

THE RISE OF ELECTRONIC PAYMENTS

In this issue

PRODUCT SPOTLIGHT

In this issue, we take a look at some of the ways that PNC is using mobile technology to provide more efficient commercial payments to our clients.

INDUSTRY SPOTLIGHT

Explore the many benefits that electronic payments can provide to the healthcare sector.

BY THE NUMBERS

Big changes are coming. Review key statistics related to the rollout of EMV® payments in the U.S.

NATIONAL ECONOMIC UPDATE

A NOTE FROM JEFF FELSER, SENIOR VICE PRESIDENT



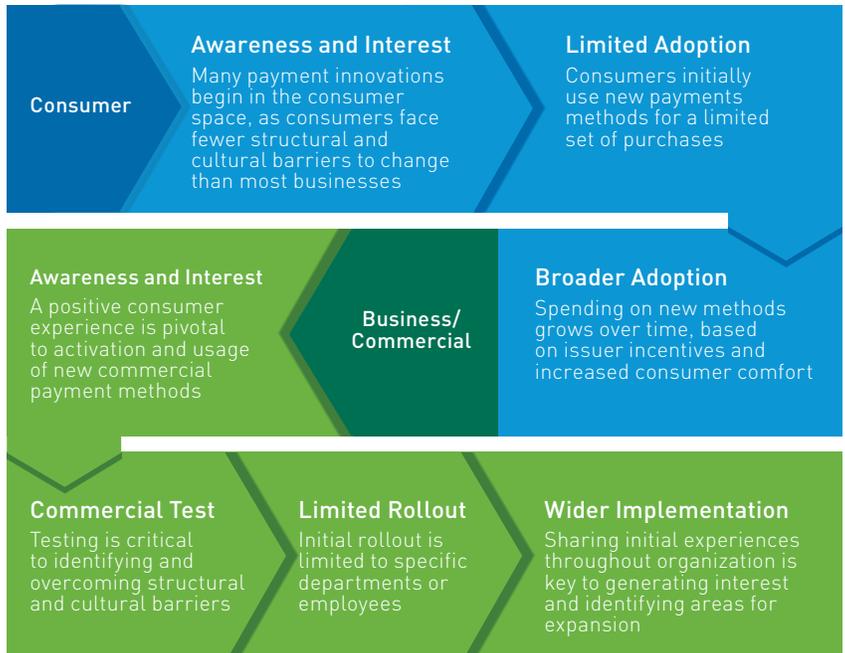
With the growing adoption of electronic payments and emergence of new payment methods, the payments landscape will continue in its evolution over the next few years.

New technologies will play an increasingly important role in the management of payments by consumers and businesses alike. Here at PNC, we are committed to early adoption of new technologies that help improve commercial payment processing efficiency and productivity for our clients.

In this issue, we'll take a look at some of the latest trends and where we expect payments to be headed over the next few years. These trends include the continued decline of paper-based payments, the emergence of new payment methods, and the growth of corporate financial management technology.

The following chart shows the typical adoption pattern for emerging payment methods and financial management technologies.

ADOPTION PATH FOR NEW PAYMENT METHODS

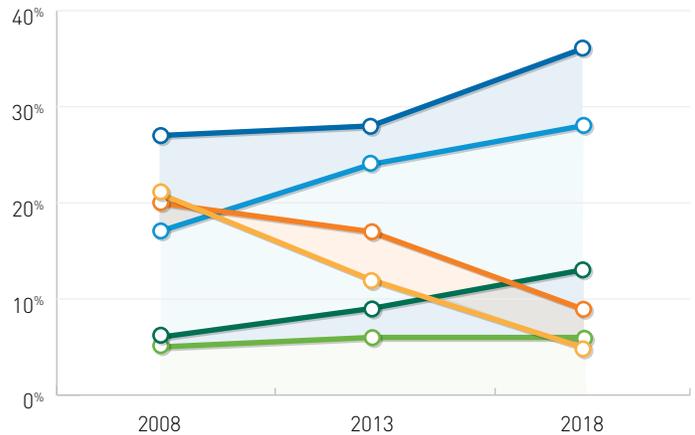


ELECTRONIFICATION OF PAYMENTS

Though paper-based transactions have long held a dominant share of consumer payments, it is eroding. The Nilson Report¹ projects that cash and checks' share of U.S. consumer payments volume will fall dramatically from 30% in 2013 to 14% in 2018. Even with that decline, cash and check payments will still account for \$1.6 trillion in annual payments volume.

