Online Appendix: How do commuters adapt to local pollution pricing?

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A London's ULEZ policy in detail

A.1 Policy overview

The Ultra Low Emission Zone (ULEZ) is an area of London for which an emission-standard based daily levy of £12.50 applies to non-compliant vehicles. The zone operates 24 hours a day, seven days a week. The daily charge currently applies to residents of the ULEZ as well as commuters. This was not always the case. The criteria for charging the levy is based on European emission standards. A penalty charge of £180 is applied for non-compliance. This charge is in addition to the Congestion Charge (CC) and applies to cars, motorcycles, vans, specialist vehicles (up to and including 3.5 tonnes) and minibuses. Vans and minibuses are also be subject to Low Emission Zone (LEZ) charges. Boris Johnson, then Mayor of London, announced the zone (covering the same central area as the Congestion Zone in 2015) would come into effect in September 2020. Sadiq Khan, Johnson's successor, introduced the Toxicity charge or "T-charge", a £10 emissions surcharge for older, more polluting vehicles in October 2017, which covered the same area as the Congestion Zone. The T-charge was replaced by the ULEZ when it came into effect in April 2019, ahead of schedule. The ULEZ was expanded out to the North and South Circular roads in 2021. In November 2022, Sadiq Khan announced the expansion of the zone to cover all 32 London boroughs from August 2023. This matches the existing Low Emissions Zone (LEZ) boundary.

The expanded ULEZ is part of the effort to help improve air quality in and around London and reduce the impact on the health of residents and visitors to the city. The ULEZ is principally aimed at reducing levels of two key air pollutants from vehicle exhausts: nitrogen dioxide (NOx) and fine particle matter (PM). These pollutants have been linked to premature deaths and stunted growth of children's lungs.

A.2 Scrappage and retrofit schemes

A scrappage scheme was introduced to help those on income support or disability benefit to comply with ULEZ standards. The original 2019 scheme offered up to £7,000

compensation for a car or van plus up to £2,500 if it was replaced by an electric vehicle. However, when ULEZ was expanded in 2021, the £61m scrappage scheme reduced the compensation to £2,000 for cars (and for a limited number of vans and £15,000 for heavy vehicles).

The ULEZ schemes also allows some vehicles to retrofit emissions reduction technology to meet Euro VI-equivalent levels of emissions. A vehicle with retrofitted emissions technology needs to be certified by the Government's Clean Vehicle Retrofit Accreditation Scheme (CVRAS). The CVRAS register contains approved and Clean Air Zones (CAZ) compliant companies and emission reduction systems, based on make, model and engine type. The CVRAS certifies emission technologies for black taxis, vans, minibuses, motorhomes, buses, coaches, HGVs and refuse vehicles.

Financial assistance to scrap or retrofit non-compliant vehicles in preparation for the latest expansion of the ULEZ (August 2023) was announced at the end of July 2023, and offers £2,000 for scrapping a car and £1,000 for motorcycles, and £5,000 for wheelchair accessible vehicles. Parts of the scrappage payment is converted to an annual bus and tram pass. Between £5,000 and £9,500 grant is available for scrappage or retrofit of vans and minibuses used by small businesses, sole traders, and charities. It was initially open to people on low incomes, disability benefits and child benefit as well as some businesses but was extended to all Londoners and small businesses on the 21 August 2023.

A.3 Vehicle rules

The vehicle emissions standards are taken from the vehicle logbook data held by the Driver and Vehicle Licensing Agency (DVLA).

Cars. As petrol and diesel engines produce different types of emissions, they require different standards. The ULEZ requires cars to meet minimum 'Euro' emissions standards; the ULEZ standard for passenger cars is Euro 4 (NOx) for petrol cars and Euro 6 (NOx and PM) for diesel cars. Cars featuring older technology are less likely to meet

the Euro 4 standards. Petrol cars that meet ULEZ standards are generally those that were first registered with the DVLA from January 2006 (although some cars registered as early as 2001 may also meet the standards). Diesel cars registered with he DVLA after September 2015 generally meet the ULEZ standards.

Large vans and minibuses. Euro 6 for diesel engines and Euro 4 for petrol engines. Non-compliant vehicles would be required to pay a daily charge of £12.50.

Motorcycles. Motorcycles, mopeds, motorised tricycles and quadricycles (L-category) need to meet minimum Euro 3 emissions standards for NOx. Euro 3 engines are those registered with the DVLA after July 2007.

Lorries, coaches and larger vehicles over 3.5 tonnes Gross Vehicle Weight (GVW). Heavy goods vehicles (HGVs), lorries, vans, motor caravans, motorised horseboxes, and other specialist vehicles below 3.5 tonnes.

