Measuring Credit Card Industry Chargeoffs: A Review of Sources and Methods

Mark Furletti*

September 2003

Abstract: *The percentage of credit card loans that are charged off by card issuers during a particular month or quarter is an important metric. It provides insights into the financial health of the credit card industry and the U.S. consumer. After offering a brief overview of credit card chargeoff reporting, this paper describes five different chargeoff statistics in detail. Sampling techniques, frequency, availability, and calculation methods for each statistic are discussed and compared. One of the paper's key findings is that the various on-balance-sheet and off-balance-sheet chargeoff measures, after moving in the same general direction for almost a decade, have recently diverged and become less correlated.*

* Payment Cards Center, The Federal Reserve Bank of Philadelphia, Ten Independence Mall, Philadelphia, PA 19106. Email: mark.furletti@phil.frb.org. Thanks to Kevin Brown at the FDIC, Richard Drason at Fitch, Kelly Luo at S&P, John Smullen and Tom Allard at the Board of Governors, and my colleagues at the Philadelphia Fed. The views expressed here are not necessarily those of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

FEDERAL RESERVE BANK OF PHILADELPHIA

Ten Independence Mall, Philadelphia, PA 19106-1574 • (215) 574-7220 • www.phil.frb.org

Introduction

Those with an interest in the credit card industry, including regulators, equity analysts, and investors, would likely agree that one of the most important publicly available measures of industry health is the percentage of receivables that card issuers "charge off." Charged-offs loans are considered uncollectible and removed from issuers portfolios usually because of cardholder bankruptcy, death, or prolonged delinquency.[1]

Chargeoffs are a significant drain on industry profitability and are closely watched by investors and regulators. Last year, bankcard issuers charged off $35B, or approximately 6.5 percent of their average outstandings.[2] The number of different entities that regularly produce a credit card industry chargeoff statistic — at least eight — reflects the importance of this metric to those who study this sector.[3] Debt rating agencies, government regulators, brokerage firms, web sites, and trade publications have all come up with their own ways of measuring credit card chargeoffs at the industry and individual issuer level.

Since consumers who are experiencing financial difficulty typically choose to pay their secured creditors ahead of their unsecured creditors, rising credit card chargeoffs are often the first sign of consumer credit trouble. Davis Wyss, chief economist at S&P, refers to the card industry's chargeoffs as "the canary in the consumer credit mineshaft."[4] Rising credit card industry chargeoffs can signal that credit problems may be looming. When organizations release their chargeoff measures, conclusions about the profitability of the credit card industry, the condition of the nation's economy, and the financial health of the U.S. consumer are formed. For example, in May 2003, one card industry trade publication reported the following: "An all-time

[1] Fraudulent charges are also written off as uncollectible, but issuers typically report fraud-related chargeoffs apart from credit-related chargeoffs. They are typically reported on issuers' income statements as part of the "other expenses" line item.
[2] *Credit Card Management* indicated that in 2002 the industry incurred $35 billion in chargeoff expense, $19 billion in funding expense, and about $25 billion in operational and marketing expenses. "Bank Card Profitability," *Credit Card Management*, April 25, 2003, p. 35.
[3] The following organizations publish industry chargeoff statistics: the Federal Reserve Board, the Federal Deposit Insurance Corporation, the Federal Financial Institutions Examination Council, Fitch Ratings, Barclays Capital Research, Standard & Poor's, Thompson Financial, and CardWeb.com.
[4] Interview, David Wyss, August 14, 2003.

high for credit card chargeoffs could indicate that the U.S. economy has not yet bottomed out, and may worsen before it rebounds."[5] In April 2003, another trade publication reported, "[d]espite assurances from card companies that they can keep losses under control during an unsteady credit cycle, analysts are clearly worried about portfolio deterioration, which they call the inevitable product of a souring economy."[6]

Given the importance of chargeoffs to issuer profitability and the impact they can have on the industry's health, it is critical to understand how different chargeoff metrics are derived. This paper examines a variety of different chargeoff indicators, including those made available by the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the Federal Financial Institutions Examination Council, Standard and Poor's, and Fitch Ratings. While other organizations track card industry chargeoffs, this paper focuses on metrics published by these five because of their availability or frequent citation.

After offering a brief overview of credit card chargeoff reporting, this paper describes how these organizations use different methods of calculating industry chargeoffs. Sampling techniques, frequency, availability, and calculation methods for each statistic are discussed. The paper concludes by comparing these statistics, analyzing how closely they track each other, and briefly reviewing how they are used by economists, researchers, and equity analysts. Finally, questions for additional research are raised.

Overall, the paper highlights two key findings. The first involves the industry's increasing reliance on off-balance-sheet financing. Since each measure captures either on- or off-balance-sheet chargeoffs (and not both), there is no longer a single measure that provides a truly industry-wide view. Second, while the different on- and off-balance-sheet measures have generally moved together over the past decade, the series have recently diverged and become less correlated.

---

[5] "Credit Scope – Credit Card Chargeoffs Hit Record High," *Collections and Credit Risk*, May 23, 2003, p. 10.

[6] W. A. Lee, "Wall Street's Concerns About Card Losses Growing," *American Banker*, April 4, 2003, p. 7.

Overview of Credit Card Chargeoff Reporting

Credit card chargeoffs are loans that are written off by card issuers as no longer collectible because they are in default. Cardholders generally default on their loans either by filing for bankruptcy or by missing a series of payments. Chargeoffs that occur as a result of missed payments are often referred to as "contractual chargeoffs." Based on a recent review of chargeoff statistics of top prime issuers, it is estimated that roughly 60 percent of chargeoffs are contractual and 40 percent are attributable to bankruptcy.[7]

Historically, regulators have limited the number of billing cycles that a non-paying account can remain on an issuer's books before being charged off. Guidance issued by regulators prior to 1999, however, was interpreted and applied inconsistently. Some issuers wrote off contractual chargeoffs after just five billing cycles (i.e., 120 days delinquent), while other issuers waited seven billing cycles (i.e., 210 days). In February 1999, federal regulators revised and clarified chargeoff guidelines as they related to credit card loans. Under these new guidelines, contractual chargeoffs must occur when balances become six billing cycles past due (i.e., 180 days delinquent), and bankrupt accounts must be charged off 60 days after receipt of notification of the filing from the bankruptcy court.[8]

Most of the entities described in this paper report "net chargeoffs." This means that the reported chargeoff rate in any given month is "net" of recoveries. Recoveries represent debts that card issuers are able to collect after an account has been charged off. Recoveries can be generated by selling charged-off debts to collection agencies (typically for a few pennies on the dollar) or by securing post-chargeoff payments from debtors. Because a recovery can be realized months after a debt obligation has been charged off, the recovery in any given period may or may not

[7] This was based on a study of credit card trust delinquency and chargeoff data from January 2001 to March 2003. The data came from ABSNet, a provider of credit card asset-backed securities performance data. A 50 percent 150-day roll rate (i.e., half of loans that are 150 days past due charge off) and an 80 percent purification rate (i.e., 20 percent of the balances were interest and fees that are not charged off but reversed against their respective revenue line items) were assumed.

[8] For a detailed description of the new chargeoff policies, please see the February 10, 1999, FFIEC press release entitled "Federal Financial Institution Regulators Issue Revised Policy for Classifying Retail Credits." The release can be found on the FFIEC's web site at: www.ffiec.gov/press.htm.

correspond to the actual debt charged off during the period. For example, an issuer may receive a $1000 recovery in June for an account it charged off six months prior. In reporting net chargeoffs, the issuer would subtract the $1000 from June's gross chargeoffs.

Before an individual's credit card balance is written off, issuers typically reverse the uncollectible finance charges and fees that were posted to the account in the months just before it was charged off. This process, referred to as "purification," follows generally accepted accounting principles (GAAP).[9] For example, suppose a cardholder stops making payments on an account with a $1000 balance that is current in January. Six months later, with the accrual of late fees, overlimit fees, and finance charges, the account holder's balance will have climbed to $1300. Before chargeoff, the issuer subtracts the $300 in uncollected interest and fees from the balance and reverses these amounts against the appropriate revenue line items. After purification, the balance ultimately charged off will be $1000. Overall, purification has the effect of reducing the balances that issuers charge off.

Three of the five chargeoff indicators discussed in this paper are based on on-balance-sheet credit card loan data. Ten years ago, these indicators would have reflected the chargeoffs of approximately 85 percent of the credit card receivables in the U.S. Over the past decade, however, there has been a dramatic increase in the percentage of credit card loans that are securitized and held off issuers' balance sheets. These same on-balance-sheet statistics now only account for approximately 40 percent of the card market.[10] The increase in the off-balance-sheet financing of revolving debt is illustrated in Figure 1.

Off-balance-sheet financing requires that issuers sell a portion of their credit card receivables to an unconsolidated trust. The trust then issues securities to investors backed by those receivables. This process converts the credit card assets into tradable securities and is often

[9] The June 2003 Call Report Glossary, under the definition of "Nonaccrual Status," indirectly addresses purification as follows: "Banks shall not accrue interest…on any asset (1) which is maintained on a cash basis because of deterioration in the financial condition of the borrower, (2) for which payment in full of principal or interest is not expected, or (3) upon which principal or interest has been in default for a period of 90 days or more unless the asset is both well secured and in the process of collection."
[10] Federal Reserve Statistical Release G-19, April 2003.

referred to as "securitization."[11] The chargeoff indicators published by Fitch and Standard & Poor's, two leading debt rating agencies, exclusively use off-balance-sheet card loan data for their calculations.[12]

The following section details how the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the Federal Financial Institutions Examination Council, Fitch, and Standard & Poor's calculate industry-level chargeoff statistics.

