Teaching Slides for:
The Impact of the First Professional Police Forces on Crime

Journal of the European Economic Association

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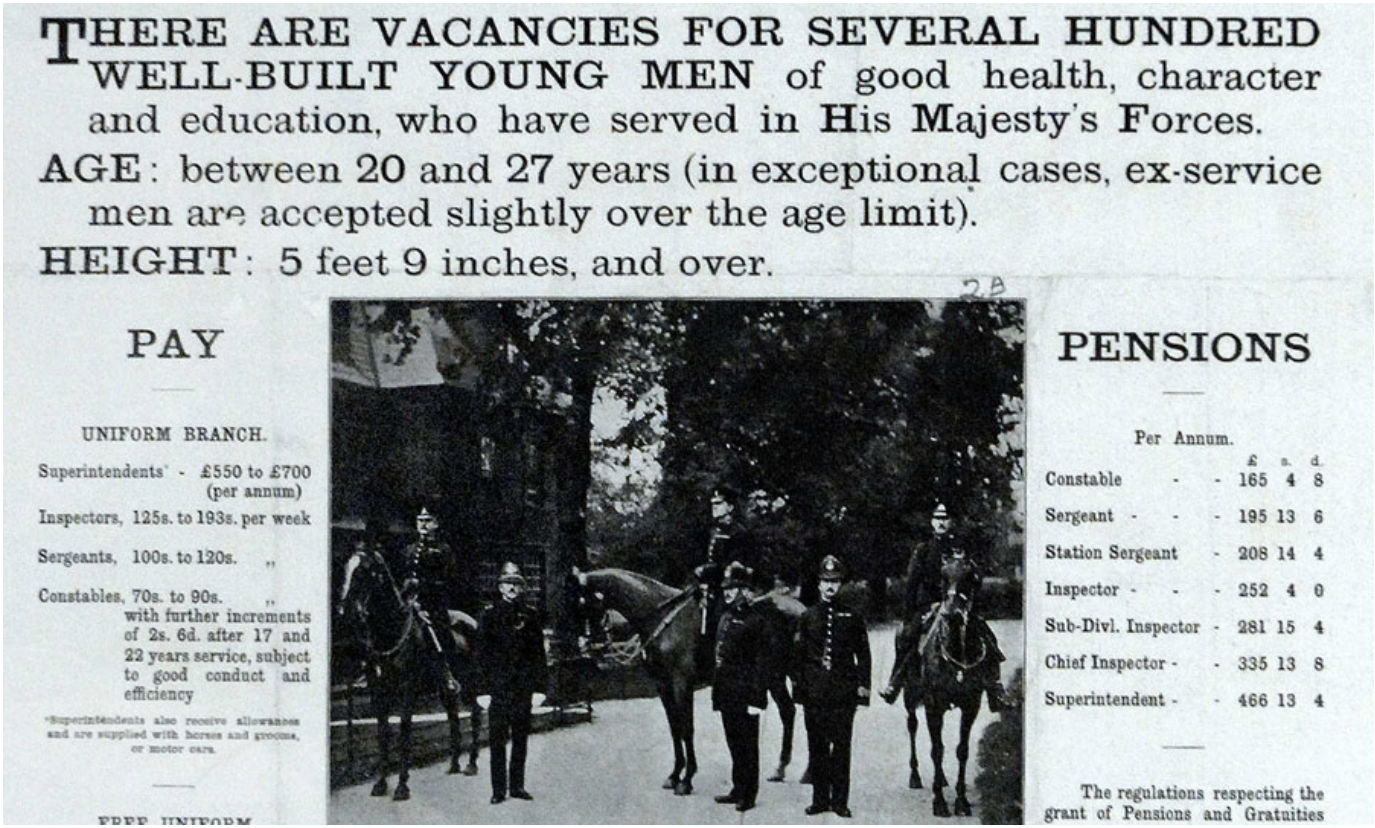


THERE ARE VACANCIES FOR SEVERAL HUNDRED WELL-BUILT YOUNG MEN of good health, character and education, who have served in His Majesty's Forces.

AGE: between 20 and 27 years (in exceptional cases, ex-service men are accepted slightly over the age limit).

HEIGHT: 5 feet 9 inches, and over.

2B

PAY

UNIFORM BRANCH.

Superintendents' - £550 to £700 (per annum)

Inspectors, 125s. to 193s. per week

Sergeants, 100s. to 120s. ,,

Constables, 70s. to 90s. ,, with further increments of 2s. 6d. after 17 and 22 years service, subject to good conduct and efficiency

*Superintendents also receive allowances and are supplied with horses and grooms, or motor cars.

FREE UNIFORM

PENSIONS

Per Annum.

	£	s.	d.
Constable - - -	165	4	8
Sergeant - - -	195	13	6
Station Sergeant -	208	14	4
Inspector - - -	252	4	0
Sub-Divl. Inspector -	281	15	4
Chief Inspector - -	335	13	8
Superintendent - -	466	13	4

The regulations respecting the grant of Pensions and Gratuities

What Effect Did the Introduction of the London Metropolitan Police (the '*Met*') Have on Crime?

Fundamental modern-day institution → origins date back to 1829.

- First professional force in the world and model for many others.

Distinct from decentralized, community organized policing of the past:

- Size, centralized authority, emphasis on quality, independent of local wealth, *deterrence.*

First empirical evidence on causal effect of this key institution on crime.

- Quasi-experimental research design.
- Newly digitized data from two core sources to measure crime in London.
  i. *Old Bailey Trials*: geocoded into treatment & control areas.
  ii. *Daily Police Reports:* incidents from police offices pre- and post-Met.

Three Contributions to Two Literatures

Understanding of police-crime relationship

1) Old question in new context.

- 'Old' literature: More police manpower and visibility reduce crime (e.g. Chalfin and McCrary, 2017; Draca et al., 2011; Di Tella and Schargrosky, 2004).
- Study the creation of an institution rather than its expansion: Does the crime reduction depend on institutional structures, force size, and officer experience?

2) Little studied aspect of policing: force administration and quality.

- "[…] relatively scant evidence on the extent to which non-deployment related police policies reduce crime" (Owens, 2020).
- Evaluate effect of replacing decentralized, local community organized policing with a centralized, public force in which officer quality was monitored.

State capacity literature

3) Often takes a macro perspective. Uses micro-data to study a core state capacity institution (police necessary to successfully enforce laws + required degree of state capacity for successful implementation of reform).

History of London Policing: Pre and Post-Met

‘Policing’ Before the London Met

Watchmen

- 1285 Statute of Winchester: required a watch in all towns manned by local residents.
- Community policing: neighbours watching out for (and arresting) neighbours.
- Watch duty was unpopular! → Watch Acts (late 1700s): avoid service with *watch rate.*
- Locally funded → Watch quality varied with parish wealth. (Superior watches: St James, St Marylebone, St George – well-paid, patrolling in multiple night shifts.)
- Early 1800 criticisms: incompetent, improper and corrupt, responsible only to local parish, inability to cope with large disturbances without military aid.

Charlie Rouse, London’s last night-watchman.
Source: London Metropolitan Archive

‘Policing’ Before the London Met

Bow Street Runners (1750):

- Only 8 Runners (sworn constables).
- Located and arrested serious offenders.
- Initially earned livings from ‘rewards’.
- Bow Street House: Collection point of incidents by late 1700s.

Other Bow Street forces:

- Horse Patrol (1805) – highways to London.
- Dismounted Horse Patrol – beyond London.
- Foot patrol (1790) – central London. Disbanded with creation of the Met.

→ ~ 400 persons when Met created.

7 additional ‘Police Offices’ (1792):

- 3 magistrates + up to 12 constables.
- Magistrates responsible for processing cases (*pre- and post-Met until 1839*).
- Recorded daily incidents and charges available from 1828 (**data source).**

‘Policing’ Before the London Met

Poor salaries:

- Office constables: 21 shillings/week = 55 pounds/year.
- Watchman 12-16 shillings/week.
- System of extras → Fees (e.g. testifying), rewards, corruption.

Incentives to catch criminals: not to deter them.

Charles Dickens in 1850:

"We are not by any means devout believers in the Old Bow Street Police. […] as a Preventive Police they were utterly ineffective, and as a Detective Police were very loose and uncertain in their operations, …”

Why Was the Met Created (When It Was)?