A.4 Exemptions

- 'Historic vehicles' aged 40 years or older (if registered as historic vehicle tax class).
- Hybrid electric vehicles(HEVs), Plug-in hybrids electric vehicles (PHEVs) and fully battery-powered electric vehicles (EVs or BEVs).
- LPG (Liquefied Petroleum Gas) conversions, depending on the individual model and engine.
- London-licensed taxis.
- Specialist agricultural vehicles or other specialist vehicles (Motorised horseboxes, breakdown and recovery vehicles, snow ploughs, gritters, refuse collection vehicles, road sweepers, concrete mixers, fire engines, tippers, removal lorries, cranes).

- Military vehicles.
- Some showman's vehicles are eligible for 100% discount.
- Residents parked in the zone that do not drive.
- Buses, coaches and minibuses over 5 tonnes GVW.
- NHS patient that are clinically assessed as too ill to travel to an appointment on public transport are eligible to claim back any ULEZ charge.

ULEZ exemptions will be in place until 2025 for community transport vehicles and until 2027 for people receiving certain disability benefits and vehicles for people with disabilities.

A.5 Grace periods

Grace periods covering vehicles for disabled people are in place until 25 October 2027. Some businesses and charities also have a short grace period. Small business (50 employees), micro businesses (up to 10 employees), charities and sole traders with a registered address in London boroughs and city of London fall in this category if they ordered a new minibus or light van or retrofitted their light van or minibus and the delivery is due after 29 August 2023. There will be no exemption from the charges beyond 29 May 2024.

A.6 Full timeline

- 27 October 2014: Mayor and TfL announce consultation on ULEZ.
- 30 December 2014: Reminder of ULEZ consultation ending soon.
- 26 March 2015: Mayor confirms ULEZ.
- 26 October 2015: Mayor and TfL finalise ULEZ requirements for taxi and minicabs.

- 17 February 2017: Mayor confirms £10 T-charge from October 23rd.
- 4 April 2017: Mayor launches consultation for replacing T-charge with ULEZ from 2019.
- 23 October 2017: T-Charge comes into effect.
- 3 November 2017: Mayor announces ULEZ will start in 2019.
- 30 November 2017: Mayor launches ULEZ expansion consultation.
- 8 June 2018: Mayor announces ULEZ to expand up to North and South Circular.
- 29 November 2018: First ULEZ signs go up in London.
- 8 March 2019: TfL reminds of ULEZ one-month countdown London ULEZ.
- 8 April 2019: ULEZ comes into force.
- 16 May 2019: TfL announces that 74 per cent of vehicles comply in first month.
- 15 May 2020: The Congestion Charge, Ultra Low Emission Zone and Low Emission Zone are reinstated.
- 6 August 2020: TfL announces installation of new infrastructure.
- 18 October 2021: TfL urges drivers to check their vehicle ahead of Ultra Low Emission Zone expansion on 25 October.
- 20 May 2022: TfL seeks views on expanding ULEZ.
- 25 November 2022: Mayor announces that ULEZ will be expanded London-wide.
- 30 January 2023: Mayor announces the scrappage scheme.
- 23 March 2023: Tfl data shows over 90% of cars driving in outer London already meet ULEZ standards.

- 21 April 2023: Tfl announces £18m allocated from scrappage scheme ahead of ULEZ expansion.
- 28 July 2023: High Court rules in favour of ULEZ expansion.
- 4 August 2023: Mayor announces expansion of scrappage scheme to all Londoners.
- 23 August 2023: Scrappage scheme becomes open to all Londoners.
- 29 August 2023: ULEZ expands London-wide.

B CO2 emissions and traffic levels

CO2 emissions. A tax on high-polluting vehicles should change incentives to purchase vehicles with different levels of emissions. The ULEZ applies to vehicles that do not meet the European emission standards.[1] These standards regulate air pollution from a variety of gases and particulates, but do not directly target CO2 emissions. We do not have data on UK vehicle measures of nitrogen oxides, total hydrocarbon, carbon monoxide or particular matter. But the DVLA provides information on the CO2 band of new vehicles registered in the UK from 2002 to 2024 by local authority district (LAD).[2]

The emissions data is labelled by the UK road tax or Vehicle Excise Duty (VED) band. Until 2025, vehicles with up to 100g/km of CO2 emissions paid no road tax, while cars emitting over 255g/km paid £735.[3] We plot the share of vehicle registrations across five CO2 emissions bands: zero, 1-100, 101 - 150, 151 - 255, 255+. This is shown in Figures C2 to C4, for the whole of the UK, London, and 2019 ULEZ-affected LADs (that is, any LAD which overlaps with a postcode inside the 2019 ULEZ).

Almost two thirds of the vehicles registered in the UK in 2002 emitted more than 150g/km of CO2. This fell to less than one quarter by 2024. Almost no registrations in 2002 emitted below 100g/km of CO2, while this was above 30% of new cars in 2024. However, the fall in the share of high-CO2-emitting vehicles has not been uniform, either over time or across emissions bands.

Did the ULEZ play a role in low-emission vehicle registrations? There is not enough variation across LADs to investigate this causally, so we provide descriptive evidence. There is a slight rise in zero-emission vehicle registrations around the ULEZ announcement in 2015, but a sharp increase around the 2019 introduction. This continues after the 2021 ULEZ expansion and accelerates for ULEZ-affected LADs.

