The Effects of Mergers and Acquisitions on Small Business Lending by Large Banks

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Substantial financial deregulation and financial innovation in recent years have changed banking. The resulting consolidation of banking and improvements in technology have had important effects on small business lending, with large bank holding companies (BHCs) playing a larger role in such lending.

In contrast to previous studies that focused on the small business lending at smaller banks, the report focuses on non-credit card lending at the 50 largest bank holding companies. The largest BHCs have come to represent ever larger shares of U.S. banking assets. In addition, their rapid pace of acquisitions and mergers seems likely to continue. These developments make it particularly important to better understand the effects of bank growth and the changing organizational structure of the largest BHCs on small business lending.

The study documents recent trends in small business lending at the largest BHCs. It then provides an analysis of the effects of the recent consolidation in the banking industry on small business lending. The analysis makes key distinctions that are generally missing from the literature and estimates of small business lending. First, it distinguishes between (1) originations and purchases of small business loans and (2) the more typically used stocks of small business loans held on bank balance sheets. It then looks to see whether views about the credit available to small businesses might be influenced by the choice of the measure of lending. Second, it distinguishes between acquisitions of banks (and BHCs) and mergers of banks (and BHCs). To date, little is known about the effects on small business lending of consolidation within a BHC (the combining of bank charters through mergers), as opposed to the effects of consolidation into a BHC (the change of ownership through acquisitions). By distinguishing mergers of within-BHC banks from bank acquisitions by a BHC, the report estimates whether small business lending is affected differently by shifts in the organizational structure of BHCs than by changes in the ownership of banks. Third, it distinguishes between the effects of internal and external growth of the largest BHCs.

Overall Findings

The results suggest that, in general, larger BHCs tend to do less small business lending. That masks some important distinctions: small business lending can be affected quite differently by the way in which a BHC becomes larger and the extent to which the BHCs consolidate their bank subsidiaries. The results hint that banks that are acquired, but not placed under the more direct control that accompanies a formal merger, may do about the same amount of small business lending as prior to the acquisition. In contrast, the merging of bank charters within the BHC seems more likely to reduce small business lending.

Highlights

• Small business lending at a BHC tends to be smaller (relative to its total business loans) the larger the BHC is. This pattern holds regardless of whether

small business lending is measured by the change in bank holdings or by the sum of originations plus purchases of small business loans.

• Small business lending declined significantly across each of the various dependent variables and loan sizes. Thus, both internal growth (as captured by the acquisition-adjusted specification) and total growth (which is the sum of internal growth plus acquisition-based growth) tend to reduce small business lending for each loan size category. The similarity of the estimated coefficients based on acquisition-adjusted data to those based on actual data suggests that internal growth has about the same effect on small business lending as external growth.

• Given the size and extent of the internal and external growth of a BHC, the more concentrated the assets become in its larger banks, through either internal growth or through mergers of its bank subsidiaries, the less small business lending the BHC does.

• In addition to the pure size effect, the organizational form of a BHC has important effects on small business lending. When BHCs acquire and thus change the ownership of banks—but do not merge them with their other banks (or with each other)—small business lending is little affected. In contrast, as BHCs merge bank subsidiaries and otherwise shift assets into their larger banks, their small business lending declines. Thus, the centralization, or increased concentration, of command and control of assets matters more than a change in ownership of a bank.

Methodology

The authors use annual data for 1997 to 2002, which incorporates data for small business lending during the 2001 national recession and the 2002 recovery. They use data for the 50 largest U.S. bank holding companies, as measured by their domestic bank assets as of mid-2002. They construct and analyze both conventional and novel data for banks, aggregated to the bank holding company level, and for their small business lending. When summing up assets and lending of individual BHCs, they exclude small banks, credit card banks, limited purpose banks, wholesale banks, and some other institutions. They use a number of sources for their data, including (1) the Consolidated Reports of Condition and Income (call reports) for balance sheet and income data for individual banks; (2) the Community Reinvestment Act (CRA) reports for (gross) originations and purchases of business loans; (3) the Federal

Reserve Board's National Information Center (NIC) data for financial structure information; and, (4) the Federal Reserve's Survey of Terms of Bank Lending (STBL) for information on loan characteristics.

The authors use both actual and acquisition-adjusted data for each BHC. Actual BHC data are the sum of the data for the BHC's bank subsidiaries in a given year. Changes in these data reflect internal growth, as opposed to growth via acquisition.

They adjusted most variables for the scale of total business lending a BHC had been doing. In general, they explained measures of flows of small business lending with the overall size of a BHC (as measured by its total bank assets), a measure of how much of that size was attributable to acquisitions, and a measure of the degree to which a BHC's total bank assets were concentrated in a few large banks.

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I. Introduction

Substantial financial deregulation and financial innovation in recent years have changed the financial services industry. The resulting consolidation of banking and improvements in technology have had important effects on small business lending, with large bank holding companies (BHCs) playing a larger role in such lending.

In this study, we document recent trends in small business lending at the largest BHCs. We then provide an analysis of the effects of the recent consolidation in the banking industry on small business lending. In contrast to previous studies that focused on small business lending at smaller banks, we focus on the 50 largest bank holding companies. As they have come to control a dominant share of U.S. banking assets, and with the consolidation trend likely to continue, it is particularly important to better understand the effects of growth and the changing organizational structure of the largest banking organizations on small business lending.

The analysis in this study makes three key distinctions that are absent from much of the existing small business lending literature. First, we distinguish the flows of originations and purchases of small business loans from the more typically-used change in stocks of small business loans held by banks. The former may inform us more about the availability of credit to small businesses than the latter. Second, we distinguish between acquisitions of banks (and BHCs) and mergers of banks (and BHCs). To date, little is known about whether the effects on small business lending of consolidation within a BHC (the combining of bank charters through mergers) differ from the effects of consolidation into a BHC (the change of ownership through acquisitions). By distinguishing mergers of within-BHC banks from acquisitions of banks by a BHC, we differentiate the effects on small business lending that are attributable to changes in the organizational structure of BHCs from the effects of changes in the ownership of banks. Third, we distinguish between the effects of internal and external growth of the largest BHCs.

Section II reviews some recent literature that is particularly relevant to the effect of bank consolidation on small business lending. Section III summarizes the issues that are addressed in this study. Section IV describes the data sources and our sample of BHCs. Section V describes the construction of the key variables used in the analysis. Section VI describes recent trends in BHCs and small business lending. Section VII provides the empirical results, while Section VIII concludes.

II. Recent Estimates of the Effects of Bank Consolidation on Small Business Lending

Some studies suggest that the recent trends toward the relative expansion of the largest banks and the widespread consolidation of both small and large banks may have had relatively small net effects on the access of small businesses to bank lending. Ely and Robinson (2001) provide a useful outline of the evolution of small business lending between 1994 and 1999 for banks of various sizes. They document that small business lending grew over 20 percent, while its share of total loans declined by about 10 percent.

They also note that larger banks increasingly dominate small business lending. For example, during that period the share of small business bank loans under $100,000 held by the largest banks rose and the share held by the smallest banks fell.

Bank small business lending also seems to have been affected by the considerable amounts of mergers and acquisitions (M&As) of banks by other banks. An extensive empirical literature exists on how bank mergers have affected small business lending. Analyzing over 6,000 M&As between the late 1970s and the early 1990s, Berger et al. (1998) find that M&As reduce small business lending by the merged banks (i.e., the surviving entity). However, they also find that the reductions were almost entirely offset by increases in small business lending by banks that did not merge that operated in the same markets as the merging banks (see also Board of Governors of the Federal Reserve System 2002). Analyzing different types of M&As, Strahan and Weston (1998) find that small bank M&As actually led to more small business lending, while mergers of larger banks had no effects on total small business lending. Similarly, Peek and Rosengren (1998a, b) point out that the small business lending behavior of the combined banks tends to become more like that of the larger acquiring (the surviving charter) bank than of the weighted average of the separate banks prior to the merger. Still, most bank M&As produced banks that were still quite small, and thus tended to have a stronger proclivity to engage in small business lending than did much larger banks. They conclude that, after their mergers, most surviving banks continue their prior small business lending patterns and that banks' small business lending is about as likely to rise as to fall following their mergers. Thus, several recent studies indicate that the net effects of bank mergers on small business lending are not particularly striking.

III. Issues To Be Addressed

We first examine whether, in recent years, the largest BHCs reduced their small business lending as they became larger. We then attempt to discern whether the form of growth affected their small business lending, providing statistical evidence about the effects of internal versus external growth on small business lending at the largest BHCs. We then investigate the extent to which changes in the organizational form of the BHCs through greater concentration of their assets in larger bank subsidiaries, whether by internal growth of those subsidiaries or through mergers of bank subsidiaries, had detectable effects on small business lending at the largest BHCs.

One reason why small business lending by large banks may not have been much affected by their mergers is that large banks tend to merge with smaller banks, which tend to be more heavily engaged in small business lending. Another reason might be that financial innovations and changes in technology have eroded some barriers to the involvement of larger banks in small business lending. For example, the increasing use of credit scoring in loan originations, as well as securitization after origination, are reducing screening and monitoring costs and, in turn, reducing the importance of both established lending relationships and physical proximity between borrowers and lenders.

To the extent that large banking organizations adopt the technologies and innovations of credit scoring and the securitization of small business loans more quickly

and widely than smaller banks, these large BHCs could garner a larger share of small business lending. Whether a larger share of small business loans appears in the BHC's portfolio holdings, in their flow of originations and purchases, or both, remains to be seen. Below, we provide some evidence on this aspect of small business lending at larger banking organizations.

The effects on small business lending of combinations of larger banks with other large or with small banks may also depend on the particular organizational changes that such combinations entail. It is common to hear the term "M&A" used and for the terms "mergers" and "acquisitions" to be used virtually interchangeably. However, these are distinct actions, although sometimes occurring in combination. An acquisition of a bank or BHC involves a change in ownership. A merger, the combination of bank charters, may or may not involve an acquisition. Many mergers are of affiliate banks, that is, banks that are in the same BHC and thus already have the same owner. On the other hand, in some instances, a buyer of a bank may merge the bank into another previously owned bank. In that case, the transaction involves both an acquisition and a merger. At other times, a BHC first acquires a bank and subsequently merges that bank into another bank in the BHC. In still other cases, a BHC will acquire a bank and have the bank continue to operate under its own charter. This was particularly true prior to June 1, 1997, when the restrictions on interstate branching were largely lifted by the implementation of the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994.[1]

An important contribution of this study is to distinguish between acquisitions and mergers in order to isolate the (possibly different) effects of each on small business lending. Most individual bank acquisitions occur through the acquisition of their (often multibank) holding companies. Even though acquired banks typically become wholly owned affiliates within their new holding company, an acquisition without a merger leaves the acquired bank with its charter, a board of directors, and executive-level officers, such as a CEO, CFO, and so on, intact. In practice, considerable management discretion may be left in the hands of the original board of directors and officers of the acquired bank. In contrast, with bank mergers, one (or in the case of a combination of more than two banks into a single charter, all but one) of the banks surrenders its bank charter and dissolves its board of directors. To the extent that BHCs merge their smaller bank affiliates (when or after they are acquired) into their other banks, decision making is likely to become more centralized. Similarly, technological advances, such as credit scoring models, allow more centralized decision making, even in the origination of small business loans which historically have tended to rely more on "soft information" than have loan originations to larger, less opaque firms.

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[1] For example, among the fifty largest bank holding companies as of June 2002, only 14 had consolidated all of their bank assets into one bank prior to the implementation of the Riegle-Neal Interstate Banking and Branching Efficiency Act (June 1997). By the end of our sample period, however, 30 of these holding companies had consolidated all of their assets into a single bank. In most years of our 1997-2002 sample period, mergers and/or acquisitions occurred at some of the largest U.S. bank holding companies, e.g., the combinations of BankBoston with Fleet (in 1997), Bank of America with Nations Bank (in 1998), Chase Manhattan with J.P. Morgan (in 2000) and First Union with Wachovia (in 2001).

