Does stop and search deter crime? Evidence from ten years of London-wide data
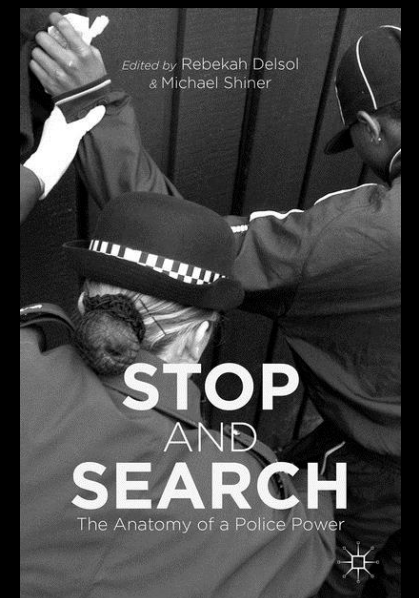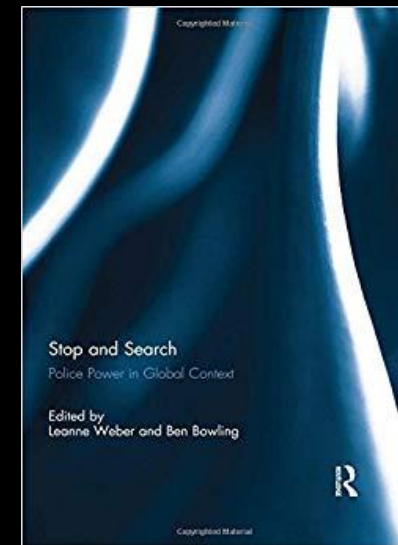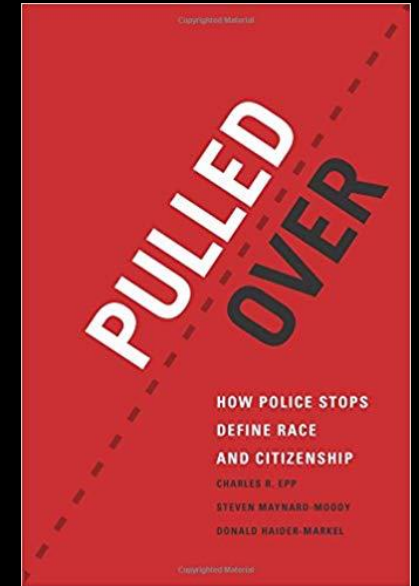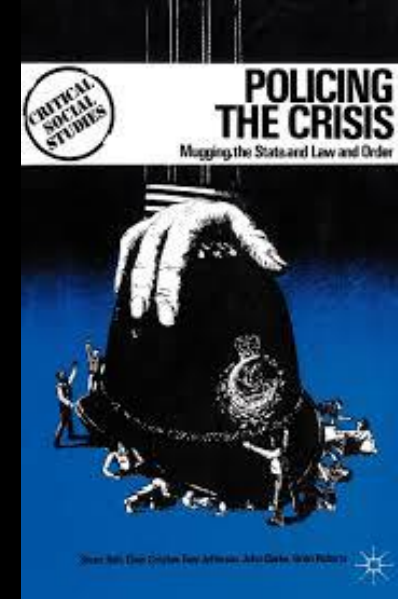
Matteo Tiratelli

Paul Quinton

Ben Bradford

Overview

- Background – 40 years of controversy

- The current study
  - The deterrent effect of stop and search
  - Existing evidence
  - Data and methods
  - Results

- Implications

An 'iconic' police power

Almost ever present in policy debates

I have long been concerned about the use of stop-and-search. Although it is undoubtedly an important police power, when misused it can be counter-productive. First, it can be an enormous waste of police time. Secondly, when innocent people are stopped and searched for no good reason, it is hugely damaging to the relationship between the police and the public. In those circumstances it is an unacceptable affront to justice

Theresa May, 2014

The Met must continue to ramp up its fight against violent crime. Londoners will see a tougher crackdown throughout 2018. This will include a significant increase in the use of targeted stop and search by the police across our city. (W)hen done badly, stop and search can cause community tensions. But when based on real intelligence, geographically focused and performed professionally, it is a vital tool for the police to keep our communities safe.

