March 200
FEDERAL RESERVE BANK OF DALLAS HOUSTON BRANCH

Houston Business

A Perspective on the Houston Economy

Cash Use Grows in Houston

Growth in cash use is particularly striking where economic growth is strong, as in cities like Houston and Dallas, and recent years have seen a definite shift in cash usage toward the Southwestern United States.

The exact role of cash in the economy is difficult to pinpoint. Although we know notes and coin held by the public grew from $270.3 billion in 1991 to $464.1 billion in 1998—an 8 percent annual growth rate—it is unclear how much of that cash flowed overseas; a large fraction of U.S. currency is held abroad as a hedge against inflation or social instability in other countries. Further, no one counts the number or value of U.S. cash transactions. They are inherently private, and no bank or public intermediary records and moves the funds from one pocket to another.

It may seem surprising that the oldest form of making payments is still growing so rapidly. Perhaps even more surprising is that in this age of electronic commerce, paper transactions still dominate the U.S. payments system. Electronic transfer is still growing rapidly, but cash and the paper check remain the workhorses for Americans to make their daily purchases and pay their bills.

For noncash transactions, the role of the paper check differs depending on whether you examine the number or the value of transactions. Either way, however, the check is dominant, accounting for 70 percent of the 94.5 billion noncash payment transactions in 1998 and 82 percent of their $94.5 trillion value. The biggest and fastest growing rival for checks, in terms of dollars spent, is the direct deposit of payroll and direct payment of bills through automated clearinghouses belonging to the Federal Reserve or private associations. In terms of the number of transactions, the competition to checks arises from the growing use of credit and debit cards for small transactions (averaging $60 per purchase in recent years). The transaction share held by the credit card has flattened in recent years, while the debit card has come from nowhere in 1991 to grab 6 percent of transactions in 1998.

Comparing cash use with other payment media, most estimates put cash first in terms of the number of transactions and probably second only to checks in the value of transactions. The growth in the value of cash transactions is probably well above checks (2.6 percent per year from 1991 to 1998) but short of the increase in debit and credit cards (16.3 percent). Growth in cash use is particularly striking where economic growth is strong, as in cities like Houston and Dallas, and recent years have seen a definite shift in cash usage toward the Southwestern United States.

CASH AT FEDERAL RESERVE BANKS

For a different perspective on the growing use of cash, we can look at the payment and receipt of cash at Federal Reserve Banks. The Federal Reserve plays a key role in the distribution of cash: it maintains a cash inventory for the banking system, puts currency into circulation, maintains the quality of currency in circulation and protects U.S. currency from counterfeiters.

Imagine that on Friday afternoon, every depository institution (DI) in Houston—bank, credit union, thrift or savings bank—has exactly the right inventory of cash. DIs are prepared to stock their automated teller machines (ATMs) for weekend withdrawals and to cash customers' payroll and other checks. They will pay out a substantial share of cash on hand over the weekend as the public withdraws cash and spends it at the mall, the rodeo or a Rockets game. On Monday, retailers deposit this cash in their own DIs. By Monday afternoon, roughly half the DIs in Houston hold too much cash to satisfy business needs, while the other half hold too little.

The Fed accepts excess cash from DIs that hold a surplus and credits each depositing DI's reserve account, allowing it to invest or loan the money rather than hold cash on its books as a nonearning asset. The DIs deliver the deposited funds to the Fed in straps of 100 notes, bundled into groups of 10 straps of the same denomination. After an initial count of straps and bundles, the DI is credited for the deposit. High-speed currency processors will later verify the deposit, counting the notes at a rate of about 100,000 per hour. The machine will also verify the denomination of each note, remove suspected counterfeits and destroy currency that is worn, soiled or otherwise unfit to be recirculated.