A response to crime? Yes, but: Recognition of limitations of pre-Met 'police'!

> *"[…] offences against property have of late increased in and near the metropolis; and the local establishments of nightly watch and nightly police have been found inadequate to the prevention and detection of crime, by reason of the frequent unfitness of the individuals employed, the insufficiency of their number, the limited sphere of their authority, and their want of connection and co-operation with each other […]" (From Metropolitan Police Act)*

Earlier calls & attempts to reform (unify) local parish 'policing' encountered strong resistance from rich parishes and City of London.

Sir Robert Peel: Home Secretary in 1822. Emphasized legal reform (e.g. consolidated laws, started abolition of death penalty) in early part of decade.

- Learned how to get reforms through Parliament.
- Convinced parishes new police wouldn't cost more (not quite true in the end).

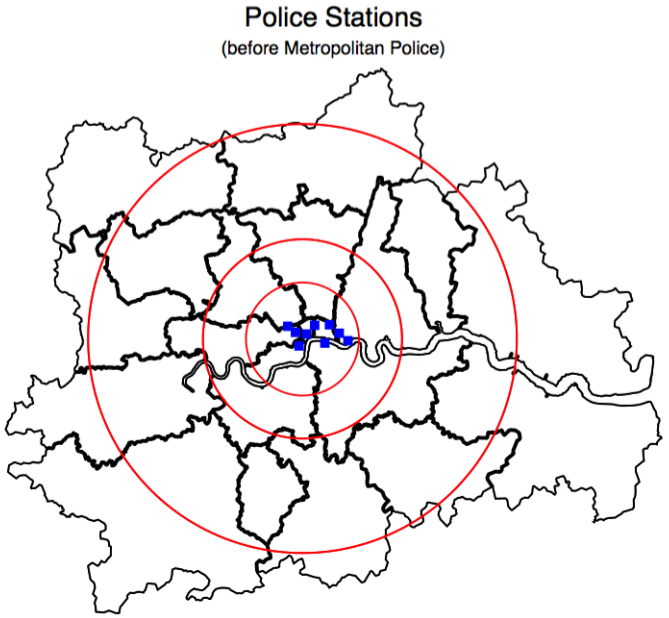
Estimated Salary Costs of the Met

Position	Pay Rate (in Peel letter)	Initial Force (1829) Force Size	Initial Force (1829) Salary Costs	Expanded Force (May 1830) Force Size	Expanded Force (May 1830) Salary Costs
Police force					
Superintendents	annual 200 pounds	8	1,600	19	3,800
Inspectors	annual 100 pounds	20	2,000	42	4,200
Sergeants	daily 3 shillings 6 pence (est. annual 55 pounds)	88	4,805	220	12,012
Constables	daily 3 shillings (est. annual 47 pounds)	895	41,886	2919	136,609
Administration					
Commissioners clerks					
Clerk 1	annual 200 pounds	1	200	1	200
Clerk 2	annual 150 pounds	1	150	1	150
Clerk 3	annual 90 pounds	1	90	1	90
Receivers clerks					
Chief clerk	annual 200 pounds	1	200	1	200
Clerk 2	annual 150 pounds	1	150	1	150
Total annual admin cost (1829 pounds)			790		790
Total police force cost (1829 pounds)			50,291		156,621
Total police force cost (2018 pounds)			5,421,348		16,883,765

Source: Letter written by Sir Robert Peel in July of 1829 for 1829; extrapolation to 1830 based on officer numbers in other data sources. Annual pay: Assume 6-day week, 52 weeks. Shilling = 12 pence; pound = 20 shillings. Bank of England inflation calculator: 1829 pound worth 107.8 of 2018 pound.

Metropolitan Police Act of 1829

- **October 1829**: 1,000 hired in 6 inner divisions.
- **By May 1830**: > 3,000 with 11 outer divisions.
- **Catchment area**: *About* 7-mile radius from Charing Cross (up to 15 in 1839).
- **Excluded**: City of London (own force 1832/1839) and Thames River Police (until 1839).
- Regardless of size of area, all divisions had ~150 officers.
  - Potentially more visible walking shorter beats in inner divisions, i.e. more intense treatment?
  - **2 treatment areas:** < 4 and 4-7 miles from Charing Cross
- **'Old' police offices**: all within 4-miles radius, but catchment area includes City and areas beyond 4- and 7-miles boundaries.



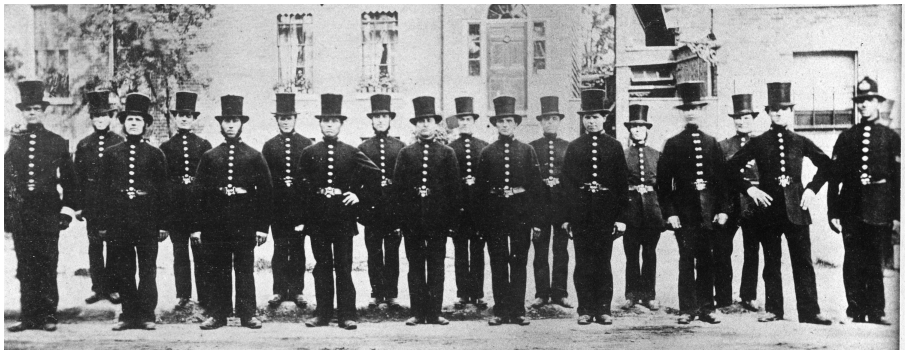
Features of the Metropolitan Police

- Sharp increase in police numbers.
- Centralized structure.
- Incentive structure – promotion.
- Emphasis on quality/**behaviour.**
- Tasked with *deterrence*: walk regular beat at 2.5 miles per hour.
- Uniforms – recognizable, badge numbers to report misbehaviour.
- Not expected to solve crimes (Detective Division in 1842).

Sir Robert Peel's Principles of Law Enforcement 1829

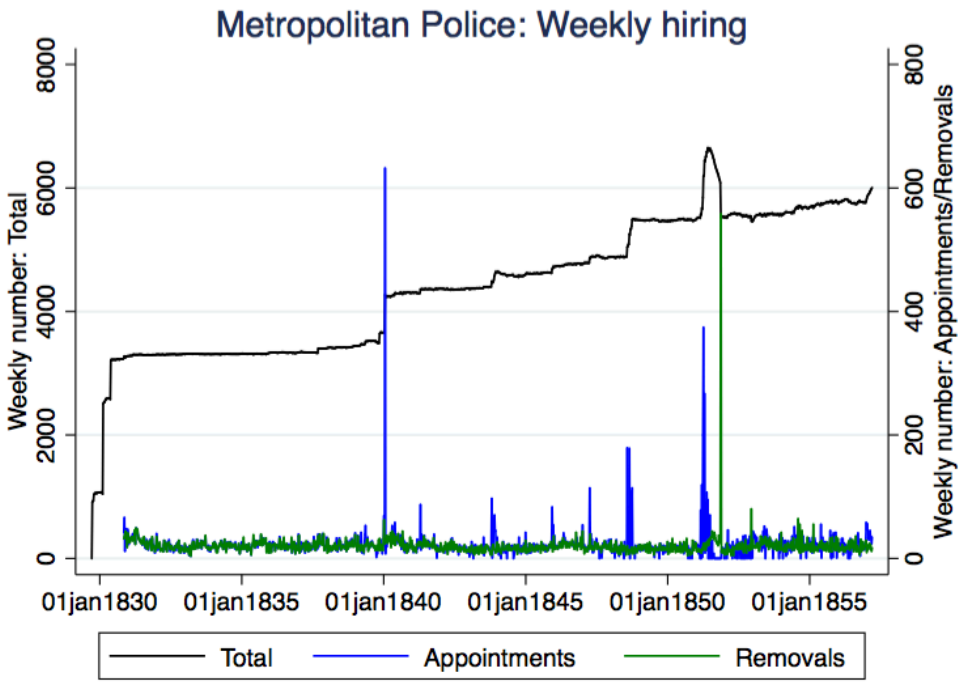
1. The basic mission for which police exist is to prevent crime and disorder as an alternative to the repression of crime and disorder by military force and severity of legal punishment.

9. The test of police efficiency is the *absence* of crime and disorder, not the *visible evidence* of police action in dealing with them.



