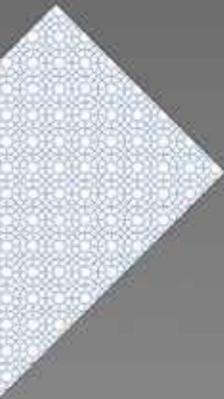


# HOW WE PAY

**RESULTS FROM THE FEDERAL  
RESERVE'S LATEST PAYMENTS STUDY**





Changes in technology have affected not only how people live and work, but also how individuals and businesses pay for goods and services. The Federal Reserve's most recent triennial study of the payments system highlights a number of shifts in this dynamic arena.

Many factors influence trends in noncash payments, including technological and financial innovations, changes in consumer and business financial behavior, the business cycle, regulatory developments, and population growth. The Federal Reserve's previous payments studies—the first was conducted in 2000—revealed a number of notable trends, such as the rise in the use of debit and prepaid cards and the decline in the use of checks. The Fed recently completed its fifth triennial payments study, which showed continued changes in how businesses and consumers make payments (see chart 1 on page 22).

#### **Taking a snapshot from three angles**

The Federal Reserve Payments Study consisted of three research efforts designed to capture the current volume and composition of noncash payments in the United States:

- **The Depository and Financial Institutions Payments Survey** collected the number and value of noncash payments, cash withdrawals, and deposits that posted to customer accounts, and unauthorized transactions (most likely related to third-party fraud) that took place during March 2013. A total of 1,182 depository institutions provided data for the survey.
- **The Networks, Processors, and Issuers Payments Surveys** estimated the number and value of electronic

payments in the United States for 2012. As of December 2013, a total of 196 organizations provided data, including 92 of the largest payment organizations that process automated clearinghouse (ACH), credit card, debit card, and prepaid card transactions. (Automated clearinghouse refers to a network for financial transactions that is used for a wide range of payments, including direct deposits of payments such as Social Security and direct debits of recurring payments.)

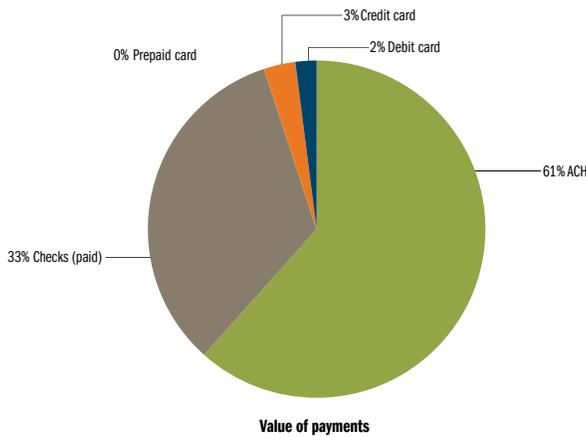
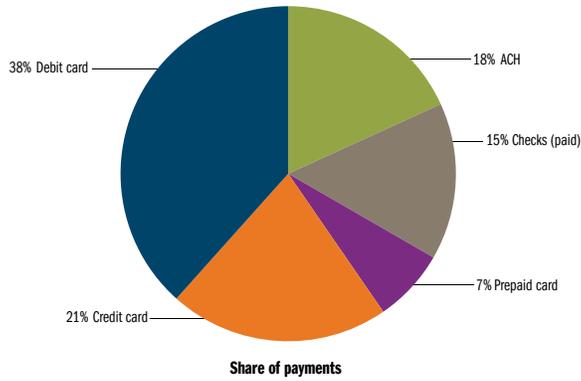
- **The Check Sample Survey** estimated the distribution of checks by counterparty and purpose for 2012. The study's data were based on a random sample of checks collected by 11 of the largest U.S. banks.

#### **Cards hold a strengthening hand in payments**

The study found that cards significantly increased their share of total noncash payments, from 43 percent in 2003 to 67 percent in 2012. The use of ACH grew more modestly, increasing from a share of 11 percent in 2003 to 18 percent in 2012. Checks represented nearly half (46 percent) of all noncash payments in 2003, but only 15 percent in 2012 (see chart 2 on page 22).

The payments study broke down card payments into two broad categories: general-purpose and private-label cards. Credit card payments (including both general purpose and private

Chart 1  
Distribution of Noncash Payments in 2012



Source: 2013 Federal Reserve payments study

label)—which declined slightly from 2006 to 2009—returned to growth from 2009 to 2012. The number of credit card transactions grew at an annual rate of 7.6 percent, rising from 21 billion in 2009 to 26.2 billion in 2012.

The number of debit card payments exceeded the number of credit card payments for the first time around 2004. By 2012, the number of debit card payments had reached 47 billion—much higher than the 26.2 billion credit card payments in the same year.

