

1-10-2020

Supply Shock versus Demand Shock

Brian J. Asquith

W.E. Upjohn Institute for Employment Research, asquith@upjohn.org

Evan Mast

W.E. Upjohn Institute for Employment Research, mast@upjohn.org

Davin Reed

Federal Reserve Bank of Philadelphia, Community Development and Regional Outreach Department,
davin.reed@phil.frb.org

Upjohn Author(s) ORCID Identifier:

 <https://orcid.org/0000-0002-5783-5557>

 <https://orcid.org/0000-0002-0774-0664>

Follow this and additional works at: https://research.upjohn.org/up_policybriefs

 Part of the [Labor Economics Commons](#)

Citation

Asquith, Brian J., Evan Mast, and Davin Reed. 2020. "Supply Shock versus Demand Shock." Policy Brief. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/pb2020-19>

This title is brought to you by the Upjohn Institute. For more information, please contact repository@upjohn.org.

POLICY BRIEF

Supply Shock versus Demand Shock

The Local Effects of New Housing in Low-Income Areas

Brian J. Asquith, Evan Mast, and Davin Reed

BRIEF HIGHLIGHTS

- *Policymakers worry that new market-rate apartment buildings in gentrifying neighborhoods could raise nearby rents and accelerate gentrification.*
- *New buildings could change nearby amenities or neighborhood reputation, increasing demand for the neighborhood enough to offset the effect of increasing supply.*
- *We test this hypothesis and find that new market-rate apartment buildings in low-income central city areas instead slow rent increases.*
- *New market-rate apartment buildings also increase the number of people migrating from other low-income neighborhoods to the nearby area.*
- *Our findings suggest that the supply provided by new apartment buildings is more important to rent prices than any impacts on neighborhood amenities or reputation.*
- *Amenity and reputation effects may be weak because most new buildings go into already-gentrifying areas, absorbing existing demand instead of sparking new demand.*

For additional details, see the working paper at https://research.upjohn.org/up_workingpapers/316/.

Public frustration over escalating housing costs has steadily risen, particularly in large urban centers, as rents eat up a larger and larger portion of take-home pay. A commonly suggested solution is to allow developers to build more market-rate housing, which should lower rents by increasing supply. Previous research suggests that this will indeed reduce housing costs on average, but many think that this overall benefit comes with a significant cost—new development could *raise* rents in the immediately surrounding neighborhood.

This runs counter to standard economic models of supply and demand, but a slightly more complicated story could generate this result. The story is particularly plausible in low-income or gentrifying neighborhoods. Because new units are typically expensive, they are usually filled by high-income households. These households could attract new stores, restaurants, or other amenities, and they could also signal that a neighborhood is changing in a way that is attractive to other high-income households. If these amenity or reputation changes are large, they could increase demand for the neighborhood by enough to completely offset the increase in supply, causing rents to increase and accelerating gentrification.

This story has substantial influence in the policy debate, leading many policymakers and residents to strongly oppose new market-rate housing developments in low-income areas. However, there is currently very little evidence for or against the idea. Our recent working paper fills the gap in knowledge by testing this theory directly.

We find that new market-rate apartment buildings in low-income areas do not accelerate gentrification. Instead, they slow rent increases in nearby apartments and increase the number of people who move into the area from other low-income neighborhoods. Thus, the effect of new supply appears to outweigh any amenity or reputation improvements. The latter may be small because new housing, even in currently low-income areas, goes into areas that are already gentrifying. This implies that new developments serve mainly to absorb existing demand for an area rather than to generate new demand. In turn, this reduces pressures on nearby rents because many high-income households move to the new building rather than outbidding lower-income households for nearby apartments.

Where Are New Apartment Buildings Constructed?

We start with the most basic question: Where do developers build new market-rate apartments? We focus on a setting where the affordability crisis is worst, the housing debate is most contentious, and the amenities story is most plausible: large (50+) unit apartment buildings constructed in low-income, central city neighborhoods of major market cities between 2010 and 2019. These cities are Atlanta, Austin, Boston, Brooklyn, Chicago, Denver, Los Angeles, Philadelphia, Portland, San Francisco, and Washington, D.C.

Supply Shock versus Demand Shock

If amenity or reputation effects of a new building are large, it could increase demand for the neighborhood by enough to completely offset the increase in supply, causing rents to increase and accelerating gentrification.

