Will Bank Access Affect House Price?

A regression analysis in Boston downtown

Introduction:
Typical analysis on the housing value often only doesn’t include information about Clustering. It would be interesting to show this spatial correlation. The bank access is defined as using the deposit divided distance from the closest bank to a parcel. This variable might indicate how rich the nearby neighborhood is and how prosperous the nearby business is. In other words, it can reflect some demographic information more accurately than census data. As for the house price, it is defined as the total value of the house and land divided by the area size. This definition is not perfect, and it only captures the value density of the building. For example, areas such as the parking plots tend to have a lower value. The data is coming from Tufts M drive, the parcel value, and FDIC, the bank location and deposit. So, the unit of analysis is parcel. In addition, all values are converted into log value.

Methods:
There are three key methods used in this poster. One the Kernel smoothing, as the graphs on the right side. These graphs are showing the peak values in Boston downtown. The second method is Lisa local Moran’s I, on the right side, showing the clustering condition of the two key variables. Lastly, a spatial lag regression is used to determine the quantitative relationship between price and bank access.

Results
The HH clustering center of the house unit price and the bank access are both in the center of financial center. There are also some locations across this area have peak value of bank access. In order to better visualize the details, two Kernel smoothing graphs are made on the right side. It is clear that the house price have more clustering, while the bank access is distributed smoothly across the city.

The regression results show that the spatial lag effect is important, and the results show when there is a 10% increase in bank access level, there will be a 0.77% increase in the housing, when other things are equal. While the lag effect is included in the model, the increase decreased to 0.68%.

Conclusion:
Bank access does have some impacts on the house price, but it is still doubtful whether the captured fact is that the financial center has a high value. It would be better, if the change of the unit price and the bank access can be obtained. Then, if the change of the bank deposit will lead to an increase in the house price, the results will be more robust.

In addition, census track’s information are not used here. Because they can’t represent the differences across street.