



Retail Payment Trends
in the Past Ten Years

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Summary of payment trends from three recent studies conducted by the Federal Reserve:

The 2013 Federal Reserve Payments Study
Board of Governors of the Federal Reserve System

The 2010 Survey of Consumer Payment Choice
Consumer Payment Research Center, Federal Reserve
Bank of Boston

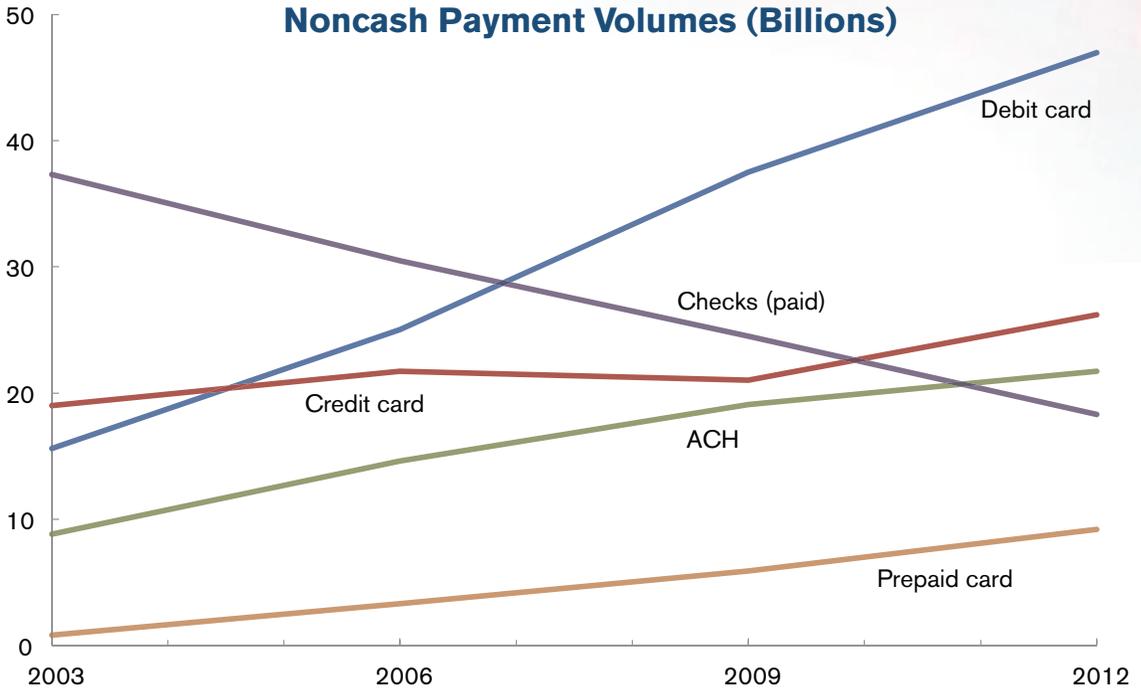
Consumers and Mobile Financial Services 2014
Board of Governors of the Federal Reserve System

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Broad Trends

Over the past decade, payments in the US¹ have rapidly shifted away from checks toward electronic methods:



Source: The 2013 Federal Reserve Payments Study

This growth in electronic transactions outpaced growth in the population of consumers over time²:

	Transaction volume (billions)				CAGR*	population adjusted CAGR **
	2003	2006	2009	2012	2003-2012	2003-2012
Debit card	15.6	25	37.5	47	13.0%	12.0%
Credit card	19	21.7	21	26.2	3.7%	2.6%
ACH	8.8	14.6	19.1	21.7	10.6%	9.5%
Checks (paid)	37.3	30.5	24.5	18.3	-7.6%	-8.5%
Prepaid card	0.8	3.3	5.9	9.2	30.7%	29.8%

Source: The 2013 Federal Reserve Payments Study

*CAGR = compound annual growth rate

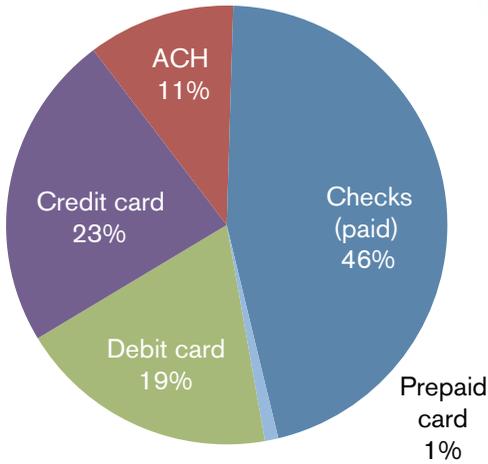
**compound annual growth rate of (total transaction volume/estimated number of consumers)

¹ Includes consumer, business, and government payments.