Here, we provide estimates that illuminate the role of centralized versus decentralized decision making in recent small business lending by large BHCs. More specifically, we produce estimates of the effects on small business lending of bank mergers (charter consolidations) that occur when large BHCs merge their bank subsidiaries. Some of the issues that we evaluate statistically include:

1. How does internal growth affect small business lending by large BHCs?

2. How is small business lending affected by the acquisition, without merging, of banks by the largest BHCs? In particular, is the effect on small business lending of external growth through acquisitions different than that of internal growth?

3. How is small business lending affected by the mergers of banks (separate from any changes in ownership) of bank subsidiaries within BHCs?

4. How does the size composition of a BHC's banks affect its small business lending? Is small business lending affected by whether the BHC has a "main" or dominant bank? Is small business lending affected by the presence of large numbers of smaller banks within a large BHC?

IV. Data Sources, Sample of Banks and BHCs, and Acquisition Adjustments

We use annual data for 1997 to 2002, which allow us to update the statistical portrait of small business lending by including data from the 2001 national recession and the recovery that was underway in 2002. Because it was the first recession to occur subsequent to the removal of almost all prohibitions on nationwide banking and branching, the 2001 recession is of particular interest.

We construct and analyze both conventional and novel data for banks, aggregated to the bank holding company level, and for their small business lending. We use a number of sources for our data, including (1) the Consolidated Reports of Condition and Income (Call Reports) for balance sheet and income data for individual banks; (2) the Community Reinvestment Act (CRA) reports for (gross) originations and purchases of business loans; (3) the Federal Reserve Board's National Information Center (NIC) data for financial structure information; and, (4) the Federal Reserve Board's Survey of Terms of Bank Lending (STBL) for information on loan characteristics.

Fifty Largest U.S. Bank Holding Companies
Our analysis focuses on the 50 largest U.S. bank holding companies, as measured by their total domestic bank assets as of June 30, 2002, which is the end of our sample period. Total domestic bank assets for each BHC are calculated as the sum of the total assets reported by the BHC's bank subsidiaries on their June 2002 Call Reports. The domestic bank subsidiaries of each BHC are identified using the NIC financial structure data of the relationships between financial institutions. However, when summing the assets in individual banks to obtain the total of domestic bank assets in each bank holding

company, we omit several categories of banks. We omit "small banks," credit card banks, and limited purpose and wholesale banks, as described below. We also eliminate from our list of the 50 largest BHCs those BHCs that we identify to be "credit card" holding companies (i.e., MBNA), custodial holding companies (i.e., State Street Corporation), BHCs that were thrift holding companies during any part of the sample period (i.e., Charter One and Hudson City, MHC), and foreign-owned banks or BHCs (i.e., ABN Amro North American Holding Company, Allfirst Financial, Bankmont Financial Corporation, Bancwest Corporation, Citizens Financial, RBC Centura Banks, Inc., Taunus Corporation, and UnionBanCal Corporation). Table 1 contains our resulting list of the 50 largest BHCs.

We omit "small banks" in that we include only banks that report at least $300 million in total assets on their June Call Report in order to obtain consistent variable definitions over the sample period. Banks that have fewer than $250 million in total assets are designated "small banks" and are not required to report CRA data. Beginning in 2001, banks with less than $300 million in total assets only report their total commercial and industrial (C&I) loans on the Call Report, rather than reporting separately C&I loans to U.S. addressees and C&I loans to non-U.S. addressees.

We also omit credit card banks from our analysis.[2] Credit card banks are defined as having (1) 50 percent or more of their total assets in the form of loans to individuals, (2) 90 percent or more of their loans to individuals in the form of credit card loans outstanding, and (3) $200 million or more in loans to individuals.[3] Also, we omit all banks that are located in Delaware, Nevada and South Dakota, because, among banks with at least $300 million in assets, almost all are credit card banks.[4] We also omit limited purpose and wholesale banks because of their narrow product lines that limit their relevance for a study about small business lending. Under the Community Reinvestment Act, a bank may apply to its primary federal regulator to be designated as a limited purpose or wholesale bank. A limited purpose bank is defined as a bank that offers only a narrow product line (such as credit card or motor vehicle loans) to a regional or broader market and for which a designation as a limited purpose bank is in effect. A wholesale bank is a bank that is not in the business of extending home mortgage, small business, small farm, or consumer loans to retail customers, and for which a designation as a

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[2] With respect to credit cards, our two data sources treat undrawn lines of credit that are available to small businesses differently. On Call Reports, only loans that are drawn down under lines of credit are considered small business loans. On CRA Reports, however, the total dollar amounts of lines of credit (whether drawn down or not) are included in originations and purchases of small business loans. To reduce the effects of this difference in reporting, we exclude credit card banks from our analysis.

[3] Credit card banks are the banks that are most likely in CRA reports to have the largest volume of undrawn lines of credit as small business loan originations and purchases. For example, in June 2002, J.P Morgan's credit card bank reported a ratio of its small business loan originations and purchases-to–its total business loans outstanding of 184%. In contrast, that credit card bank on its Call Report had a ratio of small business loans outstanding-to-total business loans outstanding of zero.

[4] Even after excluding the banks headquartered in these states and excluding credit card banks, our data still contains (undrawn) lines of credit that were reported by non-credit card banks. Outlier analysis of the Call Report and CRA small business data for the entire sample of banks that made up the fifty largest bank holding companies, however, suggested that the exclusion of the banks that we identified as credit card banks tend to exclude banks that reported large amounts of small business loan originations and purchases relative to their holdings of small business loans.

wholesale bank is in effect. CRA regulations evaluate wholesale and limited purpose banks according to their community development lending, qualified investments, or community development services under specified performance standards.

Actual and Acquisition-Adjusted Data:

We construct actual and acquisition-adjusted data for each of the 50 largest BHCs from bank-level data. Actual BHC data are computed as the sum of the data for the BHC's bank subsidiaries in a given year. We calculate acquisition-adjusted data as the sum of the data for those banks that become a part of the BHC by June 30, 2002. Thus, acquisition-adjusted data reflect all banks that were in the BHC as of the beginning of our sample plus all banks that are acquired by the BHC by the end of our sample. In this way, the acquisition-adjusted series report data that are consistently measured for the entire 1997-2002 sample period. Any bank that eventually becomes part of the bank holding company is included in the BHC aggregate data for the entire sample period, even if it has not yet been acquired by the BHC.

If a regression specification involves variables that are constructed with data not only from the current period but also from an earlier period, then we use data from the earlier period for the currently-relevant banks. For example, when a variable measures the change in Call Report-based holdings of small business loans from the prior to the current year, we use data for all the banks in the holding company in the current year to calculate the change in holdings by the BHC so that the same set of bank subsidiaries are used to calculate the current period and prior period values for the BHC. This procedure, akin to the "force-merging" procedure used in many banking studies, attempts to ensure that the values of the current-period first-differences are not affected by acquisitions that take place within the span of time over which first-differences are calculated. We use NIC data to catalog the events that change entities over time (e.g., mergers, splits, or acquisitions).

V. Regression Specification

We posit the following general specification to address the issues listed above. We regress BHC small business lending on variables that are designed to measure: (1) BHC size, (2) the extent to which size reflects acquisitions made within our sample period, and (3) the degree to which assets are consolidated within the BHC, primarily through mergers. We also investigate whether other bank and economic variables are statistically relevant determinants of small business lending by large BHCs.

We perform such regressions for four categories of small business lending data: two based on Call Report data and two based on CRA data; two based on actual data and two based on acquisition-adjusted data. Also, recall that we have formed the BHC aggregates by summing only those bank subsidiaries with $300 million or more in assets.

Dependent Variables:
Annual Change in Small Business Loans Outstanding (L):
 As defined in the Call Reports, loans to businesses include: (1) loans secured by nonfarm nonresidential properties in domestic offices, and (2) C&I loans to U.S.

addressees in domestic offices. The amounts of small business loans outstanding are reported on June Call Reports, Schedule RC-C, part II.[5] The small business loan categories are defined by the size of the loans, with small business loans being defined as those business loans with original amounts of $1 million or less outstanding as of June 30. Small business loans are reported in three size categories: (1) loans with original amounts of $100,000 or less, (2) loans with original amounts of more than $100,000 through $250,000, and (3) loans with original amounts of more than $250,000 through $1 million. We define total small business lending as the sum of these three size categories.

We calculate the annual change in the amount of small business loans outstanding as the difference in the amount of small business loans reported by the (same set of) bank subsidiaries in each holding company on consecutive June Call Reports. We calculate this change for total small business loans and for each of the three size subcomponents of small business loans. Thus, when the dependent variables are based on actual (rather than acquisition-adjusted) data, as discussed above, we include in the BHC's previous year's amounts the data for banks that were acquired between the two consecutive June Call Reports.

Each of these measures is then scaled by the BHC's total business loans outstanding at the beginning of the period, again forming the BHC aggregate by summing the same set of bank subsidiaries that are included in the numerator for consistency. We calculate the amount of all business loans outstanding as the sum of all loans secured by nonfarm nonresidential properties in domestic offices and all C&I loans to U.S. addressees in domestic offices, as reported on the June Call Report. This amount includes: (1) loans and leases held for sale at the lower of cost or market value, and (2) loans and leases held for investment, net of unearned income. Assets held for trading and commercial paper are excluded.

Gross Originations and Purchases of Small Business Loans (O):
CRA regulations require that banks that had at least $250 million in total assets in the prior two calendar years report the aggregate amount of small business loans that they originated or purchased within the United States. Small business loans are defined as those whose original amounts are $1 million or less and that were reported on the Call Report Schedule RC-C, as defined above. These data are compiled on a calendar-year basis.

For the CRA Reports, when a bank refinances a loan, it is considered an origination. Prior to 2001, an extension of the maturity of an existing loan was considered a renewal, not a loan origination. Beginning in 2001, the distinction between refinancing and renewal is not made, and small business loan refinancings and renewals

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[5] For loans drawn under lines of credit or loan commitments, the original amount is determined by the size of the loan when it was most recently approved, extended, or renewed prior to the report date. However, if the amount currently outstanding as of the report date exceeds this size, the "original amount" is the amount currently outstanding on the report date. For loan participations and syndications, the "original amount" of the loan is the entire amount of the credit originated by the lead lender. For all other loan types, the "original amount" is the total amount of the loan at origination or the amount currently outstanding as of the report date, whichever is larger.

are considered loan originations. An institution may report only one origination (including renewal or refinancing treated as an origination) per loan per year, unless an increase in the loan amount is granted. If the amount of the loan is increased when the term of a loan is extended, the amount of the increase is reported as a small business loan origination. Lines of credit are considered originated at the time the line is approved or increased; and an increase is considered a new origination. The full amount of a credit line is considered the amount originated.

As with renewals of small business loans, renewals of lines of credit for small business are not reported separately prior to 2001, but are collected and reported in the same way as the renewals of small business loans. Institutions report all credit card lines opened on a particular date for a single business as one small business loan origination, not each credit card line individually. If an institution originates multiple loans to the same business, each loan should be collected and reported as a separate origination, unless multiple loans are originated to artificially inflate the volume of loans evaluated for CRA lending performance.

Using these CRA data, we form the gross originations and purchases measure for the BHC by summing the values for the individual bank subsidiaries. This measure is then scaled by the BHC's total business loans outstanding at the beginning of the period, again forming the BHC aggregate by summing the same set of bank subsidiaries that are included in the numerator for consistency.

