Business Improvement Districts and Housing Markets: Evidence from Neighborhoods in London

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Introduction

- Business Improvement Districts (BIDs) have become an important alternative provider of public goods in the UK.
  - ▶ Funded by business owners within a certain area (through a surtax)
  - ▶ Over £100 mln annually in local investments (2018)
  - ▶ Additional security, cleaning services, recreational programmes
- A "private government" in the provision of services within a certain perimeter (e.g. private homeowners associations).
- The opening and geographical coverage of a BIDs do not depend on residents and need exclusively the approval of the majority of business owners.

Introduction

- Any effects on residential property market following the opening of a BID would highlight an *externality*.

- Some openings overlap with the 2008 recession: effects of private provision of services in a period of public spending reductions.

- Novel evidence on possible LR effects: relationship between census variables for sociodemographic composition of the neighborhood and its exposure to a BID.

Contribution to the Literature

- Privately-provided public goods and house prices:
    - ▶ Homeowners Associations (US): Meltzer and Cheung (2014); Clarke and Freedman (2019)
- Local (dis-)amenities and house prices:
    - ▶ Crime: Bowes and Ihlanfeldt (2001); Lynch and Rasmussen (2001); Pope (2008); Linden and Rockoff (2008); Wentland et al. (2014) (US) — Gibbons (2004); Braakmann (2017) (UK)
    - ▶ Environment: Voicu and Been (2008); Nepal et al. (2020)
- Effects of BID openings:
    - ▶ Crime: Brooks (2008); Cook and MacDonald (2011); Faggio (2022)
    - ▶ Property prices: Ellen et al. (2007) (only finds effects on commercial properties)

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BIDs in the UK: An overview

- Introduced in the United Kingdom in 2004.
- Partnership of occupiers (or owners) of commercial property, paying compulsory surtax, ring-fenced for additional services and improvements in their locality (de Magalhães, 2014).
- First proposed to local businesses to gather their opinions, then a vote on whether to establish the BID.
- Requires a simple majority of positive votes both in terms of the total number of votes and of the rateable value of the votes.
- Operate for a 5-year term, and its renewal is subject to another ballot.

BIDs in the UK: An overview

- BIDs can be divided into property-occupier and property-owners BIDs, depending on who pays the levies or area types
- BIDs can also get classified with respect to the dominant use of the land: Town Centre, Industrial, Commercial
- Activities:
  - ▶ Crime: additional private security teams, increase in CCTV cameras
  - ▶ Environment: additional recycling and street cleaning services, supply of secure cycle parking
  - ▶ Business support: increased marketing and advertising, social media outreach, lobbying in local institutions
  - ▶ Recreational: artwork displays, Christmas markets, movie screenings
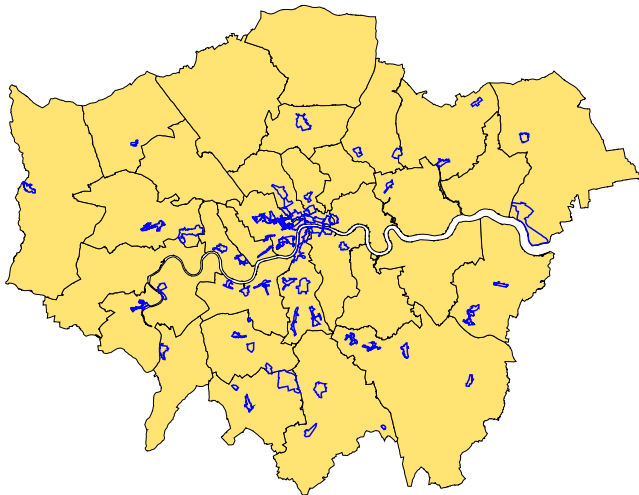
BIDs in the UK: An overview

Figure 1: Geographical coverage of BIDs in London
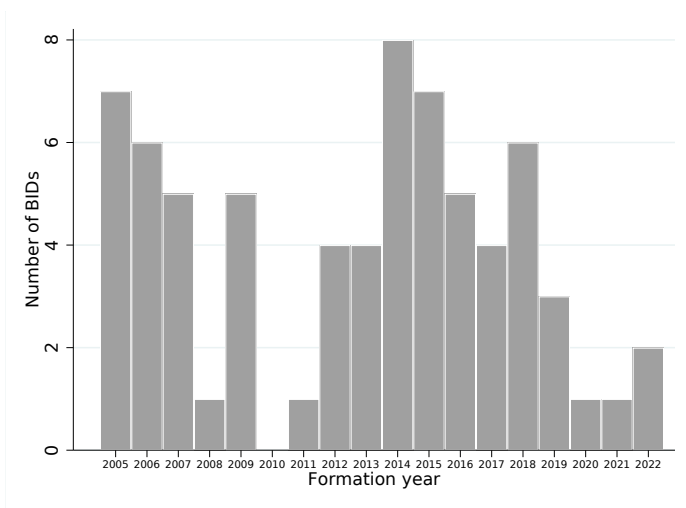
BIDs in the UK: An overview