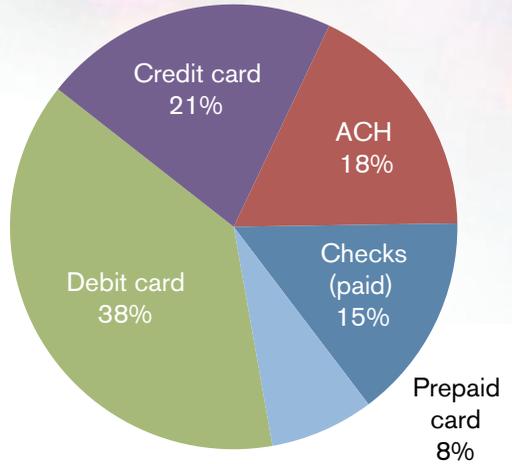
² To calculate the population-adjusted growth rate for all methods except prepaid cards: first we estimated the number of banked consumers in 2012 and 2003 by multiplying the percent of banked adults in 2012 (2013 Consumers and Mobile Financial Services) and banked families in 2004 (2004 Survey of Consumer Finances) by the population 15+ (US Census Bureau, Current Population Survey) in 2012 and 2003, respectively. Then we divided total transaction volumes by the number of banked adults and calculated the CAGR between 2003 and 2012. To calculate this growth rate for prepaid cards, we simply divided total transaction volumes by the population 15+ and calculated the CAGR between 2003 and 2012.

From 2003 to 2012, debit cards replaced checks as the most frequently used payment instrument:

Percent of total payment volumes, 2003



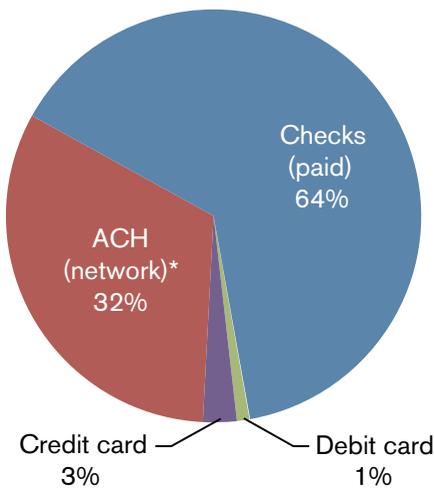
Percent of total payment volumes, 2012



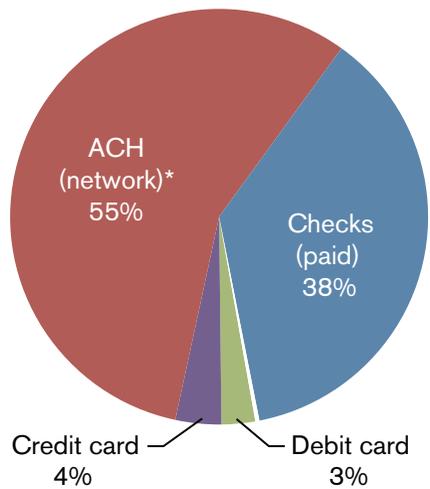
Source: The 2013 Federal Reserve Payments Study

ACH replaced checks as the largest share of total payment value³:

Percent of total payment value, 2003



Percent of total payment value, 2012



Source: The 2013 Federal Reserve Payments Study

*Includes direct exchange payments between financial institutions (negligible amount), and excludes "on-us" values

Between 2003 and 2012 there has been little change in the nominal value of average payments:

- ACH values have gone down the most on average, likely due to an increase in low-value consumer payments such as web ACH.
- Unlike other payment types, checks saw a slight increase in average value over time since checks are still used for high-value transactions, especially by businesses.