Explanatory Variables:
Log of Total Assets (LOG_ASSETS):
We calculate actual total assets as the sum of banking assets in a BHC at the beginning of the period. For the acquisition-adjusted measure, we sum over all bank subsidiaries that are affiliates of the BHC or that will be acquired by the BHC before the end of our sample period. Thus, this measure is based on the same set of banks in each time period, in contrast to the actual total assets measure that includes only those bank subsidiaries that are owned by the BHC at the date of the observation. Consequently, any growth in the acquisition-adjusted log of total assets series reflects internal growth by the fixed set of bank subsidiaries, while the actual total assets series reflects external growth through acquisitions as the acquisitions occur, as well as internal growth of bank subsidiaries only after they are acquired by the BHC.

Log of Acquired Assets (ACQ_ASSETS):
For each BHC for each year, we calculate "acquired assets" as the total amount of assets in the banks that were acquired between 1996 and that year. This measure has the same value for the actual and the acquisition-adjusted measures.

Herfindahl-Hirschman Index (HHI)*:*
For each BHC for each year, we calculate a holding company-specific Herfindahl-Hirschman Index *across its affiliated banks*, based on assets in the individual bank

subsidiaries at the beginning of the period.[6] This index is used to gauge whether the BHC has a "main" or dominant bank, or has a large number of smaller banks. For the acquisition-adjusted measure, the HHI is computed from the set of individual banks that are either in the BHC at that time or will be acquired by the BHC by the end of our sample period.

Separate Indicator Variable for Each Year (Y_t):

In each regression, we included a separate indicator variable for each of the six years in our sample period.[7] Each of the year-indicator variables takes a value of one for the fifty BHC observations for that year and takes a value of zero otherwise. The estimated coefficients on these year indicator variables measure the average effects across the fifty BHCs on small business lending of changes in economywide determinants of small business lending, such as interest rates, inflation, unemployment, tax laws, regulations, banking conditions, and so on.

Baseline Regressions

The four dependent variables for the regressions are the four measures of small business lending: (1) the change in small business loans outstanding scaled by the BHC's total business loans outstanding at the beginning of the period, L, based on actual data (L^A); (2) L based on acquisition-adjusted data (L^{AA}); (3) gross originations and purchases scaled by the BHC's total business loans outstanding at the beginning of the period, O, based on actual data (O^A); and (4) O based on acquisition-adjusted data (O^{AA}). Each of these four dependent variables is posited to depend on the log of assets (LOG_ASSETS), the log of acquired assets (ACQ_ASSETS), the Herfindahl-Hirschman Index (HHI), and the indicator variables for each year (Y_t), or:

$$Z_{s,i,t} = \alpha + \beta_1 LOG\_ASSETS_{i,t} + \beta_2 ACQ\_ASSETS_{i,t} + \beta_3 HHI_{i,t} + \sum_{t=1}^{5} Y_t$$

where $Z_{s,i,t}$ is the measure of small business lending (L^A, L^{AA}, O^A, or O^{AA}) in size category *s* for bank holding company *i* at time *t*. The size categories, s = 1, …, 4, are (1) all loans, (2) loans with original amounts of $100,000 or less, (3) loans with original amounts of more than $100,000 through $250,000, and (4) loans with original amounts of more than $250,000 through $1 million. The four measures of small business lending and four size categories produce 16 baseline regressions.

Other Candidates for Explanatory Variables:
Variables from the Fed's Survey of the Terms of Bank Lending to Business:

The Federal Reserve Board conducts a Survey of Terms of Bank Lending (STBL) from selected panels of commercial banks and U.S. branches and agencies of foreign banks at a quarterly frequency. The survey covers C&I loans to U.S. addresses, as defined in the Call Report Schedule RC-C, disbursed to borrowers during the report period. For each year and for each BHC that had at least one bank in the survey, we

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[6] This HHI index is not computed as the sum of the squared market shares of each firm in a market (e.g., a metropolitan statistical area) as is usually the case. Instead, it is computed from individual bank shares of total holding company banking assets.

[7] Rather than include six year-indicator variables, we equivalently include an intercept and five year-indicator variables.

calculate the terms of small business loans. We use data based on responses regarding loans that had face amounts of less than $1 million. For BHCs that had no bank in the STBL, we use the weighted-average for the loans of a given size class for our sample of the 50 largest BHCs for the STBL data stratified by loan class. These BHC-sample-weighted averages are used to construct an average for the STBL data for all small business loans, weighted by the amount of loans that the BHC has in each of the loan size classes.

We use STBL data for the following loan characteristics:
(a) Weighted Average Effective Loan Rate (RATE): The effective (compounded) annual interest rates are calculated from the stated rate and other terms of the loans, weighted by the loan amount;
(b) Weighted Average Maturity (MATURITY): Average maturities are weighted by loan amount and exclude loans with no stated maturities;
(c) Weighted Average Risk Rating (RISK): Risk ratings are weighted by loan amount and exclude loans with no risk rating;
(d) Percentage of Loans Secured by Collateral (COLLAT);
(e) Percentage of Loans that are Callable (CALLABLE);
(f) Percentage of Loans with a Prepayment Penalty (PREPAY); and
(g) Percentage of Loans Made Under Commitment (COMMIT).

VI. Recent Trends in BHC Activity and in Small Business Lending

In this section, we describe annual data for 1997-2002 for the 50 largest BHCs and for their small business lending. Table 1 lists the 50 BHCs included in our sample, as well as some data for each BHC in 2002: total bank assets, the ratio of gross originations and purchases of small business loans to the total stock of beginning-of-period business loans outstanding, the HHI calculated across its bank subsidiaries, and the share of its total bank assets in its largest bank. These data show wide variation in size, small business lending intensity, and in the degree of consolidation within the holding company across these 50 largest BHCs.

Figure 1 plots total bank assets held by the 50 largest BHCs calculated as the sum of the assets of the BHC's domestic bank subsidiaries with assets of $300 million or more. The dashed line shows actual assets. The solid line (the acquisition-adjusted data described earlier) shows, for each year, the sum of the assets for all of the banks that were in those 50 BHCs as of June 30, 2002. The rise in the solid line reflects the internal growth of the fixed (over time) set of banks that were in the BHCs by the end of our sample. This internal growth accounts for about one-half of the total increase in the actual assets of these BHCs that occurred during our sample period, as indicated by the rise in the dashed line. Thus, it appears that internal growth and external growth through acquisitions accounted for roughly equal shares of the growth of the 50 largest BHCs during the 1997 to 2002 period.

Figure 2 plots the share of aggregate U.S. bank assets that were held by the 50 largest BHCs, again based on banks with assets of $300 million or more. Although this set of the largest BHCs already held more than 50 percent of total U.S. bank assets by

1997, the figure shows a sharp increase in the share between 1997 and 2000. This wave of consolidation, perhaps related to the effects of the Riegle-Neal Interstate Banking and Branching Efficiency Act, abated after 2000 as the share leveled off at nearly 70 percent of total U.S. bank assets.

The 50 largest BHCs have also consolidated their bank subsidiaries considerably during our sample period. Figure 3 shows the average HHI for bank concentration across the 50 BHCs for each year. The dashed line, which plots data for the actual composition of the BHCs in each year, shows that, despite having acquired other banks with hundreds of billions of dollars in assets, the HHI still rose from less than 6000 to more than 8000 over this period. This consolidation presumably reflects a combination of faster growth of the larger banks in the BHCs and within-BHC mergers, which "rolled up," and thus eliminated, bank charters. The acquisition-adjusted solid line indicates that, even for the consistently measured (over time) sample of banks for each BHC, the HHI more than doubled over the five-year span, from less than 4000 to more than 8000. This series isolates the increase in bank concentration among the banks ultimately in the BHCs due to mergers separate from the effects of acquisitions. As would be expected, the acquisition-adjusted series lies below the actual series, because this series includes banks not yet acquired by the BHCs, and thus banks that the BHC could not yet merge into its other bank subsidiaries.

Figure 4 provides information consistent with this pattern and interpretation. Figure 4 plots the average of the share of assets in the largest bank in each of the 50 largest BHCs. The data suggest that more assets are being concentrated in the largest, or main, banks. In fact, for the acquisition-adjusted series, the share nearly doubles during the 1997 to 2002 period, suggesting a fairly dramatic increase in concentration as BHCs consolidated their banking assets into their lead bank following the removal of restrictions with respect to interstate branching.

Figure 5 plots data for the dollar amounts of small business loans held on the balance sheets (in portfolio) at the 50 largest BHCs. The dashed line plots the actual data and, thus, reflects the growth in the holdings of small business loans due to bank acquisitions by the BHCs as well as any internal growth in small business loans during the 1997 to 2002 period. The sharp increase in actual holdings is of little surprise, especially given the sharp rise in actual total assets shown in Figure 1. What is more intriguing is the absolute decline in the amount of small business loans held in portfolio for the fixed sample of banks, plotted with the solid, acquisition-adjusted line. The solid line shows that when the coverage of banks in the BHCs is consistently measured across time, i.e., using the constant set of individual banks that were in the 50 largest BHCs as of mid-2002, the average holdings of small business loans declined by roughly $100 billion during the same time that average total assets in these BHCs rose by roughly $1 trillion (as shown in Figure 1). Thus, these two measures provide quite different impressions. While the observed volume of small business loans at these largest BHCs rose sharply, on average, all of that increase (and more) was due to bank acquisitions. Once one consistently measures the same set of banks across time periods, we see that the volume of small business loans at the banks ultimately controlled by these largest BHCs was actually declining over our sample period.

Figure 6 reinforces this view. This figure shows the share of small business loans held by the 50 largest BHCs for both the actual composition of the BHCs and for the acquisition-adjusted series, again measured using only those banks with assets of $300 million or more. While the actual series rises noticeably from 1997 to 1999 as the banking industry became more concentrated, the constant-sample share declines by about one-quarter.

Figure 7 plots the average gross originations and purchases of small business loans by the 50 largest BHCs. This figure tells much the same story as Figure 5. The actual series for originations and purchases rises on average over our sample period. However, the acquisition-adjusted series that uses a consistent set of banks across time exhibits a dramatic decline from 1997 to 1998, followed by a further slight decline before recovering somewhat at the end of the period. Figure 8 plots the same data as Figure 7, except that the dollar amounts are expressed relative to total gross originations and purchases of small business loans. The actual series exhibits a slight upward drift. However, the acquisition-adjusted series shows a dramatic decline, consistent with the declines in the acquisition-adjusted series presented in Figures 5 through 7.

VII. Results

Table 2 contains the results from the 16 baseline regressions for small business lending by the 50 largest BHCs. For each of the four combinations of actual and acquisition-adjusted data based on Call Report and CRA Report data, the table shows the results obtained for total and for the three size categories that comprise small business lending. Results based on *actual* BHC data (L^A and O^A) are shown in the top panels, while results based on *acquisition-adjusted* data (L^{AA} and O^{AA}) are shown in the bottom panels. Results based on *Call Report* data (L^A and L^{AA}) are shown in the left panels, while results based on the *CRA Report* data (O^A and O^{AA}) are shown in the right panels. Parameter estimates in Table 2 are estimated using a random (BHC) effects specification.[8]

Row (A) of both the top and bottom panels shows the effects of BHC size on small business lending. These estimated coefficients can be interpreted as indicating the effect of internal growth on small business lending because we separately control for the effect of external (acquisition-based) growth by including the variable ACQ_ASSETS. Regardless of the small business lending measure – L^A, L^{AA}, O^A, or O^{AA} – the parameter estimates on LOG_ASSETS indicate that small business lending fell as the total banking asset size of BHCs rose. These estimates coincide with those reported in the literature. Furthermore, the negative estimated effect is strongly statistically significant for each small business lending measure and loan size category, s = 1,…, 4. Thus, internal growth of bank assets, in the estimates based either on the acquisition-adjusted specifications (L^{AA} and O^{AA}) or on the actual specifications (L^A and O^A), reduces small business lending for each loan size category.

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[8] Table 2 and subsequent tables do not report the parameter estimates for the intercept or for the five indicator variables for individual years. Each of these parameter estimates is statistically significant at the 5 percent level.

