Comptroller of the Currency
Administrator of National Banks


## Quarterly Journal $\square$



# Office of the Comptroller of the Currency Administrator of National Banks 

John C. Dugan<br>Comptroller of the Currency

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9/26/2005, Comptroller Dugan Tells Bankers that Long Fight to Shed Outdated Laws Promoted Innovation and Broad Range of New Consumer Products and Services

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July [Interpretations and Actions]
1033, 6/14/2005, Letter confirms that the bank, with approval of its examiner-in-charge, may engage in customer-driven equity index derivatives transactions and may use baskets of securities to hedge its risk exposures to the index swaps where the baskets do not exactly match the underlying index, but are designed to replicate the sector and industry weightings and general risks of the index.

1034, $4 / 1 / 2005$, Letter states that the bank may construct a new office complex on existing bank premises and lease unused space as excess bank premises.

August [Interpretations and Actions] $\square$
1035, $7 / 21 / 2005$, Letter concludes that in the bank's securitization of its own home equity $\square$ lines of credit (HELOCs), the bank may hold the securitized HELOC notes as Type V $\square$
securities, the usual 25 percent prudential limit is not intended to apply under the specific facts and circumstances represented, and retention of the subordinated interest is permissible under 12 USC 24(Seventh). The conclusions are subject to various safety and soundness requirements. The appropriate risk-based capital treatment is the risk-based capital charge for the underlying HELOCs.

1036, $8 / 10 / 2005$, Letter states that a remote check scanning terminal at a customer's location, which permits the customer to deposit checks electronically, is not a branch.

September [Interpretations and Actions]
1037, $8 / 9 / 2005$, Letter concludes that trust company may use cash-settled derivatives linked to S\&P 500 Index to hedge the market risk associated with the fees it charges customers as part of its investment advisory activities, provided the trust company establishes to the satisfaction of its supervisory office, an appropriate risk management and compliance process.

1038, $8 / 16 / 2005$, A national bank, under contract with the General Services Administration, provides purchasing, travel, and fleet charge cards to government agencies and employees as a payment tool for official government purchases and travel expenses. This letter responds to a request from the bank for an opinion the appropriate capital treatment for unused portions of lines of credit (unused lines) on cards issued to federal employees. Liability for all charges and fees incurred on government credit cards rests solely with the cardholder; the government bears no secondary liability. In the letter, we conclude that the OCC will use its reservation of authority in 12 CFR 3.4 to assign a zero percent conversion factor to the unused lines. This reflects our conclusion that a zero percent conversion factor more appropriately reflects the credit risk to the bank associated with the lines.

1039, 9/13/2005, Letter concludes that the bank may engage in customer-drive, perfectly matched, cash-settled derivative transactions provided the bank's examiner-in-charge is satisfied that the bank has adequate risk management and measurement systems and controls to conduct the activities on a safe and sound basis.

1040, $9 / 15 / 2005$, Letter states that the bank, with the approval of its examiner-in-charge, may engage in customer-driven, physically settled emissions derivative transactions and may enter into physical transactions in emission allowances to hedge its risk exposures to the emissions derivative transactions.

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About the OCC

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Comptroller _uohn C. Dugan

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## Background

The Office of the Comptroller of the Currency (OCC) was established in 1863 as a bureau of the Department of the Treasury. The OCC is headed by the Comptroller, who is appointed by the President, with the advice and consent of the Senate, for a five-year term.
The OCC regulates national banks by its power to:

- Examine the banks;
- Approve or deny applications for new charters, branches, capital, or other changes in corporate or banking structure;
- Take supervisory actions against banks that do not conform to laws and regulations or that otherwise engage in unsound banking practices, including removal of officers, negotiation of agreements to change existing banking practices, and issuance of cease and desist orders; and
 practices and corporate structure.

The OCC divides the United States into four geographical districts, with each headed by a deputy comptroller.

The OCC is funded through assessments on the assets of national banks, and federal branches and agencies. Under the International Banking Act of 1978, the OCC regulates federal branches and agencies of foreign banks in the United States.


## The Comptroller

John C. Dugan was sworn in as the 29th Comptroller of the Currency on August 4, 2005. Prior to his appointment as Comptroller, Mr. Dugan was a partner at the law firm of Covington \& Burling, where he chaired the firm's Financial Institutions Group. He specialized in banking and financial institution regulation. He also served as outside counsel to the ABA Securities Association. He served at the Department of the Treasury from 1989 to 1993 and was appointed assistant secretary for domestic finance in 1992. While at Treasury, Mr. Dugan had extensive responsibility for policy initiatives involving banks and financial institutions, including the savings and loan cleanup, Glass-Steagall and banking reform, and regulation of government-sponsored enterprises. In 1991, he oversaw a comprehensive study of the banking industry that formed the basis for the financial modernization legislation proposed by the administration of the first President Bush. From 1985 to 1989, Mr. Dugan was minority counsel and minority general counsel for the U.S. Senate Committee on Banking, Housing, and Urban Affairs. There he advised the committee as it debated the Competitive Equality Banking Act of 1987, the Proxmire Financial Modernization Act of 1988, and the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 .

Among his professional and volunteer activities before becoming Comptroller, he served as a director of Minbanc, a charitable organization whose mission is to enhance professional and educational opportunities for minorities in the banking industry. He was also a member of the American Bar Association's committee on banking law, the Federal Bar Association's section of financial institutions and the economy, and the District of Columbia Bar Association's section of corporations, finance, and securities laws. A graduate of the University of Michigan in 1977 with an A.B. in English literature, Mr. Dugan also earned his J.D. from Harvard Law School in 1981.

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## CONDITION AND Performance of COMmercial Banks

## Condition and Performance of Commercial Banks

Net income increased at national banks in the third quarter of 2005, on the strength of a sharp gain in noninterest income. Provisioning expenses rose for the first time in 13 quarters, holding down the expansion in earnings.

Earnings remained high, particularly at national banks. Return on equity (ROE) stood at 15.2 percent, adjusted for the effects of recent mergers. This is near the historical peak, though slightly off from the level of a year ago. ROE at state-chartered banks, at 13.1 percent, also remained near its historical peak.

Table 1 provides some detail on changes in the major income and expense items for national banks. Net interest income grew by 1 percent year-over-year, as continued weakness in net interest margins nearly offset growth in the loan book. Net interest margins at national banks have now fallen for 12 of the last 13 quarters. On the other hand, the residential lending book experienced a fourteenth straight quarter of double-digit percentage increases.

## Table 1-Noninterest income up sharply; provision rises

| National banks | Major income components <br> (Change, \$ millions) |  |  |  |
| :--- | ---: | ---: | ---: | :---: |
|  | 2003Q3-04Q3 | \% change | 2004Q3-05Q3 | \% change |
| Revenues |  |  |  |  |
| $\quad$ Net interest income | 3,426 | $8.8 \%$ | 551 | $1.3 \%$ |
| Real gains/losses sec | 661 | n.m. | $-1,045$ | n.m. |
| Noninterest income | -972 | $-3.0 \%$ | 7,290 | $23.0 \%$ |
| Expenses |  |  |  |  |
| $\quad$ Provisioning | -269 | $-5.2 \%$ | 1,461 | $29.5 \%$ |
| Noninterest expense | 3,713 | $9.2 \%$ | 2,874 | $6.5 \%$ |
| Net income | 428 | $2.4 \%$ | 1,221 | $6.8 \%$ |

In the third quarter, the major contributor to growth in net income was noninterest income; within this category, trading income did particularly well, with servicing fees and service charges making smaller contributions. In contrast to many other categories of noninterest income, however, trading income tends to be volatile, as it depends on swings in trading volume in securities markets. Moreover, nearly all of the growth in trading income occurred at large banks, as Figure 1 indicates. As a result, it may be difficult for large institutions to maintain their earnings performance if such gains do not recur.

Figure 1-Volatile component accounts for large share on noninterest income growth


Source: Integrated Banking Information System (OCC)
Data are merger adjusted and held constant for banks operating as of September 30, 2005. Quarterly change 2004Q3-2005Q3.

Loan loss provisions rose during the third quarter, snapping a string of 12 consecutive quarterly declines (where the change is measured year-over-year). This reversed a six-quarter drop in loss provisions to loans. It was not enough, however, to halt the decline of loan loss reserves to loans (Figure 2).

The key factor behind the lower provisioning expenses has been loan performance, and loan quality remained very strong. Noncurrent loans in the aggregate now stand at an all-time low (data series begins in 1984). Commercial real estate loans and construction loans have also reached all-time lows. In all other major loan categories except credit cards, noncurrents now stand below their 20-year medians.

Figure 2—Reserves continue to shrink relative to loans


Source: Integrated Banking Information Sytem (OCC) $\square$
*2005 data as of September 30, 2005. All other data as of year-end. $\square$

Key indicators, FDIC-insured national banks
Annual 2001-2004, year-to-date through September 30, 2005, third quarter 2004, and third quarter 2005 (Dollar figures in millions)

|  |  |  |  |  | Preliminary | Preliminary |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  | 2000 | $2005 Y T D$ | $2004 Q 3$ |

Loan performance, FDIC-insured national banks
Annual 2001--2004, year-to-date through September 30, 2005, third quarter 2004, and third quarter 2005 (Dollar figures in millions)


Key indicators, FDIC-insured national banks by asset size
Third quarter 2004 and third quarter 2005
(Dollar figures in millions)

|  | Less than \$100M |  | \$100M to \$1B |  | \$1B to \$10B |  | Greater than \$10B |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 |
| Number of institutions reporting | 795 | 711 | 966 | 961 | 127 | 127 | 48 | 47 |
| Total employees (FTEs) | 18,393 | 16,011 | 90,014 | 88,655 | 86,128 | 83,739 | 871,632 | 982,164 |
| Selected income data (\$) |  |  |  |  |  |  |  |  |
| Net income | \$121 | \$109 | \$875 | \$893 | \$1,299 | \$1,301 | \$15,487 | \$17,015 |
| Net interest income | 423 | 390 | 2,531 | 2,539 | 3,031 | 3,007 | 34,158 | 37,121 |
| Provision for loan losses | 24 | 16 | 163 | 142 | 210 | 212 | 4,695 | 6,042 |
| Noninterest income | 164 | 144 | 1,213 | 1,325 | 2,186 | 2,312 | 25,321 | 35,304 |
| Noninterest expense | 410 | 375 | 2,397 | 2,507 | 3,081 | 3,180 | 33,198 | 40,983 |
| Net operating income | 119 | 110 | 869 | 892 | 1,291 | 1,292 | 14,615 | 16,927 |
| Cash dividends declared | 55 | 58 | 501 | 534 | 559 | 1,168 | 8,359 | 11,575 |
| Net charge-offs | 18 | 10 | 112 | 92 | 162 | 175 | 4,688 | 5,923 |
| Selected condition data (\$) |  |  |  |  |  |  |  |  |
| Total assets | 44,124 | 39,795 | 267,795 | 269,469 | 365,322 | 354,377 | 4,169,267 | 5,282,499 |
| Total loans and leases | 26,377 | 23,724 | 171,957 | 174,240 | 224,425 | 225,392 | 2,526,463 | 2,952,072 |
| Reserve for losses | 380 | 335 | 2,378 | 2,226 | 2,997 | 2,785 | 42,432 | 41,294 |
| Securities | 11,427 | 10,665 | 65,393 | 61,146 | 88,332 | 72,851 | 634,364 | 792,991 |
| Other real estate owned | 74 | 53 | 254 | 235 | 192 | 123 | 1,101 | 1,215 |
| Noncurrent loans and leases | 298 | 250 | 1,353 | 1,241 | 1,507 | 1,357 | 25,401 | 24,772 |
| Total deposits | 36,658 | 33,051 | 215,901 | 217,523 | 244,952 | 244,145 | 2,622,443 | 3,265,769 |
| Domestic deposits | 36,636 | 33,036 | 215,479 | 217,275 | 242,356 | 241,103 | 2,059,986 | 2,521,467 |
| Equity capital | 5,245 | 4,643 | 27,414 | 28,269 | 40,197 | 38,140 | 432,863 | 514,574 |
| Off-balance-sheet derivatives | 18 | 21 | 2,535 | 4,164 | 19,340 | 17,426 | 40,077,653 | 97,719,244 |
| Performance ratios (annualized \%) |  |  |  |  |  |  |  |  |
| Return on equity | 9.47 | 9.40 | 13.05 | 12.75 | 13.43 | 13.67 | 15.34 | 13.24 |
| Return on assets | 1.11 | 1.11 | 1.32 | 1.34 | 1.44 | 1.49 | 1.51 | 1.30 |
| Net interest income to assets | 3.87 | 3.95 | 3.82 | 3.82 | 3.35 | 3.45 | 3.33 | 2.84 |
| Loss provision to assets | 0.22 | 0.16 | 0.25 | 0.21 | 0.23 | 0.24 | 0.46 | 0.46 |
| Net operating income to assets | 1.09 | 1.12 | 1.31 | 1.34 | 1.43 | 1.48 | 1.42 | 1.29 |
| Noninterest income to assets | 1.50 | 1.45 | 1.83 | 1.99 | 2.42 | 2.65 | 2.47 | 2.70 |
| Noninterest expense to assets | 3.75 | 3.80 | 3.62 | 3.77 | 3.41 | 3.65 | 3.23 | 3.14 |
| Loss provision to loans and leases | 0.38 | 0.28 | 0.39 | 0.33 | 0.38 | 0.38 | 0.76 | 0.83 |
| Net charge-offs to loans and leases | 0.28 | 0.18 | 0.26 | 0.21 | 0.29 | 0.31 | 0.76 | 0.81 |
| Loss provision to net charge-offs | 136.46 | 156.01 | 145.97 | 154.47 | 129.55 | 121.64 | 100.15 | 102.00 |
| Performance ratios (\%) |  |  |  |  |  |  |  |  |
| Percent of institutions unprofitable | 10.44 | 9.42 | 2.28 | 3.02 | 3.15 | 2.36 | 6.25 | 4.26 |
| Percent of institutions with earnings gains | 57.99 | 57.10 | 65.22 | 63.68 | 69.29 | 75.59 | 56.25 | 61.70 |
| Nonint. income to net operating revenue | 27.87 | 26.92 | 32.39 | 34.29 | 41.90 | 43.46 | 42.57 | 48.75 |
| Nonint. expense to net operating revenue | 69.78 | 70.30 | 64.04 | 64.88 | 59.06 | 59.79 | 55.81 | 56.59 |
| Condition ratios (\%) |  |  |  |  |  |  |  |  |
| Nonperforming assets to assets | 0.85 | 0.76 | 0.60 | 0.55 | 0.47 | 0.42 | 0.65 | 0.50 |
| Noncurrent loans to loans | 1.13 | 1.05 | 0.79 | 0.71 | 0.67 | 0.60 | 1.01 | 0.84 |
| Loss reserve to noncurrent loans | 127.80 | 133.92 | 175.79 | 179.33 | 198.90 | 205.24 | 167.05 | 166.70 |
| Loss reserve to loans | 1.44 | 1.41 | 1.38 | 1.28 | 1.34 | 1.24 | 1.68 | 1.40 |
| Equity capital to assets | 11.89 | 11.67 | 10.24 | 10.49 | 11.00 | 10.76 | 10.38 | 9.74 |
| Leverage ratio | 11.59 | 11.69 | 9.49 | 9.65 | 9.22 | 9.00 | 7.16 | 7.08 |
| Risk-based capital ratio | 18.87 | 19.12 | 14.71 | 14.67 | 15.18 | 13.37 | 11.96 | 11.77 |
| Net loans and leases to assets | 58.92 | 58.78 | 63.32 | 63.83 | 60.61 | 62.82 | 59.58 | 55.10 |
| Securities to assets | 25.90 | 26.80 | 24.42 | 22.69 | 24.18 | 20.56 | 15.22 | 15.01 |
| Appreciation in securities (\% of par) | 0.51 | -0.89 | 0.76 | -0.67 | 1.04 | -0.71 | 0.66 | -0.52 |
| Residential mortgage assets to assets | 20.68 | 20.61 | 23.13 | 21.84 | 26.86 | 24.49 | 23.93 | 23.73 |
| Total deposits to assets | 83.08 | 83.05 | 80.62 | 80.72 | 67.05 | 68.89 | 62.90 | 61.82 |
| Core deposits to assets | 70.57 | 70.11 | 67.64 | 66.31 | 57.16 | 56.30 | 43.40 | 40.71 |
| Volatile liabilities to assets | 14.95 | 15.73 | 17.74 | 19.01 | 23.35 | 26.53 | 34.26 | 37.30 |

Loan performance, FDIC-insured national banks by asset size
Third quarter 2004 and third quarter 2005
(Dollar figures in millions)

|  | Less than \$100M |  | \$100M to \$1B |  | \$1B to \$10B |  | Greater than \$10B |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 |
| Percent of loans past due 30-89 days |  |  |  |  |  |  |  |  |
| Total loans and leases | 1.24 | 1.23 | 0.85 | 0.82 | 0.61 | 0.76 | 0.89 | 0.88 |
| Loans secured by real estate (RE) | 1.13 | 1.13 | 0.72 | 0.71 | 0.47 | 0.52 | 0.80 | 0.78 |
| 1- to 4-family residential mortgages | 1.60 | 1.61 | 1.04 | 1.05 | 0.61 | 0.66 | 1.15 | 1.03 |
| Home equity loans | 0.53 | 0.48 | 0.33 | 0.38 | 0.23 | 0.29 | 0.38 | 0.47 |
| Multifamily residential mortgages | 0.18 | 0.85 | 0.55 | 0.42 | 0.26 | 0.32 | 0.52 | 0.44 |
| Commercial RE loans | 0.91 | 0.88 | 0.56 | 0.52 | 0.35 | 0.50 | 0.43 | 0.48 |
| Construction RE loans | 1.08 | 0.88 | 0.70 | 0.78 | 0.58 | 0.48 | 0.62 | 0.57 |
| Commercial and industrial loans | 1.49 | 1.39 | 0.95 | 1.02 | 0.86 | 1.40 | 0.48 | 0.50 |
| Loans to individuals | 2.25 | 2.27 | 1.80 | 1.60 | 1.31 | 1.11 | 1.89 | 1.86 |
| Credit cards | 2.01 | 1.91 | 3.33 | 2.88 | 2.99 | 1.85 | 2.22 | 2.31 |
| Installment loans and other plans | 2.28 | 2.33 | 1.52 | 1.48 | 1.14 | 1.03 | 1.75 | 1.63 |
| All other loans and leases | 0.51 | 0.64 | 0.54 | 0.54 | 0.37 | 0.54 | 0.22 | 0.32 |
| Percent of loans noncurrent |  |  |  |  |  |  |  |  |
| Total loans and leases | 1.13 | 1.05 | 0.79 | 0.71 | 0.67 | 0.60 | 1.01 | 0.84 |
| Loans secured by real estate (RE) | 0.97 | 0.95 | 0.69 | 0.68 | 0.58 | 0.54 | 0.75 | 0.76 |
| 1- to 4-family residential mortgages | 0.98 | 0.92 | 0.66 | 0.70 | 0.51 | 0.55 | 0.99 | 1.04 |
| Home equity loans | 0.27 | 0.30 | 0.14 | 0.18 | 0.15 | 0.18 | 0.17 | 0.21 |
| Multifamily residential mortgages | 0.60 | 1.00 | 0.51 | 0.49 | 0.29 | 0.24 | 0.31 | 0.44 |
| Commercial RE loans | 1.11 | 1.17 | 0.78 | 0.74 | 0.82 | 0.74 | 0.78 | 0.63 |
| Construction RE loans | 0.72 | 0.58 | 0.69 | 0.63 | 0.43 | 0.37 | 0.53 | 0.41 |
| Commercial and industrial loans | 1.97 | 1.68 | 1.19 | 1.00 | 1.05 | 0.87 | 1.38 | 0.85 |
| Loans to individuals | 0.87 | 0.82 | 0.82 | 0.58 | 0.64 | 0.50 | 1.68 | 1.40 |
| Credit cards | 1.20 | 1.15 | 2.62 | 1.73 | 2.52 | 1.37 | 1.91 | 1.92 |
| Installment loans and other plans | 0.87 | 0.83 | 0.46 | 0.45 | 0.38 | 0.35 | 1.64 | 1.06 |
| All other loans and leases | 1.06 | 0.98 | 0.73 | 0.56 | 0.45 | 0.47 | 0.37 | 0.27 |
| Percent of loans charged-off, net |  |  |  |  |  |  |  |  |
| Total loans and leases | 0.28 | 0.18 | 0.26 | 0.21 | 0.29 | 0.31 | 0.76 | 0.81 |
| Loans secured by real estate (RE) | 0.09 | 0.05 | 0.06 | 0.06 | 0.05 | 0.08 | 0.08 | 0.06 |
| 1- to 4-family residential mortgages | 0.07 | 0.04 | 0.07 | 0.08 | 0.07 | 0.08 | 0.08 | 0.05 |
| Home equity loans | 0.10 | 0.04 | 0.05 | 0.02 | 0.03 | 0.09 | 0.10 | 0.09 |
| Multifamily residential mortgages | 0.00 | 0.17 | 0.00 | 0.16 | 0.07 | 0.12 | 0.02 | 0.00 |
| Commercial RE loans | 0.12 | 0.07 | 0.05 | 0.04 | 0.02 | 0.10 | 0.08 | 0.04 |
| Construction RE loans | 0.03 | 0.05 | 0.07 | 0.04 | 0.10 | 0.04 | 0.02 | 0.01 |
| Commercial and industrial loans | 0.65 | 0.51 | 0.44 | 0.30 | 0.69 | 0.63 | 0.28 | 0.06 |
| Loans to individuals | 0.86 | 0.59 | 1.58 | 1.24 | 1.23 | 1.13 | 3.20 | 3.73 |
| Credit cards | 2.86 | 1.91 | 6.57 | 5.88 | 4.03 | 2.59 | 4.80 | 4.64 |
| Installment loans and other plans | 0.82 | 0.55 | 0.54 | 0.62 | 0.85 | 0.85 | 1.60 | 2.90 |
| All other loans and leases | 0.22 | 0.02 | 0.15 | 0.49 | 0.22 | 0.58 | 0.10 | 0.38 |
| Loans outstanding (\$) |  |  |  |  |  |  |  |  |
| Total loans and leases | \$26,377 | \$23,724 | \$171,957 | \$174,240 | \$224,425 | \$225,392 | \$2,526,463 | \$2,952,072 |
| Loans secured by real estate (RE) | 16,334 | 14,761 | 119,386 | 124,044 | 143,027 | 148,042 | 1,174,204 | 1,438,648 |
| 1- to 4-family residential mortgages | 6,424 | 5,913 | 38,814 | 38,623 | 52,253 | 48,789 | 575,274 | 723,641 |
| Home equity loans | 546 | 471 | 7,346 | 6,920 | 11,601 | 11,836 | 246,622 | 307,510 |
| Multifamily residential mortgages | 412 | 356 | 4,155 | 4,105 | 5,777 | 7,265 | 28,707 | 32,530 |
| Commercial RE loans | 5,110 | 4,626 | 47,750 | 48,875 | 50,143 | 49,553 | 192,194 | 217,803 |
| Construction RE loans | 1,828 | 1,538 | 15,502 | 19,377 | 20,761 | 27,098 | 84,503 | 109,212 |
| Farmland loans | 2,015 | 1,856 | 5,817 | 6,141 | 1,891 | 2,612 | 4,996 | 4,959 |
| RE loans from foreign offices | 0 | 0 | 2 | 2 | 601 | 890 | 41,908 | 42,992 |
| Commercial and industrial loans | 4,157 | 3,688 | 27,251 | 26,887 | 45,573 | 47,003 | 457,412 | 571,549 |
| Loans to individuals | 2,854 | 2,471 | 15,959 | 13,951 | 18,628 | 21,027 | 527,594 | 572,759 |
| Credit cards+A27 | 57 | 58 | 2,786 | 1,624 | 2,410 | 3,424 | 272,312 | 270,578 |
| Other revolving credit plans | 39 | 54 | 336 | 414 | 1,192 | 1,117 | 31,855 | 33,371 |
| Installment loans | 2,758 | 2,359 | 12,837 | 11,913 | 15,026 | 16,485 | 223,427 | 268,810 |
| All other loans and leases | 3,053 | 2,823 | 9,527 | 9,519 | 17,321 | 9,461 | 368,980 | 370,725 |
| Less: Unearned income | 22 | 19 | 167 | 162 | 123 | 141 | 1,726 | 1,609 |

## Key indicators, FDIC-insured national banks by region <br> Third quarter 2005 <br> (Dollar figures in millions)

|  | Northeast | Southeast | Central | Midwest | Southwest | West | institutions |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of institutions reporting | 207 | 215 | 356 | 382 | 542 | 144 | 1,846 |
| Total employees (FTEs) | 318,682 | 265,633 | 300,321 | 163,514 | 79,022 | 43,397 | 1,170,569 |
| Selected income data (\$) |  |  |  |  |  |  |  |
| Net income | \$4,577 | \$5,567 | \$4,557 | \$2,568 | \$610 | \$1,438 | \$19,318 |
| Net interest income | 10,568 | 11,090 | 9,950 | 5,521 | 2,138 | 3,791 | 43,058 |
| Provision for loan losses | 2,966 | 284 | 939 | 590 | 339 | 1,294 | 6,412 |
| Noninterest income | 11,888 | 7,038 | 11,232 | 5,546 | 1,104 | 2,276 | 39,084 |
| Noninterest expense | 12,921 | 9,698 | 13,317 | 6,517 | 2,083 | 2,510 | 47,046 |
| Net operating income | 4,520 | 5,534 | 4,526 | 2,583 | 610 | 1,449 | 19,221 |
| Cash dividends declared | 2,904 | 3,361 | 1,822 | 1,691 | 357 | 3,201 | 13,336 |
| Net charge-offs | 3,121 | 441 | 790 | 681 | 87 | 1,079 | 6,200 |
| Selected condition data (\$) |  |  |  |  |  |  |  |
| Total assets | 1,379,844 | 1,707,013 | 1,809,684 | 545,936 | 241,660 | 262,003 | 5,946,140 |
| Total loans and leases | 760,801 | 921,383 | 942,341 | 404,226 | 151,767 | 194,912 | 3,375,428 |
| Reserve for losses | 13,487 | 8,508 | 11,887 | 5,440 | 1,951 | 5,367 | 46,640 |
| Securities | 244,555 | 362,923 | 192,776 | 55,308 | 50,159 | 31,933 | 937,653 |
| Other real estate owned | 142 | 546 | 505 | 179 | 210 | 43 | 1,626 |
| Noncurrent loans and leases | 7,644 | 3,437 | 8,653 | 4,630 | 1,172 | 2,085 | 27,621 |
| Total deposits | 901,276 | 1,120,327 | 1,034,617 | 379,299 | 187,229 | 137,740 | 3,760,487 |
| Domestic deposits | 506,560 | 982,572 | 850,935 | 355,961 | 184,025 | 132,829 | 3,012,881 |
| Equity capital | 146,130 | 163,661 | 164,122 | 59,602 | 22,514 | 29,598 | 585,626 |
| Off-balance-sheet derivatives | 23,071,790 | 24,726,754 | 48,194,793 | 891,475 | 62,638 | 45,460 | 96,992,909 |
| Performance ratios (annualized \%) |  |  |  |  |  |  |  |
| Return on equity | 12.54 | 13.61 | 11.18 | 17.34 | 10.90 | 18.87 | 13.22 |
| Return on assets | 1.33 | 1.32 | 1.02 | 1.91 | 1.02 | 2.22 | 1.31 |
| Net interest income to assets | 3.07 | 2.63 | 2.23 | 4.11 | 3.59 | 5.86 | 2.93 |
| Loss provision to assets | 0.86 | 0.07 | 0.21 | 0.44 | 0.57 | 2.00 | 0.44 |
| Net operating income to assets | 1.31 | 1.31 | 1.02 | 1.92 | 1.03 | 2.24 | 1.31 |
| Noninterest income to assets | 3.46 | 1.67 | 2.52 | 4.13 | 1.86 | 3.52 | 2.66 |
| Noninterest expense to assets | 3.76 | 2.30 | 2.99 | 4.85 | 3.50 | 3.88 | 3.20 |
| Loss provision to loans and leases | 1.55 | 0.13 | 0.41 | 0.59 | 0.91 | 2.68 | 0.77 |
| Net charge-offs to loans and leases | 1.63 | 0.20 | 0.34 | 0.68 | 0.23 | 2.23 | 0.74 |
| Loss provision to net charge-offs | 95.04 | 64.40 | 118.86 | 86.65 | 387.71 | 119.86 | 103.42 |
| Performance ratios (\%) |  |  |  |  |  |  |  |
| Percent of institutions unprofitable | 5.80 | 8.37 | 4.78 | 3.40 | 4.98 | 9.72 | 5.47 |
| Percent of institutions with earnings gains | 60.39 | 70.23 | 55.34 | 58.38 | 64.02 | 69.44 | 61.92 |
| Nonint. income to net operating revenue | 52.94 | 38.82 | 53.02 | 50.11 | 34.06 | 37.52 | 47.58 |
| Nonint. expense to net operating revenue | 57.54 | 53.50 | 62.87 | 58.89 | 64.24 | 41.37 | 57.27 |
| Condition ratios (\%) |  |  |  |  |  |  |  |
| Nonperforming assets to assets | 0.56 | 0.24 | 0.52 | 0.89 | 0.57 | 0.82 | 0.50 |
| Noncurrent loans to loans | 1.00 | 0.37 | 0.92 | 1.15 | 0.77 | 1.07 | 0.82 |
| Loss reserve to noncurrent loans | 176.45 | 247.52 | 137.38 | 117.50 | 166.43 | 257.45 | 168.86 |
| Loss reserve to loans | 1.77 | 0.92 | 1.26 | 1.35 | 1.29 | 2.75 | 1.38 |
| Equity capital to assets | 10.59 | 9.59 | 9.07 | 10.92 | 9.32 | 11.30 | 9.85 |
| Leverage ratio | 7.97 | 6.67 | 6.71 | 8.48 | 8.30 | 9.54 | 7.35 |
| Risk-based capital ratio | 13.98 | 10.91 | 11.22 | 12.48 | 12.75 | 12.94 | 12.02 |
| Net loans and leases to assets | 54.16 | 53.48 | 51.42 | 73.05 | 61.99 | 72.34 | 55.98 |
| Securities to assets | 17.72 | 21.26 | 10.65 | 10.13 | 20.76 | 12.19 | 15.77 |
| Appreciation in securities (\% of par) | -0.11 | -1.03 | -0.44 | 0.88 | -1.05 | -0.72 | -0.55 |
| Residential mortgage assets to assets | 14.82 | 36.18 | 18.48 | 26.39 | 24.14 | 18.57 | 23.67 |
| Total deposits to assets | 65.32 | 65.63 | 57.17 | 69.48 | 77.48 | 52.57 | 63.24 |
| Core deposits to assets | 29.01 | 51.21 | 39.44 | 56.34 | 59.34 | 44.71 | 42.99 |
| Volatile liabilities to assets | 46.36 | 31.22 | 37.14 | 21.03 | 26.84 | 37.05 | 35.68 |

