Growth fixation and the performance of bank initial public offerings, 1983–1991

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Abstract

Numerous banks and thrifts went public amid the favorable regulatory climate and strong capital market of the mid-1980s. A sample of 393 bank initial public offerings from 1983 to 1991 lagged three benchmarks of returns over a five-year post-offering holding period. This poor performance is concentrated among larger institutions with more aggressive loan growth. Following the IPO, many of these banks also recorded dramatic increases in loan losses. The evidence suggests the market may have fixated on the rapid growth of these institutions or did not adequately account for changes in the post-IPO risk of their loan portfolios. © 1999 Elsevier Science B.V. All rights reserved.

1. Introduction

The academic literature has documented that new equity issues, especially initial public offerings (IPOs), show significantly poor long-run post-offering

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returns compared to various market benchmarks. [1] Discovering the source of this underperformance can be a daunting task. For example, a software firm and a telecommunications firm are unlikely to have similar operating structures. Even within the same industry, firms can face somewhat unique positions that make cross-sectional comparison difficult. Pharmaceutical companies are in the business of developing and marketing drugs, but often, their stock returns are driven by idiosyncratic factors such as gaining regulatory approval to market new products.

US banks provide an opportunity to extend the literature by studying IPOs from a homogeneous and competitive industry. [2] A bank in Montana has the same basic operations as a bank in Florida even if the two are not direct competitors. Examining bank IPOs also allows us to obtain a larger sample size than is often possible with IPOs from other industries.

As a result of regulatory and competitive changes throughout the banking sector, a large number of banks and thrifts converted to publicly traded institutions during the 1980s through an IPO. [3] This paper investigates 393 bank IPOs from 1983 to 1991. The sample is concentrated in small, community banks during a period of rapid industry transformation, when the banking sector experienced both financial strength and weakness. Therefore, we begin by comparing the timing decision of the bank IPOs with the economic and market conditions prevalent at the time of the offering. Next, we examine the long-run post-offering performance of the sample. Finally, after demonstrating that the IPO banks experienced significantly poor long-run post-offering returns, we utilize a large, hand-collected sample of accounting data to identify the source of these poor returns.

In general, a bank may go public for one or more of the following reasons: (i) to meet regulatory capital requirements, (ii) to sell overvalued stock, (iii) to take advantage of growth and market opportunities, and/or (iv) to attract managerial talent via stock options. Although we are unable to ascertain the

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[1] See, among others, Ritter (1991), Loughran and Ritter (1995) and Rajan and Servaes (1997).

[2] No distinction is made throughout this paper between the organizational structure of banks, savings and loans, or bank holding companies. In fact, the lines separating these institutions have grown considerably faint in recent decades. Therefore, the term "bank" is meant in a general sense to include banks, thrifts, and bank holding companies.

[3] The Depository Institutions Deregulation and Monetary Control Act of 1980 enhanced the competitiveness of the US banking industry by removing interest rate ceilings, increasing deposit insurance limits, and expanding the investment opportunities available to banks and thrifts. The Garn-St. Germain Depository Institutions Act of 1982 continued the deregulation process by authorizing new sources of funds and allowing thrifts to convert from a mutual to stock form of organization. As a result of this legislation, a large number of banks and thrifts issued an initial public offering of stock. Masulis (1987) describes how these changes affected the savings and loan industry and the decision of individual thrifts to convert from a mutual to stock charter.

exact reason for each institution's IPO decision, Ritter (1991) and Loughran and Ritter (1995) find evidence consistent with firms timing the offering to take advantage of opportunities in the capital markets. Our sample supports this observation as over 29% of the sample, 115 institutions, went public during 1986 alone. For many of these firms, the offering decision coincides with a period of robust stock returns and a favorable economic climate.

The paper also examines the long-run post-offering performance of the bank IPO sample. Ritter (1991) documents that IPOs from the 1975–1984 period underperformed a size-and-industry matched sample for three years after going public. However, Ritter also reported that financial institutions outperformed the benchmark by almost 68% over the same period. This contradictory result provides additional motivation to study a sample of bank IPOs. Calculating returns over a five-year post-offering holding period, we find that IPO banks significantly lagged three broader market benchmarks by as much as −21.4%. [4]

Previous studies, such as Banz (1981), Reinganum (1981) and Fama and French (1992) have documented that firm size may influence returns. After sorting by market value, we also find size to be an important explanatory variable of post-offering returns. Larger banks in the sample lagged the non-IPO bank index by −20.2%, while smaller banks actually matched the benchmark over the five-year holding period.

Recent papers also examine the operating performance of firms around the time of new equity issues. Typically, firms issuing equity have strong pre-offering operating performance but announce disappointing results in post-IPO fiscal years. If the magnitude of this decline is greater than investors anticipate, then it might explain the poor returns following the IPO. As with the bank IPO sample, investors may have fixated on the rapid growth of these firms at the time of the offering or may not have adequately accounted for changes in risk during the post-IPO period. In fact, the IPO banks do not experience poor stock performance until two or three years after the offering.

We examine several variables to identify changes in risk or operating performance that might explain the banks' poor post-IPO stock returns. The banks in the sample maintained a relatively constant proportion of loaned assets throughout the event window, and these institutions did not experience a dramatic shift in profitability after the offering. However, compared to the industry average, the sample banks reported abnormally low levels of loan loss

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[4] Measuring returns over a five-year post-offering window is consistent with the methods used in the empirical finance literature. Five-year post-event returns are calculated by Lakonishok et al. (1994), Loughran and Ritter (1995), Spiess and Affleck-Graves (1995), Brav and Gompers (1997) and Rajan and Servaes (1997), among others. The IPO sample also performs poorly when returns are measured using a four-year post-offering window. However, using a three-year return measurement, the IPO banks yield results similar to the benchmarks.

provisions in pre-IPO years. Following the offering, these banks increased their loan loss allowance up to the aggregate industry level.

Banks use the provision for loan losses to adjust for higher current and future levels of loan write-offs. The increase in post-offering loan charges is consistent with the banks adopting a marginally riskier loan strategy. Banks with more aggressive loan growth around the offering reported a significantly higher proportion of post-IPO loan loss provisions than banks with more conservative growth rates. The poor long-run performance of the sample is directly attributed to these high growth institutions, while the low growth banks actually outperformed the benchmarks.

Jensen (1993), Lakonishok et al. (1994) and Loughran and Ritter (1997) have suggested that investors often over-fixate on growth. This paper focuses on the growth of net loans, the primary source of bank revenues. The worst performing banks in the sample also had the most aggressive loan growth rates around the IPO. The banking industry is highly competitive, and these banks may have encountered difficulty attracting funds or leveraging this growth. We propose that some of these institutions invested the capital raised from the offering in marginally riskier loans, and eventually, these banks experienced larger loan write-offs as their portfolios began to deteriorate. If investors fixated on growth or did not adequately account for post-IPO risk changes, then this argument could explain the poor stock performance of the IPO banks.

