

To Rent or To Own? The Effect of Additional Transaction Tax on Buy-to-Let Housing Market

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Institutional background

What is Stamp Duty?



Stamp Duty Land Tax (SDLT) is a government tax which is paid by the buyer of a property, as a lump sum on completion. It is paid by people who are purchasing a property or land over a certain price bracket.

Get an [instant conveyancing quote](#) for your purchase, which includes the cost of stamp duty alongside our legal fees, or find out more about Stamp Duty Land Tax and the varying thresholds below.

Rates for a single property

You pay stamp duty at these rates if, after buying the property, it is the only residential property you own. You usually pay 3% on top of these rates if you own another residential property.

Property or lease premium or transfer value	SDLT rate
Up to £250,000	Zero
The next £675,000 (the portion from £250,001 to £925,000)	5%
The next £575,000 (the portion from £925,001 to £1.5 million)	10%
The remaining amount (the portion above £1.5 million)	12%

Example

In October 2022 you buy a house for £295,000. The SDLT you owe will be calculated as follows:

- 0% on the first £250,000 = £0
- 5% on the final £45,000 = £2,250
- total SDLT = £2,250

Research background

- **Research Question:**

What's the effect of additional transaction tax on buy-to-let housing market?

- **What We Do:**

1. Estimate the **average effect** of 3% additional transaction tax (SDLT) in 2016 on buy-to-let transaction price.
2. **Conduct event study design** to test whether there is evidence of differential pre-trend between treatment and control group.
3. Analyze the mechanisms of the heterogeneity on property type and tenure, price change between other rental property and owner-occupied transaction, rent movement and the market liquidity after announcement of 3% additional SDLT.

Methodology

1. *Difference-in-differences estimators of additional SDLT effects*

$$\ln(\text{price}_{i,t}) = \alpha_i + \lambda_t + \omega_{g,t} + \alpha \cdot \text{Post}_{i,t} + \beta \cdot X_{i,t} + \epsilon_{it}$$

- $\text{Price}_{i,t}$: the individual housing transaction price in time t
- $\text{Post}_{i,t}$: **posttreatment indicator** shows whether and when the transaction is treated.
- α : **the parameter of interest**, which represents the effect of additional SDLT on treated group.
- The model includes group fixed effects ($\omega_{g,t}$), locational fixed effects (α_i) and time fixed effects (λ_t). Standard errors are clustered at both the year-month and district level

Methodology

2. Event study design

$$\ln(\text{price}_{i,t}) = \alpha_i + \lambda_t + \omega_{g,t} + \sum_{m=-7}^8 \beta_m \cdot \text{SDLT}_m + \epsilon_{i,t}$$

- $\text{Price}_{i,t}$: represents the transaction price for property i in time t .
- **SDLT_m : are relative time to treatment indicators**, which are set to 1 for treatment groups if time t is m time from treatment, m ranges from -7 to 8 and the omitted period is $m=-7$, which is seven quarters before the announcement of additional SDLT.
- β_m : The parameters of interest represents the average change of price in treated groups relative to control groups between time m and the omitted period ($m=-7$).
- α : the parameter of interest, which represents the effect of additional SDLT on treated group.
- The model includes group fixed effects ($\omega_{g,t}$), locational fixed effects (α_i) and time fixed effects (λ_t). Standard errors are clustered at both the year-month and district level

Main Results

1. Average effects on transaction price

- Different columns represents the robustness test for the base estimate of column (1).
- In all cases, we recover similar average treatment effects on transaction price of around **negative 1 to negative 2 percent**.

Table 4: Baseline results on the effect of STLD on transaction prices for BTL versus non-BTL properties

	(1)	(2)	(3)	(4)
Treat x Post	-0.014*** (0.003)	-0.016*** (0.004)	-0.021*** (0.005)	-0.010*** (0.003)
<i>N</i>	570,631	570,631	570,631	433,157
Month	Yes	Yes	Yes	Yes
Property type	Yes	Yes	Yes	Yes
Tenure	Yes	Yes	Yes	Yes
Old or New	Yes	Yes	Yes	Yes
Location	District	City	County	District
Bedrooms	Yes	Yes	Yes	Yes
Bathrooms	Yes	Yes	Yes	Yes
Energy rating	Yes	Yes __	Yes __	Yes __
Time-on-market	Yes	Yes __	Yes __	Yes __
Exclude	—	—	—	>Mar 2017