Figure 2: Number of BIDs by formation year

Data

- The geographical coverage of each BID comes from a public available shapefile by the Greater London Authority.
- Survey of the public ballots and business plans to extract the years of activity of the BID, their levy and annual budget.
- Postcodes coordinates come from the ONS National Postcode Directory.
- The transaction data is obtained through publicly available Price Paid dataset provided by the Land Registry.
- We also possess data from the London Development Database on all housing planning applications.

Data

- Postcode-level information that we use to construct additional covariates for our estimations:
  - ▶ Town Centre designated areas, provided by the Greater London Authority.
  - ▶ Distance from the closest relevant parks and create a count of historical buildings within a 250-meter catchment area using shapefiles obtained from MAGIC.
  - ▶ We also consider whether the property might be on the "riverside", hence a ring of 250 meters is drawn from River Thames, whose shapefile is provided by OS Open Rivers.

- Information on socioeconomic characteristics, such as number of individuals by ethnicity and employment status, population density and type of household tenure by block, through the Census waves of 2001, 2011 and 2021.

Summary statistics

Table 1: Summary statistics per BID

Variable	Mean	Std. Dev.	Min	Max
(a) *BID characteristics*				
BID size (in square meters)	496,717.6	545,963.3	653.763	3,924,701
Years of activity	10.406	4.989	1	18
Postcodes within BID	516.696	588.389	4	2,558
Levy (%)	1.226	.379	.002	2.3
Annual Budget	806,377.7	1,186,588	36,250	8,200,000
(b) *Transaction characteristics* (2000-2019)				
Number of transactions	1,233.362	989.833	1	4,775
Average value of transactions (2010 £)	657,246.8	576,656.4	121,648.8	2,939,339
Detached houses (%)	0.015	0.071	0	0.5
Flats (%)	0.491	0.452	0	1
Semi-detached houses (%)	0.001	0.006	0	0.053
Terraced houses (%)	0.077	0.17	0	1
(c) *Block characteristics* (Census 2001)				
Density (per hectare)	59.286	41.095	0.92	158.441
Owned properties	0.442	0.179	0.163	0.909
Private rented	0.29	0.129	0.03	0.58
Social rented	0.233	0.176	0.014	0.676
White residents	0.769	0.119	0.453	0.936
BAME residents	0.231	0.119	0.064	0.547
Unemployed	0.036	0.013	0.008	0.064
Managers, professionals and administrative	0.394	0.117	0.151	0.739

Identification strategy

- We spatially join each postcode to the boundaries of the nearest BID, obtaining a variable with a distance equal to 0 for postcodes within a BID area, or to a positive value if otherwise.
- Therefore, postcodes are matched to a *unique* BID for which they are either in its control (within 1km radius) or in its treatment group.
- Subsequently, we merge postcodes with data on property transactions occurring in a 10-year window around the opening year of the BID, retaining transactions occurred only between 2000 and 2019.
- Therefore, we estimate the following equation:

$$\text{DiD}: Y_{it,l} = \alpha_l + \beta \text{WithinBID}_i + \gamma \text{PostBID}_t + \\ \delta(\text{WithinBID}_i * \text{PostBID}_t) + \mathbf{X}'_{it}\mathbf{\Phi} + \epsilon_{it,l} \tag{1}$$
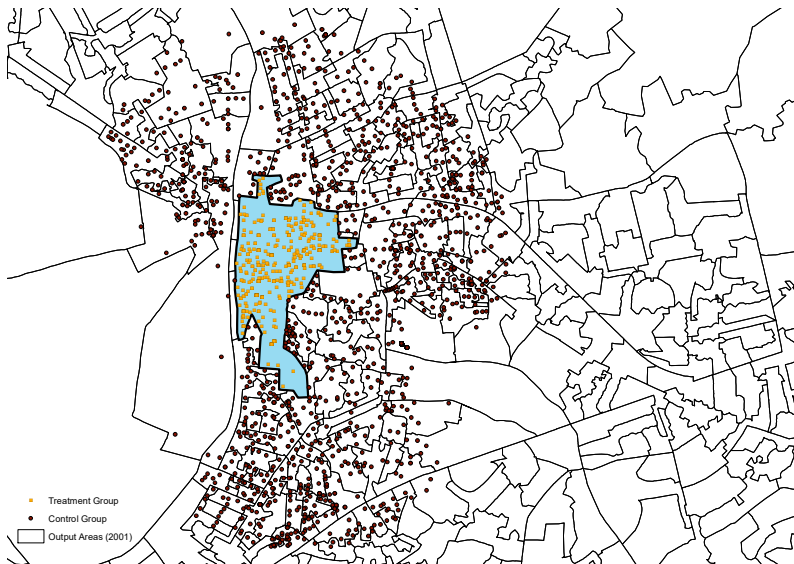
Identification strategy - Treatment vs Control