Sadiq Khan, 2018

Very significant variation in use over time

Stop and search under PACE and other legislation, England and Wales
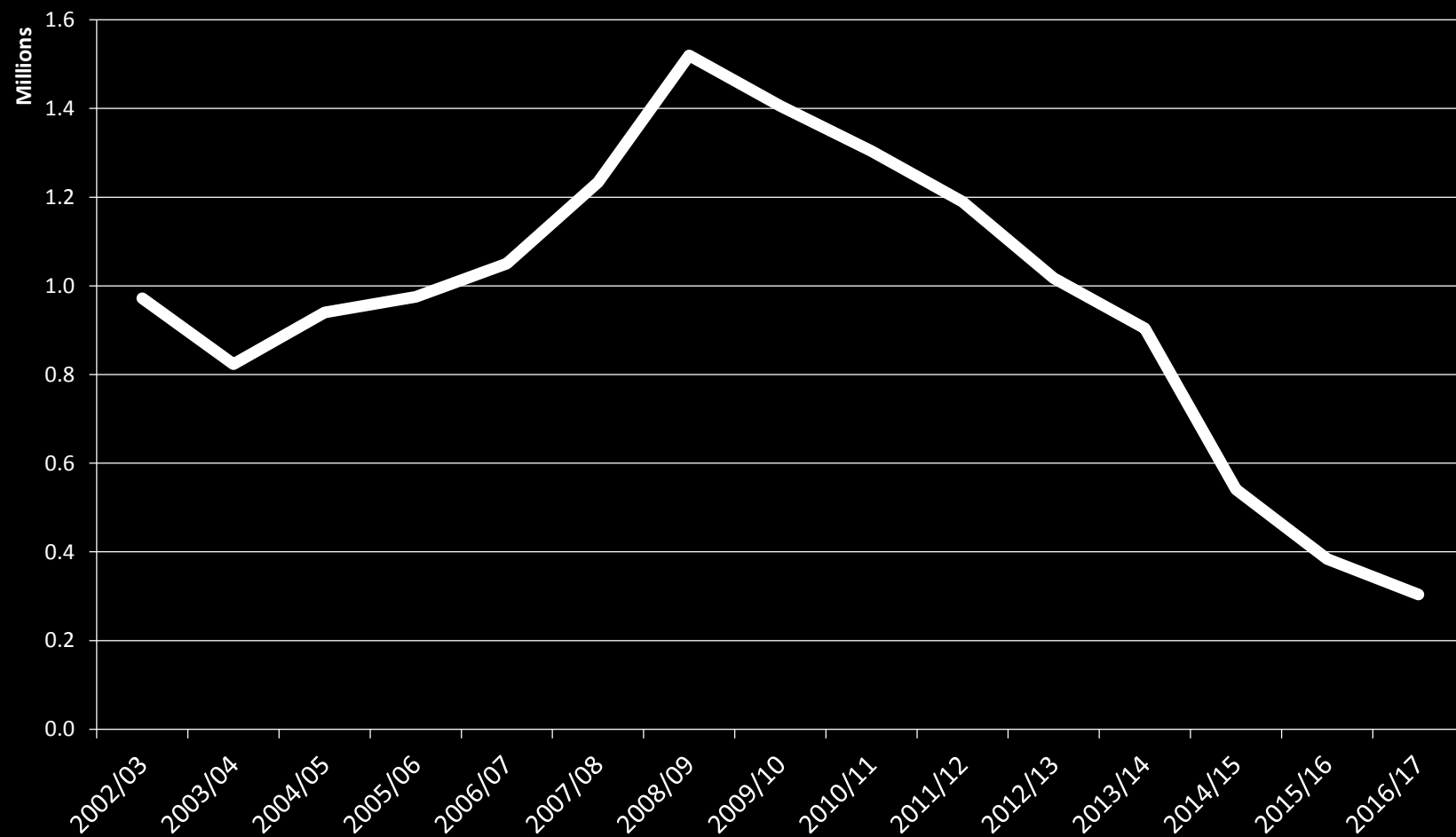
Variety of powers

- Important to recognise that there are a number of powers to stop and search

- Distinguish between those that require reasonable suspicion (s.1 PACE; s.23 Misuse of Drugs Act; s.47 Firearms Act) and those that do not ('authorized searches' – s.60 Criminal Justice and Public Order Act; s.44 Terrorism Act)

- Variation in use of powers over time: most famously, authorized searches rarely used before 2007, increasing rapidly to a peak in 2008, then declining (with another peak in August 2011)

