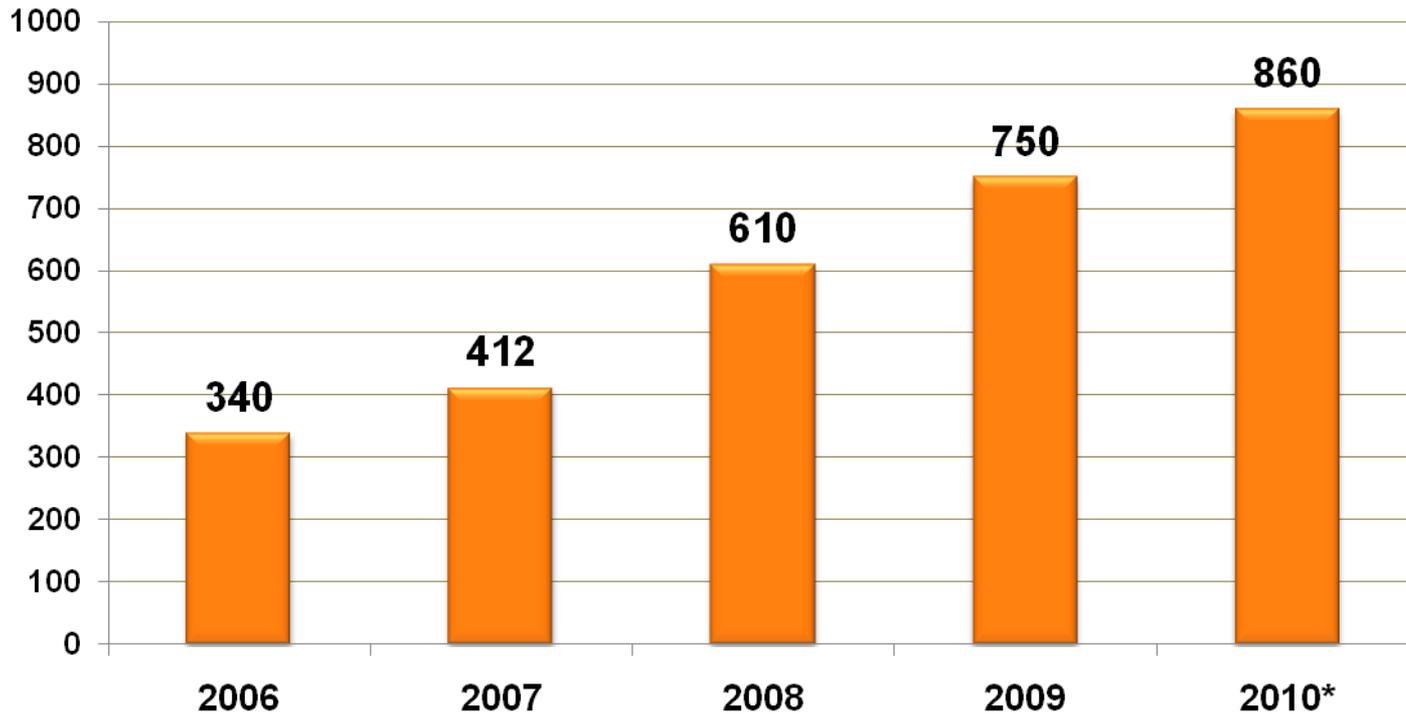


EMV Drivers

Jack Jania
November 2010

The EMV Growth Trend

**SPA Shipments of Worldwide