Figure 3: Assignment of treatment and control group: Kingston First BID

Summary statistics by group at the baseline period

Table 2: Summary statistics by group at the baseline period

| Variable	(1) Outside BID: any distance	(2) Outside BID: ≤ 1km	(3) Within BID
(a) *Outcomes*			
Property price (100,000s £)	3.49	4.62	4.86
	(0.038)	(0.119)	(0.188)
Log(Price)	12.553	12.747	12.809
	(0.007)	(0.016)	(0.029)
New-building property	0.106	0.118	0.194
	(0.004)	(0.008)	(0.020)
(b) *Covariates*			
Terraced	0.414	0.304	0.159
	(0.004)	(0.007)	(0.010)
Leasehold	0.587	0.698	0.842
	(0.004)	(0.007)	(0.010)
Town Centre	0.036	0.052	0.279
	(0.002)	(0.005)	(0.024)
Distance to Park (m)	4670.074	3918.701	3230.210
	(55.004)	(108.698)	(178.810)
Historic buildings	0.065	0.177	0.363
	(0.005)	(0.020)	(0.051)
Thames River view	0.026	0.043	0.022
	(0.002)	(0.006)	(0.004)
Observations	397,113	85,453	14,193

Trend plots
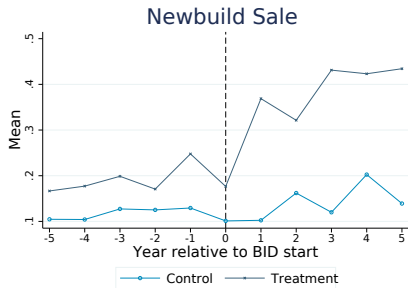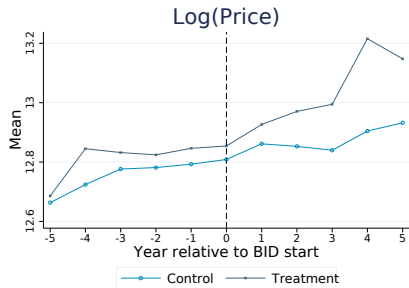
Figure 4: Unconditional trend plots (composite sample)

Pre-trends test

Table 3: Parallel trends test on property price

	Composite sample			Terraced houses			Flats		
	(1) Postcode sector FE	(2) Block group FE	(3) Block-BID trends	(4) Postcode sector FE	(5) Block group FE	(6) Block-BID trends	(7) Postcode sector FE	(8) Block group FE	(9) Block-BID trends
WithinBID$_i$*Time$_{-5}$ (reference period)									
WithinBID$_i$*Time$_{-4}$	-0.001	0.008	0.022	-0.068	-0.077**	-0.046*	0.018	0.024	0.038**
	(0.026)	(0.025)	(0.018)	(0.046)	(0.032)	(0.028)	(0.027)	(0.026)	(0.018)
WithinBID$_i$*Time$_{-3}$	0.012	0.019	0.017	-0.027	-0.029	-0.001	0.017	0.023	0.021
	(0.026)	(0.023)	(0.016)	(0.036)	(0.027)	(0.022)	(0.028)	(0.025)	(0.017)
WithinBID$_i$*Time$_{-2}$	-0.005	-0.000	0.019	-0.041	-0.022	0.011	0.006	0.010	0.025
	(0.027)	(0.023)	(0.017)	(0.036)	(0.029)	(0.025)	(0.028)	(0.024)	(0.017)
WithinBID$_i$*Time$_{-1}$	0.001	0.021	0.030*	-0.001	0.008	0.030	0.007	0.021	0.030*
	(0.025)	(0.022)	(0.017)	(0.038)	(0.027)	(0.024)	(0.026)	(0.023)	(0.017)
Covariates	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
F-stat	0.116	0.431	0.822	0.850	2.129	1.673	0.151	0.348	1.336
p-value	0.977	0.786	0.511	0.493	0.075	0.154	0.962	0.845	0.254
R^2	0.707	0.730	0.999	0.810	0.837	1.000	0.657	0.682	0.999
Clusters	2004	2000	1991	1708	1699	1672	1897	1894	1886
Observations	99,642	99,646	99,454	28,167	28,136	27,565	71,436	71,431	71,098