None of the estimated coefficients for acquired assets, shown in Rows (B), is statistically significant for L^A (top left panel), L^{AA} (bottom left panel), O^A (top right panel) or O^{AA} (bottom right panel)   One potential interpretation of the results in Row (B) of the top panel is that acquisitions have no separate effect on small business lending apart from their affect on the size of a BHC. In that case, a BHC that grew internally would reduce its small business lending by the same amount as a BHC that increased its assets via acquisitions.

This interpretation might be too hasty, however. In fact, our preferred interpretation is that, in contrast to the internal growth of assets, external growth of assets via acquisitions may have no detectable effect on small business lending. In the top panel of Table 2, which is based on actual as opposed to acquisition-adjusted data, the effect on small business lending of external growth via acquisitions is measured by the sum of the estimated coefficients on LOG_ASSETS and ACQ_ASSETS, because an acquisition would raise actual total assets as well. The signs of the estimated coefficients in Row (B) tend to be opposite those in Row (A), regardless of the choice for small business lending measure. Estimating effects of LOG_ASSETS and ACQ_ASSETS variables that have opposite signs implies that the net effects of external asset growth via acquisitions are smaller (in absolute value) than the (gross) effects shown in Row (A). Therefore, asset growth via acquisitions tends to reduce small business lending less than does internal growth, if at all. While internal growth tends to reduce small business lending, growth via acquisitions has smaller, and perhaps no, effects on small business lending.

That interpretation is confirmed by the coefficient estimates in the bottom panel of Table 2. Here, the effect of external growth via acquisitions is measured by the estimated coefficient on ACQ_ASSETS alone, because an acquisition has no effect on the amount of already acquisition-adjusted assets. The statistically insignificant coefficient on ACQ_ASSETS suggests that external growth has no detectable effect on small business lending.

Rows (C) show that the estimated effects of consolidation, as measured by the variable HHI, differ across panels. In the right panels, based on CRA data for gross originations and purchases (O^A and O^{AA}), higher values of HHI (greater concentration among BHC subsidiaries) imply less small business lending and, in all but one instance, are statistically significant. The most straightforward interpretation of this negative effect is that, given the size and extent of the internal and external growth of a BHC, the more concentrated the assets become in its larger banks, through either internal growth or through mergers of its bank subsidiaries, the less small business lending the BHC does. These results appear consistently both for the actual series (HHI^A) that is based on the HHI for the current distribution of the BHC's assets across its current bank subsidiaries and for the acquisition-adjusted series (HHI^{AA}) that is based on the current distribution of the BHC's assets across its current and soon-to-be bank subsidiaries. While differential growth rates across the BHC's bank subsidiaries would impact the value of the HHI, it is likely dominated by the internal mergers as the BHCs have consolidated bank charters.

These results suggest that in addition to the pure size effect, the organizational form of a BHC has important effects on small business lending. When BHCs acquire and thus change the ownership of banks -- but do not merge them with their other banks (or with each other) -- small business lending may be little affected. In contrast, as BHCs merge bank subsidiaries and otherwise shift assets into their larger banks, their small business lending tends to be reduced. Thus, it appears to be the centralization, or increased concentration, of command and control through the rolling up of bank charters that matters, rather than a change in ownership of a bank in which the acquiring BHC may reduce the operational autonomy of the acquired bank very little.

In the left panels in Table 2, which are based on the Call Report data for changes in bank holdings of small business loans (L^A and L^{AA}), the negative effects of consolidation, as measured by HHI^A and HHI^{AA}, are uniformly negative, but rarely statistically significant. This finding suggests that, following consolidation, a BHC may reduce its gross flows of small business loans (O) more detectably than it reduces its holdings (L). That is, the holdings of small business loans by BHCs may not, consonant with the results in the left panel for Row (C), decline as they consolidate, while their gross originations and purchases (right panel for Row (C)) do decline. One explanation that fits this pattern of estimated coefficients is that bank holding companies tend to buy and sell (via securitizations) fewer small business loans after they merge their banks.[9]

Table 3 presents additional evidence that acquisitions have no separate effect on small business lending. Just like the bottom panels of Table 2, the parameter estimates in Table 3 are based on acquisition-adjusted data and the regressions are estimated using a random (BHC) effects specification. But, in Table 3, the acquired assets variable is defined differently. In Row (B) of Table 3, the acquired assets variable is the log of assets that have not yet been acquired as of year t but were acquired by the last year in our sample. In none of the regressions in Table 3 is the log of assets not yet acquired statistically significant; at the same time, the other parameter estimates that were significant in the bottom panel of Table 2 retain their significance. Thus, yet-to-be-acquired assets do not influence small business lending. This finding coupled with the insignificant effects of acquired assets on small business lending in Table 2 (Row (B) bottom panel), suggests that acquisitions of banks by bank holding companies are not the primary factor that reduce small business lending at large BHCs. Rather, consolidation in the form of mergers and increasing size are more important factors.

The estimates in Tables 2 and 3 are based a random effects specification, which allows for differences across BHCs in the mean effects of any omitted variables. Because those differential mean effects would otherwise be in the error term and might well be correlated with the with other regressors in our specification, on a priori grounds we prefer fixed or random effects effects estimates over estimates obtained by ordinary least squares (OLS). In addition to the random effects specifications, we also estimate fixed effects and OLS specifications.[10]

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[9] Securitization of small business loans to date has been modest (Board of Governors of the Federal Reserve System 2002).

[10] A Hausman test for correlation between the error and the regressors is used to check whether the random effects model is appropriate. Hausman test statistics are presented at the bottom of Tables 2, 3, 6 and 7.

For comparison with the random effects estimates in Table 2, Table 4 shows the parameter estimates for OLS regressions   In general, parameters that are significant in Table 2 are also significant in Table 4. At the same time, the log of acquired assets between 1996 and year t (ACQ_ASSETS) remains insignificant regardless of whether we use bank holdings of small business loans (L), gross flows of small business loans (O), actual data (A) or acquisition-adjusted data (AA). Table 5 presents the parameter estimates for regressions that include fixed (BHC-specific) effects for each of the 50 bank holding companies in our sample. Again, the parameter estimates on the log of assets acquired between 1996 and year t remain insignificant regardless of the small business lending measure or of the metric (actual vs. acquired) used to construct the data. Moreover, the size of the bank holding company (LOG_ASSETS) and its concentration (HHI) still strongly influence small business lending originations and purchases, either actual (O^A) or acquisition-adjusted (O^{AA}). Therefore, our main findings are not a result of allowing for random (BHC-specific) effects.

Finally, we consider the potential influence of loan characteristics on small business lending by the largest bank holding companies. In Tables 6 and 7, we add to the baseline random effects models (see Table 2) the STBL variables (RATE, MATURITY, RISK, COLLAT, CALLABLE, PREPAY, and COMMIT). Table 6 shows the parameter estimates for the models estimated with actual data, L^A and O^A, while Table 7 presents the estimates for the acquisitions-adjusted data, L^{AA} and O^{AA}. Strikingly, in Table 6 the inclusion of the (significant) STBL variables neither influences the size or the significance of the parameter estimates for the baseline regressions (Table 2, top panel).

Comparing the top panel of Table 7 with the bottom panel of Table 2 indicates that the general impressions conveyed by Table 2 remain after we include the loan characteristics variables. Surprisingly, once we control for holding company size, acquired assets and consolidation within the holding company, very few of the loan characteristics appear to play a role in the amount of small business lending by the largest BHCs. Very few of the loan characteristic variables are significant in either Table 6 (actual data) or in Table 7 (acquisitions-adjusted data). Such characteristics appear to be least important for the smallest of the small business loan size categories.

VIII. Summary

The supply of bank loans to small businesses can importantly affect the condition and performance of small businesses. Historically, larger banks devoted smaller portions of their loan portfolios to small business loans. The increasing consolidation of larger BHCs, both via mergers and acquisitions of other banks and via relatively faster growth of their larger banks, has raised the issue of whether bank consolidation in general is

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The chi-square test statistics indicate that the random effects model cannot be rejected in favor of the fixed effects specification. Test statistics indicate that the fixed effects specification is preferable to the OLS specification.

[12] Results of studies that analyze the relationship between consolidation activity and the availability of credit to small businesses have shown that any reduction in small business lending by newly consolidated banks is generally offset by an increase in small business lending by other banks.

likely to reduce the supply of loans from these largest BHCs to small businesses. We set out to address whether internal or external growth at the largest bank holding companies, or the consolidation within these holding companies, tends to reduce small business lending.[12]

For this report, we construct and analyze both conventional and novel data for banks, aggregated to the bank holding company level, and for their small business lending. We calculate both the amounts of small business loans reported on the balance sheets and the amounts of (gross) originations and purchases of business loans for individual banks. In addition, we construct actual and acquisition-adjusted data for each of the 50 largest BHCs from individual bank data. Although the different data sets highlight different aspects of banks' small business lending, the consistent results across datasets increase our confidence in the overall patterns of results.

Our results do suggest that, in general among the largest 50 U.S. bank holding companies, larger BHCs tend to do less small business lending. Interesting distinctions also exist. Our results suggest that small business lending is affected quite differently by the way in which a BHC becomes larger and the extent to which the BHCs consolidate their bank subsidiaries. Our results imply that banks that are acquired but not placed under the more direct control that accompanies a formal merger may do about the same amount of small business lending as they had prior to the acquisition. In contrast, the merging of bank charters within the BHC seems more likely to reduce small business lending.

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Figure 1
Total Assets of the 50 Largest U.S. Bank Holding Companies
(Constant 2002 Dollars)
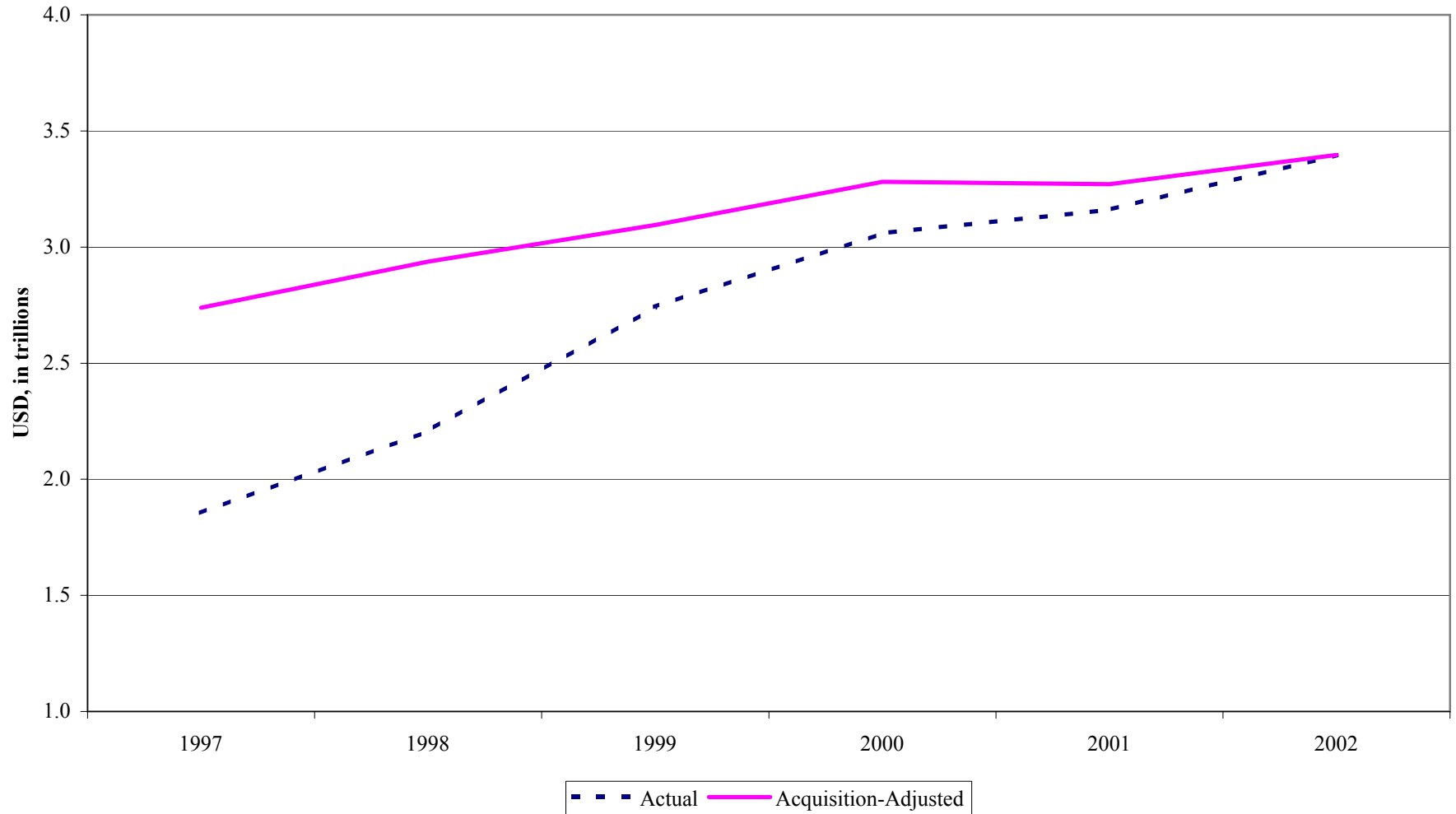
Source: June Call Reports, 1997-2002