EMV cards Per Year
(k units)**

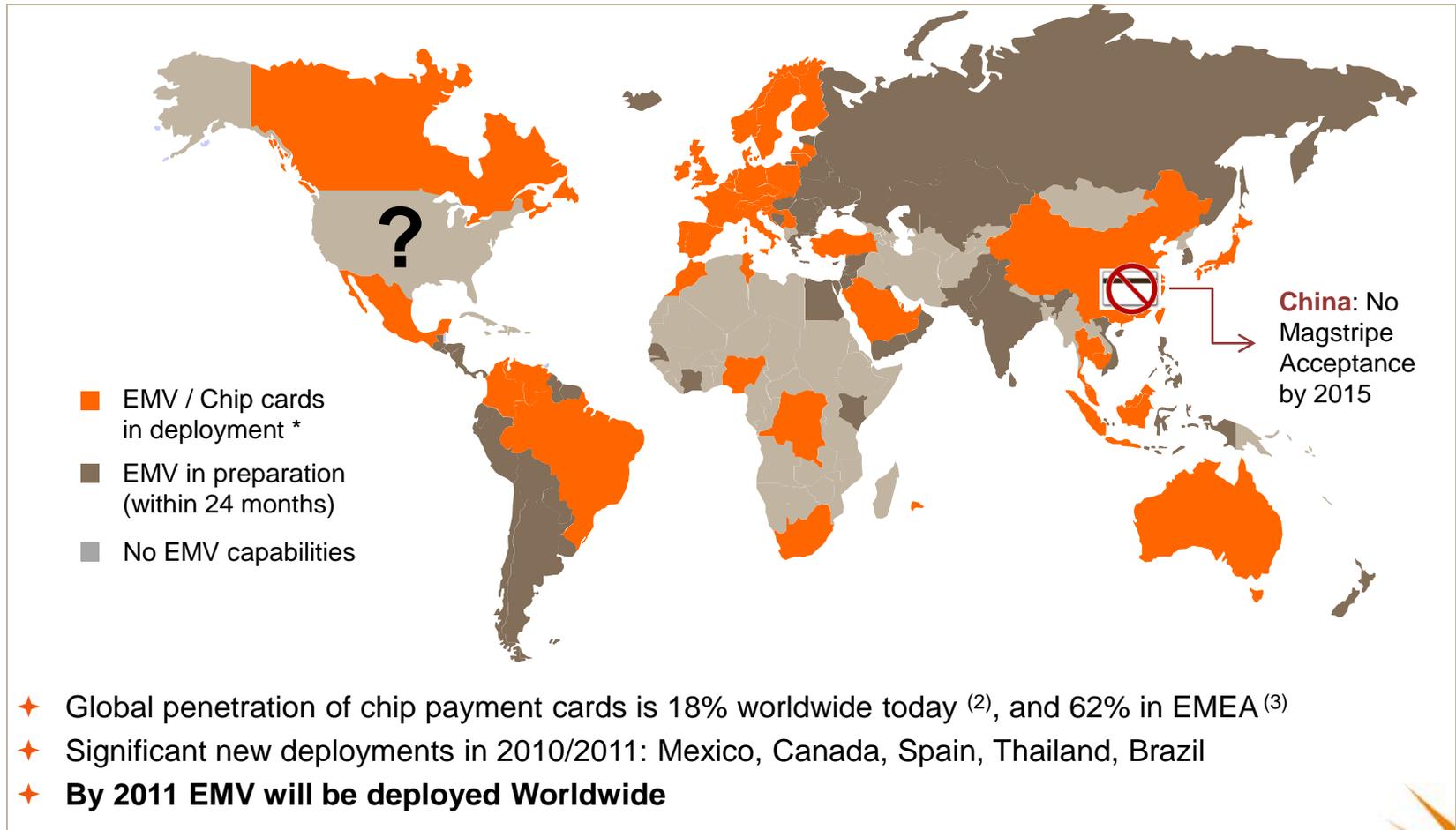


✧ **20% - Five Year CAGR**

Source: EuroSmart Q3 2010
