

Monetary Trends



e-cash

Innovations in electronic data processing continue to change the way we do business. For weekend get-aways, we search the Internet for “dotcom” airfares and use our credit cards to purchase electronic tickets over the Internet. We do not have to worry about left-behind or lost tickets at the airport check-in. Yet, once we have left town, the electronic age seems to be light years away. Out of state, we find our debit cards rejected at the grocery store. Although we can use our credit card, we cannot get the much-needed “cash back” for small purchases such as the daily newspaper or a cup of coffee. ATMs are widely available for cash withdrawal, but charges of 75 cents or more for a transaction are common when the ATM is not operated by our home bank. Wouldn't it be convenient to have cash available anywhere, any time? Is there hope that the electronic age will make cash both generally accepted *and* generally available at zero marginal cost?

The smart card is an electronic-age candidate to answer our cash needs. Smart-card technology allows consumers to store value on their debit cards. In the Netherlands, approximately 11 million smart-card enabled debit cards were in circulation during 1998. Smart cards allow households to pay for small purchases virtually anywhere, making paper money and coins largely obsolete. Public phones not only accept smart cards as a form of payment; they also allow smart-card holders to add value to their cards by directly connecting to the holders' bank accounts. With the existence of inexpensive electronic devices called “homeloader,” households can transfer money over the phone line between cards and between a card and a bank account. In combination with a personal computer, the homeloader allows smart-card holders to wire cash over the Internet.

In the United States, MasterCard and Visa are trying to increase the usage of smart cards by further enhancing

homeloader technology. A contactless card is being developed. This enables the card to be placed near a transceiver at the point of purchase instead of being inserted into a special slot. This electronic card technology is faster than the use of bills and coins. The card also is multifunctional. For example, one may purchase electronic tickets for a sports event on the Internet. At the gate, the card serves as an identity token (in lieu of a paper ticket). Also, commuters can use the card to purchase and store transit tickets.

Security concerns for online e-cash transactions are likely to be of little importance in the future. New encryption technology for Internet transaction sessions has been developed that is virtually unbreakable during the time a session lasts. A person is more likely to find credit card information in a trash bin than to break a session encryption code.

The smart card is a network technology. The more consumers use the technology, the lower the costs are for running the network. To exploit these network externalities, the smart card needs a critical mass of consumers. Smart-card technology will be successful if it is competitive, relative to other means of transactions, in terms of price and convenience. Fees on ATM withdrawals certainly work in favor of more widespread smart-card usage. In addition, as more consumers become comfortable with financial transactions over the Internet, the habit of using bills and coins will be easier to break.

—Frank A. Schmid