Review of Methods

The Board of Governors of the Federal Reserve System

The Board of Governors of the Federal Reserve System (BOG) makes available a measure of credit card bank chargeoffs on its public web site. The site contains quarterly charegoff rates that date back to 1985.[13] The data that the BOG uses to calculate this measure are drawn from a series of reports known as Call Reports.[14] The Federal Financial Institutions Examination Council (FFIEC)[15] requires every national bank, state member bank, and FDIC-insured nonmember state bank to file a Call Report each quarter.[16] This report generally includes information from banks' income statements and balance sheets in a standardized format.

While almost 9000 banks typically file Call Reports, only a subset of these are included in the BOG's sample for the purposes of calculating the credit card chargeoff statistic. The BOG's

[11] For a detailed explanation of credit card securitization and the credit card asset-backed securities market, please see the following: Mark Furletti, "An Overview of Credit Card Asset-Backed Securities," Payment Cards Center Discussion Paper, December 2002. This paper can be found on the Payment Cards Center's web site at: www.phil.frb.org/pcc/discussion/.

[12] Moody's, another leading debt rating agency, does not currently make a credit card industry chargeoff statistic publicly available on its web site.

[13] This statistic can be found on the Board's web site at: www.federalreserve.gov/releases/chargeoff/.

[14] Call Reports, officially entitled "Consolidated Reports of Condition and Income," provide standardized balance-sheet and income statement data for almost 9000 U.S. banks.

[15] The FFIEC is an interagency body that sets standards for the federal examination of financial institutions by the Board of Governors of the Federal Reserve System (BOG), the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Administration (NCUA), the Office of the Comptroller of the Currency (OCC), and the Office of Thrift Supervision (OTS).

[16] National banks are regulated by the OCC. State member banks are regulated by and are members of the Federal Reserve System. State nonmember banks are regulated by state banking agencies and not members of the Federal Reserve System.

sample currently includes approximately 7900 commercial banks. These banks can be approximately divided into the following four categories: 4800 nonmember state banks, 2000 national banks, 1000 state member banks, and 70 nondepository trust companies. Of these 7900 banks, approximately 2200 reported having an on-balance-sheet portfolio of credit card loans in 4Q2002. These banks' on-balance-sheet card loans totaled approximately $225B. The majority of these loans, approximately $205B, were held by the 25 largest Call Report-filing banks (as measured by on-balance-sheet credit card loans). Figure 2 shows the distribution of credit card loans among these 25 banks. Figure 3 shows the distribution of banks and credit card assets in the BOG sample by bank type. Although national banks comprise just a quarter of the BOG's sample, they hold almost three-quarters of the sample's on-balance-sheet loans.

Before using the Call Report data to calculate chargeoff statistics, the BOG checks the data for errors. After the data have been validated, the Board manipulates the data in two important ways: it removes duplicative subsidiaries and amends the data reported by banks that merged during the quarter. Because the Call Report filings of some bank subsidiaries include assets already reported in other filings, the Board removes these subsidiaries from the Call Report data to avoid duplication.[17] For example, two of the many banks for which Citibank filed a Call Report in 4Q2002, Citibank NA and Citibank South Dakota NA, did not report mutually exclusive numbers. In that quarter, Citibank NA was a "parent bank" of Citibank South Dakota NA. For this reason, Citibank NA's Call Report included both its own credit card assets and those of the South Dakota subsidiary. If the Board did not exclude the South Dakota subsidiary from its calculations, it would have double counted approximately $40B of Citibank's credit card assets.[18] Figure 4 shows a list of all banks, including those that do not issue credit cards, that the Board dropped from the Call Report file in 3Q2002 to avoid duplication.

[17] The Board ensures that no assets are double counted by determining if the commercial bank parent entity for which an FDIC Certificate Number is provided in Memorandum Item 3 of Schedule RC-O also filed a Call Report during the same quarter.

[18] The only other top 25 issuer removed from the Call Report file in 3Q2002 to avoid double counting was Fleet NA Bank's subsidiary, Fleet Bank, RI, NA. Average credit card loans in 4Q2002 for Fleet Bank, RI were approximately $6B.

In addition to removing overlapping data, the Board adjusts the data for mergers. Banks may account for mergers by using either "purchase" or "pooling of interest" accounting.[19] If a bank uses purchase accounting, the acquiring and acquired banks' balance sheets are combined as of the acquisition date.[20] Activity prior to the acquisition, such as year-to-date net income, is not combined. For this reason, the Board must aggregate the acquired and acquiring banks' chargeoffs before proceeding. If this adjustment were not made, the year-to-date chargeoffs of the new entity would be understated. When banks merge by "pooling" their interests, the acquiring and acquired banks' balance sheets *and* income statements are combined. Since the income statement of the entity created by pooling interests includes year-to-date expense and income data, no adjustment of Call Report data is necessary. [21]

After removing subsidiaries with twice-reported assets and adjusting for mergers, the chargeoff formula is applied to the data. Generally, the calculation involves dividing the sum of the banks' total on-balance-sheet net chargeoffs for the quarter by the sum of the banks' average on-balance-sheet credit card loans for that quarter. To report chargeoff rates on an annualized basis, the resulting rate for the quarter is multiplied by four.

Specifically, the Board uses fields from Call Report schedule RI-B to calculate the numerator of its chargeoff equation and fields from Call Report schedules RC-K and RC-C to calculate the denominator. Schedule RI-B reports year-to-date values for credit card chargeoffs and recoveries.[22] These values include the results of both domestic and foreign card operations.

---

[19] Prior to 2002, merging entities had the option to use either purchase or pooling of interest accounting. The Financial Accounting Standards Board (FASB), however, recently changed the accounting rules for mergers, disallowing the use of pooling of interest accounting for business combinations. Pooling of interest mergers, however, are still allowed when companies under common control are combined or reorganized.

[20] The Board uses a different adjustment method when a purchase merger involves “push-down” accounting. It treats the merger as if the bank were “purchased” by itself on the acquisition date.

[21] For a more detailed description of adjusting Call Report data for pooling of interest and purchase mergers, please see the following: William B. English and William R. Nelson, "Profits and Balance Sheet Developments at U.S. Commercial Banks in 1997," *Federal Reserve Bulletin*, vol. 84, June 1998, p. 408.

[22] Prior to 2001, Call Reports captured information on loans made to individuals on “credit cards and related plans.” The numbers banks reported, therefore, may have included products such as installment loans, student loans, and check-accessed lines of credit. In 1Q2001, the Call Report was modified to separate the reporting of credit card loans from other types of revolving consumer loans.

Since the banks report chargeoff and recovery data on a year-to-date basis, the Board derives the quarterly values by subtracting out the preceding quarter's numbers in the second, third, and fourth quarters of the year. The current quarter's recoveries are then subtracted from the current quarter's gross chargeoffs. The result is multiplied by four to form the annualized numerator.

The denominator of the Board's equation is equal to the average on-balance-sheet credit card loans from schedule RC-K multiplied by a "consolidated bank factor." Multiplication by this factor is necessary because the loan value reported on RC-K includes only banks' domestic loans. The numerator, as mentioned above, includes both domestic *and* foreign net chargeoffs. To ensure that the net chargeoff and loan values are comparable, the Board multiplies the average from RC-K by the ratio of domestic and foreign credit card loans to domestic credit card loans (both from schedule RC-C). For banks that do not have foreign portfolios, the consolidated bank factor is equal to one. A bank with a foreign card portfolio would have a consolidated bank factor greater than one. The chargeoff rate is then calculated by dividing the annualized sum of net chargeoffs for the quarter by the foreign-adjusted average loan balances for the quarter. A list of the Call Report fields used to calculate the BOG rate can be found in Figure 5.

In addition to providing the net chargeoff rate for all banks that file Call Reports, the Board makes available two additional indices: one for the 100 largest banks in the sample and another for the remaining banks. These groupings are determined by rank ordering banks by total asset size as reported on the *previous* quarter’s Call Report (schedule RC).

Periodically, the Board determines if any banks have amended their historical Call Report filings. For any quarter in which there was a modification, the net chargeoff rate is recalculated and a revised rate is posted on the Board’s web site. These revisions usually affect only the rates reported during the previous eight to 12 quarters. According to analysts at the Board, revisions to the quarterly chargeoff figures are rare. The author noted two revisions in the past three years. In 4Q2001, the chargeoff rate was downwardly revised from 6.57 percent to 6.29 percent, and in 1Q2002, the rate was revised from 9.35 percent to 7.67 percent. Although it is not clear why the

chargeoff rate was significantly revised in 1Q2002, it has been suggested that the misreporting of the sale of a large subprime portfolio in that quarter contributed to the decrease.