* 2010 Shipments projected

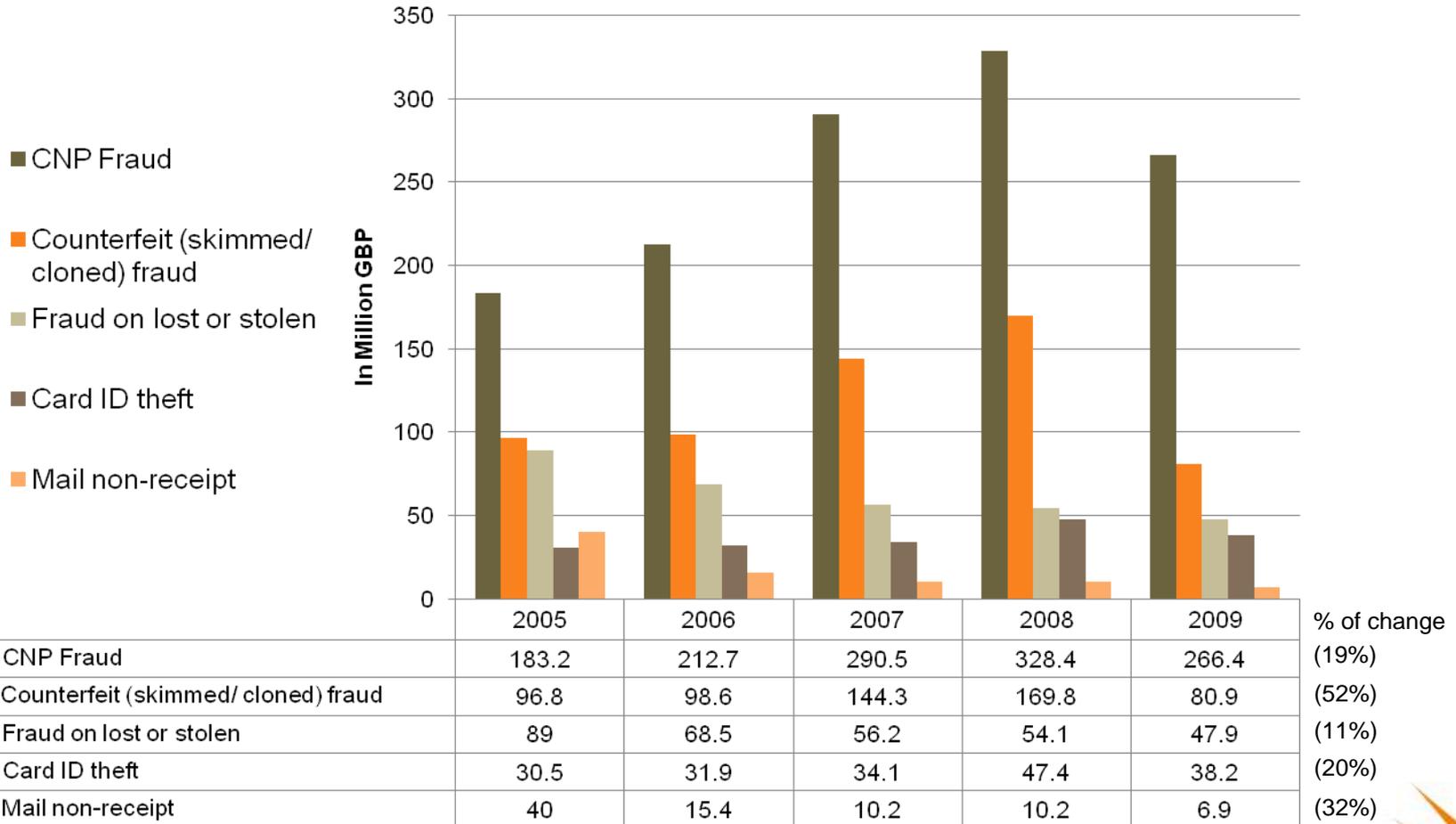
Global EMV Migration Map

Worldwide EMV Deployments (1)



