

# payments system research briefing

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## Payment Types at the Point of Sale: Merchant Considerations

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When it comes to paying for goods and services at the point of sale (POS), there is a spectrum of payment types available to consumers and merchants.

At one end of the spectrum are traditional payment types, including cash, checks, credit cards, and debit cards. In the middle are check conversion options that transform check payments into electronic payments using the automated clearinghouse (ACH) network and digitized images, as provided by Check 21 legislation. And, at the other end of the spectrum are emerging electronic payment types such as stored value cards, ACH-based debit cards, contactless devices, and even biometric devices.

A number of studies have examined what payment types consumers prefer and why. These studies have shown that consumers' preferences are clearly moving toward electronics, as witnessed by the sharp decline in the use of checks and a surge in many types of electronic payments. But of course, consumer preferences are just one component of the POS payment decision. Another important element is what payment types merchants are willing to accept.

This *Briefing* explores POS payment types from the merchant's perspective. It explores the various costs associated with accepting alternative payment types. The message that emerges is that the costs associated with these payment types are a serious merchant consideration. Throughout this issue, the word "merchant" is used to describe an array of retail categories, including grocery stores, quick-service restaurants, full-service restaurants, convenience stores, petroleum vendors, wholesalers, drug stores, and others.



### Cash

The costs to a merchant of accepting cash payments are primarily attributable to reconciling cash drawer balances, insurance required for cash transportation, and security. Relative to other forms of payment, cash often is less expensive to accept, especially for small businesses. Consequently, cash is accepted at virtually all POS locations; in fact, some merchants don't accept any other form of payment. These merchants often are smaller sole proprietorships that have made the decision to forego the possibility of increasing their sales by accepting other forms of payments rather than pay the additional costs associated with accepting them.

### Checks

Based on the Federal Reserve System's 2002 Retail Payments Research Project, 14 percent of overall check volume was attributable to consumer POS payments. For many consumers, checks are still a convenient payment option; but for merchants, checks can be costly to accept. Based on estimates from the National Grocers Association, it costs from \$0.30 to \$0.60 to process a check transaction. Included in that are expenses associated with check verification and guarantee services, which are required to abate fraud and guarantee the receipt of funds, as well as staff time required to balance receipts and make deposits.

## Credit cards

Merchant acceptance of credit cards is now almost ubiquitous. Credit cards are not only accepted at major retail establishments and traditional full-service restaurants, but also at grocery stores and quick-service restaurants. Contributing to this near-universal acceptance are consumer demand, decreased cost of the equipment required for acceptance, higher sales when credit cards are used, and, to some extent, lower interchange fees.



Interchange fees are paid by the merchant's bank to the bank that issued the card to the consumer, and typically are passed back to the merchant. These fees serve, among other things, to compensate the card issuer for the time it takes to recoup the settlement value from the cardholder. The fees are generally calculated as a percentage of the total transaction amount plus some fixed amount and vary based on the type and size of merchant establishment. Though interchange fees paid by some larger merchants may have declined since the Wal-Mart class-action suit against Visa and MasterCard, many merchants may still pay as much as \$0.87 to process a \$50 credit card transaction.<sup>1</sup> Merchants ultimately also incur other costs, including card association dues and switch fees. Switch fees are flat fees that vary by transaction volume and are paid to the credit card network for the use of its infrastructure.

## Debit cards

The infrastructure required for debit card transactions is similar to that required for credit cards. Merchant acceptance considerations are similar too. Debit cards can either be used offline with a signature or online with a PIN. Offline debit transactions are actually processed over credit card networks, but settle against the consumer's demand deposit account a day or two later. Merchant interchange fees still apply and can be as much as \$0.68 for a \$50 transaction.<sup>2</sup> Online debit card transactions are processed over debit card networks, authenticated by the cardholder's use of a PIN, and settle instantaneously. Merchants still pay interchange fees, but instead of paying up to \$0.68 for a \$50 transaction, the maximum fee currently is \$0.45. Whether used offline with a signature or online with a PIN, debit card transactions are less costly than credit card transactions for merchants to accept. But because the cost is the least with the use of a PIN, merchants prefer that consumers use their PINs.