The Federal Deposit Insurance Corporation

The Federal Deposit Insurance Corporation (FDIC) also makes available a quarterly industry chargeoff statistic. This statistic is derived from both Call Report and Thrift Financial Report (TFR) data and is available for every quarter from 1Q1984 to the present.[23] It is presented as part of the FDIC's *Quarterly Banking Profile* (QBP) *Graph Book* series. This series is published approximately 60 days after the end of each quarter and can be accessed through the FDIC's web site.[24]

The FDIC's sample includes all FDIC-insured institutions.[25] This means that it contains the approximately 7900 commercial banks in the Board's sample in addition to approximately 1500 savings institutions (i.e., savings associations and savings banks).[26] The FDIC gets credit card chargeoff data for approximately 400 of the savings banks it regulates from Call Reports. Data for the remaining 1100 savings institutions are collected from TFRs.[27] In 4Q2002, the 1500 savings institutions in the FDIC's sample held approximately $16B in on-balance-sheet credit card loans. The FDIC reported that its 7900 commercial banks held approximately $275B in on-balance-sheet card loans.[28] Virtually the same group of commercial banks, however, was reported to have just $225B in on-balance-sheet card loans by the BOG. Most of this discrepancy is driven by the double counting of two subsidiary banks' card portfolios — Citibank South Dakota, NA (approximately $41B) and Fleet Bank, RI, NA (approximately $6B). The FDIC acknowledges

[23] As with commercial banks and Call Reports, the FFIEC requires thrift institutions to file a TFR every quarter.
[24] The QBP can be found at: www2.fdic.gov/qbp/.
[25] The FDIC recently changed the composition of its historical chargeoff series. Prior to 4Q2002, the series included only FDIC-insured commercial banks. In 4Q2002, FDIC-insured savings banks were added to the sample.
[26] The FDIC's commercial bank sample does not include approximately 90 nondepository trust companies that are included in the Board's sample. These trust companies, however, did not influence the Board's chargeoff calculation in 4Q2002, as the companies did not report any on-balance-sheet credit card loans.
[27] State savings banks that file a Call Report are typically regulated by the FDIC. State savings banks that file a TFR are regulated by the Office of Thrift Supervision.
[28] This is reported in the Commercial Bank section of the QBP *Graph Book* series under "Expansion of Commercial Bank Credit Card Lines."

that it does not remove subsidiaries with twice-reported assets from its sample. In the "Notes to Users" section of the *Quarterly Banking Profile*, the FDIC explains, "No adjustments are made for any double-counting of subsidiary data."[29] In 4Q2002, this practice led to the double counting of approximately $47B in card assets and an overstatement of the industry's on-balance-sheet card loan portfolio ($288B with double-counted assets vs. $241B without).[30]

The FDIC adjusts its Call Report and TFR data for mergers when necessary. It ensures that the data it reports are up-to-date by recalculating every quarter in the series (dating back to 1984) when it publishes the newest quarter's data on its web site.

The methodology used by the FDIC to calculate credit card chargeoffs for the series is very similar to the BOG's method. To calculate the numerator, current-quarter recoveries are subtracted from current-quarter chargeoffs. On the Call Report, these data can be found on schedule RI-B; on the TFR, these data can be found on schedule VA. Instead of using loan averages from schedule RC-K as the Board does, the FDIC derives its own average credit card loan value for the denominator. It does this by averaging the previous and current quarter's end-of-quarter on-balance-sheet credit card loans as reported on schedule RC-C of the Call Report and schedule SC of the TFR.[31] Multiplying by four annualizes the resulting rate.[32]

The Federal Financial Institutions Examination Council

The Federal Financial Institutions Examination Council (FFIEC) makes available bank- and industry-level chargeoff series. These series are available on an annual basis beginning in 1997 and on a quarterly basis beginning in 4Q2000. The chargeoff data are reported in Uniform Bank Performance Reports (UBPRs) 60 days after the end of the quarter. UBPRs are derived

[29] Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, 1Q2003, p.17.
[30] While only two significant card portfolios were double counted in 4Q2002, more assets could be double counted in the future if additional banks adopt similar subsidiary/parent structures. According to the FDIC, this calculation method is specific to the *Quarterly Banking Profile* and may or may not be used to calculate statistics for other FDIC publications.
[31] By using the schedule RC-C credit card loan totals to calculate the denominator, the FDIC captures both foreign and domestic card loans. Multiplication by a consolidated bank factor, therefore, is not necessary.
[32] This description applies to the calculation used for the historical quarterly chargeoff series (1984 to the present) reported in the *Quarterly Banking Profile* (QBP) *Graph Book*. The FDIC often uses a year-to-date technique to calculate chargeoffs for other parts of the QBP.

exclusively from quarterly Call Report data and are recalculated every quarter to capture any revisions that a bank may have made to its previous filings. UBPRs can be accessed on the FFIEC's web site and generated for each bank that files a Call Report.[33]

In addition to bank-level UBPRs, the web site provides UBPRs at the "peer group" level. There are essentially three credit-card-bank-specific peer groups, which are labeled with numbers 201, 202, and 203. These three groups roll up into a larger peer group called credit card specialty banks. Figure 6 lists each bank included in each peer grouping in 4Q2002. Overall, the three groups contain approximately 33 banks. These 33 banks reported approximately $187B in on-balance-sheet credit card receivables in 4Q2002. The members of group 201 include some of the largest card issuers in the U.S. (e.g., Citibank, MBNA, Bank One) and hold over 90 percent of the credit card specialty bank peer group's on-balance sheet card loans. Peer groups 202 and 203 contain much smaller issuers, including some that have portfolios smaller than $10 million (e.g., Dillard National Bank, CrediCard National Bank).

Each quarter, the FFIEC assigns Call Report-filing banks to one of the three underlying credit card bank groupings if they meet two criteria. First, the sum of the bank's on- and off-balance-sheet credit card loans divided by its total managed loans must exceed 50 percent. Second, the sum of the bank's total loans and off-balance-sheet credit card loans divided by the sum of its total assets and off-balance-sheet credit card loans must exceed 50 percent. The banks that meet these criteria are then divided into three groups based on total asset size. Group 201 includes banks with total assets of more than $3B; group 202 includes banks with total assets between $1B and $3B; and group 203 includes banks with total assets less than $1B. Based on these criteria, the FFIEC selects new peer groups each quarter.[34]

The UBPR's peer group chargeoff rates are derived from bank-level chargeoff data. To understand the peer group rate, therefore, it is first necessary to understand how the UBPR

[33] For a general overview of the Uniform Bank Performance Report and its methodology, see the *UBPR User's Guide*. The guide is available on the FFIEC's web site at: www.ffiec.gov.
[34] Please note that Figure 6 includes the size of each bank's credit card portfolio. The three different groupings described here, however, are determined by total asset size.

calculates chargeoff rates at the individual bank level. All chargeoff rates published in the UBPR are calendar year cumulative. The numerator is calculated by subtracting year-to-date recoveries from year-to-date chargeoffs. The denominator is a two- to five-period average (i.e., two periods in the first quarter, three periods in the second quarter, four periods in the third quarter, and five periods in the fourth quarter) of on-balance-sheet card loans. The denominator is calculated by adding the following variables and dividing by the number of quarters included in the summation: the previous year's fourth-quarter average on-balance-sheet credit card loans on schedule RC-K; the current quarter's average on-balance-sheet credit card loans on schedule RC-K; and any intervening quarters' average on-balance-sheet credit card loans on schedule RC-K. The result is annualized by multiplying by four in the first quarter, two in the second quarter, one and one-third (1.33) in the third quarter, and one in the fourth quarter.

The UBPR's peer group chargeoff rate is a straight trimmed average of the individual bank rates. The rates for all of the banks in the peer group are added together, with the exception of the bank with the highest chargeoff rate and the bank with the lowest chargeoff rate.[35] This result is then divided by the number of banks included in the summation. Because a straight average is taken, the chargeoff rates of banks with large portfolios (e.g., MBNA) are given the same weight as banks with smaller portfolios (e.g., Merrick Bank) in the credit card specialty bank peer group calculation.

Depending on the peer group, the UBPR's methodology can result in an overstatement of chargeoffs at the individual bank and peer group levels. The denominator for the UBPR rate comes directly from schedule RC-K. As explained in the description of the BOG's method, this field is the average of *domestic* credit card loans for the quarter. The numerator, however, includes chargeoffs and recoveries from both the *domestic and foreign* portfolios. For most banks

[35] With the exception of the 201, 202, 203, and credit card specialty bank groupings, the FFIEC's peer groups often include hundreds or thousands of banks. When calculating averages for these larger groups, the group is trimmed by removing outliers. The outliers are banks with ratios in the top 5 percent and the bottom 5 percent of the sample. Since the four credit-card-related peer groups are relatively small (i.e., generally the groups include fewer than 15 banks), the banks with the highest and lowest values are removed only if their values are "significantly" different from the second highest and second lowest values.

that have only a domestic portfolio, using the RC-K average does not impact the calculation. However, for Capital One (peer group 201), MBNA (peer group 201), and GE Capital (peer group 203), using the RC-K average understates outstandings by approximately $2.6B, $4.9B, and $0.1B, respectively. This has the effect of inflating the chargeoff rates associated with peer groups 201 and 203 and the credit card specialty bank group.

The FFIEC adjusts bank data for mergers if the assets of the acquiring bank increase more than 25 percent. It does this by adding the acquired bank's assets to those of the acquiring bank. It does not, however, add the acquired bank's chargeoffs to those of the acquiring bank. For this reason, the chargeoffs of a newly merged entity may be underreported.

Standard and Poor's

In general, card issuers that securitize any portion of their credit card portfolio provide investors with monthly trust performance reports.[36] These reports typically include a wide range of trust performance statistics, including chargeoff, delinquency, and monthly payment rates. Standard and Poor's (S&P) receives these reports for every trust that contains a bond series rated by the agency. These performance reports are the foundation of the aggregated statistics published in S&P's *Credit Card Update*, a monthly newsletter for investors in credit card asset-backed securities. *Update* analyzes the excess spread, yield, delinquency, and chargeoffs of an index of credit card trusts. These trusts hold approximately $406B in off-balance-sheet credit card loans — approximately two-thirds of the total bankcard market's outstandings.[37]

For a trust to be included in the index, it must be rated by S&P and collateralized by general-purpose credit card loans.[38] In February 2003, there were approximately 37 trusts in S&P's index. Of these, approximately 11 were privately placed or not publicly disclosed. A list including 26 of the public trusts and their approximate sizes can be found in Figure 7. S&P

[36] Monthly trust performance reports are technically issued by the bank that services the loans in the trust. In most cases, the "servicer" is the same card issuer that underwrote the loans.
[37] Bonnie Lee Tillen, Patrick Coyne, and Kelly Luo, "Credit Card Update: Credit Card Charge-offs Increase Moderately in March 2003," *S&P Fixed Income Commentary & News*, May 2, 2003.
[38] S&P's index includes any trust composed of Visa, MasterCard, Discover, and Amex Optima credit cards. It does not include any private label cards (i.e., those that can be used only at specific merchants).

retains all of the trusts in the index until they are paid off or their servicer discontinues monthly reporting.