EMV Deployment Fraud Reduction

UK issued first EMV based cards in 2004



Source: UKCARDS Association – March 2010

Overseas Merchants Are Refusing Magstripe

Acceptance issue = a convenience issue for US card holders

- ✘ Mag-stripe cards not accepted at some point of sales
 - (e.g. unattended vending machines, car parks, tolls...)
 - Chip & PIN mandatory

Education issue

- ✘ Merchant clerks **ONLY** trained to conduct EMV transactions
 - Chip & PIN is now the standard payment
 - Clerks not trained to use mag-stripe cards
 - (e.g. small shops that do not see foreign cards frequently)
 - Language can be a barrier to mag-stripe acceptance

Trust issue

- ✘ Increase of fraud on non-EMV foreign cards at EMV merchants
 - EMV Merchants not liable for non-EMV fraudulent transactions
 - Acquirers increasingly transfer part of the cost
 - e.g. Asian acquirers require merchants to provide a security deposit of US\$25,000 to cover the fines the acquirer sustains when skimming originates within their merchant base)
 - Media reports of additional fees charged to U.S. card holders to process magstripe transactions

Half of U.S. Travelers Face Magstripe Card Acceptance Issues Abroad

- ✧ **2/3 of cardholders** adjust payment behavior after a bad experience, directly resulting in lower usage of the problem card
 - IN THE U.S.

- ✧ An estimated **9.7 million U.S.** cardholders experienced issues with card payments abroad in 2008.
 - Of these **9.7 million cardholders**, **5.5 million** would have spent on average an extra **US\$712 per year** on their cards had they not experienced issues.

Source: Aite Group. (10/2009) The Broken Promise of Pay Anytime, Anywhere: The Experience of U.S. Cardholders Abroad

EMV Addresses International Traveler Dilemma

✧ Case Study: RBC Platinum Avion Card

- First EMV card product issued for international travelers originating from a non-EMV country (Canada)
- Recently surpassed 10 million worldwide transactions



“In the past four years (2003–2007) RBC Avion cardholders have been using chip in over 100 countries worldwide, most often in Europe and South America, but also in Saudi Arabia, Australia, and South East Asia.”

Merchant View Changing

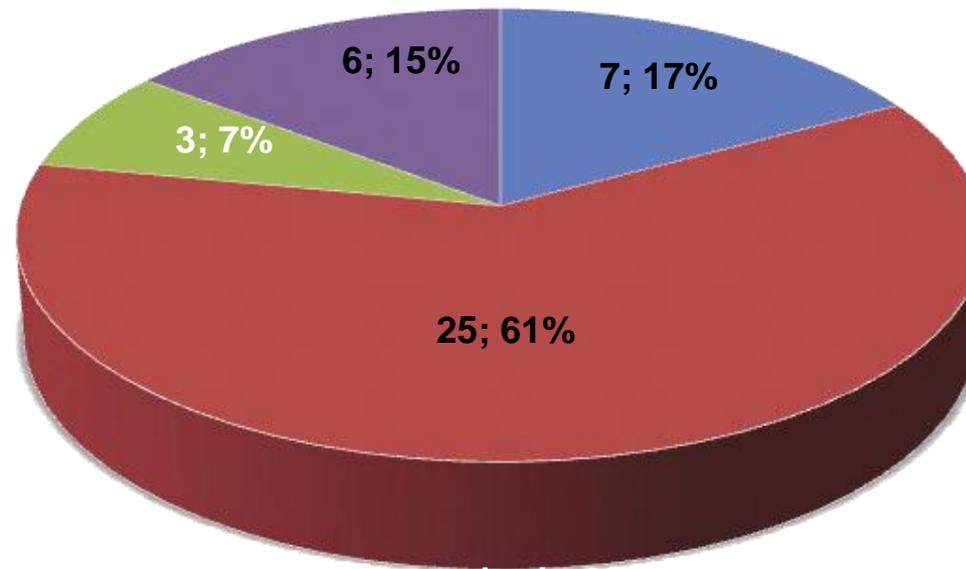


"It's time for chip-and-pin in the U.S.!"

