

# Are all Short-Term Rentals Equal? The Impact of The Non Owner Occupied STR Ban in New Orleans.

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## **Abstract**

Short-term rentals, which are rental units leased out for periods of less than 30 days, continue to capture the public spotlight as well as the attention of the economic literature. There has yet to be a consensus among economist regarding the effect of STRs on rental prices and property values. There is even further ambiguity regarding the impact of owner occupied STRs, where the STR is also the owner's primary residence, versus those operated by an outside party. This study seeks to contribute to the literature by drawing insights from a regulatory intervention in the STR market by the city of New Orleans that banned non owner occupied STRs. This study seeks to evaluate if such policies that were enacted with the goal of combating the rise of unaffordable housing were effective by estimating the impact that the policy had on rental prices and property values. Difference-in-differences methodology is utilized. Zillow housing data for New Orleans and Baton Rouge is used for the OLS estimation.

# 1 Introduction

The economic literature presents a mixed picture regarding the impact of short-term rentals (STRs) on the housing market. While a significant body of research, employing a hedonic approach, suggests a positive correlation between STR density and rental prices and property values in North American cities other studies find no such effect <sup>1</sup>. Notably, there is a scarcity of research examining the regulatory intervention in STR markets. Existing studies, such as Valentin (2021), suggest that stricter STR regulations could depress property values in specific neighborhoods.

This study seeks to contribute to the literature by focusing on a largely unexplored aspect of STR regulation: the impact of banning non-owner-occupied STRs. To achieve this, we focus on the policy changes implemented in New Orleans.

In 2017, New Orleans began requiring licenses for STR operators <sup>2</sup>. In December of 2019, the city heavily revised the ordinances pertaining to STRs after a survey by the city’s planning commission recommended stricter regulation<sup>3</sup>. The recommendation came after citing concerns regarding gentrification, degradation of community character, and anecdotal evidence of increased rents<sup>4</sup>. The 2019 revisions most notably included a provision that prevented the listing of any property in which the operator did not use as their primary residence. This measure was eventually struck down by the 5th circuit court of appeals in August of 2022 due to its violation of the interstate commerce clause of the US constitution<sup>5</sup>.

In this context, our research question emerges: What is the impact of the ban on non-owner-occupied short-term rentals on the New Orleans housing market, specifically rental prices and property values? To address this question, we employ a case study approach, examining New Orleans where non-owner-occupied STRs were banned and using Baton

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<sup>1</sup>For studies showing a positive relationship see **Horn (2017)**; **Sheppard (2016)**. Also see **Levendis (2016)** which shows the opposite.

<sup>2</sup>Hignell-Stark v. City of New Orleans (2022) ca5.uscourts.gov. Available at: <https://www.ca5.uscourts.gov/opinions/pub/21/21-30643-CV0.pdf> (Accessed: March 7, 2023).

<sup>3</sup>Ibid

<sup>4</sup>Ibid

<sup>5</sup>Ibid

Rouge as a control. Our empirical analysis utilizes a difference-in-differences methodology, enabling us to estimate the causal effect of the policy change on rental prices and property values accounting for time-invariant differences between New Orleans and Baton Rouge.

By focusing on the specific policy context of New Orleans and utilizing a difference-in-differences approach, this study expands the existing literature by providing new evidence on the effects of STR regulations, specifically targeting non-owner-operated properties. The results of this research will be of interest to both academics and policymakers seeking to understand the consequences of various regulatory approaches to the burgeoning STR market.

## 2 Related Literature

The current body of economic literature offers mixed insights into the impact of short-term rentals (STRs) on housing markets, particularly with regards to their influence on rental and property prices<sup>6</sup>. This research posits that the ban on non-owner-occupied STRs, as exemplified by the regulations in New Orleans, significantly influences rental prices in the housing market<sup>7</sup>. This hypothesis will be examined using a difference-in-differences approach, comparing the effects of this policy on rental prices in New Orleans with Baton Rouge as a control.

