



UCLA ECONOMIC LETTER

REAL ESTATE AND THE MACROECONOMY

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Monthly condensed analyses of crucial real estate and economic issues offered by UCLA Anderson Forecast and UCLA Ziman Center for Real Estate. In this August 2022 Letter, Benjamin Freyd, teaching fellow at UCLA, summarizes his recent research analyzing the relationships between new tech offices and home prices.

This Economic Letter is extracted from a larger report: [Large Tech Office Openings and the Onset of Gentrification](#).

New Tech Hubs and Gentrification:

What is the dynamic between the opening of tech offices and neighborhood house price increases?

By Benjamin Freyd

Gentrification has re-emerged as a major issue in several U.S. cities. Former low-income neighborhoods, especially in California and New York City, have seen a fresh inflow of more wealthy residents bringing substantial neighborhood changes. This phenomenon has a priori ambiguous welfare effects. On the one hand, it tends to increase property values, benefiting incumbent homeowners; it also improves local economic dynamism, with the potential creation of more businesses, especially in the service sector. Both of these are seen as positive impacts of gentrification. On the other hand, gentrification can outprice lower-income renters, thereby reinforcing geographical income segregation. Households who have to move out may not only lose their place, but they may have to move somewhere with worse economic opportunities. Overall, the evidence about the effects of gentrification remains mixed, suggesting mixed effects across sectors and populations.

In the economic literature, initial gentrification shocks can have a snowballing effect. For example, wealthy residents may attract more of their kind through the development of specific neighborhood amenities. This endogenous

amenity development is at the core of modern urban models. While many factors have been evoked, little is known about what initially triggers a wave of gentrification. Policymakers could greatly benefit from knowing whether their city is about to go through such a wave, in order to enact protective policies for renters or ensure sufficient new housing supply, both of which may take years to achieve. So far, the presence of artistic and creative businesses has been associated with the future gentrification of a neighborhood. Supermarket and coffee shop openings have also been associated with small increases in house prices. But it is hard to establish a clear causal linkage between the appearance of these businesses and a slowly ensuing gentrification process.

“Within two years of a major tech office opening, house prices rise 11% within 1 km of the new office, relative to matched areas between 1 and 3 km away. This difference persists at around 8% five years after.”

This research focuses on the impact of major technology office openings on proximate house prices. Office openings have the potential to bring a substantial number of well-paid workers to the area surrounding the office location, thereby abruptly changing the neighborhood, as reported in numerous anecdotal accounts. At a coarser scale, major industrial openings are also shown to have sizeable effects on local labor and housing markets. In the analysis, I gather data on a number of major tech office openings, including their exact address and the year of opening and then statistically assess the impacts thereof on house prices by using transaction-level data on properties. The office opening events are spread across the U.S. and cover the period 2004-2018. My analysis uses more than 25,000 property transactions, spanning three years before and five years after each office opening. I control for housing quality through multiple property characteristics and via fine-grained location-fixed effects. To control for the endogeneity of firm location choices, I also design treatment and control groups based on geographical proximity and similarity in house prices prior to the opening event.

Key takeaways:

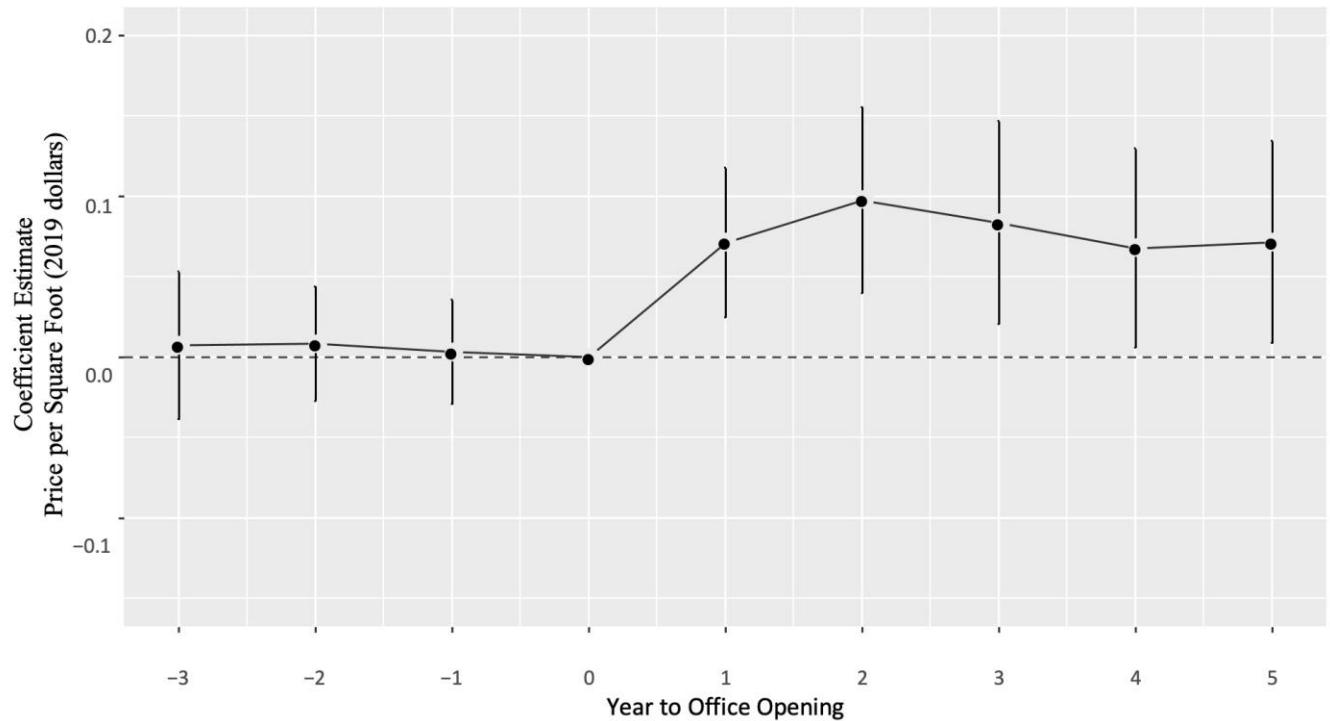
- Openings of new tech offices are associated with strong and long-lasting increases in local house prices.
- An agglomeration explanation seems to be the most compelling mechanism: The new office attracts similar firms in its neighborhood, such that the number of high-skill, affluent residents substantially increases. Agglomeration forces are known to operate very strongly in the tech sector.
- Despite claims of prior research, we find little evidence for the development of consumption amenities as an initial driver for house price growth.