[1] Motorcyles that do not meet Euro 3 standards; petrol cars that do not meet Euro 4 standards; diesel cars that do not meet Euro 6 standards; buses, coaches and heavy goods vehicles that do not meet Euro 6 standards.

[2] VEH9901 table from Gov.uk vehicle licensing statistical tables.

[3] Technically, this only applied to cars first registered between 2001 - 2017. This led to an additional road tax on CO2-emitting cars that were new from 2017 onwards.

Traffic. Another likely consequence of the ULEZ is reduced traffic. Traffic data is available from the Department for Transport.[4] These data are counts of different types of vehicles (cycles, buses, cars, buses) at specific survey locations. We have the longitude and latitude, alongside the direction of travel.

We compute annual counts of vehicles (cars, large goods vehicles and heavy goods vehicles) at locations inside the 2019 ULEZ, outside but within 10 miles of the ULEZ, and 10 - 25 miles from the ULEZ. We find a steady decline in the number of vehicles within the ULEZ from 2010 to 2012 (by around 8.5%) and then again from 2015 to 2019 (by over 9.5%). Of course the decline in 2020 due to the pandemic is enormous. Meanwhile, traffic outside the ULEZ increased gradually from 2015 onwards, when the ULEZ was announced. We show the overall trends in Figure C5.

[4] DfT road traffic data.

C Additional figures

Figure C1: Weekly station entry (detrended) by quartiles of ULEZ exposure

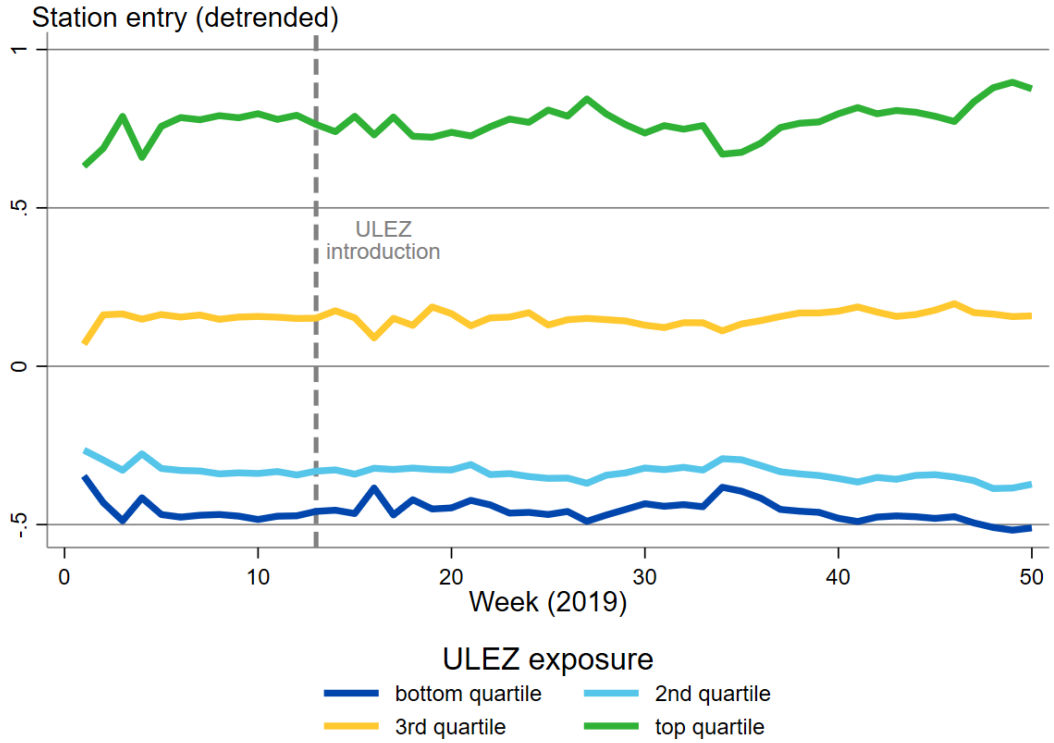


Figure C2: Share of new vehicle registrations in the UK, by CO2 band, 2002 - 2024.

