HOW DID THE TAX CUTS AND JOBS ACT OF 2017 AFFECT THE HOUSING MARKET?

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Data provided by Zillow through the Zillow Transaction and Assessment Dataset (ZTRAX). More information on accessing the data can be found at http://www.zillow.com/ztrax. The results and opinions are those of the author(s) and do not reflect the position of Zillow Group.

The Tax Cuts and Jobs Act (TCJA) of 2017 dramatically changed tax law in numerous ways. One of the biggest changes enacted in the law was to reduce the tax subsidy for homeownership. The Federal Open Market Committee of the Federal Reserve Board warned of "the possibility of a significant weakening in the housing sector", while the National Association of Realtors told members of Congress that the TCJA would "eviscerate the current-law tax incentives for purchasing and owning a home", leading to "a plunge in home values across America in excess of 10 percent."

The TCJA reduced the subsidy for homeownership in several ways. First, it raised the standard deduction from $6,350 to $12,000 for single taxpayers and from $12,700 to $24,000 for married couples filing jointly. Second, it capped the deduction for state and local taxes at $10,000. Since many homeowners paid more than $10,000 in deductible taxes, this reduced the size of itemizeable deductions for most homeowners and further reduced the likelihood of itemizing deductions. As a result, many taxpayers no longer itemize their deductions, effectively forgoing the subsidy for mortgage interest in favor of lower taxes. This led to two effects: dropping the subsidy should lower demand for mortgages, while reducing taxes should raise it. The TCJA also lowered tax rates for most taxpayers, which reduced the subsidy, and it lowered the ceiling on mortgages for which interest can be deducted.

Our research represents the first empirical estimation of how the TCJA affected mortgages and house prices. We rely on the fact that details of the law became available in November of 2017 and it was passed into law in December 2017, giving home buyers in 2017 little time to react to the law before it became fully effective in January 2018. Thus, nearly all home purchasers in 2017 were subject to prior law, while all house purchasers in 2018 and 2019 were subject to the new law. Borrowers in those years should therefore adjust the size of their mortgage to reflect the new tax law, and this should also be reflected in the purchase price of homes. We combine data from a number of sources, including the American Community Survey (ACS), data collected under the Home Mortgage Disclosure Act (HMDA) and Zillow (ZTRAX), which collectively provide data on population characteristics and mortgage and property values before and after the TCJA came into effect in 2018. Because we cannot match individuals across data sources, households are aggregated up to the Public Use Micro Area (PUMA) level, which is roughly the size of a county. A lot of research suggests that the subsidy on mortgage interest doesn't lead to families to buy homes when they otherwise would not, so we focused on those who bought a home and checked to see if the change in tax law led to them taking out a larger or smaller mortgage, and how that affected home prices. We separately looked at how the change in subsidy affected mortgages, and how a reduction in the family's tax bill affected mortgages. Then we looked at how the change in mortgages changed the prices families paid for their homes.

Our analyses precisely estimated that fewer people receiving the subsidy on mortgage interest caused a small decrease in the size of mortgages, but that the lower taxes caused a small increase in the size of mortgages. We also found that the two effects roughly offset each other so that the overall effect was very small. There is, however, variation across regions. After checking for these effects across the whole country, we estimated the overall effect of the TCJA on the overall growth rate of home prices and the growth rate by Census region, regions with high or low prices, high or low incomes, and high or low shares of houseolds that are headed by a person identifying as Asian, Black, or white. We found a lot of variation across areas, but the overall effects remained small.

THE TAX CUTS AND JOBS ACT

The Tax Cuts and Jobs Act (TCJA), which was enacted in late 2017 and came into effect in 2018, was the largest overhaul to the federal tax code in decades and affected the subsidy to home mortgages in many ways. First and most obviously, the TCJA raised the standard deduction, which limited the value of itemizing deductions for expenses such as mortgage interest. A cap of $10,000 on state and local taxes also reduced the number of people itemizing, especially in high-tax states. Further, interest on the first $1 million of mortgage debt was deductible before the TCJA. Now, under the TCJA, interest on only the first $750,000 is deductible. Interest paid on home equity loans is also no longer deductible under the TCJA, and lowered tax rates has reduced the subsidy for mortgage interest among those who continue to itemize their deductions.