Stop/search and crime in London, 2004 - 2014

Counts by month
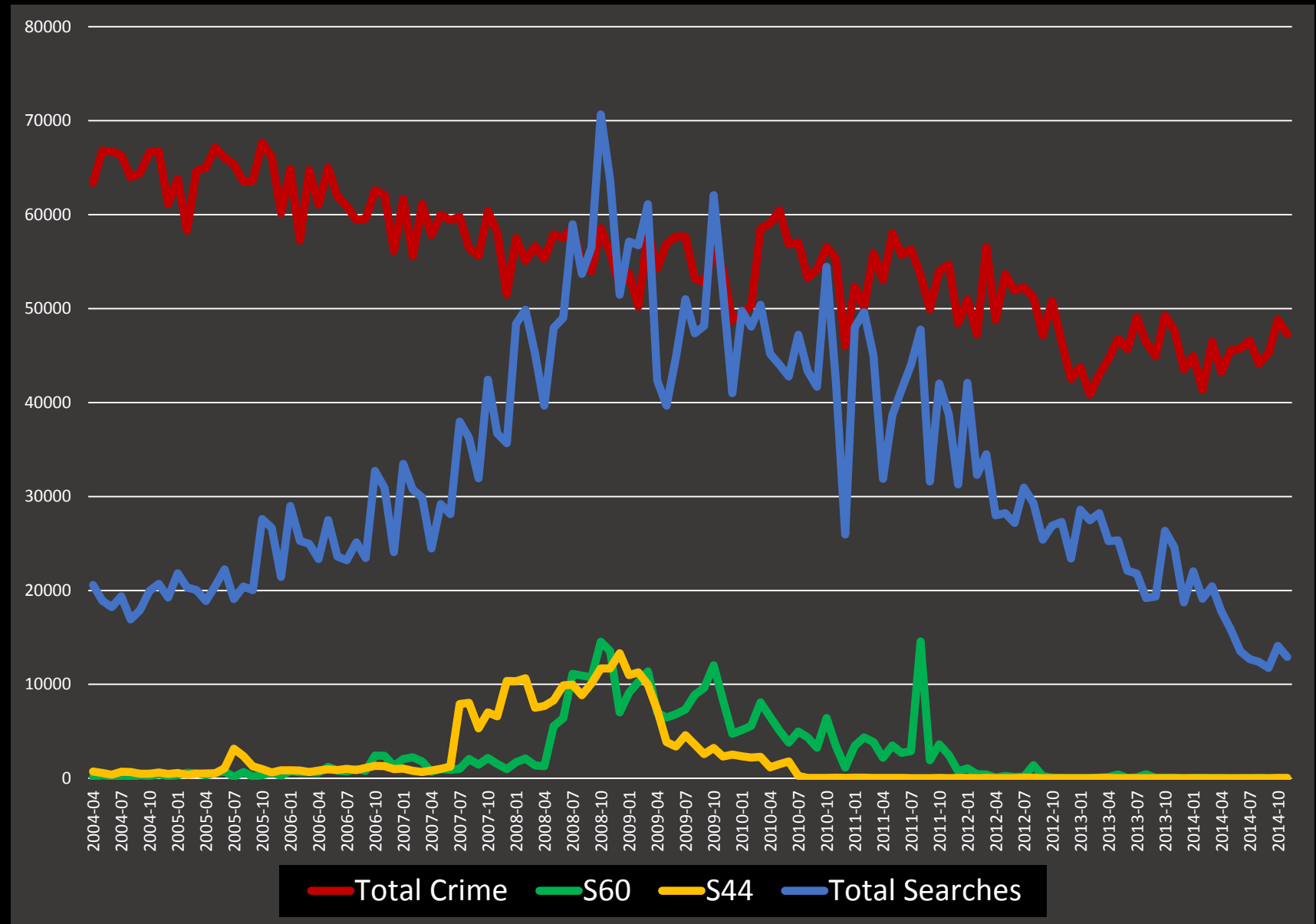
Drugs are the most common grounds

Number of searches by reason: MPS, 2013/14
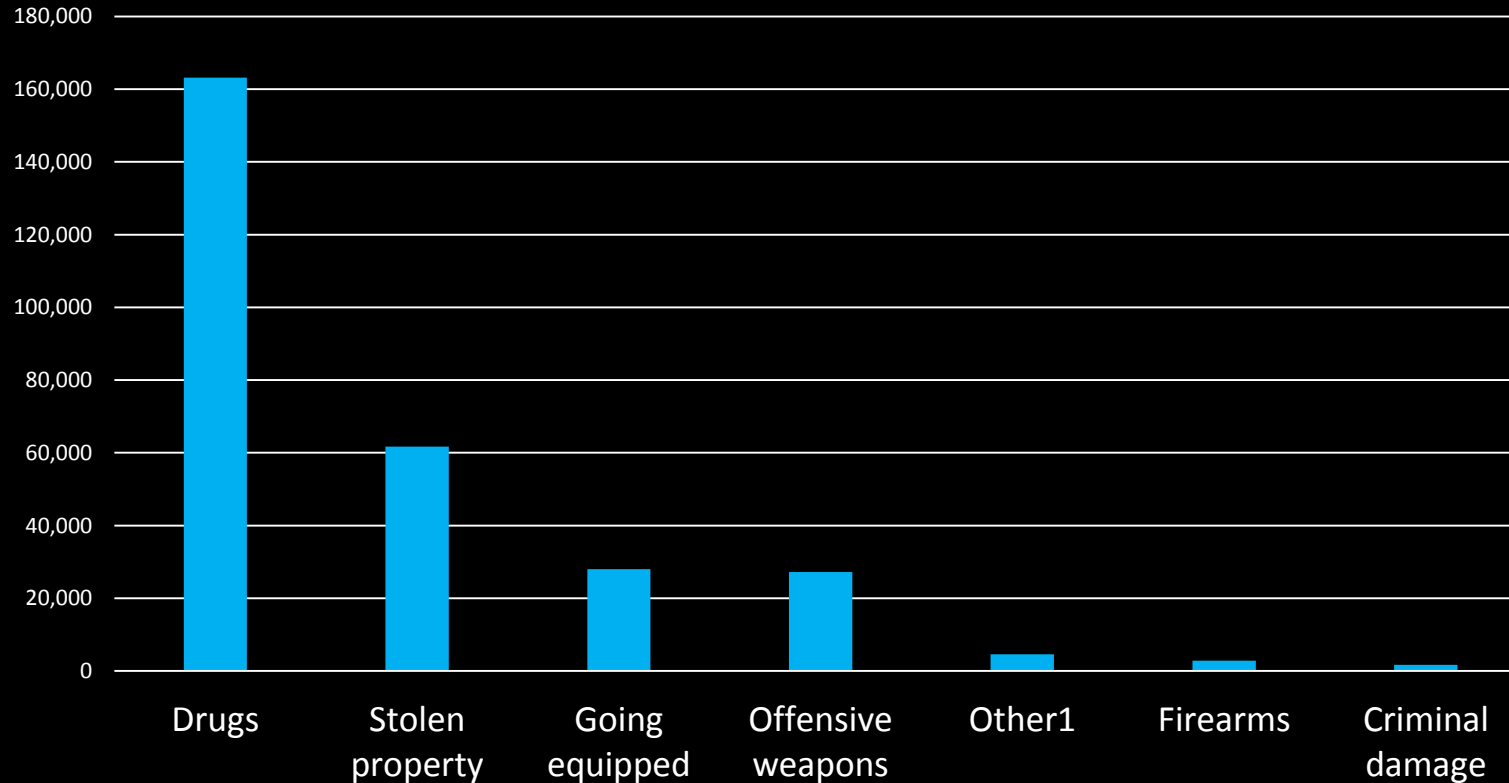
This is a consistent pattern