Some studies, such as those conducted by Horn and Merante (2017) in Boston and Sheppard and Udell (2016) in New York, suggest a positive correlation between an increase in STR listings and rental and property prices, attributing this rise to a reduction in the supply of long-term rentals<sup>8</sup>.

In contrast, Levendis and Dicle (2016) did not find a significant correlation between Airbnb activity and rental prices in New Orleans, underscoring the importance of local market conditions, regulations, and the composition of STR supply in any evaluation of

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<sup>6</sup>Horn (2017); Sheppard (2016); Levendis (2016)

<sup>7</sup>Valentin (2021)

<sup>8</sup>Horn (2017); Sheppard (2016)

STR impacts<sup>9</sup>.

Valentin (2021) and Koster et al. (2021) offer valuable insights into the effects of regulatory interventions on STRs and their subsequent impacts on housing markets<sup>10</sup>. Both studies illustrate that regulations can have complex and sometimes unintended effects, such as depressing property values in heavily regulated areas or increasing STR usage in adjacent neighborhoods (Valentin, 2021), and reducing listings and property prices (Koster et al., 2021).

However, there remains a notable gap in the literature concerning the specific impact of regulations that target non owner occupied STRs<sup>11</sup>. The current study addresses this gap by examining the impact of such a ban on rental prices in the housing market of New Orleans. By using a case study approach and employing a difference-in-differences methodology, this research contributes to the understanding of the specific effects of this type of regulatory intervention. The findings of this study aim to enhance the broader discourse on the intricate relationship between STR regulations and housing markets, thereby aiding both academics and policymakers in their future decision-making processes.

### 3 Practical Design

In order to effectively accomplish the goal set out by this paper, a model that isolates the effects of the STR policy on rents and property value is necessary<sup>12</sup>. To do so, the model will take the following form:

$$Rent_{i,t,s} = \alpha + \gamma_s NO_s + \lambda d_t + \delta(NO_s * d_t) + \epsilon_{i,t,s}$$

$$Value_{i,t,s} = \alpha + \gamma NO_s + \lambda d_t + \delta(NO_s * d_t) + \epsilon_{i,t,s}$$

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<sup>9</sup>Levendis (2016)

<sup>10</sup>Valentin (2021); Koster (2021)

<sup>11</sup>Valentin (2021)

<sup>12</sup>This paper follows much of what has been established by Valentin (2017) in its analysis of the New Orleans STR market when designing this model.

- Rent: observed market rate rent according to ZORI.
- NO: A dummy variable which is equal to 1 if the observation is from New Orleans.
- Value: The typical of a home in 35th to 65th percentile range according to ZORI.
- d: A dummy variable which is equal to 1 if the observation occurred between 12/01/19 and 8/23/22 (the post period).
- NO \* d : Interaction term where its estimator  $\delta$  estimates the effect of the policy on the variable of interest.

## 4 Discussion

The ability to draw causal conclusions from the ols estimation relies on the assumption that the independent variables observed for New Orleans and Baton Rouge have parallel trends. Without this the  $\hat{\delta}$  estimator for the interaction term which is intended to indicate the average treatment effect on the treated would be contaminated by the non-zero difference between the trends for New Orleans and Baton Rouge.

The reasonableness of the parallel trends assumption in this study will now be discussed. The most intuitive critique of having such an assumption is the interference from anticipation. Although the legislation in New Orleans took effect in December of 2019, the discussion and debate about this particular legislation and the STR regime as a whole had existed several years prior to its enforcement. If the policy was indeed a determinant of our variables of interest, it could be that the policy or at least the expectation of the policy being implemented was already priced in before its enforcement. If observations thought to be untreated are actually treated, this could pose a large problem for the research design. This largely depends on how efficient the market is to information on potential regulation.