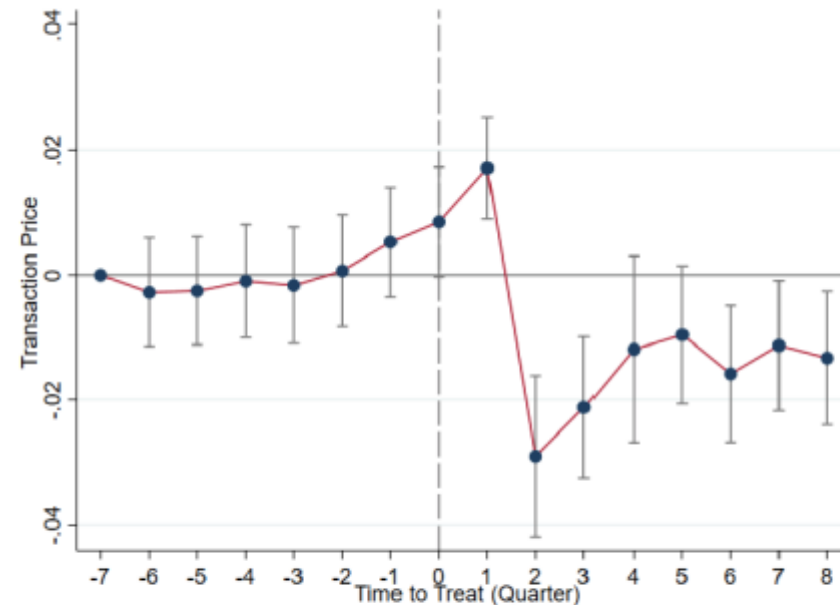
Notes: The tables show results from estimating equation (1) with a single posttreatment dummy for the period of 2014 to 2017. Treatment time is defined as the announcement date of the additional 3% transaction tax on BTL housing. Treated properties is defined as the BTL housing. Control properties are those properties with living purpose. All specifications include year-month fixed effects, plus energy rating, TOM, number of bedrooms, number of bathrooms and new or old indicators. Standard errors are clustered by district and year-month level.

Main Results

2. Effect trends prior to the event

- Following the announcement of additional SDLT, the average transaction price of buy-to-let **gone up immediately by 2 percent**
- Coefficient **descends rapidly by 3 percent** after the implement date. Effects then gradually diminishes and stable at around **negative 1.5 to 2 percent**.

Figure 1: Effects on Transaction Price



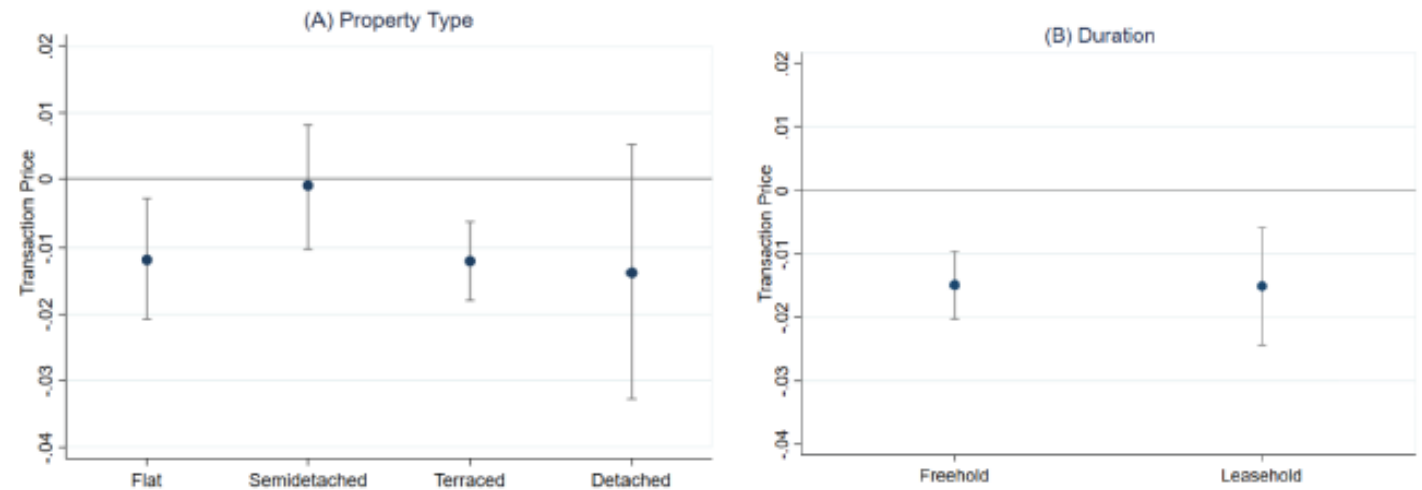
Notes: The figure shows DD coefficients and 95% confidence intervals from estimating equation (2) on transaction price. Standard errors are clustered at both year-month and district level. Treatment time is defined as the announcement date of the additional 3% transaction tax on BTL housing. Treated properties is defined as the BTL housing. Control properties are those properties with living purpose. The dotted vertical line represents the time of announcement.