Figure 2
Share of Bank Assets in the 50 Largest U.S. Bank Holding Companies
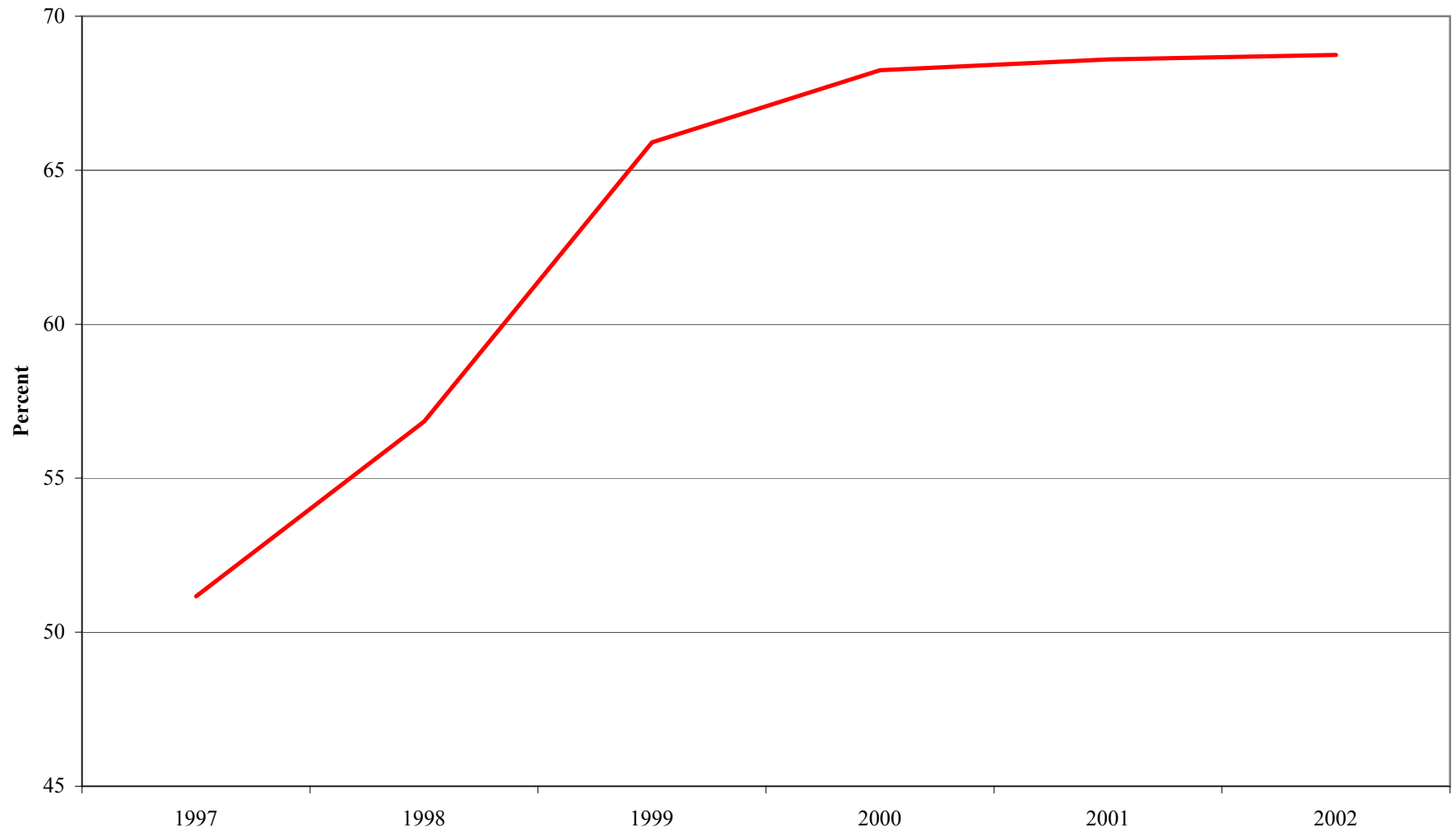
Figure 3
Average HHI for the 50 Largest U.S. Bank Holding Companies, Weighted by Total Bank Assets

Figure 4

Average Share of Assets in the Largest Bank Subsidiary ("Main Bank") for the
50 Largest U.S. Bank Holding Companies, Weighted by Total Bank Assets

Source: June Call Reports, 1997-2002
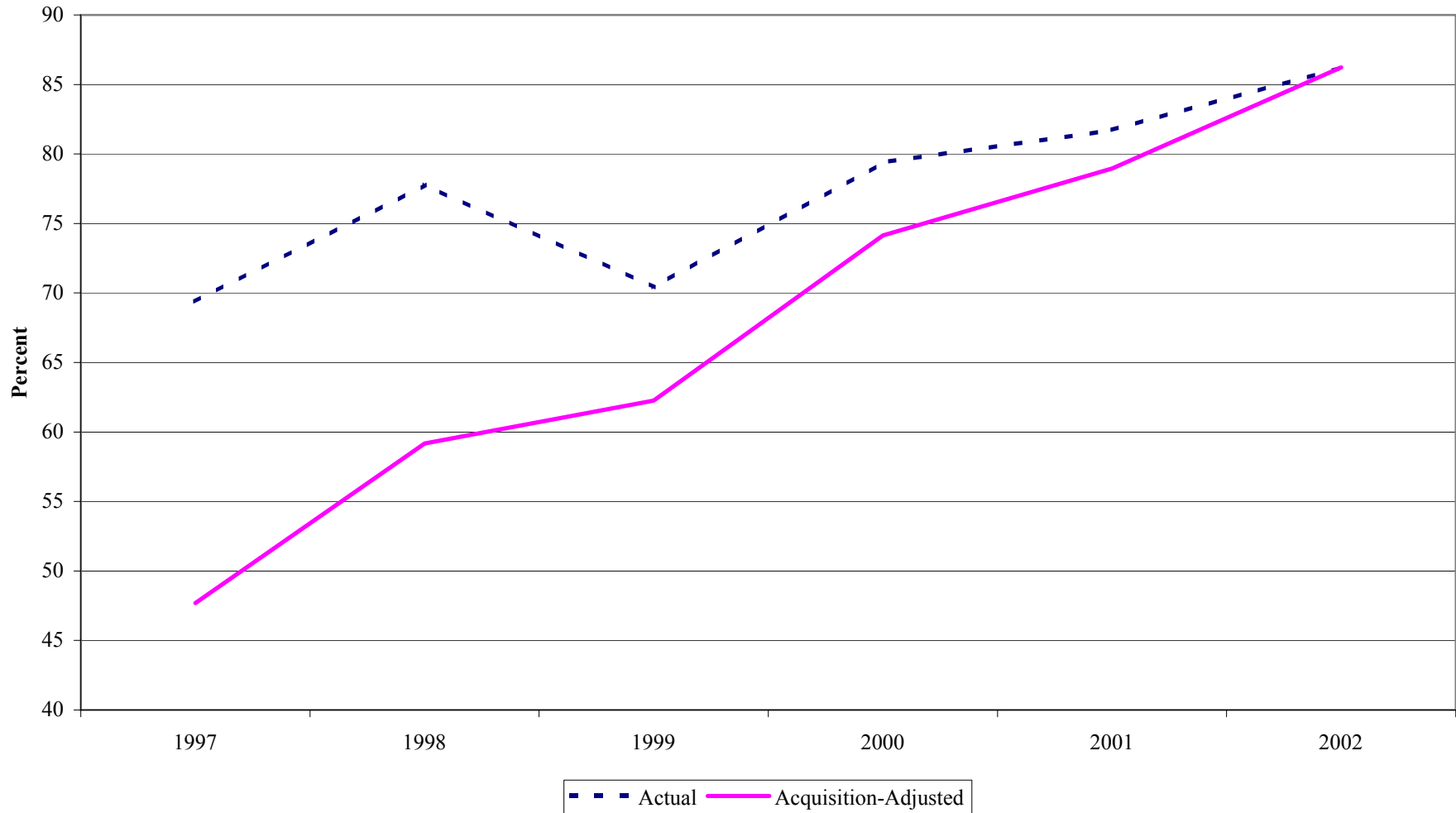
Figure 5
Average Small Business Loans Outstanding on June Call Reports
for the 50 Largest U.S. Bank Holding Companies, Weighted by Total Bank Assets
(Constant 2002 Dollars)
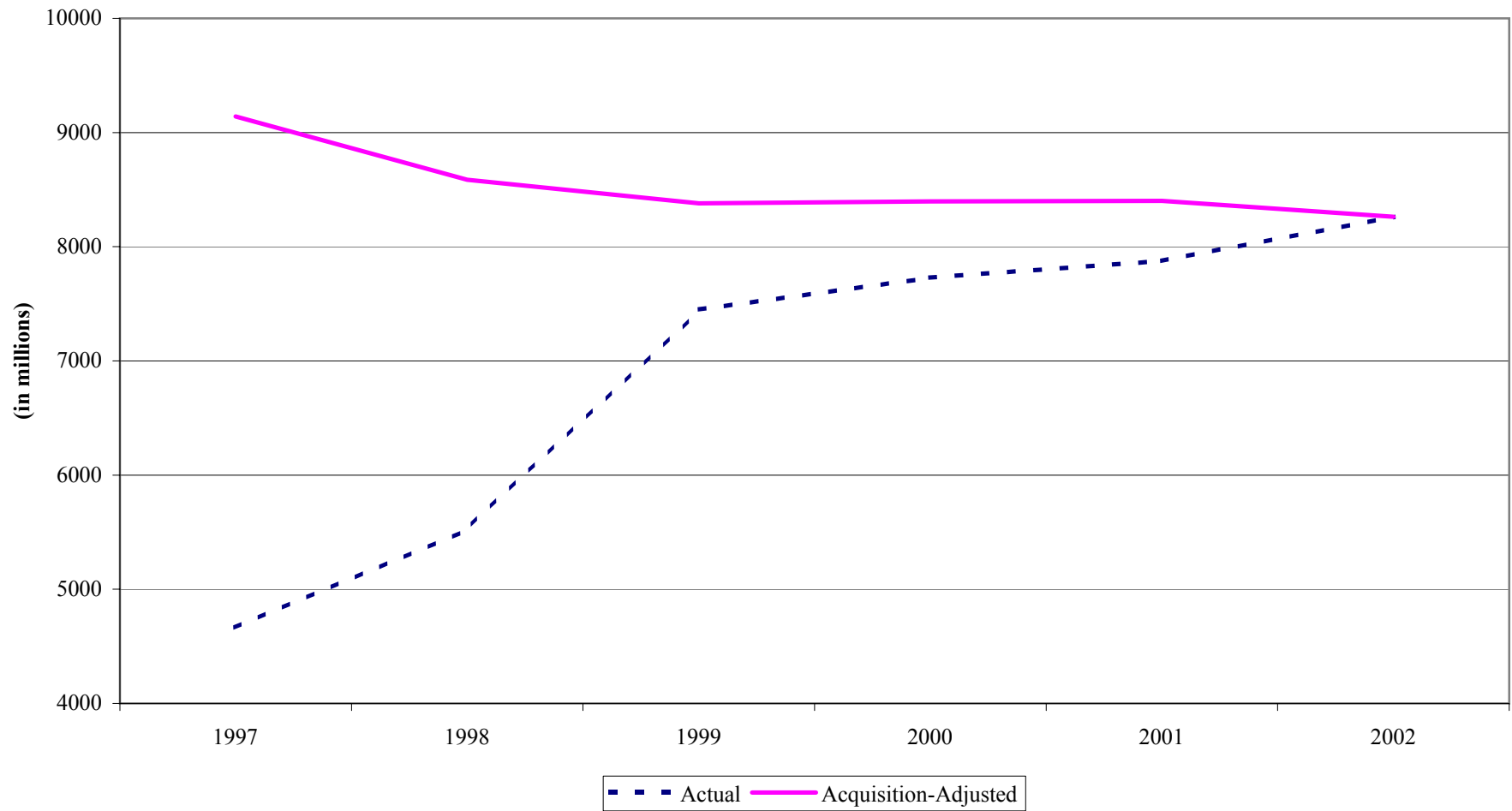
Source: June Call Reports, 1997-2002

