

Funds transfer by cash or check

Q 5-01. How may funds or value be transferred?

There are four principal means of transferring value directly and immediately between parties: by cash, by check or other physical payment instruction, by real time gross settlement (wire), or through an automated clearinghouse network (ACH.)

Each means can transfer value directly between the parties to a transaction. Other means of transferring value, such as credit cards or correspondent banks, require intermediaries to assist the transactions.

Currency and coin

Q 5-01.01. What are the advantages and disadvantages of cash?

Cash, as currency and coin, is readily acceptable as a means of payment because the government declares it legal tender and it requires no authentication apart from regular precautions against counterfeiting. It is, however, inconvenient in any quantity¹ and poses immense security problems. It is easily stolen or destroyed. Yet, after forty years or more of development of alternate means for transactions -- credit cards and electronic payment systems -- cash is still a major medium in value exchange.^{2,3}

Q 5-01.02. Why might cash remain so significant in M1?

Cash remains a significant medium of exchange in a technologically advanced economy because of the technology itself. Technology has simplified the use of cash as a transaction medium. Several automated teller machine (ATM) networks serve the United States. At an ATM, using an access card that can identify one's bank and account to the network and a personal identification code, conducting a data call to one's bank system is possible. The ATM verifies account validity and the

¹One thousand notes of any denomination of U.S. currency weigh about a kilogram.

²This role is not as large as in other economies where bank account ownership is uncommon. In these circumstances, the economy may depend almost entirely on cash.

³ Consider the components of the narrowest measure of the money supply, M1. Its components are currency outside the Treasury and Federal Reserve vaults, travelers' checks, regular checking accounts, and interest-bearing checking accounts. Of the \$2,148 billion of M1 at the end of September 2011, \$983 billion was in currency. The next largest component was regular checking accounts with \$735 billion.

current balance. One may then request and draw an amount of funds, subject to the limit on the machine and one's balance, from the cash drawer of the machine. The ATM dispenses the currency and initiates a debit against one's account. This makes bank hours immaterial.

Checks and drafts

Q 5-01.03. What are checks (and drafts)?

A check, or a draft, is a physical negotiable instrument that directs a financial institution to pay a stated sum to a named payee from the funds or to other parties subsequently assigned the check by prior payees.⁴

A check is an unconditional order to one's bank (the drawee) to pay a specified party (the payee) a stated sum.

Checks and similar payment instruments have been in commercial use for hundreds of years. If such instruments are trustworthy, they are convenient alternatives to coins and currency. The overwhelming majority of American households have checking accounts. The deposits in these accounts make up more than half the United States' money supply.⁵ How can an instrument so old maintain its predominance? The keys lie in checks' flexibility, low transaction cost, ease of use, and small enhancements that have made them amenable to modern technology.

Q 5-01.04. What are the U.S. legal requirements for a valid check?

The Uniform Commercial Code, a common set of business laws among all states in the United States⁶, requires that checks (and other negotiable instruments such as drafts, warrants, and notes) must meet four criteria:

- They must be in writing and signed by the maker.
- They must contain an unconditional order or promise to pay a specified sum of money.
- They must be payable on demand or at a specified time.
- They must be payable to order or to the bearer.

⁴ Under U.S Federal Reserve Regulation CC, a "check" means a draft payable on demand and drawn on or payable through or at an office of a bank, whether or not negotiable, that is handled for forward collection or return, including corporate checks, consumer checks, money orders, traveler's checks, convenience checks and government warrants.

⁵This calculation is based on the narrow definition of M1.

⁶It must be remembered that, aside from national laws, the laws of individual states regarding property rights and business practices can vary widely.

A check must be dated. If the date written on the check is in the future, the check is said to be “postdated” and is not legally a check. Checks must be payable on demand.

The payee is named on the face of the item. The amount must also be shown on the face. It is common practice to write the amount twice: as a numeral and in words, to insure clarity. The maker (the drawee) must sign the check, though not necessarily legibly, but with a unique mark that identifies the person who created it. The payee endorses the check by signing it on the back. This constitutes legal receipt of the instrument.

Q 5-01.05. What are the U.S. banking standards for physical checks?

Checks are paper documents usually between 17.8 cm and 22.2 cm long and between 7 cm and 9.3 cm tall. The American Bankers Association and the American National Standards Institute Committee X.3 set these standards to allow processing of checks by in-place equipment.

Q 5-01.06. What critical system information is included on physical checks in the U.S.?

Since 1900, three items have been added as standard features to checks to maintain their utility.

The first of these enhancements is the numerator in the small fraction that appears near the date. This is the transit number. The American Bankers Association (ABA) has assigned transit numbers to each bank since 1911. The first two digits represent geography, either a specific city (for numbers 1 through 49) or a state (for numbers 50 through 99.) The second part of the number identifies a particular bank in that geographic region.

The second change came in 1945 when the ABA and the Federal Reserve added routing numbers as the denominator in that same small fraction. The routing number identifies the Federal Reserve district and office in that district that serves the drawee bank and any special check processing or clearing arrangements.

The third change came with the addition of the MICR line, a special print line at the bottom of the face of the check. This line repeated the routing and transit numbers printed elsewhere, but in a special machine-readable ink and typeface. Magnetic ink character recognition (MICR) was developed in 1958 and has been mandatory, by Federal Reserve requirements, since 1964 on domestic checks. The MICR line makes the check usable by a machine.

Q 5-01.07. How is the MICR line formatted in the U.S.?

The MICR line has been divided into regions. The routing and transit numbers (RTN)⁷ may be printed in one specific part of the line. The line also contains special regions where the bank may put whatever numeric information it needs.

Two common items in the MICR line are the account number of the bank customer and the item number of the check. When the check is presented at a bank for deposit, the receiving bank can add the amount of the check to the MICR line.

This information allows the processing of the check to be highly automated. Equipment that can read the MICR line can determine which bank the check was drawn on (from the RTN), the account against which it was drawn, the check number (to ease reconciliation), and the amount of the check. This information is sufficient to complete the transaction or clear the check.

Q 5-01.08. How does the recipient of the check receive its value?

When a customer deposits a check at his bank, the bank credits his account for the amount deposited. The credit may not be given immediately if the check is drawn on a distant bank. Each bank sets for its customers an “availability schedule” that specifies how quickly they will credit deposits depending on the source of the check. When the deposit is credited, the bank must recover the funds from the drawee bank for the check. This is called check presentment.

⁷There are nine digits. The first eight digits are the two parts of the RTN. The ninth digit is a check digit, that is, it is derived by mathematical formula from the other eight digits to reduce errors in transcription.