However, there is strong momentum in adopting more convenient electronic payment methods. With total consumer payments dollar volume projected to grow by 27% during this period, the decline in cash and check spending is being offset by increased card usage and adoption of other emerging methods including preauthorized payments and online bill pay.

SHARE OF CONSUMER PAYMENTS VOLUME

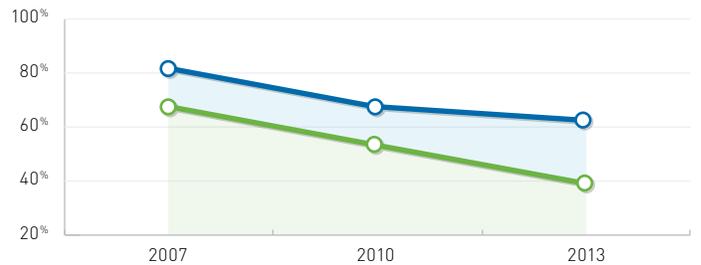


- CARD**
 - Credit Cards
 - Debit Cards
- PAPER**
 - Cash
 - Checks
- ELECTRONIC**
 - Pre-Authorized Payments
 - Remote Payments

Source: The Nilson Report, issue 104, December 2014
 Preauthorized payments are handled electronically through an automated clearing house
 Remote payments are made using a telephone or computer

Mirroring consumer payments, checks' dominant share in commercial payments is also steadily declining. According to the Association for Financial Professionals, among large firms with more than \$1 billion in revenues, checks accounted for 40% of payments volume in 2013, down from 68% in 2007.

CHECK SHARE OF B2B PAYMENTS

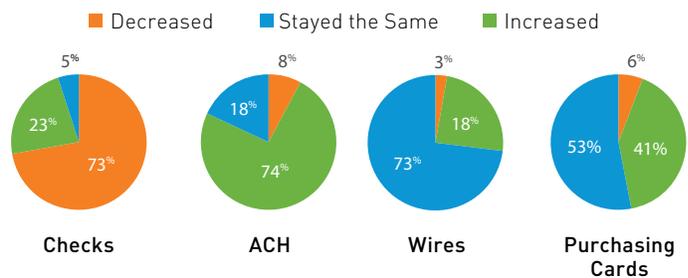


- Firms with <\$1B in Revenues
- Firms with >\$1B in Revenues

Source: 2013 AFP Electronic Payments Survey, Association for Financial Professionals

Decreased commercial check usage has led to increases in electronic payments, which include commercial cards, wires and ACH. According to a 2014 PayStream study, a significant percentage of businesses grew their usage of ACH and purchasing cards in 2013, with nearly three quarters of businesses of all sizes reporting much lower check usage.

CHANGE IN USE OF COMMERCIAL PAYMENT METHODS



Source: Paystream's 2013 Electronic Supplier Payments research, reported in "Migrating from Paper to Electronic Payments," NAPCP TransAct! Newsletter, April 29, 2014

THE LATEST PAYMENT TECHNOLOGIES

2015 looks to be a watershed year for new technology innovations, two of which—EMV and mobile payments—have already garnered much attention and should see accelerated adoption this year. In addition, there are a range of emerging payments that are at an embryonic stage of development, but which could also find ready markets in the coming years. These include wearables, virtual currency, and peer-to-peer payments.