## Loan performance, FDIC-insured national banks by region Third quarter 2005 <br> (Dollar figures in millions)

|  | Northeast | Southeast | Central | Midwest | Southwest | West | institutions |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent of loans past due 30-89 days |  |  |  |  |  |  |  |
| Total loans and leases | 1.08 | 0.57 | 0.82 | 0.94 | 1.10 | 1.39 | 0.87 |
| Loans secured by real estate (RE) | 0.84 | 0.60 | 0.89 | 0.73 | 0.85 | 0.76 | 0.76 |
| 1- to 4-family residential mortgages | 1.02 | 0.80 | 1.27 | 0.99 | 1.10 | 1.32 | 1.01 |
| Home equity loans | 0.39 | 0.47 | 0.45 | 0.52 | 0.52 | 0.14 | 0.46 |
| Multifamily residential mortgages | 0.12 | 0.34 | 0.55 | 0.14 | 1.12 | 0.61 | 0.42 |
| Commercial RE loans | 0.48 | 0.32 | 0.70 | 0.43 | 0.75 | 0.36 | 0.50 |
| Construction RE loans | 0.44 | 0.27 | 0.85 | 0.68 | 0.79 | 0.47 | 0.58 |
| Commercial and industrial loans | 0.69 | 0.38 | 0.47 | 0.72 | 1.39 | 0.86 | 0.59 |
| Loans to individuals | 1.99 | 1.44 | 1.21 | 2.20 | 2.16 | 2.36 | 1.83 |
| Credit cards | 2.23 | 0.99 | 1.71 | 2.96 | 2.02 | 2.45 | 2.31 |
| Installment loans and other plans | 2.11 | 1.54 | 1.08 | 1.42 | 2.26 | 2.14 | 1.60 |
| All other loans and leases | 0.20 | 0.12 | 0.64 | 0.28 | 1.26 | 0.29 | 0.33 |
| Percent of loans noncurrent |  |  |  |  |  |  |  |
| Total loans and leases | 1.00 | 0.37 | 0.92 | 1.15 | 0.77 | 1.07 | 0.82 |
| Loans secured by real estate (RE) | 0.69 | 0.30 | 1.03 | 1.33 | 0.74 | 0.41 | 0.74 |
| 1- to 4-family residential mortgages | 0.51 | 0.30 | 1.64 | 2.28 | 1.15 | 0.45 | 0.99 |
| Home equity loans | 0.13 | 0.16 | 0.24 | 0.29 | 0.19 | 0.04 | 0.21 |
| Multifamily residential mortgages | 0.34 | 0.37 | 0.49 | 0.72 | 0.36 | 0.11 | 0.42 |
| Commercial RE loans | 0.70 | 0.47 | 0.96 | 0.67 | 0.70 | 0.47 | 0.67 |
| Construction RE loans | 0.54 | 0.26 | 0.60 | 0.36 | 0.53 | 0.36 | 0.43 |
| Commercial and industrial loans | 0.92 | 0.56 | 1.12 | 0.63 | 1.02 | 0.65 | 0.86 |
| Loans to individuals | 1.77 | 0.76 | 0.62 | 1.38 | 0.42 | 2.00 | 1.35 |
| Credit cards | 1.92 | 0.70 | 1.39 | 2.15 | 1.17 | 2.08 | 1.91 |
| Installment loans and other plans | 1.96 | 0.81 | 0.35 | 0.53 | 0.39 | 1.78 | 0.99 |
| All other loans and leases | 0.16 | 0.23 | 0.41 | 0.39 | 0.66 | 0.34 | 0.29 |
| Percent of loans charged-off, net |  |  |  |  |  |  |  |
| Total loans and leases | 1.63 | 0.20 | 0.34 | 0.68 | 0.23 | 2.23 | 0.74 |
| Loans secured by real estate (RE) | 0.04 | 0.03 | 0.11 | 0.05 | 0.06 | 0.03 | 0.06 |
| 1- to 4-family residential mortgages | 0.04 | 0.02 | 0.13 | 0.03 | 0.08 | 0.06 | 0.06 |
| Home equity loans | 0.03 | 0.06 | 0.12 | 0.14 | 0.13 | 0.01 | 0.09 |
| Multifamily residential mortgages | 0.00 | 0.00 | 0.05 | 0.13 | 0.17 | 0.00 | 0.04 |
| Commercial RE loans | 0.01 | 0.06 | 0.10 | -0.02 | 0.02 | 0.01 | 0.05 |
| Construction RE loans | -0.05 | 0.04 | 0.01 | 0.04 | 0.02 | 0.01 | 0.02 |
| Commercial and industrial loans | -0.13 | 0.09 | 0.07 | 0.48 | 0.42 | 0.76 | 0.11 |
| Loans to individuals | 5.22 | 0.65 | 1.59 | 3.09 | 0.95 | 5.36 | 3.57 |
| Credit cards | 4.13 | 2.56 | 3.75 | 4.85 | 3.37 | 5.99 | 4.62 |
| Installment loans and other plans | 6.52 | 0.62 | 0.78 | 0.93 | 0.80 | 0.97 | 2.70 |
| All other loans and leases | -0.04 | 0.90 | 0.31 | 0.44 | 0.46 | 0.12 | 0.38 |
| Loans outstanding (\$) |  |  |  |  |  |  |  |
| Total loans and leases | \$760,801 | \$921,383 | \$942,341 | \$404,226 | \$151,767 | \$194,912 | \$3,375,428 |
| Loans secured by real estate (RE) | 243,055 | 578,754 | 488,932 | 238,552 | 97,918 | 78,285 | 1,725,495 |
| 1- to 4-family residential mortgages | 114,040 | 311,542 | 216,389 | 112,593 | 30,436 | 31,968 | 816,966 |
| Home equity loans | 28,853 | 101,708 | 121,858 | 59,182 | 9,533 | 5,603 | 326,737 |
| Multifamily residential mortgages | 6,795 | 11,632 | 15,399 | 4,436 | 2,221 | 3,771 | 44,256 |
| Commercial RE loans | 42,386 | 98,689 | 84,607 | 38,888 | 31,452 | 24,836 | 320,858 |
| Construction RE loans | 11,996 | 49,070 | 44,921 | 18,750 | 21,569 | 10,920 | 157,226 |
| Farmland loans | 793 | 1,900 | 4,279 | 4,703 | 2,707 | 1,187 | 15,569 |
| RE loans from foreign offices | 38,192 | 4,213 | 1,479 | 0 | 0 | 0 | 43,883 |
| Commercial and industrial loans | 160,167 | 161,870 | 203,967 | 59,966 | 33,264 | 29,893 | 649,128 |
| Loans to individuals | 243,177 | 70,776 | 137,223 | 68,556 | 13,512 | 76,965 | 610,208 |
| Credit cards | 132,546 | 958 | 37,221 | 36,897 | 749 | 67,313 | 275,685 |
| Other revolving credit plans | 20,887 | 4,036 | 5,017 | 2,587 | 549 | 1,881 | 34,956 |
| Installment loans | 89,743 | 65,782 | 94,985 | 29,072 | 12,214 | 7,771 | 299,567 |
| All other loans and leases | 115,770 | 110,280 | 112,281 | 37,176 | 7,160 | 9,862 | 392,529 |
| Less: Unearned income | 1,368 | 297 | 62 | 24 | 87 | 93 | 1,931 |

Key indicators, FDIC-insured commercial banks
Annual 2001--2004, year-to-date through September 30, 2005, third quarter 2004, and third quarter 2005 (Dollar figures in millions)

|  | 2001 | 2002 | 2003 | 2004 | Preliminary 2005YTD | 2004Q3 | Preliminary 2005Q3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of institutions reporting | 8,080 | 7,888 | 7,770 | 7,631 | 7,541 | 7,660 | 7,541 |
| Total employees (FTEs) | 1,701,721 | 1,745,614 | 1,759,517 | 1,814,999 | 1,856,293 | 1,806,846 | 1,856,293 |
| Selected income data (\$) |  |  |  |  |  |  |  |
| Net income | \$73,730 | \$89,670 | \$102,463 | \$104,174 | \$87,218 | \$27,725 | \$29,776 |
| Net interest income | 214,654 | 236,602 | 239,986 | 249,602 | 201,481 | 65,326 | 68,568 |
| Provision for loan losses | 43,337 | 48,187 | 34,832 | 26,097 | 19,551 | 6,712 | 8,159 |
| Noninterest income | 158,034 | 172,350 | 186,528 | 183,909 | 153,428 | 45,831 | 53,692 |
| Noninterest expense | 223,223 | 233,560 | 245,989 | 257,525 | 207,009 | 65,555 | 69,996 |
| Net operating income | 70,902 | 85,373 | 98,216 | 101,590 | 86,691 | 26,709 | 29,772 |
| Cash dividends declared | 54,228 | 67,536 | 77,838 | 55,686 | 49,277 | 14,413 | 19,097 |
| Net charge-offs | 36,474 | 44,529 | 37,928 | 29,107 | 20,176 | 6,766 | 7,702 |
| Selected condition data (\$) |  |  |  |  |  |  |  |
| Total assets | 6,552,336 | 7,076,676 | 7,601,172 | 8,413,850 | 8,903,605 | 8,244,957 | 8,903,605 |
| Total loans and leases | 3,884,328 | 4,156,070 | 4,428,827 | 4,904,482 | 5,265,929 | 4,815,220 | 5,265,929 |
| Reserve for losses | 72,273 | 76,994 | 77,146 | 73,502 | 70,981 | 75,200 | 70,981 |
| Securities | 1,172,540 | 1,334,826 | 1,456,307 | 1,551,273 | 1,584,036 | 1,494,868 | 1,584,036 |
| Other real estate owned | 3,569 | 4,165 | 4,218 | 3,373 | 3,327 | 3,659 | 3,327 |
| Noncurrent loans and leases | 54,581 | 60,548 | 52,949 | 42,077 | 39,652 | 43,919 | 39,652 |
| Total deposits | 4,377,558 | 4,689,852 | 5,035,056 | 5,593,169 | 5,917,027 | 5,406,587 | 5,917,027 |
| Domestic deposits | 3,748,042 | 4,031,815 | 4,293,884 | 4,727,277 | 5,014,276 | 4,586,727 | 5,014,276 |
| Equity capital | 593,621 | 647,340 | 691,900 | 850,335 | 899,409 | 821,627 | 899,409 |
| Off-balance-sheet derivatives | 45,325,982 | 56,208,857 | 71,098,970 | 87,872,811 | 98,783,602 | 84,205,235 | 98,783,602 |
| Performance ratios (annualized \%) |  |  |  |  |  |  |  |
| Return on equity | 13.08 | 14.46 | 15.31 | 13.74 | 13.19 | 14.17 | 13.29 |
| Return on assets | 1.15 | 1.33 | 1.40 | 1.30 | 1.34 | 1.36 | 1.35 |
| Net interest income to assets | 3.35 | 3.50 | 3.27 | 3.12 | 3.10 | 3.21 | 3.11 |
| Loss provision to assets | 0.68 | 0.71 | 0.47 | 0.33 | 0.30 | 0.33 | 0.37 |
| Net operating income to assets | 1.11 | 1.26 | 1.34 | 1.27 | 1.33 | 1.31 | 1.35 |
| Noninterest income to assets | 2.46 | 2.55 | 2.54 | 2.30 | 2.36 | 2.25 | 2.44 |
| Noninterest expense to assets | 3.48 | 3.46 | 3.35 | 3.22 | 3.18 | 3.22 | 3.18 |
| Loss provision to loans and leases | 1.12 | 1.21 | 0.82 | 0.56 | 0.51 | 0.57 | 0.63 |
| Net charge-offs to loans and leases | 0.95 | 1.12 | 0.89 | 0.63 | 0.53 | 0.57 | 0.59 |
| Loss provision to net charge-offs | 118.82 | 108.21 | 91.84 | 89.66 | 96.90 | 99.21 | 105.93 |
| Performance ratios (\%) |  |  |  |  |  |  |  |
| Percent of institutions unprofitable | 8.13 | 6.64 | 6.01 | 5.87 | 5.83 | 5.61 | 5.68 |
| Percent of institutions with earnings gains | 56.27 | 72.68 | 59.19 | 64.85 | 64.79 | 62.95 | 62.23 |
| Nonint. income to net operating revenue | 42.40 | 42.14 | 43.73 | 42.42 | 43.23 | 41.23 | 43.92 |
| Nonint. expense to net operating revenue | 59.90 | 57.11 | 57.67 | 59.40 | 58.33 | 58.97 | 57.25 |
| Condition ratios (\%) |  |  |  |  |  |  |  |
| Nonperforming assets to assets | 0.92 | 0.94 | 0.77 | 0.55 | 0.49 | 0.59 | 0.49 |
| Noncurrent loans to loans | 1.41 | 1.46 | 1.20 | 0.86 | 0.75 | 0.91 | 0.75 |
| Loss reserve to noncurrent loans | 132.41 | 127.16 | 145.70 | 174.68 | 179.01 | 171.23 | 179.01 |
| Loss reserve to loans | 1.86 | 1.85 | 1.74 | 1.50 | 1.35 | 1.56 | 1.35 |
| Equity capital to assets | 9.06 | 9.15 | 9.10 | 10.11 | 10.10 | 9.97 | 10.10 |
| Leverage ratio | 7.78 | 7.82 | 7.85 | 7.82 | 7.93 | 7.80 | 7.93 |
| Risk-based capital ratio | 12.70 | 12.76 | 12.75 | 12.61 | 12.43 | 12.62 | 12.43 |
| Net loans and leases to assets | 58.18 | 57.64 | 57.25 | 57.42 | 58.35 | 57.49 | 58.35 |
| Securities to assets | 17.89 | 18.86 | 19.16 | 18.44 | 17.79 | 18.13 | 17.79 |
| Appreciation in securities (\% of par) | 0.82 | 2.22 | 0.84 | 0.43 | -0.58 | 0.57 | -0.58 |
| Residential mortgage assets to assets | 21.64 | 23.29 | 23.28 | 23.33 | 23.70 | 23.00 | 23.70 |
| Total deposits to assets | 66.81 | 66.27 | 66.24 | 66.48 | 66.46 | 65.57 | 66.46 |
| Core deposits to assets | 48.72 | 48.68 | 48.63 | 47.56 | 46.71 | 47.38 | 46.71 |
| Volatile liabilities to assets | 31.45 | 31.41 | 30.95 | 31.67 | 33.13 | 32.18 | 33.13 |

Loan performance, FDIC-insured commercial banks
Annual 2001--2004, year-to-date through September 30, 2005, third quarter 2004, and third quarter 2005 (Dollar figures in millions)

|  | 2001 | 2002 | 2003 | 2004 | $\begin{aligned} & \text { Preliminary } \\ & 2005 \mathrm{YTD} \end{aligned}$ | 2004Q3 | $\begin{array}{r} \text { Preliminary } \\ \text { 2005Q3 } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent of loans past due 30-89 days |  |  |  |  |  |  |  |
| Total loans and leases | 1.37 | 1.17 | 1.02 | 0.86 | 0.83 | 0.86 | 0.83 |
| Loans secured by real estate (RE) | 1.32 | 1.08 | 0.90 | 0.73 | 0.72 | 0.73 | 0.72 |
| 1- to 4-family residential mortgages | 1.69 | 1.49 | 1.29 | 1.05 | 0.99 | 1.05 | 0.99 |
| Home equity loans | 0.79 | 0.59 | 0.45 | 0.37 | 0.44 | 0.37 | 0.44 |
| Multifamily residential mortgages | 0.73 | 0.46 | 0.48 | 0.36 | 0.41 | 0.41 | 0.41 |
| Commercial RE loans | 0.90 | 0.68 | 0.56 | 0.49 | 0.52 | 0.52 | 0.52 |
| Construction RE loans | 1.23 | 0.89 | 0.69 | 0.58 | 0.58 | 0.58 | 0.58 |
| Commercial and industrial loans | 1.01 | 0.89 | 0.72 | 0.64 | 0.63 | 0.64 | 0.63 |
| Loans to individuals | 2.46 | 2.22 | 2.08 | 1.82 | 1.75 | 1.83 | 1.75 |
| Credit cards | 2.70 | 2.72 | 2.53 | 2.24 | 2.22 | 2.28 | 2.22 |
| Installment loans and other plans | 2.54 | 2.08 | 1.93 | 1.62 | 1.56 | 1.63 | 1.56 |
| All other loans and leases | 0.84 | 0.58 | 0.48 | 0.38 | 0.35 | 0.35 | 0.35 |
| Percent of loans noncurrent |  |  |  |  |  |  |  |
| Total loans and leases | 1.41 | 1.46 | 1.20 | 0.86 | 0.75 | 0.91 | 0.75 |
| Loans secured by real estate (RE) | 0.96 | 0.89 | 0.86 | 0.65 | 0.66 | 0.69 | 0.66 |
| 1- to 4-family residential mortgages | 0.97 | 0.93 | 1.00 | 0.82 | 0.91 | 0.86 | 0.91 |
| Home equity loans | 0.37 | 0.30 | 0.24 | 0.18 | 0.21 | 0.17 | 0.21 |
| Multifamily residential mortgages | 0.46 | 0.38 | 0.38 | 0.35 | 0.35 | 0.31 | 0.35 |
| Commercial RE loans | 0.96 | 0.94 | 0.90 | 0.69 | 0.63 | 0.77 | 0.63 |
| Construction RE loans | 1.06 | 0.98 | 0.70 | 0.44 | 0.39 | 0.51 | 0.39 |
| Commercial and industrial loans | 2.41 | 2.93 | 2.10 | 1.17 | 0.88 | 1.43 | 0.88 |
| Loans to individuals | 1.43 | 1.51 | 1.53 | 1.46 | 1.20 | 1.39 | 1.20 |
| Credit cards | 2.12 | 2.24 | 2.22 | 2.00 | 1.86 | 1.92 | 1.86 |
| Installment loans and other plans | 1.12 | 1.14 | 1.14 | 1.12 | 0.82 | 1.09 | 0.82 |
| All other loans and leases | 0.97 | 1.01 | 0.66 | 0.40 | 0.31 | 0.41 | 0.31 |
| Percent of loans charged-off, net |  |  |  |  |  |  |  |
| Total loans and leases | 0.95 | 1.12 | 0.89 | 0.63 | 0.53 | 0.57 | 0.59 |
| Loans secured by real estate (RE) | 0.19 | 0.15 | 0.17 | 0.08 | 0.06 | 0.08 | 0.06 |
| 1- to 4-family residential mortgages | 0.22 | 0.14 | 0.19 | 0.08 | 0.06 | 0.08 | 0.06 |
| Home equity loans | 0.27 | 0.19 | 0.20 | 0.10 | 0.10 | 0.10 | 0.10 |
| Multifamily residential mortgages | 0.04 | 0.08 | 0.03 | 0.04 | 0.04 | 0.06 | 0.06 |
| Commercial RE loans | 0.13 | 0.15 | 0.13 | 0.07 | 0.05 | 0.07 | 0.06 |
| Construction RE loans | 0.14 | 0.17 | 0.14 | 0.05 | 0.03 | 0.05 | 0.03 |
| Commercial and industrial loans | 1.43 | 1.76 | 1.26 | 0.50 | 0.22 | 0.41 | 0.20 |
| Loans to individuals | 2.73 | 3.34 | 3.04 | 2.81 | 2.68 | 2.64 | 3.04 |
| Credit cards | 5.12 | 6.38 | 5.57 | 5.01 | 4.48 | 4.72 | 4.47 |
| Installment loans and other plans | 1.29 | 1.46 | 1.45 | 1.28 | 1.39 | 1.22 | 2.05 |
| All other loans and leases | 0.54 | 0.77 | 0.53 | 0.21 | 0.19 | 0.14 | 0.38 |
| Loans outstanding (\$) |  |  |  |  |  |  |  |
| Total loans and leases | \$3,884,328 | \$4,156,070 | \$4,428,827 | \$4,904,482 | \$5,265,929 | \$4,815,220 | \$5,265,929 |
| Loans secured by real estate (RE) | 1,800,224 | 2,068,149 | 2,272,837 | 2,624,849 | 2,921,130 | 2,545,414 | 2,921,130 |
| 1- to 4-family residential mortgages | 810,779 | 945,706 | 994,151 | 1,083,211 | 1,206,844 | 1,066,001 | 1,206,844 |
| Home equity loans | 154,191 | 214,722 | 284,511 | 398,896 | 436,965 | 375,178 | 436,965 |
| Multifamily residential mortgages | 64,131 | 71,934 | 79,678 | 87,913 | 96,376 | 85,379 | 96,376 |
| Commercial RE loans | 505,882 | 555,990 | 602,724 | 667,093 | 721,563 | 651,518 | 721,563 |
| Construction RE loans | 193,014 | 207,451 | 231,514 | 290,051 | 363,521 | 273,818 | 363,521 |
| Farmland loans | 35,533 | 38,066 | 40,699 | 44,620 | 47,240 | 43,957 | 47,240 |
| RE loans from foreign offices | 36,695 | 34,280 | 39,559 | 53,066 | 48,622 | 49,565 | 48,622 |
| Commercial and industrial loans | 981,133 | 910,810 | 869,490 | 908,453 | 988,202 | 889,573 | 988,202 |
| Loans to individuals | 629,405 | 703,659 | 770,479 | 838,736 | 831,363 | 806,335 | 831,363 |
| Credit cards | 232,448 | 275,877 | 315,996 | 371,421 | 338,934 | 339,962 | 338,934 |
| Other revolving credit plans | 34,202 | 38,209 | 37,556 | 39,158 | 40,324 | 38,368 | 40,324 |
| Installment loans | 362,755 | 389,573 | 416,927 | 428,156 | 452,105 | 428,005 | 452,105 |
| All other loans and leases | 476,689 | 476,854 | 518,890 | 535,652 | 528,111 | 576,946 | 528,111 |
| Less: Unearned income | 3,123 | 3,401 | 2,870 | 3,208 | 3,020 | 3,048 | 3,020 |

Key indicators, FDIC-insured commercial banks by asset size
Third quarter 2004 and third quarter 2005
(Dollar figures in millions)

|  | Less than \$100M |  | \$100M to \$1B |  | \$1B to \$10B |  | Greater than \$10B |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 |
| Number of institutions reporting | 3,754 | 3,523 | 3,459 | 3,552 | 360 | 380 | 87 | 86 |
| Total employees (FTEs) | 73,302 | 67,612 | 295,643 | 298,324 | 232,175 | 234,690 | 1,205,726 | 1,255,667 |
| Selected income data (\$) |  |  |  |  |  |  |  |  |
| Net income | \$526 | \$491 | \$2,991 | \$3,354 | \$3,563 | \$3,534 | \$20,645 | \$22,397 |
| Net interest income | 1,885 | 1,814 | 8,956 | 9,649 | 8,516 | 8,992 | 45,969 | 48,113 |
| Provision for loan losses | 108 | 87 | 580 | 538 | 639 | 596 | 5,384 | 6,938 |
| Noninterest income | 487 | 466 | 3,216 | 3,355 | 5,080 | 4,926 | 37,048 | 44,945 |
| Noninterest expense | 1,606 | 1,564 | 7,543 | 7,958 | 7,805 | 8,038 | 48,601 | 52,436 |
| Net operating income | 520 | 495 | 2,971 | 3,328 | 3,527 | 3,515 | 19,691 | 22,433 |
| Cash dividends declared | 220 | 239 | 1,216 | 1,439 | 1,441 | 2,709 | 11,536 | 14,710 |
| Net charge-offs | 77 | 48 | 387 | 328 | 557 | 472 | 5,745 | 6,855 |
| Selected condition data (\$) |  |  |  |  |  |  |  |  |
| Total assets | 194,589 | 184,186 | 928,181 | 982,498 | 971,679 | 1,022,592 | 6,150,507 | 6,714,330 |
| Total loans and leases | 120,957 | 115,937 | 622,480 | 671,389 | 618,073 | 669,454 | 3,453,710 | 3,809,150 |
| Reserve for losses | 1,760 | 1,645 | 8,649 | 8,784 | 9,039 | 8,643 | 55,752 | 51,909 |
| Securities | 48,305 | 43,858 | 207,269 | 200,946 | 233,749 | 222,731 | 1,005,544 | 1,116,501 |
| Other real estate owned | 303 | 239 | 1,129 | 998 | 566 | 436 | 1,661 | 1,653 |
| Noncurrent loans and leases | 1,266 | 1,067 | 4,822 | 4,496 | 4,605 | 4,044 | 33,226 | 30,044 |
| Total deposits | 161,852 | 152,238 | 749,445 | 796,172 | 668,394 | 719,681 | 3,826,896 | 4,248,936 |
| Domestic deposits | 161,830 | 152,224 | 748,144 | 794,447 | 658,342 | 709,926 | 3,018,411 | 3,357,679 |
| Equity capital | 22,757 | 22,000 | 93,309 | 99,412 | 106,162 | 109,442 | 599,398 | 668,554 |
| Off-balance-sheet derivatives | 95 | 124 | 6,123 | 9,467 | 62,977 | 73,479 | 84,781,655 | 99,501,000 |
| Performance ratios (annualized \%) |  |  |  |  |  |  |  |  |
| Return on equity | 9.46 | 8.99 | 13.18 | 13.67 | 13.93 | 12.99 | 14.56 | 13.42 |
| Return on assets | 1.09 | 1.08 | 1.31 | 1.38 | 1.49 | 1.40 | 1.36 | 1.35 |
| Net interest income to assets | 3.91 | 3.99 | 3.91 | 3.98 | 3.55 | 3.57 | 3.03 | 2.89 |
| Loss provision to assets | 0.23 | 0.19 | 0.25 | 0.22 | 0.27 | 0.24 | 0.35 | 0.42 |
| Net operating income to assets | 1.08 | 1.09 | 1.30 | 1.37 | 1.47 | 1.39 | 1.30 | 1.35 |
| Noninterest income to assets | 1.01 | 1.02 | 1.40 | 1.38 | 2.12 | 1.95 | 2.44 | 2.70 |
| Noninterest expense to assets | 3.33 | 3.44 | 3.29 | 3.28 | 3.26 | 3.19 | 3.20 | 3.15 |
| Loss provision to loans and leases | 0.37 | 0.31 | 0.38 | 0.33 | 0.42 | 0.36 | 0.63 | 0.74 |
| Net charge-offs to loans and leases | 0.26 | 0.17 | 0.25 | 0.20 | 0.37 | 0.29 | 0.67 | 0.73 |
| Loss provision to net charge-offs | 141.07 | 182.35 | 150.14 | 163.82 | 114.68 | 126.31 | 93.73 | 101.22 |
| Performance ratios (\%) |  |  |  |  |  |  |  |  |
| Percent of institutions unprofitable | 9.24 | 9.62 | 1.99 | 2.17 | 2.78 | 2.63 | 4.60 | 2.33 |
| Percent of institutions with earnings gains | 58.55 | 54.61 | 66.78 | 68.41 | 72.50 | 73.95 | 60.92 | 67.44 |
| Nonint. income to net operating revenue | 20.54 | 20.42 | 26.42 | 25.80 | 37.36 | 35.39 | 44.63 | 48.30 |
| Nonint. expense to net operating revenue | 67.72 | 68.60 | 61.97 | 61.20 | 57.41 | 57.75 | 58.54 | 56.35 |
| Condition ratios (\%) |  |  |  |  |  |  |  |  |
| Nonperforming assets to assets | 0.81 | 0.71 | 0.64 | 0.56 | 0.54 | 0.44 | 0.58 | 0.48 |
| Noncurrent loans to loans | 1.05 | 0.92 | 0.77 | 0.67 | 0.75 | 0.60 | 0.96 | 0.79 |
| Loss reserve to noncurrent loans | 139.03 | 154.09 | 179.38 | 195.36 | 196.27 | 213.71 | 167.80 | 172.78 |
| Loss reserve to loans | 1.46 | 1.42 | 1.39 | 1.31 | 1.46 | 1.29 | 1.61 | 1.36 |
| Equity capital to assets | 11.70 | 11.94 | 10.05 | 10.12 | 10.93 | 10.70 | 9.75 | 9.96 |
| Leverage ratio | 11.41 | 11.94 | 9.48 | 9.68 | 9.44 | 9.37 | 7.16 | 7.34 |
| Risk-based capital ratio | 17.98 | 18.45 | 14.15 | 14.02 | 14.41 | 13.37 | 11.98 | 11.92 |
| Net loans and leases to assets | 61.26 | 62.05 | 66.13 | 67.44 | 62.68 | 64.62 | 55.25 | 55.96 |
| Securities to assets | 24.82 | 23.81 | 22.33 | 20.45 | 24.06 | 21.78 | 16.35 | 16.63 |
| Appreciation in securities (\% of par) | 0.62 | -0.76 | 0.81 | -0.55 | 0.70 | -0.76 | 0.48 | -0.55 |
| Residential mortgage assets to assets | 20.55 | 19.78 | 22.02 | 20.54 | 25.83 | 23.82 | 22.77 | 24.25 |
| Total deposits to assets | 83.18 | 82.65 | 80.74 | 81.04 | 68.79 | 70.38 | 62.22 | 63.28 |
| Core deposits to assets | 70.53 | 69.15 | 67.12 | 65.38 | 56.25 | 54.97 | 42.27 | 42.11 |
| Volatile liabilities to assets | 14.98 | 16.04 | 18.26 | 20.19 | 25.12 | 27.99 | 35.95 | 36.27 |

