New research by **Stephen Machin** and **Olivier Marie** finds that the Street Crime Initiative, introduced in 2002, has been highly effective in reducing the number of robberies. Increased police resources can have a big impact on crime rates.

Can more police resources reduce crime?

Increasing police resources is often perceived as a primary crime-fighting tool. But there is little hard evidence showing that more police do in fact reduce crime. The main reason for this is that it has been difficult to disentangle the causal relationship between the two: higher crime usually means more police and *vice versa*.

As a consequence, many studies have failed to find a relationship between the two and some have actually reported a *positive* association between police resources and crime. Although some researchers have used more sophisticated techniques to unravel the real nature of this relationship, there remains little or no consensus on its direction.

The 2002 introduction of the Street Crime Initiative (SCI) offers an opportunity to answer the question more definitively. The SCI allocated £48 million of extra resources to ten of the 43 police forces of England and Wales to combat street crime, primarily robberies. Most of this money was spent on police overtime and additional staffing. As the SCI was introduced in certain areas, but not in others, it is possible to compare what happened to robberies before and after the introduction across areas so as to evaluate the policy's impact on robberies.

The SCI was introduced into the police forces with the worst street crime problem in the country, those that accounted for more than 80% of total robberies. This mode of selection rule could have proved a problem if there were different pre-policy robbery trends in the SCI and non-SCI areas.

Fortunately, this is not the case as is clearly illustrated in Figure 1, which shows an index of the robbery rate in policy and non-policy areas between 1982 and 2003. Up to the introduction of the policy (denoted by a vertical line), the robbery rates in SCI and non-SCI areas followed an extremely similar trend. The figure also suggests a substantial crime reduction effect of extra police resources as the growth trend in the robbery rate was reversed only in areas where the SCI was introduced.

Our research also compares year-on-year differences in robbery rates across

The extra police resources of the Street Crime Initiative had a strong impact in reducing robberies

Figure 1:
Indexed changes in robbery rates 1982/83-2003/04 (1982/83 = 1)

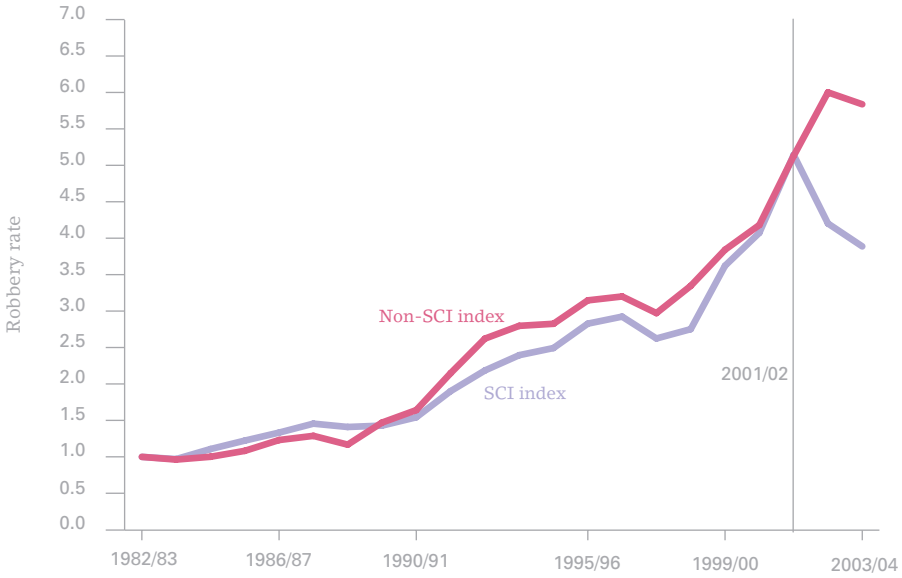
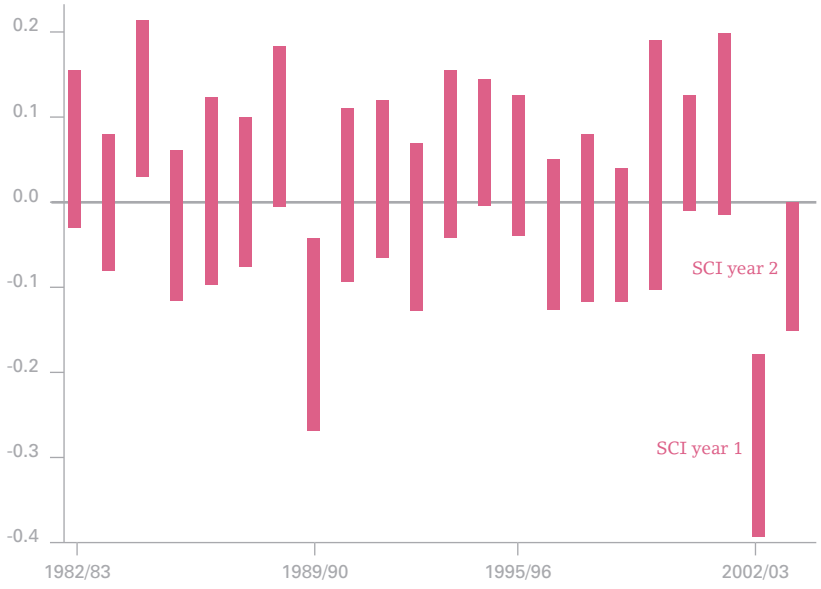


Figure 2:
Year-on-year difference-in-differences estimates (+/- two standard errors), 1982/83-2003/04



SCI and non-SCI areas so as to ensure that we are really identifying a policy effect. Figure 2 shows these 'difference-in-differences' for year-on-year comparisons. The effect for the first SCI policy year is by far the most negative one and clearly different from zero, indicating that a step change occurred in robberies once the policy was in place.