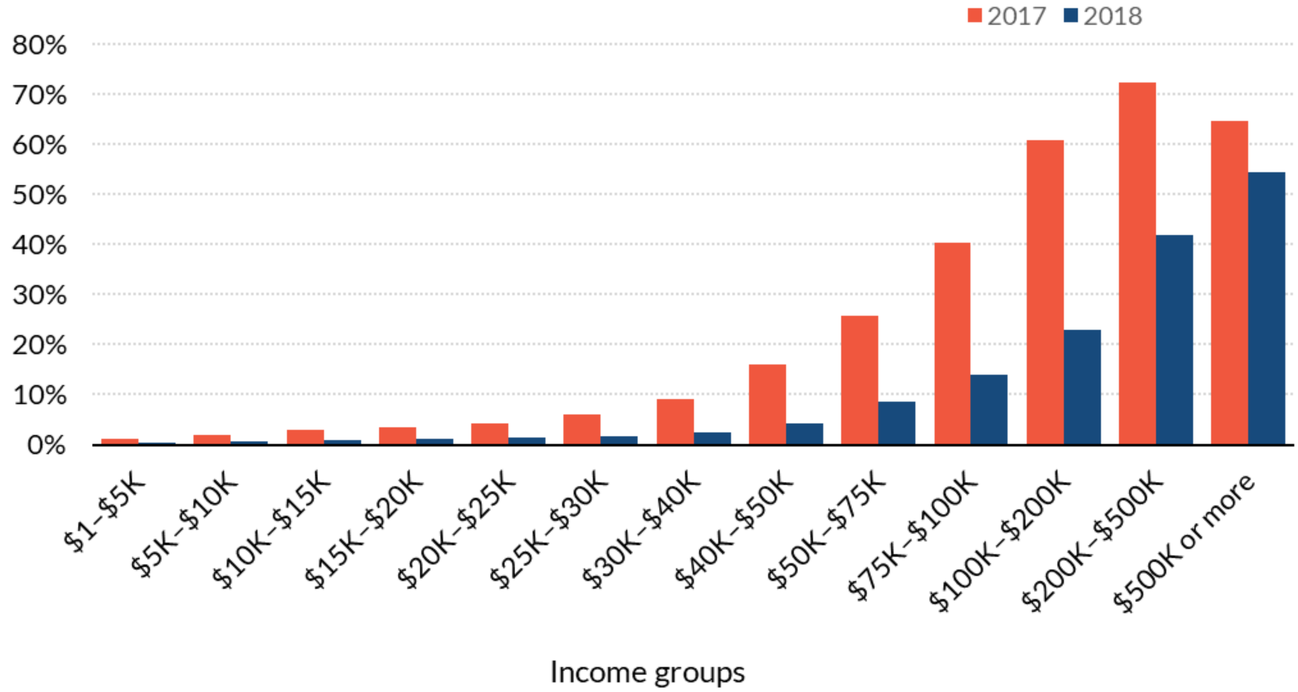
As a result of the increase in the standard deduction and the cap on the deduction of state and local taxes, the share of tax returns using the mortgage interest deduction fell from 31 percent in 2017 to 11 percent in 2018. But as figure 1 shows, the reduction varied by income group. In 2017, a small share of taxpayers with low incomes used the deduction; less than 10 percent of those with adjusted gross incomes under $40,000 used it. Higher-income taxpayers used the deduction much more frequently, both because they are more likely to own homes and because they are more likely to itemize their deductions. Usage peaked for those with incomes between $200,000 and $500,000 but fell slightly for those with incomes above $500,000.

The decline in the share of tax units using the mortgage interest deduction was generally greater for those with larger adjusted gross incomes, up through $200,000, and was much smaller for those with lower incomes. Usage of the deduction by tax units with incomes between $100,000 and $200,000 fell from 61 percent in 2017 to 23 percent in 2018. The share of tax units with incomes between $30,000 and $40,000 using the mortgage interest deduction fell from 9 percent to 2 percent. Those in the highest-income group saw a smaller decline.

Because the prevalence of subsidy rates generally declined more for those with higher incomes, the average size of new mortgages should decline (or at least grow more slowly) in high-income areas than in moderate- and low-income areas. Home prices in high-income areas may face more downward pressure (or grow more slowly), although higher-income tax units are more likely to be able to mitigate the loss of the subsidy by making larger down payments.

FIGURE 1

Share of Tax Filers Claiming Mortgage Interest Deduction



Source: SOI Tax Stats, Tables 1.4 and 2.1.

Several papers estimate the effect of repealing the mortgage interest deduction on the demand and price of housing. Some found that completely removing the mortgage would only slightly lower home prices (Bruce and Holtz-Eakin 1997; Sommer and Sullivan 2018). Others found that removing the mortgage interest deduction would lower home prices substantially. In some cases, this reduction could exceed 13 percent (Gruber, Jensen, and Kleven. 2017; Hanson and Martin 2016; Hilber and Turner 2013).