EMV CARDS

Europay, MasterCard® and Visa® (EMV) is a payments technology that augments magnetic stripes on cards with electronic chips. EMV cards are well established in Europe and Asia, where their introduction led to a decline in card fraud. EMV has been slower to take hold in the U.S. However, in October 2015, the liability for fraudulent, credit card transactions will switch from issuers to merchants for any merchants that have not upgraded their terminals to accept EMV payments. In advance of this deadline, issuers are distributing new chip-enabled plastic; 575 million credit cards (71% of the total) are expected to be EMV-enabled by the end of the year.² Merchants are rapidly upgrading their terminals to accept chip transactions: 59% of terminals are expected to be ready to accept EMV transactions by the end of this year.³

Both issuers and merchants have started to engage with cardholders to educate them on switching from mag-stripe to chip-based payments. To ease consumer adoption, most issuers have embedded chip-and-signature functionality into their consumer credit cards, which involves less behavior change than asking consumers to switch to chip-and-PIN right away. However, in the commercial card space, many issuers—including PNC—also provide chip-and-PIN functionality, which provides an additional layer of security.



MOBILE PAYMENTS

U.S. mobile-based payments are projected to nearly triple, from \$50 billion in 2014 to \$142 billion in 2018.⁴

This anticipated increase is based on the strong growth in smartphone and tablet usage; according to eMarketer, more than a quarter of U.S. smartphone users will use mobile payments.⁵ We are seeing the emergence of a range of mobile wallets and mobile payment services to capture a share of this growing market. One such service is **Apple Pay™**, which was launched in September 2014.

In early November 2014, PNC rolled out Apple Pay to its consumer credit and debit cardholders. Only four months following its launch, this near-field communications (NFC)-based mobile payment service had alliances with 750 financial firms that account for 90% of U.S. consumer credit card volume.

At the same time, Apple Pay entered into partnerships with leading card networks like Visa, MasterCard and American Express®. And Apple® reported in March 2015 that 700,000 U.S. locations could now accept Apple Pay for mobile payment.⁶

A recent survey found that security concerns constituted the main barrier to using Apple Pay or other mobile payment services.⁷ To address consumer concerns regarding mobile payments security, Apple Pay incorporates tokenization, a process of replacing a sensitive data element (such as an account number) with a non-sensitive element (called a token) in a transaction.

Currently, Apple Pay is mainly available to participating issuers' consumer credit and debit cardholders. A few issuers have extended Apple Pay to their small business credit cardholders. While no issuer has as yet made Apple Pay available on their corporate cards, it is anticipated that Apple Pay will be extended to corporate and commercial cardholders in 2016.

Other companies looking to develop leadership positions in mobile payments include:

- **Google®:** Launched the NFC-based Google Wallet™ in 2011, and recently entered into an agreement with AT&T, Verizon and T-Mobile—the three carriers who created Softcard—to preinstall Google Wallet on new Android™ phones sold by these carriers later this year. Google also acquired technology and intellectual property from Softcard.⁸ In addition, they launched Android Pay, a platform that enables developers to incorporate payments into their apps.⁹
- **Samsung™:** In March 2015, Samsung launched two new smartphones (Galaxy S6 and S6 Edge), which will be available in the U.S. in the summer of 2015. Both new phones will have Samsung Pay pre-installed. The phones can be used with both magnetic card-reading technology (following Samsung's acquisition of LoopPay) and NFC.
- **PayPal®:** In March 2015, PayPal announced the acquisition of Paydiant, a payments firm that powers payment apps for large companies, including MCX, an alliance of large merchants (including Walmart, Target and CVS) that is developing a payment app called CurrentC to compete directly with Apple Pay and other NFC-based payment options. In addition, PayPal announced that its Here point-of-sale reader would enable merchants to accept NFC payments.

In addition, there are a large number of mobile payment startups vying for position as this market starts to gain critical mass.

FOCUSING ON EMERGING COMMERCIAL PAYMENTS TECHNOLOGIES

At PNC, we are continually looking to introduce new payment methods and management tools that enhance and improve productivity for our commercial clients' payment processes.