Loan performance, FDIC-insured commercial banks by asset size
Third quarter 2004 and third quarter 2005
(Dollar figures in millions)

|  | Less than \$100M |  | \$100M to \$1B |  | \$1B to \$10B |  | Greater than \$10B |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 | 2004Q3 | 2005Q3 |
| Percent of loans past due 30-89 days |  |  |  |  |  |  |  |  |
| Total loans and leases | 1.25 | 1.25 | 0.86 | 0.84 | 0.74 | 0.71 | 0.86 | 0.83 |
| Loans secured by real estate (RE) | 1.13 | 1.17 | 0.72 | 0.73 | 0.54 | 0.53 | 0.77 | 0.74 |
| 1- to 4-family residential mortgages | 1.70 | 1.69 | 1.14 | 1.13 | 0.78 | 0.71 | 1.06 | 0.99 |
| Home equity loans | 0.52 | 0.56 | 0.38 | 0.42 | 0.34 | 0.39 | 0.37 | 0.45 |
| Multifamily residential mortgages | 0.41 | 0.60 | 0.47 | 0.56 | 0.28 | 0.29 | 0.45 | 0.41 |
| Commercial RE loans | 0.87 | 0.98 | 0.58 | 0.58 | 0.42 | 0.47 | 0.50 | 0.48 |
| Construction RE loans | 0.82 | 0.92 | 0.55 | 0.62 | 0.51 | 0.55 | 0.61 | 0.56 |
| Commercial and industrial loans | 1.52 | 1.36 | 1.02 | 1.01 | 0.92 | 1.06 | 0.51 | 0.49 |
| Loans to individuals | 2.38 | 2.40 | 1.94 | 1.86 | 1.91 | 1.41 | 1.80 | 1.76 |
| Credit cards | 2.52 | 1.99 | 4.62 | 3.85 | 3.10 | 1.45 | 2.20 | 2.23 |
| Installment loans and other plans | 2.41 | 2.45 | 1.65 | 1.72 | 1.59 | 1.47 | 1.61 | 1.52 |
| All other loans and leases | 0.55 | 0.60 | 0.52 | 0.51 | 0.48 | 0.46 | 0.33 | 0.33 |
| Percent of loans noncurrent |  |  |  |  |  |  |  |  |
| Total loans and leases | 1.05 | 0.92 | 0.77 | 0.67 | 0.75 | 0.60 | 0.96 | 0.79 |
| Loans secured by real estate (RE) | 0.92 | 0.81 | 0.68 | 0.60 | 0.65 | 0.53 | 0.70 | 0.70 |
| 1- to 4-family residential mortgages | 0.99 | 0.93 | 0.72 | 0.69 | 0.70 | 0.66 | 0.90 | 0.97 |
| Home equity loans | 0.21 | 0.23 | 0.19 | 0.22 | 0.19 | 0.21 | 0.17 | 0.21 |
| Multifamily residential mortgages | 0.46 | 0.76 | 0.53 | 0.41 | 0.20 | 0.20 | 0.29 | 0.39 |
| Commercial RE loans | 0.97 | 0.86 | 0.76 | 0.65 | 0.80 | 0.62 | 0.75 | 0.60 |
| Construction RE loans | 0.68 | 0.47 | 0.54 | 0.43 | 0.49 | 0.37 | 0.49 | 0.38 |
| Commercial and industrial loans | 1.65 | 1.47 | 1.17 | 1.03 | 1.12 | 0.93 | 1.51 | 0.83 |
| Loans to individuals | 0.97 | 0.90 | 0.83 | 0.73 | 0.80 | 0.53 | 1.49 | 1.30 |
| Credit cards | 1.53 | 1.28 | 3.07 | 2.16 | 1.91 | 1.12 | 1.90 | 1.89 |
| Installment loans and other plans | 0.97 | 0.91 | 0.56 | 0.60 | 0.43 | 0.36 | 1.25 | 0.90 |
| All other loans and leases | 0.99 | 0.79 | 0.76 | 0.56 | 0.61 | 0.53 | 0.35 | 0.26 |
| Percent of loans charged-off, net |  |  |  |  |  |  |  |  |
| Total loans and leases | 0.26 | 0.17 | 0.25 | 0.20 | 0.37 | 0.29 | 0.67 | 0.73 |
| Loans secured by real estate (RE) | 0.08 | 0.04 | 0.06 | 0.06 | 0.09 | 0.08 | 0.08 | 0.06 |
| 1- to 4-family residential mortgages | 0.09 | 0.05 | 0.08 | 0.08 | 0.09 | 0.07 | 0.08 | 0.06 |
| Home equity loans | 0.07 | 0.04 | 0.05 | 0.05 | 0.14 | 0.10 | 0.10 | 0.10 |
| Multifamily residential mortgages | 0.05 | 0.07 | 0.07 | 0.05 | 0.04 | 0.06 | 0.07 | 0.07 |
| Commercial RE loans | 0.09 | 0.05 | 0.07 | 0.05 | 0.09 | 0.10 | 0.06 | 0.04 |
| Construction RE loans | 0.08 | 0.03 | 0.04 | 0.04 | 0.08 | 0.04 | 0.04 | 0.02 |
| Commercial and industrial loans | 0.60 | 0.37 | 0.52 | 0.37 | 0.64 | 0.53 | 0.35 | 0.11 |
| Loans to individuals | 0.86 | 0.72 | 1.41 | 1.29 | 1.80 | 1.24 | 2.84 | 3.35 |
| Credit cards | 3.13 | 2.30 | 6.96 | 6.01 | 4.20 | 2.69 | 4.70 | 4.53 |
| Installment loans and other plans | 0.83 | 0.70 | 0.71 | 0.80 | 0.96 | 0.77 | 1.32 | 2.37 |
| All other loans and leases | 0.23 | 0.11 | 0.24 | 0.25 | 0.24 | 0.42 | 0.13 | 0.39 |
| Loans outstanding (\$) |  |  |  |  |  |  |  |  |
| Total loans and leases | \$120,957 | \$115,937 | \$622,480 | \$671,389 | \$618,073 | \$669,454 | \$3,453,710 | \$3,809,150 |
| Loans secured by real estate (RE) | 75,490 | 72,901 | 446,037 | 492,800 | 407,377 | 452,934 | 1,616,511 | 1,902,495 |
| 1- to 4-family residential mortgages | 29,233 | 27,593 | 132,681 | 137,039 | 129,242 | 128,084 | 774,844 | 914,128 |
| Home equity loans | 2,621 | 2,497 | 26,149 | 26,398 | 32,744 | 35,166 | 313,664 | 372,904 |
| Multifamily residential mortgages | 1,694 | 1,617 | 16,438 | 17,620 | 21,606 | 26,192 | 45,641 | 50,947 |
| Commercial RE loans | 23,258 | 22,503 | 180,847 | 195,763 | 153,848 | 169,811 | 293,565 | 333,486 |
| Construction RE loans | 8,407 | 8,725 | 69,815 | 94,257 | 62,988 | 85,123 | 132,607 | 175,416 |
| Farmland loans | 10,276 | 9,966 | 20,074 | 21,693 | 5,970 | 7,600 | 7,637 | 7,980 |
| RE loans from foreign offices | 0 | 0 | 33 | 29 | 978 | 958 | 48,554 | 47,634 |
| Commercial and industrial loans | 19,019 | 18,283 | 97,975 | 102,143 | 114,157 | 123,459 | 658,422 | 744,318 |
| Loans to individuals | 12,178 | 11,027 | 49,141 | 45,492 | 59,803 | 62,005 | 685,213 | 712,839 |
| Credit cards | 189 | 190 | 5,611 | 4,225 | 15,658 | 14,524 | 318,504 | 319,994 |
| Other revolving credit plans | 162 | 206 | 1,438 | 1,514 | 2,598 | 2,376 | 34,170 | 36,229 |
| Installment loans | 11,827 | 10,631 | 42,092 | 39,753 | 41,547 | 45,105 | 332,539 | 356,616 |
| All other loans and leases | 14,348 | 13,791 | 29,898 | 31,410 | 37,251 | 31,642 | 495,450 | 451,268 |
| Less: Unearned income | 77 | 66 | 571 | 599 | 515 | 585 | 1,886 | 1,770 |

## Key indicators, FDIC-insured commercial banks by region <br> Third quarter 2005 <br> (Dollar figures in millions)

|  | Northeast | Southeast | Central | Midwest | Southwest | West | institutions |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of institutions reporting | 585 | 1,075 | 1,552 | 1,967 | 1,682 | 680 | 7,541 |
| Total employees (FTEs) | 466,461 | 460,444 | 423,473 | 221,107 | 165,672 | 119,136 | 1,856,293 |
| Selected income data (\$) |  |  |  |  |  |  |  |
| Net income | \$6,898 | \$8,301 | \$6,334 | \$3,253 | \$1,372 | \$3,619 | \$29,776 |
| Net interest income | 15,914 | 17,634 | 14,296 | 7,393 | 4,564 | 8,766 | 68,568 |
| Provision for loan losses | 3,407 | 791 | 1,117 | 693 | 540 | 1,611 | 8,159 |
| Noninterest income | 16,932 | 11,508 | 13,217 | 6,031 | 1,907 | 4,097 | 53,692 |
| Noninterest expense | 19,286 | 16,098 | 16,967 | 7,887 | 4,094 | 5,664 | 69,996 |
| Net operating income | 6,947 | 8,280 | 6,300 | 3,269 | 1,372 | 3,603 | 29,772 |
| Cash dividends declared | 4,513 | 4,939 | 2,733 | 2,032 | 702 | 4,178 | 19,097 |
| Net charge-offs | 3,598 | 882 | 978 | 752 | 186 | 1,306 | 7,702 |
| Selected condition data (\$) |  |  |  |  |  |  |  |
| Total assets | 2,149,659 | 2,470,081 | 2,342,568 | 739,545 | 491,704 | 710,048 | 8,903,605 |
| Total loans and leases | 1,151,080 | 1,452,618 | 1,305,278 | 542,773 | 308,966 | 505,213 | 5,265,929 |
| Reserve for losses | 18,886 | 15,021 | 16,254 | 7,366 | 4,095 | 9,359 | 70,981 |
| Securities | 482,531 | 495,926 | 291,961 | 92,762 | 111,449 | 109,406 | 1,584,036 |
| Other real estate owned | 286 | 990 | 912 | 391 | 567 | 181 | 3,327 |
| Noncurrent loans and leases | 10,537 | 6,285 | 11,311 | 5,607 | 2,364 | 3,548 | 39,652 |
| Total deposits | 1,422,175 | 1,668,385 | 1,431,320 | 531,500 | 390,293 | 473,353 | 5,917,027 |
| Domestic deposits | 929,754 | 1,507,898 | 1,218,314 | 508,162 | 386,857 | 463,291 | 5,014,276 |
| Equity capital | 228,027 | 245,117 | 214,430 | 79,489 | 47,706 | 84,641 | 899,409 |
| Off-balance-sheet derivatives | 24,366,032 | 24,945,621 | 48,354,754 | 894,962 | 64,995 | 157,238 | 98,783,602 |
| Performance ratios (annualized \%) |  |  |  |  |  |  |  |
| Return on equity | 12.12 | 13.58 | 11.90 | 16.48 | 11.59 | 17.08 | 13.29 |
| Return on assets | 1.29 | 1.36 | 1.10 | 1.78 | 1.13 | 2.06 | 1.35 |
| Net interest income to assets | 2.97 | 2.89 | 2.47 | 4.05 | 3.77 | 5.00 | 3.11 |
| Loss provision to assets | 0.64 | 0.13 | 0.19 | 0.38 | 0.45 | 0.92 | 0.37 |
| Net operating income to assets | 1.30 | 1.36 | 1.09 | 1.79 | 1.13 | 2.06 | 1.35 |
| Noninterest income to assets | 3.16 | 1.88 | 2.29 | 3.31 | 1.57 | 2.34 | 2.44 |
| Noninterest expense to assets | 3.60 | 2.63 | 2.94 | 4.33 | 3.38 | 3.23 | 3.18 |
| Loss provision to loans and leases | 1.19 | 0.22 | 0.35 | 0.52 | 0.71 | 1.30 | 0.63 |
| Net charge-offs to loans and leases | 1.25 | 0.25 | 0.30 | 0.56 | 0.24 | 1.05 | 0.59 |
| Loss provision to net charge-offs | 94.67 | 89.73 | 114.19 | 92.24 | 290.10 | 123.34 | 105.93 |
| Performance ratios (\%) |  |  |  |  |  |  |  |
| Percent of institutions unprofitable | 7.69 | 8.28 | 4.57 | 2.85 | 5.83 | 10.15 | 5.68 |
| Percent of institutions with earnings gains | 60.85 | 73.77 | 58.57 | 55.36 | 61.30 | 75.74 | 62.23 |
| Nonint. income to net operating revenue | 51.55 | 39.49 | 48.04 | 44.93 | 29.46 | 31.85 | 43.92 |
| Nonint. expense to net operating revenue | 58.72 | 55.24 | 61.67 | 58.76 | 63.27 | 44.03 | 57.25 |
| Condition ratios (\%) |  |  |  |  |  |  |  |
| Nonperforming assets to assets | 0.50 | 0.30 | 0.53 | 0.81 | 0.60 | 0.53 | 0.49 |
| Noncurrent loans to loans | 0.92 | 0.43 | 0.87 | 1.03 | 0.77 | 0.70 | 0.75 |
| Loss reserve to noncurrent loans | 179.24 | 239.01 | 143.70 | 131.38 | 173.22 | 263.74 | 179.01 |
| Loss reserve to loans | 1.64 | 1.03 | 1.25 | 1.36 | 1.33 | 1.85 | 1.35 |
| Equity capital to assets | 10.61 | 9.92 | 9.15 | 10.75 | 9.70 | 11.92 | 10.10 |
| Leverage ratio | 8.17 | 7.22 | 7.24 | 8.84 | 8.76 | 10.43 | 7.93 |
| Risk-based capital ratio | 14.01 | 11.36 | 11.53 | 12.81 | 13.42 | 13.57 | 12.43 |
| Net loans and leases to assets | 52.67 | 58.20 | 55.03 | 72.40 | 62.00 | 69.83 | 58.35 |
| Securities to assets | 22.45 | 20.08 | 12.46 | 12.54 | 22.67 | 15.41 | 17.79 |
| Appreciation in securities (\% of par) | -0.44 | -0.86 | -0.55 | 0.25 | -0.78 | -0.53 | -0.58 |
| Residential mortgage assets to assets | 19.89 | 33.00 | 19.18 | 23.99 | 23.92 | 17.31 | 23.70 |
| Total deposits to assets | 66.16 | 67.54 | 61.10 | 71.87 | 79.38 | 66.66 | 66.46 |
| Core deposits to assets | 33.37 | 52.42 | 43.51 | 58.87 | 62.39 | 54.26 | 46.71 |
| Volatile liabilities to assets | 44.41 | 29.23 | 34.37 | 20.35 | 23.98 | 28.04 | 33.13 |

# Loan performance, FDIC-insured commercial banks by region <br> Third quarter 2005 <br> (Dollar figures in millions) 

|  | Northeast | Southeast | Central | Midwest | Southwest | West | institutions |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent of loans past due 30-89 days |  |  |  |  |  |  |  |
| Total loans and leases | 0.98 | 0.62 | 0.79 | 0.93 | 1.13 | 0.86 | 0.83 |
| Loans secured by real estate (RE) | 0.76 | 0.60 | 0.84 | 0.76 | 0.95 | 0.47 | 0.72 |
| 1- to 4-family residential mortgages | 0.96 | 0.84 | 1.20 | 1.04 | 1.27 | 0.82 | 0.99 |
| Home equity loans | 0.36 | 0.43 | 0.45 | 0.54 | 0.55 | 0.21 | 0.44 |
| Multifamily residential mortgages | 0.17 | 0.39 | 0.58 | 0.41 | 1.18 | 0.21 | 0.41 |
| Commercial RE loans | 0.52 | 0.39 | 0.67 | 0.53 | 0.80 | 0.32 | 0.52 |
| Construction RE loans | 0.56 | 0.36 | 0.77 | 0.75 | 0.89 | 0.45 | 0.58 |
| Commercial and industrial loans | 0.68 | 0.47 | 0.52 | 0.79 | 1.33 | 0.72 | 0.63 |
| Loans to individuals | 1.94 | 1.53 | 1.21 | 2.16 | 2.22 | 1.88 | 1.75 |
| Credit cards | 2.18 | 2.18 | 1.71 | 2.95 | 1.82 | 2.21 | 2.22 |
| Installment loans and other plans | 1.98 | 1.52 | 1.10 | 1.49 | 2.31 | 1.28 | 1.56 |
| All other loans and leases | 0.25 | 0.17 | 0.60 | 0.35 | 0.94 | 0.28 | 0.35 |
| Percent of loans noncurrent |  |  |  |  |  |  |  |
| Total loans and leases | 0.92 | 0.43 | 0.87 | 1.03 | 0.77 | 0.70 | 0.75 |
| Loans secured by real estate (RE) | 0.66 | 0.37 | 0.94 | 1.13 | 0.71 | 0.34 | 0.66 |
| 1- to 4-family residential mortgages | 0.62 | 0.41 | 1.48 | 2.00 | 0.95 | 0.37 | 0.91 |
| Home equity loans | 0.15 | 0.16 | 0.26 | 0.30 | 0.20 | 0.10 | 0.21 |
| Multifamily residential mortgages | 0.18 | 0.44 | 0.50 | 0.56 | 0.47 | 0.07 | 0.35 |
| Commercial RE loans | 0.65 | 0.47 | 0.88 | 0.68 | 0.73 | 0.40 | 0.63 |
| Construction RE loans | 0.59 | 0.26 | 0.55 | 0.39 | 0.47 | 0.27 | 0.39 |
| Commercial and industrial loans | 0.98 | 0.59 | 1.06 | 0.77 | 1.05 | 0.83 | 0.88 |
| Loans to individuals | 1.65 | 0.81 | 0.59 | 1.33 | 0.57 | 1.41 | 1.20 |
| Credit cards | 1.95 | 1.44 | 1.38 | 2.17 | 1.02 | 1.87 | 1.86 |
| Installment loans and other plans | 1.55 | 0.76 | 0.36 | 0.55 | 0.57 | 0.47 | 0.82 |
| All other loans and leases | 0.18 | 0.23 | 0.42 | 0.42 | 0.76 | 0.37 | 0.31 |
| Percent of loans charged-off, net |  |  |  |  |  |  |  |
| Total loans and leases | 1.25 | 0.25 | 0.30 | 0.56 | 0.24 | 1.05 | 0.59 |
| Loans secured by real estate (RE) | 0.03 | 0.05 | 0.11 | 0.06 | 0.08 | 0.02 | 0.06 |
| 1- to 4-family residential mortgages | 0.03 | 0.04 | 0.13 | 0.03 | 0.12 | 0.04 | 0.06 |
| Home equity loans | 0.03 | 0.07 | 0.13 | 0.15 | 0.12 | 0.02 | 0.10 |
| Multifamily residential mortgages | -0.01 | 0.18 | 0.03 | 0.11 | 0.10 | 0.00 | 0.06 |
| Commercial RE loans | 0.02 | 0.06 | 0.13 | 0.02 | 0.07 | 0.01 | 0.06 |
| Construction RE loans | 0.00 | 0.04 | 0.01 | 0.06 | 0.04 | 0.03 | 0.03 |
| Commercial and industrial loans | 0.00 | 0.20 | 0.12 | 0.44 | 0.47 | 0.53 | 0.20 |
| Loans to individuals | 4.72 | 1.09 | 1.45 | 2.90 | 0.91 | 3.64 | 3.04 |
| Credit cards | 4.26 | 4.05 | 3.75 | 4.87 | 3.08 | 5.08 | 4.47 |
| Installment loans and other plans | 5.22 | 0.63 | 0.74 | 0.87 | 0.80 | 0.58 | 2.05 |
| All other loans and leases | 0.05 | 0.86 | 0.31 | 0.31 | 0.41 | 0.39 | 0.38 |
| Loans outstanding (\$) |  |  |  |  |  |  |  |
| Total loans and leases | \$1,151,080 | \$1,452,618 | \$1,305,278 | \$542,773 | \$308,966 | \$505,213 | \$5,265,929 |
| Loans secured by real estate (RE) | 462,015 | 947,226 | 716,258 | 327,753 | 207,721 | 260,157 | 2,921,130 |
| 1- to 4-family residential mortgages | 209,535 | 437,551 | 286,317 | 136,633 | 64,029 | 72,779 | 1,206,844 |
| Home equity loans | 48,587 | 146,074 | 149,100 | 63,483 | 12,942 | 16,779 | 436,965 |
| Multifamily residential mortgages | 18,592 | 21,161 | 26,133 | 7,341 | 4,890 | 18,258 | 96,376 |
| Commercial RE loans | 110,526 | 201,275 | 161,994 | 71,099 | 73,539 | 103,129 | 721,563 |
| Construction RE loans | 33,295 | 128,109 | 80,130 | 33,659 | 44,240 | 44,089 | 363,521 |
| Farmland loans | 1,999 | 6,080 | 11,074 | 15,537 | 8,081 | 4,469 | 47,240 |
| RE loans from foreign offices | 39,481 | 6,977 | 1,511 | 0 | 0 | 653 | 48,622 |
| Commercial and industrial loans | 226,086 | 238,294 | 288,920 | 84,270 | 58,565 | 92,067 | 988,202 |
| Loans to individuals | 302,499 | 132,017 | 163,806 | 77,864 | 27,380 | 127,796 | 831,363 |
| Credit cards | 157,744 | 16,445 | 38,251 | 38,590 | 1,323 | 86,581 | 338,934 |
| Other revolving credit plans | 22,020 | 6,179 | 5,750 | 2,777 | 789 | 2,809 | 40,324 |
| Installment loans | 122,735 | 109,393 | 119,805 | 36,497 | 25,268 | 38,407 | 452,105 |
| All other loans and leases | 162,040 | 135,596 | 136,442 | 52,942 | 15,356 | 25,735 | 528,111 |
| Less: Unearned income | 1,560 | 516 | 148 | 55 | 200 | 541 | 3,020 |

## Glossary

## Data Sources

Data are from the Federal Financial Institutions Examination Council (FFIEC) Reports of Condition and Income (call reports) submitted by all FDIC-insured, national-chartered and state-chartered commercial banks and trust companies in the United States and its territories. Uninsured banks, savings banks, savings associations, and U.S. branches and agencies of foreign banks are excluded from these tables. All data are collected and presented based on the location of each reporting institution's main office. Reported data may include assets and liabilities located outside of the reporting institution's home state.

The data are stored on and retrieved from the OCC's Integrated Banking Information System (IBIS), which is obtained from the FDIC's Research Information System (RIS) database.

## Computation Methodology

For performance ratios constructed by dividing an income statement (flow) item by a balance sheet (stock) item, the income item for the period was annualized (multiplied by the number of periods in a year) and divided by the average balance sheet item for the period (beginning-ofperiod amount plus end-of-period amount plus any interim periods, divided by the total number of periods). For "pooling-of-interest" mergers, prior period(s) balance sheet items of "acquired" institution(s) are included in balance sheet averages because the year-to-date income reported by the "acquirer" includes the year-to-date results of "acquired" institutions. No adjustments are made for "purchase accounting" mergers because the year-to-date income reported by the "acquirer" does not include the prior-to-merger results of "acquired" institutions.

## Definitions

Commercial real estate loans-loans secured by nonfarm nonresidential properties.
Construction real estate loans-includes loans for all property types under construction, as well as loans for land acquisition and development.

Core deposits-the sum of transaction deposits plus savings deposits plus small time deposits (under $\$ 100,000$ ).

IBIS - the OCC's Integrated Banking Information System.
Leverage ratio-Tier 1 capital divided by adjusted tangible total assets.
Loans to individuals-includes outstanding credit card balances and other secured and unsecured installment loans.

Net charge-offs to loan and lease reserve - total loans and leases charged off (removed from balance sheet because of uncollectibility), less amounts recovered on loans and leases previously charged off.

Net loans and leases to assets-total loans and leases net of the reserve for losses.
Net operating income - income excluding discretionary transactions such as gains (or losses) on the sale of investment securities and extraordinary items. Income taxes subtracted from operating income have been adjusted to exclude the portion applicable to securities gains (or losses).

Net operating revenue - the sum of net interest income plus noninterest income.
Noncurrent loans and leases-the sum of loans and leases 90 days or more past due plus loans and leases in nonaccrual status.

Nonperforming assets-the sum of noncurrent loans and leases plus noncurrent debt securities and other assets plus other real estate owned.

Number of institutions reporting - the number of institutions that actually filed a financial report.

Off-balance-sheet derivatives-the notional value of futures and forwards, swaps, and options contracts; beginning March 31, 1995, new reporting detail permits the exclusion of spot foreign exchange contracts. For March 31, 1984 through December 31, 1985, only foreign exchange futures and forwards contracts were reported; beginning March 31, 1986, interest rate swaps contracts were reported; beginning March 31, 1990, banks began to report interest rate and other futures and forwards contracts, foreign exchange and other swaps contracts, and all types of option contracts.

Other real estate owned-primarily foreclosed property. Direct and indirect investments in real estate ventures are excluded. The amount is reflected net of valuation allowances.

Percent of institutions unprofitable - the percent of institutions with negative net income for the respective period.

Percent of institutions with earnings gains-the percent of institutions that increased their net income (or decreased their losses) compared to the same period a year earlier.

Reserve for losses - the sum of the allowance for loan and lease losses plus the allocated transfer risk reserve.

Residential mortgage assets-the sum of 1- to 4-family residential mortgages plus mortgagebacked securities.

Return on assets (ROA) - net income (including gains or losses on securities and extraordinary
items) as a percentage of average total assets.
Return on equity (ROE) - net income (including gains or losses on securities and extraordinary items) as a percentage of average total equity capital.

Risk-based capital ratio - total capital divided by risk weighted assets.
Risk-weighted assets-assets adjusted for risk-based capital definitions which include on-bal-ance-sheet as well as off-balance-sheet items multiplied by risk weights that range from zero to 100 percent.

Securities-excludes securities held in trading accounts. Effective March 31, 1994 with the full implementation of Financial Accounting Standard (FAS) 115, securities classified by banks as "held-to-maturity" are reported at their amortized cost, and securities classified a "available-forsale" are reported at their current fair (market) values.

Securities gains (losses) - net pre-tax realized gains (losses) on held-to-maturity and available-for-sale securities.

Total capital-the sum of Tier 1 and Tier 2 capital. Tier 1 capital consists of common equity capital plus noncumulative perpetual preferred stock plus minority interest in consolidated subsidiaries less goodwill and other ineligible intangible assets. Tier 2 capital consists of subordinated debt plus intermediate-term preferred stock plus cumulative long-term preferred stock plus a portion of a bank's allowance for loan and lease losses. The amount of eligible intangibles (including mortgage servicing rights) included in Tier 1 capital and the amount of the allowance included in Tier 2 capital are limited in accordance with supervisory capital regulations.

Volatile liabilities - the sum of large-denomination time deposits plus foreign-office deposits plus federal funds purchased plus securities sold under agreements to repurchase plus other borrowings. Beginning March 31, 1994, new reporting detail permits the exclusion of other borrowed money with original maturity of more than one year; previously, all other borrowed money was included. Also beginning March 31, 1994, the newly reported "trading liabilities less revaluation losses on assets held in trading accounts" is included.

## Special Studies

## Special Studies

"What's Your Risk with the Growing Use of ACH Payments?" by Karen Furst, Policy Analyst, and Daniel E. Nolle, Senior Financial Economist, OCC Policy Analysis Division21
"Payment Option Mortgages: Analyzing Scenarios for Future Risks," by Richard Nisenson, Senior Financial Economist, OCC Global Banking and Financial Analysis Department 44

# What's Your Risk with the Growing Use of ACH Payments? 

by Karen Furst, Policy Analyst, and Daniel E. Nolle, Senior Financial Economist, OCC Policy Analysis Division*

## Introduction

The financial services community and the business press have given increased attention to the significant shift in the balance between paper-based and electronic retail payments. Declining paper-check usage, growing reliance on credit cards, and the rapid expansion of debit cards are all well-known aspects of the rise of electronic payments. Less focus has been placed on automated clearing house $(\mathrm{ACH})$ transactions, but the growth in the use of this form of electronic payment and, more significantly, changes both in the nature of such payments and in the participants who make up the ACH system, warrant scrutiny.

Historically, ACH payments have been preauthorized arrangements between payors and payees, commonly in a sustained and systematically recurring manner (for example, automatic deposit of payroll and the pre-authorized monthly payment of an insurance premium). More recently, new applications have emerged-known collectively as "electronic checks" or "e-checks"-most of which, unlike traditional ACH payments, are not pre-authorized, and some of which are also characterized by the lack of an established relationship between the payor and the payee. Related to the transformation of the ACH network from one used primarily for recurring payments to a more general-purpose payments network is the role that third parties play in processing many of these new "e-check" payments. Frequently, these third-party processors stand between the bank and the merchant originating the payment, which can complicate customer due diligence by banks.