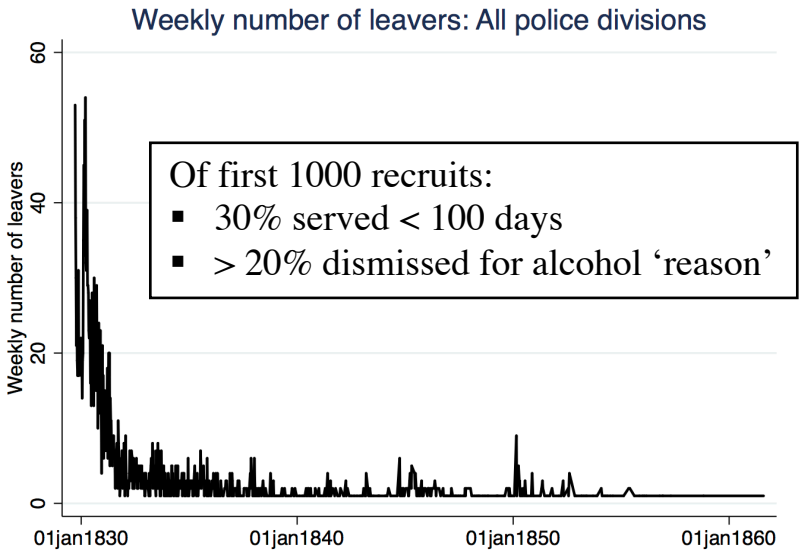
A gentlemanly, friendly, fair, non-violent, non-discriminatory, respectful force to prevent crime…!

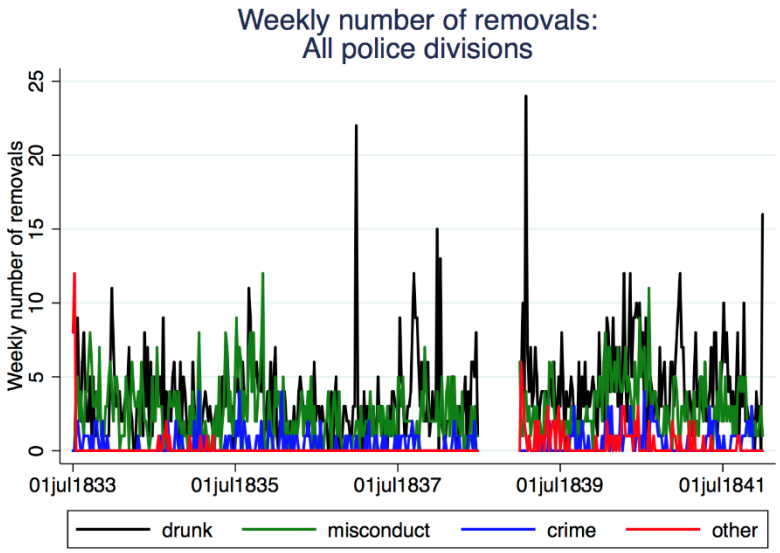
Fast Growth of Metropolitan Police



Sources: Weekly hiring from 1829 to 1856, Register of first 3200 hires, including assigned division.

Evidence of increased standards and quality: **High initial turnover and dismissals.**





Sources *- Home Office: Police Entry books (data on removals from 1833 to 1841); Weekly hiring from 1829 to 1856.*

Framework: How Could the Met Affect Crime and Crime Statistics?

Framework: Crime vs. Crime Statistics

New police can **reduce crime** via two channels.

- ***Deterrence:*** more police, visible day and night, uniforms, constant patrols.
- ***Incapacitation:*** apprehend offenders (prison, death, transportation sentences).
  - Goal was deterrence, but cannot rule out (or disentangle) incapacitation.
  - Both effects likely to increase over time with more experience and discipline.

Potential confounders: New police can affect recorded *measures* of crime.

- Increase in ***clearance rates?***
  → Concern for admin data (charges, trials).
  → New police not tasked with clearing crimes – but could be relevant for e.g. street crimes.
- Increase in ***crime reporting?***
  → Lower opportunity cost to report a crime, especially (minor) property crimes?
  → Potentially: if new authority 'trusted'.
  → May ↑ over time – as trust/quality increase.

Important: Both confounders work against finding a crime reducing effect.

London analysis (I): Diff-in-diff design using Old Bailey geocoded trials

Trials at the Old Bailey (Central Criminal Court of London)

Old Bailey Proceedings Online
Robbery, May 12, 1831 (t18310512-16)

1002. JOHN HARKNETT and WILLIAM WILLIAMS were indicted for feloniously assaulting George Davies , on the **21st of April , at St. Leonard, Shoreditch**, putting him in fear, and taking from his person, and against his will, 2 shillings, and 12 halfpence, his monies .

JOHN ALLPORT . I live at No. 71, Kingsland-road, and am an undertaker. I was in Shoreditch on the night of the 20th of April, or the morning of the 21st - it was a quarter-past twelve o'clock; I was going home - I got very near to Plough-yard, and saw a man….round the prosecutor; the three men stooped to pick up the halfpence off the pavement - I saw no money except the halfpence; they then walked off, at least I do not know exactly whether they walked or ran - they did not go fast; **a Policeman came across the road - I told him of it**, and pointed out the three men; I never lost night of them from the time I saw them go from the prosecutor till I told the Policeman - he followed them, and I went with him; I saw him take the two prisoners - I had not lost sight of them; **a watchman came up after the Policeman** seized the prisoners, and he assisted in taking them to the station – the …

JOHN MCWILLIAMS . **I am a Police-constable,** (No. 181 H.) I was on duty in Shoreditch on the night of the 20th of April - my attention was drawn to the opposite side of the way, by hearing a person…

1821-1837 trials.

- Including pleas and acquittals.

Most serious offences.

- Murder/manslaughter (N=258), robbery (N=578), burglary/housebreaking (N=1429).

Manually coded information.

- Geocode crime locations (intersection, parish): *treatment vs. control area.*
- Date of crime: *pre and post Met.*
- Police witness characteristics (#, type, at crime scene?):

Map crimes into 4 areas.

- < 4 miles from Charing Cross *(treated)*
- 4-7 miles (*uncertain* treatment)
- City of London (*control* area)
- > 7 miles (*control* area)

'First Stage': Evidence of Reform Implementation

Idea: Use police witness characteristics to test for changes in number and type of police (at trial) after the Met was created.

$$PoliceType^{a}_{iot} = \gamma_1 PostMet_t + \alpha_o + \varepsilon_{iot}$$

- Area *a*, trial *i,* date *t*, offense *o*.

Results:

- No effect on *any police witness*.
- Changes *type of witness*: More new, less old police in treated areas (→ inner circle).
- Some increase in control areas (potential explanations discussed on next slide)

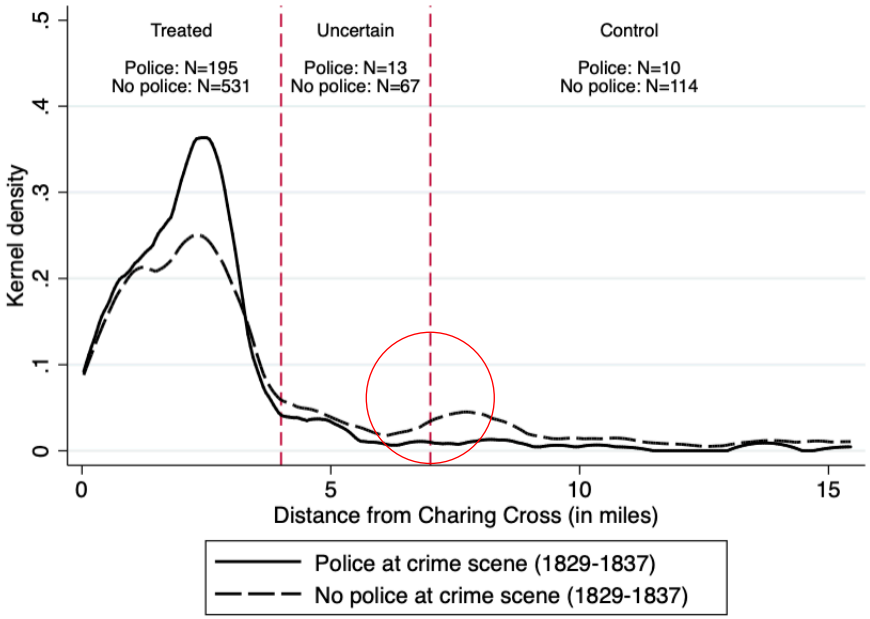
	(1)	(2)	(3)	(4)
Y:	Any police witness	Any "new" police	Any "old" police	Police at crime scene
Sample:	1828-1832	1828-1832	1828-1832	1828-1832
Treated (<4 miles)				
PostMet	-0.018	0.540***	-0.485***	0.007
	(0.032)	(0.034)	(0.044)	(0.045)
N	427	427	427	427
Uncertain (4-7 miles)				
PostMet	-0.071	0.357***	-0.133	-0.092
	(0.145)	(0.117)	(0.211)	(0.187)
N	31	31	31	31
Control (>7 miles)				
PostMet	-0.007	0.088**	0.059	-0.052
	(0.083)	(0.038)	(0.096)	(0.077)
N	89	89	89	89
City of London				
PostMet	-0.096	0.113	-0.201*	-0.156
	(0.059)	(0.081)	(0.103)	(0.103)
N	100	100	100	100