Table 1 compares low-income neighborhoods (defined as a census tract with median household income below the metropolitan area median) that received a new building to those that did not.¹ Two striking patterns emerge. First, while 2010 household income is similar across the two groups, the areas that received a new building saw much larger increases in income during both the 2000–2010 and 2010–2017 time period. Second, areas receiving construction had substantially higher levels of college education, which is often considered a leading indicator of gentrification. These patterns suggest that developers tend to target areas that are already changing, rather than attempting to kickstart gentrification in previously stable neighborhoods.

In short, new developments are correlated with gentrification, but they follow it rather than precede it. This is likely because relatively high rents are necessary to make new construction feasible, so developers do not build in areas where they cannot charge those rents. Note that these patterns are specific to large apartment buildings but may be different for other types of construction.

Table 1 Building Neighborhood Characteristics

	No building	Some building
Household income		
2000 (\$)	47,190	44,998
2010 (\$)	45,097	48,181
2017 (\$)	47,129	63,771
2000–2010 (pct)	–4.4	7.1
2010–2017 (pct)	4.5	32.4
College degree		
2000 (pct)	18	33
2010 (pct)	23	44
2017 (pct)	27	55
Number of tracts	2,459	1,094

NOTE: Means of the characteristics of the neighborhoods (census tracts) which received new buildings or not. “Some building” column means are weighted by the number of buildings in each neighborhood. Samples of buildings and neighborhoods are described in detail in the working paper: https://research.upjohn.org/up_workingpapers/316/.

SOURCE: Real Capital Analytics, Census 2000 Long Form (“2000”), American Community Survey 2006–2010 5-Year Estimates (“2010”), and American Community Survey 2013–2017 5-Year Estimates (“2017”).

How Do New Buildings Affect Nearby Rents?

We then use data on individual rent listings provided by Zillow to assess the central question in the policy debate: Do new buildings in low-income areas increase rents? We focus on buildings built between 2015 and 2016 in order to be able to observe at least three years of data before and after construction.

The major challenge to estimating causal effects is that new buildings are not randomly placed. Developers target areas where rent is rising fast and is expected to continue to rise in the future. Because of this, a simple comparison of rents in areas that did and did not get new construction (similar to our income comparison in Table 1) would likely show that rents increased by more near new buildings. However, this difference would not necessarily be caused by the new building. We use two quasi-experiments to overcome this problem.

First, we compare a treatment group very close to the new building (within 250 meters) to a control group slightly further away (between 250 and 600 meters). The idea is that while developers might well target a specific neighborhood, they cannot choose exactly when and where to build because not every parcel is for sale or able to be

¹A census tract is an area with about 4,000 people.

We find that new apartment buildings in low-income areas do not accelerate gentrification. Instead, they slow rent increases in nearby apartments and increase migration from other low-income neighborhoods.



developed. This means that within a small area, the exact placement of a new building is relatively random, making our treatment and control group close to identical except that the treatment group is closer to the new building. This strategy is good for picking up very local effects of new buildings, like new retail options or the aesthetic improvement of replacing a vacant lot.

However, new buildings might have broader amenity or reputation effects that extend beyond that geographically small treatment and control group. To account for these, we construct a second “experiment.” We compare rents near sites developed in 2015–2016 (our treatment group) to those near sites that were developed in 2019 (our control group). The idea is that these two groups of sites are both appealing to developers but were not developed at the same time due to random delays in the land acquisition, financing, city approval, or construction processes. Because our treatment buildings are no longer in the same neighborhood as control buildings, we can detect changes in rents that are caused by effects that span a larger geography.

Both approaches suggest that new buildings decrease rents by 5 to 7 percent relative to what they otherwise would be. In both cases, we find that rents were following similar trends in the treatment and control groups before the buildings were completed, but rent increases slow sharply in the treatment areas immediately after the buildings’ completion. This effect remains constant for the three postconstruction years that we can observe before our sample ends, and, in a separate estimation, we find no evidence that effects change when we focus on earlier buildings and observe five years after completion.

We note that this effect is relative to what rents would be had the building not been constructed—our finding does not mean that rents decreased in absolute terms. Because our treatment areas are the places most likely to experience the positive amenity and reputation effects that could cause rents to increase, we take this as strong evidence that new buildings in low-income areas decrease rather than increase rents.

Do New Buildings Affect Who Moves into the Surrounding Neighborhood?

Last, we study how a new development changes in-migration to the surrounding neighborhood (excluding the new building itself). We do so using address history data from Infutor Data Solutions, a marketing intelligence company. The data do not include information on individuals’ incomes, so we instead construct outcomes using the average income in migrants’ origin neighborhoods.