With this in mind, the aim of this paper is to describe the changing ACH landscape, and to consider the degree to which this growth and change have heightened one risk issue in particular: the susceptibility of ACH payments to fraud. This paper is organized as follows. The first section outlines the basic nature of an ACH transaction and describes recent trends in ACH usage. Section II examines basic economic incentives for the growth of ACH transactions. Section III describes significant changes in the nature of ACH payments, focusing in particular on e-checks. Section IV explains how-with the emergence of new ACH applications and the proliferation of third-party processors - the ACH system has become more susceptible to fraud. Section V outlines recent industry and government responses to the growing susceptibility to fraud, and section VI concludes.

[^1]
## I. ACH Basics and Growth Trends

The ACH system is a funds transfer system typically used for retail payments and was originally developed in the 1970s to provide an alternative to paper checks. ${ }^{1}$ It is a batch-processing, "store-and-forward" electronic system; that is, transactions received by a bank are stored and processed at a later time, rather than being processed individually. The five participants involved in an ACH transaction are the payor, the payee, the payor's bank, the payee's bank, and the provider of the ACH service between the two banks. ACH transactions can be either credits or debits. A credit transaction is initiated by the payor: for example, direct deposit of payroll is originated by the employer through the employer's bank, which transfers money to the employee's bank account. A debit transaction is originated by the payee: for example, a mortgage payment is originated by the lender through the lender's bank, which initiates the payment transferring funds from the customer's bank account. Increasingly, a sixth set of participants, third-party processors, has become a significant presence in the ACH system. Third-party processors handle aspects of the origination of ACH payments and, as such, insert themselves into the payment process between a payor and the payor's bank (for ACH credit transactions), or between the payee and the payee's bank (for ACH debit transactions).

Broadly speaking, ACH transactions, along with credit card and debit card transactions, comprise retail "electronic payments." In the United States, retail payments historically had been dominated by paper checks, but very recently the volume of electronic payments surpassed payments by check, as illustrated in Figure 1. Prior to 1995, electronic payments grew steadily, but so did check usage, albeit at a declining rate. However, since 1995, electronic payments have displaced check usage to an extent large enough to result in an absolute decline in the number of checks.

Increased use of ACH payments contributed to the overall growth of electronic payments (and, by extension, the decline in check usage), but, as Figure 2 illustrates, the substantial and steady growth of ACH payments was exceeded by the growth rate of credit card usage and, especially since 1999, the surge in debit card use. Nevertheless, in dollar-value terms, ACH transactions dwarf card transactions and have increased substantially both absolutely and, as Figure 3 illustrates, relative to all electronic and check retail transactions.

[^2]Figure 1. Electronic Payments Overtake Checks
Billions of Transactions


Source: Office of the Comptroller of the Currency using data from Statistics on payment systems in selected countries, Bank for International Settlements (various issues); The Nilson Report (various issues); and ATM \& Debit News (various issues). Check volume for 2004 is an estimate.

Figure 2. Growth in Electronic Payments


Source: Office of the Comptroller of the Currency using information from The Nilson Report (various issues); ATM \& Debit News (various issues); and NACHA.

Figure 3. Relative Importance of ACH Grows in Value Terms
Percent of Total S Value of Payments
(Figures within bars in \$ billions)


Source: Office of the Comptroller of the Currency using data from Statistics on payment systems in selected countries, Bank for International Settlements (various issues).

## II. ACH Benefits for Banks, Businesses, Government, and Consumers

Growth in the use of ACH transactions can be explained by two basic factors. The first is the significant benefits depository institutions ("banks"), businesses, government, and consumers derive from this form of payment. This section describes the nature of these advantages. The second impetus for growth in ACH transactions is the emergence of new ACH applications, a subject discussed in the next section of the paper.

## II.A. ACH Benefits for Banks

The Federal Reserve is a major processor of payments by check and by ACH, and payments processing costs facing the Federal Reserve can be considered at least broadly illustrative of underlying payments-processing costs for financial institutions. ${ }^{2}$ Figure 4 illustrates the widening pro-

[^3]cessing cost advantage for ACH transactions versus checks for the Fed. In 1995, per transaction processing costs for each type of payment were equal, at 3.5 cents per item. Over the next decade, processing costs for paper checks rose to 5.1 cents per item. Meanwhile, technological improvements, deregulation of the communications industry, and increasing economies of scale in ACH transactions processing resulted in a greater than two-thirds decline in per item processing costs, to just under 1 cent, making it one-fifth as costly to process an ACH payment versus a payment by paper check. ${ }^{3}$

Figure 4. Processing Cost Advantage for ACH Increases
(Costs for the Federal Reserve)


Source: NACHA, using data from the Federal Reserve System.
operator, questioned whether the main goal of the Federal Reserve's pricing policy was ACH processing costs recovery, or preservation of market share, especially in light of the Federal Reserve's rapid ACH price reductions in 2001 and 2002. The EPN whitepaper noted that the Reserve Banks did not expect to recover the full costs for all priced services (and, indeed, the Federal Reserve has not recovered 100 percent of the cost of priced services since 2000). EPN also notes that a few months after the first two Fed ACH price reductions, the American Clearing House announced that it could no longer compete in the new price environment. Early in 2005, the Board of Governors requested comments on possible changes to the private-sector adjustment factor (i.e., the method used to compute a target return-on-equity). Periodically, the Board reviews its methodology for calculating this factor in order to determine if, in light of changing business and regulatory conditions and practices, the methodology is still appropriate.
${ }^{3}$ Federal Reserve System, Annual Report (various issues). The existence of large-scale economies in the processing of electronic payments is well established. Bauer and Ferrier (1996) estimated scale economies in the Federal Reserve's ACH processing such that a 10 percent increase in ACH volume was associated with only a 4.8 percent increase in processing expenses.

Payment-processing cost changes have been passed along to banks. In recent congressional testimony, a Federal Reserve payment system official noted that "Over the past decade, the reductions in the processing costs for ACH have allowed Reserve Banks to cut approximately in half the fees they charge depository institutions for providing ACH services. Over the same period, the Reserve Banks have increased the price of their more labor-intensive paper check service approximately 50 percent. ${ }^{\prime 4}$ As a consequence, one large bank estimated that it cost about $\$ 0.08$ to $\$ 0.10$ to process a check, compared to $\$ 0.02$ to $\$ 0.04$ to process an ACH payment. ${ }^{5}$

## II.B. ACH Benefits for Business and Government

Cost advantages also accrue to businesses and government from using ACH payments. First, there is a long-standing awareness in the business and government communities of the benefits of ACH direct deposit of payroll. The National Automated Clearing House Association (NACHA), an industry group of ACH network participants, estimates that a typical large company switching from the cutting and distribution of paper paychecks to ACH direct deposit of payroll might realize per transaction savings of $\$ 0.187$. With a payroll of, for example, 100,000 transactions per month, annual cost savings would amount to $\$ 224,400$. Even a small business with, say, 500 payroll transactions per month, could cut costs by $\$ 0.352$ per payroll transaction, saving perhaps a few thousand dollars per year by switching to ACH direct deposit of payroll. ${ }^{6}$

A second advantage businesses have increasingly pursued is the use of ACH transactions for customers' bill payments. As an example, BellSouth Corp reports ACH as the least expensive form of electronic payment for bills. It costs the utility around $\$ 2.00$ when a customer pays a phone bill with a credit card, and $\$ 0.50$ to $\$ 0.60$ for PIN debit, compared to only $\$ 0.10$ to $\$ 0.15$ for an ACH payment. ${ }^{7}$

A third, relatively recent source of ACH benefits is in check conversion at a lockbox using the ACH system. ${ }^{8}$ Illustrative of the magnitude of savings in this respect are credit card issuers' check conversion savings. In particular, credit card issuers have reported that checks converted to ACH transactions at a lockbox resulted in operational cost savings of $\$ 0.057$ per consumer check con-

[^4]verted. Based on this per item savings, credit card issuers collectively saved an estimated $\$ 99.6$ million in 2004. ${ }^{9}$ Additionally, converting a check to an ACH transaction can reduce card issuers' losses, owing to the shorter return time frames for ACH items compared to checks. ${ }^{10}$

Governmental entities disperse millions of payments annually, and ACH transactions convey significant advantages. For example, in its 2004 Annual Report, the Federal Reserve reported figures for check and ACH processing costs for services provided to the federal government: $\$ 24.25$ million to process 234 million government checks at 10.4 cents apiece, and $\$ 5.35$ million to process 940 million government ACH payments at 0.57 cents per item. Hence, for the federal government, paying by check was almost 20 times more costly than paying by ACH. ${ }^{11}$

## II.C. ACH Benefits for Consumers

Consumers have also found substantial savings of time and effort, as well as added security, by choosing direct deposit of paychecks compared to receiving a paper paycheck. The popularity of this form of ACH payment is reflected in the fact that 75 percent of Social Security recipients sign up for direct deposit when they register for benefits. ${ }^{12}$

Consumers' familiarity with direct payroll deposit likely increases their penchant for adopting other forms of ACH payments. For example, using sample results from two surveys, Klee and Hayachi (2003) constructed a model to predict the probability that a user of direct deposit would use direct bill payment. ${ }^{13}$ They found that the use of direct deposit by a person represents a 21 to 24-percentage point increase in the predicted likelihood of that person adopting direct bill payment. In a related vein, Klee and Hayachi found that consumers who use new technology products (e.g., the Internet) are more likely to use electronic forms of payment than those who do not. Others have observed the emergence of a strong correlation between growth in the adoption of

[^5]broadband (high-speed) Internet connectivity and growth in online banking, and some expect the growth of broadband access and online banking to propel online bill payment. ${ }^{14}$

As of December 2004, there were approximately 36 million U.S. households using online banking - more than a fivefold increase from the 7 million online banking households in December of 1998. ${ }^{15}$ Although growth in the number of net new households adopting online banking slowed to 9 percent in 2004, the increase in Internet banking customers at one large bank was considerably higher. ${ }^{16}$ Bank of America has the largest online banking customer base with a reported 13.8 million active online banking customers-an increase of 38 percent for the 16 months ending in August 2004. ${ }^{17}$ During the same time period, the number of Bank of America customers using online bill payment increased by 68 percent. Consistent with the broadband-online banking correlation noted above, Bank of America found that more than 60 percent of its customers used high-speed Internet connections for online banking. The rapid growth in the adoption of online bill payment at Bank of America and other banks may, in part, account for the recent increase in the rate of growth for "customer initiated entries" (CIE), a type of ACH credit transaction. Based on second quarter 2005 volume, CIE entries will increase an estimated 40 percent for all of 2005, compared to an increase of 14 percent in 2004.

## III. The Changing Nature of ACH Transactions: New Applications

In addition to strong growth for traditional ACH transactions such as those for recurring consumer payments, a new set of ACH debit transactions, termed by some as "electronic checks" or "e-checks," have spurred overall ACH growth. (See Box 1.) E-checks differ in important respects from preauthorized and recurring ACH payments. ${ }^{18}$ With traditional, recurring ACH transactions, after an initial set of payment instructions is successfully processed, payments are repeated using the same routing and account number details, thus limiting the likelihood of errors. ${ }^{19}$

[^6]E-checks are a recent advance in ACH payments. Point-of-purchase (POP) transactions came into use in September 2000, while the other three applications began in 2001 or 2002. Adoption of e-checks grew rapidly however, and e-checks now account for over 40 percent of all ACH debits, compared to 6 percent in 2001. Figure 5 shows the changing composition, both absolute and relative, of the four components of e-checks over the recent past. Accounts-receivable-conversion (ARC) trasactions, which did not exist until 2002, had by the end of 2004 become the dominant form of e-checks, with 941.7 million transactions accounting for 47 percent of all e-checks. ${ }^{20}$ Internet-initiated (WEB) usage also grew steeply over this period, from 54 million transactions in 2001, to 715 million in 2004. Telephone-initiated (TEL) transactions, though less in total volume than either ARC or WEB, nevertheless grew from 6.3 million to 187.7 million, a 30 -fold increase over the four-year period. Even POP almost tripled between 2001 and 2004, from 64.2 million to 162.3 million transactions (although POP was the only e-check application to experience single digit growth in 2004). ${ }^{21}$ Of note, although ARC has come to dominate e-check payments, most industry observers believe that its dominance will be transitory because as the decline in checkwriting gains further momentum, conversion of checks via ARC will taper off correspondingly. ${ }^{22}$

## Box 1. Descriptions of ACH "E-Checks"

A point-of-purchase (standard entry class code " $P O P$ ") entry is created for an in-person purchase of goods or services when, for example, a merchant receiving a paper check from a consumer uses it as a source document to electronically enter its routing number, account number, serial number, and dollar amount of the transaction into a point-of-sale terminal or other electronic system to generate a debit entry to the consumer's demand deposit account. The merchant obtains a written authorization from the consumer, and the paper check is voided and returned to the consumer at the point-of-purchase. POP payments are "nonrecurring" or "single-entry" (one-time) in the sense that even if, for example, a consumer's grocery store always uses this method when the consumer presents a check to pay for weekly grocery purchases, each transaction must be authorized anew by the consumer at the point-of-sale. POP is an example of "check conversion."

[^7]An accounts-receivable-conversion ("ARC") entry also uses the consumer's check as a source document, but not at the point-of-sale. Rather, the routing number, account number, check serial number, and dollar amount of the transaction are captured using a scanning device and converted to an electronic ACH entry after a biller receives the consumer's check in the mail, or at a lockbox location for payment of goods and services. ARC transactions can be "recurring" in the everyday sense of the word, in that a consumer's monthly paper check payment to a credit card company may routinely be processed as an ARC transaction. However, such payments are not recurring and pre-authorized in the same sense as would be the case if a consumer arranged for his credit card company to automatically debit his bank account in order to pay the bill every month.

A telephone-initiated ("TEL") entry is created when a consumer gives authorization via the telephone for her account to be debited electronically by the party the she wishes to pay. This type of entry may only be originated when there is either an existing relationship between the consumer and the payee or, if there is no pre-existing relationship, only when the consumer has initiated the telephone call. TEL transactions are single-entry; that is, a separate oral authorization must be obtained for each debit.

An Internet-initiated ("WEB") entry is created when a consumer authorizes a merchant or other payee, via the Internet, to debit the consumer's account. In contrast to other forms of e-checks, WEB payments can be used for pre-authorized transactions, as for example when a consumer "signs" with an electronic signature via the Internet an agreement for recurring automatic debits to his account for repayment of a loan. However, many WEB transactions are single-entry. These single-entry WEB transactions may be with a merchant or other originator new to the consumer, or the consumer may have an established relationship with an originator, as for example when a consumer authorizes the payment of his credit card bill online at the credit card issuer's Web site.

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Figure 5. ACH: Growth and Changing Composition of E-Checks
(Millions of Transactions)


Source: Office of the Comptroller of the Currency, using data from the Federal Reserve System and NACHA. Excludes on-us transactions.

## IV. ACH Transactions: Susceptibility to Fraud

The growing use of new ACH applications is a clear indication that ACH network participants are finding increasing value in them. Nevertheless, some of these new applications have increased the susceptibility of the ACH system to fraudulent transactions. This section deals first with certain characteristics of ACH e-checks that may raise their susceptibility to fraudulent use. No ACH payments, including e-checks, are subject to real-time authorization of "good funds." Until recently, that potential vulnerability was of limited concern because ACH payor and payee generally enjoyed an ongoing payment relationship. However, with the emergence of e-checks, the lack of a recurring payment relationship between the payor and payee, coupled in some cases with the lack of a physical "source" document, have raised fraud vulnerability.

The second part of this section points out that there are also long-standing characteristics of the ACH system that make it vulnerable to fraud. These include weak fraud detection and prevention mechanisms, weaknesses in the incentive structure for return items, and weak system governance mechanisms. In general, when ACH transactions are pre-authorized and recurring between a consumer and an originator who are known to each other, these ACH system vulnerabilities present a low risk of fraud; but, as the last part of this section explains, the addition of new ACH applications has attracted new participants, creating new opportunities for fraudsters. These fraudsters
have exploited some of the new ACH applications for which an established customer-originator relationship is not necessarily a requirement.

Ahead of a more detailed discussion of the ACH system's susceptibility to fraud, it is important to bear in mind that banks experience relatively fewer ACH fraud losses versus check fraud losses, a point Table 1 helps to illustrate. Smaller size banks in particular are less likely to have experienced ACH fraud losses compared to check fraud losses. However, large banks, which are more intensely involved in ACH transactions than small banks, also experience lower ACH fraud loss than check fraud loss. In this respect, ACH transactions have had a relatively good track record.

Table 1. Bank Fraud Losses: Checks vs. ACH
(2003)

|  | Bank Size Groups (in assets) |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Under $\$ 500$ million | $\$ 500$ million to $\begin{gathered}\text { billion } \\ \text { a.99 }\end{gathered}$ | $\$ 5$ billion to billion $\$ 49.99$ | \$50 billion or more |
| Percent of Banks with Fraud Losses: |  |  |  |  |
| Check-related | 72 | 97 | 100 | 100 |
| ACH-related | 23 | 40 | 61 | 72 |
| Median Dollar Value of Fraud Loss: |  |  |  |  |
| Check-related | \$5,042 | \$51,353 | \$977,508 | \$8,716,014 |
| ACH-related | \$250 | \$3,543 | not available | not available |

Source: ABA Deposit Account Fraud Survey Report (2004).

## IV.A. Susceptibility to Fraud: New ACH Applications

Fraudulent (i.e., "unauthorized") payments within the ACH system have always been costly to deal with as "return" items, but because of ongoing payment relationships that characterize traditional ACH transactions, incidence of fraud was historically very low. ${ }^{23}$ Most e-checks, on the other hand, do not involve preauthorization for a series of recurring payments. In addition, some e-checks are "spontaneous" in nature-that is, there is no pre-existing payment relationship between consumer and payee. ${ }^{24}$ Because consumer and payee may have little or no knowledge of

[^8]each other's veracity, the probability of payment fraud is higher, and therefore the risk of costly return items is higher. However, the different types of e-checks differ in their relative vulnerability to fraud.

In general (and in the absence of counterfeit checks), ARC and POP payments, e-check applications that use a paper check as a source document, are less vulnerable to fraud than TEL and WEB payments, which are conducted remotely and do not use a paper check as a source document. Although numerous variables affect riskiness, ARC, which is currently the least risky ACH debit application, is likely to remain a low-risk application because of the way it is used (i.e., to pay recurring bills such as loan payments and utility bills). Under current conditions, the unauthorized payments rate for POP transactions is similar to that for traditional preauthorized debits (i.e., PPD payments). ${ }^{25}$ However, the risks associated with POP mirror the risks associated with accepting paper checks in a retail environment. ${ }^{26}$ As more "good" payments migrate away from checks to electronic payment instruments such as credit and debit cards, and as fraudsters continue to concentrate on payment instruments that do not provide real-time transaction au-thorization-such as checks - the rate of check fraud is likely to increase. In tandem with this development, there could be an increase in the proportion of fraudulent checks presented at the point-of-sale that are then converted to ACH transactions. WEB transactions, executed via the Internet, are subject to that medium's fraud vulnerabilities, but NACHA requirements for WEB transactions, and the fact that the majority of WEB transactions are being used for bill payment transactions between a consumer and an originator who are known to each other tend to reduce the risk profile of this e-check application. ${ }^{27}$ Because TEL shares the weaknesses of WEB but lacks the features that tend to mitigate fraud vulnerability, it is likely to remain a higher risk ACH application.

## IV.B. Susceptibility to Fraud: ACH System Characteristics

Fraud Detection and Prevention Mechanisms. Vulnerabilities in ACH fraud detection and prevention mechanisms can best be understood in comparison with contrasting features of credit and/or

[^9]debit card systems. ${ }^{28}$ First, unlike in the case of credit card transactions, the ACH system has no system-wide method to link a payor's name, address, and deposit account number. Second, the ACH system has no mechanism for real-time authorization of transactions, as is the case with, for example, credit cards. Third, the ACH system lacks the kind of measures credit card systems have for fraud detection. ${ }^{29}$ In particular, credit card issuers have long incorporated procedures for "vertical" fraud detection-identifying a pattern of seemingly anomalous transactions for a particular account. In addition, and more importantly from a systemic perspective, card systems employ procedures for "horizontal" fraud detection. Such measures can identify cases when, for example, there is a large volume of payments for the identical amount across the system, as might occur if criminals were attempting large-scale fraudulent debit transactions after stealing customer account numbers from a merchant. The absence of these measures makes it easier for fraudsters to exploit the ACH system and to avoid detection.

Incentive Structure for Return Items. Maintaining the traditionally low incidence of return items associated with the ACH network is important in order to maintain confidence in the system. In addition, return items place a relatively high burden on some system participants. First, on a per-item basis, ACH returns are costly. Based on a survey of banks, NACHA estimated that the cost to the payor's bank for handling an ACH return is between $\$ 12$ and $\$ 17$ per item. ${ }^{30}$ Second, procedures for dealing with return items greatly disadvantage banks receiving unauthorized or fraudulent ACH debits to consumer accounts. ${ }^{31}$ In particular, the payor's bank earns no direct fee or income to offset the receipt of consumer ACH debits, and it has to bear the cost of the return process, including the cost of obtaining a written statement from its account holder victimized by

[^10]the unauthorized transaction. ${ }^{32}$ Under such circumstances, the continued growth of both traditional and new ACH payments is likely to increase the return-item processing costs for some banks.

In addition to the high per-incident costs for return items, growth in return items is likely to exacerbate potentially unsafe and unsound incentives embedded in the ACH returns system. In particular, fee income from return items can become an important source of non-interest income for an originating bank. Even if an ACH transaction originator (i.e., the payee) has an unusually high level of returns, from a fee perspective the bank for whom that originator is a client has a disincentive to deny or even limit ACH origination services, because the bank earns a fee from the originator on both the initial presentment of the (faulty) debit entry, as well as the return. Additionally, and unlike in the case of check-processing, a bank originating ACH debit transactions is not constrained by the necessity of having to maintain demand deposit accounts with every originator. Under these circumstances, some banks may not scrutinize returns at the originator level, increasing the likelihood that they will continue to process transactions for acquired merchants with high return rates operating through one or more third-party processors.

ACH System Governance Mechanisms. Vulnerabilities in the ACH system's fraud detection and prevention mechanisms, and incentives in the return-items pricing structure that may (unintentionally) reward some originating banks for practicing inadequate due diligence on questionable originators could be counter-balanced by an effective governance system. A key element to such a system is the existence of a central authority with power to effectively monitor and, if necessary, expel participants whose actions undermine the ACH system's integrity. ${ }^{33}$ In the Visa and American Express card systems for example, Visa and American Express function both as system operators and as governing bodies for their respective networks. This arrangement enhances their ability to monitor system participants. In addition, the major credit card and debit card systems have the ability to ban merchants who have excessive charge-backs. ${ }^{34}$ For most merchants, the

[^11]threat of being expelled from participation in the card networks appears to serve as an effective deterrent. By contrast, for the ACH system, NACHA is primarily a rules-setting body without the same operational control and ability to monitor members' compliance, or to expel members who consistently participate in the origination of a high rate of return items.

## IV.C. Susceptibility to Fraud: New System Participants

As pointed out, the level of ACH fraud traditionally has been relatively low, especially in comparison to check fraud rates, even in the presence of the vulnerabilities just discussed. However, with the proliferation of new participants in the ACH system, especially in combination with the increase in the volume of ACH payments, industry observers have begun to worry about the rising number of unauthorized returns and opportunities for fraudulent exploitation of system vulnerabilities. ${ }^{35}$

Technological advancements have reduced scale and information-processing barriers to entry into the payments system for third-party service providers, including third-party processors. ${ }^{36} \mathrm{As}$ a result, the number and relative importance of third-party processors has increased along with the growth of the ACH network. A third-party processor is an entity that acts in an intermediary, ACH-transaction-processing capacity between an originator and an originating bank. ${ }^{37}$ For example, a third-party processor could be a traditional data-processing service bureau, or an independent sales organization that specializes in acquiring merchants engaged in high-risk transactions (e.g., mail order and telephone merchants).

In the course of providing services to ACH originators, these third-party processors become both customers of originating banks and intermediaries between banks and originators. It is possible that such "layering" between a bank and an originator might diminish or eliminate the due diligence a bank would otherwise perform were it to have a direct customer relationship with the originator. When third-party processors contract with independent sales organizations or other third-party processors, there may be two or more layers between banks and originators. Problems tend to arise when neither the third-party processor nor the originating bank performs due diligence on the companies for whom they are originating payments. ${ }^{38}$ This becomes increasingly

[^12]important as new third-party processors specializing in lower volume, but higher margin transactions, enter the ACH network; such participants are more likely to violate the rules of the ACH network (i.e., the NACHA Rules) or generate illegal transactions. Without adequate monitoring at the originator level, layering makes it easier for illicit originators to operate undetected.

An originating bank is responsible for all the entries it submits into the ACH network regardless of the extent to which one or more third-party processors may have been involved. Third-party processors are, in general, not subject to the same level of regulation and supervision as banks; under similar circumstances, payment card networks have devised procedures to help identify the third parties involved in the system, promoting a measure of industry-imposed governance over the operations of third-party participants. ${ }^{39}$ The ACH network lacks a comparable system-wide identification process. As the ranks of nonbank third-party participants in the ACH system swell, especially in response to opportunities arising from new payment applications, the lack of such industry-imposed governance procedures increases the risk of fraud.

Given these circumstances, ACH industry observers have expressed concerns about fraud, especially for two of the newer ACH transaction types, TEL and WEB. ${ }^{40}$ There is evidence to justify

Table 2. Unauthorized TEL and WEB Returns
(percent of total transactions, by type of ACH payment)

|  | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ |
| :--- | :---: | :---: | :---: |
| TEL | $0.86 \%$ | $0.19 \%$ | $0.21 \%$ |
| WEB | $0.68 \%$ | $0.47 \%$ | $0.08 \%$ |
| Prearranged payment (PPD) | $0.10 \%$ | $0.09 \%$ | $0.07 \%$ |

Source: NACHA.
TEL: Telephone-initiated transactions.
WEB: Internet-initiated transactions.
PPD: Prearranged payment and deposit transactions.

[^13]these concerns, as Table 2 illustrates. In particular, Table 2 shows that in 2002 nearly 1 percent of TEL transactions, and significantly more than half a percent of WEB transactions were "un-authorized"-i.e., cases where a consumer's account was debited but the consumer asserts that he did not authorize the transaction. Those rates were substantially higher than traditional preauthorized ACH debits. Indeed, though both unauthorized transactions rates for TEL and WEB declined after 2002, unauthorized TEL transactions rates were still three times the rate for traditional preauthorized, (or prearranged payment and deposit ["PPD"]), debits. As explained in the next section, industry efforts to avert fraudulent ACH efforts have played a role in the decline in unauthorized payments rates for TEL and WEB. Nevertheless, fraudsters still appear to be taking advantage of TEL transactions.

## V. Susceptibility to Fraud: Industry and Government Responses

Amid a growing recognition that new ACH users and uses have heightened fraud vulnerabilities, industry participants and government authorities have introduced measures to combat rising fraud rates. Industry and government responses have focused primarily on measures to stop "bad actors" from entering the system to begin with, and on measures to monitor ACH activities in order to make it more difficult for illicit parties to continue processing ACH payments if they nevertheless manage to enter the system. The common theme for most recent industry and government measures is better due diligence by participants with respect to their direct customers, as well as the "customers of their customers." In effect, these measures counteract existing vulnerabilities in the system's fraud detection and prevention mechanisms. Indirectly, they also address system governance issues by encouraging each participant to take more individual responsibility for policing bad actors.

## V.A. Industry Responses

As Table 2 illustrated, there is a significantly higher unauthorized transactions rate for TEL than for other types of ACH debits, and as a consequence recent industry (and government) responses have focused on this form of ACH payment in particular. Industry participants have observed that the return problem is a result of several factors, most notably banks originating payments without performing adequate due diligence on companies for whom they originate payments, and telemarketers skirting the NACHA Rules or engaging in deceptive or in some cases illegal practices.

NACHA has observed a strong correlation between high unauthorized return rates and originators (i.e., merchants) who are violating the NACHA Operating Rules, and who are engaged in fraudulent or deceptive marketing practices. In order to help identify potential fraud within the ACH network, NACHA receives data from the two ACH operators: the Federal Reserve and the EPN (Electronics Payment Network, the ACH business of the Clearing House Payments Company) on the volume of return entries sent back to originating banks. NACHA uses this data to identify originating banks with unusually high returns volume, and alerts the originating bank if it believes that bank should review an originator's activity and compliance with the NACHA Rules. Because
merchants involved in fraudulent or deceptive practices typically experience higher than average rates of unauthorized returns, NACHA has adopted a rule requiring originating banks to provide it with information about the merchant, the nature of the merchant's business, and the merchant's explanation for the excessive unauthorized TEL return rates above 2.5 percent. The monitoring of excessive returns by NACHA and EPN has led to a significant reduction in the rate of unauthorized returns. As shown previously in Table 2, the rate of unauthorized TEL returns in 2004 (0.21 percent) was less than one-fourth the rate of returns in 2002 ( 0.86 percent).