Potential 'Spill-overs' in Policing (excluding City of London)

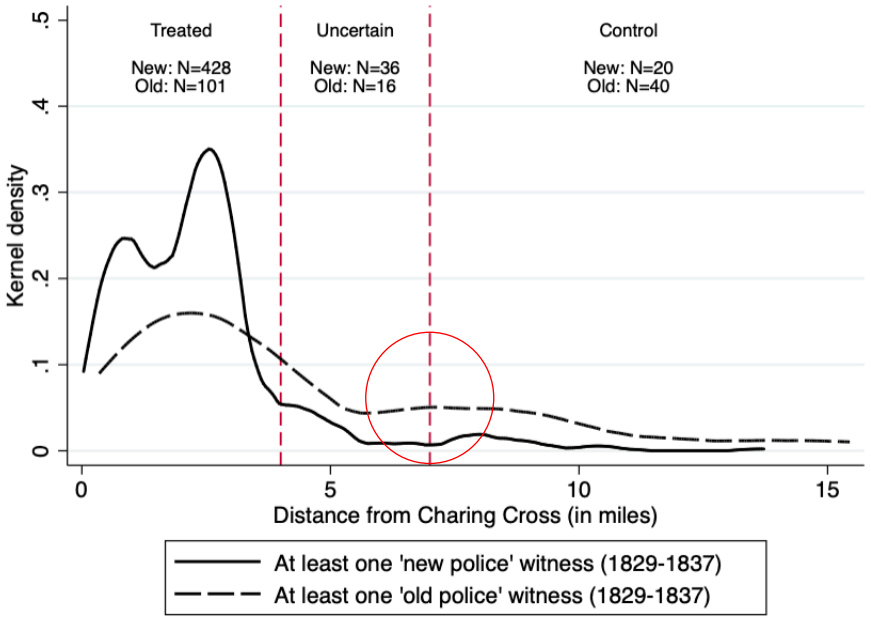
Explanations for increased police in control areas?

- Measurement error in geocoding or increased use of term 'police' by court reporters.
- Actual *spill-overs* in policing – but no visible evidence of spill-over at 7 mile threshold below.

Police at crime scene



New versus old police at trial



The Effect of the Met on Crime (Old Bailey)

Diff-in-Diff model: Change in crime in treated areas versus control areas pre-post Met.

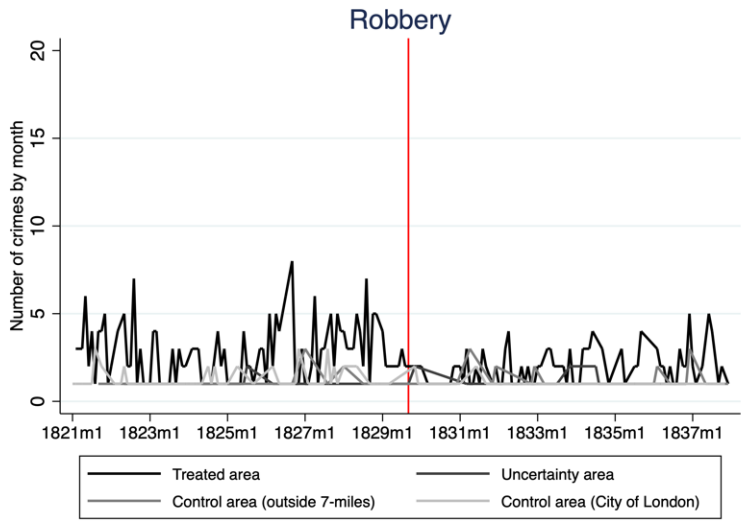
Aggregate data: Outcome = number of trials for offense *o* in each month (*m*) & area (*a*).

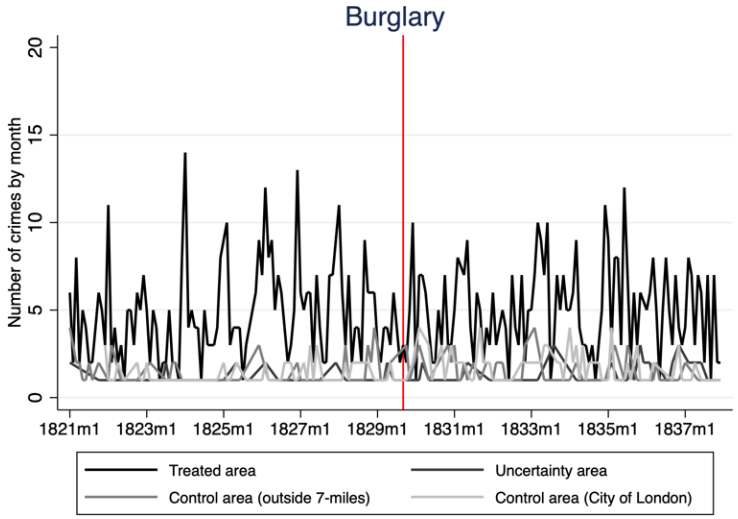
$$\boldsymbol{Trials^{o}_{amy} = \gamma_1 (Treatment * PostMet)_{amy} + \gamma_2 (Uncertain * PostMet)_{amy} + \alpha_y + \alpha_m + \alpha_a + \varepsilon_{amy}}$$

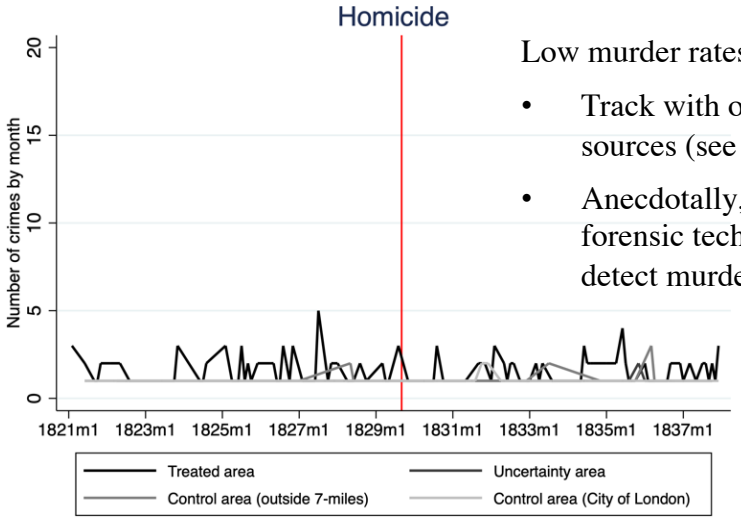
Areas (baseline):

- Treated: < 4 miles (*Treatment*), 4-7 miles (*Uncertain*).
- Control: > 7 miles, City of London.

Data Visualization: Trials per Month and Area (a) for each offence (o).







Low murder rates:

- Track with other sources (see paper).
- Anecdotally, lack of forensic technology to detect murders.

The Effect of the Met on Crime (Old Bailey)

Parallel trends assumption and potential confounders:

- 1832 cholera,
- other justice reforms,
- population growth,
- crime displacement.