Another critical assumption that needs to be addressed in the research design is the

Stable Unit Treatment Value Assumption (SUTVA). Violations of SUTVA could occur if the treatment status in New Orleans influences the outcomes in Baton Rouge (interference) or if there were variations in how the ban was enforced across different areas of New Orleans (inconsistent treatment effects).

Interference could be a concern if, for example, the ban in New Orleans led property owners or renters to move between New Orleans and Baton Rouge, thereby affecting the rental markets in both cities. On the other hand, inconsistent treatment effects could occur if the ban was more strictly enforced in some parts of New Orleans than others. However, in the following section, I will explore these potential problems and run an event study regression to see if our initial results can be trusted.

## 5 Results

Table 3 offers a comparative snapshot of rent and property values in New Orleans and Baton Rouge, both pre and post-ban. New Orleans consistently exhibits higher figures in both categories. Intriguingly, a post-ban increase is observed in both cities, suggesting that the short-term rentals ban could be influencing the housing market. However, this uptick might also reflect other economic factors. These summary statistics, while informative, underscore the need for further econometric analysis to accurately discern the ban’s specific impact.

The initial regression result of Model 1, as shown in Table 1, reveals a highly significant positive impact of each variable on the outcome variable, rental prices (Rent). This is evidenced by the near-zero p-values and t-statistics greater than 2.58, indicating a 99% confidence level.

The coefficient on New Orleans (NO equals 1) is significantly larger than that for Baton Rouge (NO equals 0), implying that rental prices in New Orleans are, were average, higher than in Baton Rouge before the policy. Similarly, the coefficient on the time period after the policy implementation (d equals 1) is significantly larger than the period before the policy

(d equals 0). This suggests that, all else being equal, rental prices have increased after the policy implementation. The exact same insights can be taken from the regression result of Model 1, as shown in Table 2. The policy had a positive impact on New Orleans property values.

At first glance, these results may raise concerns regarding the suitability of Baton Rouge as a control group for New Orleans. However, a closer inspection of Figure 1, which visualizes the trend of rental prices over time for the two cities, alleviates these concerns. The figure illustrates that the rental price trends for New Orleans and Baton Rouge are not only similar but also parallel, even if they exist at different levels. Specifically, the figure shows that rental prices in both cities have remained relatively stable since 2015, only to begin increasing around 2020. Figure 2 which visualizes property values tells a different story. Events such as hurricane Katrina along with the 2008 recession heavily depressed New Orleans property values. The recovery from this actually caused the lines to cross. In order to avoid these events impacting the estimation we only used data starting in 2016 where both cities follow similar trends of parallel growth.

This similarity in trends over time is crucial for the validity of our difference-in-differences approach. The parallel trends assumption, a key prerequisite of this methodology, posits that in the absence of the treatment (in this case, the ban on non-owner-occupied STRs), the treatment and control groups would have followed the same trend over time.

The economic interpretation from these results can be summarized as such. The policy that banned non owner occupied short term rentals increased by rental prices and property values in New Orleans by \$70.91 and \$3427.25 respectively. These results were significant at a 99% confidence level. In other words the estimation suggest that the null hypothesis that the ban on non owner occupied short term rentals having no effect on rental prices and property values can be rejected. Furthermore the effect is positive. Rent and property value were increased. This is interesting as it shows that the policy had the opposite effect as intended by policy makers. Additionally the increasing property values contrast with the

depressed property values found in Valentin (2021) following a neighborhood ban <sup>13</sup>.

However is this economic interpretation robust? As discussed previously there are several concerns, with the primary ones being inconsistent treatment effects and anticipation. While the first concern will not be explored empirically in this study the fact that New Orleans implemented a strict licensing regime in 2016 for short term rentals in partnership with the cooperation with one of the market leaders, Airbnb, it is assumed that the New Orleans market was treated uniformly throughout the city <sup>14</sup>.

