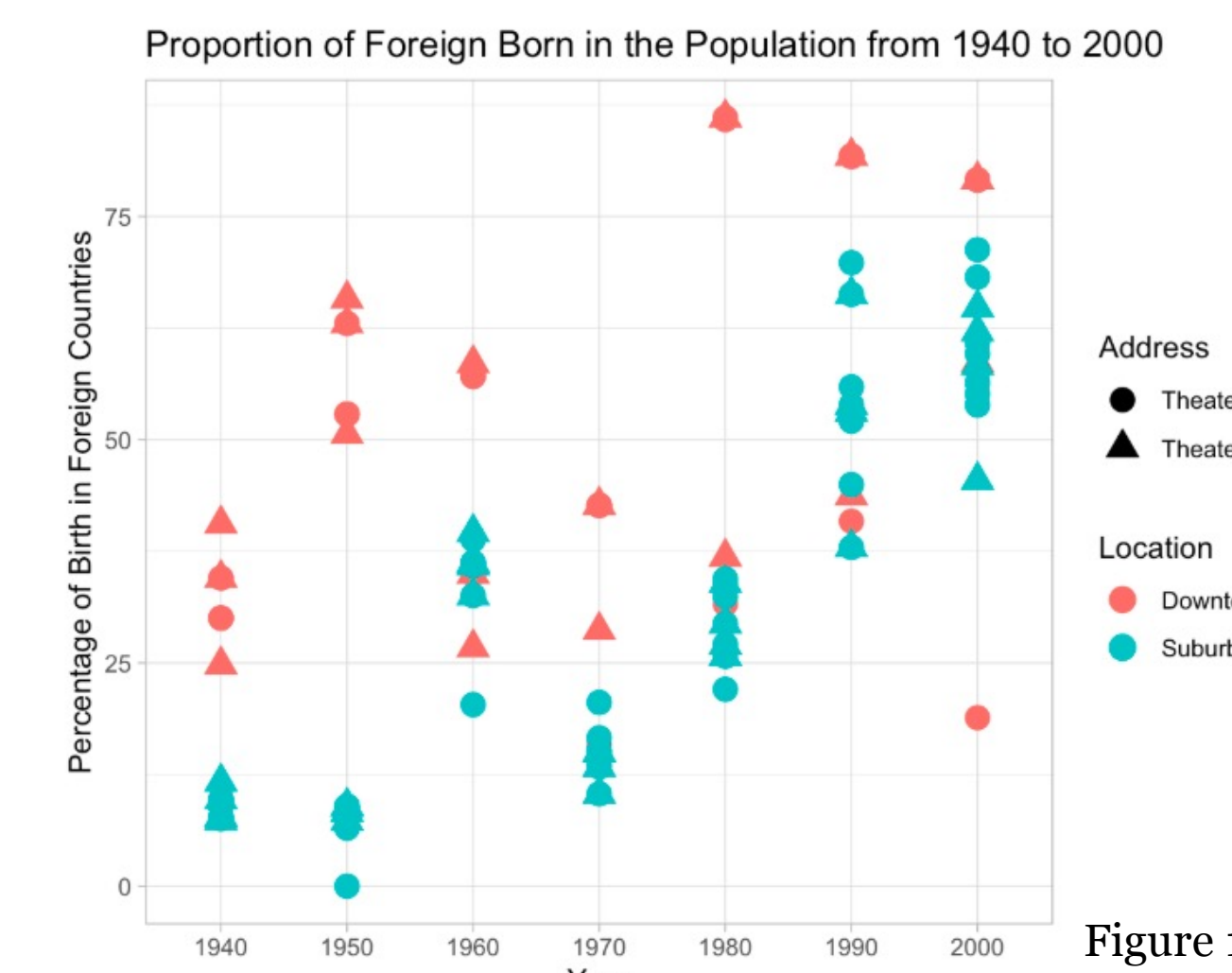