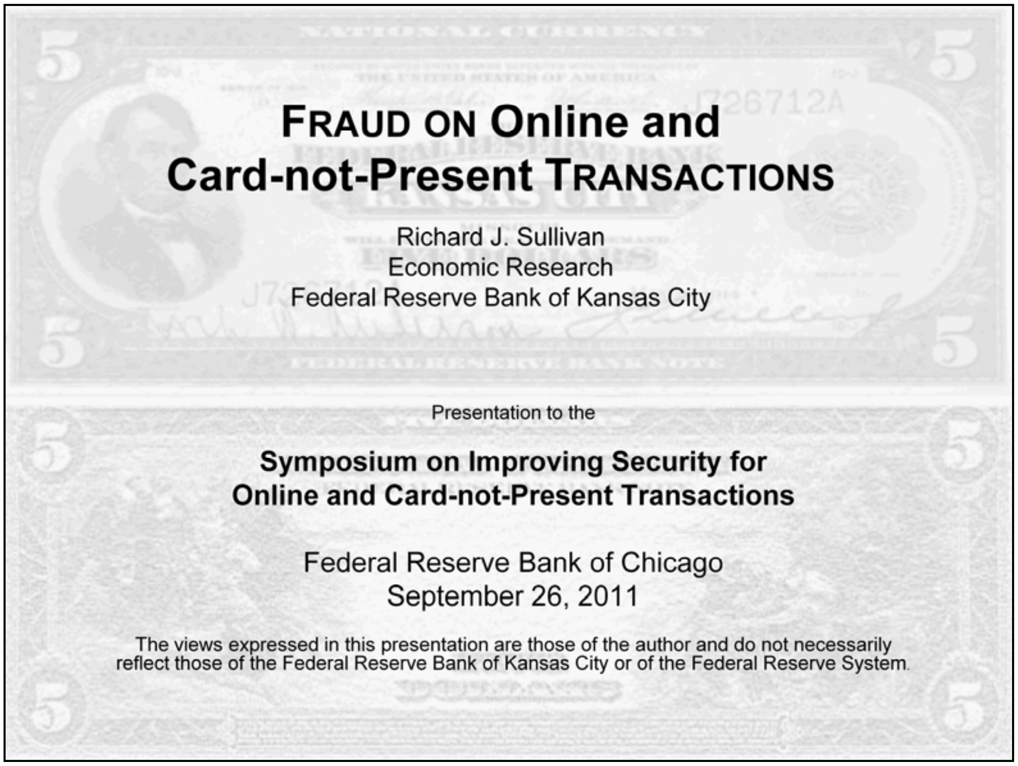

Fraud on Online and Card-not-Present Transactions

Richard J. Sullivan
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Federal Reserve Bank of Kansas City

Presentation to the

Symposium on Improving Security for Online and Card-not-Present Transactions

Federal Reserve Bank of Chicago
September 26, 2011

The views expressed in this presentation are those of the author and do not necessarily reflect those of the Federal Reserve Bank of Kansas City or of the Federal Reserve System.

Very glad to be here.

Four observations

1. Dynamics of card payment approval
2. The promise of PCI has not been realized
3. Options for the future: digital two-factor authentication
4. Potential government oversight

Note disclaimer. Me: Fed 17 years. 9 with banking supervision, the rest in payments research; bank risk a common theme to my research

