



Home Office

Opportunity/security as a driver of crime

A discussion paper

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Executive Summary

The opportunity/security hypothesis asserts that crime will flourish in conditions when it is easy to commit, and diminish when it is more difficult. Supporters of this view tend towards a belief that propensity to offend changes little over time, i.e. when temptation exists, human nature will always succumb to it. For them then, tackling crime is mostly about removing opportunity, either by altering routine activities to keep people away from crime-prone environments or by beefing up security.

There is very strong evidence that acquisitive crime trends are affected in this way. Data repeatedly shows that as successive product innovations come to market – from car stereos in the 1980s to smartphones recently – thefts are likely to rise with ownership, as the opportunity (number of potential victims) increases. Data also shows that many security devices have been successful in helping to reverse these trends. Car immobilisers clearly helped drive down thefts of vehicles and more recently the IOS-7 i-phone operating system appears to have had a similar effect on phone thefts. Innovations in the way transactions are undertaken – credit cards and internet banking – share similar offence profiles.

For these reasons we think opportunity/security should be considered one of the main drivers of crime. It offers perhaps the best explanation for trends in thefts of individual items and the growth in online activity means opportunities are likely to both change and increase in the near future – which makes the development of online security a key priority. The evidence seems less clear, though, that opportunity/security changes have been responsible for the rise and fall in crime at the aggregate level. The hypothesis is largely silent on why violence has fallen alongside theft. And for acquisitive crime, the case that better security caused the crime drop rests on the largely untested assumption that car immobilisers also prevented or deterred thieves from committing other types of theft. Data suggest the opposite is equally likely – that as one thing becomes harder to steal, thieves switch to something else. So, because all types of theft fell markedly at the same time in the mid-1990s it seems likely that a change in offender propensity for crime is more likely to provide the main explanation.

The views expressed in this discussion paper do not represent Government policy.

Introduction

Attempts to identify a single, overarching explanation of recent trends in crime have not proved fruitful. A more realistic approach to understand changes in crime is to consider that the level of overall crime is the net effect of many different factors acting at once. Some of these factors (e.g. new technology that allows criminals to bypass cars' electronic security systems) will be putting an upward pressure on crime, while others (e.g. the falling number of opiate and crack users) will be exerting a downward pressure on crime. The mix of factors, and the strength of their effects on crime, will vary from area to area, and we have brigaded different factors under six overarching categories - six key 'drivers' of crime - which are: alcohol; drugs; the effectiveness of the police and Criminal Justice System; opportunity/security; character; and profit. This paper examines opportunity/security, examining both the theory behind the relationship and drawing on relevant research evidence. The paper does not set out to be a formal review of the evidence.

Theory

The opportunity/security 'driver' actually brings together a number of different criminological theories. The first is 'routine activity theory' which had until recently provided the most accepted view for crime's inexorable rise from 1950 through till the early 1990s (Cohen and Felson, 1979). It asserted that rises in theft and violence could be explained by changes in the everyday activities of normal people. So as more women joined the labour force, a greater number of houses were left unattended during the day, driving up the opportunity for burglary. And as people grew more affluent not only did the number of stealable goods increase, but people socialised more frequently and consumed more alcohol, driving up violence trends.

Recently, some broadened the 'routine activities' approach to suggest that any changes to opportunity are likely to drive trends. For example, Nick Ross, the former *Crimewatch* presenter who published a book on the subject, says the long-term rise in shoplifting was caused by the shift of items to the shop floor where they were more accessible to thieves (Ross, 2013). Credit cards effectively spawned a whole new method of fraud and the increase in criminal opportunity provided by the internet is obviously huge. The crucial aspect of this approach therefore, is that changes in crime are explained by changes to the potential crime environment rather than by changes in the number of offenders or in their propensity to commit crime.

For supporters, the decline in crime can also be explained in this way. Professor Graham Farrell, formerly of Loughborough but now at Simon Fraser University in Canada, has researched the possibility that security devices reduced the opportunity to commit crime in key offences and that this triggered the crime drop generally. Immobilisers in cars are the most studied example, but other examples include better door and window locks on houses, shatter-proof glasses in pubs and so on.