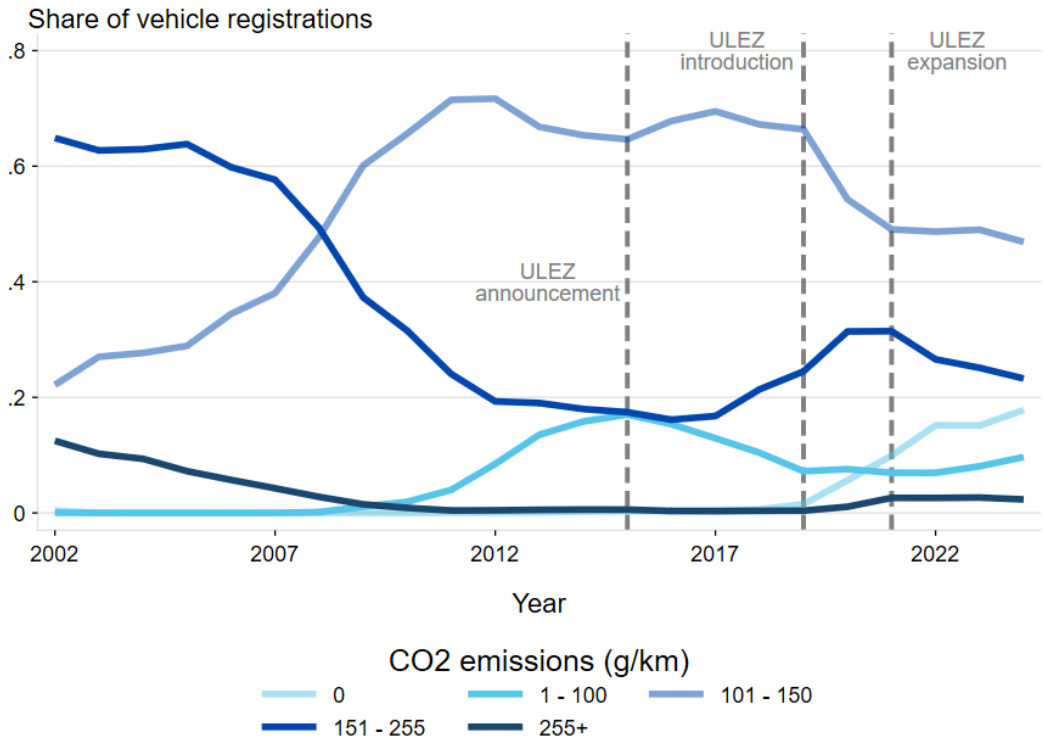


Figure C3: Share of new vehicle registrations in London, by CO2 band, 2002 - 2024.

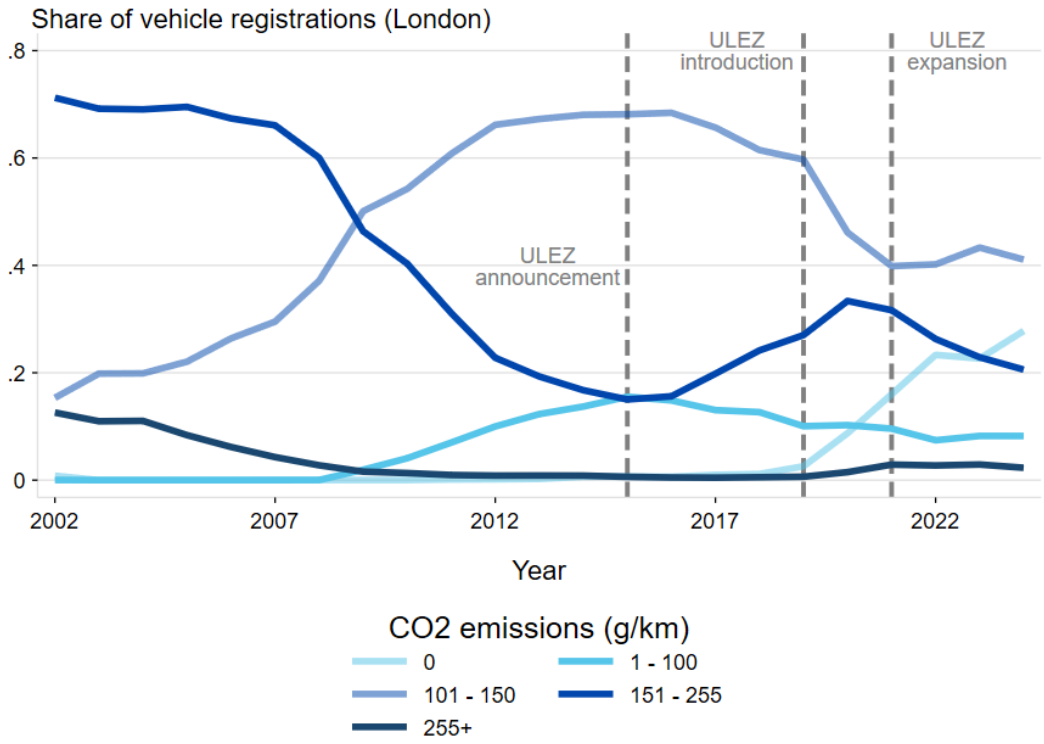


Figure C4: Share of new vehicle registrations in 2019 ULEZ-affected local authority districts, by CO2 band, 2002 - 2024.