Estimation

- City of London – control in the baseline; demonstrate robust to alternative classification as treated in April 1832 (with formation of City Day Police)
- Short and long windows: short window helps deal with many potential confounders
- OLS in baseline, with Poisson and extensive margin results alongside.
  - Correct model depends on multiple factors, including (i) whether effect of Met should be proportional to population and (ii) differences in the moments (mean and variance) of outcome variable for treated and control areas.

Main Results, OLS (Old Bailey)

Sample:	(1) 1821-37	(2) 1828-32	(3) 1828-32	(4) 1828-32	(5) 1828-32
City of London:	Control	Control	Treated: April 1832	Uncertain	Excluded
Panel A. Burglary					
Post Met x Treatment	-0.106	-0.294	-0.285	-0.234	-0.120
	(0.370)	(0.660)	(0.474)	(0.686)	(0.701)
Post Met x Uncertainty	0.016	0.006	-0.013	0.116	0.180
	(0.149)	(0.288)	(0.298)	(0.319)	(0.377)
Panel B. Robbery					
Post Met x Treatment	**-1.032*** **	**-1.297*** **	-0.832***	-1.281***	-1.336***
	(0.219)	**(0.428)**	(0.299)	(0.433)	(0.438)
Post Met x Uncertainty	0.129	0.228	0.288*	0.144	0.189
	(0.088)	(0.162)	(0.170)	(0.189)	(0.208)
Panel C. Homicide					
Post Met x Treatment	-0.008	0.120	0.072	0.188	0.222
	(0.139)	(0.251)	(0.181)	(0.262)	(0.266)
Post Met x Uncertainty	-0.049	-0.055	-0.062	0.100	0.047
	(0.057)	(0.115)	(0.119)	(0.133)	(0.143)
Observations	816	240	240	240	180
Year, month, area FE	Yes	Yes	Yes	Yes	Yes

- **Robbery ↓ by 40-46%.**
- 12-15 trials per year in <4-mile radius.
- Robust to City classification.
- No (significant) effects for burglary or homicide.
- Similar to Draca et al. (2011): no effect on burglary, but effect on robbery.
- No (significant) effect in uncertainty area.

Main Results: Poisson and Extensive Margin (Old Bailey)

Sample:	(6) 1821-37	(7) 1828-32	(8) 1821-37	(9) 1828-32	(10) 1821-37	(11) 1828-32
Specification:	Intensive margin: By month/area		Extensive margin (1/0): By week/area		Extensive margin (1/0): By month/distance band	
	QML Poisson (IRR)		OLS		OLS	
Panel A. Burglary						
Post Met x Treatment	0.821*	0.951	-0.069*	-0.062	-0.032	-0.064
	(0.091)	(0.124)	(0.036)	(0.069)	(0.036)	(0.072)
Post Met x Uncertainty	1.290**	1.015	-0.006	-0.029	0.031	-0.028
	(0.144)	(0.133)	(0.026)	(0.049)	(0.031)	(0.059)
Panel B. Robbery						
Post Met x Treatment	**0.727**	**0.693***	**-0.115*****	**-0.127***	**-0.116*****	**-0.168****
	(0.341)	**(0.141)**	**(0.033)**	**(0.065)**	**(0.034)**	**(0.069)**
Post Met x Uncertainty	1.705	2.928***	0.020	-0.002	0.018	0.027
	(0.800)	(0.597)	(0.016)	(0.031)	(0.018)	(0.030)
Panel C. Homicide						
Post Met x Treatment	0.618***	1.053	0.026	0.064	0.000	0.044
	(0.094)	(0.482)	(0.027)	(0.047)	(0.028)	(0.051)
Post Met x Uncertainty	0.975	0.433*	-0.005	-0.007	0.002	-0.008
	(0.148)	(0.198)	(0.012)	(0.024)	(0.015)	(0.024)
Observations	816	240	3,604	1,060	3,672	1,080
Year + area FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	No	No	Yes	Yes
Week FE	No	No	Yes	Yes	No	No

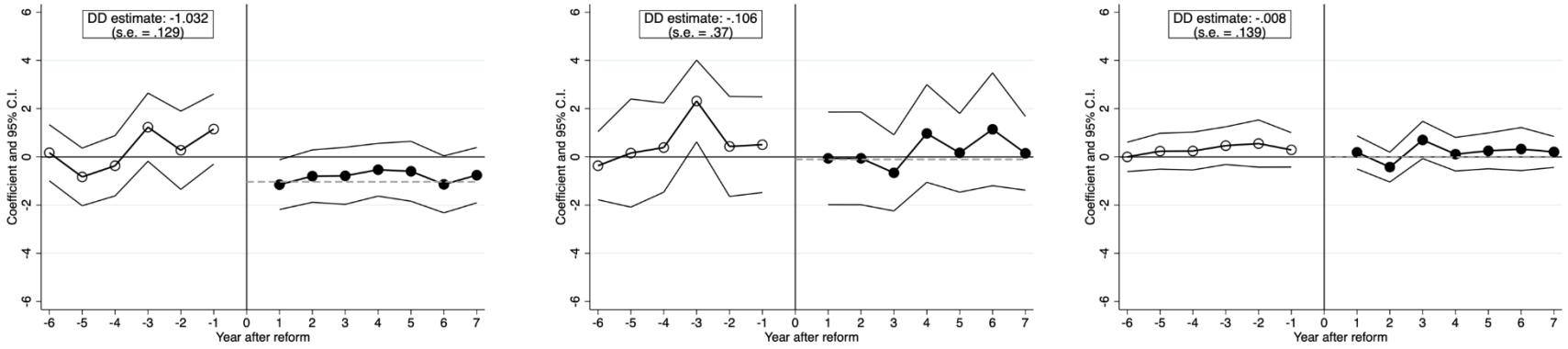
Same sign, differences in precision.

Robust to:

- alternative windows (1825-35),
- area trends,
- excl. "fuzzy" locations/ crime dates.
- Cluster by area (wild cluster bootstrap).

Event Study (Old Bailey)

Robbery	Burglary	Homicide



- Supportive of **parallel trends:** No evidence for systematic pre-trends.
- **Robbery**: Immediate and persistent effect (significant using 2-year lead/lag intervals). Close to average difference-in-difference estimate.
- **Burglary & homicide**: No effects in short-run or long-run.
- Not shown: No significant effects for the uncertainty area.

Potential Confounders?

- ✓ **City of London treated by City Police (April 1832)?**

  → Robustness checks.

- ✓ **Police spill-overs to control areas?**

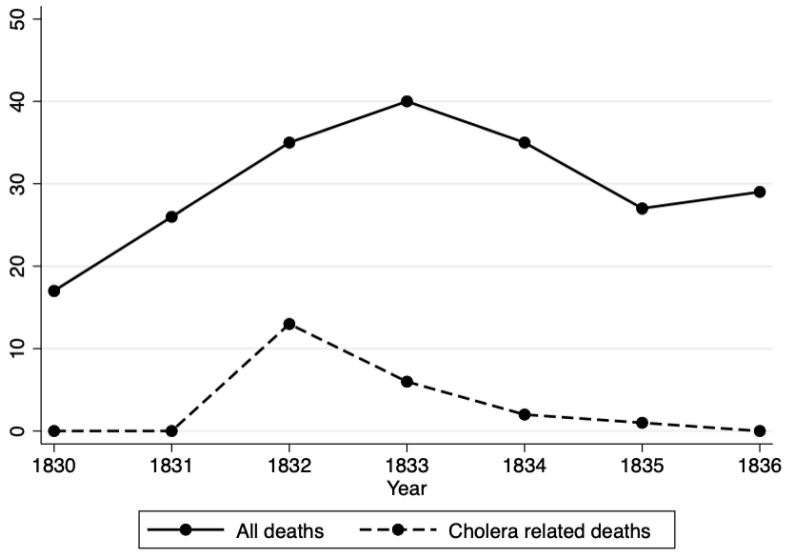
  → Little evidence (and would work against ↓ in crime in diff-in-diff).

- ✓ **Criminal justice reforms?**

  → Would affect both treatment and control group; estimation window avoids abolition of death penalty for burglary & robbery (1837).