This has given rise to two versions of the security hypothesis. The weak version asserts that security improvements drove individual falls in the crime types against which they were targeted, which contributed to the crime drop. The strong version is that immobilisers not only drove down vehicle thefts, but also deterred thieves from committing other types of acquisitive crime, either because stolen vehicles are used to commit other crimes, like burglary, or because vehicle theft is often a debut crime and so preventing it might prevent progression to other offences (Farrell et al, 2011). In other words, the weak version would see security improvements as a contributing factor to the crime drop; the strong version would see it as the main factor.

Evidence and discussion

Generally, as this section shows, we find that the evidence for the weak version of the security hypothesis is strong, but the evidence for the strong version is weak.

Numerous papers have found that better security drives down thefts of that particular item. For example, studies show beyond doubt that fitting an immobiliser to a car makes it less likely to be stolen, around 80% less likely, according to Ours and Vollaard (2013). It is important to note that this in itself does not prove a causal link between immobilisers and declining vehicle theft. If there are still enough (older) cars which do not have immobilisers, and thieves switch to these, then it is possible that just as many cars might have been stolen as before. There is strong evidence that thieves did adjust in this way (Brown and Thomas, 2003, Ours and Vollaard, 2013). But logic dictates that once the pool of cars with immobilisers grew to a certain level, overall thefts would likely decline as thieves found themselves deterred more often.

No one (to our knowledge) has attempted to quantify the size of the effect in England and Wales, but there has been some research in other countries. Australia and Canada had sharp falls in vehicle theft exactly in line with legislation to make immobilisers mandatory on all new cars. MM Starrs Pty Ltd (2002) evaluated the immobiliser law in Western Australia and found that it had quite a large effect: a 19% reduction in opportunistic, joy-riding thefts and a 2% fall in professional thefts, in which the car was not recovered but (in all likelihood) shipped abroad or broken down for parts.

There is also evidence that better house security prevents burglaries. Regression analysis from the Crime Survey in 2012/13 showed that households with better security are victimised less than those with poor security, even when controlling for other factors. Vollaard and Ours (2011) find that regulation requiring all new-built homes in the Netherlands to have burglary-proof windows and doors reduced burglary rates by 26%, with no displacement to other crimes.

Some evidence also supports other situational crime prevention techniques. A systematic review by the Campbell Collaboration found that CCTV had a 'modest' effect on crime (Welsh and Farrington, 2008) and there is some – not particularly robust – evidence that shatter-proof glasses can reduce violence in the night-time economy. Security improvements seem to have affected trends in more recent innovations too, including financial transactions. Credit card fraud increased with card usage in the late 1990s, but offences have fallen since the introduction of chip and pin in the late 2000s. A similar pattern was observed for internet banking, and the introduction of IOS-7, which makes i-phones less usable to thieves once stolen, coincided with a sharp drop in theft from the person offences.