The rest of the paper is organized as follows. Section 2 describes the data and research methodology. In Section 3, we compare the IPO decision with economic and market conditions prevalent at the time of the offering. Section 4.1 examines the long-run stock returns of the IPO banks. Section 4.2 investigates time-series patterns of accounting information throughout the event window. Section 4.3 analyzes the effect of loan growth on the IPO banks' performance. Finally, Section 5 interprets the results and concludes the study.

2. Data and methodology

The sample includes 393 banks that went public during the 1983–1991 period and were listed on the Center for Research on Security Prices (CRSP) NYSE, Amex, and Nasdaq daily tapes. The IPO sample was obtained from two sources: the Ritter (1991) IPO data set (for cohort years 1983–1984) and Securities Data Company (for cohort years 1985–1991).

Accounting information was acquired from *Moody's Bank and Finance Manual* and/or company annual reports published on microfiche ("SEC File" by Q-Data Corporation, St. Petersburg, Florida). Meanwhile, the industry accounting information is an aggregate of all Federal Deposit Insurance

Corporation (FDIC) banks and thrifts and was retrieved from the FDIC web site (http://www.fdic.gov). [5]

Five accounting variables were collected for each IPO bank beginning two years prior to the offering and ending three years after the IPO: net loans, loan loss provisions, total assets, stockholders equity, and net interest income. The motivation behind the selection of these variables is described as follows. Net loans are the primary operating assets of the typical bank, and interest earned on these investments is often a bank's main source of revenue. The loan loss provision represents a discretionary look at management's expectation of current and future default risk underlying the loan portfolio. Total assets provide a feel for the size of an institution's deposit base and proportion of loan investments. Stockholders equity allows a measurement of the additional capital raised by the offering. Finally, net interest income, which is generally more stable than a bank's net income, was selected as a gauge of each institution's operating profitability.

Three benchmarks are used to calculate excess stock returns. The first benchmark is the CRSP value-weighted NYSE-Amex-Nasdaq index. The second benchmark is a non-IPO bank index, created by equally weighting all NYSE, Amex, and Nasdaq firms that meet the following restrictions: a Standard Industrial Classification (SIC) code of 602 (Commercial and Stock Savings Banks) or 603 (Mutual Savings Banks), on CRSP for at least three years before entering the universe, and a stock price of at least US$5 the day before inclusion in the index. [6] This bank index roughly tracks the stock returns of the seasoned banking industry while minimizing the potential bias from the bid/ask bounce of low-priced stocks. The third measure of excess return is the Fama and French (1993) three-factor time-series regression model.

Buy-and-hold return calculations (including all distributions) start on the second CRSP-listed day for the sample and end (at the lower limit) on the five-year anniversary date of the offering or else the firm's delisting date. [7] Benchmark buy-and-hold returns (including all distributions) are calculated over an identical time period as the IPOs.

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[5] The FDIC data is also available in printed form. See *Statistics on Banking: A Statistical History of the United States Banking Industry*, 1996, The Federal Deposit Insurance Corporation, Washington, DC.

[6] Firms in the non-IPO bank index must have a stock price of at least US$5.00 on the day before inclusion. For instance, the -10% return of a US$5.00 stock that declines to US$4.50 will be included for the day of the decline. However, an 11% return of a US$4.50 stock that rises to US$5.00 will not be included.

[7] Only eight banks in the IPO sample have a CRSP-listing date that differs from the IPO date by more than 10 trading days. The results do not significantly change if the IPO date is used instead of the CRSP-listing date to begin measuring the buy-and-hold returns.

3. The IPO timing decision

It has been proposed that firms often time their IPO to take advantage of opportunity windows in the capital markets. Table 1 reports the number of bank IPOs by cohort year, the average market value (shares outstanding multiplied by stock price) in 1996 dollars as of the first CRSP-listed day, the average initial return, and the daily-compounded, buy-and-hold returns of the equally weighted, bank index by calendar year. A strong relationship exists between the number of IPOs and the average returns of the bank index. A majority of the sample went public during the 1983–1986 period when the average returns on the bank index were strong. In fact, following the industry's bull market in 1985, over 29% of the sample went public during cohort year 1986. Meanwhile, when the bank index fell by more than 40% in 1990, only five small banks (average market value of US$29.5 million) went public.

The average (median) market value (in 1996 dollars) for the entire sample as of the first CRSP-listed day is only US$58.6 million (US$31.7 million).

Table 1
Number of bank IPOs, average market value, average initial returns, and average return for bank index by cohort year, 1983–1991[a]

Cohort year	Number of bank IPOs	Average market value as of IPO date (in millions of 1996 US dollars)	Average return from offering price to first CRSP-listed day (%)	Average return for EW bank index during cohort year (%)
1983	71	83.9	4.2	44.7
1984	47	28.3	2.2	18.7
1985	45	52.6	11.3	53.2
1986	115	65.3	7.6	18.5
1987	70	40.9	6.6	−7.9
1988	25	39.3	5.5	17.3
1989	9	26.7	3.2	−1.9
1990	5	29.5	4.0	−40.7
1991	6	271.6	10.3	61.5
Total	393	58.6	6.4	18.2

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) that went public during 1983–1991. The IPO sample was obtained from two sources: the Ritter (1991) IPO data set (for cohort years 1983–1984) and Securities Data Company (for cohort years 1985–1991). Market values (in 1996 dollars) are as of the first CRSP-listed date following the IPO. The average initial return is measured by the percentage change from the offering price to the first CRSP-listed trading date. The daily bank index is created by equally weighting all firms with the following restrictions: an SIC code of 602 or 603, on CRSP for at least three years before entering the universe, and a stock price of at least US$5 the day before inclusion in the index. The last column reports the average buy-and-hold returns for the equally weighted bank index from each calendar cohort year (i.e., 2 January to 31 December of year *t*).

Therefore, the sample is comprised of mainly small, community-based institutions. The sample does include some regional institutions, but it contains no large, money center banks. At the time of the offering, five institutions have a market capitalization greater than US$500 million and only 24 banks have a market value exceeding US$150 million.

Table 1 also reports the average initial return for the IPO sample by calendar year. Across all sample years, the average opening return from the offering price to the first CRSP-listed trading date was 6.4%. This underpricing is consistent with the positive initial return documented by the literature. [8]

Fig. 1 displays the number of bank IPOs and the level of the equally weighted bank index on a quarterly basis. Bank stocks began showing strong performance in 1985, which preceded a large increase in the number of offerings over the next two years. Following the October 1987 stock market crash, the number of bank IPOs declined sharply. During the contractionary years of 1989 and 1990, the number of offerings fell to less than five bank IPOs per quarter.