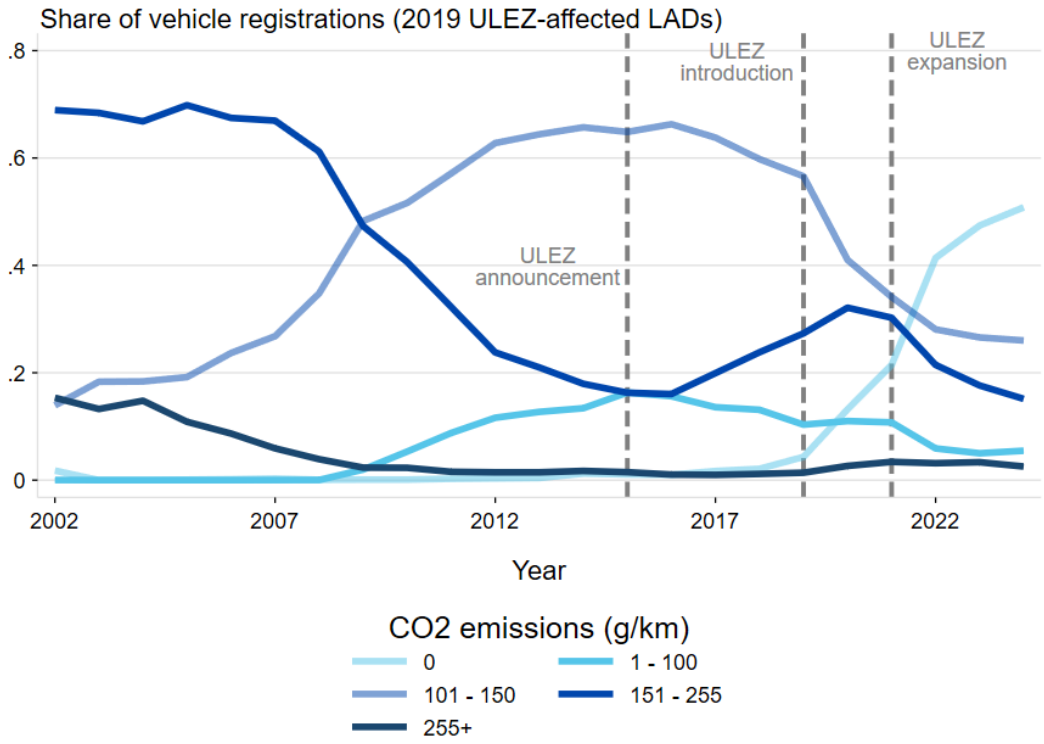


Figure C5: Counts of vehicles inside and outside the 2019 ULEZ, from 2010 - 2023.

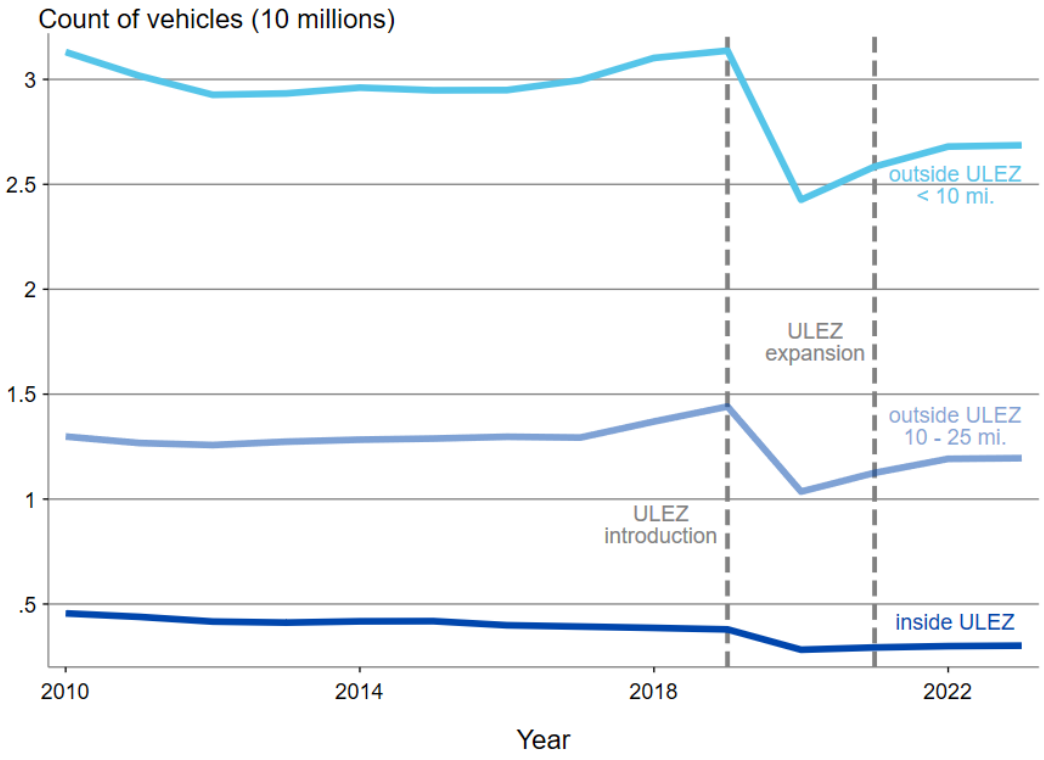
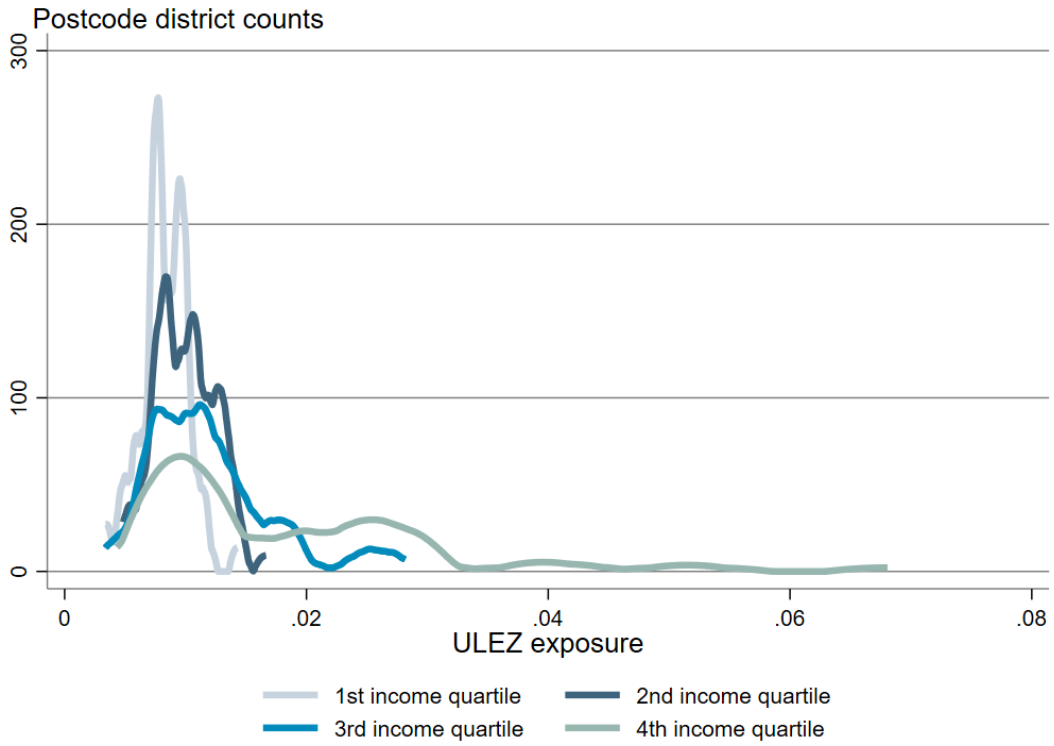