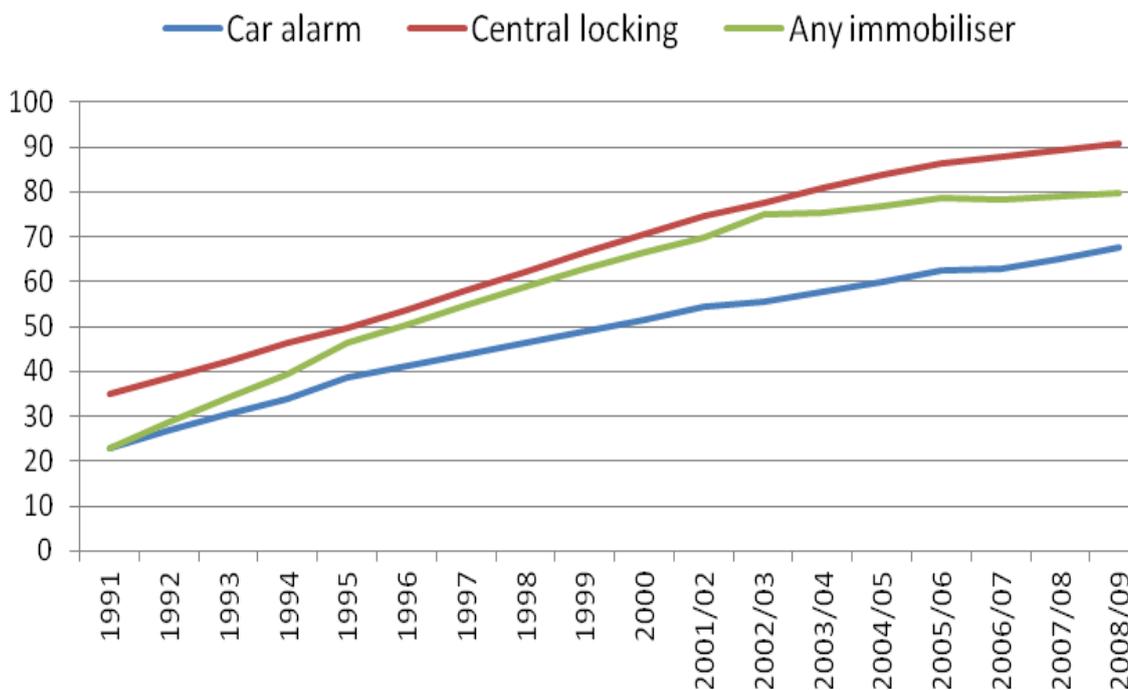
So, while further studies are required to fully prove the effectiveness of these latter interventions (chip and PIN, IOS-7, etc), overall, there is good evidence that scaling back opportunity for theft through better security is an effective crime reduction technique. This has obvious implications for tackling cyber-related crime. If companies and individuals can be made more secure online we can expect online fraud to fall, other things equal. In relation to this, academic researchers are currently exploring how to improve password security (for example by avoiding such complex systems that people simply write down all their passwords), and other 'nudges' that might improve user behaviour in relation to, for example, not giving out private information when using public wi-fi networks.

However, the evidence presented so far really only supports the weak version of the security hypothesis. That is, it demonstrates that if an item's security increases, thefts of that item are likely to fall. Whether total theft falls (the strong hypothesis) will depend on whether thieves are deterred from theft altogether or simply switch to stealing some other item.

Some have argued for the strong hypothesis by pointing out that – in relation to the crime drop–improvements in car security in the mid 1990s could have led to reductions in thefts of all kinds via both a ‘debut crime’ effect and a ‘keystone crime’ effect (Farrell et al, 2011). The former is based on the fact that vehicle theft is often a crime that offenders commit while still young, but can presage a long criminal career. A recent Home Office paper found that offenders who had committed robbery, burglary or vehicle theft as their debut offence were almost three times more likely to become chronic offenders compared to all first time offenders (Owen and Cooper, 2013). It is therefore possible that if immobilisers prevent vehicle theft they may also prevent a career of prolific offending. The ‘keystone effect’ is based on the premise that stolen cars are used to commit other offences, so if criminals are prevented from stealing cars they will also be prevented from other crimes. Whilst this is certainly possible, we are unaware of any data to show the possible magnitude of this effect.