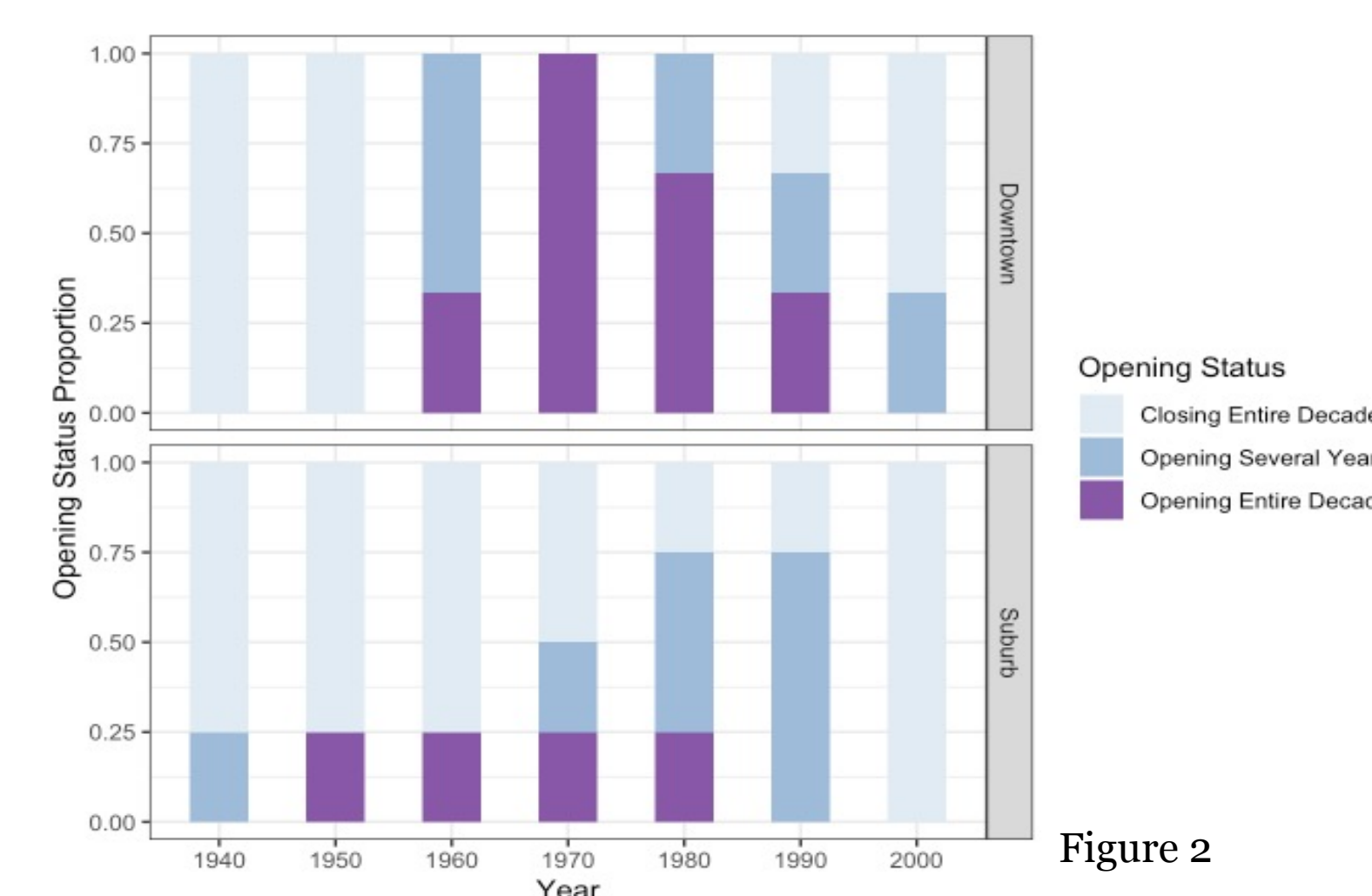
Data Visualization