Three additional papers predicted the effects of the TCJA on home values and found widely varying results. All three estimate the impact of the TCJA by estimating equilibrium home prices before the TCJA and with the TCJA, assuming that the law is permanently extended (many provisions of the TCJA are currently set to expire in 2025). A 2018 article found that home prices would decline about 6 percent on average, but the effects would vary widely by location, with declines ranging from 0 percent to 23 percent (Martin 2018). A 2019 article points out that some provisions of the TCJA should raise house prices while others should lower them and concludes that on average, home prices would decline about 2 percent (Rappaport 2019), again with variation in that decline across metropolitan regions ranging from 0 percent to 7 percent. Finally, a 2019 article found that the TCJA did not substantially change house prices but that it did disproportionately benefit the wealthy (Sommer and Sullivan 2019).

ANALYSIS

We separately analyzed the change in mortgages from 2017 to 2018, the first year after the passage of the TCJA, and from 2017 to 2019. The results of our analysis show that the change in subsidy rates had a statistically significant and negative effect on median mortgage size, while the reduction in taxes had a positive effect on mortgage size. Our estimates of the change from 2017 to 2018 imply that a 10.7 percentage-point decrease in the subsidy rate, the average decrease from 2017 to 2018, decreased the growth rate of mortgages on newly purchased homes about 0.6 percent. Federal taxes, calculated absent a mortgage, declined because of the increase in the standard deduction. We found that the average decline in federal taxes of 14.7 percent led to a 1.8 percent increase in mortgage size. Adding the effect of subsidy changes to the effect of changes in taxes, we conclude that the TCJA actually increased typical mortgages 1.2 percent.

How could a decrease in a subsidy for mortgages actually lead to larger mortgages? The answer is probably that the subsidy is not a mandatory reduction. Most families stopped itemizing deductions, thus losing the subsidy, because using the standard deduction puts more money in their pockets. That extra money could be used for mortgage payments and many home buyers appear to have used it for that purpose.

When examining the change in mortgages from 2017 to 2019, we found that the effects are stronger than between 2017 and 2018. This is not surprising, because although the increase in loan size was greater between 2017 and 2019 than between 2017 and 2018, the change in the subsidy rate was about the same, and the change in federal taxes was actually lower. Our results imply that an average decline in the subsidy rate of 10.7 percentage points reduced mortgage size about 1.1 percent, while the decline in federal taxes increased mortgage size about 1.1 percent. Adding the effects together, the TCJA had close to no effect on mortgages from 2017 through 2019.

We then estimated how the demand for homes depended on the size of mortgages. Of course, when families choose a home to purchase, the home price and the mortgage are inevitably determined together. Even though we only looked at broad, PUMA-level aggregates, we faced the same problem: areas with lots of families choosing expensive homes are likely to also obtain large mortgages. This means that a correlation between home prices and mortgages reflects both how mortgages influence home prices and how home prices affect mortgages.

We solved this problem by first noting that our first analysis determined how mortgages changed with the change in the subsidy for mortgage interest and the change in federal taxes. We then predict, for each PUMA, how typical mortgages changed with the change in typical subsidy and the change in typical taxes. These predicted changes depend only on the change in subsidies and taxes and don't involve the change in prices. So the correlation between the change in prices and these predicted change in mortgages can only reflect how changing mortgages affected prices.

We found that the overall change in prices is small because the average change in subsidy and the change in taxes balance each other. However, we found that some regions of the country were more strongly affected than others. Overall, we found that the average change in prices was about 6.6 percent from 2017 through 2019, while the change in the average price was 9.9 percent over the same period. The difference between the two mostly occurs because a small number of PUMAs saw a sharp decline in prices. The median percent change in prices, which is unaffected by the size of those outliers, was 9.1 percent.

We found that the TCJA slightly increased prices over that period, with an 11 percentage-point decrease in subsidy rates nearly offsetting a 10 percent decrease in federal taxes. We found that prices in northeast PUMAs rose nearly 10 percent, but those PUMAs also had the largest reduction in the subsidy for mortgage interest: about a 15 percentage-point decline. This, and a slightly smaller decrease in taxes, led to an estimated decline in prices of 0.24 percentage points. We estimated that prices in PUMAs in the Midwest and South increased by about a quarter of a percentage point, although overall prices rose more than twice as fast in the Midwest.

TABLE 1

Average Change in PUMAs by Census Regions from 2017 to 2019

	Percent change in prices	TCJA change in prices
National	6.55%	0.10%
Northeast	9.98%	-0.24%
Midwest	6.26%	0.28%
South	3.04%	0.24%
West	9.06%	0.00%

Source: 2017-2019 data drawn from ACS, HMDA and Zillow, author calculations.