The second concern and likely a hindrance on finding much causal interpretation from the difference in difference OLS estimation is the problem of anticipation. As mentioned previously the policy being investigated, and other STR regulation, was being debated for several years before its enforcement. Furthermore it was not the first major STR legislation passed in New Orleans. It would not be unsurprising to hypothesize that the policy was in some form priced into the housing market before the enforcement date. To investigate this empirically another model was estimated which takes the following form:

$$\begin{aligned} Rent_{i,t-1,s} &= \alpha + \gamma NO_s + \lambda d_{t-1} + \delta(NO * d_{t-1}) + \epsilon_{i,t-1,s} \\ Value_{i,t-1,s} &= \alpha + \gamma NO_s + \lambda d_{t-1} + \delta(NO * d_{t-1}) + \epsilon_{i,t-1,s} \end{aligned}$$

The primary difference in this model is that the date of the policy enforcement was moved back by a year to the first lead. In this way we see if the policy had an impact before its official enforcement date. The results in Model 2 for Table 2 and table 3 seem to confirm suspicions of anticipation. Without anticipation we should expect the coefficient for the interaction term to be not significantly different from zero. For both rental prices and property value the average treatment effect on the treated is significant with 99% confidence. Given these insights the causal effect of this policy can not yet be determined confidently.

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<sup>13</sup>**Valentin (2021)**

<sup>14</sup>See the Short Term Rental Administration website for more information and data on licenses throughout the city **New Orleans STRA**.



## 6 Conclusion

The findings of this study contribute significantly to our understanding of the impact of short-term rental regulations on housing markets. It highlights the consequential role of non-owner-occupied STR regulations on rental prices and property values, demonstrating a substantial increase in both as a result of these policies in New Orleans. The importance of these findings is magnified considering the burgeoning growth of the STR industry and its potential repercussions on the housing sector.

However, the results also underscore the complexities in assessing the effects of such regulations. The issue of policy anticipation, evidenced in this study, points to the intricate dynamics of housing markets in response to impending legislation. As housing markets might preemptively adjust to future regulations, it becomes crucial to account for such anticipatory behaviors in policy impact assessments. This revelation not only enhances our understanding of housing market behaviors but also provides a crucial consideration for future research and policy-making. Overall, while this study offers key insights, it also emphasizes the necessity for a more nuanced approach to studying housing market reactions to regulatory changes.

If time permitted this study could be expanded to determine exactly how anticipation is effecting the results so that parallel trends can be a valid assumption. Although the pandemic, according to some literature, did not impact the residential and industrial property in significant ways, it may be of some value to incorporate some controls for the pandemic<sup>15</sup>. On the topics of controls, a determination for the appropriate controls needs to be determined. Studies of the effect of STR density on rent, such as Horn and Merante (2017)<sup>16</sup>, include neighborhood fixed effects and controls for housing characteristics (beds, baths, etc). Other studies incorporating difference in difference methodology, such as Valentin (2021)<sup>17</sup>, include no such controls when investigating the effect of STR regulation. Valentin used a model similar to the one in this study that only determined pre vs post and treated vs untreated.

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<sup>15</sup>Hoesli (2022).

<sup>16</sup>Horn (2017).

<sup>17</sup>Valentin (2021).

Lastly, some studies, such as Sheppard (2016)<sup>18</sup>, included other variables such as crime while Koster (2021)<sup>19</sup> doesn't include crime, stating 'Spatial data is usually not interdependent. More specifically, unobserved characteristics of a property (e.g. crime, maintenance quality) are likely correlated over space and time'. The various approaches make it unclear as to which is most appropriate for this policy investigation. Therefore, this study took the Valentin approach due to it also using a similar methodology. However, I believe this study would benefit from testing these different approaches as another may be more appropriate and be able to draw more causal insights.

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<sup>18</sup>Sheppard (2016).

<sup>19</sup>Koster (2021).