Industry profits are highly sensitive to interest rate changes. Banks generally benefit from a declining interest rate environment but are hurt by rising rates. Therefore, it is also important to examine the relationship between interest rates and the number of new offerings. The number of bank IPOs per calendar quarter and the level of the 10-year Treasury bond are plotted in Fig. 2. [9] The 10-year yield corresponds to the average monthly rate at which the bond traded during each quarter. The number of IPOs reached its peak when Treasury bond yields were temporarily low in 1986 and early 1987.

As stated in the introduction, banks may go public for several reasons such as raising capital or taking advantage of growth opportunities. However, firms want to issue equity when their stock can sell for the highest value. The results from Table 1, Figs. 1 and 2 are consistent with Ritter (1991). Many of the IPO banks took advantage of a temporary industry-wide window of opportunity in the financial markets to go public when the value of bank stocks were at their highest levels.

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[8] Ibbotson et al. (1988) report an average initial return of 16.4% using a large sample of IPOs from 1960 to 1987. As an additional out of sample test, we examined a sample obtained from Jay Ritter of 4938 IPOs covering the 1985–1997 period. While the complete sample realized an average initial return of 11.8%, a sub-sample of financial institutions experienced just a 6.5% initial return. Therefore, financial institutions have historically had lower initial returns than the typical non-bank IPO.

[9] The interest rate data was obtained from the website of the St. Louis Federal Reserve. Monthly rates from the Federal Reserve Economic Data (FRED) catalog (http://www.stls.frb.org/fred/dataindx.html) were downloaded from the *10-year Treasury Constant Maturity Rate* file.
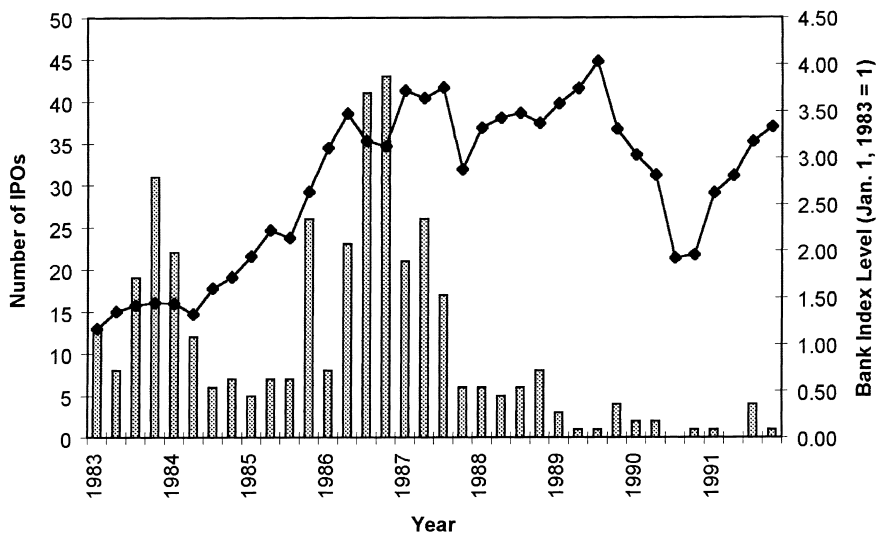
Fig. 1. Bank IPOs by quarter and level of the equally weighted bank index, 1983–1991. The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) that went public during 1983–1991, sorted by calendar quarter. The daily bank index is created by equally weighting all firms with the following restrictions: an SIC code of 602 or 603, on CRSP for at least three years before entering the universe, and a stock price of at least US$5 the day before inclusion in the index.

4. Empirical findings

4.1. Long-run stock performance of bank IPOs

Previous studies, such as Banz (1981), Reinganum (1981) and Fama and French (1992), document the influence of market size on return statistics. Therefore, we begin by analyzing the long-run stock performance of the aggregate bank IPO sample and after sorting by size. Table 2 divides the sample into two groups on the basis of the median market value (US$32 million in 1996 dollars) as of the first CRSP-listed date. Five-year buy-and-hold returns (including all distributions) are calculated over identical time periods for the IPO banks and two different benchmarks, the CRSP value-weighted NYSE-Amex-Nasdaq index and the equally weighted bank index.

As shown in Panel A of Table 2, the IPO banks underperformed the CRSP value-weighted NYSE-Amex-Nasdaq index over the five-year holding period by −21.4%, which is significant at the one percent level. This poor performance can be attributed to the larger banks in the sample, which lagged the index by −35.4%. Panel B compares the IPO banks to the equally weighted bank index but fails to identify significant underperformance by the IPO sample. However,
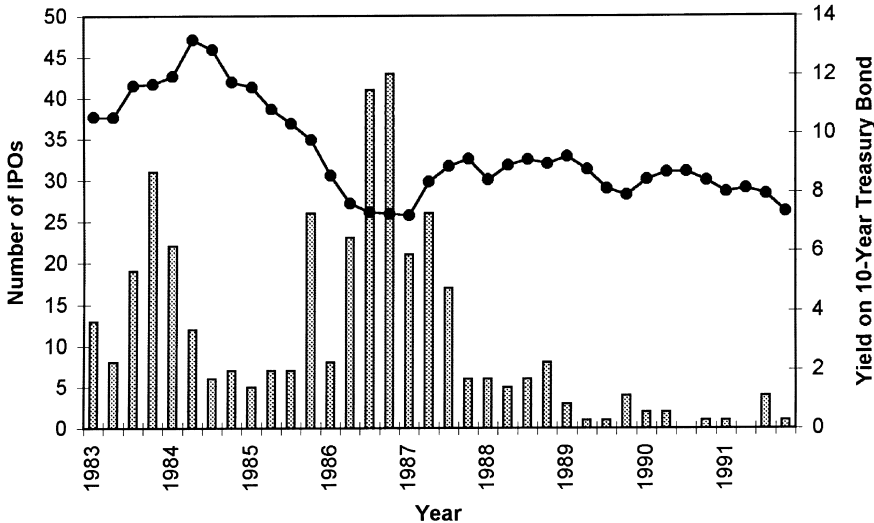
Fig. 2. Bank IPOs by quarter and yield on the 10-year Treasury bond, 1983–1991. The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) that went public during 1983–1991, sorted by calendar quarter. Treasury data was obtained from the St. Louis Federal Reserve Economic Database (http://www.stls.frb.org/fred/dataindx.html). The 10-year Treasury yield corresponds to the average rate during each quarter.

the largest banks still lagged the bank index by −20.2% over the five-year period. [10]

The Fama and French (1993) three-factor time-series model has gained acceptance in the literature as a benchmark measure of abnormal returns. Therefore, as an additional test of performance, we provide the results for this regression in Table 3. Time-series regressions of equally weighted and value-weighted monthly returns for the bank IPO portfolio were run on the Fama-French market, size, and book-to-market factor realizations. The monthly regressions cover only the 1984–1991 period to ensure an adequately large sample size. In Panel A, we provide results from ordinary least squares regressions of the three-factor model. Although not statistically significant, the results do show economically significant underperformance by the bank IPOs for the holding period. In fact, the IPO banks lag the return from the value-weighted benchmark by over −0.5% per month or −6.4% per year.