Trust performance reports, unlike Call Reports, are not uniform. Their contents vary from servicer to servicer and are determined by agreements with investors. Some issuers report a monthly chargeoff rate for the trust they service; others simply provide total charged-off dollars. Some issuers subtract recoveries from chargeoffs and supply only a net chargeoff value; others report chargeoffs and recoveries separately. Some issuers add recoveries to finance charges and fees and include them as part of the trust's revenues.[39] Given this lack of uniformity, S&P attempts to derive a gross chargeoff rate for each trust based on the data provided by the servicer. If a net chargeoff rate is provided and recoveries are not separately reported, S&P requests a gross rate from the servicer. If a servicer reports the monthly chargeoff amount instead of an annualized rate, the rate for the index is derived by dividing total monthly charged-off dollars by the average monthly trust balance and multiplying the result by 12. According to S&P, a gross chargeoff rate is supplied or derived for the vast majority of trusts in the index.

Finally, the chargeoff rate for the index is calculated by taking the weighted average of the rates derived for each of the individual trusts. For the purpose of weighting, the end-of-period trust balance is used.

S&P began tracking industry chargeoffs on a monthly basis in January 1991.[40] Its web site, www.standardandpoors.com, has a link to the most recent month's *Credit Card Update*. Early versions of *Update* and historical chargeoff data may be available upon request.

Fitch Ratings

Fitch, like S&P, publishes a monthly chargeoff index using the monthly performance reports of credit card securities that Fitch rates. The index is available on the Internet in a monthly publication entitled *Credit Card Movers & Shakers*. In May 2003, the Fitch index included

[39] A trust's yield is typically calculated by dividing the sum of the finance charges and late fees that were collected during the month by the balance of the trust.

[40] S&P explained that researchers should not rely on data from 1991. Unlike subsequent year's data, the measures for these 12 months have not been verified.

approximately 27 trusts, each of which was at least one year old. These trusts, of which a few are privately placed, held approximately $361B in credit card receivables in May 2003.[41] Figure 8 is a list of the public trusts included in the index. In addition to bankcard issuers, Fitch's index includes private label receivables from retailers such as Sears, Circuit City, Ann Taylor, and Best Buy.

Before calculating the index rate, Fitch derives a gross chargeoff rate for each trust. Generally, the servicer provides this rate. If it does not, Fitch calculates the rate by dividing the gross chargeoffs for the month by the beginning trust balance and multiplying the result by 12. If the servicer does not provide the gross chargeoff information, the net chargeoff rate is substituted. For most of the trusts in the index, however, Fitch analysts indicated that they are able to derive the gross chargeoff rate.

Fitch then calculates the rate for the *Movers & Shakers* index by taking the weighted average of each trust's gross chargeoff rate. For the purpose of weighting, the end-of-period trust balance is used.

Fitch began tracking chargeoffs on a monthly basis in January 1991. Issues of *Credit Card Movers & Shakers* are available on Fitch's web site, www.fitchratings.com.[42] New issues of the publication are typically made available sometime after the 15th day of each month. Historical data may be available upon request from Fitch's structured finance group.

For a comparative summary of the five measures discussed in this section, please see Figure 9.

Comparison of Chargeoff Statistics

Despite their using different data sources and computational techniques, the five organizations described above produce chargeoff statistics that generally follow similar paths

[41] Fitch explained that, excluding the portion of the security issues owned by the servicers themselves (i.e., the seller's interest), the value of the card-backed securities issued on these receivables totaled $256B in May 2003.

[42] Currently, Fitch's web site has the most recent 18 months of *Movers & Shakers*.

over time (see Figure 10). As seen in Figure 10a, the on-balance-sheet indicators calculated by the Board of Governors and FDIC closely track each other for most of the 17-year period, and both show chargeoffs peaking in 1992, 1998, and 2002. As stated earlier, these two indicators rely on the same source of on-balance-sheet chargeoff data — the regulatory reports that all banks must file each quarter. The banks that each organization includes in its sample, however, are different. In addition to the 2200 commercial banks with on-balance-sheet credit card loans included in the Board's sample, the FDIC sample includes savings banks. Another difference between the FDIC and Board samples is the inclusion of some banks in the FDIC sample that are already represented in the data by a parent institution. The Board removes these banks so that it does not double count any assets.

The S&P and Fitch off-balance-sheet indicators also generally move together (see Figure 10b), peaking in 1992, 1997, and 2002. While both organizations rely on monthly servicer reports and report gross chargeoffs, S&P's index contains more card trusts and focuses exclusively on bankcard receivables. Fitch's index tracks an 11 percent smaller pool of loans than S&P. Fitch, however, captures a broader market, including both general purpose cards and private label cards.

In addition to *appearing* as if they move in similar directions in Figures 10, 10a, and 10b, the measures from the BOG, FDIC, S&P, and Fitch exhibit strong statistical relationships.[43] Statisticians use correlation analysis to measure the strength of a relationship between two variables. A widely used statistic for this purpose is the Pearson correlation coefficient. A correlation coefficient is a number that ranges from negative one to positive one (i.e., -1 to +1). A low correlation coefficient (i.e., a number close to zero) suggests that the relationship between two series is weak. A positive correlation coefficient (i.e., a number close to positive one) indicates that the relationship between two series is very strong and that the two will generally move in similar directions (e.g., when one series increases, the other also increases). A negative coefficient (i.e., a number close to negative one) indicates that the two series will generally move in opposite directions. Comparing the BOG, FDIC, S&P, and Fitch chargeoff rates to each other

[43] The FFIEC's measure is not analyzed in this section because of its short history.

over the 12-year period beginning in 1991, the author found that the four measures were positively correlated. Correlation coefficients for these comparisons ranged from 0.79 to 0.98.[44]

Correlation coefficients were also calculated for four different periods. These periods were chosen to correspond with changes in the overall direction of the chargeoff indicators. The four periods are as follows: 1Q1991 to 1Q1995, 2Q1995 to 2Q1997, 3Q1997 to 3Q2000, and 4Q2000 to 4Q2002. These periods are depicted by alternating shaded sections in the graph in Figure 11. While the strength of the correlations among all of the chargeoff measures was very strong in period one (coefficients ranged from 0.89 to 0.99), the correlation between the on- and off-balance-sheet indicators declined over time. In period four, for example, the BOG and Fitch indicators had a correlation coefficient of 0.25 and the FDIC and Fitch indicators had a correlation coefficient of 0.44. A table of correlation coefficients for each period is provided in Figure 12.

Explaining exactly why these relationships seem to have deteriorated over the past few years is beyond the scope of this paper. Some of the following developments, however, have likely been influential. As described earlier, the FFIEC issued guidance requiring issuers to modify chargeoff practices in December 2000. In 1Q2001, the Call Reports used to calculate the BOG and FDIC measures were modified. Prior to this modification, "credit card" chargeoff rates included the chargeoffs of some other consumer loan products. In late 2001 and early 2002, regulators intervened at four large subprime credit card issuers that heavily relied on off-balance-sheet funding sources. One of these issuers was ultimately shut down, and the other three were required to change their lending practices. Providian's 1Q2002 Call Report filing indicated that the bank charged off $1.4B of on-balance-sheet loans – more than it had charged off in the previous three quarters combined. Also during the early 2000s, credit card issuers brought record levels of asset-backed securities to the market. In 2001 and 2002, investors purchased $76B and $73B in card-backed bonds, respectively – eclipsing previous years' issuance levels that ranged

[44] For the purposes of calculating the correlations, the S&P and Fitch monthly values were converted into quarterly values. This was done by taking an average of the monthly data.

between $30B and $50B.[45] The extent to which these and other factors have influenced the movement of different chargeoff metrics is an interesting area for additional research.

On average, the Board's and FDIC's chargeoff rates were 60 to 80 basis points lower than those reported by Fitch and S&P from 1991 to 2002. The table in Figure 13 contains the mean and standard deviation for all four chargeoff measures. Lower averages for the Board and FDIC indicators are likely driven by two factors. First, the Board's and FDIC's chargeoffs are net of recoveries. S&P's and Fitch's chargeoffs are gross. Second, there are structural differences between on-balance-sheet and off-balance-sheet receivables. Because of the delay between acquiring an account and assigning it to an off-balance-sheet trust, there is typically a higher proportion of newer accounts in most issuers' on-balance-sheet portfolios. Since it takes at least six months for an account to be charged-off, newer accounts (i.e., less than one year old) generally have lower chargeoff rates. With a higher proportion of new accounts in the on-balance-sheet portfolio, a lower chargeoff rate is expected.

It is also interesting to note the movement of Fitch's average chargeoff rate. After three periods of being higher than S&P's average rate, Fitch's average was 80 basis points lower than S&P's in period four (see Figure 13). Neither Fitch nor S&P reported any changes to their calculation methods during this time. An analyst at one of the rating agencies suggested that the movement could have been influenced by a shift in the store card market.