Figure C6: Distribution of ULEZ exposure over London postcode districts, split across four income quartiles



D Additional tables

Table D1: House price RDD for 2019 ULEZ boundary with distance heterogeneity

	(1)	(2)	(3)	(4)
	Dependent variable: Log house price			
Positive distance	-0.042***	-0.189***	-0.435***	-0.451***
	(0.003)	(0.026)	(0.056)	(0.057)
Negative distance	-0.402***	-0.439***	-0.507***	-0.505***
	(0.123)	(0.125)	(0.124)	(0.125)
ULEZ	0.192***	-0.018	-0.079*	-0.088**
	(0.035)	(0.039)	(0.042)	(0.042)
ULEZ × Post-indicator	0.053***	0.117***	0.120***	0.122***
	(0.013)	(0.015)	(0.015)	(0.015)
Fixed Effects	Yes	Yes	Yes	Yes
Triangular kernel weight (2 mile)	No	Yes	No	Yes
Within 1 mile	No	No	Yes	Yes
N	629,217	130,607	60,797	60,797
R^2	0.384	0.357	0.355	0.345

Standard errors in parentheses, clustered at the postcode level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Fixed effects are year-quarter and 4-digit postcode.

Table D2: House price RDD for 2019 ULEZ boundary varying triangular bandwidths

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Log house price					
ULEZ	-0.056	-0.139***	-0.133***	-0.110***	-0.071**	-0.029
	(0.055)	(0.043)	(0.036)	(0.032)	(0.030)	(0.028)
ULEZ × Post-indicator	0.116***	0.124***	0.123***	0.118***	0.113***	0.109***
	(0.021)	(0.017)	(0.015)	(0.015)	(0.014)	(0.014)
Distance	0.058	-0.196***	-0.179***	-0.140***	-0.092***	-0.041***
	(0.103)	(0.061)	(0.039)	(0.026)	(0.018)	(0.014)
Bandwidth (miles)	0.5	1	1.5	2	2.5	3
N	37,054	60,797	89,868	130,607	170,657	210,474
R^2	0.303	0.326	0.343	0.356	0.360	0.361

Standard errors in parentheses, clustered at the postcode level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Fixed effects are year-quarter and 4-digit postcode.