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[10] IPO banks from the "hot" issue period of 1983–1987 performed extremely poorly over the five-year post-offering period. In fact, these 348 banks lagged the NYSE-Amex-Nasdaq index by an average of −35.0% and the bank index by −11.4%. By comparison, the 45 banks from the "cold" issue period of 1988–1991 actually beat both benchmarks by an average of 83.9% and 20.3%, respectively.

Table 2
Average five-year buy-and-hold returns for bank IPOs, value-weighted NYSE-Amex-Nasdaq index and equally weighted bank index categorized by market capitalization sub-groups, 1983–1991[a]

Size group	N	Bank IPO returns	Benchmark index returns	Excess returns	(t-statistic)
Panel A: Five-year returns, benchmark is VW NYSE-Amex-Nasdaq index					
All Banks	393	51.5%	72.9%	−21.4%	(−3.07)
Small	197	65.9%	73.3%	−7.3%	(−0.69)
Large	196	37.0%	72.5%	−35.4%	(−3.96)
Difference					−2.03
t-statistic					
Panel B: Five-year returns, benchmark is EW bank index					
All Banks	393	51.5%	59.3%	−7.7%	(−1.20)
Small	197	65.9%	61.3%	4.6%	(0.46)
Large	196	37.0%	57.2%	−20.2%	(−2.53)
Difference					−1.92
t-statistic					

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) that went public during 1983–1991. Market values (in 1996 dollars) are as of the first CRSP-listed date for the IPO. The sample is divided into two size groups on the basis of the median market value (US$32 million in 1996 dollars) as of the first CRSP-listed date. Buy-and-hold returns (including all distributions) start on the second CRSP-listed day for the bank IPOs and end (at the lower limit) on the five-year anniversary date of the offering or the firm's delisting date. The benchmark buy-and-hold returns (including all distributions) are calculated over an identical time period as for the IPOs. The daily bank index is created by equally weighting all firms with the following restrictions: an SIC code of 602 or 603, on CRSP for at least three years before entering the universe, and a stock price of at least US$5 the day before inclusion in the index. The *t*-statistics (in parentheses) are calculated assuming independence among the observations.

Loughran and Ritter (1998) criticize the Fama and French (1993) three-factor model because it equally weights each calendar month, rather than each event. As a result, this model may not detect abnormal returns in studies, such as new equity issues, where managers have discretion over the timing of the event. This potential flaw equally weights periods with large numbers of bank IPOs (such as cohort year 1986) against periods with relatively few IPOs (like the early 1990s). Therefore, weighted least squares regressions are reported in Panel B of Table 3, where the weights are the square root of the number of firms in each month. These tests account for differences in the number of bank IPOs across cohort years. The IPO banks lag the value-weighted index by a statistically significant −0.9% per month or −10.4% annually with the weighted least squares model. Consistent with the results in Table 2, larger IPO banks underperform smaller IPO banks.

To identify when the underperformance occurs, Table 4 calculates the average annual returns for each post-offering event year and compares the

Table 3
Time-series regressions of equally weighted and value-weighted monthly returns of the bank IPO portfolio on market, size, and book-to-market Fama–French (1993) realizations[a]

$r_{pt} - r_{ft} = a + b(r_{mt} - r_{ft}) + sSMB_t + hHML_t + e_{pt}.$

Regression coefficient	a	b	s	h	Adjusted R^2
Panel A: Ordinary least squares regressions					
Equally weighted	−0.42	1.00	1.14	0.94	0.67
	(−1.12)	(11.29)	(6.75)	(4.86)	
Value-weighted	−0.53	1.16	0.87	0.84	0.67
	(−1.29)	(11.91)	(4.67)	(3.94)	
Panel B: Weighted least squares regressions					
Equally weighted	−0.78	0.99	1.03	0.91	0.69
	(−2.18)	(11.96)	(6.72)	(4.67)	
Value-weighted	−0.87	1.13	0.80	0.77	0.69
	(−2.26)	(12.54)	(4.86)	(3.63)	

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) that went public during 1983–1991. The sample period of bank portfolio returns is January 1984 to December 1991 (96 months). Each 1 January 1984 to 1991, banks that conducted initial public stock offerings within the last five years are included in the portfolio returns. The first row of each panel reports equally weighted portfolio returns while the second row reports value-weighted portfolio returns. The maximum numbers of bank firm observations occurs in January of 1988 (315 firms) while the minimum number of observations occurs in December of 1984 (70 firms). Panel A provides three-factor regression results using ordinary least squares. Panel B reports weighted least squares regressions where the weights are the square root of the number of bank IPOs present each month. The *t*-statistics are listed in parenthesis.

results against two benchmarks. Surprisingly, the IPO banks outperform both the CRSP value-weighted index and the equally weighted bank index in each of the first two years after going public. The full sample beat the return on the CRSP value-weighted index by 1.5% and 7.5% in the first two post-event years. However, the IPOs significantly underperform both benchmarks over the last three years of the holding period, lagging the value-weighted index by −20.7% and −7.3% in the fourth and fifth post-event years, respectively.

These results contrast Ritter (1991) who found that financial institutions experienced significantly positive abnormal returns over the three years following the offering. If we had only studied three-years of post-event returns, then we would have found the IPO banks posting a performance similar to the benchmarks. However, this shorter window would fail to pick up the severe performance decline that begins in the third post-IPO year and continues through the end of the fifth year after the offering. As Section 4.2 will discuss, the IPO banks recorded large increases in loan losses during these years. This evidence is consistent with a shift in the post-IPO risk of the banks' loan portfolio.

Table 4
Average annual returns relative to the offering using the value-weighted NYSE-Amex-Nasdaq index and the equally weighted bank index as benchmarks[a]

Post-IPO Year	Year 1	Year 2	Year 3	Year 4	Year 5
Panel A: Annual returns, benchmark is VW NYSE-Amex-Nasdaq index					
Bank IPOs	13.7%	21.0%	8.9%	−11.9%	4.7%
VW index	12.2%	13.5%	18.9%	8.8%	12.0%
Difference	1.5%	7.5%	−10.0%	−20.7%	−7.3%
(*z*-statistic)	(0.78)	(0.84)	(−5.61)	(−9.46)	(−4.00)
Number of firms	393	392	384	350	310
Panel B: Annual returns, benchmark is EW bank index					
Bank IPOs	13.7%	21.0%	8.9%	−11.9%	4.7%
EW bank index	14.1%	15.9%	12.3%	−3.9%	18.4%
Difference	−0.4%	5.1%	−3.4%	−8.0%	−13.7%
(*z*-statistic)	(−0.99)	(0.55)	(−2.22)	(−4.50)	(−6.05)
Number of firms	393	392	384	350	310

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) that went public during 1983–1991. Annual buy-and-hold returns (including all distributions) start on the second CRSP-listed day for the bank IPOs and end (at the lower limit) on the five-year anniversary date of the offering or the firm's delisting date. The benchmark buy-and-hold annual returns (including all distributions) are calculated over an identical time period as for the IPOs. The daily bank index is created by equally weighting all firms with the following restrictions: an SIC code of 602 or 603, on CRSP for at least three years before entering the universe, and a stock price of at least US$5 the day before inclusion in the index. The *z*-statistics (in parentheses) test the equality of distributions for matched pairs of observations using the Wilcoxon matched-pairs signed-ranks test.