Figure 1

Figure 2

Figure 1 shows that the proportion of the population born in foreign countries increased from the 1940s to the 1970s, both in the downtown and suburban clusters. During this period, the proportion of foreigners in the downtown area is higher than that of foreigners in suburban areas. This could be explained by the existence of a new Chinatown built in the 1930s, which is the exact location where downtown theaters are.

Beginning in the 1960s, Chinatown became much more diverse in the backgrounds of its Chinese residents and business people. Immigrants, whose numbers grew steadily between the 1950s and the 1990s, came from many different parts of China, as well as from Hong Kong, Taiwan, and Southeast Asia. Chinatown changed particularly fast during the 1980s, as more and more Chinese from Southeast Asia opened up businesses there. Therefore, we can see that the theaters are more likely to open from 1970 to 1990, especially in downtown areas (Figure 2). While from 1970 to 2000, more and more foreigners come to the suburbs, especially the San Gabriel Valley (Figure 1). This new ethnoburb mainly attracts Chinese immigrants from Hong Kong, Taiwan, and Mainland China, revealing why some Chinese movie theatres that specifically project Hong Kong films long existed in the 1980s and 1990s.

GIS Map
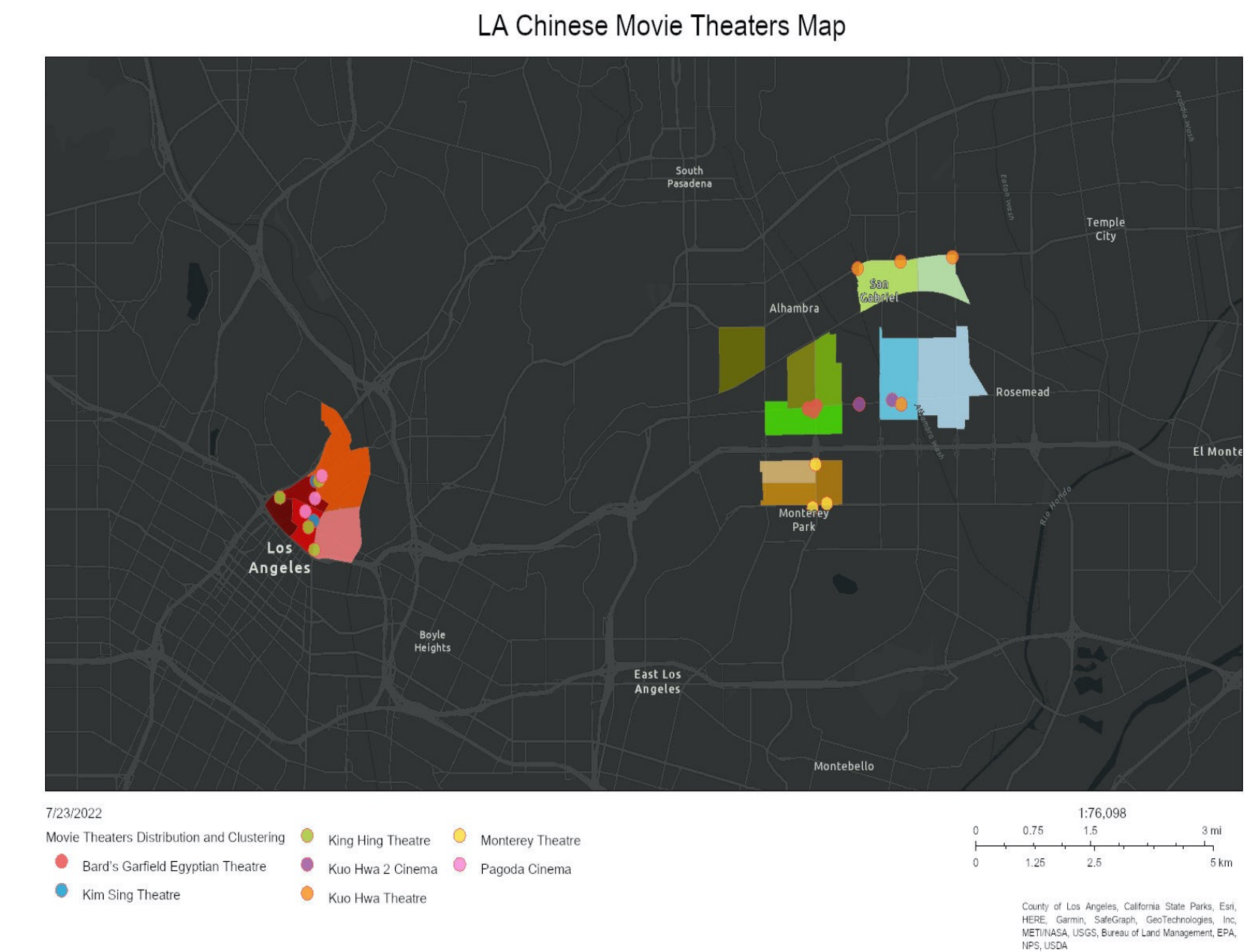
I used clustering analysis on each feature in the GIS and found two main clusters. One is in the LA downtown with 63 elements, and the other is around Monterey Park, San Gabriel, Alhambra, and Rosemead, with 65 features. On the map, the density of clusters in the downtown area is higher than in the suburbs, meaning that downtown theaters are more concentrated than theaters in the suburbs. This is because the Chinese movie theaters downtown are normally distributed around Chinatown, which makes them denser, while the suburbs include more cities and the population is more scattered.