Jamie Henry, Wal-Mart's Payment Services Director

Merchants Are Willing To Invest: Want System-wide Collaboration On A Roadmap

If your company is not EMV chip and PIN capable today, would you consider accelerating terminal replacement if the U.S. payments industry announced a system wide plan to move to chip and PIN, including related timelines?



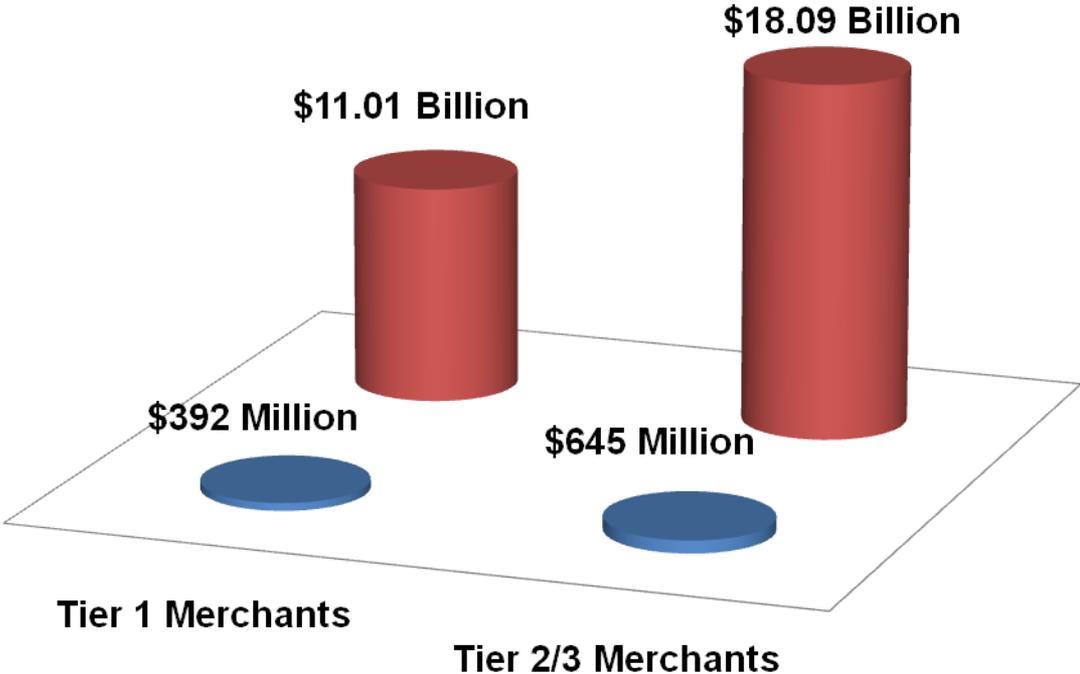
- Yes, regardless of effect on rates/liability shift
- Yes, but only if resulted in changes in rate/liability shift
- No
- No response (NR)

Source: Merchant Advisory Group— August 2010

EMV Could Have A Direct Impact On PCI fraud Cost

PCI Cost Could Be Reduced With EMV Deployment

■ Ongoing PCI Spend ■ PCI Spend To Date



Conclusion

- ✧ U.S. travelers are not able to use their cards abroad
 - WW EMV adoption YOY increase will make the problem worse
 - Unattended Kiosks utilization will continue to grow
 - Small merchants where clerk have conflicting instructions
- ✧ Issuers report up to 15% international transactions
 - Real revenue loss do to utilizing cash
- ✧ Customer satisfaction impacted
- ✧ Bottom of wallet stickiness upon return home
- ✧ U.S. merchants seek the benefits of EMV to reduce fraud & costs



CHIP CARDS ONLY

Notice on a SNCF (French railroads) ticket machine: magnetic stripe cards cannot be used.

Thank You

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