NACHA has also implemented rule changes and worked with industry participants to improve the quality of WEB transactions. Partly as a consequence, the 2004 rate for unauthorized WEB returns was one-eighth the 2002 rate. ${ }^{41}$ More generally, payees are using bank debit less often than in prior years as a method of payment for transactions associated with telemarketing fraud. Twenty-six percent of fraudulent telemarketing transactions in 2004 were funded with bank debit, down from 37 percent in 2003. ${ }^{42}$

The two ACH operators are also responding to changes in the ACH network. In response to the growing threat of fraud, several years ago EPN developed EPNWatch(r), a service that offers reports to originating banks when unauthorized payments exceed established thresholds. The reports are designed to alert originating banks to customers with excessive unauthorized returns. The Federal Reserve is pilot-testing a similar service for originating banks, and plans to offer reports as a priced service (in the form of a per-originator fee) starting early in 2006. In addition to its reporting service for originating banks, EPN has announced that it is in the process of developing a report for receiving banks to help them identify fraudulent payments before they are settled. ${ }^{43}$

## V.B. Government Responses

Governmental agencies have also responded to fraudulent ACH activities stemming from changes in payments applications and the nature of industry participants. In particular, federal and state government actions have targeted deceptive and fraudulent telemarketing activities in part by taking action against third-party processors and banks that have facilitated such activities by providing access to the ACH system.

[^14]An example at the federal level is the complaint filed in January 2004 by the Federal Trade Commission (FTC) charging a third-party ACH processor, First American Payment Processing, Inc. ("First American") with violating the Telemarketing Sales Rule (TSR). ${ }^{44}$ Specifically, the FTC alleged that First American processed ACH payments for telemarketers who they knew or should have known were deceptively selling advance-fee credit cards and engaging in other deceptive or abusive telemarketing practices. ${ }^{45}$ Additionally, the FTC alleged that First American engaged in an unfair practice by systematically breaching its contractual promise to banks to adhere to the NACHA Rules governing the ACH network. The NACHA Rules specifically prohibit the processing of ACH transactions on behalf of merchants engaged in "cold-call" outbound telemarketing. ${ }^{46}$ The final order issued by the FTC prohibits First American from processing payments if it has information indicating that the business practices of a merchant violate the TSR, NACHA Rules, or the FTC Act. ${ }^{47}$ Such information would include when unauthorized return rates exceed the 2.5 percent threshold for return entry monitoring under NACHA Rules, or when there are significant numbers of consumer complaints in any given month regarding unauthorized charges. In addition, the order requires First American to investigate the business practices of each of the companies for which it processes transactions.

At the state level, a number of actions have similarly targeted third-party processors that were providing ACH payment services to businesses involved in fraudulent telemarketing schemes. ${ }^{48}$ In addition, and very recently, state government officials have underlined banks' responsibilities in thwarting fraudulent ACH activities. For example, in July 2005, the Iowa Attorney General's office entered into an agreement with a community bank in South Dakota that was used by thirdparty processors to gain access to the ACH network. ${ }^{49}$ In the Iowa Attorney General's view, the

[^15]law requires banks not to assist any telemarketer that the bank knows or should have known is engaged in fraudulent conduct. ${ }^{50}$ This approach enables the Attorney General's office to combat telemarketing fraud by looking at the businesses providing support to telemarketing schemes, not just the telemarketers directly engaged in fraudulent activity.

Very recent action by the state of Vermont provides additional definition to the scope of ACH system participants' anti-fraud responsibilities. A new law in Vermont, which became effective on July 1,2005 , and which is reported to be the first of its kind in the country, prohibits telemarketers from using the ACH network to transfer funds from a consumer's bank account in connection with any outbound telemarketing, unless the consumer has purchased something from that telemarketer in the past year, or currently has a written agreement with the telemarketer. ${ }^{51}$ Additionally, third-party processors will be held liable for processing ACH debits or demand drafts for telemarketers that would be illegal if the telemarketers themselves initiated the debit. In the event the telemarketer is "out of reach" (e.g., in another country) or has disappeared, the third-party processor will be responsible for compensating victims of the telemarketer. The Vermont law also addresses the telemarketer's bank, which is deemed to be aiding and abetting a fraudulent telemarketer when the bank knows, or consciously avoids knowing that, the telemarketer is engaging in an unfair or deceptive act or practice.

Finally, amid changes in payment applications and participants, the bank regulatory agencies have heightened their attention to ACH risk issues. The March 2004 Federal Financial Institutions Examinations Council handbook on retail payment systems specifically cautions banks offering TEL origination services on behalf of their customers to adopt appropriate risk management practices, and warns them that they are exposing themselves to substantial risk if they originate payments for merchants engaged in fraudulent or deceptive business practices. ${ }^{52}$ In the same vein, in its December 2004 "Automated Clearing House" bulletin, the OCC encourages banks to focus adequate due diligence efforts on ACH payments originators that are not direct customers of the bank, but are rather customers of third-party processors with which the bank deals. ${ }^{53}$ The guidance instructs banks to have controls in place to restrict or refuse ACH services to potential originators engaged in questionable or deceptive business practices.

[^16]Additionally, the Comptroller's Handbook booklet on merchant processing informs banks of the need for a formal merchant underwriting and approval policy. This policy should designate the types of merchants with which the bank is willing to do business and the types of merchants with which the bank should refuse to do business (i.e., "prohibited merchants"). ${ }^{54}$ The booklet also outlines some of the essential elements of an underwriting policy, such as a background check on merchants to verify the validity of the business.

## VI. Summary and Conclusions

This paper began by describing overall trends in ACH payments, and factors underlying the growing demand for ACH payments by banks, businesses, government, and consumers. Its focus then turned to the emergence and rapid, recent growth of new ACH payment applications that, unlike traditional ACH debits, do not rely on established customer-originator relationships. Some of these new ACH debit payments in particular have drawn more third-party processors into the ACH system, as well as new merchants eager to use (i.e., originate) the new ACH debits. Most new participants are of course drawn by the opportunities for greater (legitimate) economic benefits, but certain characteristics of the ACH system, especially in tandem with some of the new ACH debit applications, have presented opportunities for fraudsters.

Three long-standing characteristics of the ACH system make it somewhat vulnerable to fraud, although historically fraud rates have been quite low. These vulnerabilities include weak fraud detection and prevention mechanisms, weaknesses in the incentive structure for return items, and weak system governance. Recently, entrance of a new set of ACH system participants-thirdparty service providers-have increased the complexity of the ACH system by adding one or more layers of participants between originating banks and the entities for whom those banks ultimately are originating ACH payments. This layering heightens the challenge for banks to perform adequate due diligence on originators (i.e., performing adequate "merchant underwriting")-especially those originators who are not direct customers of the bank. Such due diligence is increasingly important because of the opportunities for unscrupulous merchants to engage in deceptive and fraudulent practices, subsequently generating fraudulent payments. Telemarketing has proven to be an especially attractive avenue for such merchants to originate fraudulent debits.

In response to heightened fraud vulnerabilities, industry and government authorities have introduced measures designed to prevent "bad actors" from entering the system, and to make it more difficult for those who do slip through the cracks to continue to exploit the ACH network. The common theme is better due diligence by participants with respect to their direct customers, as well as the "customers of their customers," measures aimed specifically at counteracting existing vulnerabilities in the system's fraud detection and prevention mechanisms.

[^17]As the ACH system continues to adapt to the changing needs of its users, banks in particular will be subject to increased risk management challenges, including the misuse and fraud that has followed an increase in the volume and changes in the production of ACH payments. Bank supervisors need to ensure that banks choosing to be in the business of originating ACH entries understand the new challenges and have an adequate risk management program and board and management oversight.

# Payment Option Mortgages: Analyzing Scenarios for Future Risks 

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Executive Summary: Initially designed as an innovative financial management tool for sophisticated borrowers, payment option adjustable rate mortgages (PO ARMs) are increasingly being marketed and chosen for their ability to lower a borrower's initial monthly payment. However, by delaying principal repayment and deferring the payment of interest due, payment option borrowers could face significantly higher monthly payments in the future. This paper demonstrates how the impact of the potential payment shock associated with payment option mortgages depends on the type of payment made each period and the uncertain future paths of interest rates and other economic conditions. After discussing the key features of these loans and the behavior of key economic factors over the last 23 years, the payment stream of an example payment option mortgage is analyzed under three alternative economic scenarios.

Rather than just focusing on the potential dollar change in monthly payments, this paper also analyzes changes in the debt-service-to-income ratio and the loan-to-value ratio. These ratios measure the borrower's payment capacity and financial leverage, respectively, and are key predictive indicators of loan performance over time. Although the payment shock may be large in terms of dollars or percentage change - even if interest rates are stable, the borrower's payment capacity need not necessarily be stressed if the loan is underwritten and structured conservatively. Rising interest rates will stress borrower payment capacity, but a significant interest rate shock that is accompanied by rising income and home values leads to a more moderate stretching of payment capacity. Over the last 23 years, periods of rising interest rates were relatively short-lived and were accompanied at the national level by rising incomes and home values. While a decline in home values during a period of rising interest rates would significantly stress payment capacity and increase leverage, past comovements in these variables indicate a period of period of falling home values at the national level is more likely to be accompanied by falling interest rates. A decline in home values accompanied by a decline in interest rates leads to countervailing changes in payment capacity and leverage.

The scenarios discussed in this paper demonstrate the complexity of payment option adjustable rate mortgages and the wide variation in the potential payment shocks associated with these mortgages. Lenders need to factor the additional complexity and risk from PO ARMs into their underwriting and qualifying standards, disclosure policies, management information systems, and their risk management process. Borrowers need to fully understand that making the monthly minimum or interest only payment only temporarily defers the repayment of principal and interest, and thus they could face a significant payment shock in the future, depending on uncertain economic conditions.

[^18]
## Introduction

A prolonged period of rapidly rising home prices has spurred consumer demand for residential mortgage products that lower monthly mortgage payments. One such product, the payment option $(\mathrm{PO})$ mortgage, gives borrowers the option to choose among four types of monthly payments, including a minimum payment that may be less than the interest due. If the monthly minimum is made and is less than the interest due, the amount of deferred interest is added to the outstanding loan balance, which is known as negative amortization (neg am). This potential for neg am from making the minimum monthly payment (MMP) combined with the fact that these are adjustable rate mortgages (ARMs), means PO borrowers could face significantly higher monthly payments in the future. The impact of this potential payment shock depends on the payment type borrowers make each period and the future paths of interest rates and other economic conditions.

Payment option mortgages were initially designed as an innovative financial management tool for sophisticated borrowers. The different monthly mortgage payment options provide greater flexibility for borrowers who do not receive all of their income in smooth monthly salary payments or who suffer temporary cashflow problems. Additionally, the interest only and neg am options allow borrowers to manage the amount of their net worth held in untapped home equity. Payment option mortgages are increasingly being marketed and chosen for their ability to lower the initial monthly payment compared to a fully amortizing mortgage. Depending on underwriting and qualification standards, a marginal or stretched borrower could potentially use a PO ARM to purchase a more expensive home than with a traditional mortgage because of the option to make lower payments over an initial period. Financial analysts and regulators have raised concern that both borrowers and mortgage lenders may be overly focused on the initial lower payment associated with PO ARMs, and not fully accounting for the risk that payments could rise significantly in the future-potentially even as home values fall.

## Focus and Organization of Analysis

This paper focuses on analyzing the payment stream implications for PO ARMs of the borrower's choice of payment type and changes in future economic conditions. It differs from analyses conducted previously in two respects. First, rather than highlighting the potential dollar change in monthly payments, this paper extends the analysis to look at changes in the debt-service-toincome ratio and the loan-to-value ratio. These ratios are used in the initial qualification and underwriting decision as measures of the borrower's payment capacity and financial leverage, respectively. They are key predictive indicators of loan performance over time and will also influence the borrower's ability to refinance into another type of mortgage in the future. Second, rather than just focusing on changes in interest rates, this paper also includes the potential impact of changes in income and home prices. Payment capacity and financial leverage are affected by these economic factors as well as by interest rate changes.

The paper begins with a discussion of the key features of payment option adjustable rate mortgages and we introduce an example loan to demonstrate those features. In the second section,
historical trends in three key economic variables-interest rates, income and home prices-are examined. The potential risks associated with payment option ARMs from future changes in economic conditions are demonstrated in the third section. The impacts of three different economic scenarios on the example loan introduced previously are analyzed. The paper concludes with a discussion of major implications for lenders and borrowers in considering the use of payment option ARMs in light of the uncertainty of future economic conditions.

## Key Features of Payment Option ARMs

Payment Option ARMs provide borrowers the flexibility to choose among four payment options and the potential to increase their loan balance each month. The monthly payment options include:

1. 30-year amortizing payment of principal and interest (P\&I);
2. 15-year amortizing payment of P\&I;
3. Interest only payment (IO); or
4. Minimum monthly payment (MMP).

The MMP sets the floor amount that must be made by borrowers each month. The other payment options are available only if they exceed the minimum monthly payment. The initial MMP is calculated to amortize the loan at a rate referred to as the teaser rate, which is lower than the fully indexed rate (the current value of the particular interest rate index tied to the loan plus a fixed margin). The other three payments, and the actual interest due each month, are calculated using the fully indexed rate. The minimum monthly payment resets annually at a level sufficient to amortize the outstanding balance at the prevailing fully indexed interest rate, but its annual increase is capped. Typically the MMP can rise no more than 7.5 percent. Whether that cap is binding in the early years of the loan depends on the payment option the borrower chooses and changes in the interest rate index.

The amount of deferred interest from making a MMP that is less than the interest due that month is added back to the loan balance. This is referred to as negative amortization (neg am), and the next month's interest due reflects that increase in the loan balance. To ensure the principal repayment built into the MMP is large enough to pay off the loan over the remaining term, the MMP is allowed to recast to the fully indexed interest rate every five years, with no cap on the increase. Additionally, the minimum payment will recast earlier than every fifth year if the loan's neg am cap is reached, which generally is set between 10 to 25 percent of the original loan amount. As a marketing inducement, some lenders accrue interest on their PO ARMs at the teaser rate rather than the fully indexed rate for the first one to six months of the loan. This means the MMP will be greater than the interest due and the loan will not negatively amortize over that short initial period.

In addition to the special features associated with the minimum monthly payment option, the timing and caps on the interest rate reset is different for PO ARMs than for other types of ARMs. For PO ARMs the interest rate, and hence the interest due and P\&I payments, adjusts monthly rather than annually as for traditional one-year ARMs. Moreover, the only cap on the monthly rate reset for PO ARMs is the lifetime maximum interest rate, which is generally set in the neighborhood of 10 to 12 percent. Other types of ARMs generally have caps on both the annual and lifetime change in the interest rate.

## A Payment Option ARM Example Loan

To demonstrate these features, consider the example loan shown in Table 1. First we focus on the conditions of the loan at origination. This example approximates the terms available on a PO mortgage that were prevalent in mid 2004, which is both when these mortgages began to quickly grow in popularity and the current rising rate cycle began. Given the interest rate index and margin, the fully indexed rate is 4.25 percent, compared to a teaser rate of 1 percent. On a $\$ 400,000$ loan the borrower can lower his monthly payment by over $\$ 500$ by making the IO payment rather than the 30 -year P\&I payment. ${ }^{1}$ The monthly payment can be lowered by another $\$ 130$ if the MMP is made, with the loan balance rising by that amount.

Table 1: Payment option ARM example loan

| Initial terms of loan |  |
| :--- | ---: |
| Loan amount | $\$ 400,000$ |
| Interest rate index | $1.50 \%$ |
| Margin | $2.75 \%$ |
| Fully-indexed rate | $4.25 \%$ |
| Teaser rate | $1.00 \%$ |
| Minimum payment reset cap | $7.50 \%$ |
| Negative amortization cap | $10 \%$ |
| Home value | $\$ 500,000$ |
| Origination LTV | $80 \%$ |
| Annual borrower income | $\$ 95,000$ |
| Initial payment if interest due at fully indexed rate |  |
| 30-year principal \& interest (P\&I) | $\$ 1,968$ |
| Debt-service-to-income (DTI) ratio | $25 \%$ |
| Interest only payment | $\$ 1,417$ |
| DTI ratio | $18 \%$ |
| Minimum monthly payment (MMP) | $\$ 1,287$ |
| DTI ratio | $16 \%$ |
| Negative amortization from MMP | $\$ 130$ |
| Payment if interest due at teaser rate |  |
| Interest only | $\$ 333$ |
| 30-yr P\&I = MMP | $\$ 1,287$ |
| Negative amortization from MMP | $-\$ 953$ |

[^19]The initial potential amount of neg am by making the MMP is determined by the difference between fully indexed and teaser rates, which is 325 basis points in our example. If the gap was 500 basis points, implying a fully indexed rate of 6 percent, the neg am by making the monthly minimum payment would climb from $\$ 333$ to $\$ 713 .{ }^{2}$ Lenders can thus slow down the potential speed at which borrowers could negatively amortize on their loans by increasing the teaser rate. Lenders can also accomplish this if interest is accrued at the teaser rate for a short period of time. When this is done, the interest due decreases considerably for that period, the IO payment is not available because it is less than the minimum payment, and the MMP and 30 -year P\&I payment are equivalent and reduce the loan balance by almost $\$ 950$ (the amount of neg am is negative).

## Underwriting and Qualification Issues

Two primary issues with regards to lenders' underwriting and qualification decisions arise from how PO ARMs are structured. Lenders base these decisions on the borrower's payment capacity and financial leverage, which are traditionally measured primarily by the debt-service-to-income (DTI) ratio and the loan-to-value (LTV) ratio, respectively.

The first issue for the lender is which payment type to consider when determining the borrower's capacity to handle the payment out of current income. For our example loan in Table 1, the DTI ranges from 25 percent based on the 30 -year $\mathrm{P} \& \mathrm{I}$ payment to 16 percent for the monthly minimum payment. ${ }^{3}$ If the lender used the minimum-monthly-payment-based DTI in the qualification process, and had a DTI limit of 25 percent, this suggests the borrower has the capacity to maintain a loan substantially over the $\$ 400,000$ calculated using the traditional P\&I-payment-based DTI.

The second issue facing the lender is whether to consider the neg am potential of PO ARMs when setting initial limits on the amount the borrower leverages his or her home. Traditional LTV calculations and limits are based on the initial loan amount. But as previously noted, the neg am feature of PO ARMs allows borrowers to increase the amount they leverage their homes. In our example, if the borrower accumulates neg am on the loan up to the 10 percent cap, the LTV would increase to 88 percent (assuming a constant home value). However, the borrower may not have initially qualified for a loan with an LTV over 80 percent.

## Comparison of PO ARMs with Home Equity Loans

With the capability to accumulate negative amortization, PO ARMs can serve the same basic function as home equity loans, but some differences are also worth noting. Both products can be used to receive additional principal and increase how much borrowers are leveraging their home.

[^20]For example, accumulating 10 percent neg am is equivalent to taking out a $\$ 40,000$ home equity loan on a $\$ 500,000$ home (for an LTV of 8 percent) that has a first mortgage with an 80 percent LTV. Rather than increasing outstanding principal over time by deferring interest to decrease monthly payments, the home equity borrower can receive additional principal all at once. With a home equity loan, however, the borrower may pay additional transaction costs for the second loan and may pay a higher interest rate because it is a second lien.

## Payment Stream of Example Loan under Stable Economic Conditions

We now return to our example loan to analyze how the mechanics of PO ARMs affect how required payments evolve over time, even if interest rates and other economic conditions are stable. Even though the fully indexed rate is unchanged, the monthly minimum payment on PO ARMs rise on a yearly basis, subject to the annual reset cap until the payment recasts after the fifth year. Assuming the borrower chooses to make the minimum payment each month and that interest due is calculated using the teaser rate for the first month, the payments for selected months for our example loan are shown in Table 2. Note that while the loan begins to negatively amortize once interest due is calculated at the fully indexed rate starting in month two, it takes until after the ninth month before the loan balance rises above the initial amount.

When the first annual reset occurs in month 13, the MMP rises in order to amortize the higher outstanding balance over the remaining 29 years of the loan, but the increase is constrained by the reset cap to 7.5 percent. Although higher, the month 13 MMP is still less than the interest due that month, so the loan continues to negatively amortize. It isn't until the next annual reset in the 25th month that the loan balance peaks and the MMP rises to be greater than the interest due and principal reduction begins to occur. However, the speed of principal repayment is not fast enough

## Table 2: Payment option ARM example: Minimum monthly payments if interest rate stable

| Payment Activity | Month | Beginning <br> Balance (\$) | Interest <br> Due (\$) | Monthly Payment (\$) |
| :--- | ---: | ---: | ---: | ---: |
| Teaser-rate interest due | 1 | 400,000 | 333 | 1,287 |
| Fully indexed interest due | 2 | 399,047 | 1,413 | 1,287 |
| Fully indexed interest due | 10 | 400,073 | 1,417 | 1,287 |
| Annual MMP reset | 13 | 400,466 | 1,418 | 1,383 |
| Annual MMP reset | 25 | 400,897 | 1,420 | 1,487 |
| Annual MMP reset | 37 | 400,078 | 1,417 | 1,598 |
| Annual MMP reset | 49 | 397,859 | 1,409 | 1,718 |
| 5-year recast (4.25\% rate) | 61 | 394,077 | 1,396 | 2,135 |
| Notes: See Table 1 for the initial conditions associated with this loan. |  |  |  |  |

to ensure the loan is paid off over the remaining term of the loan. To ensure the principal repayment built into the MMP is large enough to pay off the loan over the remaining term, the MMP is allowed to recast to the fully indexed interest rate every five years. In this example, the MMP rises by more than $\$ 400$ or nearly 25 percent in the 61st month.

The relatively small amount of neg am that occurs in this example results from the narrow gap between the teaser rate and initial fully indexed rate. Consider the alternative case discussed above where the fully indexed rate is 6 percent and the teaser rate is 1 percent. Because of the 500 basis point gap, the MMP would be less than interest due after each of the annual resets prior to year five, and the neg am would climb to 8.5 percent of the initial loan amount in the 60th month. When the loan recasts to the fully indexed rate in the 61st month, the MMP would rise over $\$ 1,000$ or 63 percent in order to amortize the outstanding balance at the fully indexed rate over the remaining 25 years of the loan.

The payment shock when the MMP recasts after five years appears dramatic in dollars or percentage point change, but it's the borrower capacity to handle those payments that really matters. In the middle panel of Figure 1, the DTI ratio in our example for a borrower who consistently makes the 30 -year $\mathrm{P} \& \mathrm{I}$ payment is compared to that of a borrower who consistently makes the MMP. Because interest rates and income (along with home prices) are assumed to be stable, the only change in the P\&I-payment-based DTI occurs in the second month when interest due begins to be calculated at the fully indexed rate. The MMP-based DTI steps up each year, rising from 16 percent at origination to 22 percent in year four, and then rising to 27 percent when the loan recasts after five years. hus the payment shock at the five-year recast from making the MMP throughout the life of the PO ARM need not necessarily stress the borrower's payment capacity.

Figure 1: Payment option ARM example: Key ratios if interest rates stable


Debt service to income


Loan to value


Notes: See Table 1 for the initial conditions associated with this loan. In addition to interest rates, income and home prices also held stable in this example.

## Historical Trends in Key Economic Variables

Before studying the impact of changing economic conditions on our example payment option mortgage, this section looks at the behavior of three key economic drivers-interest rates, income, and home prices-over the last 23 years.

## Interest Rate Behavior

Similar to other ARMs, PO mortgages are indexed to short-term rather than longer-term interest rates, to which fixed rate mortgages are tied. The most common index for POs is the Monthly Treasury Average, or MTA, which is the 12-month average of the monthly average yields on oneyear constant maturity Treasury securities. The use of a 12 -month average rather than just the current one-year Treasury rate-as is used for many one-year or hybrid ARMs-slows and dampens changes in the fully indexed rate applied to PO mortgages. This partially offsets the potential for sudden and quick changes that arise from PO mortgages not having annual caps on movements in the fully indexed rate like other ARMs. This is demonstrated in Figure 2, which shows the monthly levels of the one-year Treasury and MTA rates since 1983.

Figure 2: Use of MTA index slows and dampens interest rate changes


Source: Federal Reserve Board from Haver Analytics. Notes: The Monthly Treasury Average, or MTA, is the 12-month average of the monthly average yields on one-year constant maturity Treasury securities. $\square$

Figure 2 also shows that rate shocks have been short-lived over the last 23 years. The largest 12month change in the MTA since 1983 was 245 basis points (in early 1995), over 100 basis points less than the largest change in the one-year Treasury rate. The largest 24 -month change in the MTA was less than 40 basis points higher than the 12 -month change. A rate stress outside these historical ranges would likely necessitate a significant change in the economic environment, such as a return to the high and volatile inflation levels of the 1970s and early 1980s.

## Income Behavior

While the potential payment shock PO mortgage borrowers may face are driven by changes in interest rates, the capacity to manage those payments is driven by changes in household income. Over the last 22 years, median income growth has averaged 4.1 percent, as shown in Figure 3. Failure to account for income growth can lead to underestimating the ability of borrowers to withstand payment shocks. In the previous section, we demonstrated that even if interest rates were stable, the DTI ratio for making the minimum monthly payments on our example loan would rise from 16 percent to 27 percent when the loan recasts after five years. Factoring in 4 percent income growth on average over five years, the DTI would rise to only 22 percent when the MMP recasts in the 61st month.

Figure 3: Median income growth has rebounded and is now back above long-run average


Source: National Association of Realtors from Haver Analytics.

## SPECIAL STUDIES■

Another important reason to include income growth in the analysis of a borrower's capacity to withstand interest rate shocks is that income and interest rate movements are positively correlated. For the United States as whole, rising interest rates have usually been accompanied by faster income growth. ${ }^{4}$ For example, the nearly 200 basis point rise in the MTA over the last 16 months that has pushed it above 3 percent has been offset to some extent by acceleration in income growth, which is once again back above its long-run average. The largest one-year movement in the MTA occurred in the first quarter of 1995 and was accompanied by income growth of more than twice its long-run average.

## Home Prices Behavior

The final key economic driver to examine is movement in home values. If home prices were to fall, the concern is that borrowers who accumulated a lot of neg am by consistently making the minimum payment could find themselves owing more on the loan than their house is currently worth, which creates an incentive for borrowers to default on the loan. Mortgage defaults would

Figure 4: Home prices more volatile and have fallen at regional or local level


Source: Census Bureau from Haver Analytics. Notes: 2005 data for "All U.S." is through the third quarter, regional data are reported annually.

[^21]rise even further if the drop in home prices occurred at the same time that their mortgage payments rose, either due to the loan recasting to fully amortize the outstanding balance or interest rates rising.

Nominal home prices have not declined year over year on a national basis since the Great Depression. However, at the regional or local level home values are much more volatile and have declined in the past, as shown in Figure 4. Many cities in the Northeast experienced falling home prices in the early 1990s from a deep regional recession set off by problems in the defense, technology, and commercial real estate industries. Because they were driven by downturns in the regional economy, declines in local home prices have occurred as income growth slowed or fell in response to job loss.

Since interest rates generally rise when the national economy is strong, a key issue for whether borrowers could face the double whammy of declining local prices and rising interest rates is how correlated the regional economy is with the national economy. In the 1980s and early 1990s there were a series of severe rolling regional recessions set off by localized shocks. From the agricultural heartland, to the oil patch, to defense and tech-driven New England and California, the downturns were deep enough to drive down local home prices regardless of national conditions and movements in interest rates. Over the last 15 years, regional economies have become more diversified and move much more in synch with the national economy. In this type of economic environment, it is much less likely that a region could experience declining home prices in a period of rising interest rates. This type of movement would need to be driven by a national economic downturn with rising interest rates, which while not out of the question, would necessitate a significant change in the future economic environment from the last 15 years.

## Mortgage Payments under Three Alternative Economic Scenarios

To study the impact of different economic conditions and payment choices on PO ARM borrowers, the payment streams of our example loan for three alternative economic scenarios are analyzed:

- Scenario 1: Rising interest rates, with incomes and home values stable
- Scenario 2: Rising rates, incomes, and home values
- Scenario 3: Rising interest rates followed by declining home values and a modest rate cut

The starting point is once again the set of initial conditions of our example loan summarized in Table 1 above, which reflects the borrowing environment in mid 20004 when PO mortgages began to grow rapidly and interest rates began to rise. Underwriting and qualification standards are assumed to be conservative: a 25 percent DTI based on the fully indexed P\&I payment and an 80 percent LTV at origination. Also assume that the neg am cap is also conservatively set at 10 percent of the initial balance. The assumed path for interest rates, income, and home prices
over the first year of the scenarios are layered on to match developments over the last year. The assumptions for years two through five are layered on, based on the behavior of interest rates over the last 23 years and the expectation that housing markets will slow markedly.

## Payment Stream of Example Loan under Alternative Scenario 1

A significant interest rate shock with no countervailing growth in income or home prices creates significant accumulation of negative amortization and stretching of payment capacity for borrowers who consistently make only the minimum monthly payment. Scenario 1 is outlined in the bottom panel of Table 3, where the fully indexed rate increases by 150 basis points for two years. The interest due and P\&I and minimum payments at each annual reset and the five-year recast are shown in the top right-hand table. The impacts of consistently making the P\&I payment versus MMP on the outstanding balance, the debt-service-to-income ratio, and the loan-to-value ratio for Scenario 1 are depicted in Figure 5. While this loan accumulated very little neg am if rates were stable, a 300 basis point increase would see a relatively quick accumulation of neg am. The 10 percent neg am cap would be hit in the 51 st month and the LTV rises to 88 percent. When the MMP recasts the next month, the DTI would rise to 40 percent, compared to 27 percent in a stable rate environment as was shown in Figure 1. The significant increase in leveraging and deterioration in payment capacity increases the likelihood of default for this borrower.