RESULTS

Research findings suggest a strong causal link between office openings and increases in local house prices. In the main specification, I find that within two years of the office opening, house prices rise 11% within 1 km of the new office, relative to matched areas located between 1 and 3 km away. This difference persists at around 8% five years after. These effects are substantially larger than those found in supermarket and coffee shop openings. The results are qualitatively robust to a number of changes in the design of the treatment and control groups. I explore two important potential mechanisms behind these findings, to understand their size and persistence. I assess the role of agglomeration forces, whereby new technology offices attract similar companies, creating a long-lasting snowballing effect. I also assess the role of the development of consumption amenities around the office location, which can then attract a broader wealthy population. Agglomeration forces seem to play an important role, while I find no such evidence for consumption amenities. Overall, findings of those analyses suggest that large tech office openings can cause significant increases in house prices – an important part of gentrification – and that this effect may rely on the strongly agglomerative aspect of that industry.

The Figure shows the results of the main specification. Pre-opening trends in house prices are almost identical in the treatment and control groups, suggesting good comparability. The differences clearly appear following the opening of an office. Within two years after opening, property prices in the treatment group gain about 10% relative to those in the control group. This short-term effect slightly subsides over time, to reach around 7% five years after opening. This slight dip could reflect some sprawl, with the aura of the major office opening eventually reaching further outwards. But a large difference persists after several years. That suggests the ignition of endogenous mechanisms following the opening event and the fact these effects are hyperlocal.

Event Study: House Prices Evolution Around Offices Opening Event -- Facebook, Apple, Amazon and Google



We find much stronger property price effects than the existing literature working at a similar geographic scale. There are major differences between the types of establishments that previous literature has studied and those in my analysis. Coffee shop openings are most likely the consequence of an ongoing gentrification process and do not play a large part in that process individually. Supermarkets are more likely to play an important role, but not directly through the workforce they attract, being mostly composed of low-skill workers. Tech establishments tend to attract a large and highly skilled (hence highly paid) workforce, giving them a greater potential impact on the neighborhood they set foot in.

We successively discuss the roles of agglomeration forces (the new firm attracting other firms because of production spillovers) and consumption amenities (the new firm and its workers pushing the development of certain local services).

At small geographic scales (e.g. a few kilometers here) the microeconomic reasons for agglomeration economies are dominated by labor market pooling and knowledge spillovers. In other words, firms benefit from close proximity with other firms either because they use the same type of labor, which can reduce job search costs, or because they use similar knowledge and technology for their production, which can benefit from more frequent human interactions. Both these factors suggest that small-scale agglomeration forces happen between firms within the same industry. Major offices have an anecdotal potential to trigger agglomeration. Since they belong to well-established companies, these offices are fairly autonomous: they may not require a local ecosystem of technology firms to function properly, which allows them to set foot in locations that do not yet experience tech agglomerations. On the other hand, they often serve as incubators or venture capital providers for smaller promising firms. That gives smaller firms a reason to locate near these big establishments and benefit from the opportunities they offer.

CONCLUSION

This article provides evidence that openings of large technology firms' offices have a positive and significant impact on local house prices, a key ingredient in the process of gentrification. These effects are strong and long-lasting relative to the findings of previous research, which have focused on the development of consumption amenities as a source of gentrification. Moreover, my results show that consumption amenities do not develop differentially close to the new office location, relative to similar locations further away. The growth of such businesses is overall only weakly associated with increases in house prices. Instead, my results point to an agglomeration story. The workforce

in high-technology and related sectors grows much faster around new tech offices than further out, suggesting that the new office is attracting more related businesses in the area.

While my data cannot provide direct evidence on that, these other businesses likely attract high-skill, wealthy workers that will increase the demand for housing in the area, hence its price. This finding is in line with theories of Marshallian agglomeration, such as knowledge spillovers, labor market pooling and input-output sharing. Overall, my work thus suggests that technology firms have a key role in starting a wave of gentrification and that this mainly goes through an agglomeration channel.

Based on the study, my policy recommendations can be summarized: In order to protect local renters and maintain housing affordability, openings of large tech offices should be accompanied by appropriate increases in housing supply. This would also apply generally to any openings implying a large inflow of affluent workers into the neighborhood.