Results

Table 4: Effect of BIDs on property price

|	(1) Postcode sector FE	(2) Census tract FE	(3) Block group FE	(4) Block FE	(5) Block-BID trends
(a) Composite sample					
WithinBID$_i$∗PostBID$_t$	0.029*	0.050***	0.037***	0.026**	0.026**
	(0.017)	(0.018)	(0.014)	(0.010)	(0.010)
Covariates	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Baseline Price (treated)	486,475	486,708	486,708	486,758	486,791
Clusters	3,641	3,638	3,638	3,636	3,635
Observations	187,777	187,789	187,784	187,697	187,671
(b) Terraced houses					
WithinBID$_i$∗PostBID$_t$	0.044**	0.035*	0.039**	0.046***	0.045***
	(0.020)	(0.020)	(0.016)	(0.014)	(0.014)
Covariates	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Baseline Price (treated)	743,809	746,296	746,496	745,601	745,811
Clusters	3,182	3,189	3,182	3,164	3,159
Observations	48,916	48,948	48,909	48,482	48,445
(c) Flats					
WithinBID$_i$∗PostBID$_t$	0.025	0.044**	0.034**	0.020*	0.020*
	(0.018)	(0.019)	(0.015)	(0.012)	(0.012)
Covariates	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Baseline Price (treated)	437,447	437,432	437,432	437,246	437,278
Clusters	3,454	3,453	3,450	3,448	3,446
Observations	138,823	138,835	138,821	138,645	138,614

Results
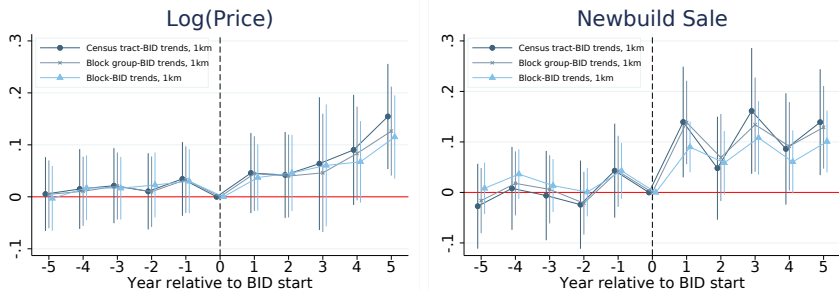
Figure 5: Dynamic effects of BID opening on property price and share of new-building property sales
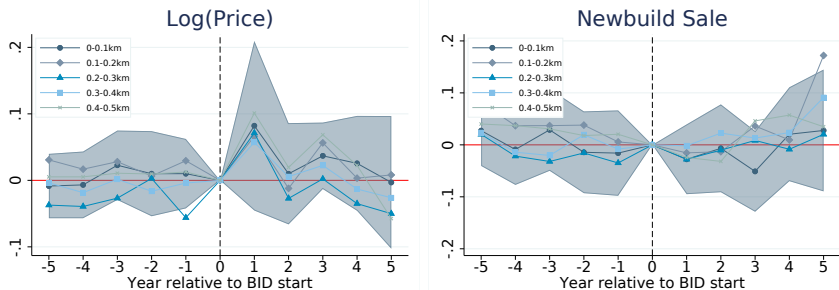
Results

Figure 6: Dynamic effects of BID opening on property price and share of new-building sales within the control group
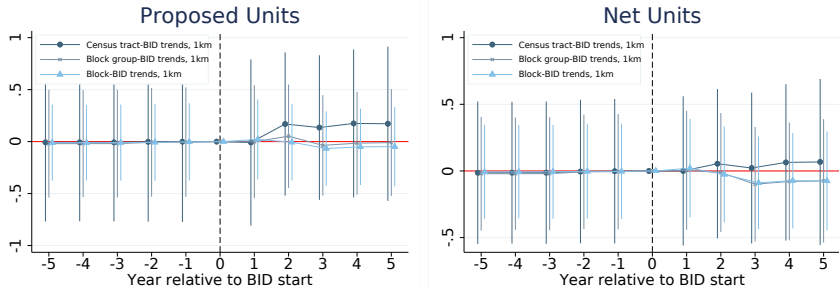
Results

Figure 7: Effects of BID opening on housing planning applications

Results

- Effects of BID opening on property prices range from 2.6% to 5%.
- Positive and significant on the probability of sale of new-building properties.
- Proximity to a BID does not map into a higher house price nor higher likelihood to be a newbuild relative to the outer ring within the control group (800m-1km).
- No significant differences over time in new residential units proposed to local authorities for approval nor in the prospective available housing (i.e., net units).