In summary, Tables 2–4 document that the bank IPO sample underperformed the CRSP value-weighted index, an equally weighted banking index, and the Fama–French three-factor model over the five-year post-offering holding period. During the first two cohort years, the average institution actually reported positive excess returns, so the poor performance was driven by negative excess returns over the last three years. This performance decline will be attributed to higher loan losses resulting from changes in the post-IPO risk of the banks' loan portfolios. The evidence also reveals that banks time their IPOs to correspond with periods of strong operating and market performance. Finally, market value appears to affect post-offering stock performance, as the largest institutions experienced the worst performance.

4.2. Time-series patterns in accounting data surrounding the IPO

The large, homogeneous sample allows us to determine whether certain time-series properties of accounting data can explain the poor long-run stock returns of the IPO banks. Five accounting variables were selected for this

analysis: net loans (NL), total assets (TA), total stockholders equity (TSE), loan loss provision (LLP), and net interest income (NII). Each variable was measured over a six-year window: two years prior to going public (year −2 and year −1), the year of the offering (year 0), and three years following the IPO (year +1, year +2, and year +3). [11] Using this data, several ratios were calculated for each IPO bank and compared with the aggregate banking industry. [12]

Table 5 provides a time series of the accounting ratios. In Panels A and B, the sample median and mean ratios of loan loss provision scaled by net loans (LLP/NL) are compared with the aggregate banking industry. This metric measures the amount of loans that banks expensed during a given year in anticipation of current and future loan losses. According to the FDIC's *Statistics on Banking*, the LLP:

> "Represents the amount needed to make the allowance for loan and lease losses adequate to absorb expected loan and lease losses, based upon management's evaluation of the bank's current loan and lease portfolio."

Because the provision for loan losses is a subjective estimate, Koch (1995) states that management can use discretion and smooth earnings by manipulating the LLP within certain bounds. Consistent with the arguments of Stein (1989), Chaney and Lewis (1998) and Teoh et al. (1998), we might actually expect the IPO banks to report lower loan losses prior to the offering than afterwards. Smaller levels of LLP signal a healthier and higher quality loan portfolio. However, if loan losses were underreported or if the risk of an

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[11] The availability of accounting information for many banks in our sample substantially declines beyond the third post-IPO year due to mergers, delistings, and bankruptcies.

[12] The FDIC data is based on a 31 December year-end, so a shifting mechanism was employed to compare IPO banks with non-December 31 fiscal year-ends. If a bank's fiscal year ended between 1 January and 30 June, each year's ratios are compared with the previous year's industry data. If the fiscal year ended between 1 July and 31 December, then each year's data was matched with the corresponding year's industry information. For instance, ratios for a fiscal year ending 30 April 1989 were compared with the 1988 FDIC data, but ratios for a fiscal year ending 30 September 1989 were aligned with the 1989 FDIC data. The distribution of fiscal year-ends in the bank IPO sample is as follows:

Year-ending	Number of banks
31 December	244
30 June	56
30 September	46
All others	29
Missing data	18

Table 5
Median and mean accounting ratios for bank IPOs and the banking industry for the fiscal years surrounding the offering[a]

Relative fiscal year	−2	−1	0	+1	+2	+3	0 to +3 change
Panel A: Median loan loss provision scaled by net loans (LLP/NL)							
Small	0.03%	0.09%	0.11%	0.20%	0.31%	0.38%	141.7%
Large	0.06%	0.10%	0.13%	0.17%	0.24%	0.39%	251.3%
Bank IPOs	0.04%	0.10%	0.12%	0.17%	0.26%	0.38%	177.8%
Industry	0.62%	0.73%	0.85%	0.91%	0.91%	1.36%	25.0%
z-statistic	−12.86	−14.16	−14.94	−13.10	−11.14	−7.81	9.63
Panel B: Mean loan loss provision scaled by net loans (LLP/NL)							
Small	0.16%	0.22%	0.24%	0.45%	0.66%	0.87%	
Large	0.23%	0.24%	0.25%	0.36%	0.63%	1.27%	
Bank IPOs	0.20%	0.23%	0.25%	0.40%	0.65%	1.08%	
Industry	0.68%	0.80%	0.95%	1.13%	1.07%	1.20%	
t-statistic	−13.74	−26.14	−25.70	−16.34	−5.77	−0.99	
Panel C: Median net interest income scaled by total assets (NII/TA)							
Small	1.49%	1.98%	2.32%	2.61%	2.61%	2.64%	11.5%
Large	1.73%	2.02%	2.31%	2.56%	2.66%	2.63%	14.3%
Bank IPOs	1.63%	2.01%	2.31%	2.58%	2.62%	2.64%	13.7%
Industry	2.79%	2.72%	2.72%	2.79%	2.81%	2.89%	6.4%
z-statistic	−8.49	−8.01	−6.63	−3.75	−3.25	−4.27	5.11
Panel D: Mean net interest income scaled by total assets (NII/TA)							
Small	1.88%	2.18%	2.49%	2.64%	2.73%	2.81%	
Large	1.97%	2.08%	2.34%	2.57%	2.70%	2.69%	
Bank IPOs	1.93%	2.12%	2.41%	2.60%	2.72%	2.75%	
Industry	2.82%	2.84%	2.81%	2.76%	2.83%	2.91%	
t-statistic	−7.60	−7.01	−4.91	−2.46	−1.85	−2.69	

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) with accounting information available from one of two sources: *Moody's Bank and Finance Manual*, and/or company annual reports published on microfiche. The industry information is an aggregate total of all FDIC insured banks and thrifts. The z-statistics test the equality in distributions for matched pairs of observations using the Wilcoxon matched-pairs signed-ranks test. The last column of Panels A and C reports the median change in the specific ratio from year 0 to +3. The number of observations range from 287 (in year −2) to 345 (in year 0).

institution's loan portfolio substantially increased, these institutions would eventually need to record higher levels of loan losses, so we might expect to see a sharp rise in the LLP/NL ratio following the offering.