Table D3: House price RDD for 2019 ULEZ boundary with distance interaction

	(1)	(2)	(3)	(4)
	Dependent variable: Log house price			
ULEZ	0.080***	-0.122***	-0.179***	-0.167***
	(0.024)	(0.033)	(0.041)	(0.042)
ULEZ × Post-indicator	0.087***	0.136***	0.133***	0.131***
	(0.014)	(0.020)	(0.026)	(0.027)
Distance	-0.046***	-0.153***	-0.270***	-0.251***
	(0.003)	(0.026)	(0.052)	(0.053)
Post-indicator × Distance	0.006***	0.019*	0.017	0.013
	(0.000)	(0.011)	(0.026)	(0.028)
Fixed Effects	Yes	Yes	Yes	Yes
Triangular kernel weight (2 mile)	No	No	Yes	Yes
Within 1 mile	No	Yes	No	Yes
N	629,217	130,607	60,797	60,797
R^2	0.385	0.356	0.354	0.344

Standard errors in parentheses, clustered at the postcode level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Fixed effects are year-quarter and 4-digit postcode.

Table D4: House price RDD for 2019 ULEZ boundary with triple interaction

	(1)	(2)	(3)	(4)
	Dependent variable: Log house price			
ULEZ	0.129***	-0.067	-0.118***	-0.121***
	(0.037)	(0.041)	(0.044)	(0.044)
ULEZ × Post-indicator	0.143***	0.187***	0.175***	0.170***
	(0.024)	(0.027)	(0.030)	(0.030)
Distance	-0.04***	-0.197***	-0.427***	-0.435***
	(0.003)	(0.027)	(0.058)	(0.060)
ULEZ × Post-indicator × Distance	0.356***	0.382***	0.401***	0.420***
	(0.103)	(0.105)	(0.106)	(0.109)
Fixed Effects	Yes	Yes	Yes	Yes
Triangular kernel weight (2 mile)	No	No	Yes	Yes
Within 1 mile	No	Yes	No	Yes
N	629,217	130,607	60,797	60,797
R^2	0.385	0.357	0.355	0.345

Standard errors in parentheses, clustered at the postcode level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Fixed effects are year-quarter and 4-digit postcode.

Table D5: House price RDD for 2019 ULEZ boundary with polynomial distance

	(1)	(2)	(3)
	Dependent variable: Log house price		
ULEZ	-0.110***	-0.101**	-0.055
	(0.032)	(0.044)	(0.046)
ULEZ × Post-indicator	0.118***	0.118***	0.118***
	(0.015)	(0.015)	(0.015)
Distance	-0.140***	-0.122*	0.020
	(0.026)	(0.067)	(0.074)
Distance^2		-0.011	-0.479***
		(0.032)	(0.084)
Distance^3			0.227***
			(0.033)
Fixed Effects	Yes	Yes	Yes
Triangular kernel weight (2 mile)	Yes	Yes	Yes
N	130,607	130,607	130,607
R^2	0.356	0.356	0.357

Standard errors in parentheses, clustered at the postcode level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Fixed effects are year-quarter and 4-digit postcode.

Table D6: House price "donut" RDD for 2019 ULEZ boundary

	(1)	(2)	(3)	(4)
	Dependent variable: Log house price			
ULEZ	0.131***	-0.093***	-0.169***	-0.160***
	(0.025)	(0.034)	(0.042)	(0.043)
ULEZ × Post-indicator	0.050***	0.114***	0.117***	0.119***
	(0.014)	(0.015)	(0.016)	(0.016)
Distance	-0.041***	-0.153***	-0.282***	-0.270***
	(0.003)	(0.026)	(0.051)	(0.053)
Fixed Effects	Yes	Yes	Yes	Yes
Triangular kernel weight (2 mile)	No	Yes	No	Yes
Within 1 mile	No	No	Yes	Yes
N	625,673	127,063	57,253	57,253
R^2	0.382	0.356	0.354	0.343

Standard errors in parentheses, clustered at the postcode level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Fixed effects are year-quarter and 4-digit postcode.

Table D7: House price placebo test 2019 ULEZ with fake boundary

	(1)	(2)	(3)	(4)
	Dependent variable: Log house price			
ULEZ	-0.156***	-0.131***	-0.079*	-0.075*
	(0.025)	(0.040)	(0.044)	(0.045)
ULEZ × Post-indicator	-0.023***	0.004	-0.000	0.005
	(0.007)	(0.009)	(0.012)	(0.012)
Distance	-0.055***	-0.022	0.064*	0.042
	(0.003)	(0.026)	(0.037)	(0.038)
Fixed Effects	Yes	Yes	Yes	Yes
Triangular kernel weight (2 mile)	No	Yes	No	Yes
Within 1 mile	No	No	Yes	Yes
N	629,217	76,887	43,074	43,074
R^2	0.384	0.292	0.303	0.298

Standard errors in parentheses, clustered at the postcode level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Fixed effects are year-quarter and 4-digit postcode.

Table D8: Baseline firm entry rate RDD for 2019 ULEZ boundary.