Methods

Data Source: U.S. Decennial Census Data of 1940 and 1960-2000 are retrieved from the Social Explorer platform, and I manually input the information from the 1950 United States Census file. I chose tracts as individual units and found out theaters and their adjacent commercial area addresses with their corresponding tracts. Since the tract numbers could vary from 1940 to 2000, I used Geocoder from the Census Bureau to decipher the tracts in the previous decades from the 2010 geographies.

Data Management: After choosing twenty independent variables, we added another independent variable, *Total Assessed Price Change,* by calculating the location parcel's assessed total value change in percentage in each decade on the LA County Assessor Portal. One dependent variable is each theater's opening status, categorized into three levels. The other dependent variable is the financial health of the theater, which is categorized into five levels based on the theater's tax filing record. One challenge in data management is dealing with the missing data for each variable since not all decades have the independent variables at the same level, and the previous decades have many missing variables compared with later decades. Since we did not want to give up some crucial variables, such as the Chinese population variable that only appears in the census in the 1980s, we decided to subset the dataset and run regressions with different variables.

Dataset and Regression: After merging the datasets of all decades, we had a dataset with 147 observations and 59 variables. Since dependent variables are ordinal and categorical, I used ordinal regression for the original dataset and the subset. As the observations are more clustering-based, and they have several levels such as two Chinese aggregations and seven theaters, I used multilevel logistic regression to control the hierarchical groups. To simplify the regression, I recoded the three levels of the dependent variable into two levels with only the opening and closing status.
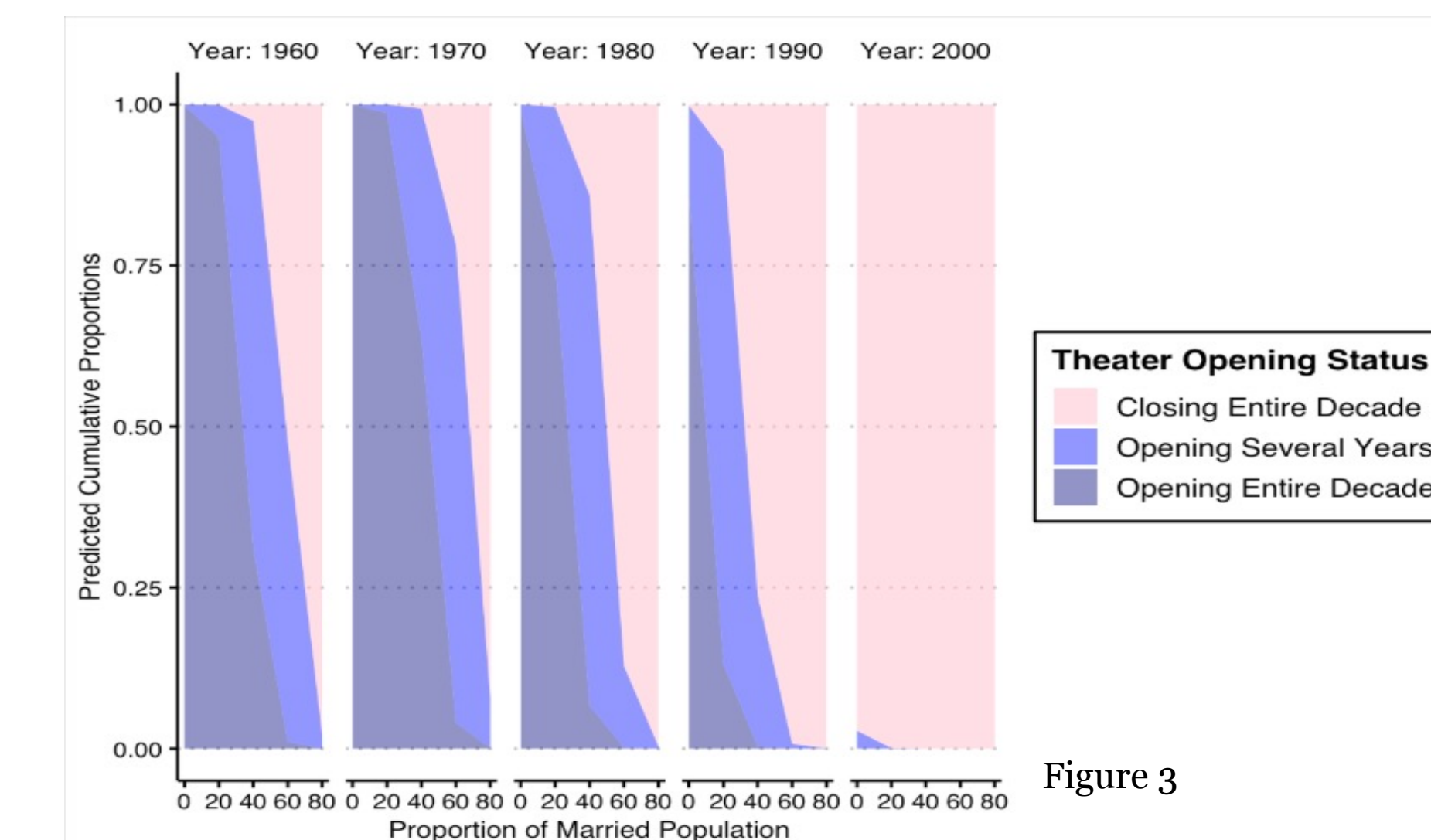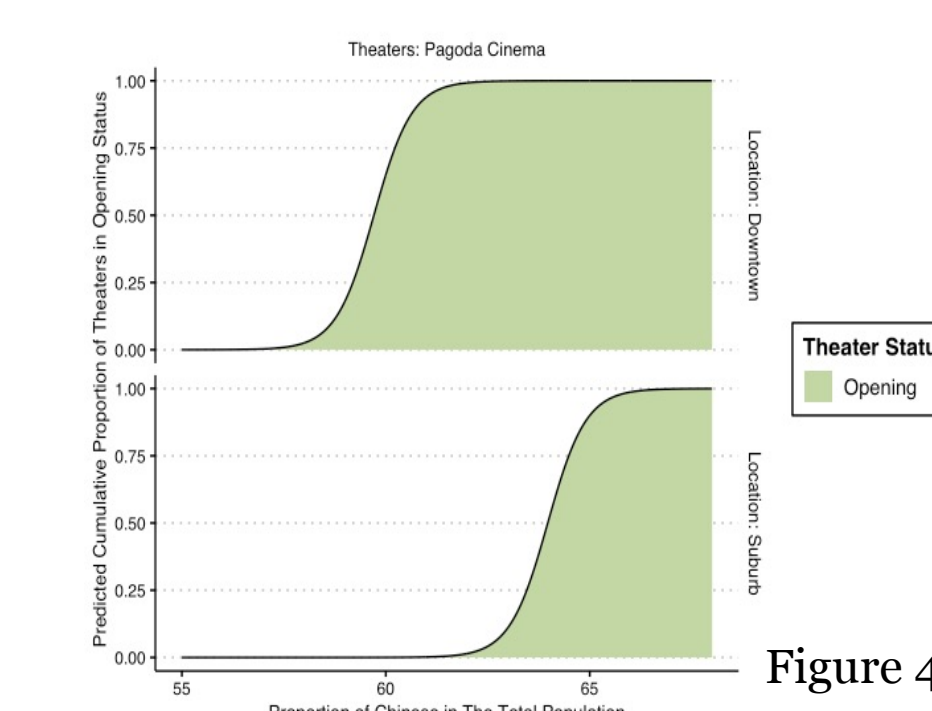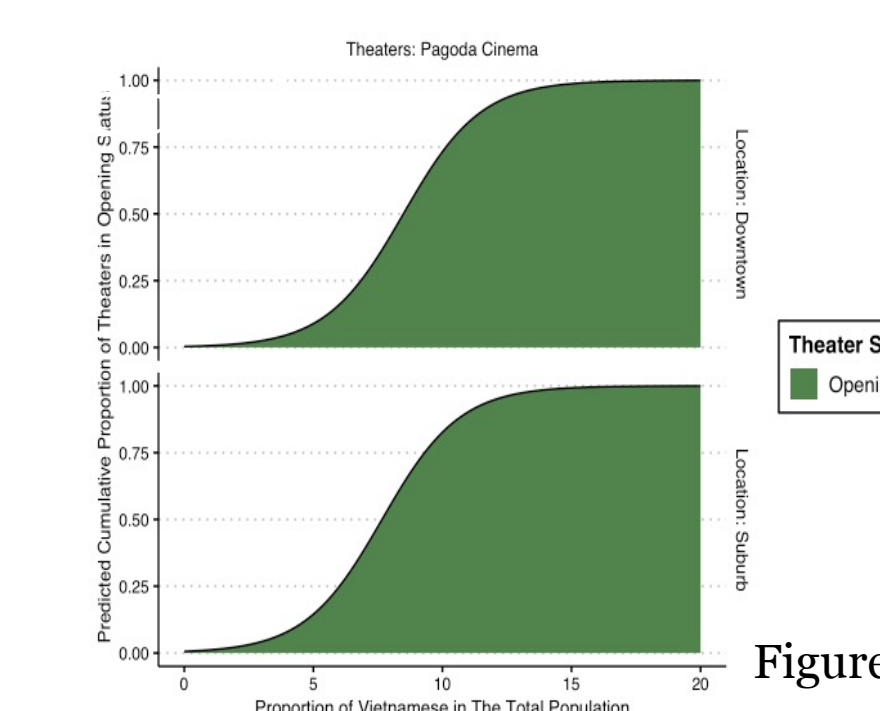
Result