³ Throughout this report, we exclude "on-us" ACH values, which were processed in-house by financial institutions. These types of payments were measured more accurately in the 2012 Federal Reserve Payments Study than in previous years, so we cannot compare on-us values over time. Including ACH on-us transactions would greatly increase the share of value transmitted via ACH. For example, in 2012, all ACH transactions (including on-us) represented 83% of total payment value.

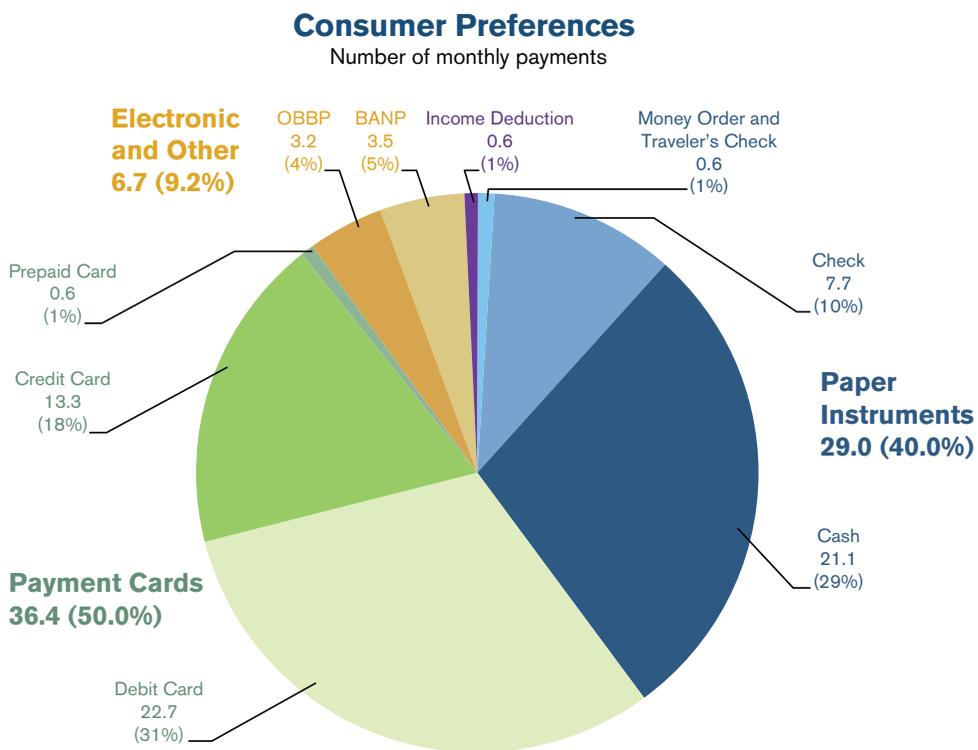
	Average dollar value per transaction ⁴				CAGR*
	2003	2006	2009	2012	2003-2012
Debit card	40	39	37	39	-0.5%
Credit card	89	98	89	94	0.7%
ACH (network)**	2,762	2,143	1,950	2,202	-2.5%
Checks (paid)	1,103	1,363	1,291	1,410	2.8%
Prepaid card	26	23	23	24	-0.7%

Source: The 2013 Federal Reserve Payments Study

*CAGR = compound annual growth rate

**Includes direct exchange payments between financial institutions (negligible amount), and excludes "on-us" values

The 2010 Survey of Consumer Payment Choice (SCPC) tracked the average number of payments consumers made over the course of a month⁵:



Source: 2010 Survey of Consumer Payment Choice, Figure 4

In 2010, consumers made an average of 73 payments each month (2-3 payments per day):

- About 30% of payments were recurring bill payments.
- Cards were used to make about 50% of payments, cash and checks for 40%, and electronic bill pay and other instruments for the remaining 10%.

⁴ This table does not account for inflation over time, which would tend to depress these growth rates. Inflation from 2003-2012 was approximately 2.14% per year based on the implicit price deflator for GDP: <http://research.stlouisfed.org/fred2/series/USAGDPDEFAISMEI>

⁵ Note: OBBP = online banking bill payments (payments made from a consumer's online banking website) and BANP = bank account number payments (payments made through a third-party biller using the consumer's bank routing and account numbers). Both of these payment types are directed through the ACH network.