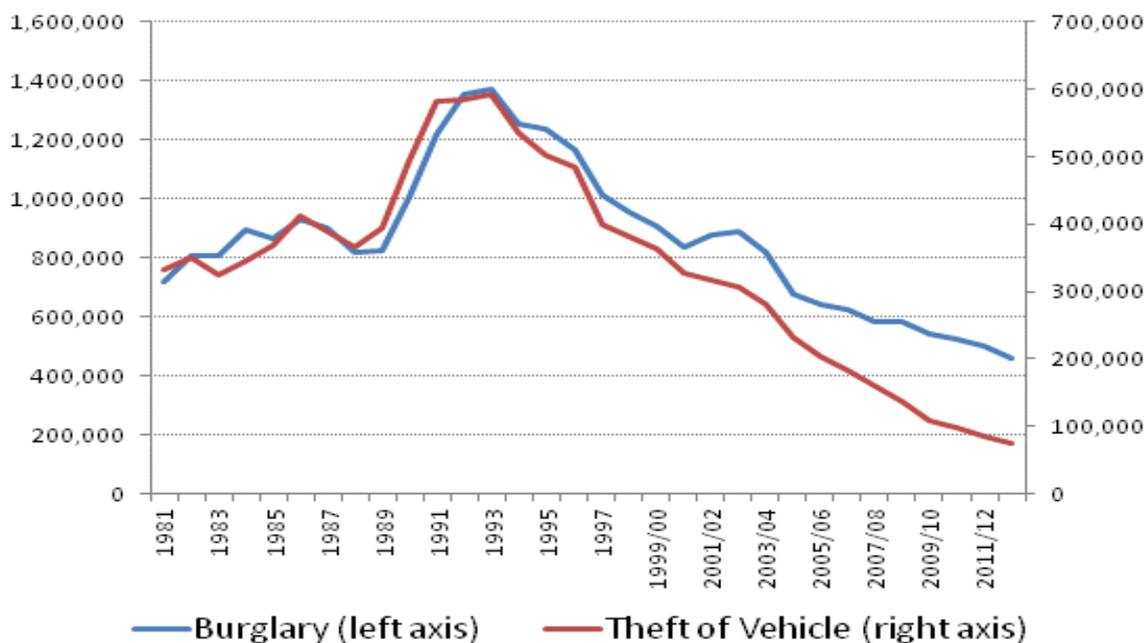
Furthermore, an examination of the data rather suggests that opportunity and security, on their own, are unlikely to provide the main reason for the crime drop. The reason for reaching this conclusion can be demonstrated for the most part using the two charts below. Figure 1 shows the trend in increasing security on vehicles. Figure 2 shows burglary and vehicle crime trends.

Figure 1: Percentage of Crime Survey for England and Wales (CSEW) respondents with security devices installed on their main vehicle, 1991 to 2008/09



Source: CSEW

Figure 2: Police recorded burglaries and theft of vehicles, England and Wales, 1981 to 2012/13



Source: ONS police recorded crime

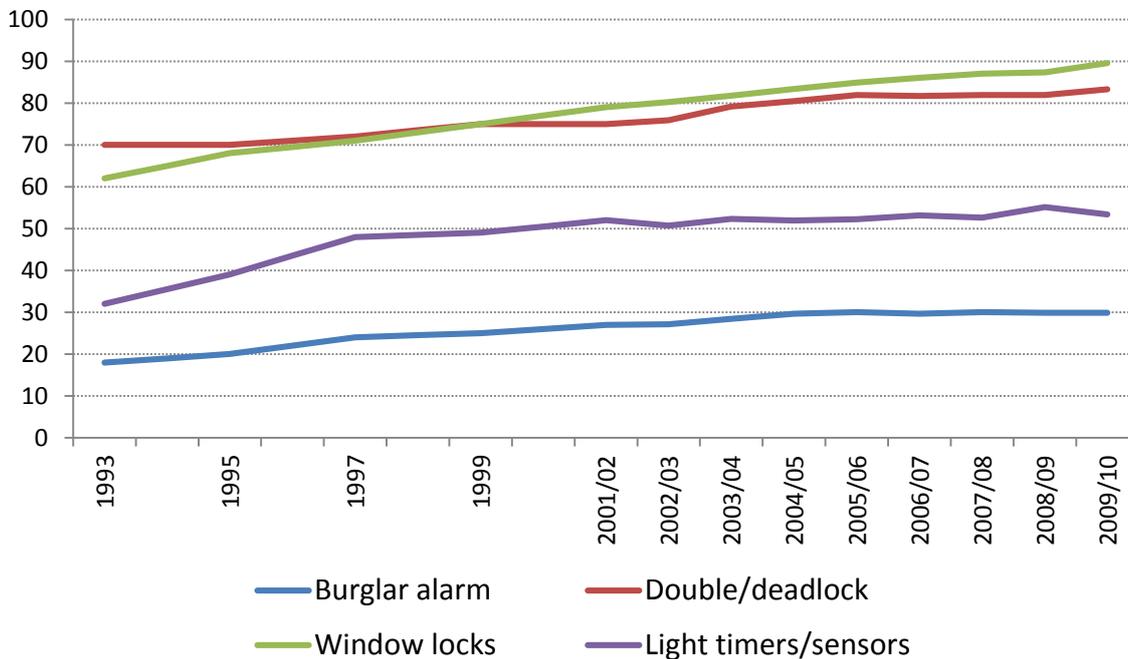
These charts raise a number of unanswered questions in relation to the security hypothesis:

- If opportunity and security are the main driver of trends, why would vehicle crime have risen so dramatically in the early 1990s when, as Figure 1 shows, security levels were rising at this time?
- For immobilisers to be the most important factor in the 1993 crime turning point for theft of vehicles in England and Wales, it would be necessary to believe that a dramatic ‘tipping point’ occurred when penetration of immobilisers was around 35% – is that credible?
- The logic of the immobiliser argument suggests that change would be gradual at first as the pool of cars with immobilisers grew and then faster as it approached critical mass. But the vehicle theft trend does the opposite: the fall is most pronounced immediately after the peak. Why?
- Finally – and most importantly – vehicle theft and burglary peaked and fell at the same time in the mid 1990s. Is it possible that security levels relating to both burglary and theft of vehicle rose and fell simultaneously? Or that the debut/keystone effects are strong enough to cause the similarity in trends? Or is it more likely that some other mechanism drove both trends until around 2000 - at which point the vast majority of cars had immobilisers and theft of vehicle began to fall faster.

In fact, the most effective security measures on houses (window and door locks) had reached higher levels of penetration than immobilisers by the mid 1990s meaning that their ‘tipping point’ would have to be different. In addition, it is not clear why burglary would have been rising so

sharply in the early 1990s, when security levels were clearly already high by this time, as illustrated by Figure 3.

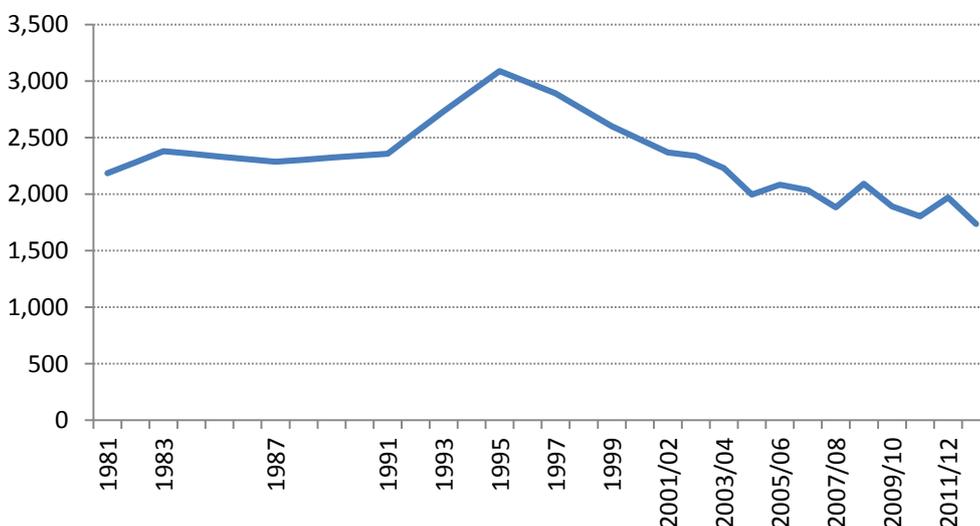
Figure 3: Trends in burglary security, percentage of households with different security devices, England and Wales, 1993 to 2009/10



Source: CSEW

Many of these arguments can be extended beyond burglary. The Crime Survey suggests that virtually all types of crime, including violence, both rose and then began falling sharply at the same time during the 1990s. It seems implausible that the opportunity to commit the majority of crime types suddenly increased and decreased simultaneously across all crime types. Personal theft provides a particularly instructive example, because it was obviously unaffected by car or housing security in a direct sense, and also shows a mid-90s peak, as Figure 4 illustrates.