e.g. drug searches comprise 60% of the total over the period July 2016 to July 2018 (weapons <20%)

Arrests and other outcomes

- From MOPAC dashboard

- Other outcomes are (in)famously nebulous

- But between 20 and 30% of stop/searches seem to produce other outcomes, e.g. penalty notices etc.

Stop and Search MPS Trends

533,427

8.3%

19.1%

173,627

Arrest Rate %   Rolling 12 month total
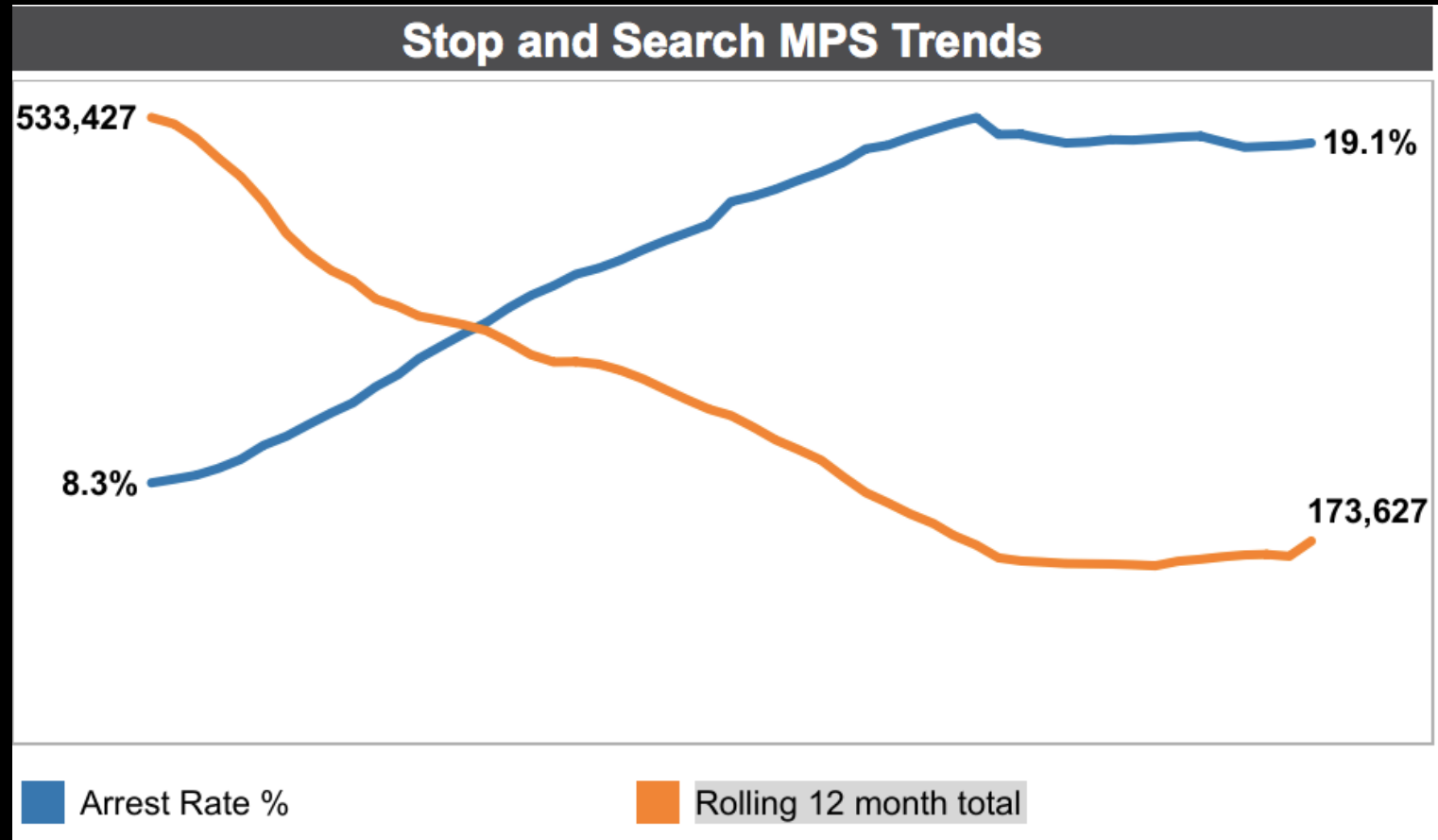
Rolling 12 month averages, March 12 July 16

Ethnic disproportionality

- Ethnic disproportionality in the experience of stop and search is well known

- People from black, and to a lesser extent Asian, ethnic groups are much more likely to be stopped and searched than their white counterparts

- Disproportionality not justified by either arrest rates – people from BME groups who are stopped are no more likely to be arrested

- This appears to be an almost universal phenomenon!

