

"Tap-and-PIN": Preventing crime and criminal careers from increased contactless payments

Graham Farrell, School of Law, University of Leeds
Nick Tilley, University College London
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The problem

On 15 October, the UK's contactless card payment limits (CCLs) were increased to £100, more than treble the pre-pandemic limit (Peachey 2021). This presents a significant crime risk, as we suggested in January (Farrell and Tilley 2021). Here we review the safeguarding measures that were introduced plus related arguments. We find the safeguards are inadequate while the relatively simple, elegant and proven crime prevention option of Tap-and-PIN is conspicuous by its absence. We conclude that the government and financial sector have unnecessarily compromised public safety. This is the problem.

What we know about proposed responses, and how we know it

CCLs are used around the world to prevent crime. Their widespread existence signifies that the crime risk is universally recognised. Our previous Briefing described strong theory and evidence suggesting crime would increase if the UK's limits increased to £100. In the medium term – over the years as COVID-19 becomes endemic - crime increases can be expected. These will include theft (on the street, in pubs and bars, and elsewhere), as well as robbery, burglary, and theft from vehicles where cards are targeted, plus fraudulent card use. In the longer term, we are concerned that larger cohorts of young offenders, who learn that such acquisitive crime is easy and rewarding, will progress to be career criminals, committing more regular and diverse crimes including violence.

The initial justification for increased CCLs was that reduced physical contact would contain coronavirus spread. It is now known that aerosols are the main vector of virus transmission (Lewis 2021), and the justification appears to have switched from health to economic policy: reduced friction at point-of-sale will increase consumer spending and help stimulate economic recovery.

What we think might happen in the COVID-19 pandemic

We think there has been some misrepresentation of safeguarding issues, and that proposed safeguards are of limited value. These may be the reason that we think the most effective, simple and largely elegant safeguard measure of Tap-and PIN has been overlooked.

We think it is misleading to suggest that the previous CCL increase, from £30 to £45 in April 2020, did not cause increased theft and fraud and therefore a further increase will not lead to a rise on crime. The CCL increase was much smaller, plus theft rates were down by about half at the time due to lockdown restrictions (Office for National Statistics 2020), so even any short-term increase would go unnoticed. We also think it is a misrepresentation to suggest that crime did not increase in Australia and Singapore where CCLs recently increased. Both countries had extended lockdowns which reduced theft rates, so we would not expect theft and fraud increases yet to be noticeable. Mostly, though, both these arguments miss our main point, which is that crime increases will occur *after* the pandemic, as COVID-19 becomes endemic.

We think the UK's two existing measures will be unsuccessful for the following reasons:

- 1. Customers set the limit:* Three banks will allow users to set their own contactless limit between £30 and £100 (Kaveh 2021). Limitations: The default limit on cards will often be the maximum, which is designed to nudge consumers to keep that setting. Even those who initially set a lower limit will, over time, increase their limits towards the maximum. Conclusion: A token gesture that will not prevent crime.
- 2. Cumulative spending limits:* Intended to prevent thieves from repeated fraudulent card use, cumulative limits have increased to £300 (from £145), after which a PIN is required. Limitations: Banks do not necessarily enforce the limit (Cavaglieri 2016). Where the limit is enforced, fraudulent use of £300 per day is still possible, or over £2K per week when a card is not disabled. This makes card theft attractive.

Some ideas in response

Tap-and-PIN would provide a simple, elegant, and effective way of reducing the risk of an unwanted and unintended crime harvest from increasing CCL. It requires a PIN (the existing 4-digit card Personal Identification Number) to be entered after a contactless card transaction. It works in a similar way to Chip-and-PIN which previously, if imperfectly, restrained card theft. It would not require the user to put their card in the machine. What if users forget their PIN? This is not an issue specific to CCLs because users need a PIN for anything undertaken in a bank branch, for any cash-machine (ATM) transactions, for some online transactions and so on, and the solution is to request a new PIN from the bank.

Tap-and-PIN uses two-factor authentication as used for unlimited contactless payments such as Apple Pay, Google Pay or Samsung Pay (which may use PIN or biometrics). It would make cards less attractive to thieves who do not know the PIN. While theft of the PIN (looking over the shoulder) is possible, it is difficult and risky, and consequently rare.

Our main conclusion is public safety has been unnecessarily compromised, and that a simple and elegant off-the-peg solution is available.

Relevant resources and references

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- Lewis, D. 2021. [COVID-19 rarely spreads through surface. So why are we still deep cleaning?](#) Nature, 29 January.
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About this series:

This is brief 28 of a series of short, speculative papers developed by the UCL Jill Dando Institute to support the police services during the current pandemic. The raison d'être of the series is fully described at: <https://www.ucl.ac.uk/jill-dando-institute/research/COVID-19-special-papers>