## 7 References

### References

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## 8 Tables and Figures

Table 1: The effect of banning non owner occupied STRs on property rent

|             | (1)                   | (2)                   |
|-------------|-----------------------|-----------------------|
|             | Rent                  | Rent                  |
| NO          | 175.0***<br>(26.69)   | 166.1***<br>(34.27)   |
| d           | 49.24***<br>(5.78)    |                       |
| (NO * d)    | 70.91***<br>(5.89)    |                       |
| NO t-1      |                       | 18.10*<br>(2.42)      |
| (NO * d)t-1 |                       | 41.99***<br>(3.97)    |
| _cons       | 1164.9***<br>(251.32) | 1161.1***<br>(338.79) |
| <i>N</i>    | 162                   | 114                   |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Zillow and author's Calculations

Table 2: The effect of banning non owner occupied STRs on property value

|              | (1)                     | (2)                     |
|--------------|-------------------------|-------------------------|
|              | Value                   | Value                   |
| NO           | 28466.3***<br>(14.29)   | 26061.0***<br>(20.92)   |
| d            | 18912.9***<br>(7.80)    |                         |
| (NO * d)     | 27398.9***<br>(7.99)    |                         |
| No t-1       |                         | 11830.6***<br>(6.79)    |
| (No * d) t-1 |                         | 9420.8***<br>(3.82)     |
| _cons        | 161482.6***<br>(114.61) | 158462.0***<br>(179.89) |
| <i>N</i>     | 142                     | 94                      |

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Zillow and author's Calculations

Table 3: Rent and Property Values in New Orleans and Baton Rouge before and after the ban

|              | Rent        |          |             |          | Property Value |          |             |          |
|--------------|-------------|----------|-------------|----------|----------------|----------|-------------|----------|
|              | New Orleans |          | Baton Rouge |          | New Orleans    |          | Baton Rouge |          |
|              | Pre-Ban     | Post-Ban | Pre-Ban     | Post-Ban | Pre-Ban        | Post-Ban | Pre-Ban     | Post-Ban |
| Mean         | 1339.898    | 1460.043 | 1164.936    | 1214.172 | 189948.9       | 236260.8 | 161482.6    | 180395.5 |
| Std Dev      | 31.34006    | 44.97619 | 26.87718    | 47.32919 | 10603.73       | 14007.42 | 7457.989    | 5245.033 |
| Min          | 1294.195    | 1414.019 | 1096.43     | 1163.762 | 177309.1       | 217058.3 | 150055.9    | 171809.9 |
| Max          | 1409.533    | 1567.431 | 1194.8      | 1314.426 | 215138.3       | 259818.2 | 172236.8    | 190627.8 |
| Observations | 57          | 24       | 57          | 24       | 47             | 24       | 47          | 24       |