Mechanisms Analysis

1. *Heterogeneity on Property Type and Tenure*

- No significant differences between freehold and leasehold properties. Both property types experienced approximately a 1.5 percent decrease.
- Detached houses experienced the most substantial negative effect on price.

Figure 2: Effects on Transaction Price by Type and Tenure



Notes: The figure shows DD coefficients and 95% confidence intervals from estimating equation (1) with different property types and tenures. Panel (A) shows the effects spread of different property types: Flat, Semidetached, Terraced and Detached. Panel (B) shows the effects for tenure: Freehold and Leasehold, respectively.

Mechanisms Analysis

2. Non-BTL Rental versus Owner-occupied on price

- rental housing market **includes other suppliers**, such as original owner-occupiers who choose to rent out properties they purchased several years ago.
- the results reveal statistically **insignificant effects on non-BTL rental housing compared to owner-occupied housing** under the influence of the 3% additional transaction tax.

Table 5: Effects on transaction price (non-BTL rental vs owner-occupied)

	(1)	(2)	(3)	(4)
Treat x Post	0.003*** (0.002)	0.006*** (0.003)	0.002*** (0.003)	0.004*** (0.002)
<i>N</i>	570,631	570,631	570,631	433,157
Month	Yes	Yes	Yes	Yes
Property type	Yes	Yes	Yes	Yes
Tenure	Yes	Yes	Yes	Yes
Old or New	Yes	Yes	Yes	Yes
Location	District	City	County	District
Bedrooms	Yes	Yes	Yes	Yes
Bathrooms	Yes	Yes	Yes	Yes
Energy rating	Yes	Yes	Yes	Yes
Time-on-market	Yes	Yes	Yes	Yes
Exclude	—	—	—	>Mar 2017

Notes: Table 5 present the results obtained by estimating equation (1) using a single post-treatment dummy variable, with the treated group replaced by non-BTL rental properties rather than BTL housing. The estimation period covers the years from 2014 to 2017. The treated time refers to the date of the announcement of the additional 3% transaction tax on BTL housing. The controlled group is the owner-occupied housing with a living purpose. All specifications include year-month fixed effects, as well as controls such as energy rating, number of bedrooms, number of bathrooms, and indicators for whether the property is new or old. Standard errors are clustered by district and year-month levels.

Mechanisms Analysis

3. BTL versus Non-BTL Rental Property on Rent

Table 6: Effects of STLD on listing rents (BTL versus non-BTL rental property)

	(1)	(2)	(3)	(4)	(5)	(6)
Treat x Post	0.060*** (0.002)	0.058*** (0.003)	0.057*** (0.003)	0.058*** (0.002)	0.056*** (0.002)	0.050*** (0.002)
<i>N</i>	315,443	325,897	334,334	292,241	254,961	291,820
Month	Yes	Yes	Yes	Yes	Yes	Yes
Property type	Yes	Yes	Yes	Yes	Yes	Yes
Tenure	Yes	Yes	Yes	Yes	Yes	Yes
Old or New	Yes	Yes	Yes	Yes	Yes	Yes
Location	District	City	County	District	District	District
Bedrooms	Yes	Yes	Yes	Yes	Yes	Yes
Bathrooms	Yes	Yes	Yes	Yes	Yes	Yes
Energy rating	—	—	—	Yes	—	—
Time-on-market	—	—	—	—	—	Yes
Exclude	—	—	—	—	>Mar 2017	—