Figure 4: Total incidents of personal theft, England and Wales (000s)



Source: CSEW

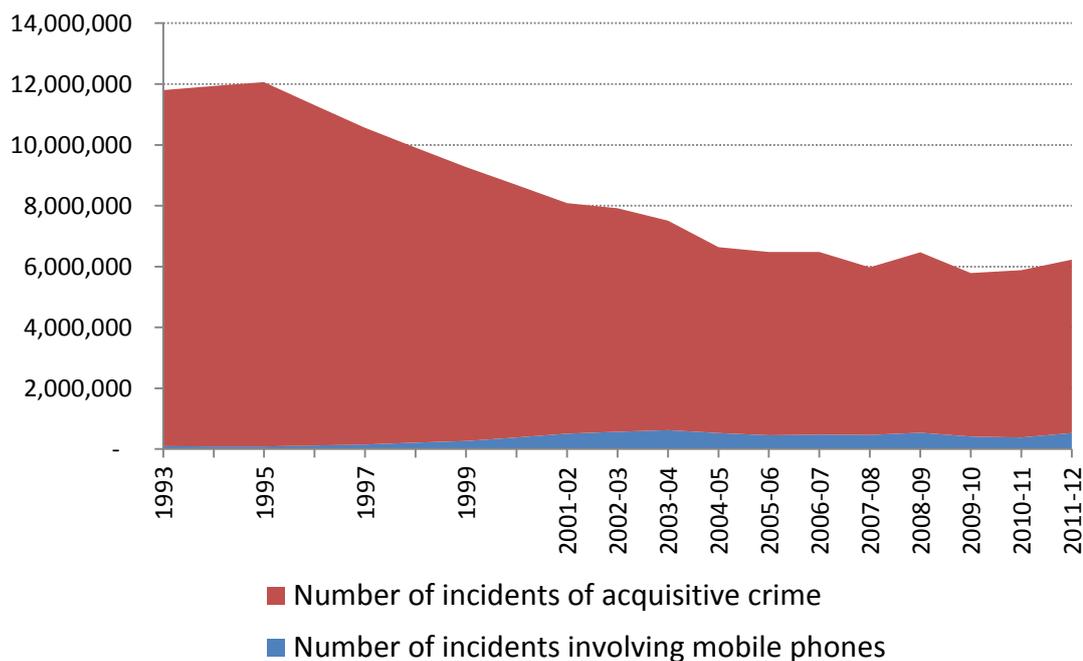
Furthermore, this approach, along with all the other strands of the opportunity/security hypothesis, also struggles to explain the local variations in trends that have been identified; notably the fact that Merseyside and Edinburgh peaked several years earlier than other parts of the British Isles. It is not clear that opportunity or security changes were significantly different in these areas.

Finally, the evidence that better security in relation to one type of theft results in the diffusion of benefits to other types of theft, is not always borne out by the data. Some previous breakthrough improvements in car security have apparently caused the opposite. When the government of East Germany legislated that all cars (not just new ones) had to be fitted with steering locks in 1961, the effect on vehicle theft was immediate. It fell by around 15% in a year (Webb, 1997). But there was also evidence of displacement, as motorcycle thefts increased markedly from the date of the new legislation; and there was no obvious effect at all on the trend in theft from vehicles, which continued to rise (ibid.) This is in stark contrast to the situation in England and Wales in the 1990s when theft *from* vehicles rose and fell sharply in an almost identical way to burglary and theft *of* vehicles.

Another possibility raised by Farrell et al (2011), is that the crime decline has resulted in displacement but that it is not being picked up in the figures. Indeed, Farrell contends that there may have been displacement from well-reported crimes like burglary and vehicle theft to less well-reported crimes like theft from the person, due to the change in desirability of items stolen from things people had in their cars and homes – like stereos and videos – to things people carried on their person, like mobile phones.

Mobile phone theft certainly did increase through the late 1990s and early 2000s, just as other acquisitive crime types declined. But, as Figure 5 below shows, in terms of the overall trend in acquisitive crime, this substitution effect plays only a minor role. Furthermore, this chart is taken from the Crime Survey, so should be unaffected by rates at which different crimes are reported to police.

Figure 5: Trends in CSEW acquisitive crime



Source: ONS CSEW

Overall, the propensity for acquisitive crime seems to have declined hugely from the mid-1990s and yet crime opportunities are arguably more prevalent than ever. Even without considering the impact of the internet, more and more people are now carrying valuable items like smart-phones, i-pads, etc on their person or in their handbags, meaning thieves do not even need to break into houses or cars to steal them. Yet overall, theft is less than half the level it was two decades ago. It seems hard therefore to believe that opportunity and security can have achieved this alone and without a significant reduction in either the number of motivated offenders or their propensity to commit crime.

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