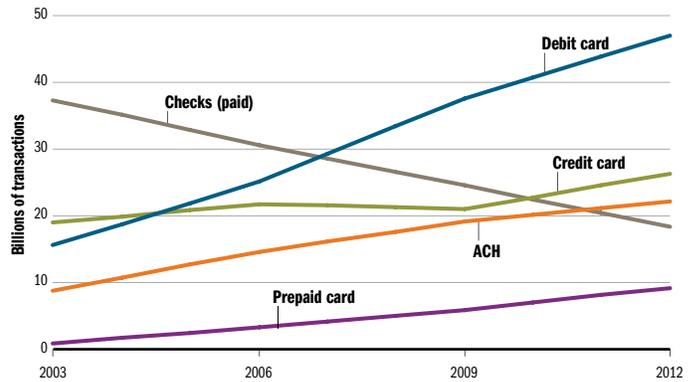
Although prepaid cards are a type of debit card, they also represent a dis-

**ECONSOUTH NOW PODCAST**

**Geoffrey Gerdes, senior economist at the Board of Governors of the Federal Reserve, discusses the Fed's payments study. On [frbatlanta.org](http://frbatlanta.org), select "Podcast."**



Chart 2  
Trends in Noncash Payments by Number and Type of Transaction



Source: 2013 Federal Reserve payments study

tinct category of noncash payments that the payments study considered separately. Compared with credit, debit, ACH, and check, prepaid card payments (including both general purpose and private label) increased at the fastest rate from 2009 to 2012 (15.8 percent annually), reaching a total of 9.2 billion transactions in 2012. The number of prepaid card payments increased 3.3 billion from 2009 to 2012, a higher growth rate than previous studies reported.

In 2012, card and ACH payments made up 85 percent of all noncash payments by number and 67 percent of total value, with check payments making up the remainder. The number of general-purpose credit card transactions rose at an annual rate of 6.8 percent per year from 2009 to 2012, compared with 1 percent annually from 2006 to 2009. The value of these payments went up 9.3 percent per year from 2009 to 2012. By number, business general-purpose credit card payments grew from 2.3 billion in 2009 to 3.4 billion in 2012, an increase of more than one billion payments.

By number, general-purpose debit card payments grew by about 9.4 billion, or 7.7 percent per year, from 2009 to 2012—the largest total growth by number among all types of payment. The estimated number of PIN debit card transactions accounted for 36 percent of all general-purpose debit card transactions, similar to estimates in previous studies. The number of business general-purpose debit card transactions grew more quickly than consumer transactions from 2009 to 2012 (8.6 percent compared with 7.7 percent per year, respectively).

**ACH expands its footprint**

The number of ACH transactions grew at an annual rate of 5.1 percent from 2009 to 2012 (slower than the long-term growth of

## Number and Growth of Noncash Payments

	2003	2006	2009	2012	Compound annual growth rate	
					2003-12	2009-12
<b>Total (billions)</b>	<b>81.4</b>	<b>95.2</b>	<b>108.1</b>	<b>122.8</b>	<b>4.7%</b>	<b>4.4%</b>
<b>General-purpose card</b>	<b>30.8</b>	<b>44.3</b>	<b>58.4</b>	<b>73.8</b>	<b>10.2%</b>	<b>8.1%</b>
Credit card	15.2	19.0	19.5	23.8	5.1%	6.8%
Debit card	15.6	25.0	37.5	47.0	13.0%	7.7%
Prepaid card	0.0	0.3	1.3	3.1	—	33.5%
<b>Private-label card</b>	<b>4.6</b>	<b>5.8</b>	<b>6.1</b>	<b>8.5</b>	<b>7.1%</b>	<b>11.6%</b>
Credit card	3.8	2.7	1.5	2.4	-4.8%	17.1%
Prepaid card	0.8	3.0	4.6	6.1	24.9%	9.7%
<b>ACH</b>	<b>8.8</b>	<b>14.6</b>	<b>19.1</b>	<b>22.1</b>	<b>10.9%</b>	<b>5.1%</b>
<b>Checks (paid)</b>	<b>37.3</b>	<b>30.5</b>	<b>24.5</b>	<b>18.3</b>	<b>-7.6%</b>	<b>-9.2%</b>

Source: 2013 Federal Reserve payments study

10.9 percent per year from 2003 to 2012), resulting in 22.1 billion payments in 2012 (see the table).

These estimates from the payments study reflect an ongoing deceleration in growth in the number of ACH payments but mask some underlying trends. For example, the number of business payments to consumers and consumer online payments using ACH increased much faster than the overall number of ACH payments.