Ethnic disproportionality

Stops per 1,000 population
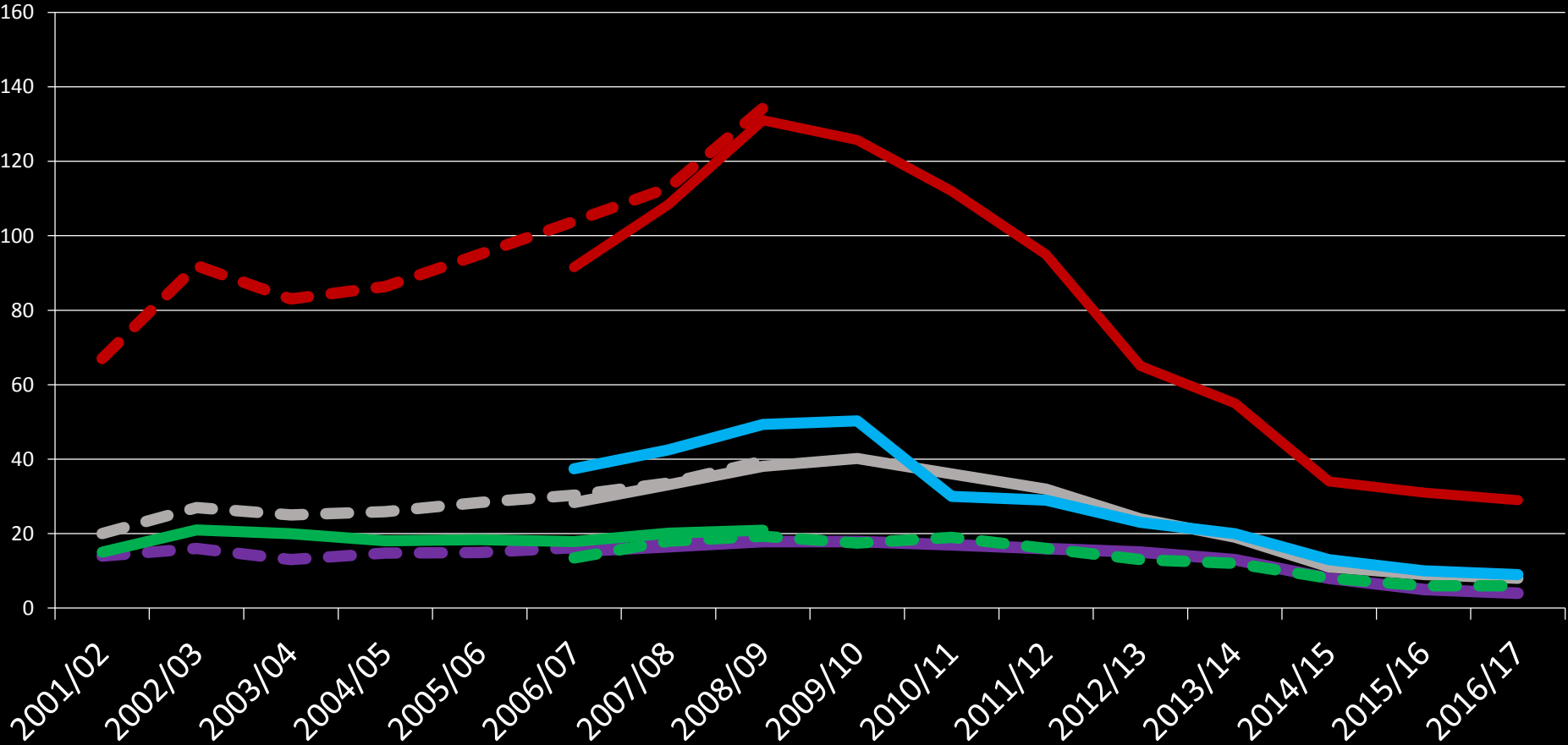
Officer identified ethnicity in earlier years, self-identified ethnicity in later years

But, taking a deep breath …

- We wanted to look at something else

- Is stop and search effective in reducing crime? A curiously underexamined question

- This is not actually the justification for most powers – but there seems to be a general assumption that S&S 'must' have an effect on crime

- Used 10 years of London wide data (2004 – 2014) to explore this question

- First, by what mechanisms might stop and search effect crime?

Deterrence

- We start from the assumption that if S&S is to have an effect on crime this will come primarily through deterrence
  - Disruption?
  - Incapacitation?

- Stop and search will obviously only deter certain types of crime

- We note, but essentially leave to one side, the rational choice/homo economicus underpinnings of deterrence theory
  - S&S activity comprises part of the environments and situations within which potential offenders make decisions

- Important to distinguish between different varieties or types of deterrence
  - Certainty vs. severity and/or celerity
  - Individual vs. general deterrence

Certainty vs. severity and/or celerity

What deters people from offending seems to be the certainty of apprehension , rather than the severity of punishment or the speed at which it is is delivered

If it is to have an effect on crime, S&S must do so by making decisions to offend appear riskier, i.e. people must perceive that they are more likely to be caught if they do offend because S&S activity will uncover their wrong-doing

Specific vs. general deterrence

- Specific deterrence operates at the individual level. Do people who are stopped/search/arrested update their risk perceptions as a result of this *experience*?