Use of Industry Chargeoff Measures

The chargeoff rates published by the Board, FDIC, S&P, and Fitch are widely cited by economists and the popular press as indicators of general economic health and card issuer performance. Investors in credit card asset-backed securities also rely on industry chargeoff measures. The measures help set investors' expectations as to how well their bonds will perform. Market analysts use industry chargeoff measures as benchmarks against which individual bank performance can be compared.

[45] Michael Decker, *Research Quarterly*, The Bond Market Association, various years.

Period-to-period chargeoff movements help economists form opinions about the outlook for consumer credit and the economy. For example, a drop in chargeoffs in November 2001 caused market-watchers at S&P to acknowledge "that the most recent [chargeoff] figures may mean that the U.S. economy may be in better shape than is expected."[46] The card industry's chargeoff rate can also be used as a leading indicator of automobile and mortgage loan chargeoffs and a lagging indicator of consumer bankruptcy and unemployment. The use of chargeoff data for the purpose of assessing the health of the banking system underscores the importance of understanding the sampling and calculation details of a chargeoff rate.

This paper explains the sampling and calculation methodologies used to calculate five commonly cited indicators of credit card industry chargeoffs. These indicators' dissimilar movements and variations, however, may be worth further exploration. An extension of this work could be the examination of the factors that influence these indicators. How, for example, do the sampling and computational differences contribute to these variations? To what extent do large issuers drive significant changes in the indicators?[47] Would it be valuable to develop a metric that captures both on- and off-balance-sheet chargeoffs?

Conclusion

The sources and methods used by the Board, FDIC, FFIEC, S&P, and Fitch to calculate credit card industry chargeoff measures are different. The Board, FDIC, and FFIEC rely on standardized reports that come with very detailed instructions as to how each reported field is to be computed. S&P and Fitch rely on reports that have no standard format or detailed field-level explanations. Although the Call Reports on which the Board, FDIC, and FFIEC rely were modified to include on- and off-balance-sheet chargeoff information in 2001, the three organizations publish

[46] "Delinquencies down but S&P Wary," *Cards International*, January 28, 2002.
[47] For example, upon adopting new FFIEC chargeoff guidelines, MBNA's chargeoff rate increased from 5.35 percent in November 2000 to 10.15 percent in December 2000. This caused the S&P chargeoff index to increase by 120 basis points. Without MBNA's large increase, S&P calculated that the overall rate would have increased by only 10 to 20 basis points. "MBNA Is Blamed for December's Surge in Chargeoff Rates," *CardFax*, January 31, 2001.

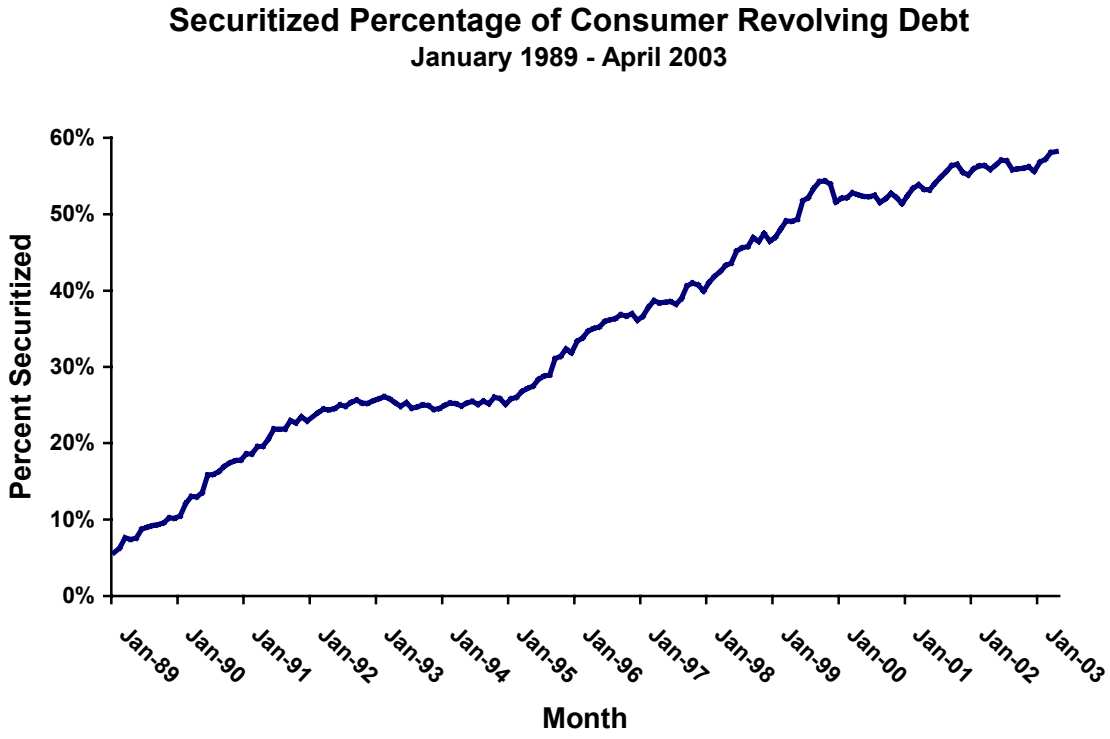
indices that capture only on-balance-sheet chargeoffs. The reports on which S&P and Fitch rely do not have any on-balance-sheet loan data; these organizations report only off-balance-sheet chargeoffs. In addition to relying on different kinds of reports, the organizations include different card issuers in their sample. The Board's and FDIC's sample includes over 2000 card issuers, while the sample used by Fitch, S&P, and the FFIEC includes fewer than 40 issuers. Despite including far fewer issuers, Fitch's and S&P's indices measure the chargeoffs of more than half of the industry's loans. Finally, each organization has a unique way of calculating the actual chargeoff rate. Calculations vary by treatment of recoveries, derivation of the rate's denominator, and techniques used to annualize the rate.

Complicating all of the source- and method-related differences is a rapidly changing business environment. The impact of off-balance-sheet financing on the measurement of chargeoffs has been dramatic. Indicators that 10 years ago captured 85 percent of the credit card market's chargeoffs now cover less than half of them. Changes in the funding environment have been accompanied by increases in subprime lending. In the most recent quarters, the chargeoffs of relatively small subprime issuers have significantly impacted the industry chargeoff rate. Increased subprime activity has led the ratings agencies to consider creating separate prime and subprime chargeoff measures.

The changing business environment has likely contributed to the significant deterioration in the correlations between on- and off-balance-sheet measures. After almost a decade of high correlation, the indicators have moved in different directions in recent quarters. While it is unclear exactly what is driving these divergences, those who use chargeoff data to make decisions should be careful when drawing conclusions based on the changes observed in a single organization's metric from one period to the next.

Each of the five credit card industry chargeoff measures profiled in this paper incorporates a unique combination of data, exclusion criteria, and calculation methods. It is important, therefore, that those who use these measures appreciate their intricacies.

Figure 1- The Growing Use of Securitization



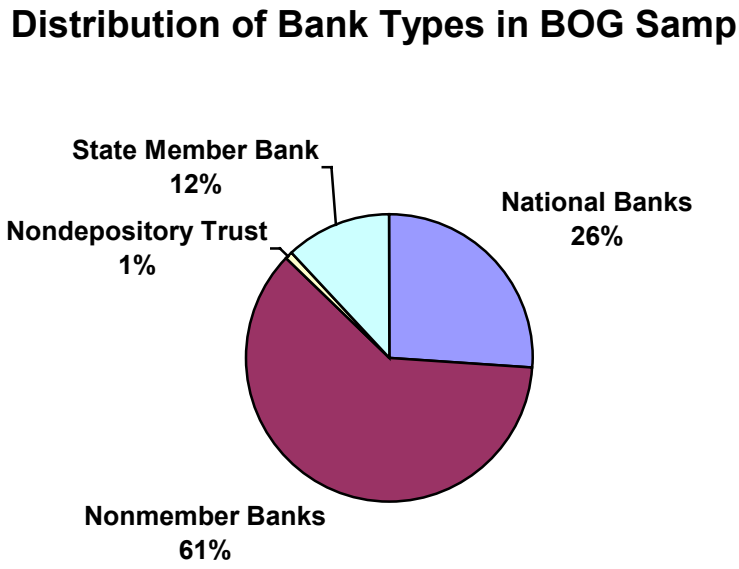
Source: Board of Governors G.19 Statistical Release

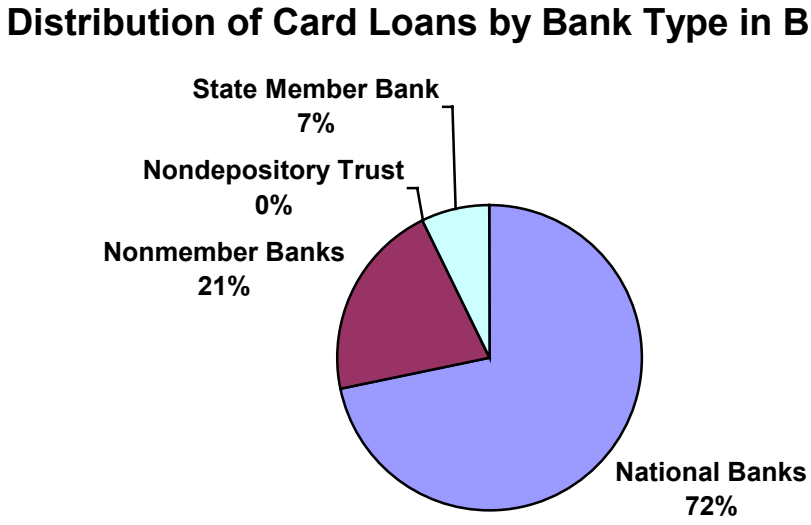
Figure 2- The 25 Largest* On-Balance-Sheet Credit Card Portfolios in the BOG Sample by Call Report-Filing Bank as of 3Q2002