Results - BID Characteristics

Table 5: Effects of BIDs by BID financial characteristics

	Levy rate		Annual budget		Share on crime and environment	
	(1)	(2)	(3)	(4)	(5)	(6)
	Bottom 50%	Top 50%	Bottom 50%	Top 50%	Bottom 50%	Top 50%
(a) Property (log) price						
WithinBID$_i$*PostBID$_t$	0.028*	0.016	-0.004	0.029**	-0.005	0.028*
	(0.015)	(0.014)	(0.014)	(0.014)	(0.013)	(0.016)
Baseline Price (treated)	572,546	428,116	402,335	570,164	512,500	448,601
Clusters	1,544	2,010	2,184	1,623	1,612	1,947
Observations	78,528	100,959	96,133	88,246	84,106	87,346
(b) Newbuild Sale						
WithinBID$_i$*PostBID$_t$	0.048**	0.029*	0.017	0.056***	0.004	0.069***
	(0.022)	(0.017)	(0.019)	(0.020)	(0.019)	(0.020)
Baseline Sales (treated)	0.212	0.183	0.189	0.201	0.184	0.213
Clusters	1,544	2,010	2,184	1,623	1,612	1,947
Observations	78,528	100,959	96,133	88,246	84,106	87,346

Robustness Checks

Table 6: Robustness checks on BID effects

	(1) No price outliers	(2) No volume outliers	(3) London dummies	(4) CCZ Inner London only	(5) London New-building dummy	(6) Pre-existing terraced
(a) DEP. VAR.: Log(Price)						
WithinBID$_i$ *PostBID$_t$	0.019**	0.023**	0.025**	0.037***	0.020**	0.042***
	(0.009)	(0.010)	(0.011)	(0.012)	(0.010)	(0.013)
Covariates	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Block-BID trends	✓	✓	✓	✓	✓	✓
Baseline Price (treated)	445,294	473,407	486,791	582,788	486,791	743,634
Clusters	3,632	3,630	3,635	1,796	3,635	3,155
Observations	183,681	182,502	187,671	105,094	187,671	47,466
(b) DEP. VAR.: New-building sales (pp)						
WithinBID$_i$ *PostBID$_t$	0.037***	0.034**	0.044***	0.058***		
	(0.014)	(0.014)	(0.014)	(0.016)		
Covariates	✓	✓	✓	✓		
Year FE	✓	✓	✓	✓		
Block-BID trends	✓	✓	✓	✓		
Baseline Sales (treated)	0.198	0.198	0.194	0.188		
Clusters	3,632	3,630	3,635	1,796		
Observations	183,681	182,502	187,671	105,094		

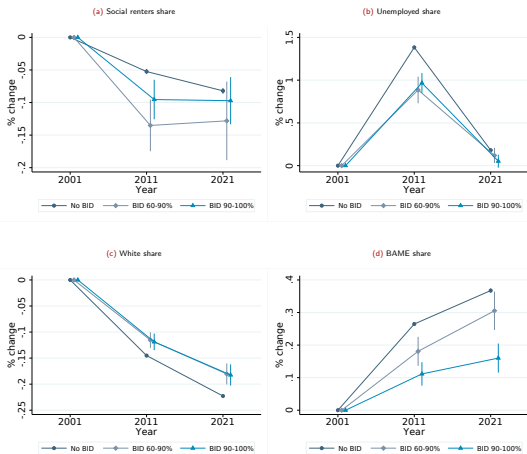# Results - Neighborhood composition

Figure 8: Evolution of the share of social renters, unemployed residents, white and BAME residents in the block.

Results - Neighborhood composition

- BID openings have longer-run implications for neighborhood 'mix' (2001-2021):
    - BIDs blocks attract less non-white residents compared to non-BID blocks.
    - Lower social renters share over time in BIDs blocks.
    - Lower unemployment share - especially in 2011.

Conclusion

- We estimate a 3% increase in house prices, due to opening of Business Improvement Ditricts in London.

- Sales levels for new-building dwellings (flats, mostly) are also impacted positively by BIDs formation when compared to outer areas.

- Neighborhoods that fall within the boundaries of BIDs also show gentrification trajectories.