	(1)	(2)	(3)
		Dependent variable: Firm entry rate	
ULEZ	-0.0009	-0.0078	-0.0094*
	(0.0055)	(0.0050)	(0.0056)
ULEZ × Post-indicator	-0.0003	0.0121**	0.0132**
	(0.0076)	(0.0048)	(0.0048)
Distance	0.0134**	0.0073*	0.0015
	(0.0042)	(0.0043)	(0.0078)
Weight	Triangular	# firms	Combined
N	259,590	245,189	245,189

Standard errors in parentheses, clustered at the postcode level.
* p<0.1, ** p<0.05, *** p<0.01. Fixed effects are year, quarter, postcode district.

Table D9: Bandwidth sensitivity for firm entry and exit RDD around 2019 ULEZ boundary.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Dependent variable: Entry rate					*Dependent variable*: Exit rate				
ULEZ	-0.009*	-0.009*	-0.008*	-0.008*	-0.008*	-0.003	-0.011	-0.011	-0.010	-0.010
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)
Post-indicator	-0.007**	-0.007***	-0.006***	-0.005***	-0.004***	-0.000	-0.001	-0.001	-0.000	0.001
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.007)	(0.006)	(0.005)	(0.004)	(0.004)
ULEZ × Post-indicator	0.013**	0.012**	0.011**	0.011**	0.010**	0.035**	0.033**	0.031**	0.029**	0.028**
	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.016)	(0.015)	(0.014)	(0.013)	(0.012)
Distance	0.002	0.004*	0.003	0.001	0.001	0.044	0.010	0.005	0.003	0.001
	(0.008)	(0.002)	(0.002)	(0.001)	(0.001)	(0.031)	(0.008)	(0.005)	(0.003)	(0.002)
Bandwidth (miles)	1	2	3	4	5	1	2	3	4	5
N	245,189	451,302	669,878	857,316	1,079,163	245,189	451,302	669,878	857,316	1,079,163

Standard errors in parentheses, clustered at the postcode level. Weights are triangular and adjust for the number of firms at the postcode-quarter level.
* p<0.1, ** p<0.05, *** p<0.01. Fixed effects are year, quarter, postcode district.

Table D10: Donut RDD for firm entry and exit around 2019 ULEZ boundary.

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Entry rate			*Dependent variable*: Exit rate		
ULEZ	-0.003	-0.008	-0.010*	-0.006	-0.011	-0.004
	(0.006)	(0.005)	(0.006)	(0.005)	(0.009)	(0.008)
ULEZ × Post-indicator	0.000	0.013**	0.014**	0.009	0.037**	0.037**
	(0.008)	(0.005)	(0.005)	(0.005)	(0.017)	(0.017)
Distance	0.012**	0.007	-0.001	0.010**	0.018	0.041
	(0.004)	(0.004)	(0.008)	(0.004)	(0.013)	(0.030)
Weight	Triangular	# firms	Combined	Triangular	# firms	Combined
N	239,135	225,852	225,852	239,135	225,852	225,852

Standard errors in parentheses, clustered at the postcode level.

* p<0.1, ** p<0.05, *** p<0.01. Fixed effects are year, quarter, postcode district.

Table D11: Triple difference RDD for firm entry and exit around 2019 ULEZ boundary.

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Entry rate			*Dependent variable*: Exit rate		
ULEZ × Post-indicator	-0.005	0.010	0.009	0.007	0.041*	0.040*
	(0.009)	(0.006)	(0.006)	(0.010)	(0.021)	(0.023)
Post-indicator × Distance	0.003	0.005	-0.007	0.006**	-0.003	-0.026
	(0.003)	(0.003)	(0.009)	(0.003)	(0.006)	(0.020)
ULEZ × Post-indicator × Distance	-0.007	0.035	0.052	0.022	0.139*	0.177*
	(0.045)	(0.037)	(0.037)	(0.042)	(0.071)	(0.090)
Weight	Triangular	# firms	Combined	Triangular	# firms	Combined
N	259,590	245,189	245,189	259,590	245,189	245,189

Standard errors in parentheses, clustered at the postcode level.

* p<0.1, ** p<0.05, *** p<0.01. Fixed effects are year, quarter, postcode district.

Table D12: Placebo RDD for firm entry and exit around 2019 ULEZ boundary.

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Entry rate			*Dependent variable*: Exit rate		
Fake ULEZ	0.050	0.021	0.023	0.039	-0.007	0.017
	(0.056)	(0.041)	(0.056)	(0.033)	(0.030)	(0.029)
Fake ULEZ × Post-indicator	-0.099*	-0.071*	-0.067	-0.072**	-0.006	-0.044
	(0.053)	(0.038)	(0.051)	(0.032)	(0.040)	(0.029)
Distance	0.000	0.000	0.000	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Weight	Triangular	# firms	Combined	Triangular	# firms	Combined
N	259,590	245,189	245,189	259,590	245,189	245,189

Standard errors in parentheses, clustered at the postcode level.

* p<0.1, ** p<0.05, *** p<0.01. Fixed effects are year, quarter, postcode district.