1. Dynamics of card payment approval

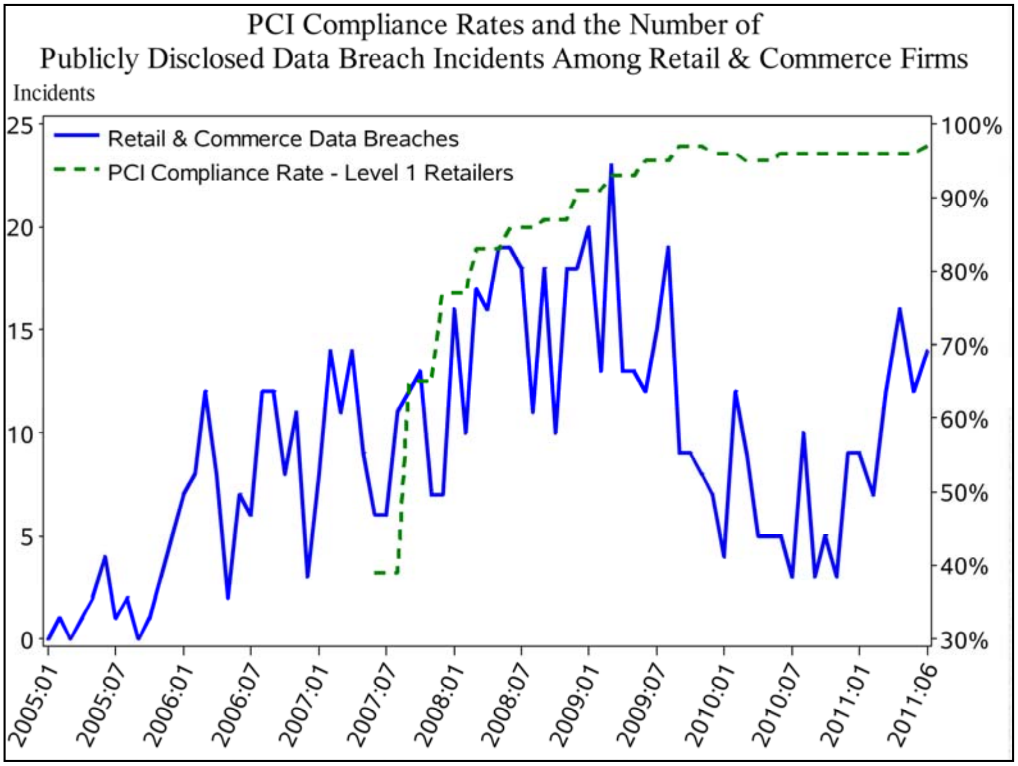
    -Fraudsters are gaming ecommerce merchant screening systems, sending “clean” transactions to merchants (Cybersource)

    -Accurate billing address and card verification codes, botnets submitting orders to disguise location, reshipping services to provide a variety of delivery addresses

    -Recommendation: get more data, do more sophisticated analysis for screening

Problem: information-intensive card payment approval leads to an escalating cycle of information defenses and information attacks

Diminishing returns?



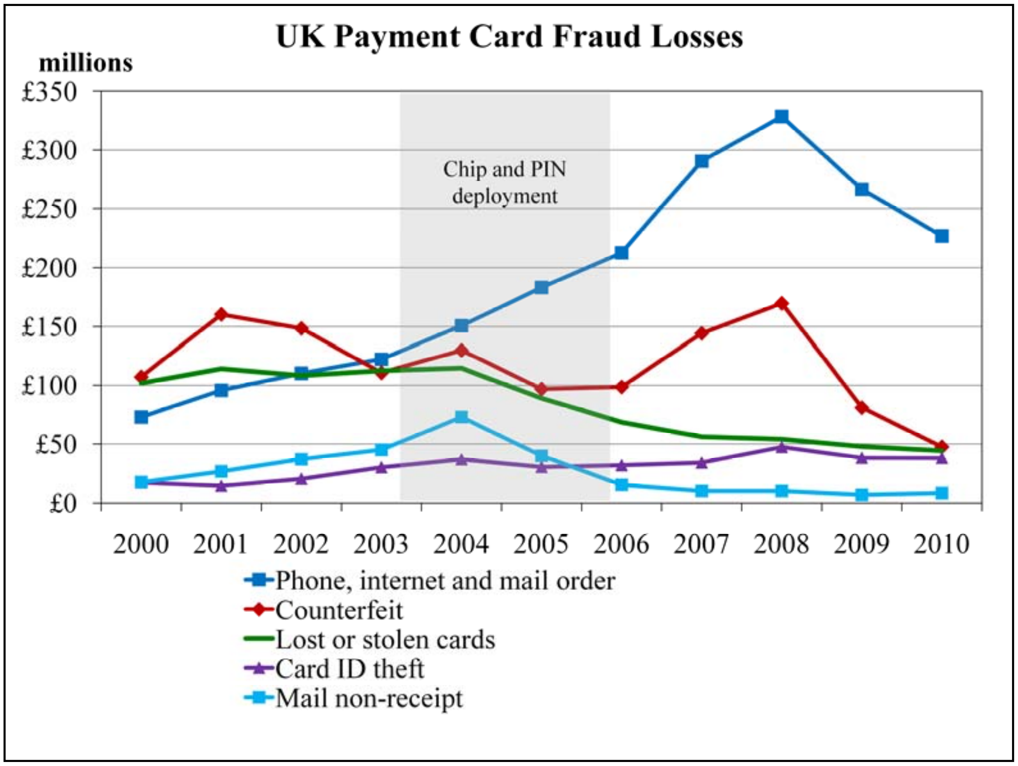
2. Current strategy: protect data

•The promise of PCI has not been realized

- •Breaches at retail and commerce companies (DLDB)
- •Peak year for incidents—2008 at 190 breaches (CHART)
- •In 2010, only 73 breaches—decline of 38%
- •Reversal of trend: Through June 2011, 70 incidents that has exposed 105 million records

