

Payment Substitutes in Traditional Cash Environments

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Cash advantages

- Almost always accepted and recognized.
- Counterfeiting is relatively small, in percentage terms much smaller than fraud occurring with checks.
- Anonymous--does not have the identity theft and data security problems associated with some electronic payments media.
- Seigniorage.

Cash was once the quickest way to transact, but the tide is changing.

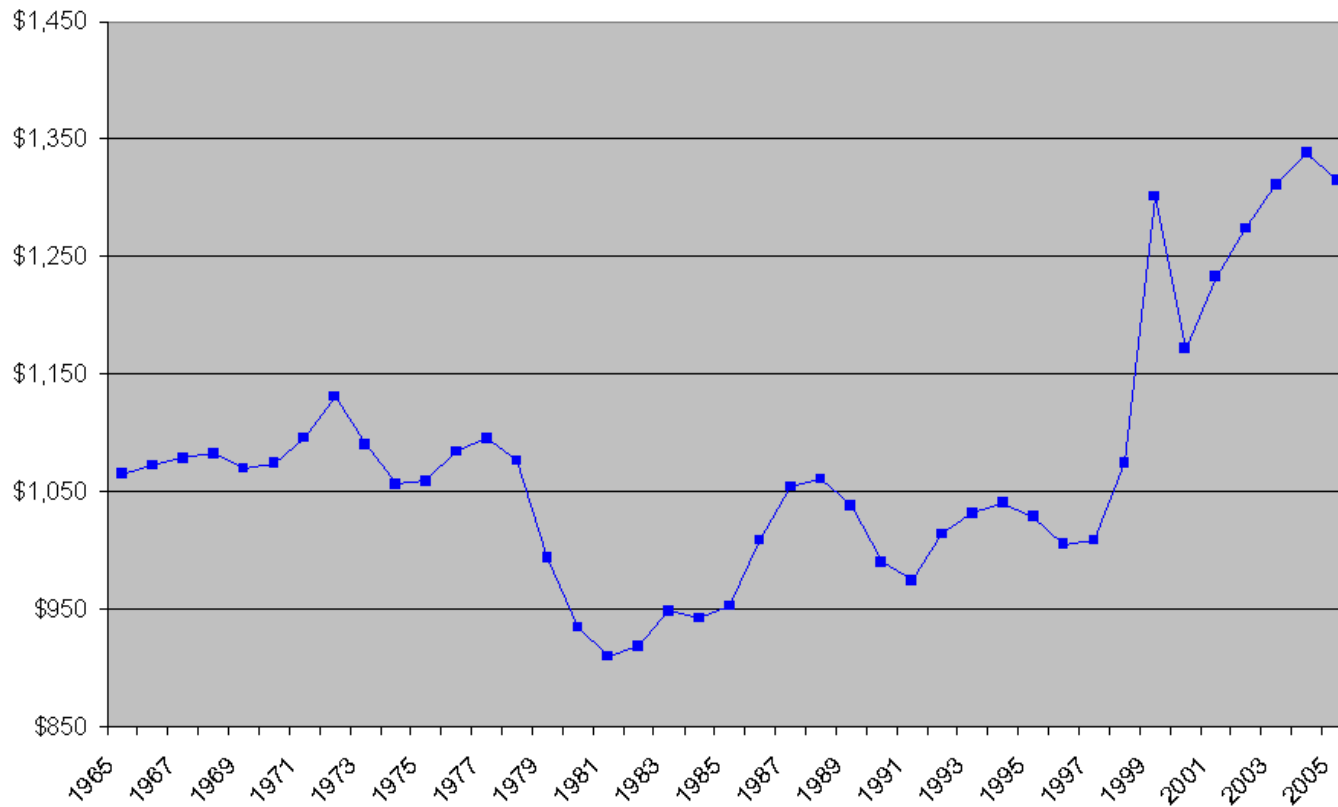
- Now, EZ-PASS & I-PASS on Tollways and contactless cards are much faster; RFID-based media.
- Physical security is easier on electronic networks.
- We don't have to make change on electronic networks.

The end of the cash era?

- In the United States, cash has been king more or less since the Revolution.
- Many have predicted this era will soon end:
 - In 1996, the celebrated author of *Chaos* James Gleick declared: “Cash is quaint, cash is expensive, cash is obsolete.”
 - Economist magazine (2007)
 - Moore’s law will trump cash.
 - They featured a dinosaur on their Feb. 15 cover entitled “The end of cash era.”

But this hasn't happened yet

Real Per Capita Domestic Currency Holdings



Uses of Currency

- Cash for transactions:
 - For individuals, who get \$80 or \$100 out of an ATM, it is difficult to understand why they would typically hold \$1,000 or so for use in day-to-day transactions.
- Store of wealth:
 - This suggests that the wealth motive for holding cash may be more important than one would otherwise have thought.

Nonetheless, handling paper is an expensive proposition

- Cash is a physical commodity with significant handling costs, including theft. Even if we obtain cash from electronic ATM networks, the care & feeding of these networks is a manual, not an automated process.
- Since most currency circulates locally, these costs may well be less than paper checks, which tend to circulate over longer distances, although imaging and truncation are changing this equation.

Shift to electronic payment is beneficial

- For society, the benefits of this shift from paper to electronics may be substantial.
- Why? The additional cost (the marginal cost) of an extra transaction on an electronic payment network is almost always considerably less than it would be on a paper-based network.

Will the switch occur?

- But there is no free lunch--so will there be sufficient users on these electronic networks?
- That depends on the costs, which can be substantial:
 - In particular, the competitors to cash, payment cards (debit, credit, and prepaid) all have interchange fees that need to be paid.
- But benefits also matter.

Cash in a global context

- Two developments have delayed the disappearance of U.S. cash.
 - In the 1990s, planeloads of U.S. currency went to places like Argentina & Russia. In one year, \$20 billion went to Russia alone. The process has reversed somewhat recently, partly as a result of the competition from the euro and a greater degree of stability abroad.
 - The other “international” piece of this story involves immigration into the States.

Cash and immigration

- Much of the increase in immigration in the last decade has been undocumented workers from Latin America.
- For a variety of reasons, such immigrants often avoid banks.
- Our research suggests that these unbanked immigrants may hold much of their wealth in U.S. banknotes.
- The remittance panel on Friday will touch on some of these developments.

Emerging Cash Substitutes

- Today, we'll hear three case studies featuring industries in which cash or coin was once the dominant payment media.
 - Commissioner Norma I. Reyes, *City of Chicago*, taxis.
 - Jim Turner, *USA Technologies*, vending machines.
 - Michael D. Litton, *G&D*, gaming.

Three questions

- What are the characteristics of cash that are difficult to mimic in other payment forms?
- What are the main factors driving the adoption of payment alternatives?
- How have the relative costs and benefits of cash changed as a result of greater availability of payment alternatives?