We also checked for changes in PUMAs with inexpensive and expensive homes, with low and high incomes, and low and high shares of Asian households, Black households, and White households. In each case, we define "low" as the lowest 10 percent and "high"as the highest 10 percent. For example, we examined the 10 percent of PUMAs with the lowest home prices and the 10 percent of PUMAs with the highest home prices in 2017.

We found that PUMAs with the lowest prices in 2017 had an average percent change in prices of about 9 percent, while those with the highest prices in 2017 increased by just under 4 percent. We estimated that the TCJA increased prices in PUMAs with low prices in 2017 by about 0.6 percent. We also estimated that the TCJA decreased prices in high-priced PUMAs about 1 percent.

High-income PUMAs and low-income PUMAs had a similar pattern, although among high-income PUMAs, the very small price increase, combined with the relatively large decline in prices induced by the TCJA, means that the TCJA had a substantial effect on prices. Prices in low-income PUMAs increased more than 12 percent on average; high-income PUMAs saw an average price increase of about 1 percent. We estimated that for low-income areas, the TCJA slightly increased prices about 0.4 percent, but the TCJA reduced prices in high-income areas about 0.5 percent. Thus, absent the TCJA, prices in high-income areas would have increased by an extra third.

TABLE 2

Average Change in PUMAs by Home Price, Income, and Race from 2017 to 2019

		Share	Percent change in prices	TCJA percent change in prices
Overall			6.55%	0.10%
Price				
	Low		9.33%	0.63%
	High		3.87%	-0.41%
Income				
	Low		12.28%	0.42%
	High		1.10%	-0.53%
Share Asian				
	Low	0.30%	2.96%	0.60%
	High	25.90%	3.37%	-0.32%
Share Black				
	Low	0.40%	9.29%	0.32%
	High	52.10%	11.55%	0.21%
Share white				
	Low	28.70%	12.55%	0.07%
	High	95.60%	6.57%	0.46%

Source: 2017-2019 data drawn from ACS, HMDA and Zillow, author calculations.

Structural racism in the United States, both historically and currently, has left many people of color with both lower average incomes to pay mortgages and fewer assets to make down payments in lieu of payments. Thus, what appears to be race-blind tax policy (such as the mortgage interest deduction) can actually have adverse effects on people of color. We should then expect that changes to the mortgage interest deduction, such as the TCJA, may also have incidental effects. The average growth rate of prices for PUMAs with the lowest share of Black households was greater than average, while PUMAs with the highest share of Black households saw even greater growth in prices. We estimated that the TCJA had a positive effect on prices for

PUMAs with both low and high shares of Black households; this is a result of lower-than-average declines in subsidy rates but an average change in federal taxes.

The 10 percent of PUMAs with the lowest share of Asian households and the 10 percent with the highest share both saw price increases through 2019. We estimated that the TCJA reduced the growth rate of prices by about 0.3 percent in areas with a larger share of Asian households but increased the growth rate of prices by about 0.60 percent in areas with a small share of Asian households.

Finally, PUMAs with a low share of white households experienced home price increases of more than 12 percent, while PUMAs with a high share of White households experienced home price increases of just over 6 percent. We estimated that the TCJA lowered prices in PUMAs with a small share of White households by about the same amount as other overall average. We also estimated that the TCJA raised prices by about 0.5 percent for PUMAs with a high share of White households.

CONCLUSION

As the TCJA was being formulated, some expressed concern that because fewer taxpayers would itemize, its passage would reduce home prices. However, these commentators underestimated the income effects of the law and that the total effect could increase or decrease the demand for housing. Three pieces of prior research also predicted that the TCJA, if it were permanent, would lead to lower house prices in equilibrium. Each developed a theoretical model, applied it to pre-TCJA data, and extrapolated house prices under the TCJA. All found that home prices would fall. This brief presents the first attempt to use post-TCJA data to answer the question. We focused on those purchasing homes under the old and new tax law, and we found a small, statistically significant positive effect of the TCJA on mortgages. This positive relationship was the sum of both a small negative effect from the decreased number of house buyers receiving a subsidy on mortgage interest and a small positive effect from increased after-tax income. By estimating how the increase in mortgages affected home values, we also found that the increase in mortgages led to a small increase in the price of houses. Finally, we estimated how the TCJA affected Census regions as well as areas with high and low prices, high and low incomes, and high and low shares of Asian people, Black people, and white people. We found that although these factors do cause variation in home prices, the overall effect of the TCJA on the growth of home prices was modest.

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