In previous issues of *Payment Solutions News*, we discussed our introduction of e-invoicing as well as enhancements to our corporate card suite, including the incorporation of chip-and-PIN functionality.

In the *Product Spotlight* section of this issue, we showcase some of our most recent commercial mobile applications, including ActivePay® Mobile Receipt Capture and Visa IntelliLink® Receipt Imaging, which address clients' needs for simplification in T&E and purchasing card receipt aggregation and accounting.

IN THIS ISSUE

- Take a look at some of the ways that PNC is using mobile technology in the *Product Spotlight*.
- We focus on how the Healthcare sector can benefit from electronic payments in the *Industry Spotlight*.
- In *By the Numbers*, we present some key statistics related to the adoption of EMV payment technology in the United States.

PAYMENTS TECHNOLOGY SNAPSHOT

In addition to EMV and mobile payments, which already have strong awareness and are expected to move towards critical mass in the next few years, there are a number of other payment technologies on the horizon.

	<p>Wearables</p>	<p>Make payments via an electronic device worn on your body</p> <ul style="list-style-type: none"> ▪ Apple announced plans to launch Apple Watch in April 2015, with prices to start at \$349¹⁰ ▪ Issuers like Discover^{®11} and Barclaycard¹² are creating wearable payment apps ▪ A recent survey found that 67% of smartphone users would prefer to use a wearable device vs. a mobile phone to make in-store payments¹³
	<p>Peer-to-Peer Payments (P2P)</p>	<p>Pay people directly via electronic channels, including social media</p> <ul style="list-style-type: none"> ▪ P2P payments are projected to rise from \$5 billion in 2015 to \$17 billion in 2019¹⁴ ▪ In March 2015, Facebook announced the launch of a peer-to-peer money transfer service¹⁵ ▪ Barclays (UK) updates its PingIt mobile payments app to enable fund transfers via Twitter handles¹⁶ ▪ PNC is developing a B2C electronic payment solution that will email or text a link to a secure website where the consumer can select their preferred payment method and direct the funds to their bank account.
	<p>Virtual Currencies</p>	<p>Transact with currency based on computer algorithms</p> <ul style="list-style-type: none"> ▪ Generating awareness and interest and some big-name merchants (Overstock[™], Expedia[®], Microsoft[®]) ▪ Lingering concerns, including volatility ▪ Bitcoin leading the charge, with strong transaction growth (but declining value)¹⁷
	<p>Cloud-Based Mobile Payments</p>	<p>Develop mobile payment systems using a cloud based architecture</p> <ul style="list-style-type: none"> ▪ Leveraging growing ubiquity of cloud-based solutions and as counterpoint to NFC-based mobile payments ▪ Google is testing “Plaso,” an Android-based mobile payments service¹⁸

Discover how PNC can deliver ideas, insights and solutions to help you achieve your objectives. Contact your Treasury Management Officer or Account Manager, or visit pnc.com/treasury.