Table 3: Payment option ARM example for Scenario 1: Minimum monthly payments with rising interest rate, stable income, and stable home values

| Payment Activity | Month | Beginning Balance (\$) | Interest <br> Due (\$) | Minimum <br> Monthly <br> Payment (\$) |
| :--- | ---: | ---: | ---: | ---: |
| Annual MMP reset | 13 | 403,256 | 1,932 | 1,383 |
| Annual MMP reset | 25 | 412,879 | 2,494 | 1,487 |
| Annual MMP reset | 37 | 425,381 | 2,570 | 1,598 |
| Annual MMP reset | 49 | 437,438 | 2,643 | 1,718 |
| Recast at neg am cap | 52 | 440,228 | 2,660 | 3,149 |

Assumed path of key drivers $\square$

| Year | Home price <br> growth | Interest rate <br> basis point change | Income <br> growth |
| :--- | ---: | ---: | ---: |
| 1 | $0 \%$ | 150 | $0 \%$ |
| 2 | $0 \%$ | 150 | $0 \%$ |
| 3 | $0 \%$ | 0 | $0 \%$ |
| 4 | $0 \%$ | 0 | $0 \%$ |
| 5 | $0 \%$ | 0 | $0 \%$ |
| $5+$ | $0 \%$ | 0 | $0 \%$ |

Notes: See Table 1 for the initial conditions associated with this loan. In the lower panel, the highlighted cells show the new assumptions about the key drivers introduced in Scenario 1. In the upper panel, the highlighted cells show the resulting changes in payment stream and the month when the loan recasts.

Figure 5: Payment option ARM example for Scenario 1: Key ratios with rising interest rate, stable income, and stable home values

Remaining balance to initial loan amount


Debt service to income


Loan to value


Notes: See Table 1 for the initial conditions associated with this loan. See Table 3 for the assumed changes in interest rates, income, and home prices.

## Payment Stream of Example Loan under Alternative Scenario 2

A significant interest rate shock that is accompanied by rising income and home values leads to a more moderate stretching of payment capacity. Table 4 and Figure 6 demonstrate the impact even modest income growth of 3 percent per year (recall that 23 year average growth in median income is over 4 percent). This scenario also assumes that home prices appreciate rapidly in the first year (as has occurred over the last year) and then they slow quickly the following year (as is expected to occur over the next year).

The neg am cap is still hit in the 51st month (same change in interest rate as in previous scenario), but at recast the DTI rises to 35 percent rather than 40 percent. Also, the robust house price growth of the first year provides a buffer to absorb the neg am of making the minimum payment, so that the LTV of the loan is still below the origination level of 80 percent at recast. Thus the impact on payment capacity and leverage, and hence the likelihood of loan repayment, can be significantly overestimated by not considering the normal historical relationship that rising interest rates are usually accompanied by faster income growth and home appreciation.

## Table 4: Payment option ARM example for Scenario 2: $\square$ Minimum monthly payments with rising interest rate, income, and home values

| Payment Activity | Month | Beginning Balance (\$) | Interest <br> Due (\$) | Minimum Monthly <br> Payment (\$) |
| :--- | ---: | ---: | ---: | ---: |
| Annual MMP reset | 13 | 403,256 | 1,932 | 1,383 |
| Annual MMP reset | 25 | 412,879 | 2,494 | 1,487 |
| Annual MMP reset | 37 | 425,381 | 2,570 | 1,598 |
| Annual MMP reset | 49 | 437,438 | 2,643 | 1,718 |
| Recast at neg am cap | 52 | 440,228 | 2,660 | 3,149 |

Assumed path of key drivers $\square$

| Year | Home price <br> growth | Interest rate <br> basis point change | Income growth |
| :--- | ---: | ---: | ---: |
| 1 | $10 \%$ | 150 | $3 \%$ |
| 2 | $2 \%$ | 150 | $3 \%$ |
| 3 | $0 \%$ | 0 | $3 \%$ |
| 4 | $0 \%$ | 0 | $3 \%$ |
| 5 | $0 \%$ | 0 | $3 \%$ |
| $5+$ | $3 \%$ | 0 | $3 \%$ |

[^22]Figure 6: Payment option ARM example for Scenario 2: Key ratios with rising interest rate, income, and home value


[^23]
## Payment Stream of Example Loan under Alternative Scenario 3

Declining home prices in a period of moderately falling interest rates leads to countervailing movements in payment capacity and leverage. This is demonstrated in Table 5 and Figure 7, which starts with the prior scenario and then assumes that in year four a 10 percent decline in home values is accompanied by a 50 basis point drop in interest rates. Neg am accumulates more slowly in this scenario because of the drop in interest rates, with the 10 percent cap being hit in the 53 rd rather than the 51 st month. The smaller jump in payments also dampens the rise in the DTI when the loan recasts: it peaks at 33 percent rather than 35 percent in the previous example. The drop in home prices pushes the LTV ratio above 80 percent, but the net increase is lessened by the robust appreciation of the first year. Thus a period of declining home prices with rising interest rates would see borrowers experience less payment stress but increased leverage. The net impact on credit quality would depend on the relative movements in home prices and interest rates.

Table 5: Payment option ARM example for Scenario 3: Minimum monthly payments with rising interest rate, followed by declining home values and a modest rate cut

| Payment Activity | Month | Beginning Balance (\$) | Interest <br> Due (\$) | Minimum Monthly <br> Payment (\$) |
| :--- | ---: | ---: | ---: | ---: |
| Annual MMP reset | 13 | 403,256 | 1,932 | 1,383 |
| Annual MMP reset | 25 | 412,879 | 2,494 | 1,487 |
| Annual MMP reset | 37 | 425,381 | 2,570 | 1,598 |
| Annual MMP reset | 49 | 436,426 | 2,455 | 1,718 |
| Recast at neg am cap | 54 | 440,152 | 2,476 | 3,015 |

Assumed path of key drivers

|  |  |  |  |
| :--- | ---: | ---: | ---: |
| Year | Interest rate |  |  |
| 1 | Home price growth | basis point change |  | Income growth | $20 \%$ |
| :--- |
| 150 |
| 2 |

Notes: See Table 1 for the initial conditions associated with this loan. In the lower panel, the highlighted cells show the new assumptions about the key drivers introduced in Scenario 3. In the upper panel, the highlighted cells show the resulting changes in payment stream and the month when the loan recasts.

Figure 7: Payment option ARM example for Scenario 3: Minimum monthly payments with rising interest rate, followed by declining home values and a modest rate cut


Debt service to income


Loan to value


Notes: See Table 1 for the initial conditions associated with this loan. See Table 5 for the assumed changes in interest rates, income, and home prices.

## Conclusions

The scenarios discussed in this paper demonstrate the complexity of payment option adjustable rate mortgages and the wide variation in the potential payment shocks associated with these mortgages. The impact of the payment shock depends on how often the borrower does not make the full P\&I payment and the uncertain path of future economic conditions such as interest rates, income, and home prices.

Lenders need to factor the additional complexity and risk from PO ARMs into their underwriting and qualifying standards, disclosure policies, management information systems, and their risk management process. For example, lenders can adjust a number of underwriting and qualification standards or initial loan conditions to lessen the potential impact of changing economic conditions on borrowers ability to repay, such as:

- $\square$ Underwriting the loan to the fully indexed P\&I debt to income rate provides some cushion against the potential payment shock at the five-year recast;
- $\square$ Resetting the initial LTV requirement, the gap between the teaser rate and fully indexed rate, and the neg am cap as economic conditions change to manage the potential impact of negative amortization over time; and
- $\square$ Using an interest rate index based on a moving average slows and dampens the transmission of interest rate shocks into payment changes.

Borrowers need to fully understand that making the monthly minimum or interest only payment only temporarily defers the repayment of principal and interest, and thus they could face a significant payment shock in the future. Assessing the impact of the future payment shock is conditional on an expectation of future economic conditions such as interest rates, income, and home prices. It is critical that borrowers consider more than just the most recent past in forming their expectations of future economic conditions. This is particular important since the U.S. housing market is coming off an exceptional five-year period of low interest rates and rapidly appreciating home values.

Recent Licensing Decisions

## Recent Licensing Decisions $\square$

## Cases Published during July, August, and September 2005

## CRA Decision

On July 12, 2005, the OCC approved the application to merge First Bank of San Luis Obispo, San Luis Obispo, CA, into Pacific Capital Bank, National Association, Santa Barbara, CA (PCB), under the charter of PCB and the title Pacific Capital Bank, National Association. The OCC received nearly identical comments from nine commenters who expressed concerns related to Refund Anticipation Loans (RALs) offered by Santa Barbara Bank and Trust, a branch of PCB. As part of the OCC's ongoing supervision of PCB within the past year, the OCC reviewed the bank's RAL program and found no violations of law, but did recommend that the bank improve its processes for oversight of third-party tax preparers. PCB committed to address this issue and the OCC will continue to monitor PCB's commitment. The commenters also requested that the OCC conduct a public hearing. After careful consideration, the OCC decided not to conduct a hearing on this merger application. [Corporate Decision No. 2005-11]

## Conversion

On June 9, 2005, the OCC conditionally approved the application of Brown Brothers Harriman Trust Company, LLC, to convert to a national banking association to be called Brown Brothers Harriman National Trust Co. In the review of this application, the OCC determined that state banks and trust companies organized as limited liability companies may convert into national banking associations under section 12 USC 35 . The bank would continue to operate in a similar manner electing, under 12 CFR .2000(b), to follow New York limited liability company law for its internal governance to the extent not inconsistent with applicable federal banking statutes and regulations or bank safety and soundness. This conditional approval was subject to several conditions including the execution of a Capital Assurances and Liquidity Maintenance Agreement between the Bank and its parent Brown Brothers Harriman \& Co. [Conditional Approval No. 696]

## Change in Bank Control

On June 10, 2005, the OCC did not disapprove a Change in Bank Control Notice submitted by Computershare Limited, Victoria, Australia, and EQAC Inc., Chicago, IL, to acquire control of

EquiServe Trust Company, National Association, Canton, MA. The OCC's decision was based, in part, on agreements made in connection with this filing between Computershare Limited and the OCC effective June 10,2005 , and EquiServe Trust Company, N.A. and the OCC effective June 23, 2005. These agreements help ensure that the bank will be operated in a safe and sound manner and both agreements may be enforced under 12 USC 1818. [Corporate Decision No. 2005-06]

## Capital

On June 20, 2005, the OCC approved the application by The Ephrata National Bank, Ephrata, PA, to reduce its permanent capital by purchasing a limited amount of its own common stock to be held as treasury stock to be reissued in the future under the bank's Dividend Reinvestment and Stock Purchase Plan. The OCC found that repurchasing bank stock to facilitate a bank's shareholder dividend reinvestment plan is a "legitimate corporate purpose" under 12 CFR 7.2020. [Corporate Decision No. 2005-07]

## Comments to Other Agencies

On April 7, 2005, the OCC provided comments to the Federal Reserve Board on the application by Republic Bancorp, Inc. to become a bank holding company through the acquisition of National Family Bank, Munden, KS. In connection with this application, the directors of Republic Bancorp, Inc. and the OCC entered into an agreement, and the National Family Bank and the OCC entered into an agreement, both effective June 14, 2005. These agreements help ensure the bank will be operated in a safe and sound manner and both agreements may be enforced under 12 USC 1818. [Corporate Decision No. 2005-08]

On June 15, 2005, the OCC provided comments to the Federal Reserve Bank of Kansas City on the Notice of Change in Bank Control by certain controlling shareholders to acquire indirect control of American National Bank of Rock Springs, Rock Springs, WY. In connection with this filing, the controlling shareholders and the OCC entered into an agreement effective June 15, 2005, and the American National Bank of Rock Springs and the OCC entered into an agreement effective June 28, 2005. These agreements help ensure the bank will be operated in a safe and sound manner and both agreements may be enforced under 12 USC 1818. [Corporate Decision No. 2005-08]

SPEEGHES AND
Congressional Testimony

# Speeches and Congressional Testimony 

7/14/2005, Acting Comptroller Williams Discusses History and Characteristics of National Banks and the Bank Supervisory Process in Light of Current Issues [http://www.occ.treas.gov/ftp/release/ 2005-68a.pdf]

9/26/2005, Comptroller Dugan Tells Bankers that Long Fight to Shed Outdated Laws Promoted Innovation and Broad Range of New Consumer Products and Services [http://www.occ.treas.gov/ftp/ release/2005-95a.pdf]

## INTERPRETATIONS

## INTERPRETATIONS $\square$

## July [Interpretations and Actions]

1033, 6/14/2005, Letter confirms that the bank, with approval of its examiner-in-charge, may engage in customer-driven equity index derivatives transactions and may use baskets of securities to hedge its risk exposures to the index swaps where the baskets do not exactly match the underlying index, but are designed to replicate the sector and industry weightings and general risks of the index.

1034, $4 / 1 / 2005$, Letter states that the bank may construct a new office complex on existing bank premises and lease unused space as excess bank premises.

## August [Interpretations and Actions]

1035, $7 / 21 / 2005$, Letter concludes that in the bank's securitization of its own home equity lines of credit (HELOCs), the bank may hold the securitized HELOC notes as Type V securities, the usual 25 percent prudential limit is not intended to apply under the specific facts and circumstances represented, and retention of the subordinated interest is permissible under 12 USC 24(Seventh). The conclusions are subject to various safety and soundness requirements. The appropriate risk-based capital treatment is the risk-based capital charge for the underlying HELOCs.

1036, $8 / 10 / 2005$, Letter states that a remote check scanning terminal at a customer's location, which permits the customer to deposit checks electronically, is not a branch.

## September [Interpretations and Actions]

1037, 8/9/2005, Letter concludes that trust company may use cash-settled derivatives linked to S\&P 500 Index to hedge the market risk associated with the fees it charges customers as part of its investment advisory activities, provided the trust company establishes to the satisfaction of its supervisory office, an appropriate risk management and compliance process.

1038, 8/16/2005, A national bank, under contract with the General Services Administration, provides purchasing, travel, and fleet charge cards to government agencies and employees as a payment tool for official government purchases and travel expenses. This letter responds to a request from the bank for an opinion the appropriate capital treatment for unused portions of lines of credit (unused lines) on cards issued to federal employees. Liability for all charges and fees incurred on government credit cards rests solely with the cardholder; the government bears no secondary liability. In the letter, we conclude that the OCC will use its reservation of author-
ity in 12 CFR 3.4 to assign a zero percent conversion factor to the unused lines. This reflects our conclusion that a zero percent conversion factor more appropriately reflects the credit risk to the bank associated with the lines.

1039, $9 / 13 / 2005$, Letter concludes that the bank may engage in customer-driven, perfectly matched, cash-settled derivative transactions provided the bank's examiner-in-charge is satisfied that the bank has adequate risk management and measurement systems and controls to conduct the activities on a safe and sound basis.

1040, $9 / 15 / 2005$, Letter states that the bank, with the approval of its examiner-in-charge, may engage in customer-driven, physically settled emissions derivative transactions and may enter into physical transactions in emission allowances to hedge its risk exposures to the emissions derivative transactions.


## Mergers-July ito $\square$ September 30, $2005 \square$

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Nonaffiliated mergers (mergers consummated involving two or more nonaffiliated operating banks) ..... $73 \square$
Affiliated mergers (mergers consummated involving affiliated operating banks) ..... $74 \square$
Affiliated merger-thrift (merger consummated involving affiliated national bank and savings and loan association). ..... $76 \square$

Most transactions in this section do not have accompanying decisions. In those cases, the OCC reviewed the competitive effects of the proposals by using its standard procedures for determining whether the transaction has minimal or no adverse competitive effects. The OCC found the proposals satisfied its criteria for transactions that clearly had no or minimal adverse competitive effects. In addition, the Attorney General either filed no report on the proposed transaction or found that the proposal would not have a significantly adverse effect on competition.

# Nonaffiliated mergers (mergers consummated involving two or more nonaffiliated operating banks), from July 1 to September 30, 2005, by state 

| Title and location (charter number) | Total assets |
| :---: | :---: |
| California |  |
| Landmark National Bank, Solana Beach (024296) | 68,198,000 |
| and Legacy Bank, National Association, San Diego (La Jolla), California (024361) | 35,472,000 |
| merged on July 15, 2005, under the title of Landmark National Bank, Solana Beach (024296) | 129,241,000 |
| Community National Bank, Escondido (018686) | 707,568,000 |
| and Rancho Bernardo Community Bank, San Diego, California | 113,778,000 |
| merged on August 19, 2005, under the title of Community National Bank, Escondido (018686) | 850,256,000 |
| Pacific Western National Bank, Santa Monica (017423) | 1,584,359,000 |
| and First American Bank, Rosemead, California | 244,750,000 |
| merged on August 12, 2005, under the title of Pacific Western National Bank, Santa Monica (017423) | 1,867,786,000 |
| Colorado |  |
| AMG Guaranty Trust, National Association, Greenwood Village (024182) | 7,125,000 |
| and Old Dominion Trust Company, Norfolk, Virginia | 1,717,000 |
| merged on March 1, 2004, under the title of AMG Guaranty Trust, National Association, Greenwood Village (024182) | 8,365,000 |
| Georgia |  |
| Omni National Bank, Fayetteville (016560) | 316,855,000 |
| and Omni Interim, National Association, Dalton, Georgia (024608) | 45,088,000 |
| merged on July 1, 2005, under the title of Omni National Bank, Atlanta (016560) | 370,738,000 |
| Illinois |  |
| Citizens First National Bank, Princeton (002413) | 655,524,000 |
| and Farmers State Bank Of Somonauk, Somonauk, Illinois | 210,162,000 |
| merged on July 31, 2005, under the title of Citizens First National Bank, Princeton (002413) | 881,284,000 |
| Nebraska |  |
| The Security National Bank, Laurel (013182) | 94,671,000 |
| and The Coleridge National Bank, Coleridge, Nebraska (010023) | 31,664,000 |
| merged on July 23, 2005, under the title of Security National Bank, Laurel (013182) | 126,335,000 |
| Tennessee |  |
| First Tennessee Bank National Association, Memphis (000336) | 29,513,702,000 |
| and First National Bank West Metro, Dallas, Georgia (024261) | 130,743,000 |
| merged on August 26, 2005, under the title of First Tennessee Bank National Association, Memphis (000336) | 29,664,310,000 |
| Texas |  |
| First Victoria National Bank, Victoria (010360) | 855,194,000 |
| and Planters \& Merchants State Bank, Hearne, Texas | 187,383,000 |
| merged on August 31, 2005, under the title of First Victoria National Bank, Victoria (010360) | 1,041,184,000 |

## MERGERS $\square$

## Affiliated mergers (mergers consummated involving two or more affiliated operating banks), from July 1 to September 30, 2005, by state

| Title and location (charter number) | Total assets |
| :---: | :---: |
| Iowa |  |
| The First National Bank of Waverly, Waverly (003105) | 154,758,000 |
| and The First National Bank of Cedar Falls, Cedar Falls, Iowa (023640) | 52,368,000 |
| merged on August 19, 2005, under the title of First National Bank, Waverly (003105) | 205,627,000 |
| Kentucky |  |
| First Southern National Bank, Lancaster (001493) | 377,000,000 |
| and The Citizens National Bank of Russellville, Russellville, Kentucky (006546) | 167,000,000 |
| and Citizens State Bank of Ballard County, Wickliffe, Kentucky | 57,000,000 |
| and First Bank and Trust Co. of Princeton, Kentucky, Princeton, Kentucky | 85,000,000 |
| merged on July 1, 2005, under the title of First Southern National Bank, Lancaster (001493) | 686,000,000 |
| Minnesota |  |
| The First National Bank of Deerwood, Deerwood (009703) | 150,405,000 |
| and Northland Community Bank, Northome, Minnesota | 52,792,000 |
| merged on July 14, 2005, under the title of The First National Bank of Deerwood, Deerwood (009703) | 203,424,000 |
| Nebraska |  |
| First National Bank, Sidney (018339) | 139,063,000 |
| and First National Bank, Torrington, Torrington, Wyoming (014506) | 161,702,000 |
| merged on September 12, 2005, under the title of First National Bank, Sidney (018339) | 300,765,000 |
| New Jersey |  |
| Monmouth Community Bank, National Association, Long Branch (024240) | 276,517,000 |
| and Allaire Community Bank, Sea Girt, New Jersey | 197,319,000 |
| merged on August 22, 2005, under the title of Central Jersey Bank, National Association, Long Branch (024240) | 473,836,000 |
| Ohio |  |
| KeyBank National Association, Cleveland (014761) | 77,374,961,000 |
| and EverTrust Asset Management, Seattle, Washington | 372,000 |
| merged on August 1, 2005, under the title of KeyBank National Association, Cleveland (014761) | 78,246,717,000 |
| First Financial Bank, National Association, Hamilton (000056) | 1,962,777,000 |
| and Community First Bank \& Trust, Celina, Ohio | 928,845,000 |
| and Sand Ridge Bank, Highland, Indiana | 872,891,000 |
| merged on August 19, 2005, under the title of First Financial Bank, National Association, Hamilton (000056) | 3,764,513,000 |
| Pennsylvania |  |
| Commerce Bank, National Association, Cherry Hill (017094) | 14,305,670,000 |
| and Commerce Bank/Pennsylvania, National Association, Philadelphia, Pennsylvania (018273) | 6,446,659,000 |
| merged on July 29, 2005, under the title of Commerce Bank, National Association, Philadelphia (017094) | 22,032,151,000 |
| South Dakota |  |
| Citibank USA, National Association, Sioux Falls (024281) | 5,635,306,000 |
| and Associates Capital Bank, Inc., Salt Lake City, Utah | 172,363,000 |
| merged on September 15, 2005, under the title of Citibank USA, National Association, Sioux Falls (024281) | 5,957,669,000 |
| Tennessee |  |
| First Tennessee Bank National Association, Memphis (000336) | 29,664,310,000 |
| and United Bank and Trust Company, Saint Petersburg, Florida | 1,000 |
| merged on July 22, 2005, under the title of First Tennessee Bank National Association, Memphis (000336) | 29,670,810,000 |
| FSGBank, National Association, Chattanooga (024425) | 795,021,000 |
| and Jackson Bank \& Trust, Gainesboro, Tennessee | 170,645,000 |
| merged on August 31, 2005, under the title of FSGBank, National Association, Chattanooga (024425) | 983,774,000 |

# Affiliated mergers (mergers consummated involving two or more affiliated operating banks), from July 1 to September 30, 2005 (continued) 

| Title and location (charter number) | Total assets |
| :--- | ---: |
| Texas | $29,495,000$ |
| The First National Bank of Seymour, Seymour (004263) |  |
| and First State Bank of Matador, Matador, Texas |  |
| merged on July 22, 2005, under the title of The First National Bank of Seymour, Seymour (004263) | $12,206,000$ |
| Inter National Bank, McAllen (018480)  <br> and City National Bank, Weslaco, Texas (016883)  <br> merged on August 19, 2005, under the title of Inter National Bank, McAllen (018480) $91,690,000$ <br> Wisconsin $953,320,000$ <br> Associated Bank, National Association, Green Bay (023695) $68,139,000$ <br> and Associated Bank Minnesota National Association, Minneapolis, Minnesota (023582) $1,015,659,000$ <br> and Associated Bank Chicago, Chicago, Illinois  <br> merged on July 15, 2005, under the title of Associated Bank, National Association, Green Bay (023695) $18,097,424,000$$\quad 1,896,951,000$ |  |

## Affiliated merger-thrift (merger consummated involving affiliated national banks and savings and loan associations), from July 1 through September 30, 2005

Title and location (charter number) Total assets
Illinois
The First National Bank of Danville, Danville (000113) 181,314,000
and American Savings Bank of Danville, Danville, Illinois
51,474,000
merged on August 26, 2005, under the title of The First National Bank of Danville, Danville (000113)
230,288,000

## Financial Performange of National Banks

## Financial Performance of National Banks

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Assets, liabilities, and capital accounts of national banks September 30, 2004 and September 30, 2005
(Dollar figures in millions)

|  | September 30, <br> 2004 <br> Consolidated <br> foreign and <br> domestic | September 30, 2005 <br> Consolidated foreign and domestic | Change <br> September 30, 2004- <br> September 30, 2005 <br> fully consolidated |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Amount | Percent |
| Number of institutions | 1,936 | 1,846 | (90) | (4.65) |
| Total assets | \$4,846,508 | \$5,946,140 | \$1,099,632 | 22.69 |
| Cash and balances due from depositories | 214,527 | 247,675 | 33,148 | 15.45 |
| Noninterest-bearing balances, currency and coin | 141,744 | 170,716 | 28,973 | 20.44 |
| Interest bearing balances | 72,784 | 76,959 | 4,175 | 5.74 |
| Securities | 799,516 | 937,653 | 138,137 | 17.28 |
| Held-to-maturity securities, amortized cost | 31,991 | 37,267 | 5,276 | 16.49 |
| Available-for-sale securities, fair value | 767,525 | 900,386 | 132,861 | 17.31 |
| Federal funds sold and securities purchased | 190,430 | 355,747 | 165,318 | 86.81 |
| Net loans and leases | 2,901,035 | 3,328,788 | 427,753 | 14.74 |
| Total loans and leases | 2,949,222 | 3,375,428 | 426,207 | 14.45 |
| Loans and leases, gross | 2,951,259 | 3,377,360 | 426,100 | 14.44 |
| Less: Unearned income | 2,038 | 1,931 | (106) | (5.22) |
| Less: Reserve for losses | 48,187 | 46,640 | $(1,546)$ | (3.21) |
| Assets held in trading account | 240,388 | 489,337 | 248,949 | 103.56 |
| Other real estate owned | 1,622 | 1,626 | 4 | 0.26 |
| Intangible assets | 204,734 | 229,500 | 24,767 | 12.10 |
| All other assets | 294,257 | 355,814 | 61,557 | 20.92 |
| Total liabilities and equity capital | 4,846,508 | 5,946,140 | 1,099,632 | 22.69 |
| Deposits in domestic offices | 2,554,456 | 3,012,881 | 458,425 | 17.95 |
| Deposits in foreign offices | 565,497 | 747,606 | 182,109 | 32.20 |
| Total deposits | 3,119,953 | 3,760,487 | 640,534 | 20.53 |
| Noninterest-bearing deposits | 590,455 | 809,937 | 219,482 | 37.17 |
| Interest-bearing deposits | 2,529,498 | 2,950,550 | 421,053 | 16.65 |
| Federal funds purchased and securities sold | 327,303 | 489,517 | 162,214 | 49.56 |
| Other borrowed money | 543,124 | 551,997 | 8,873 | 1.63 |
| Trading liabilities less revaluation losses | 35,136 | 123,942 | 88,806 | 252.75 |
| Subordinated notes and debentures | 72,922 | 96,852 | 23,930 | 32.82 |
| All other liabilities | 242,351 | 337,718 | 95,367 | 39.35 |
| Trading liabilities revaluation losses | 90,094 | 136,495 | 46,400 | 51.50 |
| Other | 152,257 | 201,224 | 48,967 | 32.16 |
| Total equity capital | 505,719 | 585,626 | 79,908 | 15.80 |
| Perpetual preferred stock | 2,515 | 3,353 | 838 | 33.30 |
| Common stock | 11,936 | 14,362 | 2,426 | 20.32 |
| Surplus | 324,192 | 360,313 | 36,120 | 11.14 |
| Retained earnings and other comprehensive income | 165,956 | 197,406 | 31,450 | 18.95 |
| Other equity capital components | (62) | (152) | (90) | NM |

NM indicates calculated percent change is not meaningful.

Quarterly income and expenses of national banks
Third quarter 2004 and third quarter 2005

|  | Dollar figures in m | illions) |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Third quarter 2004 | Third quarter 2005 | Third qua third quar fully cons | 2004- <br> 2005 <br> dated |
|  | Consolidated foreign and domestic | Consolidated foreign and domestic | Amount | Percent |
| Number of institutions | 1,936 | 1,846 | (90) | (4.65) |
| Net income | \$17,782 | \$19,318 | \$1,536 | 8.64 |
| Net interest income | 40,143 | 43,058 | 2,914 | 7.26 |
| Total interest income | 55,271 | 72,819 | 17,548 | 31.75 |
| On loans | 42,973 | 54,422 | 11,449 | 26.64 |
| From lease financing receivables | 1,278 | 1,291 | 12 | 0.95 |
| On balances due from depositories | 331 | 812 | 482 | 145.64 |
| On securities | 8,567 | 10,417 | 1,850 | 21.59 |
| From assets held in trading account | 1,124 | 3,099 | 1,975 | 175.64 |
| On federal funds sold and securities repurchased | 639 | 2,352 | 1,713 | 268.13 |
| Less: Interest expense | 15,128 | 29,762 | 14,634 | 96.73 |
| On deposits | 9,539 | 18,112 | 8,573 | 89.87 |
| Of federal funds purchased and securities sold | 1,476 | 4,022 | 2,546 | 172.53 |
| On demand notes and other borrowed money* | 3,326 | 6,209 | 2,882 | 86.66 |
| On subordinated notes and debentures | 787 | 1,419 | 632 | 80.31 |
| Less: Provision for losses | 5,093 | 6,412 | 1,319 | 25.91 |
| Noninterest income | 28,884 | 39,084 | 10,201 | 35.32 |
| From fiduciary activities | 2,283 | 3,204 | 922 | 40.37 |
| Service charges on deposits | 5,689 | 6,252 | 563 | 9.90 |
| Trading revenue | 936 | 4,400 | 3,464 | NM |
| From interest rate exposures | (193) | 2,136 | 2,329 | NM |
| From foreign exchange exposures | 875 | 997 | 122 | 13.98 |
| From equity security and index exposures | 136 | 802 | 666 | NM |
| From commodity and other exposures | (15) | 508 | 523 | NM |
| Investment banking brokerage fees | 1,318 | 1,964 | 646 | 49.05 |
| Venture capital revenue | 58 | 274 | 216 | NM |
| Net servicing fees | 2,658 | 3,573 | 915 | 34.43 |
| Net securitization income | 4,811 | 4,832 | 22 | 0.46 |
| Insurance commissions and fees | 683 | 613 | (70) | (10.25) |
| Insurance and reinsurance underwriting income | 144 | 88 | (56) | (38.92) |
| Income from other insurance activities | 540 | 526 | (14) | (2.62) |
| Net gains on asset sales | 1,290 | 1,014 | (276) | (21.40) |
| Sales of loans and leases | 1,058 | 609 | (449) | (42.45) |
| Sales of other real estate owned | 21 | 20 | (1) | (6.97) |
| Sales of other assets(excluding securities) | 211 | 386 | 175 | 82.77 |
| Other noninterest income | 9,270 | 12,957 | 3,687 | 39.77 |
| Gains/losses on securities | 1,163 | 124 | $(1,039)$ | (89.32) |
| Less: Noninterest expense | 39,086 | 47,046 | 7,959 | 20.36 |
| Salaries and employee benefits | 16,516 | 20,769 | 4,253 | 25.75 |
| Of premises and fixed assets | 4,658 | 5,993 | 1,336 | 28.68 |
| Goodwill impairment losses | 1 | 5 | 4 | 446.36 |
| Amortization expense and impairment losses | 1,571 | 1,498 | (73) | (4.65) |
| Other noninterest expense | 16,341 | 18,781 | 2,440 | 14.93 |
| Less: Taxes on income before extraordinary items | 8,234 | 9,480 | 1,246 | 15.13 |
| Income/loss from extraordinary items, net of income taxes | 5 | (11) | (16) | NM |
| Memoranda: |  |  |  |  |
| Net operating income | 16,894 | 19,221 | 2,328 | 13.78 |
| Income before taxes and extraordinary items | 26,011 | 28,808 | 2,797 | 10.75 |
| Income net of taxes before extraordinary items | 17,777 | 19,328 | 1,552 | 8.73 |
| Cash dividends declared | 9,474 | 13,336 | 3,861 | 40.76 |
| Net charge-offs to loan and lease reserve | 4,980 | 6,200 | 1,220 | 24.50 |
| Charge-offs to loan and lease reserve | 6,652 | 8,140 | 1,488 | 22.37 |
| Less: Recoveries credited to loan and lease reserve | 1,672 | 1,940 | 268 | 16.02 |

## * Includes mortgage indebtedness

NM indicates calculated percent change is not meaningful.