Table 1
Fastest Growing Cash Operations in the Federal Reserve System, 1979–99
(Ranked by average growth of cash paid and received)

	1979–99		1989–99	
	Growth rate (percent)	Rank	Growth rate (percent)	Rank
Charlotte	9.8	1	10.6	4
El Paso	9.4	2	10.9	2
San Antonio	9.2	3	8.9	8
Dallas	9.0	4	10.4	5
Seattle	8.9	5	11.1	1
Houston	8.7	6	10.7	3
Salt Lake City	8.7	7	6.5	13
Little Rock	8.6	8	9.9	6
Helena	7.9	9	9.0	7
Portland	7.7	10	7.8	11
Nashville	7.7	11	8.1	9
Omaha	7.7	12	7.9	10
Atlanta	7.5	13	6.9	12
System average	6.0		5.3	

DIs that find themselves short of cash submit an order to withdraw currency from the Fed inventory. The Fed debits the DI's reserve account for the amount withdrawn, and the DI must cover the debit by the end of the business day to keep the reserve account in balance. The Fed first pays out previously circulated, but fit, currency from its inventory. If fit currency is not available, the Fed will place in circulation new notes printed by the Bureau of Engraving and Printing.

WHY DOES CASH USE KEEP GROWING?

The Federal Reserve processes cash in 36 offices across the United States. Table 1 lists those offices with the fastest growing cash-processing operations over the 20-year period from 1979 to 1999 and also shows growth rates and rank over the 10 years from 1989 to 1999. The figure shown is the annual growth rate of all currency paid and received, taken from the basic productivity statistics used to compare Fed cash operations. The 36 offices combined averaged 6 percent and 5.3 percent growth, respectively, during the two periods. Note that Houston had an 8.7 percent annual growth rate during 1979–99 and a 10.7 percent rate in 1989–99, more than double the System average. The four Eleventh District offices—Dallas, El Paso, San Antonio and Houston—have all been among the top six offices since 1979, joined by Charlotte and Seattle.

Several factors keep cash growing. One is easy access to cash through ATMs, now seemingly on every corner. The number of ATMs in the United States grew from 83,545 in 1991 to 187,000 in 1998. The number of ATM transactions increased at an 8.3 percent annual rate, from 6.4 billion in 1991 to 11.2 billion in 1998, and the annual value of withdrawals grew at a similar rate, from $429 billion to $762 billion.

Cash plays an important role because it offers the user anonymity. Cash is king of the underground economy. We're all aware of the plumber or painter with two price scales—one for cash and one for payment by check. In the Southwestern United States, the high rate of immigration compounds the cash factor. Many legal immigrants come to the United States with little experience or trust in banking institutions, and illegal immigrants are forced into the anonymous cash economy.

An important event boosting growth in 1999, an end-year in the growth rate calculations in Table 1, was Y2K. Although Y2K itself proved a non-event, it had two important effects on the cash picture. One was simply the preparation for the event itself; it boosted the volume of cash paid out in late 1999 and, thus, the overall rate of growth. However, Y2K should have affected all Fed offices more or less equally, changing the ranking less than the growth rate. And the growth rate was affected less than one might have expected; for example, the Houston operation paid out 2.8 percent more cash in the second half of 2000 than in the same period of 1999, the Y2K "emergency."

A more permanent effect of Y2K may be simple awareness. For the first time in many institutions, Y2K involved all levels of DIs' management in cash planning. DIs are now more aware of the cost of holding cash and of the need to systematically plan to minimize cash balances as part of sound banking practices. Cash-rich DIs may now be depositing more frequently and in a more timely fashion with their local Fed.

Perhaps the most obvious and important factor related to our list of fast-growing cities for cash processing, however, is rapid economic growth. Except for Omaha, which is near the bottom of the list, every city can be described as a Sunbelt or Western city. These cities have all been leaders in population and regional economic growth over the last 20 years.

Table 2
Spearman Rank-Order Correlation Coefficient: Cash Growth and Income or Employment

	1979–89	1989–99	1979–99
Job growth			
r	0.33	0.56	0.63
t	2.02	3.92	4.68
Real income			
r	0.25	0.47	0.47
t	1.57	3.06	3.09

There seems to be a short-run relationship between the local economy and cash processing. With Houston as an example, we used a regression analysis to relate growth in the volume of cash processed to growth in real per capita income, to the local inflation rate and to a series of dummy variables that reflect policy and other exogenous changes that have affected cash growth since 1975. The result is a strong relationship between per capita income growth and cash processed, with a 1 percent change in income per person implying a 1 percent increase in cash processed per person. The estimated relationship is limited to about one year.