During most of the 2000s, conversion of checks to ACH drove the growth in ACH payments. As check writing continued to decline, the number of checks that could be converted declined as well, offsetting some of the gains associated with other ACH activity. A substantial portion of checks were, like cards, also being written at the point of sale. At the same time, however, checks were also being used for larger-value consumer bill payment and payroll transactions as well as high-value business-to-business payments.

### The check is down but not out

In 2003, Congress passed the Check Clearing for the 21st Century Act (commonly called Check 21), which facilitated the development of widespread electronic check processing and clearing. Check 21 has played a role in the rapid evolution of the U.S. payments system. Over the past 10 years, paper check payments,

which before Check 21 typically required physical processing and transporting, have been replaced by more efficient electronic processes and alternative payment methods.

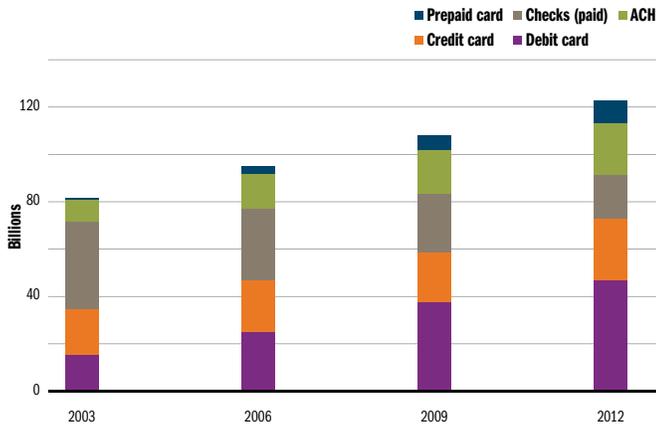
In 2000, checks dominated noncash payments options. By 2003, the decline of checks was apparent. By 2006, two-thirds of all noncash payments were electronic. In 2009, checks fell to second place in terms of noncash payment value, behind electronic

**Many factors influence trends in noncash payments, including technological and financial innovations, changes in consumer and business financial behavior, the business cycle, regulatory developments, and population growth.**

payments. An estimated 18.3 billion checks were paid in 2012, with a value of \$26 trillion (see chart 3 on page 24).

The number of checks paid from 2009 to 2012 declined annually by 9.2 percent, while the value of checks paid declined 6.3 percent per year during the same period. As a result, the

Chart 3  
Noncash Payment Transactions by Payment Type



Source: 2013 Federal Reserve payments study

average value per check paid increased from \$1,291 in 2009 to \$1,420 in 2012. Billers and merchants converted some consumer checks to ACH transactions, so the estimated number of checks paid differed from the estimated number of checks written. The share of checks written that were converted to ACH increased from 12 percent by number in 2009 to 13 percent in 2012. Further, the number of checks being deposited as images (including checks deposited by consumers using a mobile device) shows a notable increase: 17 percent in 2012, up from 13 percent in 2009.

However, checks' diminishing share of the payments pie shouldn't mask their significance in the payments system, as they are declining from a dominant position. The value of checks

**Checks' diminishing share of the payments pie shouldn't mask their significance in the payments system, as they are declining from a dominant position.**

still represents one of the largest values in payment types, almost 44 percent. In a 2009 essay published by the Cleveland Fed titled "The Check Is Dead! Long Live the Check! A Check 21 Update," authors Paul W. Bauer and Geoffrey R. Gerdes anticipate that the decline of checks will flatten out in the future. "Looking ahead, while payment innovations will continue to whittle away at check's overall share in total payments, check volume will

#### Highlights from the 2013 Study

- Total number of noncash payments: 122.8 billion, up 4.4 percent from 2009 to 2012
- Total growth in the value of noncash payments: \$72.2 trillion in 2009 to just under \$79 trillion in 2012
- Total number of checks: 18.3 billion, fewer than half the number a decade earlier (37.3 billion)
- Share of checks being deposited as images, with 17 percent being deposited as an image at the bank of first deposit versus 13 percent in the 2010 payments study
- Credit card payments' annual growth rate: 7.6 percent, a payment type that registered a decline in the 2010 study
- Debit card payments growth: 7.7 percent

Note: All data are for 2012.  
Source: 2013 Federal Reserve payments study

likely stabilize, with billions of checks being written well into the future," they wrote.

#### Fostering future efficiencies

The goal of the payments study is to enhance understanding of the complex and always-changing payments system throughout the financial services industry and with the public. Most organizations base their infrastructure investments on trends in the marketplace as well as what they are directly observing. For those organizations, the Fed's payments study provides important information that can help guide future decisions about investments in payments system hardware, software, and personnel. Supplying information that helps improve this sort of decision making furthers one of the Fed's main policy goals: fostering an effective, efficient payments system. ■

*This article was written by Tom Heintjes, managing editor of EconSouth.*