Figure 6
Share of Outstanding Small Business Loans Held by the
50 Largest U.S. Bank Holding Companies
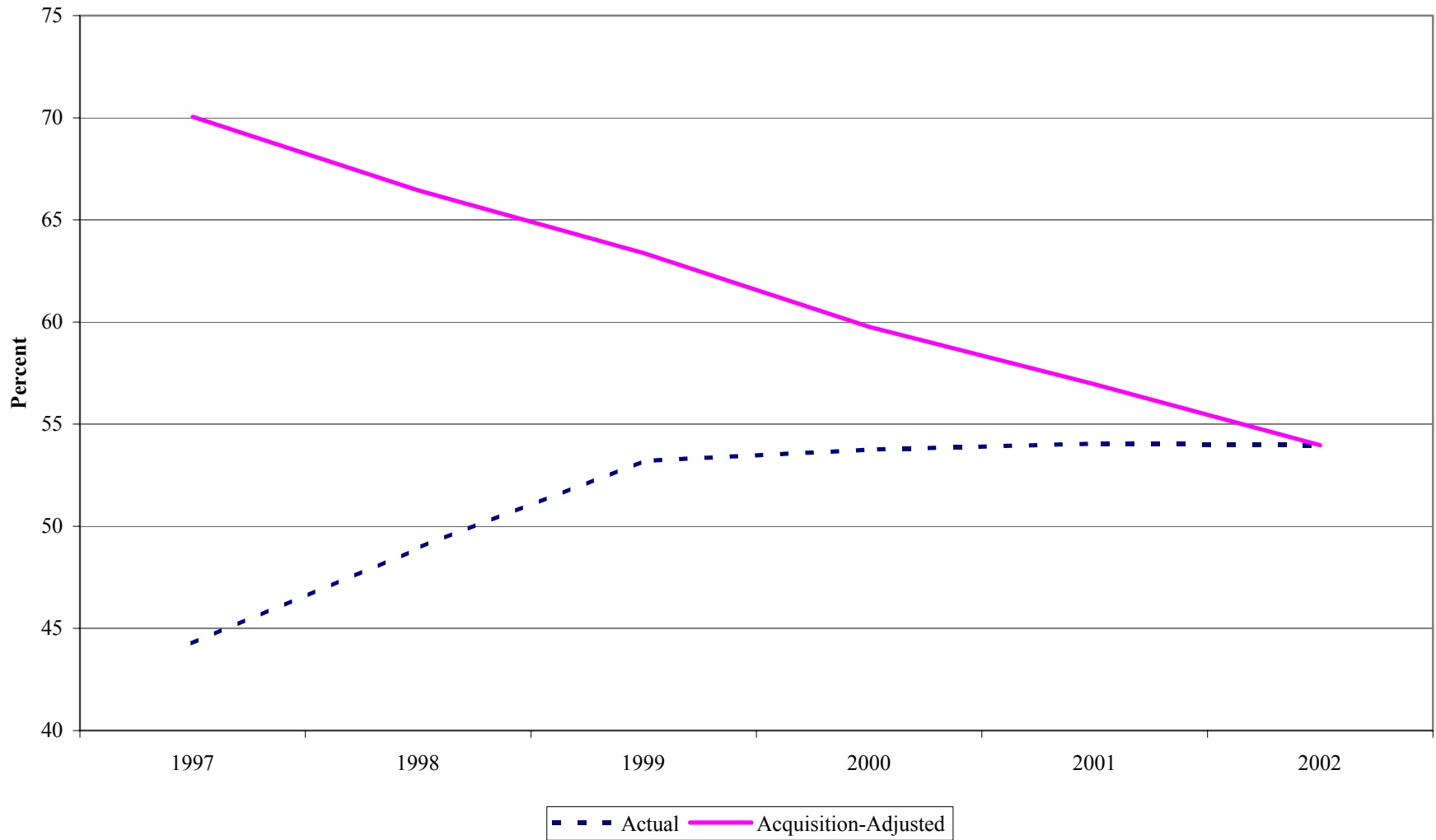
Source: June Call Reports, 1997-2002

Figure 7
Average Small Business Loan Originations and Purchases for the
50 Largest U.S. Bank Holding Companies, Weighted by Total Bank Assets
(Constant 2002 Dollars)

- - - Actual ——— Acquisition-Adjusted

Figure 8
Share of Small Business Loans Originations and Purchases by the
50 Largest U.S. Bank Holding Companies
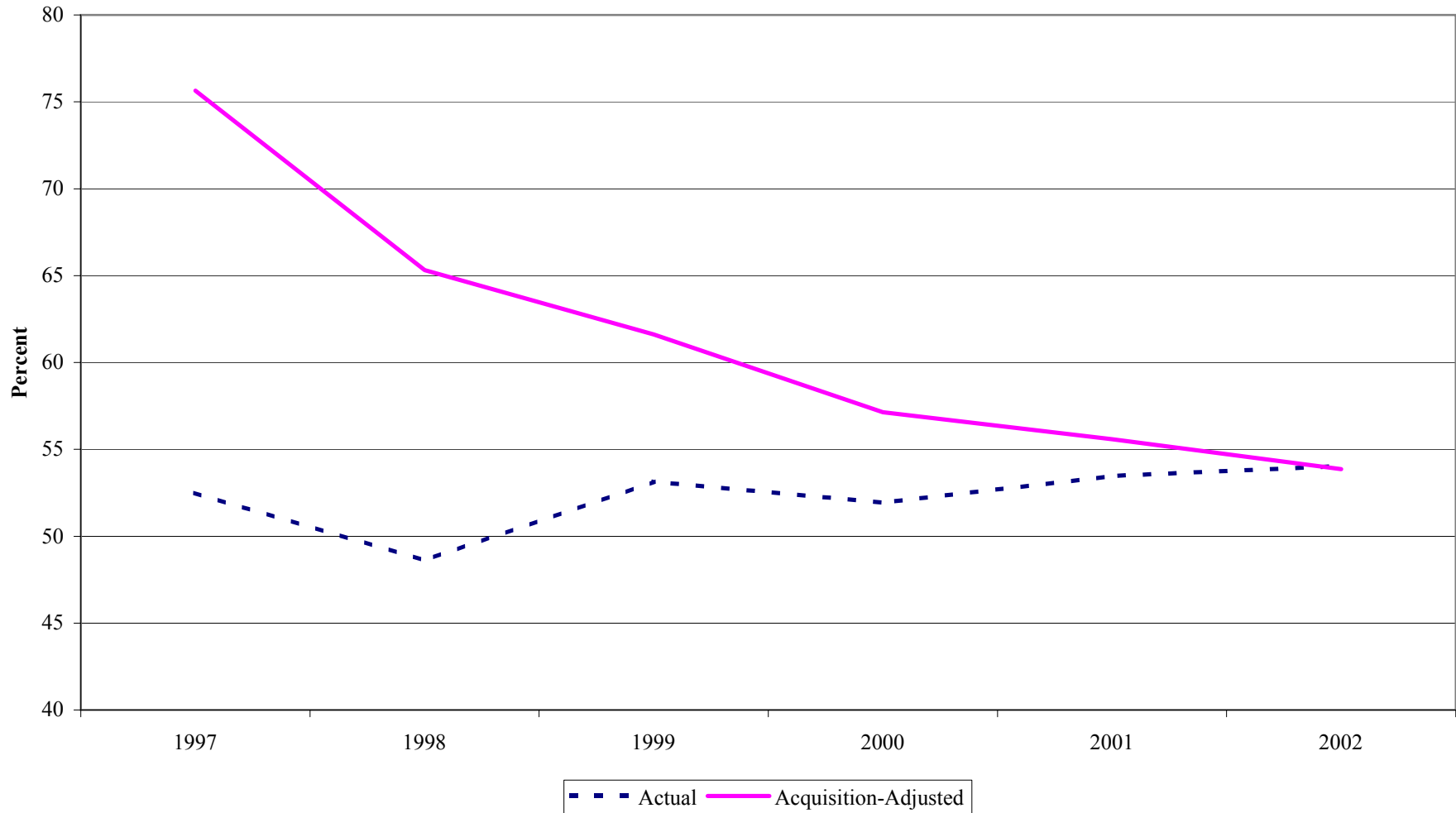
Source: CRA Reports, 1997-2002

Table 1
Fifty Largest U.S. Bank Holding Companies
(Ranked by Total Bank Assets as of June 30, 2002)