Notes: Table 6 show results from estimating equation (1) with a single posttreatment dummy, replacing the dependent variable as the rent, instead of transaction price: $\ln(\text{rent}_{i,t}) = \alpha_i + \lambda_t + \omega_{g,t} + \alpha \cdot \text{Post}_{i,t} + \beta \cdot X_{i,t} + \epsilon_{it}$. Treatment is defined as the announcement date of the additional transaction tax Treatment time is defined as the announcement date of the additional 3% transaction tax on BTL housing. Treated properties is defined as the existing rental property. Control properties are those properties with living purpose. All specifications include year-month fixed effects, plus energy rating, number of bedrooms, number of bathrooms and new or old indicators. Standard errors are clustered by district and year-month level.

The findings reveal a substantial increase in rent for rented BTL properties, with an average rise of approximately 6 percent.

Mechanisms Analysis

4. Market Transaction Volumes in Different Regions

We observe a stark contrast in transaction volumes, with a decrease of more than 15 percent.

Table 7 : Effects on transaction volume by various areas on BTL versus Owner-occupied

	(1 - District)	(2 - City)	(3 - County)	(4 - < Mar 2017)
Treat x Post	-0.189*** (0.008)	-0.205*** (0.016)	-0.173*** (0.018)	-0.148*** (0.010)
<i>N</i>	42,390	13,388	478	33,378
Quarter	Yes	Yes	Yes	Yes
Location	District	City	County	District
Avg. bedrooms	Yes	Yes	Yes	Yes
Avg. bathrooms	Yes	Yes	Yes	Yes
Avg. energy efficiency	Yes	Yes	Yes	Yes
Avg. TOM	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Exclude	—	—	—	>Mar 2017

Notes: The tables show results from estimating equation (1) with a single posttreatment dummy, replacing the individual property with regional transaction volume, including district, city and county. Treatment is defined as the announcement date of the additional transaction tax. Treatment time is defined as the announcement date of the additional 3% transaction tax on BTL housing. Treated properties is defined as the BTL property. Control group is owner-occupied property. All specifications include year-month fixed effects, plus energy rating, number of bedrooms, number of bathrooms and new or old indicators. Standard errors are clustered by district and year-month level.

Mechanisms Analysis

5. Market Liquidity for Listing BTL Sales and Rents

Table 8: The effect of STLD on TOM for listing BTL sales and rents.

	TOM for listing sales			TOM for listing rents		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat x Post	-0.003*** (0.004)	-0.005*** (0.004)	-0.006*** (0.005)	0.248*** (0.010)	0.250*** (0.010)	0.254*** (0.014)
<i>N</i>	444,419	444,419	444,419	207,553	207,553	207,553
Month	Yes	Yes	Yes	Yes	Yes	Yes
Property type	Yes	Yes	Yes	Yes	Yes	Yes
Tenure	Yes	Yes	Yes	Yes	Yes	Yes
Old or New	Yes	Yes	Yes	Yes	Yes	Yes
Location	District	City	County	District	City	County
Bedrooms	Yes	Yes	Yes	Yes	Yes	Yes
Bathrooms	Yes	Yes	Yes	Yes	Yes	Yes
Energy rating	Yes	Yes __	Yes __	Yes	Yes __	Yes __
Exclude	>Mar 2017	>Mar 2017	>Mar 2017	>Mar 2017	>Mar 2017	>Mar 2017

- TOM for listed rentals, as reported in Columns (4) to (6), displays a significant increase after the transaction tax change, amounting to a 25% rise.
- This increase suggests a decrease in market liquidity for rental properties.

Conclusion

This paper provides valuable insights into the effect of the additional 3% SDLT on the BTL housing market .

What We Find:

- The study uncovers evidence of **speculative behavior among investors** before the implement date and a subsequent rapid decline in prices after the policy implementation.
- It raises concerns about the **effectiveness of using transaction taxes to cool down housing prices,** as it may lead to unintended consequences such as speculative investment behavior
- The burden of increased taxes on rental housing transactions **is transferred to tenants** through higher rents, which negatively affects their ability to save for homeownership.

Thank you!

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