## Check conversion

Currently, there are two principal ways to convert a paper check to an electronic payment. NACHA (National Automated Clearing House Association), the organization that has oversight responsibility for the ACH network, implemented rules in 2000 that allow check conversion at the POS. These rules enable merchants to capture account information from checks to initiate one-time ACH debits. The benefit to the merchant is that ACH transactions cost about \$0.05 per item to process versus the \$0.30 to \$0.60 it costs to process a paper check. A drawback to this option is that because the check is voided and returned to the customer upon completion of the transaction, the merchant no longer has access to the source document if the need arises.

Check 21 legislation provides another means for check conversion. Over time, Check 21 legislation is expected to provide financial institutions and even merchants with incentives to convert checks to digitized images, which is expected to significantly reduce both labor and transportation costs associated with paper checks.

## Stored-value cards

Stored-value cards are payment instruments used to debit funds from an account funded by cash, checks, credit cards, and debit cards. There are two types of cards: open loop and closed loop. Open-loop cards, such as the VisaBuxx card, carry card association logos, are issued by financial institutions, and can be either signature or PIN based. Merchant transaction costs vary, depending on whether processing occurs over a credit card or debit card network.

Closed-loop cards can be used only at particular merchants. Examples include proprietary gift cards and electronic benefits transfer (EBT) cards. Proprietary gift cards are issued by a specific merchant and are usable only at that merchant's stores. Transaction processing is essentially kept in-house and costs are based on arrangements between the merchant and the gift card service provider. From a merchant's perspective, desirable features of these cards are that use typically results in higher average transaction amounts and account balances may be left unredeemed. EBT cards enable the federal government to disburse electronically benefits such as food stamps and Aid to Families with Dependent Children. In order to accept this form of payment, merchants must enroll to become an authorized food stamp retailer through the Department of Agriculture. By participating, merchants have the opportunity to enhance their customer base and potentially increase sales. EBT transactions are processed similar to PIN-based debit transactions but only incur a transaction processing switch fee.

## ACH-based debit cards

ACH-based PIN debit cards are a new payment instrument recently introduced by a company called Debitman. These cards are similar to traditional PIN debit cards with a few exceptions. First, instead of banks issuing the cards to their customers, merchants are the issuers. Second, instead of using debit card networks to settle transactions instantaneously, transactions are collected at a point in time during the day and are settled via the ACH. Third, each transaction costs \$0.15 to process regardless of the transaction amount. Five cents of that cost is paid to the card provider as a switch fee, and the remaining \$0.10 is split between the merchant that issued the card and the merchant that accepted it based on a tiered transaction volume structure. From a merchant's

perspective there is a considerable cost advantage to ACH-based debit cards compared with other card payments and even checks.

## Contactless devices/RFID

Radio frequency identification, or RFID, is a generic term for technologies that use radio waves to automatically identify people or objects. RFID payment technology can be housed in cards, watches, key fobs, and even cell phones. The payment portion of an RFID transaction typically relies on existing credit and debit card infrastructures. Because contactless devices have not yet been widely adopted as a POS payment alternative, merchant perspectives about the cost of the product are largely unknown. However, there are reports that as a replacement for low-value spontaneous cash transactions, RFID sales figures are higher than cash transactions and the checkout process moves much faster.



## Biometric payment devices

Biometrics identifies a person based on physical characteristics, such as a fingerprint, iris, face, voice, or handwriting. This technology is being employed now in payment devices that are being used by a few merchants, primarily grocery stores. By having a consumer place his or her finger on a fingerprint-reading device, the merchant can confirm the consumer's identity, and the selected form of payment—credit or debit card—can be accessed and used. Merchants are being motivated through the offer of lower transaction interchange fees and the possibility of increased sales and faster checkout lines to adopt biometric payment.

Consumers today face a variety of payment alternatives at the POS. However, merchant considerations also are an important element in payment choice. Increasingly, merchants are taking a hard look at the cost of acceptance associated with various payment types. Ultimately, the types that prevail must meet not only the needs of consumers but also the needs of the merchants.

Endnotes

<sup>1</sup>The interchange figures used in this article are based on a range of fees charged by various networks, including Visa, Mastercard, Interlink, Maestro, Exchange, NYCE, and Star, as reported in *American Banker* and *ATM & Debit News*.

<sup>2</sup>Numbers may have been rounded to the nearest cent.

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Web site: [www.kansascityfed.org/FRFS/PSRhome.htm](http://www.kansascityfed.org/FRFS/PSRhome.htm)

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