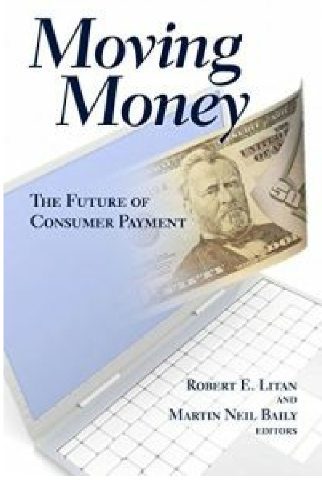

Book Moving Money

The Future of Consumer Payments

Martin Neil Baily and Robert E. Litan
Brookings Institution Press, 2009
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Recommendation

People once used sheep and goats as money. Now they use plastic. Brookings Institution financial experts Robert E. Litan and Martin Neil Baily, along with a panel of top contributors, explain why the way people pay for things is important – and why the consumer payments industry is the essential “financial plumbing” of the US economy. Without a smoothly working payments system, all financial activity would come to a screeching halt. However, the ubiquitous credit-card magnetic stripe is as outdated as eight-track cartridges, and the US payments network is a Rube Goldberg contraption. By spotlighting these issues and more, the writers and editors of this text have developed an outstanding, though not particularly groundbreaking, guidebook to the consumer payments industry. *BooksInShort* recommends their book to bankers, financiers and economists, along with anyone who is curious about what happens after he or she swipes a credit card at the register.

Take-Aways

- The United States’ consumer payments industry is a massive $280 billion-per-year economic juggernaut.
- Americans do not like to change how they pay for their purchases.
- Therefore, the consumer payments industry evolves slowly.
- Technology strongly influences how people choose to pay for items.
- Though maddeningly complex, the US payments system is remarkably stable.
- Many of its components are outdated now, including the magnetic stripe technology on credit cards.
- Still, credit card processing is extremely efficient, taking only 17 seconds on average.
- Credit cards remain one of the 20th century’s most significant technological feats.
- US consumers prefer debit cards to credit cards. Such cards reduce the burdensome feelings of angst – a “moral tax” – that accompany purchases.
- In the realm of financial and payment matters, trust is very important to consumers, but the payments industry has suffered an erosion of public trust in recent years.

Summary

The Big Payback

Money is probably as old as human civilization. Domestic animals and food served as currency in ancient times. Metal coins have been around since 700 B.C., and the Chinese began using paper money in 140 B.C. It became a popular means of tender during Europe’s Renaissance and later in the American colonies.

“There is a significant psychological aspect to how we pay for things.”

But paper money has drawbacks. For instance, it’s easy to steal. And if something valuable, such as gold, does not back it, notes can proliferate and lose their worth. Throughout history, banks have caused financial panics by issuing paper that did not possess sufficient reserves. In 1913, the US government created the Federal Reserve System (the Fed) to eliminate this problem by controlling the money supply. The Fed also monitored the clearance of checks between banking institutions. Thus, checks became the most widespread payment form until the mid-20th century.

“What has counted as money has changed over time. Livestock and foodstuffs probably were the first forms.”

After World War II, money began to convert from paper to plastic. In 1950, Diners Club introduced a credit card that people in New York City could use to pay for restaurant meals. The innovation soon expanded to other regions, and Carte Blanche quickly followed with a card for hotel bookings. In 1958, American Express and the Bank of America changed everything when they issued all-purpose cards. Eventually, credit cards dominated the payments industry. In 2007, American consumers used them for purchases totaling more than $1.7 trillion. The Internet has begun to change the payments system again. More and more people pay their bills electronically, using home computers and mobile devices.

“Cash has remained the main form of payment ever since metallic money was introduced in 700 B.C.”

The payments industry is a major force in the US economy, with payment firms creating revenues of approximately $280 billion annually. How people pay for what they buy affects the amount of purchasing they do. Thus, the form payments take plays a major role in the economy.

An Evolving Industry

Payment methods evolve depending on laws and regulations, competition and technology. The American colonies’ first paper currency appeared in the Massachusetts Bay Colony in 1690. The US Mint appeared more than a century later. Even then, many US banks continued to provide their own paper notes. Not until 1862 did the US Treasury create the first federal paper currency. Later, checks and credit cards followed a similar stop-and-go pattern.