Year-to-date income and expenses of national banks Through September 30, 2004, and through September 30, 2005 (Dollar figures in millions)


* Includes mortgage indebtedness

NM indicates calculated percent change is not meaningful.

## Assets of national banks by asset size

September 30, 2005
(Dollar figures in millions)


Past-due and nonaccrual loans and leases of national banks by asset size
September 30, 2005
(Dollar figures in millions)

|  | All national banks | National banks |  |  |  | Memoranda: All commercial banks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Less than } \\ & \$ 100 \\ & \text { million } \\ & \hline \end{aligned}$ | $\begin{gathered} \$ 100 \\ \text { million to } \\ \$ 1 \text { billion } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \$ 1 \text { billion } \\ \text { to } \$ 10 \\ \text { billion } \\ \hline \end{gathered}$ | Greater than \$10 billion |  |
| Number of institutions reporting | 1,846 | 711 | 961 | 127 | 47 | 7,541 |
| Loans and leases past due 30-89 days | \$29,328 | \$293 | \$1,434 | \$1,709 | \$25,892 | \$43,622 |
| Loans secured by real estate | 13,049 | 168 | 886 | 768 | 11,227 | 20,939 |
| 1- to 4-family residential mortgages | 8,271 | 95 | 407 | 320 | 7,448 | 11,947 |
| Home equity loans | 1,504 | 2 | 26 | 35 | 1,440 | 1,926 |
| Multifamily residential mortgages | 186 | 3 | 17 | 23 | 143 | 393 |
| Commercial RE loans | 1,594 | 41 | 255 | 250 | 1,049 | 3,735 |
| Construction RE loans | 914 | 13 | 151 | 129 | 620 | 2,113 |
| Farmland loans | 85 | 13 | 29 | 11 | 32 | 252 |
| RE loans from foreign offices | 495 | 0 | 0 | 0 | 495 | 573 |
| Commercial and industrial loans | 3,822 | 51 | 273 | 658 | 2,840 | 6,258 |
| Loans to individuals | 11,148 | 56 | 223 | 233 | 10,636 | 14,558 |
| Credit cards | 6,358 | 1 | 47 | 63 | 6,247 | 7,522 |
| Installment loans and other plans | 4,790 | 55 | 176 | 169 | 4,389 | 7,036 |
| All other loans and leases | 1,309 | 18 | 52 | 51 | 1,189 | 1,866 |
| Loans and leases past due 90+ days | 12,513 | 68 | 274 | 257 | 11,915 | 15,855 |
| Loans secured by real estate | 5,050 | 37 | 167 | 106 | 4,741 | 6,664 |
| 1- to 4-family residential mortgages | 4,526 | 22 | 75 | 45 | 4,383 | 5,478 |
| Home equity loans | 140 | 0 | 3 | 3 | 133 | 223 |
| Multifamily residential mortgages | 24 | 1 | 4 | 4 | 15 | 53 |
| Commercial RE loans | 158 | 6 | 52 | 18 | 82 | 480 |
| Construction RE loans | 135 | 3 | 25 | 33 | 73 | 294 |
| Farmland loans | 23 | 5 | 8 | 1 | 9 | 85 |
| RE loans from foreign offices | 45 | 0 | 0 | 0 | 45 | 51 |
| Commercial and industrial loans | 544 | 12 | 43 | 93 | 395 | 1,053 |
| Loans to individuals | 6,774 | 9 | 51 | 49 | 6,665 | 7,904 |
| Credit cards | 4,807 | 1 | 27 | 26 | 4,753 | 5,559 |
| Installment loans and other plans | 1,966 | 9 | 24 | 22 | 1,911 | 2,345 |
| All other loans and leases | 146 | 10 | 13 | 9 | 114 | 234 |
| Nonaccrual loans and leases | 15,046 | 182 | 967 | 1,100 | 12,797 | 23,709 |
| Loans secured by real estate | 7,638 | 103 | 671 | 695 | 6,168 | 12,666 |
| 1- to 4-family residential mortgages | 3,588 | 32 | 194 | 222 | 3,140 | 5,465 |
| Home equity loans | 549 | 1 | 9 | 18 | 521 | 696 |
| Multifamily residential mortgages | 162 | 3 | 16 | 14 | 129 | 282 |
| Commercial RE loans | 2,005 | 48 | 311 | 351 | 1,295 | 4,041 |
| Construction RE loans | 548 | 6 | 97 | 68 | 377 | 1,133 |
| Farmland loans | 143 | 13 | 44 | 23 | 64 | 335 |
| RE loans from foreign offices | 642 | 0 | 0 | 0 | 642 | 715 |
| Commercial and industrial loans | 5,035 | 50 | 225 | 314 | 4,446 | 7,633 |
| Loans to individuals | 1,459 | 11 | 30 | 56 | 1,361 | 2,107 |
| Credit cards | 458 | 0 | 1 | 21 | 436 | 756 |
| Installment loans and other plans | 1,001 | 11 | 29 | 35 | 925 | 1,350 |
| All other loans and leases | 976 | 17 | 40 | 36 | 882 | 1,390 |

## Liabilities of national banks by asset size

September 30, 2005
(Dollar figures in millions)

|  | All national banks | National banks |  |  |  | Memoranda: All commercial banks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Less than } \\ & \$ 100 \\ & \text { million } \\ & \hline \end{aligned}$ | $\begin{gathered} \$ 100 \\ \text { million to } \\ \$ 1 \text { billion } \end{gathered}$ | $\begin{gathered} \hline \$ 1 \text { billion } \\ \text { to } \$ 10 \\ \text { billion } \\ \hline \end{gathered}$ | Greater than \$10 billion |  |
| Number of institutions reporting | 1,846 | 711 | 961 | 127 | 47 | 7,541 |
| Total liabilities and equity capital | 5,946,140 | 39,795 | 269,469 | 354,377 | 5,282,499 | 8,903,605 |
| Deposits in domestic offices | 3,012,881 | 33,036 | 217,275 | 241,103 | 2,521,467 | 5,014,276 |
| Deposits in foreign offices | 747,606 | 14 | 248 | 3,042 | 744,302 | 902,751 |
| Total deposits | 3,760,487 | 33,051 | 217,523 | 244,145 | 3,265,769 | 5,917,027 |
| Noninterest bearing | 809,937 | 6,162 | 38,378 | 44,386 | 721,011 | 1,175,370 |
| Interest bearing | 2,950,550 | 26,888 | 179,144 | 199,759 | 2,544,759 | 4,741,657 |
| Federal funds purchased and securities sold | 489,517 | 538 | 7,057 | 29,032 | 452,890 | 669,648 |
| Other borrowed funds | 551,997 | 1,286 | 13,900 | 35,183 | 501,628 | 769,332 |
| Trading liabilities less revaluation losses | 123,942 | 0 | 0 | 1 | 123,941 | 124,180 |
| Subordinated notes and debentures | 96,852 | 0 | 203 | 1,163 | 95,485 | 116,911 |
| All other liabilities | 337,718 | 276 | 2,518 | 6,713 | 328,211 | 407,099 |
| Equity capital | 585,626 | 4,643 | 28,269 | 38,140 | 514,574 | 899,409 |
| Total deposits by depositor: |  |  |  |  |  |  |
| Individuals and corporations | 3,021,512 | 19,909 | 150,445 | 195,910 | 2,655,248 | 4,737,974 |
| U.S., state, and local governments | 131,994 | 3,006 | 16,844 | 15,625 | 96,519 | 247,949 |
| Depositories in the U.S. | 65,362 | 483 | 3,770 | 2,950 | 58,158 | 94,254 |
| Foreign banks and governments | 208,312 | 1 | 302 | 393 | 207,616 | 227,416 |
| Domestic deposits by depositor: |  |  |  |  |  |  |
| Individuals and corporations | 2,493,001 | 19,897 | 150,362 | 193,012 | 2,129,731 | 4,076,460 |
| U.S., state, and local governments | 131,994 | 3,006 | 16,844 | 15,625 | 96,519 | 247,949 |
| Depositories in the U.S. | 36,930 | 483 | 3,770 | 2,950 | 29,727 | 60,150 |
| Foreign banks and governments | 18,103 | 1 | 136 | 250 | 17,716 | 20,790 |
| Foreign deposits by depositor: |  |  |  |  |  |  |
| Individuals and corporations | 528510.405 | 12 | 82 | 2,899 | 525,518 | 661,514 |
| Depositories in the U.S. | 28431.863 | 0 | 0 | 0 | 28,432 | 34,104 |
| Foreign banks and governments | 190,209 | 0 | 165 | 144 | 189,900 | 206,626 \| |
| Deposits in domestic offices by type: |  |  |  |  |  |  |
| Transaction deposits | 395,720 | 10,949 | 52,386 | 33,406 | 298,979 | 713,174 |
| Demand deposits | 305,133 | 6,005 | 31,271 | 24,783 | 243,073 | 520,307 |
| Savings deposits | 1,795,601 | 7,694 | 73,865 | 126,750 | 1,587,292 | 2,710,318 |
| Money market deposit accounts | 1318563.914 | 3,982 | 41,977 | 93,304 | 1,179,301 | 1,971,407 |
| Other savings deposits | 477037.174 | 3,712 | 31,889 | 33,445 | 407,991 | 738,911 |
| Time deposits | 821,560 | 14,393 | 91,024 | 80,947 | 635,196 | 1,590,507 |
| Small time deposits | 365,094 | 9,255 | 52,435 | 39,375 | 264,029 | 735,180 |
| Large time deposits | 456,466 | 5,138 | 38,588 | 41,572 | 371,167 | 855,327 |

Off-balance-sheet items of national banks by asset size
September 30, 2005
(Dollar figures in millions)

|  | All national banks | National banks |  |  |  | Memoranda: All commercial banks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Less than } \\ & \$ 100 \\ & \text { million } \\ & \hline \end{aligned}$ | $\begin{gathered} \$ 100 \\ \text { million to } \\ \$ 1 \text { billion } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \$ 1 \text { billion } \\ \text { to } \$ 10 \\ \text { billion } \\ \hline \end{gathered}$ | Greater than \$10 billion |  |
| Number of institutions reporting | 1,846 | 711 | 961 | 127 | 47 | 7,541 |
| Unused commitments | \$4,694,156 | \$56,620 | \$141,396 | \$685,981 | \$3,810,158 | \$6,004,966 |
| Home equity lines | 350,235 | 342 | 5,803 | 11,810 | 332,280 | 457,922 |
| Credit card lines | 2,874,490 | 53,127 | 105,250 | 618,917 | 2,097,196 | 3,442,354 |
| Commercial RE, construction and land | 164,002 | 917 | 11,447 | 22,159 | 129,479 | 306,165 |
| All other unused commitments | 1,305,430 | 2,235 | 18,897 | 33,096 | 1,251,203 | 1,798,525 |
| Letters of credit: |  |  |  |  |  |  |
| Standby letters of credit | 266,848 | 111 | 1,877 | 4,854 | 260,005 | 352,445 |
| Financial letters of credit | 223,440 | 64 | 1,198 | 3,483 | 218,695 | 300,124 |
| Performance letters of credit | 43,407 | 47 | 679 | 1,370 | 41,311 | 52,322 |
| Commercial letters of credit | 25,216 | 15 | 230 | 604 | 24,368 | 29,618 |
| Securities lent | 532,026 | 24 | 20 | 986 | 530,996 | 1,353,805 |
| Spot foreign exchange contracts | 747,946 | 0 | 2 | 77 | 747,867 | 800,468 |
| Credit derivatives (notional value) |  |  |  |  |  |  |
| Reporting bank is the guarantor | 2,368,089 | 0 | 0 | 0 | 2,368,089 | 2,369,460 |
| Reporting bank is the beneficiary | 2,710,758 | 0 | 40 | 0 | 2,710,718 | 2,724,212 |
| Derivative contracts (notional value) | 96,992,909 | 21 | 4,161 | 17,349 | 96,971,378 | 98,783,602 |
| Futures and forward contracts | 11,254,597 | 4 | 1,307 | 3,780 | 11,249,506 | 11,926,969 |
| Interest rate contracts | 6,902,613 | 4 | 1,295 | 2,285 | 6,899,029 | 6,999,076 |
| Foreign exchange contracts | 4,174,470 | 0 | 10 | 1,495 | 4,172,966 | 4,746,726 |
| All other futures and forwards | 177,513 | 0 | 1 | 0 | 177,512 | 181,167 |
| Option contracts | 19,173,783 | 12 | 1,506 | 3,039 | 19,169,226 | 19,636,311 |
| Interest rate contracts | 15,728,391 | 10 | 1,457 | 2,385 | 15,724,540 | 16,147,897 |
| Foreign exchange contracts | 2,047,743 | 0 | 1 | 642 | 2,047,099 | 2,075,213 |
| All other options | 1,397,649 | 2 | 48 | 12 | 1,397,587 | 1,413,201 |
| Swaps | 61,485,681 | 5 | 1,309 | 10,529 | 61,473,838 | 62,126,649 |
| Interest rate contracts | 59,147,355 | 5 | 1,293 | 10,496 | 59,135,561 | 59,737,703 |
| Foreign exchange contracts | 2,059,788 | 0 | 0 | 0 | 2,059,788 | 2,101,945 |
| All other swaps | 278,539 | 0 | 16 | 33 | 278,489 | 287,001 |
| Memoranda: Derivatives by purpose Contracts held for trading |  | 0 | 64 |  |  |  |
| Contracts not held for trading | $89,660,962$ $2,253,099$ | 21 | 4,057 | 12,058 | 89,655,607 | $\begin{array}{r} 91,135,353 \\ 2,554,577 \end{array}$ |
| Memoranda: Derivatives by position |  |  |  |  |  |  |
| Held for trading--positive fair value | 1,320,278 | 0 | 1 | 15 | 1,320,262 | 1,336,099 |
| Held for trading--negative fair value | 1,298,263 | 0 | 1 | 10 | 1,298,252 | 1,315,079 |
| Not for trading--positive fair value | 12,859 | 1 | 16 | 32 | 12,810 | 15,004 |
| Not for trading--negative fair value | 12,399 | 0 | 24 | 104 | 12,271 | 14,859 |

## Quarterly income and expenses of national banks by asset size <br> Third quarter, 2005 <br> (Dollar figures in millions)



* Includes mortgage indebtedness

Year-to-date income and expenses of national banks by asset size
Through September 30, 2005
(Dollar figures in millions)

|  | All national banks | National banks |  |  |  | Memoranda: All commercial banks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Less than } \\ & \$ 100 \\ & \text { million } \end{aligned}$ | $\begin{gathered} \$ 100 \\ \text { million to } \\ \$ 1 \text { billion } \end{gathered}$ | $\begin{gathered} \$ 1 \text { billion } \\ \text { to } \$ 10 \\ \text { billion } \\ \hline \end{gathered}$ | Greater than \$10 billion |  |
| Number of institutions reporting | 1,846 | 711 | 961 | 127 | 47 | 7,541 |
| Net income | \$56,799 | \$325 | \$2,594 | \$3,877 | \$50,004 | \$87,218 |
| Net interest income | 127,666 | 1,134 | 7,358 | 8,759 | 110,415 | 201,481 |
| Total interest income | 205,788 | 1,571 | 10,595 | 13,229 | 180,393 | 317,425 |
| On loans | 152,547 | 1,211 | 8,511 | 10,469 | 132,355 | 238,097 |
| From lease financing receivables | 4,050 | 5 | 41 | 135 | 3,869 | 5,597 |
| On balances due from depositories | 2,289 | 17 | 56 | 96 | 2,120 | 3,623 |
| On securities | 30,738 | 290 | 1,744 | 2,071 | 26,633 | 49,847 |
| From assets held in trading account | 9,206 | 0 | 8 | 24 | 9,175 | 10,199 |
| On fed. funds sold \& securities repurchased | 5,695 | 40 | 178 | 343 | 5,134 | 7,093 |
| Less: Interest expense | 78,122 | 437 | 3,237 | 4,469 | 69,978 | 115,944 |
| On deposits | 47,292 | 393 | 2,701 | 2,824 | 41,374 | 74,314 |
| Of federal funds purchased \& securities sold | 9,751 | 9 | 124 | 611 | 9,007 | 13,839 |
| On demand notes \& other borrowed money* | 17,046 | 34 | 403 | 990 | 15,619 | 23,036 |
| On subordinated notes and debentures | 4,033 | 0 | 10 | 45 | 3,979 | 4,754 |
| Less: Provision for losses | 14,987 | 46 | 411 | 556 | 13,975 | 19,551 |
| Noninterest income | 111,750 | 416 | 3,787 | 6,711 | 100,837 | 153,428 |
| From fiduciary activities | 9,528 | 36 | 523 | 1,366 | 7,603 | 17,850 |
| Service charges on deposits | 17,735 | 128 | 940 | 884 | 15,783 | 25,303 |
| Trading revenue | 10,412 | (0) | 3 | 30 | 10,379 | 11,238 |
| From interest rate exposures | 4,057 | 0 | 4 | 16 | 4,037 | 3,623 |
| From foreign exchange exposures | 3,721 | 0 | 0 | 4 | 3,717 | 4,437 |
| From equity security and index exposures | 1,739 | 0 | 0 | 0 | 1,739 | 2,264 |
| From commodity and other exposures | 886 | 0 | 0 | 0 | 886 | 885 |
| Investment banking brokerage fees | 6,069 | 3 | 58 | 118 | 5,891 | 7,410 |
| Venture capital revenue | 530 | 0 | (1) | 4 | 527 | 527 |
| Net servicing fees | 9,438 | 91 | 297 | 365 | 8,685 | 11,530 |
| Net securitization income | 14,205 | 0 | 313 | 73 | 13,820 | 17,418 |
| Insurance commissions and fees | 1,887 | 29 | 61 | 88 | 1,710 | 3,280 |
| Insurance and reinsurance underwriting income | 390 | 0 | 1 | 8 | 381 | 545 |
| Income from other insurance activities | 1,497 | 29 | 60 | 79 | 1,329 | 2,735 |
| Net gains on asset sales | 3,823 | 12 | 226 | 1,642 | 1,944 | 6,231 |
| Sales of loans and leases | 2,914 | 10 | 207 | 1,597 | 1,099 | 4,989 |
| Sales of other real estate owned | 67 | (0) | 3 | 16 | 48 | 124 |
| Sales of other assets(excluding securities) | 842 | 2 | 16 | 28 | 796 | 1,118 |
| Other noninterest income | 38,123 | 118 | 1,367 | 2,142 | 34,495 | 52,642 |
| Gains/losses on securities | 693 | (2) | 12 | 16 | 667 | 880 |
| Less: Noninterest expense | 140,535 | 1,086 | 7,244 | 9,156 | 123,048 | 207,009 |
| Salaries and employee benefits | 61,080 | 563 | 3,483 | 3,985 | 53,048 | 92,047 |
| Of premises and fixed assets | 17,898 | 137 | 873 | 921 | 15,967 | 26,138 |
| Goodwill impairment losses | 13 | 2 | 11 | 0 | 0 | 16 |
| Amortization expense and impairment losses | 4,586 | 3 | 79 | 307 | 4,196 | 5,317 |
| Other noninterest expense | 56,958 | 380 | 2,798 | 3,942 | 49,838 | 83,490 |
| Less: Taxes on income before extraord. items | 27,771 | 93 | 908 | 1,900 | 24,871 | 41,926 |
| Income/loss from extraord. items, net of taxes | (18) | 1 | 0 | 2 | (21) | (85) |
| Memoranda: |  |  |  |  |  |  |
| Net operating income | 56,339 | 326 | 2,586 | 3,864 | 49,563 | 86,691 |
| Income before taxes and extraordinary items | 84,588 | 417 | 3,501 | 5,774 | 74,895 | 129,229 |
| Income net of taxes before extraordinary items | 56,817 | 324 | 2,594 | 3,874 | 50,025 | 87,303 |
| Cash dividends declared | 33,086 | 211 | 1,495 | 2,779 | 28,601 | 49,277 |
| Net loan and lease losses | 16,009 | 30 | 280 | 512 | 15,188 | 20,176 |
| Charge-offs to loan and lease reserve | 21,491 | 48 | 388 | 719 | 20,336 | 27,356 |
| Less: Recoveries credited to loan \& lease resv. | 5,481 | 19 | 108 | 207 | 5,148 | 7,180 |

* Includes mortgage indebtedness

Quarterly net loan and lease losses of national banks by asset size
Third quarter, 2005
(Dollar figures in millions)

|  | All national banks | National banks |  |  |  | Memoranda: All commercial banks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \text { Less than } \\ \$ 100 \\ \text { million } \\ \hline \end{gathered}$ | \$100 million to \$1 billion | $\begin{gathered} \hline \$ 1 \text { billion } \\ \text { to } \$ 10 \\ \text { billion } \\ \hline \end{gathered}$ | Greater than \$10 billion |  |
| Number of institutions reporting | 1,846 | 711 | 961 | 127 | 47 | 7,541 |
| Net charge-offs to loan and lease reserve | \$6,200 | \$10 | \$92 | \$175 | \$5,923 | \$7,702 |
| Loans secured by real estate | 252 | 2 | 18 | 29 | 203 | 459 |
| 1- to 4-family residential mortgages | 112 | 1 | 8 | 10 | 93 | 188 |
| Home equity loans | 76 | 0 | 0 | 3 | 72 | 107 |
| Multifamily residential mortgages | 4 | 0 | 2 | 2 | 0 | 14 |
| Commercial RE loans | 38 | 1 | 5 | 12 | 20 | 107 |
| Construction RE loans | 7 | 0 | 2 | 2 | 3 | 26 |
| Farmland loans | 3 | 0 | 1 | (0) | 2 | 4 |
| RE loans from foreign offices | 13 | 0 | 0 | 0 | 13 | 13 |
| Commercial and industrial loans | 181 | 5 | 20 | 74 | 82 | 485 |
| Loans to individuals | 5,392 | 4 | 43 | 58 | 5,288 | 6,261 |
| Credit cards | 3,178 | 0 | 24 | 21 | 3,133 | 3,782 |
| Installment loans and other plans | 2,214 | 3 | 19 | 36 | 2,155 | 2,479 |
| All other loans and leases | 374 | 0 | 11 | 13 | 349 | 498 |
| Charge-offs to loan and lease reserve | 8,140 | 16 | 128 | 238 | 7,758 | 10,237 |
| Loans secured by real estate | 378 | 3 | 23 | 38 | 314 | 639 |
| 1- to 4-family residential mortgages | 165 | 1 | 10 | 16 | 138 | 261 |
| Home equity loans | 99 | 0 | 1 | 4 | 94 | 138 |
| Multifamily residential mortgages | 4 | 0 | 2 | 2 | 0 | 16 |
| Commercial RE loans | 63 | 1 | 8 | 14 | 40 | 151 |
| Construction RE loans | 16 | 0 | 2 | 3 | 11 | 38 |
| Farmland loans | 4 | 0 | 1 | 0 | 3 | 7 |
| RE loans from foreign offices | 27 | 0 | 0 | 0 | 27 | 27 |
| Commercial and industrial loans | 750 | 7 | 31 | 95 | 617 | 1,193 |
| Loans to individuals | 6,500 | 6 | 57 | 84 | 6,353 | 7,732 |
| Credit cards | 3,978 | 0 | 28 | 33 | 3,917 | 4,795 |
| Installment loans and other plans | 2,522 | 6 | 29 | 51 | 2,436 | 2,938 |
| All other loans and leases | 512 | 1 | 17 | 20 | 474 | 673 |
| Recoveries credited to loan and lease reserve | 1,940 | 6 | 36 | 63 | 1,834 | 2,535 |
| Loans secured by real estate | 126 | 1 | 6 | 9 | 110 | 180 |
| 1- to 4-family residential mortgages | 53 | 0 | 2 | 5 | 45 | 73 |
| Home equity loans | 23 | (0) | 0 | 1 | 22 | 31 |
| Multifamily residential mortgages | 0 | 0 | 0 | 0 | 0 | 2 |
| Commercial RE loans | 26 | 0 | 3 | 2 | 21 | 45 |
| Construction RE loans | 9 | 0 | 0 | 0 | 8 | 12 |
| Farmland loans | 1 | 0 | 0 | 0 | 1 | 3 |
| RE loans from foreign offices | 14 | 0 | 0 | 0 | 14 | 14 |
| Commercial and industrial loans | 569 | 2 | 11 | 21 | 535 | 708 |
| Loans to individuals | 1,107 | 2 | 15 | 26 | 1,065 | 1,472 |
| Credit cards | 800 | 0 | 4 | 11 | 784 | 1,013 |
| Installment loans and other plans | 308 | 2 | 11 | 15 | 280 | 459 |
| All other loans and leases | 138 | 1 | 5 | 7 | 125 | 176 |

Year-to-date net loan and lease losses of national banks by asset size
Through September 30, 2005
(Dollar figures in millions)

|  | All national banks | National banks |  |  |  | Memoranda: All commercial banks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Less than } \\ & \$ 100 \\ & \text { million } \end{aligned}$ | $\begin{gathered} \$ 100 \\ \text { million to } \\ \$ 1 \text { billion } \\ \hline \end{gathered}$ | $\begin{gathered} \text { \$1 billion } \\ \text { to } \$ 10 \\ \text { billion } \\ \hline \end{gathered}$ | Greater than \$10 billion |  |
| Number of institutions reporting | 1,846 | 711 | 961 | 127 | 47 | 7,541 |
| Net charge-offs to loan and lease reserve | 16,009 | 30 | 280 | 512 | 15,188 | 20,176 |
| Loans secured by real estate | 754 | 5 | 54 | 74 | 620 | 1,269 |
| 1- to 4-family residential mortgages | 340 | 2 | 18 | 24 | 296 | 539 |
| Home equity loans | 218 | 0 | 2 | 6 | 209 | 301 |
| Multifamily residential mortgages | 15 | 1 | 4 | 3 | 6 | 28 |
| Commercial RE loans | 108 | 1 | 20 | 35 | 52 | 280 |
| Construction RE loans | 21 | 1 | 4 | 6 | 10 | 63 |
| Farmland loans | 12 | (0) | 6 | 1 | 5 | 17 |
| RE loans from foreign offices | 41 | 0 | 0 | 0 | 41 | 40 |
| Commercial and industrial loans | 723 | 13 | 65 | 193 | 452 | 1,554 |
| Loans to individuals | 14,025 | 11 | 131 | 216 | 13,667 | 16,610 |
| Credit cards | 9,754 | 1 | 83 | 76 | 9,594 | 11,612 |
| Installment loans and other plans | 4,270 | 10 | 48 | 140 | 4,072 | 4,998 |
| All other loans and leases | 508 | 1 | 29 | 29 | 449 | 743 |
| Charge-offs to loan and lease reserve | 21,491 | 48 | 388 | 719 | 20,336 | 27,356 |
| Loans secured by real estate | 1,119 | 8 | 73 | 98 | 940 | 1,816 |
| 1- to 4-family residential mortgages | 498 | 3 | 25 | 34 | 435 | 760 |
| Home equity loans | 279 | 0 | 3 | 8 | 268 | 383 |
| Multifamily residential mortgages | 18 | 1 | 4 | 4 | 8 | 34 |
| Commercial RE loans | 187 | 2 | 27 | 44 | 114 | 427 |
| Construction RE loans | 52 | 1 | 6 | 7 | 38 | 112 |
| Farmland loans | 15 | 0 | 7 | 1 | 7 | 29 |
| RE loans from foreign offices | 70 | 0 | 0 | 0 | 70 | 71 |
| Commercial and industrial loans | 2,277 | 19 | 96 | 251 | 1,910 | 3,516 |
| Loans to individuals | 17,123 | 18 | 176 | 322 | 16,607 | 20,701 |
| Credit cards | 11,855 | 1 | 97 | 128 | 11,628 | 14,256 |
| Installment loans and other plans | 5,268 | 17 | 79 | 194 | 4,978 | 6,446 |
| All other loans and leases | 972 | 3 | 43 | 47 | 880 | 1,322 |
| Recoveries credited to loan and lease reserve | 5,481 | 19 | 108 | 207 | 5,148 | 7,180 |
| Loans secured by real estate | 365 | 3 | 18 | 24 | 320 | 547 |
| 1- to 4-family residential mortgages | 158 | 1 | 7 | 11 | 138 | 221 |
| Home equity loans | 62 | 0 | 0 | 3 | 59 | 82 |
| Multifamily residential mortgages | 3 | 0 | 0 | 0 | 2 | 6 |
| Commercial RE loans | 79 | 1 | 8 | 9 | 62 | 147 |
| Construction RE loans | 32 | 0 | 2 | 1 | 28 | 48 |
| Farmland loans | 4 | 1 | 1 | 0 | 2 | 12 |
| RE loans from foreign offices | 29 | 0 | 0 | 0 | 29 | 32 |
| Commercial and industrial loans | 1,554 | 6 | 31 | 59 | 1,458 | 1,963 |
| Loans to individuals | 3,098 | 8 | 45 | 106 | 2,940 | 4,091 |
| Credit cards | 2,100 | 1 | 14 | 52 | 2,034 | 2,643 |
| Installment loans and other plans | 998 | 7 | 31 | 54 | 906 | 1,448 |
| All other loans and leases | 464 | 2 | 13 | 18 | 430 | 579 |