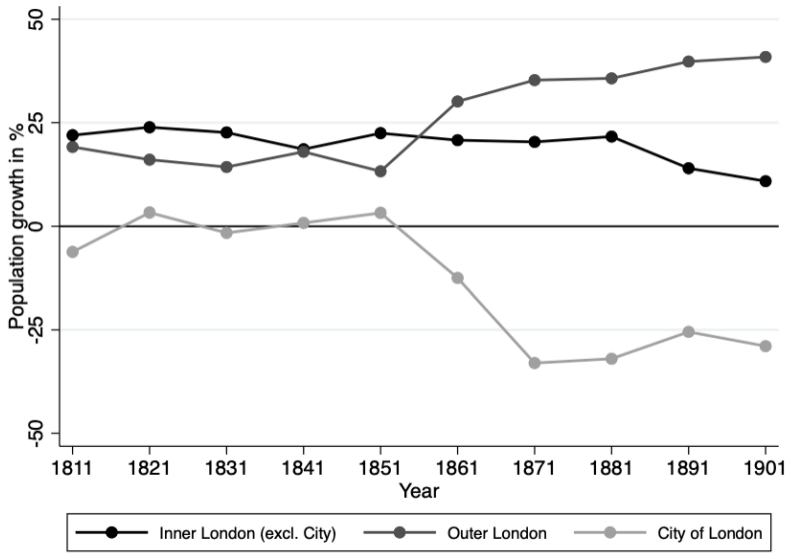
- ✓ **First cholera epidemic of 1832?** → Mitigated by short window.
- ✓ **Differential population growth?** → Mitigated by short window.
- ✓ **Crime displacement?** → No evidence seen in the data.

Cholera epidemic: Deaths of Met Police officers



- Data from historical death registers: Cholera arrived and peaked in 1832.
- Short-term (and concentrated: Jul-Sept).
- Avoided with short-time window (robustness test: cut sample in May 1832).

Historical population growth (by region of London)

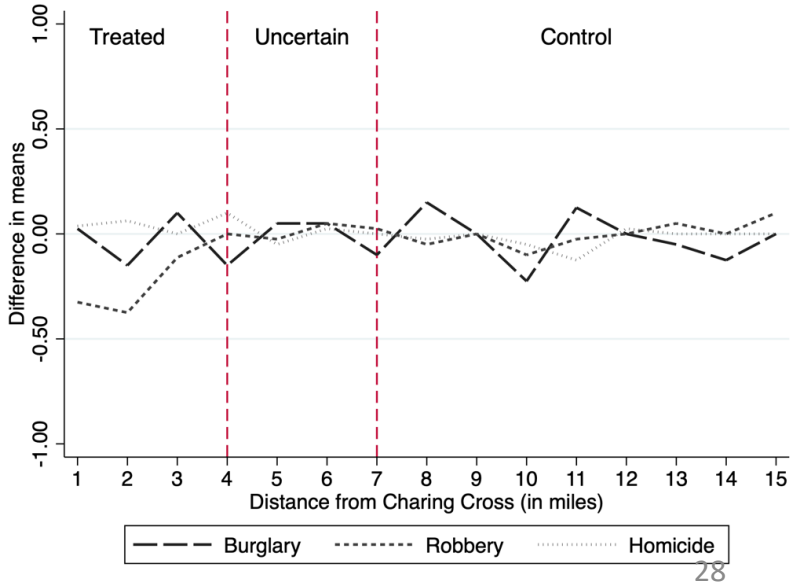


- Data from ONS – historical population.
- Population growth faster (if anything) in inner (treated) areas: works against us (if more people = more crime).
- Mitigated by short-time window.

Crime Displacement? Difference in means 1828-32

	Burglary			Robbery			Homicide		
	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ
1828-1832, Y = Number of crimes per month/area									
Treated	4.70	4.40	-0.30	2.80	1.33	-1.48 ***	0.70	0.85	0.15
Uncertain	0.40	0.40	0.00	0.05	0.10	0.05	0.05	0.03	-0.03
Control	1.15	1.03	-0.13	0.30	0.28	-0.03	0.25	0.08	-0.17
City	0.95	1.05	0.10	0.50	0.35	-0.15	0.15	0.30	0.15
All	1.80	1.72	-0.08	0.91	0.51	-0.40 **	0.29	0.31	0.03

- Only evidence of change in crime is reduction for robbery in treated area.
- No evidence here of substitution to control or less treated areas.



Summary of the Old Bailey Analysis

Study effect on three offences:

- Robbery: Significant reduction
  → Deterrence/incapacitation > increase due to clearance (and reporting).
- Burglary: No consistently observed effect.
  → No deterrence/incapacitation or offset by clearance (and reporting)?
- Homicide: No effect.

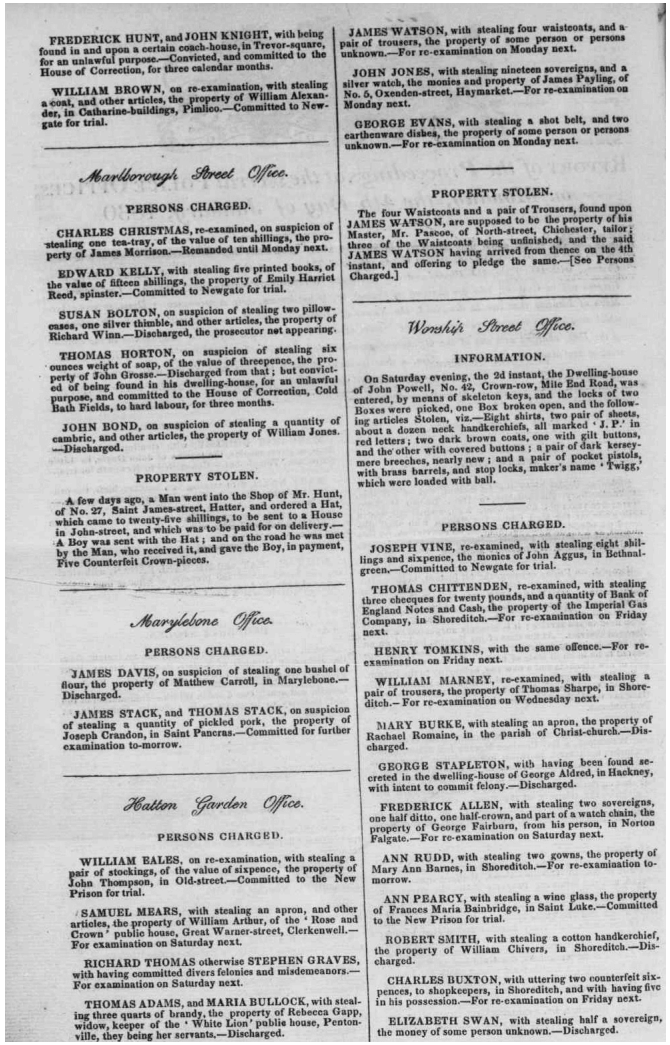
Advantage: Serious enough to minimize reporting bias concerns.

Disadvantage: External validity?

- Only 7% of all Old Bailey trials from 1820-1830.
- **Do results generalize to other types of violent and property crimes? This is answered in the analysis of the second data source.**

London analysis (II): Pre-post design using Daily Police Reports.

Daily Police Reports



FREDERICK HUNT, and JOHN KNIGHT, with being found in and upon a certain coach-house, in Trevor-square, for an unlawful purpose.—Convicted, and committed to the House of Correction, for three calendar months.

WILLIAM BROWN, on re-examination, with stealing a coat, and other articles, the property of William Alexander, in Catharine-buildings, Pimlico.—Committed to Newgate for trial.

Marlborough Street Office.

PERSONS CHARGED.

CHARLES CHRISTMAS, re-examined, on suspicion of stealing one tea-tray, of the value of ten shillings, the property of James Morrison.—Remanded until Monday next.

EDWARD KELLY, with stealing five printed books, of the value of fifteen shillings, the property of Emily Harriet Reed, spinster.—Committed to Newgate for trial.

SUSAN BOLTON, on suspicion of stealing two pillow-cases, one silver thimble, and other articles, the property of Richard Winn.—Discharged, the prosecutor not appearing.

THOMAS HORTON, on suspicion of stealing six ounces weight of soap, of the value of threepence, the property of John Grosse.—Discharged from that; but convicted of being found in his dwelling-house, for an unlawful purpose, and committed to the House of Correction, Cold Bath Fields, to hard labour, for three months.

JOHN BOND, on suspicion of stealing a quantity of cambric, and other articles, the property of William Jones.—Discharged.

PROPERTY STOLEN.

