Participants: David Nelms and Kelly McNamara (Discover); Dave Schneider (PULSE)
Louise Roseman, Stephanie Martin, Dena Milligan, David Stein, Ky Tran-Trong, Mark Manuszak, David Mills, Chris Clubb, Jeffrey Yeganeh and Edith Collis (Federal Reserve Board); Julia Cheney (Federal Reserve Bank of Philadelphia)

Summary: Federal Reserve staff met with representatives of Discover to discuss the interchange fee provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”). Discover Financial Services issues debit cards and owns a PIN network (commonly referred to as PULSE).

Using prepared materials, representatives of Discover provided background on Discover’s debit cards, its PIN network, and the PIN-debit market more generally. As part of this discussion, representatives from Discover also discussed fraud-prevention capabilities offered by the network and characteristics of the current market that enhance a network’s ability to monitor and detect fraud. Representatives of Discover discussed possible approached to establishing issuer-specific interchange fees and preventing evasion of the interchange fee and network routing/exclusivity provisions of the Dodd-Frank Act. A copy of the prepared materials distributed at the meeting is attached.
Perspectives on the U.S. Debit Market

October 28, 2010
Topics for today

• Overview of Discover Financial Services and our debit businesses

• Evolution of the debit market

• Network competition in debit
Overview of Discover Financial Services

US card issuing
- $45 BN in receivables
- Leading cash rewards program
- 1 in 4 U.S. households

Deposits and Other Lending
- $19 BN in consumer deposits
- $5 BN in personal and student loans

Discover:
- $94 BN volume
- 30+ issuers

Diners Club International:
- $27 BN volume
- 50 franchises
- 185 countries/territories

Pulse:
- $112 BN volume
- 4,400+ issuers

Note: Balances as of August 31, 2010; Volume based on the trailing four quarters ending fiscal 3Q10
We have made a significant commitment to debit

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**2005**
- DFS acquires PULSE

**Today**
- Acquisition followed 2004 DOJ ruling removing the key barrier to DFS entering the third-party network space

- PIN debit network
  - 2005: check
  - Today: check
  - Continued strong growth

- Broad-based issuance
  - 2005: >4,400 issuers
  - Today: check

- Domestic ATM network
  - 2005: check
  - Today: check
  - Continued expansion

- Signature debit network
  - 2006: Discover Debit
  - Today: check

- International ATM network
  - 2008: Connectivity to >700,000 ATMs
  - Today: check

- Merchant signature acceptance
  - 2010: Comparable to major competitors
  - Today: check
PULSE has been a success story for 30 years

- Founded in 1980 by seven bank holding companies
- Incorporated in July 1981 as regional EFT switch
- In January 2005, sold to Discover Financial Services to create additional choice for payments industry
- In 2009, became global cash access provider for Diners Club International
  - PULSE Global Cash Access Network includes more than 700,000 ATMs in 75 countries
- Over 4,400 financial institutions issue on the PULSE network
  - Large and small banks, thrifts and credit unions across the country
  - PIN debit merchant acceptance parity

Source: Internal PULSE Reports
Note: PULSE did not publicly disclose annual network volume in 2005, the year it was acquired by Discover Financial Services
Consumer payment preferences are clear

Many consumers prefer debit for in-store payment...

- Debit: 38%
- Credit card: 28%
- Cash: 28%
- Other: 6%

...and PIN for authentication

- PIN: 46%
- Signature: 34%
- No preference: 20%

Source: 2010 Study of Consumer Payment Preferences, based on primary research with a nationally representative sample of 3,200 consumers conducted in August 2010
## Benefits of PIN authentication

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Underlying causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 More efficient</td>
<td>• Single message</td>
</tr>
<tr>
<td></td>
<td>• Lower incidence of chargebacks</td>
</tr>
<tr>
<td>2 Lower fraud</td>
<td>• More secure form of authentication</td>
</tr>
<tr>
<td></td>
<td>• Significant network investments</td>
</tr>
<tr>
<td>3 Distinct applicability</td>
<td>• All consumers qualify for PIN debit</td>
</tr>
<tr>
<td></td>
<td>• Enhanced functionality (e.g. cash back)</td>
</tr>
</tbody>
</table>

*PIN is the global debit standard preferred by both merchants and consumers*
Networks provide important fraud prevention capabilities

- Many networks employ neural networks to monitor transactions and identify suspicious activity
- PULSE has invested in – and continues to invest in – advanced fraud detection techniques
- Fragmentation reduces the effectiveness of network fraud prevention

2010 PULSE fraud product roadmap

<table>
<thead>
<tr>
<th>Year</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>- Custom rules</td>
</tr>
<tr>
<td></td>
<td>- Rules optimization analytics</td>
</tr>
<tr>
<td></td>
<td>- Security subcommittee</td>
</tr>
<tr>
<td>2011</td>
<td>- New FI web interface</td>
</tr>
<tr>
<td></td>
<td>- FI engagement program</td>
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<tr>
<td>2012</td>
<td>- Enhanced authorization</td>
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<tr>
<td></td>
<td>- DebitProtect forum</td>
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<tr>
<td></td>
<td>- Fraud 360° website</td>
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<tr>
<td></td>
<td>- Point of compromise analytics</td>
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<tr>
<td></td>
<td>- Transaction decisioning and card autoblocking</td>
</tr>
</tbody>
</table>
PIN debit market share

PIN Debit payment networks’ market share (estimated)
% of PIN debit volume

Debit products and technology are evolving

“Offline debit” → Electronic capture → PIN encryption → “Online debit”

“Signature debit” → Signature-less applications → PIN-less applications → “PIN debit”

“Dual message” → eCommerce → Mobile → Chip & PIN → “Single message”

Debit
Debit market share

Debit payment networks’ market share by authentication method (estimated)
% of total volume

- PIN POS: 35% (Visa/Interlink 46%, Mastercard/Maestro 4%, STAR/First Data 20%, Discover/Pulse 15%, NYCE/FIS 10%, Others 5%)
- Signature POS: 65% (Visa/Interlink 80%, Mastercard/Maestro 20%)

Debit payment networks’ market share of the total debit market (estimated)
% of total debit volume

- Visa/Interlink 70%
- Mastercard/Maestro 15%
- STAR/First Data 8%
- Discover/PULSE 3%
- NYCE/FIS 3%
- Other 1%

Source: 2009 EFT Data Book, Federal Reserve, SEC Filings, Nilson reports, PULSE internal data and analysis
Thank you