A framework for analyzing the effects of regulation on payment systems

Mark D. Manuszak
Federal Reserve Board

November 18, 2011

Disclaimer
The views expressed here are those of the presenter and do not necessarily reflect the view of the Board of Governors or its staff.
Incentives of many parties matter

- Many different parties
  - End users
  - Banks
  - Other intermediaries
- Making many different decisions
  - Payment choice
  - Pricing
  - Product offerings and features
  - Fraud avoidance and mitigation activities
  - Investments
- Facing different incentives

Regulation can affect incentives and responses of various parties in different ways
Debit cards and Regulation II

Network

Acquirer
Merchant

Issuer
Consumer

Legend: ↓ Path of information transmission
        ↓ Path of fees paid

Switch fee
Interchange fee
Card fees and rewards
Merchant discount

Consumer initiates card transaction at merchant
Signature and PIN debit

- Two primary forms of authentication for debit card transactions
  - Signature/dual-message
  - PIN/single-message
- Prior to Reg II,

<table>
<thead>
<tr>
<th></th>
<th>Volume (billions)</th>
<th>Value ($, billions)</th>
<th>Average IF ($)</th>
<th>Average IF (%)</th>
<th>Average fraud loss (bps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>22.5</td>
<td>836.5</td>
<td>0.56</td>
<td>1.53</td>
<td>13</td>
</tr>
<tr>
<td>PIN</td>
<td>13.9</td>
<td>554.9</td>
<td>0.23</td>
<td>0.58</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: 2009 Interchange Revenue, Covered Issuer Cost, and Covered Issuer and Merchant Fraud Loss Related to Debit Card Transactions (Board of Governors of the Federal Reserve System)
Interchange fees under Reg II

- Covered issuers are permitted to receive interchange fees up to 21 cents + 5 bps
  - Applies to issuers with consolidated assets > $10 billion
  - Implies interchange fee of 23 cents on $40 transaction
  - Allows additional 1 cent under fraud-prevention adjustment

- Limitation on fees applies equally to:
  - All covered issuers
  - All types of transactions (e.g., card-present vs. card-not-present)
  - All forms of authentication (e.g., signature vs. PIN)

- **Question:** What are the potential implications of the common treatment of signature and PIN for ________?
Incentives related to sig vs. PIN

- Issuer: Promote sig or PIN
  - Interchange revenue
  - Costs
  - Other margins for adjustment
- Consumer: Choose sig or PIN
  - Fees (and perks)
  - Convenience
  - Security and liability
  - Merchant acceptance
Incentives related to sig vs. PIN

- **Acquirer**: Pass-through and blending of fees
  - Responsiveness of merchants
- **Merchant**: Accept and encourage sig or PIN
  - Current acceptance practice
  - Cost of acceptance
  - Cost of transactions
  - Convenience
  - Security and liability
  - Consumer demand
Other examples

- Network choice
- Payment method
- Network structure and rules
- New technologies