Number of national banks by state and asset size
September 30, 2005

|  |  |  | Nation | banks |  | Memoranda: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All national banks | $\begin{aligned} & \text { Less than } \\ & \$ 100 \\ & \text { million } \\ & \hline \end{aligned}$ | \$100 million to \$1 billion | ```$1 billion to $10 billion``` | Greater than \$10 billion | All commercial banks |
| All institutions | 1,846 | 711 | 961 | 127 | 47 | 7,541 |
| Alabama | 23 | 12 | 10 | 0 | 1 | 149 |
| Alaska | 2 | 1 | 0 | 1 | 0 | 5 |
| Arizona | 15 | 3 | 7 | 4 | 1 | 48 |
| Arkansas | 39 | 9 | 28 | 2 | 0 | 156 |
| California | 71 | 15 | 41 | 13 | 2 | 267 |
| Colorado | 43 | 17 | 23 | 3 | 0 | 164 |
| Connecticut | 10 | 1 | 7 | 1 | 1 | 24 |
| Delaware | 8 | 0 | 3 | 2 | 3 | 27 |
| District of Columbia | 4 | 1 | 3 | 0 | 0 | 6 |
| Florida | 61 | 5 | 50 | 6 | 0 | 259 |
| Georgia | 51 | 10 | 40 | 1 | 0 | 329 |
| Hawaii | 1 | 0 | 1 | 0 | 0 | 5 |
| Idaho | 1 | 0 | 1 | 0 | 0 | 14 |
| Illinois | 146 | 58 | 81 | 4 | 3 | 615 |
| Indiana | 31 | 6 | 17 | 7 | 1 | 134 |
| lowa | 44 | 18 | 25 | 1 | 0 | 392 |
| Kansas | 93 | 61 | 28 | 4 | 0 | 354 |
| Kentucky | 41 | 16 | 24 | 0 | 1 | 204 |
| Louisiana | 14 | 3 | 9 | 1 | 1 | 136 |
| Maine | 3 | 0 | 1 | 1 | 1 | 15 |
| Maryland | 10 | 1 | 8 | 1 | 0 | 65 |
| Massachusetts | 11 | 2 | 8 | 1 | 0 | 37 |
| Michigan | 22 | 8 | 13 | 0 | 1 | 156 |
| Minnesota | 105 | 59 | 43 | 2 | 1 | 447 |
| Mississippi | 19 | 5 | 12 | 2 | 0 | 93 |
| Missouri | 44 | 20 | 20 | 3 | 1 | 341 |
| Montana | 14 | 11 | 3 | 0 | 0 | 79 |
| Nebraska | 66 | 43 | 21 | 2 | 0 | 250 |
| Nevada | 7 | 1 | 1 | 4 | 1 | 36 |
| New Hampshire | 4 | 1 | 1 | 1 | 1 | 13 |
| New Jersey | 20 | 0 | 13 | 5 | 2 | 72 |
| New Mexico | 14 | 4 | 7 | 3 | 0 | 48 |
| New York | 56 | 12 | 33 | 9 | 2 | 134 |
| North Carolina | 4 | 0 | 2 | 0 | 2 | 74 |
| North Dakota | 13 | 6 | 5 | 2 | 0 | 96 |
| Ohio | 78 | 30 | 36 | 5 | 7 | 177 |
| Oklahoma | 81 | 40 | 39 | 1 | 1 | 268 |
| Oregon | 3 | 1 | 1 | 1 | 0 | 38 |
| Pennsylvania | 70 | 15 | 43 | 8 | 4 | 159 |
| Rhode Island | 3 | 2 | 0 | 0 | 1 | 7 |
| South Carolina | 23 | 5 | 16 | 2 | 0 | 74 |
| South Dakota | 17 | 6 | 8 | 1 | 2 | 87 |
| Tennessee | 27 | 6 | 18 | 2 | 1 | 184 |
| Texas | 305 | 156 | 130 | 18 | 1 | 633 |
| Utah | 6 | 2 | 2 | 0 | 2 | 63 |
| Vermont | 8 | 2 | 6 | 0 | 0 | 14 |
| Virginia | 38 | 7 | 29 | 1 | 1 | 124 |
| Washington | 11 | 7 | 4 | 0 | 0 | 81 |
| West Virginia | 15 | 8 | 6 | 1 | 0 | 66 |
| Wisconsin | 38 | 11 | 25 | 1 | 1 | 266 |
| Wyoming | 13 | 4 | 9 | 0 | 0 | 40 |
| U.S. territories | 0 | 0 | 0 | 0 | 0 | 16 |

Total assets of national banks by state and asset size $\square$
September 30, $2005 \square$
(Dollar figures in millions)

|  | All national banks | National banks |  |  |  | Memoranda: <br> All <br> commercial <br> banks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Less than } \\ & \$ 100 \\ & \text { million } \\ & \hline \end{aligned}$ | $\begin{gathered} \$ 100 \\ \text { million to } \\ \$ 1 \text { billion } \\ \hline \end{gathered}$ | $\begin{gathered} \text { \$1 billion } \\ \text { to } \$ 10 \\ \text { billion } \\ \hline \end{gathered}$ | Greater than \$10 billion |  |
| All institutions | \$5,946,140 | \$39,795 | \$269,469 | \$354,377 | \$5,282,499 | \$8,903,605 |
| Alabama | 24,343 | 901 | 2,352 | 0 | 21,090 | 214,032 |
| Alaska | 2,295 | 64 | 0 | 2,231 | 0 | 3,691 |
| Arizona | 71,382 | 138 | 3,008 | 8,490 | 59,745 | 76,414 |
| Arkansas | 10,645 | 496 | 7,641 | 2,507 | 0 | 41,642 |
| California | 113,772 | 923 | 10,403 | 37,622 | 64,825 | 304,849 |
| Colorado | 11,892 | 818 | 6,215 | 4,860 | 0 | 40,320 |
| Connecticut | 23,822 | 99 | 2,576 | 3,539 | 17,607 | 25,563 |
| Delaware | 287,068 | 0 | 766 | 8,135 | 278,168 | 334,927 |
| District of Columbia | 691 | 92 | 599 | 0 | 0 | 836 |
| Florida | 32,887 | 372 | 13,397 | 19,118 | 0 | 93,209 |
| Georgia | 15,788 | 439 | 9,117 | 6,233 | 0 | 257,806 |
| Hawaii | 436 | 0 | 436 | 0 | 0 | 27,520 |
| Idaho | 320 | 0 | 320 | 0 | 0 | 4,950 |
| Illinois | 177,230 | 3,286 | 22,287 | 19,656 | 132,001 | 327,848 |
| Indiana | 54,396 | 364 | 6,914 | 18,608 | 28,510 | 87,231 |
| lowa | 9,849 | 1,096 | 6,965 | 1,788 | 0 | 47,262 |
| Kansas | 18,687 | 3,325 | 9,010 | 6,352 | 0 | 46,542 |
| Kentucky | 17,821 | 1,083 | 5,077 | 0 | 11,660 | 51,336 |
| Louisiana | 35,194 | 145 | 2,489 | 9,419 | 23,141 | 58,844 |
| Maine | 33,857 | 0 | 963 | 1,143 | 31,750 | 37,580 |
| Maryland | 3,102 | 29 | 1,751 | 1,322 | 0 | 40,809 |
| Massachusetts | 10,271 | 115 | 1,981 | 8,176 | 0 | 164,611 |
| Michigan | 44,529 | 415 | 3,145 | 0 | 40,969 | 193,842 |
| Minnesota | 28,468 | 3,053 | 9,324 | 3,238 | 12,852 | 60,990 |
| Mississippi | 12,805 | 304 | 3,241 | 9,260 | 0 | 44,556 |
| Missouri | 30,509 | 1,214 | 6,300 | 10,423 | 12,572 | 89,493 |
| Montana | 1,583 | 665 | 918 | 0 | 0 | 15,307 |
| Nebraska | 15,133 | 2,060 | 4,868 | 8,206 | 0 | 32,285 |
| Nevada | 27,108 | 53 | 106 | 10,608 | 16,340 | 56,121 |
| New Hampshire | 15,047 | 59 | 236 | 1,654 | 13,098 | 17,544 |
| New Jersey | 43,319 | 0 | 4,246 | 15,705 | 23,367 | 85,864 |
| New Mexico | 6,915 | 254 | 1,750 | 4,911 | 0 | 13,363 |
| New York | 754,031 | 851 | 11,425 | 21,580 | 720,175 | 1,062,384 |
| North Carolina | 1,536,984 | 0 | 1,692 | 0 | 1,535,292 | 1,678,425 |
| North Dakota | 7,459 | 305 | 1,846 | 5,308 | 0 | 15,610 |
| Ohio | 1,484,744 | 1,716 | 11,735 | 13,170 | 1,458,123 | 1,576,104 |
| Oklahoma | 26,951 | 2,221 | 9,463 | 2,031 | 13,235 | 50,798 |
| Oregon | 7,519 | 17 | 235 | 7,266 | 0 | 22,881 |
| Pennsylvania | 194,018 | 958 | 13,822 | 21,221 | 158,017 | 241,557 |
| Rhode Island | 12,958 | 70 | 0 | 0 | 12,888 | 29,562 |
| South Carolina | 9,689 | 319 | 4,270 | 5,100 | 0 | 40,337 |
| South Dakota | 435,831 | 217 | 3,222 | 6,945 | 425,447 | 447,363 |
| Tennessee | 46,173 | 506 | 6,267 | 2,636 | 36,764 | 76,847 |
| Texas | 91,084 | 8,393 | 32,604 | 39,752 | 10,334 | 165,334 |
| Utah | 33,498 | 103 | 402 | 0 | 32,993 | 154,323 |
| Vermont | 1,660 | 124 | 1,535 | 0 | 0 | 6,771 |
| Virginia | 82,810 | 387 | 9,420 | 1,976 | 71,027 | 166,356 |
| Washington | 1,975 | 398 | 1,577 | 0 | 0 | 37,260 |
| West Virginia | 4,512 | 517 | 1,471 | 2,524 | 0 | 19,916 |
| Wisconsin | 30,964 | 651 | 8,141 | 1,666 | 20,506 | 106,208 |
| Wyoming | 2,115 | 176 | 1,939 | 0 | 0 | 5,618 |
| U.S. territories | 0 | 0 | 0 | 0 | 0 | 102,766 |

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[^0]:    The Quarterly Journal is the journal of record for significant actions and policies of the OCC. It is published four times a year, based on data released in March, June, September, and December. The Quarterly Journal is first released on the Web at www.occ.treas.gov/qj/qj.htm, and then, by subscription, on the CD-ROM Quarterly Journal Library, a cumulative collection starting with volume 17. The Quarterly Journal includes the briefing on the condition and performance of commercial banks, statistical tables on the performance of FDICinsured banks and OCC data on bank corporate structure, policy statements, decisions on banking structure, appeals to the ombudsman, links to selected speeches and congressional testimony and interpretive letters, summaries of enforcement actions, and other information of interest in the administration of national banks. Please send your comments and suggestions to Rebecca Miller, senior writer-editor, by fax to (202) 874-5263 or by e-mail to quarterlyjournal@occ.treas.gov. Subscriptions to the Quarterly Journal Library CD-ROM are available for $\$ 50$ a year by writing to Publications-QJ, OCC, Attn: Accounts Receivable, MS 4-8, 250 E St., SW, Washington, DC 20219.

[^1]:    * The views expressed in this paper are those of the authors and do not necessarily reflect those of the Office of the Comptroller of the Currency or the Department of the Treasury. A previous version of this article appeared as Policy Analysis Paper \#6, Office of the Comptroller of the Currency (October 2005). The authors wish to thank David Nebhut, Mark Levonian, and William Lang for helpful comments, and Rebecca Miller for editorial assistance.

[^2]:    ${ }^{1}$ Analysts and practitioners divide payments into "wholesale" and "retail" payments. Wholesale payments consist of large-value electronic funds transfers such as wire transfers (Fedwire and CHIPS) used for time-critical payments, and interbank settlement. Retail payments include the majority of domestic payments made by consumers, businesses, and governments. The major components of retail payments in the United States include cash, checks, credit cards, debit cards, and ACH transactions. Unlike the other forms of retail payments, reliable records for the number and value of cash payments are not compiled, and hence exact data on cash usage is impossible to obtain. In this paper the term "payments" covers noncash retail payments only.

[^3]:    ${ }^{2}$ Check and ACH payments are also processed by private clearinghouses and "on us" (i.e., within a bank which is the same for the payor and the payee). In 2003, the latest year for which comprehensive data is available, the Federal Reserve processed 44 percent of all checks and 66 percent of all ACH transactions. See the Committee on Payment and Settlement Systems (2005, Table 7, p. 159). In order that private sector payment processors not be faced with an "unfair" competitive disadvantage compared to the Federal Reserve, the Monetary Control Act of 1980 requires the Federal Reserve to price its payments processing services such that it is able to cover the costs of providing these services.

    There is some debate in the payments industry over Federal Reserve System ACH pricing policy. For example, in a December 2002 whitepaper, The Electronic Payments Network (EPN), the only remaining private sector ACH

[^4]:    ${ }^{4}$ Testimony of Louise L. Roseman, Director, Division of Reserve Bank Operations and Payment System on Recent developments in the payments system, before the Subcommittee on Financial Institutions and Consumer Credit, Committee on Financial Services, U.S. House of Representatives, (April 20, 2005).
    ${ }^{5}$ Schneider, Ivan, "JPMC Prepares for Check Conversion Growth," Bank Systems \& Technology (May 11, 2004).
    ${ }^{6}$ There is a difference in the per item savings between the hypothetical large and small companies because the NACHA estimates include some differences in account services and significant differences in the pricing structure for banking services for the two businesses.
    ${ }^{7}$ Kuykendall, Lavonne, "Chase Offers Payments Consulting to Billers," American Banker, June 3, 2005.
    ${ }^{8}$ Such an ACH transaction is called an "accounts receivable conversion" or "ARC" transaction. See Box 1 for a detailed description of ARC transactions.

[^5]:    ${ }^{9}$ Nelson, Bill, "Inside the Numbers-How Costs/Benefits Impact the Growth of ACH Payments, " Electronic Payments Journal, Volume 3, Issue 7 (November/December 2004) estimates that the credit card industry accounted for 78 percent of the 2.24 billion commercial ARC and WEB originations. ARC and WEB are ACH transactions used as substitutes for check payments; they are described in detail in Box 1.
    ${ }^{10}$ Converting checks to ACH has a greater impact on the processing of returned deposited checks than on the forward collection of checks. This is because, for example, the largest banks (the banks most likely to be handling lockbox processing for a credit card issuer) receive funds on the majority of checks deposited ( 90 percent of local checks and 63 percent of non-local checks) within one business day. However, the average time for the return of deposited checks is often longer than the return time for ACH items. See the ABA Deposit Account Survey Report (2004) for information on average check processing and return cycle times.
    ${ }^{11}$ 91st Annual Report, Board of Governors of the Federal Reserve System (2004), pp. 125-126.
    ${ }^{12}$ Jackson, Ben, "Treasury to Tout Direct Deposit of Social Security," American Banker, August 2, 2005.
    ${ }^{13}$ Hayashi, Fumiko, and Elizabeth Klee, "Technology Adoption and Consumer Payments: Evidence from Survey Data," Review of Network Economics, Vol. 2, Issue 2 (June 2003).

[^6]:    ${ }^{14}$ On the first point see "Big Broadband Buy-In Feeds On-Line Banking," Bank Technology News, Vol.18, No.7, page 17, (July 2005), and McGrath, James C., "Will Online Bill Payment Spell the Demise of Paper Checks?" Payment Cards Center Discussion Paper, Federal Reserve Bank of Philadelphia (July 2005). McGrath also comments on the second point.
    ${ }^{15}$ Online Banking Report, Number 114 (January 17, 2005).
    ${ }^{16}$ Ibid.
    ${ }^{17}$ Press release (August 16, 2005) "Bank of America wins awards for best consumer Internet bank and best information security initiatives," and Press release (April 21, 2004) "Growth propels Bank of America to 10 million subscriber milestone."
    ${ }^{18}$ It is important to distinguish e-checks from "check electronification." Check electronification refers to a process to speed up check processing, most commonly by "check truncation," which essentially means to stop, or hold, the paper, and subsequently process electronically the information contained on the check.
    ${ }^{19}$ If there is a change in the bank's routing number, or in the consumer's account number, the bank will send a "notification of change" ACH entry.

[^7]:    ${ }^{20}$ The figures used here are for network volume and exclude on-us items. Including on-us items, 2004 ARC volume was 1.3 billion. A few originators could account for a large portion of ARC transactions, which may help to explain ARC's rapid growth. For example, if a single credit card issuer such as Citibank adopted ARC and converted around 60 percent of all monthly payments received for active accounts, this one "adopter" of ARC could generate over one third of all ARC transactions originated in 2004. Citibank has more active accounts than other card issuers, but a handful of large credit card issuers could account for most of the ARC transactions. Credit card issuers account for around 78 percent of ARC and WEB transactions.
    ${ }^{21}$ These figures exclude on-us transactions.
    ${ }^{22}$ Some payments research firms expect ARC to top out at about 3.5 or 4 billion transactions around 2007 or 2008, and decline substantially thereafter. Others expect ARC to level off and decline slowly as fewer paper checks are used to pay bills. See American Banker (July 1, 2005), and Hoffman, Karen Epper, "Payment's Mass Conversion," Banking Strategies, Volume LXXXI, Number II, (March/April 2005).

[^8]:    ${ }^{23} \mathrm{~A}$ "return" item is returned to the originating bank because the originating bank warrants that all transactions it originates into the network are authorized. If a debit is returned as "unauthorized" this means that a consumer has notified his bank (the payor's bank) that the transaction was not authorized. Another reason for return items is error (i.e., incorrect information). Two primary sources of incorrect information are 1) the consumer gives inaccurate information during the enrollment process, or 2 ) the information related to the consumer or the consumer's account at the payor's bank changes, such as when a once-valid routing number changes after a bank merger, or a once-valid account number changes because a consumer closes an account but opens another account at the same bank.
    ${ }^{24}$ The four e-check transactions (ARC, POP, TEL, and WEB-described in Box 1) are consumer applications (i.e., they are meant to be used to originate debit entries to a consumer's account).

[^9]:    ${ }^{25}$ NACHA data for 2004 show that the unauthorized return rate for POP was 0.05 percent, slightly lower than the 0.07 percent rate for PPD.
    ${ }^{26}$ Note that the allocation of liability among the parties to a transaction is different between checks and ACH payments, because different laws and regulations cover these two forms of payment. This in turn may change the degree of risk assumed by the payee and/or the payee's bank in an ACH transaction compared to a check transaction.
    ${ }^{27}$ The NACHA Rules impose heightened security requirements for WEB transactions and direct originating banks to establish procedures to monitor the creditworthiness of originators of WEB transactions on an on-going basis, thus requiring banks to investigate merchants and to have an understanding of their business and financial condition.

[^10]:    ${ }^{28}$ It is of course important to keep in mind that per item costs for processing credit and debit card transactions are considerably higher than for ACH transactions in part because of these differences. Credit card networks provide services that are valued by merchants, including card authorization, verification, and payment guarantees. Among other things, these services reduce the risk of fraud and facilitate risk management. For an analysis and empirical evaluation of the benefits to merchants provided by credit and debit card networks, and the related network investments, see GuerinCalvert, Margaret, and Janusz A. Ordover, "Merchant Benefits and Public Policy Towards Interchange: An Economic Assessment," presented at Federal Reserve Bank of New York conference on Antitrust Activity in Card-Based Payment Systems: Causes and Consequences (September 2005).
    ${ }^{29}$ Although no ACH network-wide solutions currently exist, payments industry participants are aware of these problems and some partial solutions exist. For example, using the data in debit bureau files, providers of databases used for opening bank accounts and for check verification and guarantee services can help validate some ACH transactions. Merchants are most likely to use this type of service when converting checks to ACH payments at the point of sale (i.e., POP). Section V further discusses industry responses.
    ${ }^{30}$ "Network Return Entry Fees Questions and Answers," Electronic Payments Journal, Volume 3, Issue 7 (November/ December 2004). As the article points out, this cost does not include potential indirect costs such as closed accounts and reputation damage.
    ${ }^{31}$ Note that NACHA Rules require the payor's bank to accept all ACH entries it receives.

[^11]:    ${ }^{32}$ In an effort to address problems with the current price structure, NACHA and its board of directors proposed a network return entry fee ("NREF") to provide an incentive to originating banks to prevent unauthorized payments from entering the ACH network, and to compensate the payor's bank for the costs associated with processing ACH items returned as unauthorized. The NREF would shift the financial responsibility from the payor's bank to the payee's bank (i.e., the originating bank). Though a majority of NACHA members voted for the May 2005 ballot initiative, the proposed change did not achieve the necessary two-thirds vote to become effective. On September 29, 2005, NACHA's voting membership approved an amendment to the section of the rules related to telephone-initiated (TEL) entries that may make it easier for a payor bank to recover damages from an originating bank for breach of warranty. The new subsection specifically addresses an originating bank's liability for breach of warranty, and includes an indemnification from costs and losses that are a direct or indirect result of the originating bank's failure to comply with the rules.
    ${ }^{33}$ While this type of central authority can facilitate risk management, it does not eliminate risk. Recent security breaches at several major merchants (e.g., B.J.'s Wholesale Club, DSW Shoe Warehouse, etc.) and the processor CardSystems have led some industry observers to question how many processors and merchants are not complying with the payment card industry's data security protocol.
    ${ }^{34}$ Generally, before a merchant account is shut down, penalties are imposed and, depending on the severity of the chargeback levels, a correction plan may be agreed to between the merchant, the acquiring bank, and the card association. Card networks, like the ACH system, are faced with an increase in the number and types of merchants participating in their networks. Representatives from Visa and MasterCard met in September of 2005 to discuss requiring more rigorous security audits to address these changes.

[^12]:    ${ }^{35}$ See for example News from FedACH, Vol. 1, No. 1, Retail Payments Office, Federal Reserve Bank of Atlanta (Q4 2003), and Vol. 1, No. 5 (Q4 2004).
    ${ }^{36}$ We use the term "third-party processor" for a subset of third-party service providers referred to in the NACHA Rules as "third-party senders." The fraud risk issues raised in this paper are related to this subset of third-party processors. Other third parties perform tasks outsourced to them by originating or receiving banks and/or have direct access to an ACH operator. Risk issues related to such third-party service providers are beyond the scope of this paper.
    ${ }^{37}$ For ACH debits, an originator is the payee, i.e., the entity to whom funds are paid.
    ${ }^{38}$ Fox, Jeannette, "NACHA on mitigating risk in the ACH network," Fedfocus: News from the Federal Reserve Banks, Volume 3, Issue 2, Federal Reserve Financial Services (April 2005); and News from FedACH, Vol. 1, No. 1, Retail Payments Office, Federal Reserve Bank of Atlanta (Q4 2003).

[^13]:    ${ }^{39}$ For example, in addition to bank sponsorship, third parties must also be registered with Visa. Although registration is required, John Shaughnessy, Visa USA's senior vice president, Fraud Prevention, recently noted that they are "seeing a lot of unregistered agents in the system." Forward Financial Bank Card Conference, Memphis, Tennessee (September 2005).
    ${ }^{40}$ See in particular the interview with Richard Oliver, senior vice president, Retail Payments Office of the Federal Reserve Bank of Atlanta, in News from Fed ACH, Vol. 1, No. 5, Retail Payments Office, Federal Reserve Bank of Atlanta (December 2004).

[^14]:    ${ }^{41}$ As mentioned in the previous section, the current lower return rates for WEB are also likely due to how the majority of WEB transactions are being used-for bill payment transactions between a consumer and an originator who are known to each other. A three-day random sampling of WEB transactions revealed that 80 percent of these transactions are being used for bill payments, 19 percent for funds transfers, and only 1 percent for spontaneous purchases. Presentation given by Jane Larimer of NACHA at the FFIEC Payments System Risk Conference, May 10-13, 2005.
    42 "Bank debit" is comprised of demand drafts-paper checks that are produced without a payor signature but which are presumed to have been authorized by the payor-as well as ACH. Information on the use of debits is from the National Consumers League's National Fraud Information Center report, Telemarketing Scams: January-December 2004.
    ${ }^{43}$ Wade, Will, "Fed, EPN Develop Tools to Detect, Report ACH Fraud," American Banker, April 15, 2005.

[^15]:    ${ }^{44}$ See FTC Press Release, February 11, 2004, "FTC Sues Electronic Payment Processor for Facilitating Fraudulent Telemarketing Schemes." In this case the FTC took action against a third-party processor that aided telemarketers engaged in illegal practices. Under the TSR, a company can be held liable not only if its own activities are in violation of the TSR, but also if it provides substantial assistance or facilitates a violation of the rule.
    ${ }^{45}$ The TSR defines an advance-fee loan as an abusive telemarketing practice "requesting or receiving payment of any fee or consideration in advance of obtaining a loan or other extension of credit when the seller or telemarketer has guaranteed or represented a high likelihood of success in obtaining or arranging a loan or other extension of credit." See 16 CFR 310.3(a)(4).
    ${ }^{46}$ Telemarketing also includes calls generated from advertisements or other solicitations to purchase products or services (i.e., in-bound calls).
    ${ }^{47}$ Section 5 of the Federal Trade Commission Act (FTC Act), 15 USC 45(a)(1), prohibits "unfair or deceptive acts or practices in or affecting commerce," a model followed by most states. For additional information, see OCC Advisory Letter 2002-3.
    ${ }^{48}$ See, for example, Iowa Attorney General press release (February 15, 2005), "Electracash, Inc. Agrees to Stop Processing Withdrawals for Telemarketing Scams."
    ${ }^{49}$ The Iowa Attorney General worked with the offices of the Minnesota and South Dakota attorneys general. These attorneys general initially contacted the bank in 2002 in the course of investigating the complaints of telemarketing fraud victims. See Iowa Attorney General press release (July 6, 2005), "First Premier Bank Agrees to Deny Automatic Withdrawal Services to Telemarketing Scams."

[^16]:    ${ }^{50}$ Most of the telemarketers involved in the advance-fee credit card scams in the Iowa case processed payments through $\square$ an intermediary third party, and many of the fraudulent telemarketers used the same third-party processor. $\square$
    ${ }^{51}$ See press release, Office of the Vermont Attorney General (April 5, 2005), "Telemarketing Bill Signed into Law." $\square$
    ${ }^{52}$ FFIEC IT Handbook, "Retail Payment Systems," March 2004. $\square$
    ${ }^{53}$ Office of the Comptroller of the Currency, "Automated Clearing House: NACHA Rule Changes," OCC Bulletin $\square$ 2004-58, December 20, $2004 . \square$

[^17]:    54 "Merchant Processing," booklet, Comptroller's Handbook (December 2001).

[^18]:    * The views expressed in this paper are those of the author, and do not necessarily reflect those of the Office of the Comptroller of the Currency or the Department of the Treasury. The author wishes to thank David Nebhut for helpful comments and Rebecca Miller for editorial assistance.

[^19]:    ${ }^{1}$ The 15 -year principal and interest payment would be $\$ 3,009$. In order to focus on the difference between the minimum payment option and the standard 30 -year amortizing payment, the 15 -year amortizing payment is not discussed in the rest of this paper.

[^20]:    ${ }^{2}$ The interest due rises to $[0.06 \times(\$ 400,000 / 12)]$ which equals $\$ 2,000$, compared to the minimum payment, which remains at $\$ 1,287$.
    ${ }^{3}$ Lenders usually consider both the front-end DTI ratio-monthly housing expenses relative to pre-tax income-and back-end ratio, which adds other monthly consumer debt payments (such as on auto or home equity loans) to the numerator. For simplicity, this paper only considers the front-end ratio and does not include taxes and insurance.

[^21]:    ${ }^{4}$ The correlation coefficient between median the one-year Treasury rate and income growth series shown in Figures 2 and 3 over the last 23 years is 0.67 .

[^22]:    Notes: See Table 1 for the initial conditions associated with this loan. In the lower panel, the highlighted cells show the new assumptions about the key drivers introduced in Scenario 2.

[^23]:    Notes: See Table 1 for the initial conditions associated with this loan. See Table 4 for the assumed changes in interest rates, income, and home prices.