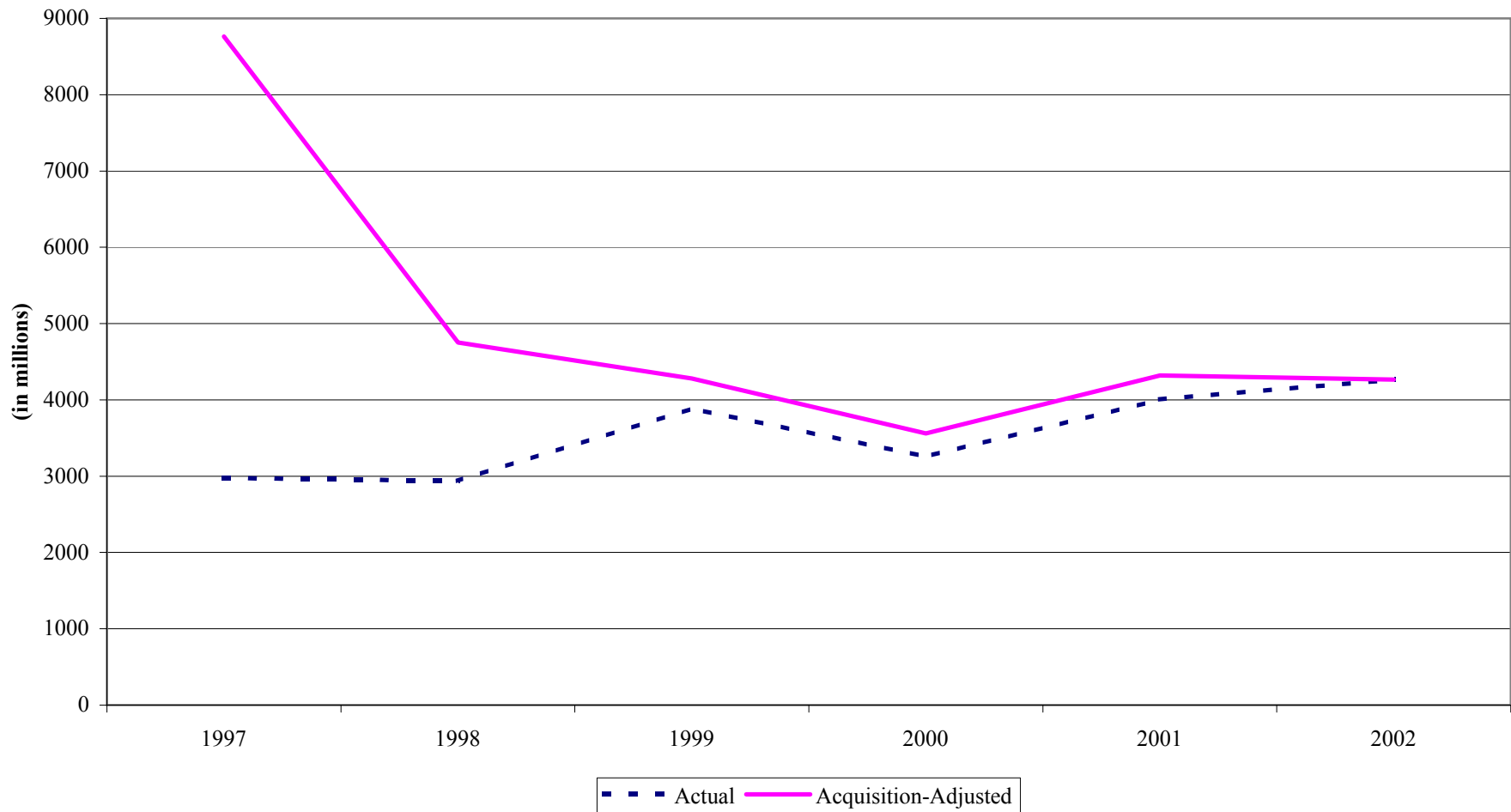| RSSD ID	Bank Holding Company Name	Total Assets ($B)	HHI
1073757	Bank of America Corporation	517	9391
1039502	J.P. Morgan Chase and Co.	297	10000
1073551	Wachovia Corporation	288	10000
1068294	Bank One Corporation	273	4041
1951350	Citigroup, Inc.	239	8301
1119794	U.S. Bancorp	171	9683
1120754	Wells Fargo & Company	160	1758
1113514	FleetBoston Financial Corporation	158	10000
1069125	National City Corporation	112	2503
1131787	Suntrust Banks, Inc.	105	10000
1074156	BB&T Corporation	80	5578
1070345	Fifth Third Bancorp	79	3850
1068025	Keycorp	72	10000
1069778	PNC Financial Services Groups, Inc.	58	10000
1033470	Bank of New York Company, Inc.	58	10000
1199844	Comerica Incorporated	55	4969
1079441	Southtrust Corporation	48	10000
1078332	Regions Financial Corporation	43	10000
1078604	AmSouth Bancorporation	38	10000
1094369	Union Planters Corporation	32	10000
1037003	M&T Bank Corporation	31	10000
1199497	Marshall & Ilsley Corporation	28	10000
1129382	Popular, Inc.	27	6765
1199611	Northern Trust Corporation	27	6859
1068762	Mellon Financial Corporation	25	7452
1068191	Huntington Bancshares	25	10000
1027004	Zions Bancorporation	24	3128
1078529	Compass Bancshares, Inc.	24	10000
1249196	Banknorth Group, Inc.	21	10000
1093728	National Commercial Financial Corporation	21	10000
2081124	Greenpoint Financial Corporation	20	10000
1094640	First Tennessee National Corporation	20	9651
1048429	North Fork Bancorporation, Inc.	19	10000
1070617	Provident Financial Corporation, Inc.	17	10000
1078921	Hibernia Corporation	16	10000
1199563	Associated Banc-Corp	15	4788
1117679	Commerce Bancshares, Inc.	14	3620
1080465	Colonial Bancgroup, Inc.	14	10000
1078846	Synovus Financial Corporation	13	1551
1049341	Commerce Banchsares, Inc.	12	7121
1246702	People's Mutual Holdings	12	10000
1027518	City National Corporation	11	10000
1075612	First Citizens Bancshares, Inc.	11	10000
1070804	Firstmerit Corporation	10	10000
1071968	First Virginia Banks, Inc.	10	2348
1883693	BOK Financial Corporation	10	8037
1097614	Bancorpsouth, Inc.	10	10000
1098303	Old National Bancorp	9	10000
2089036	Emigrant Bancorp, Inc.	9	10000
1071203	Sky Financial Group, Inc.	9	10000

Source: Call Report, 2002:Q2

Bank holding company data are computed as the sum of data reported on the June 2002 Call Report by their domestic bank subsidiaries, excluding banks with less than $300 million in total assets, credit card banks, limited purpose banks and wholesale banks.

Table 2
Small Business Lending Activity of the 50 Largest U.S. Bank Holding Companies, 1997-2002
Random Effects Specification

Explanatory Variables	Dependent Variables: Actual Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-2.78**	**-0.71**	**-0.56**	**-1.50**	**-7.68**	**-2.07**	**-1.68**	**-3.93**
	-3.46	**-2.58**	**-2.97**	**-3.35**	**-5.52**	**-4.79**	**-5.10**	**-5.40**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	2.71	0.24	0.81	1.67	2.57	0.98	0.47	1.03
	1.05	0.26	1.23	1.13	0.95	1.21	0.68	0.70
(C) The Herfindahl-Hirschman Index in the previous year, scaled by 1000 (HHI)	-0.39	-0.08	*-0.12*	-0.23	**-0.95**	**-0.16**	**-0.22**	**-0.58**
	-1.51	-0.84	*-1.90*	-1.58	**-3.79**	**-2.19**	**-3.44**	**-4.19**
Goodness of Fit Measures								
R-Squared	0.10	0.07	0.08	0.09	0.28	0.24	0.27	0.25
m-Value for the Hauman Test for Random Effects	4.28	6.11	4.78	3.96	7.54	14.15	4.80	5.03
Pr > m	0.83	0.64	0.78	0.86	0.48	0.05	0.78	0.75
Mean of Dependent Variable	4.45	0.96	0.80	2.69	23.60	5.70	5.15	12.75

Explanatory Variables	Dependent Variables: Acquisition-Adjusted Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-2.56**	**-0.47**	**-0.49**	**-1.58**	**-7.39**	**-1.93**	**-1.66**	**-3.85**
	-5.16	**-2.28**	**-3.63**	**-6.26**	**-6.12**	**-5.14**	**-5.68**	**-6.13**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	1.28	-0.27	0.36	1.02	2.99	0.93	0.62	1.31
	0.74	-0.39	0.70	1.13	1.41	1.56	1.10	1.10
(C) The Herfindahl-Hirschman Index in the previous year, scaled by 1000 (HHI)	*-0.31*	-0.06	**-0.12**	*-0.15*	**-0.91**	*-0.13*	**-0.21**	**-0.59**
	-1.76	-0.79	**-2.35**	*-1.70*	**-3.81**	*-1.88*	**-3.29**	**-4.39**
Goodness of Fit Measures								
R-Squared	0.15	0.05	0.09	0.18	0.27	0.24	0.25	0.24
m-Value for the Hauman Test for Random Effects	4.34	2.31	4.85	5.28	7.61	15.01	5.06	5.66
Pr > m	0.82	0.97	0.77	0.73	0.47	0.04	0.75	0.68
Mean of Dependent Variable	3.63	0.70	0.62	2.32	22.72	5.49	4.97	12.26

NOTE: All specifications include a constant term that was significant at the 5% level. Year indicator variables were also included, though these coefficient estimates are not reported. t-statistics appear below parameter estimates. Parameter estimates that are significant at the 5% level are indicated by shading. Parameter estimates that are significant at the 10% level are indicated by bold italics.

Table 3
Small Business Lending Activity of the 50 Largest U.S. Bank Holding Companies, 1997-2002
Random Effects Specification

Explanatory Variables	Dependent Variables: Acquisition-Adjusted Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-2.45** **-5.09**	**-0.49** **-2.48**	**-0.47** **-3.52**	**-1.51** **-6.21**	**-7.24** **-6.06**	**-1.88** **-5.03**	**-1.63** **-5.60**	**-3.79** **-6.15**
(B) The log of assets that have not yet been acquired (NotYet_ACQ_ASSETS)	-0.0002 0.00	-0.001 -0.03	0.003 0.14	0.01 0.15	0.08 0.88	0.01 0.44	0.01 0.42	0.06 1.22
(C) The Herfindahl-Hirschman Index in the previous year, scaled by 1000 (HHI)	*-0.33* *-1.73*	-0.05 -0.71	*-0.12* *-2.21*	*-0.17* *-1.70*	**-0.80** **-3.25**	-0.10 -1.44	**-0.19** **-2.92**	**-0.52** **-3.79**
Goodness of Fit Measures								
R-Squared	0.14	0.05	0.09	0.18	0.27	0.23	0.25	0.24
m-Value for the Hauman Test for Random Effects	6.30	1.27	7.82	5.65	7.69	20.66	3.55	5.65
Pr > m	0.61	1.00	0.45	0.69	0.46	0.00	0.90	0.69
Mean of Dependent Variable	3.63	0.70	0.62	2.32	22.72	5.49	4.97	12.26

NOTE: All specifications include a constant term that was significant at the 5% level. Year indicator variables were also included, though these coefficient estimates are not reported. t-statistics appear below parameter estimates. Parameter estimates that are significant at the 5% level are indicated by shading. Parameter estimates that are significant at the 10% level are indicated by bold italics.