Panel A of Table 5 reveals that IPO banks reported substantially lower LLP/NL ratios than the banking industry throughout the six-year event window. The industry data is a value-weighted aggregate of all publicly and non-publicly traded FDIC-insured banks, including those controlled by the Resolution Trust Corporation. Therefore, trends in the industry LLP/NL ratio are likely to be more relevant to our analysis than relative ratio levels. The median LLP/

NL of IPO banks increased by 177.8% over the final three years of the sample period compared to a median increase of only 25.0% for the industry. Firms must be present in year 0 and year +3 to be included in this calculation. If prior years' loan losses were understated, then loss reserves might be too low relative to expected losses making additional loan write-offs necessary. Panel B of Table 5 reveals that the sample's mean LLP/NL ratio reverts to the industry average within three years following the stock offering. The level of loan losses does not appear to be influenced by the size of the bank in either of these panels. [13]

The LLP/NL pattern reported above is consistent with lower recorded levels of loan losses around the time of the IPO, but we cannot conclude that the higher loan write-offs during the post-offering years are responsible for the underperformance of the bank IPO sample. In fact, several studies from the accounting literature identify a *positive* relation between announcement period, bank stock returns and loan loss provisions. [14] These studies explain that only the strongest and healthiest institutions can increase reported loan losses without adversely affecting operating performance, so an increase in the reported LLP is often viewed as a signal of higher future profitability. If investors anticipate that the banks in the sample managed their LLP figures prior to the offering, then poor stock performance in the post-offering years would result only if the additional LLP charges were larger than anticipated. Higher loan losses may signal higher future earnings up to a point, but beyond this, it seems reasonable for any additional charges to indicate a decline in the overall quality of the loan portfolio.

Several studies also document that firms with new equity issues typically report strong pre-offering operating performance only to announce disappointing post-offering results. [15] The stock performance of the IPO banks is consistent with this argument. We need to delve deeper into why the sample's poor stock performance does not appear until the third year after the IPO, since many of these studies find that the operating performance decline begins almost immediately following the offering.

The post-offering increase in the LLP/NL ratio is consistent with an increase in the risk of the IPO banks' loan portfolio. These institutions received a large

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[13] The difference between the mean and median levels of LLP scaled by net loans in Panels A and B of Table 5 results from right-tailed skewness of the sample. The distribution of this statistic is essentially truncated at zero, but several firms reported very large levels of loan losses in the years following the IPO.

[14] These studies include Beaver et al. (1989), Elliott et al. (1991), Wahlen (1994), Beaver and Engle (1996) and Liu et al. (1997).

[15] These papers include Degeorge and Zeckhauser (1993), Jain and Kini (1994), McLaughlin et al. (1996), Loughran and Ritter (1997) and Mikkelson et al. (1997).

capital infusion as a result of the initial public offering. [16] Thousands of banks, credit unions, and other savings institutions operate in the US, so one can assume that the firms in the sample operate in a competitive environment. These banks likely encountered more difficulty leveraging this new capital through their existing loan channels. Banks can use several methods to rapidly increase their net loan level above that which would be dictated by the normal growth of the business, including: investing a greater portion of total assets in loans, lowering loan interest rates, or loaning funds to riskier clientele. A consequence of each method is an increase in the risk of a bank's overall loan portfolio.

Banks operate in an environment sensitive to interest rates, inflation, and levels of economic activity. A riskier loan portfolio might not be apparent to investors for several years until the firm begins to record larger than normal levels of loan losses. In addition, problem loans can be carried on the books for years before they become evident and need to be written off. For example, consider a firm that funds a business expansion with a bank loan. As a result of the loan, the bank reports higher earnings and fees over future periods. Now imagine that the business starts to experience financial difficulty. The risk on this loan has increased, but as long as the firm continues to make the necessary loan payments, the bank may not become aware of the firms' problems. Even if the bank is aware of the difficulties facing the firm, management may not immediately alter the loan loss reserves to account for the additional risk. Therefore, loan losses from troubled loans may come well after the initial change in bank loan risk.

A higher percentage of assets invested in loans could also cause the increase in LLP/NL ratios. Although not reported in the tables, we found that the IPO banks maintained a stable proportion of total assets invested in net loans during the period of study. As a group, the IPO banks did not increase loan risk through higher leverage.

Panels C and D of Table 5 investigate the profitability of the IPO sample's invested assets (loan portfolio) compared to the industry average. Net interest income is comparable to the profit margin of industrial firms and is calculated by subtracting the interest paid on deposits from the interest received from loans and other investments. We calculate net interest income as a percentage of total assets. Throughout the six-year period, the IPO banks had a significantly lower NII/TA ratio than the industry, although their profitability increased following the offering. However, no significant changes in profit-

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[16] The median level of shareholder equity as a percentage of total assets for the sample increased from 4.3% in the year prior to the offering to 7.5% in the year following the offering. By comparison, the industry average remained stable throughout the sample period at approximately 5.5%.

ability are found that could account for the poor long-run post-offering stock returns of the sample. In addition, the small and large institutions do not experience substantially different levels of profitability throughout the window.

4.3. Rapid loan growth and bank IPO performance

This section examines whether some institutions increased the risk of their overall loan portfolio with an aggressive growth rate that exceeded the industry average. We test whether those banks with the highest growth rates in net loans drive the poor long-run stock returns.

Table 6 analyzes the sample's loan growth around the offering. Year 0 in the table corresponds to the year of the IPO. Panel A reveals that the IPO banks grew net loans significantly faster than the industry both before and after the issuance. Not all of this growth can be attributed to merely investing the capital infused by the IPO, since the aggressive loan growth continues for at least the first three post-offering years. Panels B and C split the sample into high and low growth groups based on the sample's median change in net loans of 13.7% during the IPO event year. These results show that not all of the banks in the sample grew their loan portfolios as aggressively. In fact, the low growth group

Table 6
Bank IPO sample categorized by year −1 to 0 growth in net loans[a]

Relative fiscal year	−1 to 0	0 to +1	+1 to +2	+2 to +3
Panel A: Median change in net loans (all firms)				
Bank IPOs	13.7%	17.0%	12.8%	4.4%
Industry	6.9%	6.7%	6.7%	1.5%
z-statistic	4.80	2.32	5.65	2.91
Panel B: Median change in net loans (low growth group, below 13.7% median)				
Bank IPOs	5.4%	10.9%	9.1%	4.4%
Industry	6.9%	6.7%	6.7%	3.6%
z-statistic	−5.25	1.15	2.30	1.52
Panel C: Median change in net loans (high growth group, above 13.7% median)				
Bank IPOs	27.9%	13.3%	15.9%	4.8%
Industry	6.9%	6.7%	6.7%	1.5%
z-statistic	7.68	4.05	5.48	2.58

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) with accounting information available from one of two sources: *Moody's Bank and Finance Manual* and/or company annual reports published on microfiche. The sample is divided into two groups on the basis of the change in net loans between year −1 and 0 scaled by year −1 net loans. The median change for net loans from year −1 to 0 is 13.7%. Firms below the 13.7% median threshold are in the low growth group. The industry information is an aggregate total of all FDIC insured banks and thrifts. The z-statistics test the equality in distributions for matched pairs of observations using the Wilcoxon matched-pairs signed-ranks test.

grew net loans at a rate similar to the industry average throughout the post-offering period.