“The first payment cards were not plastic at all, but paper or cardboard, and limited to certain retailers, such as Sears.”

The US payments industry is complex, as is its “payments value chain”: the connections between “payers and payees.” The processing of payments requires numerous steps, many of which are automated. Still, the system is remarkably stable. It experiences regular upgrades due to continual technological advances. Three megatrends will reconfigure payment methods:

1. **“Decline of paper-based transactions”** – Check writing is decreasing in the US at a rate of approximately 5% each year, in part because people can arrange direct deposits of their paychecks and, through automated clearinghouses (ACHs), make payments with debit and credit cards. Internally, banks now exchange digital check images instead of paper checks, which speeds up processing. Some experts say paper checks may cease to be a factor in the bank clearing process by 2010.
2. **“Evolving payment networks”** – New “credit card-like devices” will create direct links from purchasers’ bank accounts to points of sale. Payment processors may one day handle transactions “across multiple payment networks,” such as debit, check and credit networks.
3. **“Emerging instruments and new entrants”** – These will include virtual wallets, contactless chip cards and e-coupons.

“Nothing is as slim – or as dumb – as the magnetic stripe card.”

Banks and other financial institutions can take advantage of the coming technological developments through “alliance, acquisition and investment.” They must keep in mind, however, that consumers are slow to change their payment behaviors. Therefore, financial institutions must take the long view.

A Technological Hodgepodge

Payment-card technology turned a new page in 1979, when Visa brought out an industry first, the electronic data-capturing terminal. This is the now-commonplace system whereby a merchant or consumer swipes a plastic card with a magnetic stripe through a unit that automatically secures authentication and approval from the cardholder’s bank. Once approved, the purchase amount transfers from the cardholder’s bank account to the merchant’s bank account.

“As of 2007 in the United States, electronic payments accounted for two-thirds of all noncash payments by number and 45% by value.”

The industry has made routine upgrades to this system, but the basic process remains the same today as it was 30 years ago. With countless nodes receiving, interpreting and transferring electronic data, the overall network is a jerry-rigged, fragmented system, much of it based on outmoded computer code. The magnetic stripe card should be as archaic as the eight-track tape. The system, with its old technology, cannot enable the most efficient data collection and analysis. Yet, even with its Rube Goldberg-like nature, payment-card technology works. Processing a credit card transaction takes about 17 seconds on average. Research shows that both consumers and merchants like the system. In addition, paper currency is still ubiquitous; cash-dispensing automatic-teller machines are everywhere.

“Merchants have not installed contactless readers because they do not see the economic benefit.”

Since people on both sides of the system find its dated processes acceptable, no one wants to switch. A “chicken-and-egg problem” gets in the way of change. Consumers will have little interest in a new payment technology unless merchants make it widely available. At the same time, merchants have minimal incentive to invest in something that most consumers do not use. Thus, as many as 83% of American consumers have yet to use contactless cards such as those some gas stations offer. The efficient technology requires the consumer simply to wave at the pump. However, only 1% of merchants have the technology to process these cards.

“Mobile phones are...substituting for plastic cards as the preferred way to make payments in several important geographic regions.” (scholars David S. Evans and Richard Schmalensee)

A further complication in the payments system is that the four major credit-card networks use “signature-based cards,” while debit-card networks use cards with personal identification numbers, or PINs. Cloud computing has the potential to work around this disparity. PayPal, for example, is an Internet service that enables buyers to use a variety of payment methods, including “multiple signature debit and credit cards, and...checking account[s].” It offers one uniform platform for “buyers, sellers and payment method providers.” IP Commerce, a Denver, Colorado, firm, is now developing an even more sophisticated “cloud-based software platform” for payments.

“Technological Progress in the Face of Inertia”

Nevertheless, these are exciting times for the payments industry. Advancing technologies such as “the Internet, Web-based software, wireless communication, computers and data analytics” can potentially work together in a seamless fashion. Companies may be able to combine e-commerce or mobile commerce and “behavioral targeting of advertising and marketing messages.”