Source: Zillow and author's Calculations

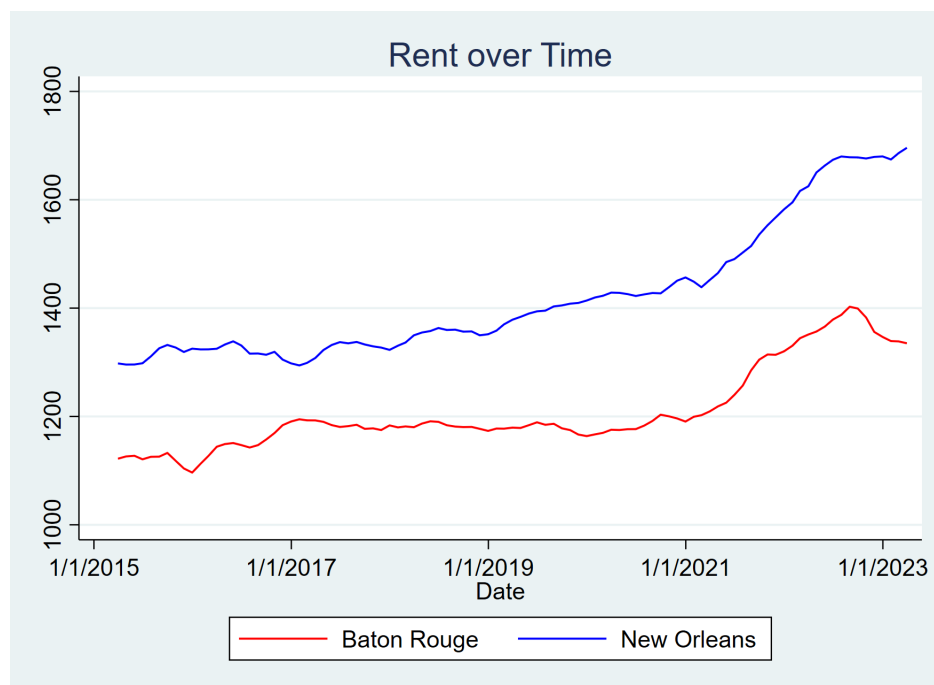


Figure 1: Zillow Observed Rent Index for New Orleans and Baton Rouge over time.  
source: Zillow

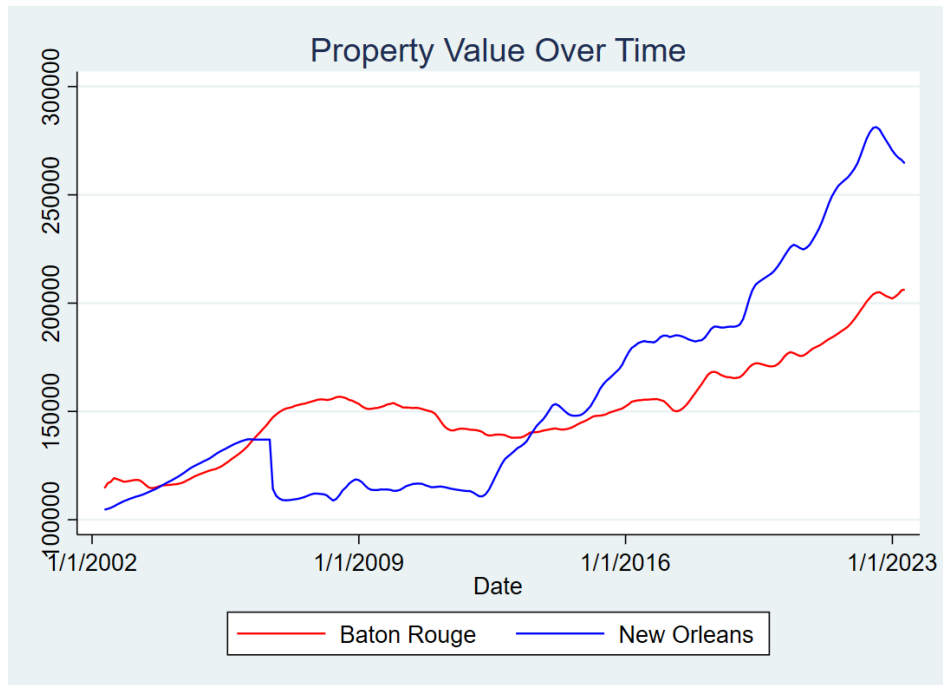


Figure 2: Zillow Home Value Index for New Orleans and Baton Rouge over time  
source: Zillow