Figure 3

Figure 4

Figure 5

Figure 3 shows that from 1940 to 2000, the marriage rate negatively corresponded to theaters' operating status. However, its impact varies over decades. In 2000, even though the marriage rate was low, it was still hard for theaters to be open. For the later decades, the weight of marriage is not a significant factor that impacts Chinese movie theaters' status.

Figure 4 is an example of one theater that indicates that the more Chinese in the area, the more likely the theaters are to be open. It also illustrates that the increasing Chinese population can more easily contribute to theaters' success downtown than in the suburbs. If the Chinese proportion is 60%, it seems that a downtown theater has a 50% likelihood of being open while it is more likely to be closed in the suburbs.

Figure 5 is derived from the multilevel logistic regression on the subset from 1980 to 2000. The result is an example of one theater demonstrating a significant positive correlation between the Vietnamese population and the opening status of Chinese-language movie theaters. It could be explained by the massive influx of Vietnamese of Chinese origin who flocked to Chinatown after the Vietnam War. Unlike the Chinese population, the graph shows that location is not a significant factor impacting this correlation.

Conclusion

I have discovered that the business industry, Asian population (Japanese, Chinese, Vietnamese), married population, education level, and manufacturing industry are all important factors that could affect the opening status of theaters and their financial health. However, location is not a significant factor affecting theaters' survival status. Our findings could be more accurate if we include more theaters not only based in LA but in other counties or states to have a more significant sample and know the general factors that could influence the financial health of Chinese-language movie theaters. It is necessary to conduct more research regarding immigration policy and theaters' histories so that we can have more concrete evidence to support such correlations.

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Citation

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