- General deterrence refers to the wider effect of police activity.
  - Absolute **-** knowing there <u>are</u> police and they <u>do</u> have powers
  - Marginal - Does *witnessing* or being *aware* of change in police activity shift people's risk perceptions?

- Evidence for general marginal deterrence is weak. Little to suggest that people notice or process variation in levels of police activity.

- Evidence for specific deterrence is stronger, perhaps particularly in as much as people who offend and are <u>not</u> caught lower their risk perceptions, making them more likely to offend in the future.

Alternate mechanisms

Disruption
- Slightly different from deterrence because it does not alter offender choice or motivation so much as generate situational prevention
- For example, searches for going equipped prevent future crime(s) as well as uncovering a possession offence

Incapacitation
- Unlikely to be important given that most arrests from stop and search are for minor drug offences and carrying stolen property

Hotspots
- Unlike deterrence literature, research on hotspots does identify consistent effects
- Stop and search is often part of hotspot 'strategies' – although it is often unclear what produces reductions in crime
- NB – no consistent hotspots policy in London during the period covered by this study

Existing evidence – a very mixed picture

- Retrospective evaluation of Op Blunt 2 (large increase in s.60 searches in some boroughs) identified no effect on police recorded crime or on ambulance calls (McCandless et al. 2016)

- Similar study assessing Operation Impact in New York (increase in SQF in hotspot zones) (MacDonald et al. 2016): "probable cause" SQFs had a positive effect, but this was of "little practical importance" due to small effect sizes

- Other studies in New York have revealed: significant but very small effects (Smith et al. 2012); very small but significant effects when targeted intensively in high crime locations (Weisburd et al. 2105) - although the SQF method producing this effect was rule unconstitutional; or no effects (Rosenfeld and Fornango 2014). The level of aggregation is a relevant factor – and example of the Modifiable Areal Unit problem

The current study

Starting from the assumption that stop and search might have an effect on crime, we hypothesized:

H1: That overall S&S, under any power, was negatively associated with subsequent levels of total recorded crime

H2: That overall S&S, under any power, was negatively associated with subsequent levels of specific types of recorded crime

H3: That S&S under particular powers was negatively associated with subsequent levels of specific types of recorded crime

H4: That sudden changes in the use of s.60 searches were associated with changes in violent crime

Data and methods

- Ten years worth of daily stop and search and crime data
  - 32 boroughs, although we excluded Westminster from main analyses

- Separate counts for various powers and susceptible crimes:
  - Drugs offences; non-domestic violent crime; burglary; robbery and theft; vehicle crime and criminal damage; plus overall measure of 'total susceptible crime'

- Counts of weapon-enabled non-domestic violent crime and ambulance incidents related to 'stab/shot/weapon'

- Aggregated at week and month

- All counts converted into rates per 100,000 population (within boroughs)

Descriptive statistics

Counts per Borough per Week

	Mean	Std. Dev.	Min	Max
Total S&S	229	169	6	2574
s1 (weapons) and s47	32	31	0	323
s1 (not weapons)	68	48	1	530
s23	120	96	2	938
Total susceptible crime	409	140	104	1034
Violent Crime (excl domestic)	75	29	10	215
Drug Offences	32	23	0	332
Burglary	55	20	6	244
Theft and Robbery	134	64	21	615
Vehicle Crime	67	28	5	220
Criminal Damage	44	21	3	170
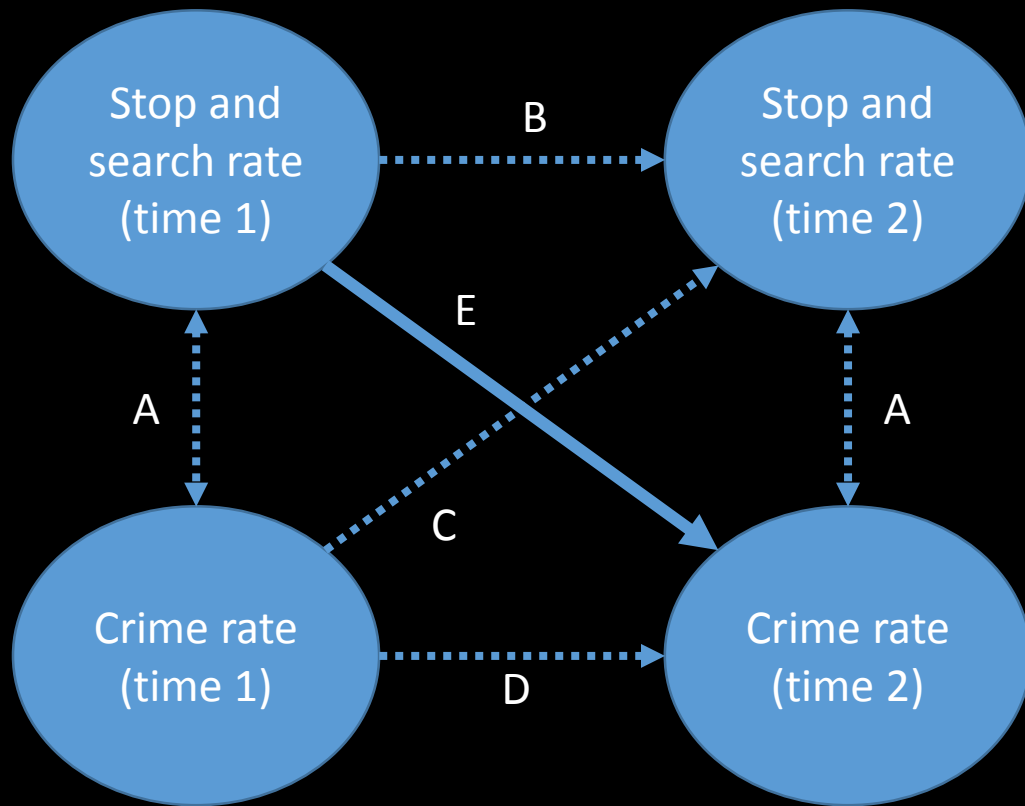
Analytic strategy

