

Information about the Creation of the Astor Index

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Vacant Lots Data

The data for the vacant lots from 1950 – 2014 is described in Barr, J., Smith, F.H. and Kulkarni, S.J., (2018). “What's Manhattan Worth? A Land Values Index from 1950 to 2014.” *Regional Science and Urban Economics*, 70, pp.1-19.

Data was updated to 2018 using data available from the NYC Department of Finance (DoF) which records [all real estate transactions](#). Detailed information about data processing can be gotten from the author. While less frequently sold as compared to building sales, vacant lots are common enough to perform a statistical analysis. They appear throughout the island, and, for all intents and purposes, their appearance appears to be statistically random (or at least the non-random elements related to their selection into the same can be controlled for).

The vacant land transactions from the NYC DoF were merged with the data in Barr et al. (2018) and a regression was run of the $\ln(\text{Real Price Per Square Foot})$ on several control variables and year dummies. The sales prices were divided by the CPI index to get inflation-adjusted values. The index was created by taking the exponent of the estimated year coefficient. For this blog post the regression data was from 1976 to 2018. 1976 was chosen as the base year because the building data is available from 1974 to the present. For the vacant lots data, we were unable to collect data from 1975, so to allow for a more accurate comparison 1976 was used as the base year for both building and vacant lot regressions (which sets the index as 100 for each one in that year).

Building Data

The building data is provided by the NYC DoF and goes from 1974 to 2018. A regression was run for the $\ln(\text{Real Sales Price})$ on controls: building type dummies, tax block dummies and year dummy variables. In theory, each building has a unique tax block dummies and should control for most of the fixed (both internal and external) elements that determine a buildings sale price. If a building is sold and converted to a new use, then that would be captured by the building type dummies. The base year again was 1976 (which was set at 100). Regression results are available upon request.

Data for 1974 to 2006 was also used to create a price index, as reported in the 2008 Furman Center report, “[Trends in New York City Housing Price Appreciation](#).”

The Astor Index

The so-called Astor Index was created by dividing the vacant land index by the building index. This means that 1976 was set to a value of 1 by construction.