Banking Patterns

The 2014 Consumer and Mobile Financial Services (CMFS) study found:

- Roughly 10% of adults did not have any type of bank account over all three years from 2011-2013.
- The proportion of underbanked consumers⁶ has increased in the past few years, from 10.2% in 2011 to 16.9% in 2013.

Trends by Payment Type⁷

Debit cards

- Around 2004, the number of debit card transactions exceeded the number of credit card transactions for the first time. Since then, debit cards have grown to be the most popular non-cash payment type.
- Approximately 97% of debit transactions are consumer debits.
- From 2009-2012, card-present debits increased at a faster compound annual growth rate (8.6%) than card-not-present debits (2.4%).
- For the entire 2003-2012 period, PIN debits have accounted for roughly 40% of all debit card transactions while signature debits have accounted for a little more than 60%.
- According to the SCPC, almost 80% of consumers owned a debit card by 2010. On average, consumers made 22.7 payments per month by debit card in 2010.

Credit cards

- Credit card use fell during the recession, with an average yearly decline of 0.2% from 2006-2009 according to the FRPS, and a 23.5% decline in consumer transactions from 2008-2009 according to the SCPC.
- Since 2009, credit card use has started growing again with a CAGR of 7.6%.
- From 2003-2012, the average value of credit card transactions has remained much higher than the average value of debit card transactions, with debit card values close to \$40 and credit card values around \$90-95.
- General-purpose card-not-present transactions grew at a much faster rate than card-present transactions from 2009-2012 (15.2% CAGR vs. 4.6% CAGR, respectively).

Prepaid Cards

- Prepaid cards have grown more quickly than any other payment type, from less than 1 billion transactions in 2003 to 9.2 billion transactions in 2012.
- The SCPC found that consumer adoption of prepaid cards roughly doubled from 2008-2010, with 38.2% of consumers using prepaid cards in 2010, up from 17.5% two years earlier.
- In 2010, the average prepaid card user made 1.6 payments per month according to the SCPC.

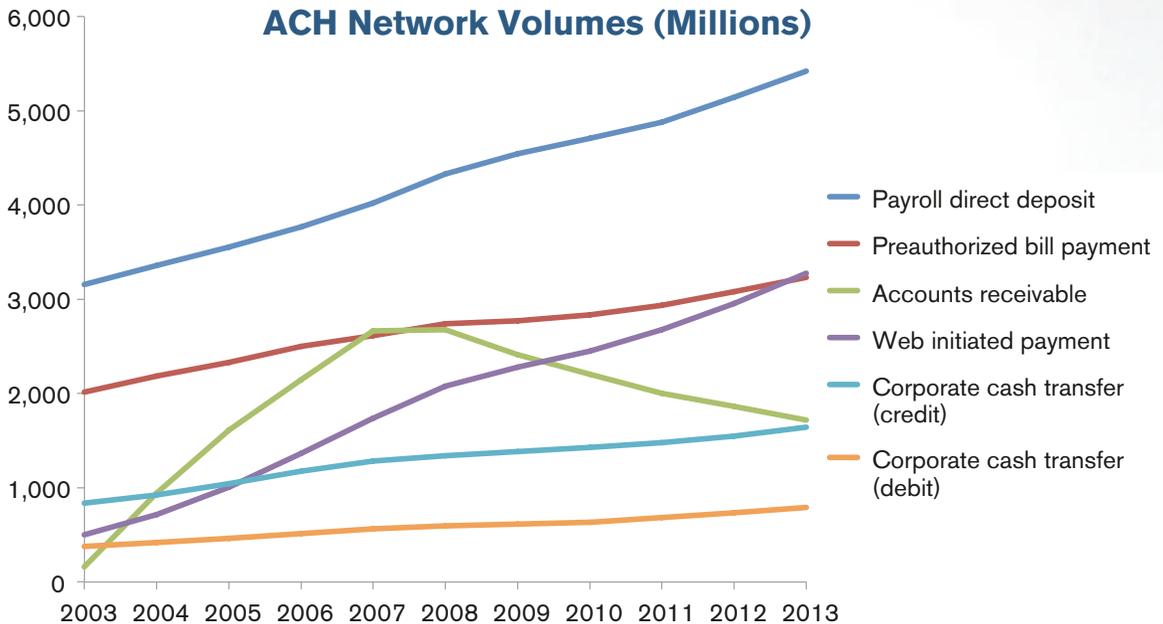
⁶ Individuals who have a bank account, but also use some kind of alternate financial service (check cashing, payday loans, etc)