Bank Name	RSSD ID	Card Portfolio Size (billions)
Citibank NA	476810	$51.9
Bank of America NA USA	1417557	$23.0
Chase Manhattan Bank USA NA	489913	$20.5
Discover Bank	30810	$20.1
MBNA America Bank	1830035	$16.7
Capital One Bank	2253891	$13.2
American Express Centurion Bank	1394676	$9.2
Providian National Bank	121709	$7.1
Fleet NA Bank	76201	$6.5
Wells Fargo Bank Nevada NA	655576	$5.4
US Bank NA	504713	$5.2
Bank One NA	173333	$4.3
Bank One DE NA	427719	$4.1
USAA Savings Bank	2502656	$3.4
Mill Creek Bank	2636458	$2.1
Citibank Nevada NA	455365	$2.1
Bank One NA	651411	$1.6
Monogram Credit Card Bank	1212846	$1.4
Cross Country Bank	2467670	$1.2
HSBC Bank USA	413208	$1.1
Providian Bank	2454027	$0.9
National City Bank	259518	$0.8
Bankfirst	2352507	$0.8
Wells Fargo Financial Bank	363956	$0.7
Direct Merchants Card Bank NA	2270795	$0.7
TOTAL		$205.1

Source: National Information Center, 3Q2002 Call Reports
Note: Numbers may not add to total because of rounding.
*As measured by size of on-balance-sheet credit card portfolio

Figure 3- 3Q2002 Distribution of Banks and Credit Card Assets by Bank Type in BOG Sample





Source: National Information Center, 3Q2002 Call Reports

Figure 4- Banks Dropped from BOG Sample in 3Q2002

Subsidiary		Parent	
Bank Name	**RSSD ID**	**Bank Name**	**RSSD ID**
State Street Bank & Trust Co. NA	93619	State Street Bank & Trust Co.	35301
Keytrust Company NA	390167	Keybank NA	280110
Citicorp Trust NA Florida	449038	Citibank NA	476810
Citibank South Dakota NA	486752	Citibank NA	476810
Citicorp Trust NA	596361	Citibank NA	476810
State Street Bank & Trust Co. of CA NA	812164	State Street Bank & Trust Co.	35301
State Street Bank & Trust Co. of CT NA	1479630	State Street Bank & Trust Co.	35301
State Street Bank & Trust Co. of NH NA	1865091	State Street Bank & Trust Co.	35301
Bank of Texas Trust Co. NA	2033806	Bank of Texas NA	533852
Synovus Trust Company NA	2262718	Columbus Bank & Trust Co.	395238
Fleet Bank RI NA	2267991	Fleet NA Bank	76201
First Citizens Trust Company NA	2479477	First Citizens National Bank	186744
Unizan Financial Services Group NA	2483362	Unizan Bank NA	764414
Horizon Investment Management NA	2503345	Horizon Bank NA	130541
Wachovia Trust Company NA	2531991	Wachovia Bank NA	484422
Allfirst Trust Company NA	2534581	Allfirst Bank	256722
First Union Direct Bank NA	2578240	Wachovia Bank NA	484422
First-Citizens Bank, a VA Corp.	2580506	First-Citizens Bank & Trust Co.	491224
State Street Global Advisors NA	2630559	State Street Bank & Trust Co.	35301
First Trust Co. Onaga NA	2809355	First National Bank of Onaga	284257
Generations Trust Bank NA	2845410	Rancho Santa Fe Nat. Bank	931766
Bessemer Trust Co. of CA NA	2845782	Bessemer Trust Co. NA	976703
Allfirst Trust Co. of PA NA	2861335	Allfirst Trust Co. NA	2534581
Great Lakes Trust Co. NA	2921592	Great Lakes Bank NA	395836
Country Club Trust Co. NA	3058114	Country Club Bank NA	625654

Source: Board of Governors

Figure 5- Call Report Fields the BOG Uses to Calculate Chargeoffs

Call Report Schedule	Call Report Field	Description
RI-B	RIAD B514	Credit card loan YTD chargeoffs
RI-B	RIAD B515	Credit card loan YTD recoveries
RC-K	RCON B561	Quarterly average credit card loans
RC-C	RCFD B538	End-of-quarter credit card loans- consolidated bank
RC-C	RCON B538	End-of-quarter credit card loans- domestic offices

Source: Call Report

Figure 6- FFIEC Credit Card Bank Peer Groups as of December 31, 2002*

Peer Group	Credit Card Specialty Bank	Card Portfolio Size (billions)
201- (approx. $174B in card loans)	Citibank (South Dakota), N.A.	$42.6
	Bank of America, National Association (USA)	$24.7
	Discover Bank	$22.2
	MBNA America Bank, National Association	$19.6
	Chase Manhattan Bank USA, National Association	$18.7
	American Express Centurion Bank	$11.2
	Capital One Bank	$10.9
	Providian National Bank	$5.9
	Wells Fargo Bank Nevada, National Association	$5.7
	Fleet Bank (RI), National Association	$5.6
	Bank One, Delaware, National Association	$2.8
	Citibank (Nevada), National Association	$2.6
202- (approx. $11B in card loans)	USAA Savings Bank	$3.8
	Monogram Credit Card Bank of Georgia	$1.6
	Cross Country Bank	$1.1
	Providian Bank	$1.0
	Direct Merchants Credit Card Bank, National Association	$0.8
	Mill Creek Bank	$0.8
	Wells Fargo Financial Bank	$0.8
	First Premier Bank	$0.5
	Household Bank (SB), National Association	<$0.1
203- (approx. $3B in card loans)	Bankfirst	$0.8
	GE Capital Consumer Card Company	$0.6
	Wells Fargo Financial National Bank	$0.6
	Merrick Bank	$0.5
	BB&T Bankcard Corporation	$0.1
	First Consumers National Bank	$0.1
	Retailers National Bank	$0.1
	TCM Bank, National Association	$0.1
	The Fremont National Bank and Trust Company	$0.1
	World Financial Network National Bank	$0.1
	CrediCard National Bank	<$0.1
	Dillard National Bank	<$0.1

*All 33 banks belong to the larger group called credit card specialty banks
Source: National Information Center, 4Q2002 Call Reports
Note: Numbers may not add to peer group totals because of rounding.

Figure 7- Public Trusts Included in S&P's Chargeoff Index in February 2003 Sorted by Trust Size

Trust Name	Servicing Bank	Card Trust Size (billions)
Citibank Credit Card Master Trust I	Citibank	$76.2
MBNA Master Credit Card Trust II	MBNA	$70.1
First USA Credit Card Master Trust	Bank One	$37.1
Discover Card Master Trust I	Discover	$34.8
Chase Credit Card Master Trust	Chase	$31.5
Capital One Master Trust	Capital One	$28.0
American Express Credit Account Master Trust	American Express	$22.6
Bank One Issuance Trust	Bank One	$12.5
Fleet Credit Card Master Trust II	Fleet	$11.9
First Chicago Master Trust II	Bank One	$10.9
Metris Master Trust	Metris	$9.8
BA Master Credit Card Trust	Bank of America	$7.8
Providian Master Trust	Providian	$6.6
Associates Credit Card Master Note Trust	Citibank	$5.5
Household Credit Card Master Note Trust I	Household	$4.4
Wachovia Credit Card Master Trust	Bank One	$3.4
FNANB Credit Card Master Trust	First North American	$3.2(e)
Banc One Credit Card Master Trust	Bank One	$2.8
Chevy Chase Master Credit Card Trust II	Bank One	$2.6
Advanta Business Card Master Trust	Advanta	$2.5
Nationsbank Credit Card Master Trust	Bank of America	$2.3
NextCard Credit Card Master Note Trust*	NextCard	$2.3(e)
First National Master Note Trust	First National Bank of Omaha	$2.1
National City Credit Card Master Trust	National City	$1.7
Partners First Credit Card Master Trust	Bank One	$1.3
First Consumers Master Trust	First Consumers	$1.0
TOTAL		**$394.9**

(e) Estimated
* NextCard filed for bankruptcy protection on November 14, 2002
Source: S&P, ABSNet

Figure 8- Public Trusts Included in Fitch's Chargeoff Index in May 2003 Sorted by Trust Size

Trust Name	Servicing Bank	Card Trust Size (billions)
Citibank Credit Card Master Trust I	Citibank	$73.2
MBNA Master Credit Card Trust II	MBNA	$69.4
First USA Credit Card Master Trust	Bank One	$35.6
Discover Card Master Trust I	Discover	$35.2
Chase Credit Card Master Trust	Chase	$32.6
Capital One Master Trust	Capital One	$27.3
Sears Credit Account Master Trust II	Sears	$18.9
Fleet Credit Card Master Trust II	Fleet	$10.6
First Chicago Credit Card Master Trust II	Bank One	$10.4
Metris Master Trust	Metris (Direct Merchants)	$9.2
BA Master Credit Card Trust	Bank of America	$7.5
Providian Master Trust	Providian	$6.2
Associates Credit Card Master Note Trust	Citibank	$5.2
Household Credit Card Master Note Trust I	Household	$4.2
Wachovia Credit Card Master Trust	Bank One	$2.8
Chevy Chase Master Credit Card Trust II	Bank One	$2.5
First Bankcard Master Credit Card Trust I	First National Bank of Omaha	$2.4
World Fin. Network Credit Card Master Trust*	World Fin. Net. Nat. Bank	$2.2
Circuit City Credit Card Master Trust	First North American Nat. Bk.	$1.6
National City Credit Card Master Trust	National City	$1.6
Partners First Credit Card Master Trust	Bank One	$1.3
People's Bank Credit Card Master Trust	People's Bank	$0.9(e)
Citibank Credit Card Investment Trust	Citibank	Not Avail.
TOTAL		**$360.8**

(e) Estimated

*World Financial Services National Bank is owned by Alliance Data Systems and issues private label cards on behalf of retailers like Ann Taylor, Restoration Hardware, and Dress Barn.