> “One interesting feature of the current payment system environment is the variety of legal regimes governing cash, checks, cards and other new systems of various sorts.”

In the future, electronic “mashups” – the combining of data and features from more than one source – will remake the payments industry. The mashups will include “technologies and business models outside the traditional payment card industry.” Although the specifics of the upcoming changes are difficult to predict, the mobile phone is an ideal mashup device. Consumers already use their phones for many purposes, including comparing prices for goods and services, and finding new items to purchase. Merchants are enthusiastic about introducing new payment approaches that may bring in additional consumers and lead to more sales.

“The Moral Tax”

Since 2006, debit cards have become more popular with consumers than credit cards. This trend, like the use of prepaid cards, seems counterintuitive. Debit cards immediately deduct funds from consumers’ bank accounts, while credit cards provide “short-term, interest-free credit (until balance payments are actually due).” Credit cards ensure liquidity. They often include bonus incentives, for example, reward programs. So why do consumers prefer debit cards?

> “Payment systems connect thousands of financial institutions, millions of merchants and tens of millions of consumers that define modern payments.”

The answer is psychological, as the field of behavioral economics explains. People like to buy things, but they don’t like to pay for them. Thus, payments act as a “moral tax” on purchasing – a “psychological intrusion of payments into consumption.” Consumers can reduce this burdensome psychological tax by paying for items in advance with prepaid cards, or immediately, with debit cards, even though when they use these, they forego earning interest on their money.

> “The perception that a business-class or first-class upgrade is free removes the moral tax from what otherwise is likely to feel like a complete extravagance.”

Purchasing durable goods is a different matter, since people “consume” such items over an extended period. Shoppers often pay for these items with credit cards. However, consumers are not stupid. They understand that credit card purchases merely defer payments until later, when the credit card bills arrive in the mail. Paying for something you bought weeks ago is not fun. This “buy now, pay later” scenario, though favorable at first glance, can be psychologically painful.

> “Pay By Touch was founded in 2002 as a new system based on fingerprint authentication.”

Credit cards may play a role in some US consumers’ “addictive consumption.” One experiment showed that credit cards can motivate purchasing. In the test, subjects viewed product images on computer screens. Researchers asked the subjects to say how much they would pay for each item. A strategically placed table in the room displayed brochures for credit cards, with their recognizable logos clearly visible. The subjects – stimulated by the credit card logos – came up with “higher product valuations (by a factor of two) and faster response times” than test subjects who weren’t exposed to the brochures. The experiment suggested that seeing credit cards triggers a “craving” to buy items.

The payment industry faces a big challenge: It must develop payment methods that help consumers feel good about exercising self-control, as debit cards do, yet also provide maximum convenience, as credit cards do. New technology can accomplish a great deal, but it cannot solve consumers’ psychological problems.

Trust

In the realm of financial and payment matters, trust is very important to consumers. Unfortunately, the payments industry has suffered an erosion of public trust in recent years. One reason is universal default. This occurs when credit card firms raise a customer’s interest rate on one card if he or she is delinquent in paying on another. The US government has been working overtime to increase consumer protections in the credit card industry. The first phase of the Credit Card Accountability, Responsibility and Disclosure Act went into effect in August 2009. It is the most sweeping credit card regulations change in 25 years.

Credit card networks impose their own contractual regulations. However, some of them are now defunct. For example, merchants once had to “honor all cards.” This imperative no longer applies, due to a 2003 antitrust ruling. One rule that remains in effect, but which the networks should also eliminate, is that individual merchants cannot “steer consumers to cards that carry lower fees.” Getting rid of this rule will help increase competition.

Credit cards are as important a technological development as “semiconductors, the cellphone and the personal computer.” They have radically changed the way people pay for products and services and secure credit. Plastic cards are now everywhere. Governments issue them for numerous purposes, for example, “unemployment insurance and workers’ compensation payments.” The government plays a central role in regulating payments by credit cards and other means. However, it should not try to micromanage this industry. New regulations should never impede innovation.

About the Authors

Robert E. Litan is the vice president for research and policy at the Kaufmann Foundation. **Martin Neil Baily** is former chairman of the US Council of Economic Advisers. Both are senior fellows at the Brookings Institution.