Table 7 compares the post-IPO loan loss provisions and profitability of the low and high loan growth groups. Panel A demonstrates that at the time of the offering the two groups recorded similar levels of LLP/NL, but following the IPO, the high growth banks began reporting a significantly higher proportion of loan loss provisions. Panel B reveals a similar differential in the relative operating profitability of the two groups. The low growth group returned a significantly lower NII/TA ratio around the offering. However, the profitability differential began to shrink in the post-offering years as the more conservative, low growth group experienced greater overall profitability.

The results from Tables 5–7 support the growth fixation hypothesis. Some banks raised too much capital or grew assets too quickly following their initial public offering. As a result, these institutions may have encountered difficulty leveraging these surplus funds without altering the risk of their loan portfolio. These banks would likely experience higher future default rates that might force management to increase loan loss provisions. Prior to the offering, high and low growth banks reported similar levels of LLP/NL. However, after the offering, the high growth group experienced a sharp rise in its LLP/NL ratio.

To investigate whether the aggressive growth of the IPO banks can explain the poor long-run stock performance, buy-and-hold returns for the low and high growth groups were measured from year +1 to year +5 and compared

Table 7
Post-IPO loan loss provisions and net interest income of low and high loan growth groups[a]

Relative fiscal year	0	+1	+2	+3
Panel A: Median loan loss provision scaled by net loans (LLP/NL)				
Low growth group	0.11%	0.14%	0.21%	0.26%
High growth group	0.13%	0.20%	0.29%	0.46%
Difference z-statistic	−0.57	−1.74	−2.69	−3.38
Panel B: Median net interest income scaled by total assets (NII/TA)				
Low growth group	2.03%	2.32%	2.45%	2.55%
High growth group	2.58%	2.72%	2.84%	2.76%
Difference z-statistic	−3.37	−2.24	−2.18	−1.66

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) with accounting information available from one of two sources: *Moody's Bank and Finance Manual* and/or company annual reports published on microfiche. The sample is divided into two groups on the basis of the change in net loans between year −1 and 0 scaled by year −1 net loans. The median change for net loans from year −1 to 0 is 13.7%. Firms below the 13.7% median threshold are in the low growth group. Panel A displays the median, post-IPO level of loan loss provision scaled by net loans for the low and high growth groups, while Panel B compares the median net interest income scaled by total assets. The z-statistics test whether the two unmatched samples have the same median using the Wilcoxon rank-sum test.

against the two benchmarks. This holding period begins with the fiscal year following the offering to allow accounting information from the IPO year to be publicly available. Table 8 compares the four-year returns of the two groups. The high growth group lagged the CRSP value-weighted NYSE-Amex-Nasdaq index by −39.7% and the equally weighted bank index by −18.2% over the holding period. Based on *t*-statistics, these differences are statistically significant at the one percent level. In contrast, the low growth group actually outperformed both benchmarks over the same period by 16.6% and 22.8%, respectively. The difference between the holding period excess returns for the two sub-samples is also significant at the one percent level regardless of the chosen benchmark. Therefore, the underperformance of the IPO banks comes from institutions that adopted aggressive post-offering growth strategies.

Table 9 provides the results of a regression analysis performed on the excess returns from year +1 to year +5 where market value (size) as of the first CRSP-listed date and the year −1 to year 0 growth in net loans serve as independent variables. The regression measures the impact of an institution's size and rate of loan growth on its return. While both variables are economically significant for explaining a portion of the sample's poor stock returns during this period regardless of benchmark, only the growth in net loans is statistically signifi-

Table 8
Bank IPO returns categorized by year −1 to 0 growth in net loans[a]

Growth group	Bank IPO returns	Benchmark index returns	Median excess returns mean	Excess returns	(*t*-stat)
Panel A: Year +1 to +5 returns, benchmark is VW NYSE-Amex-Nasdaq index					
Low	75.8%	59.2%	4.1%	16.6%	(1.49)
High	17.6%	57.3%	−62.3%	−39.7%	(−4.54)
Difference *t*-statistic				−3.99	
Panel B: Year +1 to +5 returns, benchmark is EW bank index					
Low	75.8%	53.0%	2.1%	22.8%	(2.49)
High	17.6%	35.8%	−34.5%	−18.2%	(−2.30)
Difference *t*-statistic				−3.39	

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) with accounting information available from one of two sources: *Moody's Bank and Finance Manual* and/or company annual reports published on microfiche. The sample is divided equally into two groups (with 160 firms in each) on the basis of the median change in net loans (13.7%) from year −1 to 0 scaled by year −1 net loans. Firms below the median growth in net loans are in the low growth group. Buy-and-hold returns (including all distributions) start on the one-year anniversary of the offering and end (at the lower limit) on the five-year anniversary date or the firm's delisting date. The benchmark buy-and-hold returns (including all distributions) are calculated over an identical time period as for the IPOs. The *t*-statistics (in parentheses) are calculated assuming independence among the observations.

Table 9
Panel dataset regression with cohort year fixed effects using excess returns from year +1 to +5 as the dependent variable, 1983–1991[a]

$$r_i - r_m = a_0 + a_1 \ln{(\mathrm{MKT})}_i + a_2\ \mathrm{Growth}_i + a_3 \sum_{j=1983}^{1990} a_j\ \mathrm{Dummy}_i + e_i$$

Regression model	Intercept	ln (MKT)	Growth in net loans	Adjusted R^2
Panel A: Benchmark is VW NYSE-Amex-Nasdaq index (N = 320)				
(1)	1.19	−0.08	−0.66	0.27
	(3.51)	(−1.37)	(−4.27)	
(2)	0.53	−0.18		0.01
	(1.98)	(−2.56)		
(3)	0.07		−0.85	0.04
	(0.09)		(−4.89)	
Panel B: Benchmark is EW bank index (N = 320)				
(1)	0.17	−0.10	−0.64	0.08
	(0.59)	(−1.72)	(−4.17)	
(2)	0.62	−0.17		0.02
	(2.61)	(−2.72)		
(3)	−0.16		−0.64	0.03
	(−2.13)		(−3.95)	

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) with accounting information available from one of two sources: *Moody's Bank and Finance Manual* and/or company annual reports published on microfiche. Growth_i is the percentage change in net loans between year −1 and 0 scaled by year −1 net loans. MKT_i is the natural logarithm of market value (in 1996 dollars) as of the first CRSP-listed date. To lessen the impact of outliers, observations of the market value and growth in net loans outside of the 1% and 99% level are winsorized. Each regression contains eight cohort-year dummy variables. For example, only firms that went public in 1983 are given a value of one for the 1983 cohort-year dummy variable. Buy-and-hold returns (including all distributions) start on the one-year anniversary of the offering and end (at the lower limit) on the five-year anniversary date or the firm's delisting date. The benchmark buy-and-hold returns (including all distributions) are calculated over an identical time period as for the IPOs. The excess return is the difference between the bank IPO and benchmark buy-and-hold returns. The *t*-statistics (in parentheses) are calculated using White's (1980) heteroskedasticity-consistent method.

cant. [17] Size-only and growth-only regressions reveal similar independent variable coefficients as the size and growth regression. Both variables are negatively related to long-run, post-event returns.