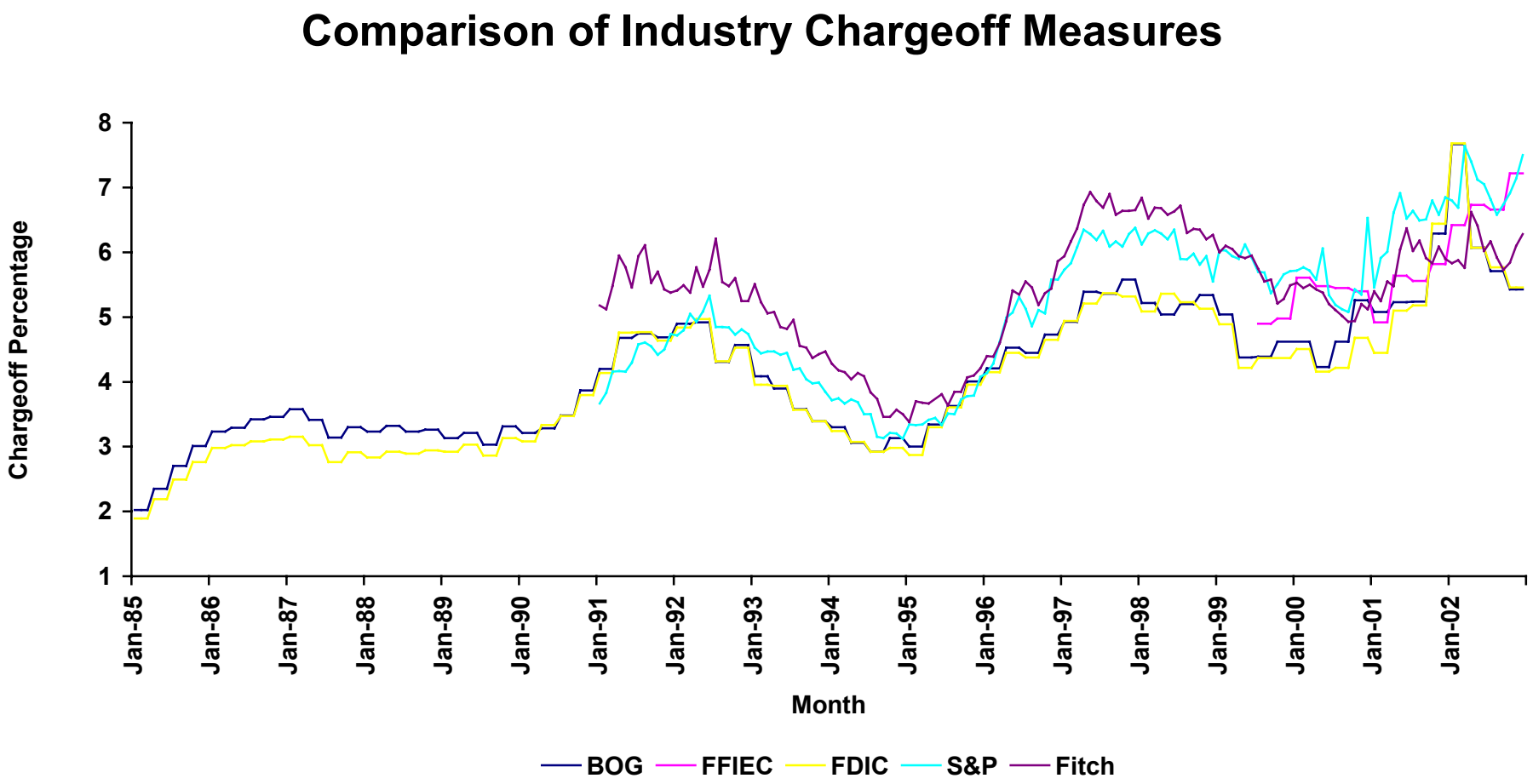
Source: Fitch, ABSNet

Figure 9- Comparative Summary

Statistic	BOG	FDIC	FFIEC	S&P	Fitch
Assets in Sample	$225B	$288B**	$187B	$406B	$361B
Entities in Sample	≈2200*	≈2300*	33	37	27
Data Source	Call Reports	Call Rpts. & TFRs	Call Reports	Servicer Reports	Servicer Reports
Reporting Frequency	Quarterly	Quarterly	Quarterly	Monthly	Monthly
Availability	Since 1985	Since 1986	Since 1997	Since 1991	Since 1991
Chargeoff Type	Net	Net	Net	Mostly Gross	Mostly Gross
Asset Type	On-Balance -Sheet	On-Balance -Sheet	On-Balance -Sheet	Off-Bal.-Sheet	Off-Bal.-Sheet

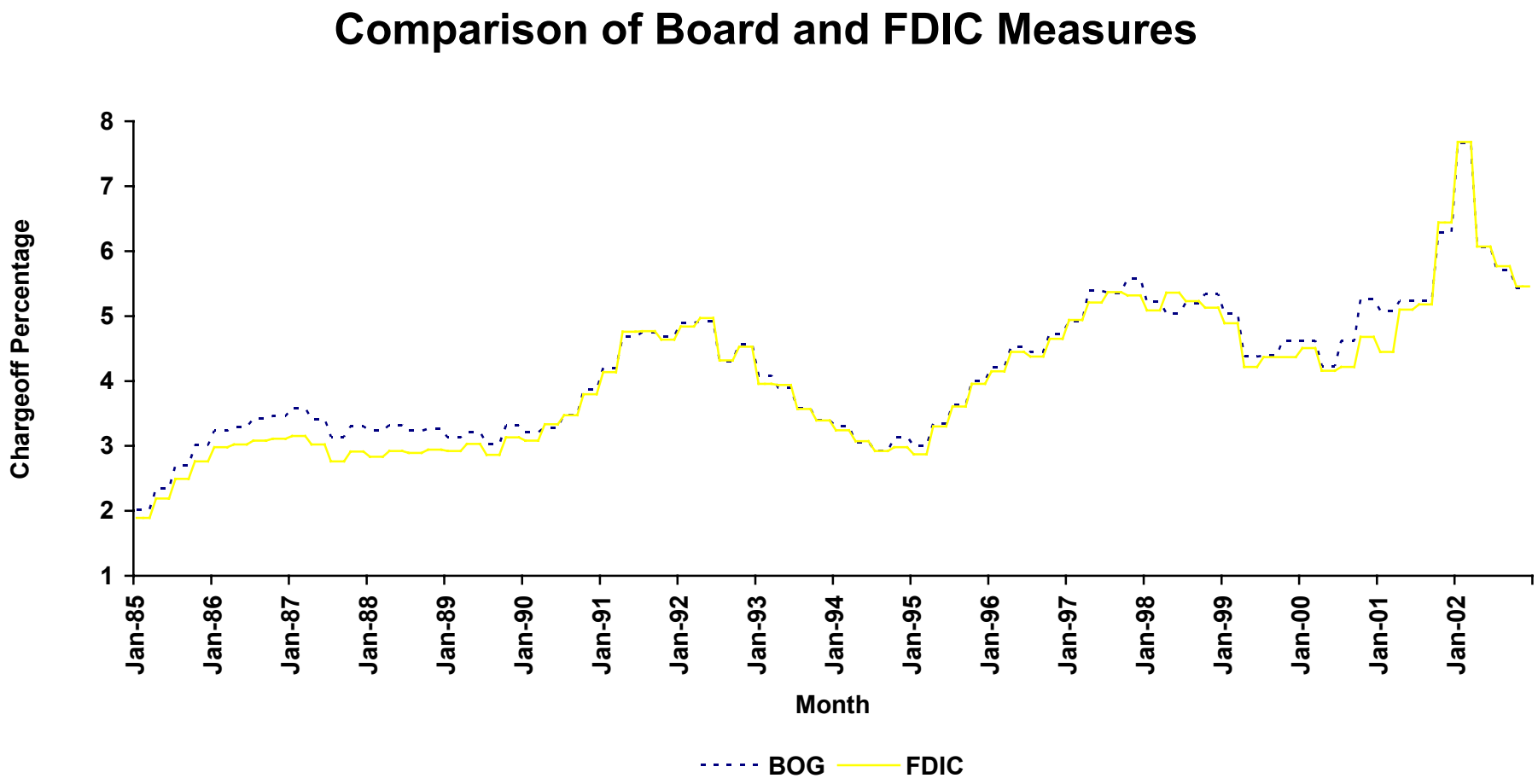
* Includes only call-report-filing banks that report on-balance-sheet credit card loans greater than zero. Note: The FDIC count does not include savings banks that file a TFR.
**includes double-counted assets

Figure 10- Historical Comparison of BOG, FDIC, FFIEC, S&P, and Fitch Chargeoff Statistics