- ¹ The Nilson Report, issue 1054, December 2014
- ² ["Payment Trends for 2015 Revealed at Payments Summit,"](#) Hospitality Technology, February 10, 2015.
- ³ Aite Group, reported in ["U.S. EMV's 59 Percent POS Milestone,"](#) PYMNTS, February 16, 2015.
- ⁴ Forrester, reported in ["U.S. Mobile Payments Market to Boom by 2019, Research Firm Says,"](#) New York Times, November 17, 2014.
- ⁵ ["Will SBOs Invest In Mobile Payments?,"](#) eMarketer Daily, February 12, 2015.
- ⁶ ["Apple Pay Now Accepted in 700,000 Locations Because Apple's Timing Was Impeccable,"](#) re/code, March 9, 2015.
- ⁷ Walker Sands Communications research, reported in ["Are Security Concerns Holding Back Mobile Payments?,"](#) eMarketer Daily, March 10, 2015.
- ⁸ ["Google Strikes Deal With Carriers for Payments,"](#) Wall Street Journal, February 23, 2015.
- ⁹ ["Google's new mobile payment platform is called Android Pay,"](#) Engadget, March 2, 2015.
- ¹⁰ ["Challenge for Apple Watch: Style but No 'Killer App',"](#) Wall Street Journal, March 9, 2015.
- ¹¹ ["Discover Tests Wearable Apps for Google Glass and Watches,"](#) eMarketer Daily, October 17, 2014.
- ¹² ["Barclaycard's Hot Ideas for Wearables Are a Chilly Forecast for Biometrics,"](#) Payments Source, December 17, 2014.
- ¹³ ["Wearables: The Next Mobile Payment Device?,"](#) eMarketer Daily, March 3, 2015.
- ¹⁴ ["Facebook Launches Peer-To-Peer Payments,"](#) Social Media and Marketing Daily, March 18, 2015.
- ¹⁵ ["Facebook Launches Peer-To-Peer Payments,"](#) Social Media and Marketing Daily, March 18, 2015.
- ¹⁶ ["Barclays launches Twitter payments via PingIt mobile app,"](#) The Paypers, February 26, 2015.
- ¹⁷ ["Bitcoin transactions to double by 2017,"](#) The Paypers, February 12, 2015.
- ¹⁸ ["Google is testing 'Plaso' mobile payment service to challenge Apple Pay,"](#) The Paypers, February 12, 2015.

This PNC Payments Solution News was prepared for general information purposes and is not intended as legal, tax or accounting advice or as recommendations to engage in any specific transaction, and does not purport to be comprehensive. Under no circumstances should any information contained in this newsletter be used or considered as an offer or commitment, or a solicitation of an offer or commitment, to participate in any particular transaction or strategy. Any reliance upon any such information is solely and exclusively at your own risk. Please consult your own counsel, accountant or other advisor regarding your specific situation. Neither PNC Bank nor any other subsidiary of The PNC Financial Services Group, Inc. will be responsible for any consequences of reliance upon any opinion or statement contained here, or any omission.

PNC, PINACLE and ActivePay are registered marks of The PNC Financial Services Group, Inc. ("PNC"). All other trademarks are the property of their respective owners.

Bank deposit, treasury management and lending products and services are provided by PNC Bank, National Association, a wholly owned subsidiary of PNC and Member FDIC.

Lending and leasing products and services, including card services and merchant services, as well as certain other banking products and services, may require credit approval.

The American Express trademarks, logos and service marks ("Marks") are the property of American Express and other parties.

MasterCard is a registered trademarks of MasterCard International Incorporated.

Visa & Visa IntelliLink are registered trademarks of Visa International Service Association in the United States and used under license.

DISCOVER is a trademark of Discover Financial Services or their respective third-party owners.

Apple, iPad & iPhone are registered trademarks and & Apple Pay™ is a trademark of Apple Inc., registered in the U.S. and other countries.

SAMSUNG is a trademark of SAMSUNG in the United States or other countries.

Google®, Google Wallet™ & Android™ are trademarks of Google Inc., used with permission.

Microsoft is a registered trademark of Microsoft Corporation in the United States and other countries.

PayPal is a registered trademark of PayPal, Inc.

Barclays is a registered trademark owned by Barclays Bank PLC.

Overstock is a trademark of Overstock in the United States and other countries.

Expedia® is a registered trademark of Expedia, Inc.

Tungsten is a trademark of Tungsten Corporation plc and protected by law.

EMV is a registered trademark in the U.S. and other countries, and is an unregistered trademark in other countries, owned by EMVCo.

CAQH CORE®, the CORE-certification/Endorser Seals and logo are registered trademarks of CAQH® Copyright 2010, Council for Affordable Quality Healthcare®. All rights reserved.

©2015 The PNC Financial Services Group, Inc. All rights reserved.