Figure 1 shows trends in the number of high-income arrivals within 250 meters of buildings completed in 2014 or 2015 in a low-income neighborhood.² We define high-income movers as those who moved from a neighborhood with income above the metropolitan median. As shown in the black line, the total number of high-income arrivals does increase by about 20 percent following a building’s completion. However, this increase is entirely driven by arrivals to the new building itself (the red line). The blue line, which shows the number of arrivals to the area within 250 meters *excluding* the new building, remains flat or declines slightly after construction.

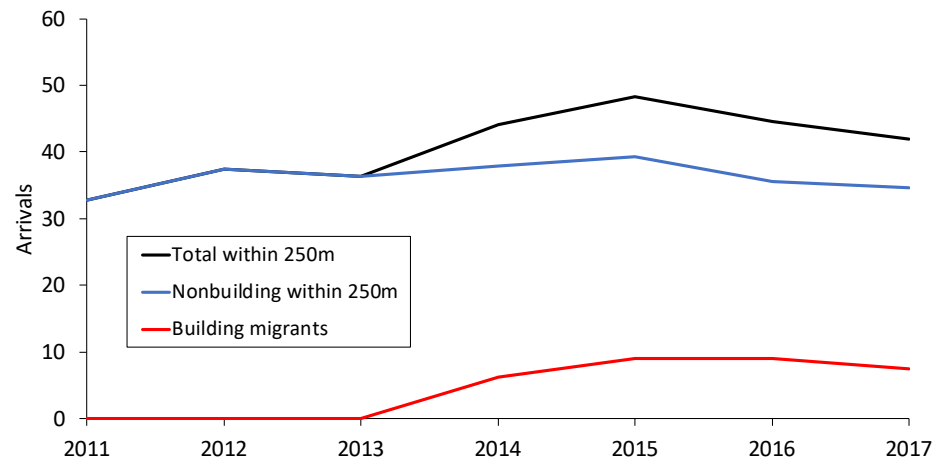
While this suggests that a new building does not drastically change in-migration to a neighborhood, it does not provide causal evidence on the building’s effect. In our final exercise, we repeat the quasi-experiments that we used to study rent but instead use the origin neighborhood income of in-migrants as the outcome. We find that new buildings increase the number of arrivals from neighborhoods with average income below two-thirds of the metropolitan area median by three percentage points and reduce average origin income by a similar amount. The increase in low-income arrivals implies that new buildings also decrease rents for relatively cheap units, not just the expensive units that are their most direct competitors. More directly, the new buildings appear to allow more low-income households to move to these frequently gentrifying neighborhoods.

²Our migration data contain one less year than our rent data, so we shift the buildings we study back by one year.

Supply Shock versus Demand Shock

Most new market-rate buildings go into already-changing areas, suggesting they follow rather than cause gentrification.

Figure 1 In-Migration to Areas around New Buildings



NOTE: This figure shows trends in the number of in-migrants from tracts with income above the MSA-median to the area within 250 meters of new buildings. Nonbuilding migrants are those arriving to the area within 250 meters but not the new building, building migrants are arrivals to the new building itself, and total migrants is the sum. The sample includes 2011–2017 moves within 250 meters of new buildings completed in 2014–2015. SOURCE: Authors' calculations using data from Infutor Data Solutions and the U.S. Census Bureau.

Policy Implications

The housing approval process in low-income and gentrifying areas is contentious, often because of concerns that new buildings will accelerate rent increases and neighborhood change. Our evidence suggests that this is typically not the case. Instead, new buildings slow nearby rent increases and increase the ability of individuals from low-income neighborhoods to move to the nearby area. While the neighborhoods containing new buildings do gain richer residents, the gain is concentrated in the new building. This effectively diverts high-income individuals from outbidding low-income individuals for units in the nearby preexisting buildings. The new housing thus helps absorb the pressure from the increasing number of high-income individuals that want to live in central city neighborhoods. Moreover, by allowing more low-income households to move to an area, new housing helps these rapidly changing neighborhoods remain economically integrated, which research suggests promotes economic mobility for low-income residents.

On the whole, new market-rate housing appears to benefit not just the region but also the local neighborhood. This suggests that market-rate housing should be an important part of any solution to the housing affordability crisis. Fears of increased rents near new buildings should not prevent governments from implementing desired reforms to regional housing supply.

We note two important caveats to our findings. First, we estimate an average effect that may disguise variation across different types of buildings and neighborhoods. Amenity and reputation effects are highly subjective and may vary widely depending on the local context. Second, the buildings in our sample are in the types of places that developers historically have wanted to build. While these areas are central to the debate, the effects may be different in other types of neighborhoods. For example, developers rarely build market-rate units in very low-income areas with high vacancy rates, so our results do not speak to what would happen if they did.