A few days ago, a Man went into the Shop of Mr. Hunt, of No. 27, Saint James-street, Hatter, and ordered a Hat, which came to twenty-five shillings, to be sent to a House in John-street, and which was to be paid for on delivery.—A Boy was sent with the Hat; and on the road he was met by the Man, who received it, and gave the Boy, in payment, Five Counterfeit Crown-pieces.

Marylebone Office.

PERSONS CHARGED.

JAMES DAVIS, on suspicion of stealing one bushel of flour, the property of Matthew Carroll, in Marylebone.—Discharged.

JAMES STACK, and THOMAS STACK, on suspicion of stealing a quantity of pickled pork, the property of Joseph Crandon, in Saint Pancras.—Committed for further examination to-morrow.

Hatton Garden Office.

PERSONS CHARGED.

WILLIAM BALES, on re-examination, with stealing a pair of stockings, of the value of sixpence, the property of John Thompson, in Old-street.—Committed to the New Prison for trial.

SAMUEL MEARS, with stealing an apron, and other articles, the property of William Arthur, of the 'Rose and Crown' public house, Great Warner-street, Clerkenwell.—For examination on Saturday next.

RICHARD THOMAS otherwise STEPHEN GRAVES, with having committed divers felonies and misdemeanors.—For examination on Saturday next.

THOMAS ADAMS, and MARIA BULLOCK, with stealing three quarts of brandy, the property of Rebecca Gapp, widow, keeper of the 'White Lion' public house, Pentonville, they being her servants.—Discharged.

JAMES WATSON, with stealing four waistcoats, and a pair of trousers, the property of some person or persons unknown.—For re-examination on Monday next.

JOHN JONES, with stealing nineteen sovereigns, and a silver watch, the monies and property of James Payling, of No. 5, Oxenden-street, Haymarket.—For re-examination on Monday next.

GEORGE EVANS, with stealing a shot belt, and two earthenware dishes, the property of some person or persons unknown.—For re-examination on Monday next.

PROPERTY STOLEN.

The four Waistcoats and a pair of Trousers, found upon JAMES WATSON, are supposed to be the property of his Master, Mr. Pascoe, of North-street, Chichester, tailor; three of the Waistcoats being unfinished, and the said JAMES WATSON having arrived from thence on the 4th instant, and offering to pledge the same.—[See Persons Charged.]

Worship Street Office.

INFORMATION.

On Saturday evening, the 2d instant, the Dwelling-house of John Powell, No. 42, Crown-row, Mile End Road, was entered, by means of skeleton keys, and the locks of two Boxes were picked, one Box broken open, and the following articles Stolen, viz.—Eight shirts, two pair of sheets, about a dozen neck handkerchiefs, all marked 'J. P.' in red letters; two dark brown coats, one with gilt buttons, and the other with covered buttons; a pair of dark kerseymere breeches, nearly new; and a pair of pocket pistols, with brass barrels, and stop locks, maker's name 'Twigg,' which were loaded with ball.

PERSONS CHARGED.

JOSEPH VINE, re-examined, with stealing eight shillings and sixpence, the monies of John Aggus, in Bethnal-green.—Committed to Newgate for trial.

THOMAS CHITTENDEN, re-examined, with stealing three cheques for twenty pounds, and a quantity of Bank of England Notes and Cash, the property of the Imperial Gas Company, in Shoreditch.—For re-examination on Friday next.

HENRY TOMKINS, with the same offence.—For re-examination on Friday next.

WILLIAM MARNEY, re-examined, with stealing a pair of trousers, the property of Thomas Sharpe, in Shoreditch.—For re-examination on Wednesday next.

MARY BURKE, with stealing an apron, the property of Rachael Romaine, in the parish of Christ-church.—Discharged.

GEORGE STAPLETON, with having been found secreted in the dwelling-house of George Aldred, in Hackney, with intent to commit felony.—Discharged.

FREDERICK ALLEN, with stealing two sovereigns, one half ditto, one half-crown, and part of a watch chain, the property of George Fairburn, from his person, in Norton Falgate.—For re-examination on Saturday next.

ANN RUDD, with stealing two gowns, the property of Mary Ann Barnes, in Shoreditch.—For re-examination to-morrow.

ANN PEARCY, with stealing a wine glass, the property of Frances Maria Bainbridge, in Saint Luke.—Committed to the New Prison for trial.

ROBERT SMITH, with stealing a cotton handkerchief, the property of William Chivers, in Shoreditch.—Discharged.

CHARLES BUXTON, with uttering two counterfeit sixpences, to shopkeepers, in Shoreditch, and with having five in his possession.—For re-examination on Friday next.

ELIZABETH SWAN, with stealing half a sovereign, the money of some person unknown.—Discharged.

Daily (Mon-Sat) reports for each of the 9 pre-Met 'police offices'/magistrates (existed until 1839).

- Jan – Apr: 1828, 1830, 1831, 1832
- [May-Dec 1828/1829 missing]

For each day and office, 4 crime measures:

1. **Daily 'informations'** (viol., prop., other).
2. **Daily 'stolen property'** reports.
3. **Number charges**: Violent, property, other.

→ Uncleared incidents (1 and 2) vs. cleared (3).

4. **Aggregate total:** best proxy of total crime.

Advantages / disadvantages:

\+ *All* property and violent crimes (Old Bailey offences + many more). → *Reporting bias relevant.*

\- *No geocoding* offices or offenses into treatment and control. → *Pre-post specification: net effect on London crime (accounting for displacement).*

Summary Statistics

On average, 7.3 crimes *per day and office*: most of them property.

Sample Period	All	Pre-Met 1828	Post-Met 1830	Post-Met 1830-32
Total Crime: Informations + property stolen + charges				
No incidents: All	7.30	6.69	7.03	7.50
No incidents: Property	5.75	5.19 ↑8%	5.59	5.93
No incidents: Violent	0.20	0.30 ↓40%	0.18	0.17
No incidents: Other	1.35	1.20	1.26	1.40
Informations				
No informations: All	0.51	0.79	0.49	0.42
Any informations: All	0.31	0.47	0.32	0.26
Any informations: Property	0.27	0.37	0.28	0.24
Any informations: Violent	0.04	0.09	0.04	0.03
Any informations: Other	0.06	0.11	0.05	0.04
Property stolen				
No incidents	0.41	0.61	0.38	0.34
Any incident	0.29	0.39	0.30	0.26
Charges				
No charges: All	6.38	5.28	6.16	6.74
No charges: Property	4.95	4.01 ↑	4.83	5.25
No charges: Violent	0.16	0.19 ↓	0.14	0.14
No charges: Other	1.28	1.08	1.20	1.35
N (day x office)	3,232	800	816	2,432

The Effect of the Met on Crime (Daily Police Reports)

Pre-post model: Change in daily crime after introduction of the Met Police.

$$Y_{it} = \beta PostMet_t + \alpha_w + \alpha_d + \alpha_i + \varepsilon_{it}$$

- **Outcome**: Y = measure of crime in office *i* on date *t*.
- **PostMet**: =1 on all dates *t* after introduction of Met (1830-1832), =0 before (1828).
- **Office FE** (α_i): unobserved heterogeneity across offices, e.g. more offenses from certain London areas or different magistrates.
- **Calendar week** (α_w) and **day of week** (α_d) **FE**: 'seasonality' across & within weeks.

Limitations of Pre-Post design: Cannot capture confounders with control group.

- Focus on short window, with no contemporaneous reforms.
- Old Bailey pre-post and diff-diff findings comparable.
- Advantage? Estimates the net effect of the Met on crime in all of London. No displacement concerns.

Main Results

		(1)		(2)		(3)
Sample:				**1828-1830:** N = 1,616		
Crime type:		Total		Property		Violent
Panel A. Number of all incidents						
Post Met	+5%	0.347**	+8%	0.406***	-39%	-0.115***
		(0.154)		(0.135)		(0.026)
Panel B. Any daily informations						
Post Met	-32%	-0.148***		-0.090***		-0.049***
		(0.022)		(0.022)		(0.012)
Panel C. No. daily informations						
Post Met	-38%	-0.301***		-0.170***		-0.064***
		(0.046)		(0.039)		(0.014)
Panel D. Any 'stolen property'						
Post Met		n/a	-25%	-0.099***		n/a
				(0.023)		
Panel E. No. daily charges						
Post Met	+17%	0.890***	+21%	0.827***	-26%	-0.050**
		(0.140)		(0.121)		(0.022)
Office, week, day of week FE		Yes		Yes		Yes

Violent crime reduction ≈ 300 violent crimes per year (-.115 * 6 days * 8 offices * 52 weeks).