Evidence suggests that the poor post-offering performance of the sample can be attributed to larger institutions with the more aggressive growth in their

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[17] Initial returns are not a statistically significant variable when added to the regressions of Table 9, Panels A and B.

Table 10

Average excess returns from year +1 to +5 for bank IPOs categorized by size and year −1 to 0 growth in net loans[a]

Size	Low loan growth group	High loan growth group
Panel A: Benchmark is VW NYSE-Amex-Nasdaq index		
Small Banks	44.0% (2.64)	−35.3% (−2.62)
Large Banks	−8.8% (−0.61)	−43.1% (−3.73)
Panel B: Benchmark is EW bank index		
Small Banks	48.8% (3.42)	−16.3% (−1.25)
Large Banks	−1.3% (−0.11)	−19.7% (−2.00)

[a] The IPO sample includes CRSP-listed NYSE, Amex, and Nasdaq Banks (i.e., banks, thrifts, and bank holding companies) with accounting information available from one of two sources: *Moody's Bank and Finance Manual*, and/or company annual reports published on microfiche. The sample is divided into two groups on the basis of the median change in net loans (13.7%) from year −1 to 0 scaled by year −1 net loans. Firms below the median growth in net loans are in the low growth group. The sample is also divided into two size groups on the basis of the median market value (US$32 million in 1996 dollars) as of the first CRSP-listed date. Buy-and-hold returns (including all distributions) start on the one-year anniversary of the offering and end (at the lower limit) on the five-year anniversary date or the firm's delisting date. The table displays the average difference between these returns and benchmark buy-and-hold returns (including all distributions) calculated over an identical time period. The *t*-statistics are in parentheses.

loan portfolios. As a final test of this relationship, Table 10 presents the average excess returns for the bank IPOs categorized by size and net loan growth as of the offering date. Holding period returns (including all distributions) are calculated from year +1 to year +5 to ensure that financial statements are publicly available. As expected, the poor post-offering performance of the bank IPO sample results almost entirely from those institutions with high rates of loan growth around the offering. Within the high growth group, small and large institutions lagged the value-weighted NSYE-Amex-Nasdaq benchmark respectively by −35.3% and −43.1% over the holding period, suggesting that size is not a significant factor for the performance of high growth banks. However, size does play a substantial role in the performance of low growth firms. Small, low growth banks actually outperformed the value-weighted benchmark by 44.0% over the holding period, compared with a −8.8% return for large, low growth firms. Therefore, while size is negatively related to post-IPO performance, the net loan growth rate appears to have greater influence on post-offering, long-term returns.

5. Summary and interpretation

The poor long-run performance of new equity issues has been extensively studied in the literature. Numerous banks and thrifts went public amid the

favorable regulatory climate and strong capital market of the mid-1980s. For many of these institutions, the offering corresponded to a period when other bank stocks and the economy were posting strong gains. Unlike previous studies, we identify a common source of the poor performance by studying a large sample IPOs from the homogeneous and competitive US banking industry.

A sample of 393 bank IPOs from 1983 to 1991 lagged three separate return benchmarks over the five-year post-offering holding period. The banks with the largest market value at the offering significantly underperform the benchmarks over the long run. The poor returns are also attributed to those institutions with the most aggressive growth in their loan portfolios around the IPO. In fact, the smaller banks with more conservative growth rates actually outperform the broader market. While these results cannot be explained by substantial changes in post-IPO net interest income, the sample did report dramatic increases in the loan loss provision shortly following the offering.

As noted by Koch (1995), the banking industry has faced many challenges and rather dramatic changes throughout its history:

> "With increased competition facing commercial banks, savings banks, credit unions, and investment banks, lending policies and loan portfolios have changed. From the end of World War II through the 1970s, commercial banks controlled commercial lending in the United States. When confronted with earnings pressure, they often raised loan-to-asset ratios by extending credit to marginal borrowers in the search for higher returns. Rising loan losses necessarily followed, in many cases causing banks to fail. The credit environment during the 1980s and early 1990s consisted of too many high-risk loans, few creditworthy customers, historically high loan losses, and aggressive pricing that produced low risk-adjusted returns..." (p. 629)

The trends that altered the banking industry are not unlike what are found for the sample of IPO banks. The evidence suggests investors may have fixated on the rapid growth of these institutions or may not have adequately accounted for changes in the post-IPO risk of their loan portfolios.

Healy (1985) states that managers whose compensation package is linked to earnings or stock performance have an incentive to alter their firm's investment strategy to maximize their individual wealth. In addition, Esty (1997) reports that thrift conversions to a stock charter are associated with increased investment risk and profit variability. If bank managers find a portion of their post-IPO compensation package tied to stock performance, some may have an incentive to increase their bank's overall risk after the IPO. The residual and fixed claims of ownership are separable under the stock form of organization,

so increases in residual risk shift to the new public shareholders. [18] Managers can take on additional risk by attracting new assets through high deposit rates, lowering loan interest rates, loaning funds to riskier clientele, or investing a greater portion of total assets in loans.

We propose the following explanation of the results identified by this study. Upon converting to a publicly traded institution, many banks received a large infusion of capital. Some institutions used these proceeds to rapidly grow new loans. In a competitive environment, however, leveraging such a large amount of capital through normal loan channels would likely prove difficult. Therefore, some banks may have invested these funds in loans for activities outside their regular market or to marginally riskier clientele. Both strategies would likely increase the risk of a bank's overall loan portfolio, especially if the institution fails to adequately price or identify the inherent risk of these loans. Meanwhile, having fixated on the early growth of these banks, investors may have also misjudged the degree of additional risk undertaken by these institutions. Eventually, the true cost of the loans became apparent and the banks began recording larger loan losses in the years following the offering.

Investor fixation with growth is not limited to IPOs from the banking industry. Rajan and Servaes (1997) find that analysts are overoptimistic about the earnings potential and long-term growth prospects of recent IPOs. They also state that IPOs have stronger returns when analysts forecast low growth potential for the firms. This evidence supports the finding that low growth IPO banks outperformed their high growth counterparts during the sample period. Bank earnings are very sensitive to interest rate movements and economic cycles, so investors are more likely to concentrate on a bank's loan growth as a measure of future performance. Many firms engaging in an IPO also do not have a proven track record prior to the offering. Investors in these firms will focus on some financial variable other than earnings, such as revenues or gross margins. Therefore, the source of the attention driving IPO performance will vary across industries and even across firms.

Acknowledgements

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[18] The Federal Deposit Insurance Corporation (FDIC) also bears a large portion of any risk changes both before and after the conversion to a publicly traded institution.

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