H1: Weekly and monthly models testing whether total susceptible crime was associated with total S&S under any power

H2: Weekly and monthly models exploring whether the six categories of crime were individually associated with overall S&S

H3: Weekly and monthly models looking at the association between specific powers and relevant crime type (e.g. s.23 searches and drugs offences)

H4: Quasi-experimental design capitalizing on the sudden increase in s.60 searches (I'll come back to this).

Results

H1: (Very) small but significant effect of total stop and search on total susceptible crime.
- If S&S increased by 10 per cent in one month, susceptible crime would be 0.32% lower the following month
- If S&S increased by 10 per cent in one week, susceptible crime would be 0.14% lower the following week

H2/H3: Clearest effects for drugs crime
- If total S&S was 10% higher in one month, recorded drugs offences would be 1.85% lower the following month.
- In fact, half of the overall effect of S&S on crime comes through drugs offences

H2/H3: Little effect on violent crime
- No statistically significant effects when using the ambulance data

H2/H3: small and inconsistent effects on burglary; no effects on robbery and theft, vehicle crime, or criminal damage

Summary of results

Crime	Power	Lagged effect on crime rate, if S&S was 10% higher			
		Weekly	p	Monthly	p
Total susceptible crime	Total searches (all powers)	-0.14%	0.01	-0.32%	0.01
Drugs offences	Total searches (all powers)	-0.64%	0.01	-1.85%	0
	s23 searches*	-0.21%	0.37	-1.57%	0
Non-domestic violent crime	Total searches (all powers)	0.09%	0.33	-0.14%	0.21
	s1 and s47 (weapon) searches*	-0.01%	0	0.00%	0.17
Burglary	Total searches (all powers)	-0.17%	0.04	-0.21%	0.12
	s1 (non-weapons) searches*	-0.10%	0.1	-0.47%	0
Robbery and theft	Total searches (all powers)	-0.03%	0.54	-0.13%	0.35
	s1 (non-weapons) searches*	-0.08%	0.18	-0.04%	0.64
Vehicle crime	Total searches (all powers)	-0.08%	0.21	-0.04%	0.73
	s1 (non-weapons) searches*	-0.03%	0.96	-0.07%	0.58
Criminal damage	Total searches (all powers)	-0.01%	0.88	-0.06%	0.67
	s1 (non-weapons) searches*	-0.05%	0.4	-0.06%	0.66

Notes: All models estimated using fixed effects estimator (OLS) with cluster robust standard errors. Variables not shown: lagged dependent variable, number of full-time equivalent police officers, period fixed effects, borough-specific linear time trends, current rate of S&S, search-arrests in current period (time two) and search-arrests in previous period (time one).

* Net of all other searches.