Property crime + overall effect → clearance and reporting channels > deterrence/incapacitation.

→ consistent with Old Bailey's null effect (reporting bias less relevant).

Additional Analyses

Robustness checks.

- ✓ Alternative aggregation level (weekly instead of daily).
- ✓ Exclude incomplete weeks of data (holidays) or one office at a time.
- ✓ Specification: QML Poisson.
- ✓ Longer post-period (until 1832).
- ✓ Clustering by office (conventional clustering, wild cluster bootstrap).

Expanded specification: Short- and medium-term dynamics.

- Allow for different post-effects in:
  i. January 1830 (only first wave of initial hiring)
  ii. February – April 1830 (includes second wave of hiring)
  iii. 1831
  iv. 1832
- Estimates generally increase over time, with increasing quality + continued hiring.
- Significant property crime increase kicks in at 2nd wave: increased reporting with gained trust and/or clearance with experience?

Extension: County roll-out of forces

Crime Reducing Effects Specific to the Met?

So far: London Met reduced violent crime; less visible effect on property crime.

- **1839 Act:** Justices ***could*** create police for all/part of county.
- **1856 Act:** Insufficient implementation of earlier acts: Forces ***mandatory***.

→ Annual certification as efficient.
→ Sufficient force size: officers per capita (target of 1,000 people per officer)

Two questions:
(i) What is the effect of having *any police force*?
(ii) Does initial force quality (size per capita) matter?

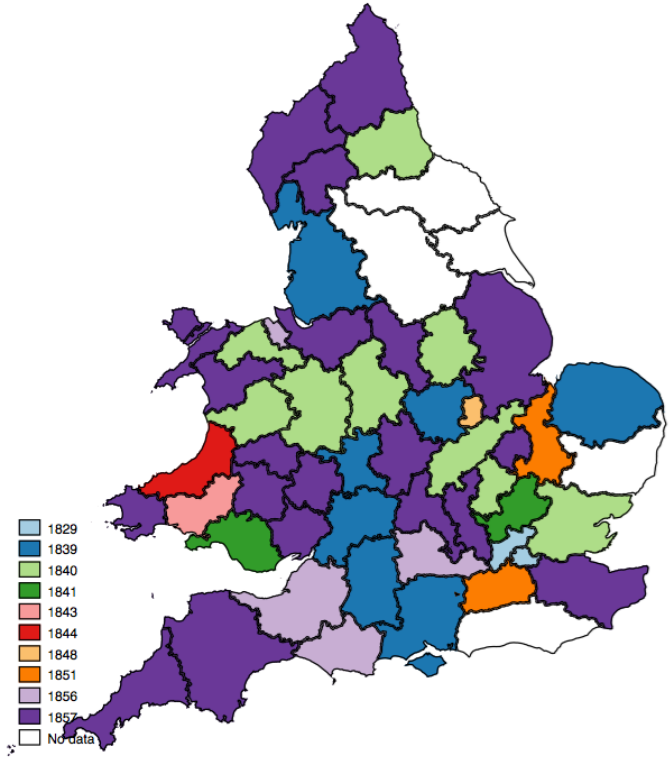
Digitize new data:

- *Police*: Year formed and initial size (Police History Society: Stallion and Wall, 1999).
- *Crime*: Annual number persons committed or bailed for trial per fiscal year ending Sept 29 from *Judicial Statistics*. → Aggregate into violent, property, other property.

Summary of Results:

- *Any* county force: On average, no significant effect on crime, overall or by type.
- *Sufficiently* large force: Total crime reduced by 19%, comparable across categories.

Roll-out of police forces	Year of formation (48 counties)



- No obvious clustering of neighbours.
- Earliest reformers not just those closest to London.

- Before 1840: 16 counties.
- 1841 – 1856: 9 counties.
- 1857 (mandatory) 23 counties.

Empirical Specification: Difference-in-differences

$$Crime_{ct} = \beta Force_{ct} + \alpha_c + \alpha_t + X_{ct}\theta + \varepsilon_{ct}$$

- **Crime**: log number of persons committed to trial in county *c* and fiscal year *t.*
- **Force:** 1 for county- fiscal year combinations with a professional force.
- **County fixed effects**: α_c → constant differences across counties (e.g. pre-existing crime levels).
- **Year fixed effects:** α_t → national shocks (criminal justice reforms).
- **Sample window**: 1832-1865 → 8 years before and after earliest and latest reform years, respectively.
- **Sample:** 48 counties → drop Middlesex, Suffolk, York, Sussex.
- County x year panel of 1,632 observations.
- **Identifying assumptions:** parallel trends, random timing.

  → Supported by event studies and regressions showing observables do not predict timing.
- On average, no significant effect on crime → overall or by type.

	Y: Log (no. charges)
Panel A: All Charges (N=1632)	
Force	-0.024
	[0.033]
Panel B: Violent Charges (N=1431)	
Force	-0.031
	[0.050]
Panel C: Property Charges (N=1440)	
Force	0.017
	[0.042]
Panel D: Other Charges (N=1356)	
Force	0.002
	[0.078]

A Force in Name Only? Heterogeneity by Relative Force Size

$$Crime_{ct} = \beta_s SuffForce^j_{ct} + \beta_{ins} InsuffForce^j_{ct} + \alpha_c + \alpha_t + X_{ct}\theta + \varepsilon_{ct}$$

	Y: Log (no. charges) Force sufficiency threshold (j)		
	1500	2000	2500
Panel A: All Charges (N=1632)			
Force < X	**-0.190*** **	-0.118**	-0.079
	[0.062]	[0.055]	[0.048]
Force > X	**0.022**	0.053	0.066
	[0.043]	[0.057]	[0.075]
Panel B: Violent Charges (N=1431)			
Force < X	-0.183*	-0.129*	-0.093
	[0.104]	[0.070]	[0.062]
Force > X	-0.002	0.034	0.048
	[0.058]	[0.078]	[0.104]
Panel C: Property Charges (N=1440)			
Force < X	-0.143**	-0.063	-0.028
	[0.065]	[0.066]	[0.057]
Force > X	0.064	0.090	0.101
	[0.050]	[0.060]	[0.083]

- **Sufficient size:** 10 (30) counties sufficiently large at 1500 (2500) thresholds (people/officer).
- **Sufficiently large force** reduces total crime by 19%. Comparable across categories.
- **Insufficiently large force** does not affect total crime. → Some (insignificant) increase in property crime.
- **Identification:** Force size is conditionally random (few observables, e.g. crime or neighbouring forces, predict force size).
- **Robustness:** Control for population, region FE, inspector region trends, neighbouring forces.

Conclusion

Concluding Remarks: Summary

Introduction of the London Metropolitan Police = first professional police:

- Significantly decreased violent crime by about 40%.
- Corresponds to *at least* 15 fewer robberies and 300 fewer violent crimes per year (→ *lower bound if reporting bias*).
- Property crime reduction not visible, but cannot be ruled out (→ *increase in reporting might offset decrease in crime*).

Concluding Remarks: Magnitudes

- Relative size of violent crime reduction comparable in magnitude to contemporary studies (e.g. Draca et al. 2011, using terror-related shocks in London).

→ *But clearly imperfect comparison.*

Instead, think about effect sizes relative to size of reform or its costs.

- By May 1830: ~3000 officers with annual salary = 157,000 pounds (1829).
- Our results: 300 fewer violent crimes per year.

→ *About 1 violent crime deterred by 10 officers per year or cost of 500 pounds.*

These ratios are conservative:

- Crimes prevented are lower bounds: offsetting biases due to clearance and reporting.
- Over-estimate cost: do not measure marginal cost relative to spending on pre-Met police.

Concluding Remarks: Reform Success

Creation of this first professional police was successful in different ways:

i. (Violent) crime decreased.

ii. Even an increase in clearance and/or reporting is an achievement for an institution aiming to protect society.

iii. Successful implementation of a reform of this scale is evidence in and of itself of state capacity in early 19th century England.