⁷ Unless otherwise noted, data comes from the 2013 Federal Reserve Payments Study (FRPS).

ACH

- ACH has grown steadily from 2003-2012 at a CAGR of 10.6%, although this growth has decelerated since the late 2000's as check writing (and check conversion) have slowed.

NACHA statistics show that different types of ACH transactions have grown at different rates over the years:



Source: ACH Network Statistics, NACHA website: <https://www.nacha.org/ach-network/timeline>

- Direct deposit payments to consumers for payroll, pensions, and benefits have grown quickly over time, and make up the largest percentage of ACH volumes.
- Web initiated entries have grown faster than any other type of ACH payment, allowing consumers to pay bills or make other one-time transfers online directly from their bank account.
- The SCPC found that in 2010, roughly 50% of consumers had used online banking bill pay (OBBP) and 65% of consumers had used bank account number payments (BANP) to initiate ACH transactions.
- On average, each consumer made 3.2 payments using OBBP and 3.5 payments using BANP per month in 2010, according to the SCPC.

Checks

- Roughly 13% of checks written in 2012 were converted to ACH rather than cashed as checks, up from less than 1% in 2003. Almost all remaining checks were cleared as images rather than paper.
- About 18% of checks were deposited as images in 2012. 94% of remote deposits came from businesses, and a little more than half of the remaining consumer deposits were made using mobile devices.
- Almost half of the decline in checks from 2009-2012 came from checks for \$50 or less.
- From 2006-2012, business to consumer (B2C) and consumer to business (C2B) checks have had the steepest declines, at a CAGR of -10% and -9.1%, respectively.

- Although consumer to consumer (C2C) checks only made up 10% of all checks written in 2012, the number of C2C checks written has stayed fairly constant since 2006, with a CAGR of -0.3%.
- The SCPC found that despite this decline in check writing over time, 87% of consumers still reported using a checkbook in 2010.
- In 2010, the SCPC found that consumers made about 8 check payments in a typical month: 3.3 bill payments, 3.2 payments for goods & services, 0.9 C2C payments, and 0.6 payments for online purchases.

Cash

- In the wake of the great recession, the SCPC found that consumers increasingly shifted to cash payments with a 27.3% growth in monthly cash use from 2008-2009.
- Cash growth leveled off to 3% in the 2010 SCPC, and consumers made 21.1 cash payments per month on average, mainly for goods and services.
- The SCPC also found that consumers on average held \$138⁸ in cash either on their person or property in late 2010. Most people made about 6 withdrawals during a typical month, taking out a total of about \$502.
- The 2013 FRPS looked at debit card cash-back transactions and cash withdrawals, finding:
 - There were 1.4 billion cash-back debit transactions in 2012, with an average value of \$33.
 - ATMs were used more frequently, and for larger value cash withdrawals. There were 5.8 billion ATM cash withdrawals in 2012, with an average value per transaction of \$118.
 - Over-the-counter cash withdrawals at bank branches were less common, but had a much higher average value of \$715.

Mobile

- The 2014 CMFS study found that only 17% of mobile phone users made any mobile payments during 2013, up from 12% in 2011.
- Consumers who did make mobile payments in 2013 usually used their phone to make bill payments (66%), or for online shopping (59%).
- The CMFS asked consumers why they had not chosen to use mobile payments, finding that 76% said it was easier to pay with another method, and 63% of consumers had security concerns.
- According to the FRPS, people made approximately 250.6 million payments with a mobile wallet and 205.3 million C2C money transfers with a mobile phone in 2012.

⁸ This number excludes large-value holdings. If you include large-value holdings, the average is \$340

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