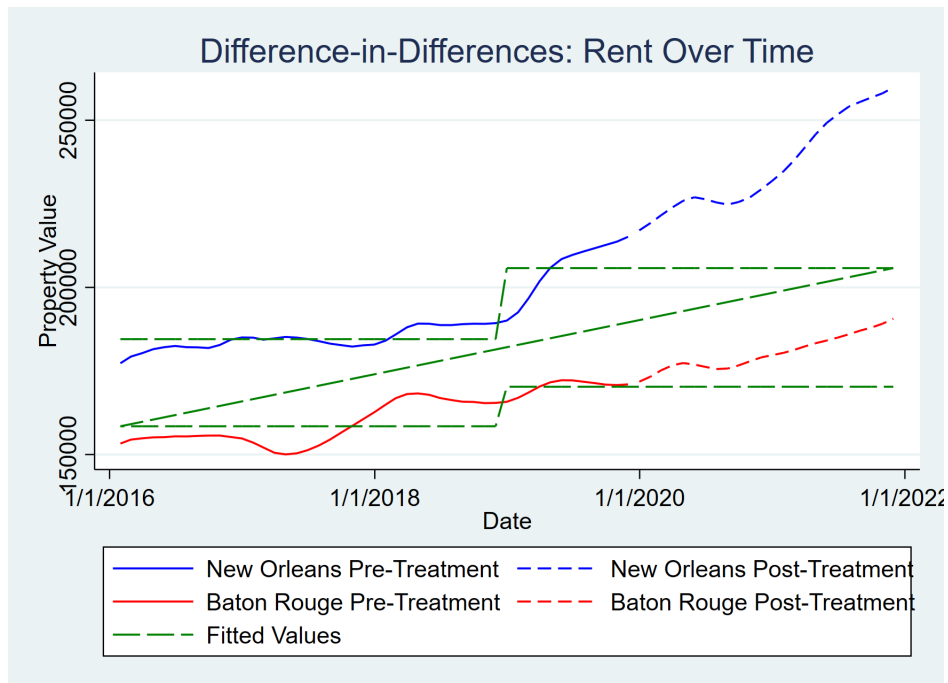


Figure 3: Zillow Observed Rent Index for New Orleans and Baton Rouge over time with difference in differences estimation  
source: Zillow and author's calculations



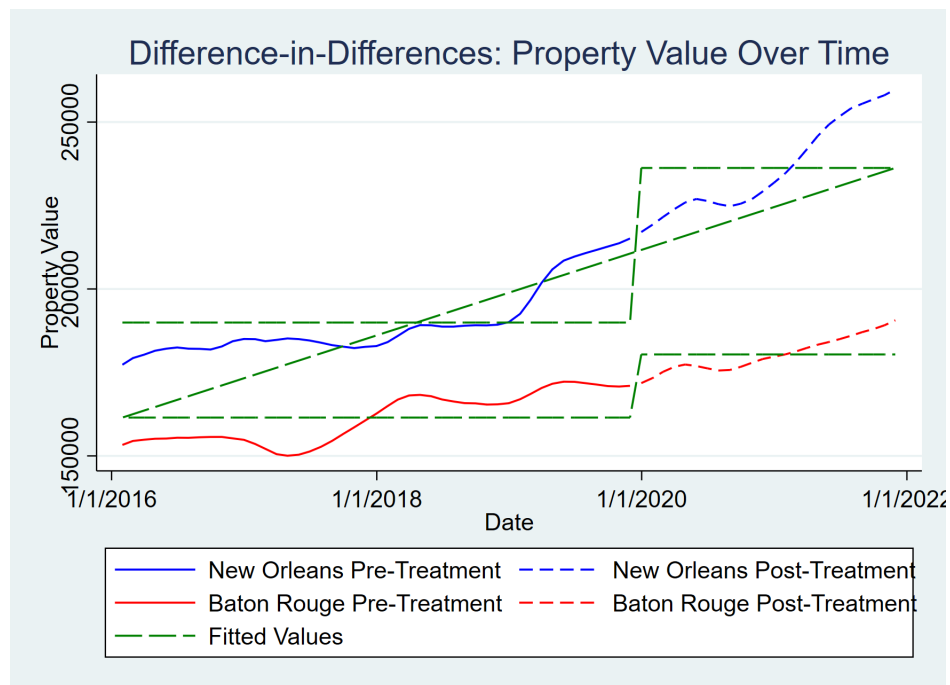


Figure 4: Zillow Home Value Index for New Orleans and Baton Rouge over time with difference in differences estimation

source: Zillow and author's Calculations