Quasi-experiment

Prais-Winsten and Cochrane-Orcutt regression - lag(1)
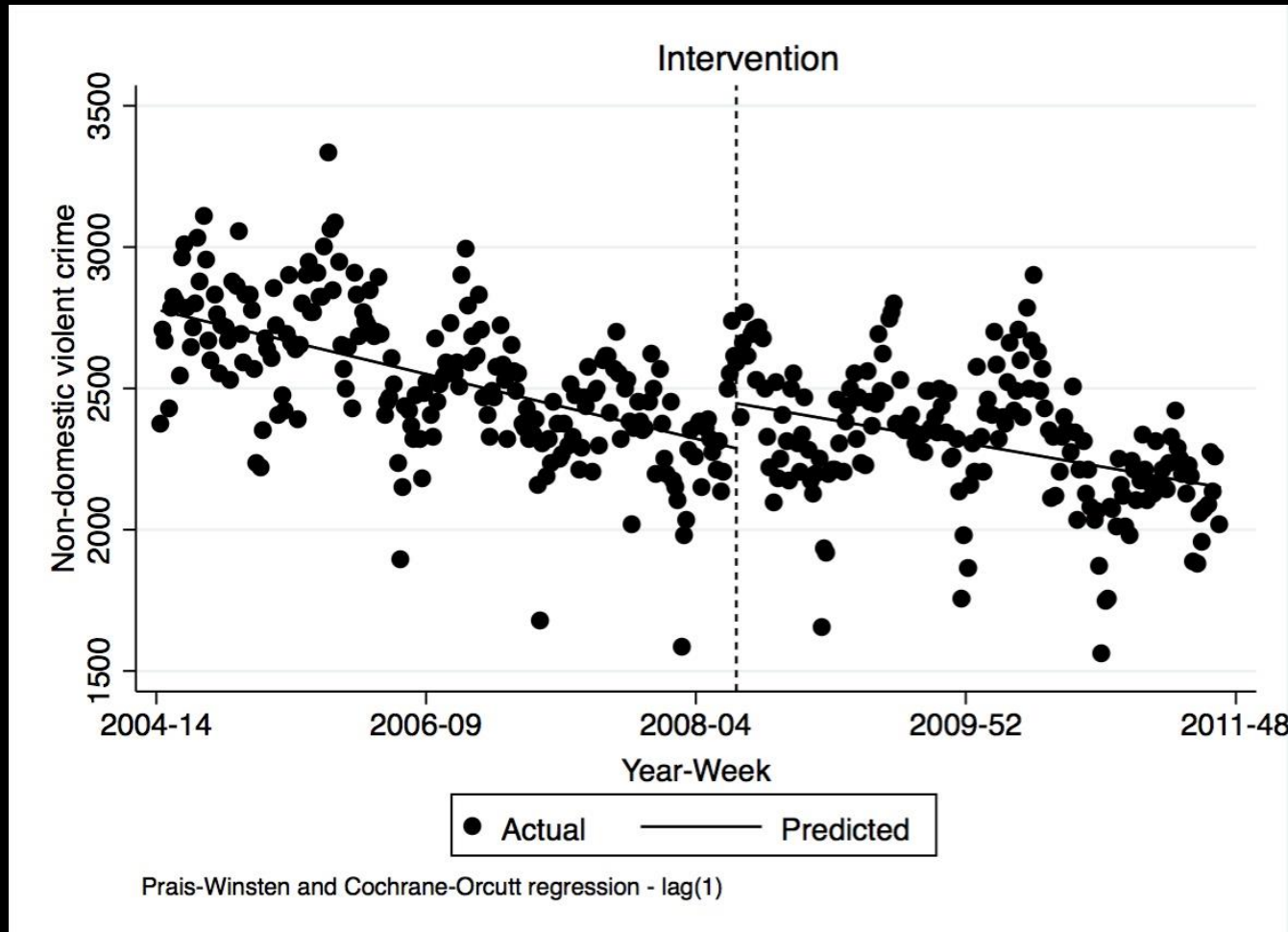
Sudden increase, then decline, in s.60 searches allows for a quasi-experiment – does the 'interruption' of a large increase in stop and search have an effect on trends in the types of crime targeted by this power, non-domestic violent crime?

The answer is no. Indeed, if anything the range of decline in non-violent crime slowed after the interruption

A worked example

- Southwark recorded 1,282 searches in October 2014 and 2,295 susceptible crimes in November 2014. If crime was to be 3 per cent lower in November – the equivalent of 69 fewer crimes – we estimate that an additional 1,180 searches would have been required in October (2,462 in total). Assuming it takes an average of 15 minutes to carry out a search, the extra searches that month would take 295 officer hours (or two extra officers).

- There were a total of 337 searches in week 45 of 2014 and 542 crimes in week 46. If there were to be 16 fewer crimes in week 46 (3 per cent lower), it was estimated that an additional 722 searches would have been required in week 45 (1,059 in total). Again, assuming 15 minutes per search, the additional searches required that week would have taken 181 officer hours (or four extra officers).

Backfire effects

- So far we've assumed that any effect of stop and search is positive (crime reducing)

- Procedural justice theory suggests that stops experienced as unfair may have negative effects:
  - Reduced cooperation from public
  - Damage to legitimacy and higher levels of (future) offending
  - Turn to self-help violence among affected populations

- Weak overall effect <u>may</u> be partly down to fact that positive and negatives co-exist (although timescales for the later are likely to be rather different)

Implications

- Weak overall effects, at "the outer margins of statistical and social significance"
  - Monthly effects relatively stronger. Does this say something about the way people update their risk perceptions (e.g. takes a longer exposure to higher rates of S&S before they 'notice'?)

- Drugs offences most consistent crime type. But do people stop taking drugs due to being stop/searched? Or do they merely change their behaviour to make it less likely they'll be caught?
  - Moreover, even if S&S is effective in reducing drugs crime, this is most likely to be in relation to minor cannabis use – not a force priority, raising questions about usefulness and appropriateness

- Our results chime with the wider literature that suggests police activity has only a weak deterrent threat on crime

Implications

We need to stop thinking about stop and search has a *tactic,* and focus on the appropriateness and justification of individual uses of the *power*

The question is not 'does stop and search effect crime' but 'is the way we use the power – and this particular instance of its use – legally and operational justified'?

Wider issues

Our findings also underlined what we cannot get away from the wider social and cultural 'meaning' of stop and search:

- 'Doing something' about crime and disorder
- The assertion of order and control
- Disciplining marginal populations