Table 4
Small Business Lending Activity of the 50 Largest U.S. Bank Holding Companies, 1997-2002
OLS Specification

Explanatory Variables	Dependent Variables: Actual Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-2.75** **-4.69**	**-0.71** **-3.44**	**-0.56** **-3.51**	**-1.49** **-4.37**	**-6.26** **-8.85**	**-1.28** **-5.88**	**-1.48** **-8.66**	**-3.51** **-9.37**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	2.82 1.30	0.83 1.09	0.83 1.42	1.16 0.92	-1.54 -0.59	0.22 0.27	-0.63 -1.00	-1.13 -0.82
(C) The Herfindahl-Hirschman Index in the previous year, scaled by 1000 (HHI)	**-0.57** **-2.59**	-0.10 -1.33	**-0.15** **-2.52**	**-0.32** **-2.50**	**-1.44** **-5.48**	**-0.24** **-2.94**	**-0.33** **-5.14**	**-0.88** **-6.32**
Goodness of Fit Measures								
R-Squared	0.11	0.06	0.07	0.09	0.28	0.14	0.28	0.32
Mean of Dependent Variable	4.45	0.96	0.80	2.69	23.60	5.70	5.15	12.75

Explanatory Variables	Dependent Variables: Acquisition-Adjusted Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-2.52** **-6.00**	-0.47 -2.78	**-0.49** **-3.77**	**-1.56** **-7.00**	**-6.20** **-9.68**	**-1.25** **-6.30**	**-1.48** **-9.38**	**-3.48** **-10.35**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	0.94 0.59	-0.16 -0.25	0.33 0.67	0.77 0.91	-2.38 -0.98	-0.04 -0.05	-0.77 -1.30	-1.57 -1.23
(C) The Herfindahl-Hirschman Index in the previous year, scaled by 1000 (HHI)	**-0.36** **-2.29**	-0.06 -1.01	**-0.12** **-2.50**	**-0.17** **-2.08**	**-1.43** **-5.92**	**-0.24** **-3.25**	**-0.31** **-5.31**	**-0.87** **-6.89**
Goodness of Fit Measures								
R-Squared	0.15	0.03	0.09	0.20	0.32	0.17	0.32	0.35
Mean of Dependent Variable	3.63	0.70	0.62	2.32	22.72	5.49	4.97	12.26

NOTE: All specifications include a constant term that was significant at the 5% level. Year indicator variables were also included, though these coefficient estimates are not reported. t-statistics appear below parameter estimates. Parameter estimates that are significant at the 5% level are indicated by shading. Parameter estimates that are significant at the 10% level are

Table 5
Small Business Lending Activity of the 50 Largest U.S. Bank Holding Companies, 1997-2002
Fixed (BHC) Effects Specifcation

Explanatory Variables	Dependent Variables: Actual Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	All Loans	Loans less than $100,000	Loans $100,000 $250,000	Loans $250,000 $1 million	All Loans	Loans less than $100,000	Loans $100,000 $250,000	Loans $250,000 $1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	-6.73	-1.95	-1.52	-3.26	**-14.21**	**-4.82**	**-2.94**	**-6.45**
	-1.55	-1.27	-1.23	-1.27	**-4.60**	**-5.57**	**-3.59**	**-3.68**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	5.62	-0.55	1.40	4.77	**8.85**	**3.34**	*1.82*	*3.69*
	1.08	-0.30	0.94	1.55	**2.39**	**3.21**	*1.85*	*1.76*
(C) The Herfindahl-Hirschman Index in the previous year (HHI)	0.04	-0.01	0.03	0.02	**-0.91**	**-0.18**	**-0.21**	**-0.53**
	0.11	-0.05	0.25	0.09	**-3.40**	**-2.33**	**-2.90**	**-3.48**
Goodness of Fit Measures								
R-Squared	0.40	0.36	0.31	0.37	0.83	0.83	0.80	0.81
F-Value for the F-Test for Fixed Effects	**2.25**	**2.10**	**1.52**	**2.01**	**15.77**	**19.94**	**12.21**	**13.09**
Mean of Dependent Variable	4.45	0.96	0.80	2.69	23.60	5.70	5.15	12.75

Explanatory Variables	Dependent Variables: Acquisition-Adjusted Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	All Loans	Loans less than $100,000	Loans $100,000 $250,000	Loans $250,000 $1 million	All Loans	Loans less than $100,000	Loans $100,000 $250,000	Loans $250,000 $1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-6.57**	-1.79	-1.31	**-3.48**	**-11.86**	**-4.07**	**-2.40**	**-5.39**
	-2.01	-1.37	-1.24	**-1.98**	**-4.37**	**-5.50**	**-3.22**	**-3.47**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	1.27	-1.28	0.33	2.21	2.92	0.66	0.77	1.49
	0.45	-1.16	0.37	1.48	1.27	1.05	1.22	1.13
(C) The Herfindahl-Hirschman Index in the previous year (HHI)	0.13	0.02	0.03	-0.04	**-0.84**	*-0.12*	**-0.19**	**-0.53**
	0.04	0.18	0.33	-0.25	**-3.18**	*-1.65*	**-2.64**	**-3.49**
Goodness of Fit Measures								
R-Squared	0.36	0.29	0.26	0.37	0.85	0.85	0.81	0.83
F-Test for Fixed Effects	**1.51**	**1.65**	1.10	*1.37*	**16.91**	**23.16**	**12.53**	**13.36**
Mean of Dependent Variable	3.63	0.70	0.62	2.32	22.72	5.49	4.97	12.26

NOTE: All specifications include a constant term and year indicator variables were also included, though these coefficient estimates are not reported. t-statistics appear below parameter estimates. Parameter estimates that are significant at the 5% level are indicated by shading. Parameter estimates that are significant at the 10% level are indicated by bold italics.

Table 6
Small Business Lending of the 50 Largest U.S. Bank Holding Companies, 1997-2002
Random Effects Specification

Explanatory Variables	Dependent Variables: Actual Call Report and CRA Data							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-3.35**	**-0.69**	**-0.52**	**-1.89**	**-7.77**	**-1.96**	**-1.62**	**-4.14**
	-3.97	**-2.28**	**-2.52**	**-4.35**	**-5.45**	**-4.48**	**-4.88**	**-5.51**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	4.06	0.21	0.71	2.32	3.12	0.69	0.40	1.39
	1.52	0.22	1.02	1.61	1.12	0.85	0.58	0.90
(C) The Herfindahl-Hirschman Index in the previous year, scaled by 1000 (HHI)	-0.34	-0.05	-0.11	*-0.23*	**-0.95**	**-0.15**	**-0.21**	**-0.56**
	-1.31	-0.55	-1.60	*-1.66*	**-3.71**	**-2.00**	**-3.13**	**-3.97**
BHC- Specific STBL Variables when available; Weighted Average 1st and 2nd quarter STBL data for Top 50 BHCs used otherwise								
(D) Weighted Average Effective Loan Rate (RATE)	0.69	0.35	0.24	-0.93	1.26	-0.25	0.02	0.09
	0.31	0.50	0.53	-0.80	0.61	-0.54	0.06	0.08
(E) Weighted Average Maturity (MATURITY)	-0.003	-0.001	-0.0005	-0.001	-0.002	-0.0001	-0.001	-0.0006
	-1.51	-1.13	-0.94	-1.32	-1.18	-0.15	-1.64	-0.83
(F) Weighted Average Risk Rating (RISK)	1.30	-0.28	0.14	0.94	0.69	-0.39	0.03	*-1.67*
	0.75	-0.43	0.29	0.85	0.50	-0.95	0.07	*1.67*
(G) Percentage of Loans Secured by Collateral (COLLAT)	-0.04	0.001	0.01	-0.02	-0.02	**-0.03**	-0.004	0.001
	-0.78	0.04	0.39	-0.84	-0.30	**-2.05**	-0.35	0.03
(H) Percentage of Loans that are Callable (CALLABLE)	-0.06	0.002	-0.02	**-0.08**	0.02	0.003	0.006	0.00
	-1.57	0.13	-1.61	**-3.62**	0.50	0.30	0.70	-0.03
(H) Percentage of Loans with a Prepayment Penalty (PREPAY)	0.07	-0.002	*0.03*	**0.09**	0.02	-0.002	0.002	0.04
	1.26	-0.11	*1.90*	**3.12**	0.35	-0.16	0.20	1.35
(I) Percentage of Loans Made Under Commitment (COMMIT)	-0.03	-0.01	-0.01	**-0.06**	-0.002	-0.01	**-0.02**	-0.02
	-0.88	-0.49	-1.32	**-2.27**	-0.06	-1.64	**-2.51**	-0.96
Goodness of Fit Measures								
R-Squared	0.12	0.08	0.11	0.17	0.29	0.26	0.29	0.26
m-Value for the Hauman Test for Random Effects	19.13	12.19	16.89	13.83	14.86	20.10	14.35	18.20
Pr > m	0.21	0.66	0.33	0.54	0.46	0.17	0.50	0.25
Mean of Dependent Variable	4.45	0.96	0.80	2.69	23.60	5.70	5.15	12.75

NOTE: All specifications include a constant term that was significant at the 5% level. Year indicator variables were also included, though these coefficient estimates are not reported. t-statistics appear below parameter estimates. Parameter estimates that are significant at the 5% level are indicated by shading. Parameter estimates that are significant at the 10% level are indicated by bold A94italics.

Table 7
Small Business Lending of the 50 Largest U.S. Bank Holding Companies, 1997-2002
Random Effects Specification

Explanatory Variables	Dependent Variables: Acquisition-Adjusted Call Report and CRA Data, 1997- 2002							
	The ratio of the annual change in the amount of small business loans outstanding on the June Call Report to the amount of all business loans outstanding in the previous year				The ratio of the amount of small business loan originations and purchases to the amount of all business loans outstanding in the previous year			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million	All Loans	Loans less than $100,000	Loans $100,000-$250,000	Loans $250,000-$1 million
Bank Holding Company Size and Concentration Measures Constructed from June Call Report Data								
(A) The natural log of total bank assets in the previous year (LOG_ASSETS)	**-2.49**	*-0.39*	**-0.41**	**-1.54**	**-7.19**	**-1.85**	**-1.61**	**-4.10**
	-4.48	*-1.70*	**-2.60**	**-5.54**	**-5.77**	**-4.88**	**-5.42**	**-6.25**
(B) The log of assets acquired between 1996 and year t (ACQ_ASSETS)	1.44	-0.21	0.20	1.04	2.88	*1.04*	0.73	1.32
	0.80	-0.29	0.38	1.12	1.34	*1.73*	1.26	1.10
(C) The Herfindahl-Hirschman Index in the previous year, scaled by 1000 (HHI)	*-0.31*	-0.04	**0.11**	-0.13	**-0.91**	**-0.14**	**-0.20**	**-0.56**
	-1.69	-0.56	**-2.03**	-1.45	**-3.74**	**-2.09**	**-3.07**	**-4.13**
BHC- Specific STBL Variables when available; Weighted Average 1st and 2nd quarter STBL data for Top 50 BHCs used otherwise								
(D) Weighted Average Effective Loan Rate (RATE)	*2.66*	0.38	0.25	0.98	**4.43**	-0.45	0.11	1.08
	1.73	0.69	0.71	1.23	**2.51**	-1.14	0.34	1.24
(E) Weighted Average Maturity (MATURITY)	-0.0001	0.000	0.001	-0.0001	0.001	0.0006	-0.0003	0.0004
	-0.06	-0.22	0.15	-0.14	0.45	1.16	-0.98	0.99
(F) Weighted Average Risk Rating (RISK)	-1.54	-0.70	-0.14	*-1.20*	-1.27	**-1.00**	-0.19	0.50
	-1.22	-1.28	-0.34	*-1.68*	-1.06	**-2.83**	0.54	0.58
(G) Percentage of Loans Secured by Collateral (COLLAT)	-0.06	-0.01	-0.003	-0.02	**-0.09**	-0.02	-0.01	**-0.05**
	-1.55	-0.52	-0.34	-1.16	**-2.09**	-1.59	-1.21	**-2.07**
(H) Percentage of Loans that are Callable (CALLABLE)	-0.004	0.0002	0.004	*-0.03*	0.02	-0.002	0.006	-0.0002
	-0.15	0.21	0.44	*-1.87*	0.79	-0.28	0.88	-0.01
(H) Percentage of Loans with a Prepayment Penalty (PREPAY)	0.01	0.00	-0.001	0.02	0.05	0.001	-0.002	**0.05**
	0.24	0.35	-0.04	1.13	1.01	0.09	-0.19	**1.97**
(I) Percentage of Loans Made Under Commitment (COMMIT)	0.02	-0.004	-0.01	-0.01	*0.05*	0.0001	-0.007	-0.008
	0.86	-0.39	-0.90	-0.93	*1.87*	0.01	-0.99	-0.51
Goodness of Fit Measures								
R-Squared	0.17	0.06	0.10	0.21	0.30	0.27	0.26	0.27
m-Value for the Hauman Test for Random Effects	7.78	7.60	9.26	6.58	18.69	16.72	10.86	18.71
Pr > m	0.93	0.94	0.86	0.97	0.23	0.34	0.763	0.227
Mean of Dependent Variable	3.63	0.70	0.62	2.32	22.72	5.49	4.97	12.26

NOTE: All specifications include a constant term that was significant at the 5% level. Year indicator variables were also included, though these coefficient estimates are not reported. t-statistics appear below parameter estimates. Parameter estimates that are significant at the 5% level are indicated by shading. Parameter estimates that are significant at the 10% level are indicated by bold italics.