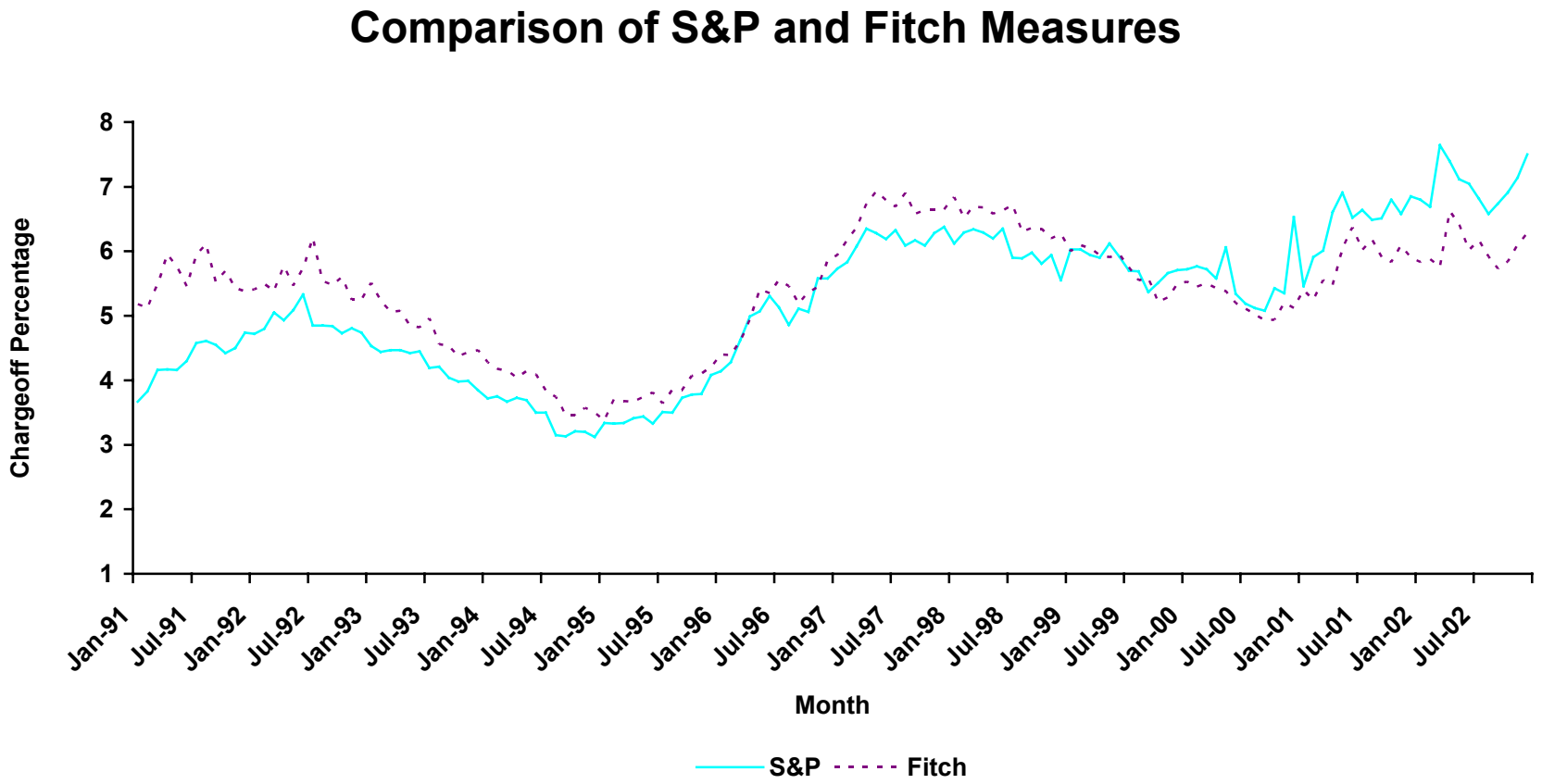
Source: BOG, FFIEC, FDIC, S&P, Fitch

Figure 10a- Historical Comparison of BOG and FDIC On-Balance-Sheet Chargeoff Statistics



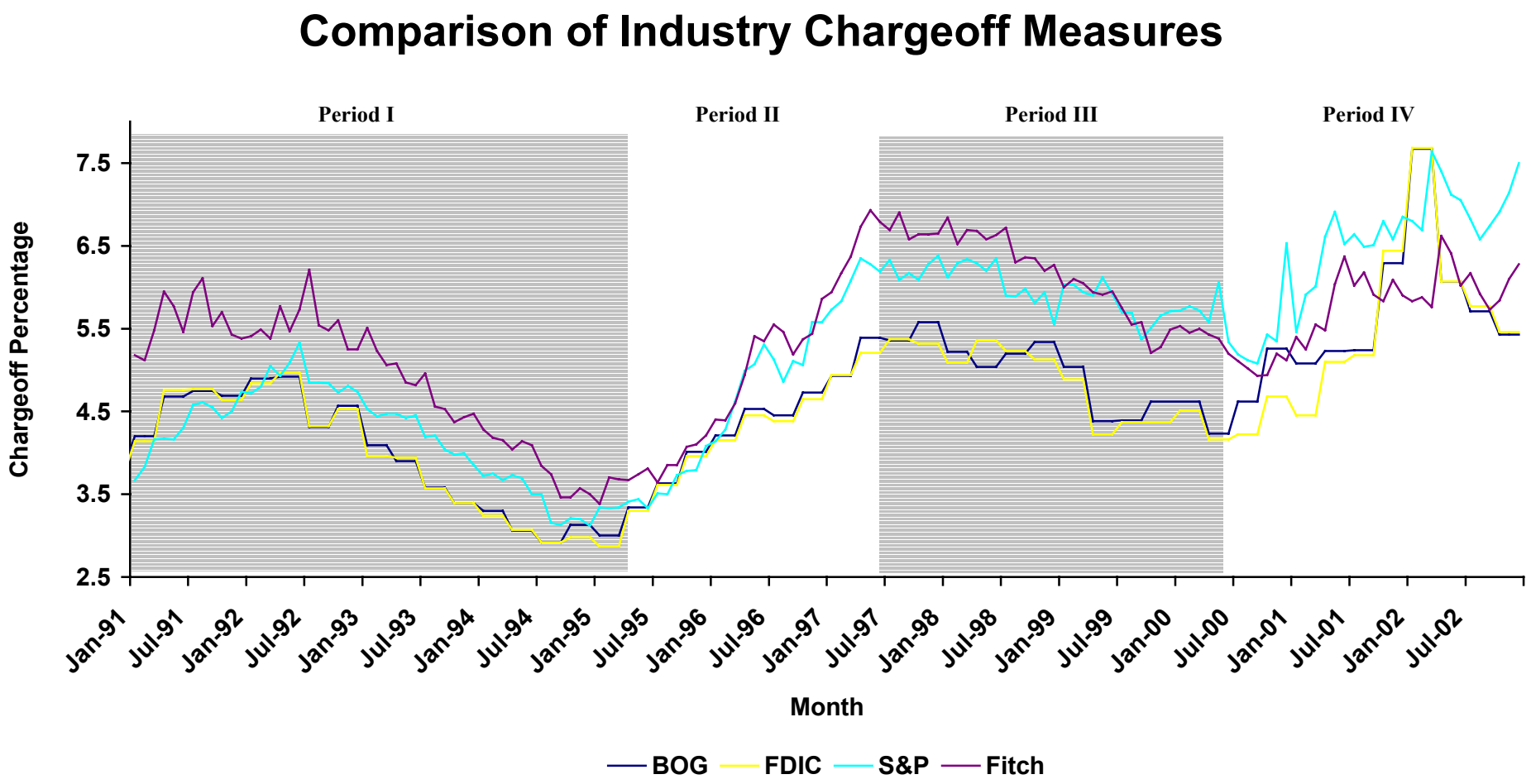
Source: BOG and FDIC

Figure 10b- Historical Comparison of S&P and Fitch Off-Balance-Sheet Chargeoff Statistics



Source: S&P and Fitch

Figure 11- Historical Comparison of BOG, FDIC, S&P, and Fitch Chargeoff Statistics



Source: BOG, FDIC, S&P, Fitch

Figure 12- Correlation Analysis of Chargeoff Measures

Correlation Coefficients

Correlation	All Periods 1991-2002	Period 1 1Q91 - 1Q95	Period 2 2Q95 - 2Q97	Period 3 3Q97 - 3Q00	Period 4 4Q00 - 4Q02
BOG-FDIC	0.98	0.99	0.99	0.93	0.97
BOG-S&P	0.88	0.89	0.98	0.62	0.53
BOG-Fitch	0.79	0.95	0.97	0.83	0.25
FDIC-S&P	0.87	0.90	0.99	0.76	0.69
FDIC-Fitch	0.80	0.96	0.97	0.92	0.44
S&P-Fitch	0.85	0.90	0.99	0.91	0.89

Figure 13- Statistical Analysis of Chargeoff Measures

Mean & Standard Deviation

Metric	All Periods 1991-2002	Period 1 1Q91 - 1Q95	Period 2 2Q95 - 2Q97	Period 3 3Q97 - 3Q00	Period 4 4Q00 - 4Q02
BOG	4.6 (0.9)	4.0 (0.7)	4.4 (0.6)	4.9 (0.4)	5.8 (0.8)
FDIC	4.6 (0.9)	3.9 (0.8)	4.3 (0.6)	4.8 (0.5)	5.6 (1.0)
S&P	5.2 (1.1)	4.2 (0.6)	4.8 (1.0)	5.9 (0.3)	6.6 (0.5)
Fitch	5.4 (0.9)	4.9 (0.8)	5.0 (1.1)	6.0 (0.6)	5.8 (0.4)