Over longer periods, a cash-processing–economic-growth relationship emerges as well. We compared the rank order of the 36 Fed offices in cash-processing growth (partly listed in Table 1) with the rank order of the same 36 cities based on employment and personal income growth and computed Spearman rank-order correlation coefficients. Table 2 describes the estimated correlation coefficients (r) and their associated t-statistics, with t-statistics greater than 2 indicating a strong statistical relationship. Cash and economic growth, as measured by income or employment, are linked.

CONCLUSION

Cash is still a linchpin in the U.S. payments system. Cash use is growing rapidly, particularly in the South and Southwest. One additional sign: major new Federal Reserve vaults and cash-processing facilities have recently been completed in Birmingham, Ala.; are under construction in Atlanta and Phoenix; and are being planned for Houston. The cashless, all-electronic society remains a distant vision.

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News on the Houston economy continues to be good. Revised data point to more than 60,000 new jobs in 2000, and local labor markets continue to tighten with the unemployment rate well under 4 percent. The Houston Purchasing Managers Index continues to push past 60, while the U.S. index sinks to 41.9—a near-recessionary level. Oil and natural gas prices seem to be carrying the local economy forward, even as the U.S. economy downshifts.

RETAIL AND AUTO SALES

After a slow fourth quarter, Houston area retailers report a pickup in the sales pace. Consumer traffic and interest have improved, although some promotions and discounts are still necessary to keep the merchandise moving. Auto sales in December and January ran 4 percent below the figures for 12 months earlier. Sales were still robust, but auto and truck sales in Harris County fell short of all-time records set a year earlier.

ENERGY PRICES

Over the past six weeks, the price of crude oil strengthened to $29–$30 per barrel as OPEC cut production in response to slower world growth. The dominant factor in heating oil and natural gas markets has been the weather. After one of the coldest starts to winter in U.S. history, January brought normal weather and February warmer than normal weather. Heating oil inventories looked critical in December but have now returned to levels above those of a year ago. Natural gas inventories are 30 percent below year-earlier levels, but natural gas has slowly drifted down from $10 to a still-high $5 per thousand cubic feet.

Fears of shortages of MTBE and reformulated gasoline have kept gasoline prices high. With heating oil in ample supply, refiners began an early turnaround in preparing to produce gasoline for the coming driving season. This also reduced capacity utilization and production and helped keep profit margins strong.

PETROCHEMICALS

Petrochemical markets are slowly adjusting to declining natural gas prices, restarting methanol, ammonia and ethylene production that had closed down in response to $10 natural gas. Inventories and spot markets have dried up for ethylene and polyethylene, and healthy price increases have been required to get these plants to resume production. Manufacturers of other petrochemicals, such as polypropylene and polyvinyl chloride, are still struggling with high inventories.

EXPLORATION

Labor and equipment shortages are keeping domestic oil drilling in the range of 1,100 to 1,200 working rigs. Drilling in the United States remains heavily oriented toward natural gas. Over 80 percent of working rigs are drilling for gas, and some new projects are counting on natural gas prices having found a new plateau in excess of $3 for several years into the future. International activity remains about 20 percent below the last peak in the drilling cycle, leaving a gap in oil service company revenues. Respondents blame mergers among the largest oil companies, which have left decision-making on large capital expenditures in limbo as they focus on the consolidation process.

HOME SALES

Houston-area new home sales dropped 6.8 percent in January from the year-earlier period, but local builders indicate that the market quickly snapped back in February as interest rates fell. The used home market set an all-time record for January sales, which were up 3.6 percent over the year earlier. Respondents cite relocation of oil company employees into the Houston metro area as an important factor in the local housing market.

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