THE CHANGING NATURE OF U.S. CARD PAYMENT FRAUD: ISSUES FOR INDUSTRY AND PUBLIC POLICY

Richard J. Sullivan
Economic Research
Federal Reserve Bank of Kansas City

Presentation to the

9th Workshop on the Economics of Information Security School of Engineering and Applied Science Harvard University, Cambridge MA June 7-8, 2010

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.

How do we know the world is changing?



Summary

- Criminals exploit weakness in an informationintensive card payment approval process
 - Nature and scale of criminal attacks to access payment information is new
- Industry is engaged
 - One result: muddled statistical record
- US card fraud loss rate is relatively high
 - Barriers limit effectiveness of industry response
- Policy should help industry self-regulate

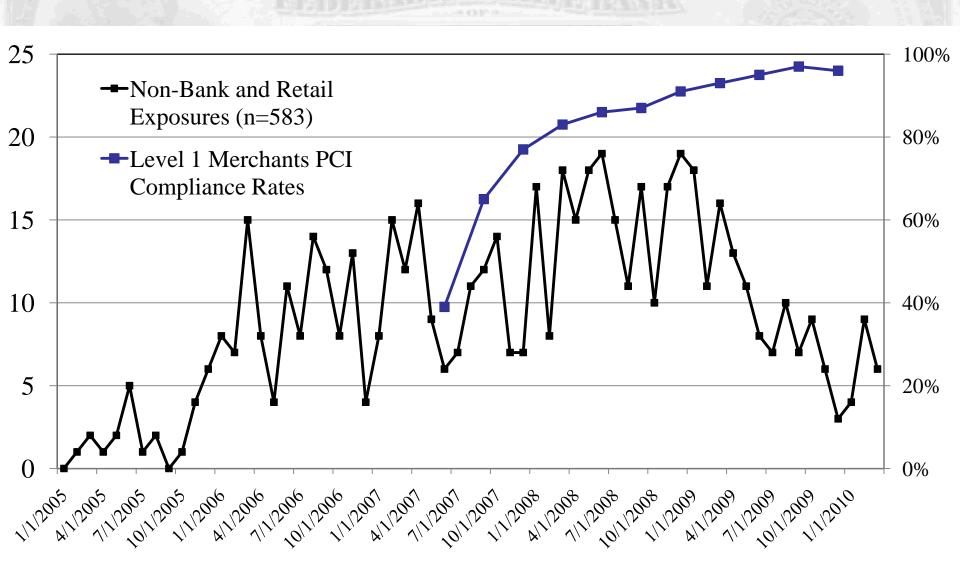
Payment Approval and Incentives to Steal Card Information

- Card networks/issuers control the payment approval system
 - Mainly based on information
- Criminals can fool the approval system
 - Creates incentive to steal data
- Policy issues
 - How bad are new sources of payment fraud?
 - How effective are counter measures?
 - Is industry self-regulation adequate?

US Initiatives to Limit Card Payment Fraud

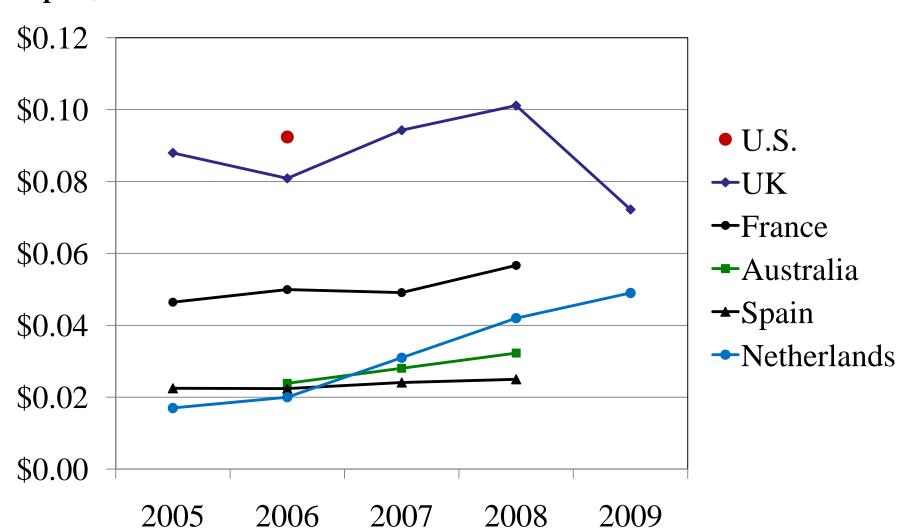
- PCI Standards
 - Led by card issuers (MC, Visa, Amex, etc.)
- Card issuers: contactless cards with transaction-specific cryptograms
- Merchants/payment service providers
 - End-to-end encryption
 - Tokenization of card numbers

Level 1 Merchant PCI Compliance and the Number of Publicly Disclosed Data Breach Incidents Among Non-Bank Payment Processors and Retailers



Fraud Losses Per Value of Transactions Domestically Issued Debit and Credit Cards

Loss per \$100



Barriers to Improving Card Payment Security

- Standard setting: open or closed?
 - Current system leads to conflicts and fraud rates suggest it could be more effective
- How to coordinate 18,000 depository institutions and over a million retail establishments?
 - Initiatives to improve card payment security may overlap

Policy and Industry Issues

- The card payment industry needs an institutional structure that fosters wide participation in developing security standards
- Why not move away from an informationintensive card payment approval system?
- Industry should provide quality statistics on card payment fraud losses

THE CHANGING NATURE OF U.S. CARD PAYMENT FRAUD: ISSUES FOR INDUSTRY AND PUBLIC POLICY

Richard J. Sullivan
Economic Research
Federal Reserve Bank of Kansas City

Presentation to the

9th Workshop on the Economics of Information Security School of Engineering and Applied Science Harvard University, Cambridge MA June 7-8, 2010

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.