To obtain precise estimates of the effect of the SCI on robberies, we use recorded crime data for the 376 'crime and disorder reduction partnerships' of England and Wales from 1999/00 to 2003/04. These have boundaries corresponding to administrative local authorities and we match a number of area socio-economic characteristics from the 2001 Census and the Labour Force Survey to this panel. These socio-economic characteristics are important as we find that they explain most of the difference in pre-policy robbery rate levels between the policy and non-policy areas.

Comparing all the areas and their characteristics for the year prior to introduction of the SCI (2001/02) and the two following years (2002/03 and 2003/04), we estimate that the SCI decreased robbery rates by 29%. But because 2001 was a peak year in terms of robberies in the SCI areas, we could be overestimating the effect of extra police resources by limiting our pre-policy sample to this potentially abnormal year.

We therefore adopt a more conservative approach and decide to drop the year prior to introduction from our sample and use instead the two previous years (1999-2000) as the pre-policy period for our analysis. The new estimate of SCI effect on robberies is smaller but still very important at 17.4%.

We can be even more stringent and drop from our sample those crime and disorder reduction partnerships that

exhibit socio-economic characteristics so different that they cannot be compared across SCI and non-SCI areas. We find this to be the case for 29 areas. The new estimates are again relatively smaller but still show an important 14.8% effect of the SCI on robberies.

The ten forces that received extra SCI funding were relatively free to implement the policy in the way they thought best as long as it was to combat street crime. This may explain why, when we estimate different SCI effects for groupings of police forces where the policy was introduced, we find decreases in robbery rates ranging from 7 to 23 percentage points. This result deserves further investigation to understand how extra police resources should be used to maximise their effect on crime reduction.

So the extra police resources of the SCI did reduce robberies, the crime it was targeting. But this still does not automatically imply that the SCI was a socially beneficial policy. First, we must consider the costs of the SCI with respect to its crime reduction benefits. Second, we must also think of what are known as possible 'displacement' or 'diffusion' effects of the policy.

There are two possible types of displacement. First, as the police in SCI areas focus on robberies and perhaps divert resources to combating them, it is possible that criminals will substitute this crime for burglaries or vehicle crimes, which have become relatively less monitored. Second, there may be displacement from SCI areas to nearby non-SCI areas where the chances of being caught for a robbery are lower.

On the other hand, there could be some diffusion of the policy to other crimes within SCI areas, as the extra police resources not only reduce robberies but also other crimes. Diffusion of the SCI

Just a year after introduction of the policy in 2002, more than 10,000 robberies had been avoided

effect to neighbouring non-policy areas is also conceivable if the increased identification and incapacitation of criminals benefits all areas. We consider all these possible effects for their potential impact on our cost-benefit analysis. Finally, we want to see the variation of these costs and benefits across SCI areas.

To calculate the benefits of the SCI, we use our estimates for the full and reduced sample to find how many robberies were *avoided* as a result of the policy. As Table 1 shows, the number is between 10,846 and 12,751 for the year after introduction.

To cost these figures, we multiply this reduction in robberies by the average cost of a personal robbery, which the Home Office estimates to be £12,094. Once we subtract from these figures the cost for one year of the SCI, we find high net social benefits of the policy of between £107 and £130 million. This is very large as it represents four to five times the initial input.

We also check for displacement or diffusion effects of the policy but do not find them to be significant and therefore do not have to revise our cost-benefit estimates.

When we consider differences of cost and benefits across SCI areas, using the different effects we estimate, we find it to be extremely socially beneficial in certain areas. We also find some diffusion effect on vehicle crime, which also decreases as a result of the SCI in the areas that experienced the highest reductions in robbery rates.

This article summarises 'Crime and Police Resources: The Street Crime Initiative' by Stephen Machin and Olivier Marie, CEP Discussion Paper No. 680 (http://cep.lse.ac.uk/pubs/download/dp0680.pdf)

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Table 1:
Cost-benefit calculations for the year following introduction of the Street Crime Initiative (SCI)

Control years: 1999/00 and 2000/01	**All sample**	**Reduced sample**
Effect on robberies in percentage terms	-17.4	-14.8
SCI areas baseline number of robberies – average recorded in control years	73,282	73,282
Robberies reduction in SCI areas – baseline effect	12,751	10,846
Benefits from robbery reduction in SCI areas – effect baseline £12,094 (£ millions)	154.2	131.2
Average annual cost of SCI over 2002/03-2003/04 (£ millions)	24.1	24.1
Net social benefit (£ millions)	130.1	107.1

The policy has been highly cost effective with a net social benefit of between £107 and £130 million a year