•PCI compliance are near 100% for level 1 merchants, and there has been progress in smaller merchants

- •PCI is stumbling
- •Higher levels of compliance does not appear to be holding back the hackers
- •Must expect a wave of fraud from this stolen information, much of which will target ecommerce and CNP transactions



3. UK experience: increase in counterfeit and CNP fraud after EMV adoption

•But what caused CNP fraud to decline? Maybe 3D secure?

•2008: “uptake of Verified by Visa is low” (The Register); customers unhappy about being forced to use 3D secure;

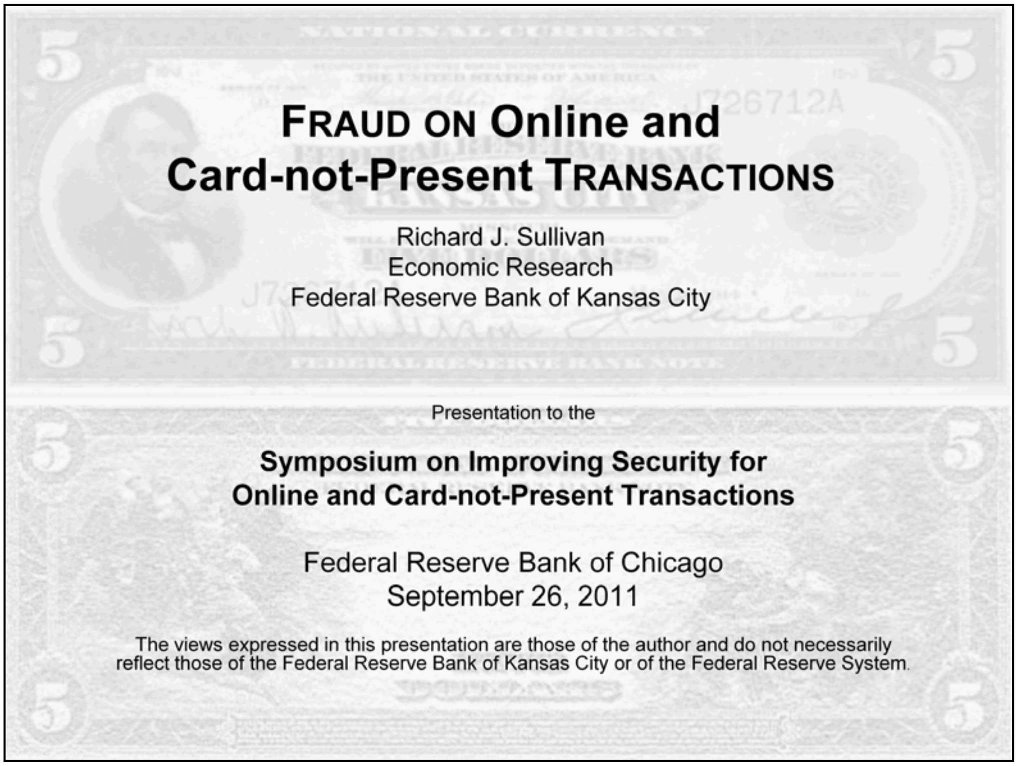
•2011: BRC—50% of UK issued cards are “enrolled and regularly use 3D secure”; some acquirers make 3D secure a condition for a merchants contract; merchants are “incentivized” to use 3D secure

•Digital two-factor authentication

•Something known, something secret

•3D Secure, PIN debit online, Secure Vault Payments (SVP), PayPal

•Does not rely solely on public information



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4. Government oversight

- Existing authority
- Bank regulation/supervision: supervisors nudged banks to upgrade internet banking security
  - Model: require upgrades but be agnostic on the exact technology
  - Could something similar be done with payment security?

- Is new authority needed?
  - Maybe: bank supervision does not directly affect retailers
  - Most important: coordination/chicken-and-egg problem--all merchants need to upgrade security to avoid competitive disadvantage.