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# The impact of tax law changes on bank dividend policy, sell-offs, organizational form, and industry structure

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# The Impact of Tax Law Changes on Bank Dividend Policy, Sell-offs, Organizational Form, and Industry Structure

Hamid Mehran
Michael Suher

Staff Report no. 369
April 2009

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**The Impact of Tax Law Changes on Bank Dividend Policy, Sell-offs, Organizational Form, and Industry Structure**

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## Abstract

This paper investigates the effect at the bank and industry level of a 1996 tax law change allowing commercial banks to elect S-corporation status. By the end of 2007, roughly one in three commercial banks had either opted for or converted to the S-corporation form of organization. Our study analyzes the effect of this conversion on bank dividend payouts. It also examines the effect S-corporation status has on a community bank's likelihood of sell-off and measures a firm's sensitivity to tax rates based on its choice of organizational form. We document that dividend payouts increase substantially after a bank's conversion to S status. Moreover, community banks that convert are significantly less likely to be sold than their C-corporation peers. We estimate a tax rate elasticity of conversion in the range of 2 to 3 percent for every 1-percentage-point change in relative tax rates. Overall, our results provide evidence that Subchapter S status has significant effects on bank conduct and industry structure.

Key words: tax law, S corporations, organizational form, dividend policy, sell-offs, industry structure

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"The corporate tax should be abolished. Whether this is done or not, corporations should be required to attribute to individual stockholders earnings which are not paid out as dividends. That is, it should also send a statement saying, "In addition to this dividend of ____ cents per share, your corporation also earned ____ cents per share which was reinvested." The individual stockholder would then be required to report the attributed earnings on his tax return as well as the dividend. Corporations would still be free to plough back as much as they wish, but they would have no incentive to do so except the proper incentive that they could earn more internally than the stockholder could earn externally. Few measures would do more to invigorate capital markets, to stimulate enterprise, and to promote effective competition."

Milton Friedman, *Capitalism and Freedom*, 1962

## 1. Introduction

Perhaps no law or regulation in recent times has had as great an effect on the operation of small banks in the U.S. as the Small Business Job Protection Act of 1996. This provision, which was signed into law by President Bill Clinton, allowed commercial banks, beginning in 1997, to elect S corporation (instead of C corporation) as their preferred tax status.[1] The provision has two direct effects on corporate taxation: 1) It prevents double taxation of income (at the corporate level and personal level), and 2) it decreases the taxable gain on any sale of a share in the banking firm. Like the tax treatment proposed by Friedman in the quotation above, S corporations are pass-through entities, meaning their entire income is taxed at the shareholder level, regardless of the size of dividends.

As of the end of 2007, one in three banks had adopted the S-corporation form of organization, which is particularly prevalent among community banks. Commercial banks provide a useful laboratory for investigating the effects of S-corporation policy in general because of the availability of firm-level data. In addition, commercial banks are ineligible to take on noncorporate forms such as partnerships, sole proprietorships, and limited liability

[1] Each type of corporation is named after a section of the U.S. tax laws that addresses the tax treatment of that type of corporation: Subchapters C and S to Subtitle A, Chapter One of the Internal Revenue Code (Title 26 of the United States Code).

companies—and this circumstance, which lessens the influence of some potentially major nontax factors, allows one to better measure a firm's responsiveness to tax rate changes.

S corporations also play an important role in other industries, where the organizational form has existed since 1958. In fact, a substantial majority of corporations in the United States are now S corporations. The organizational form was introduced to allow small businesses to choose the tax status most appropriate for them, separate from nontax considerations such as limited liability. As with its later application to banks, S-corporation law is part of a legislative effort to promote small business. It is prudent to ask whether S status serves this purpose, particularly considering the complicating aspects of this organizational form, such as implicit constraints on growth as well as explicit incentives for sell-off.

While previous research has looked at why only certain banks choose S status, this paper focuses on banks after their conversion. With the overarching goal of evaluating the success of this policy for promoting community banks, we explore firms' response to interesting tax scenarios, including zero-dividend tax rates, pass-through taxation, and built-in gains in acquisitions. We also explicitly measure banks' sensitivity to tax rates according to choice of organizational form.

From the Federal Reserve, the Federal Deposit Insurance Corporation, and the National Information Center, we collected quarterly commercial bank financial statements (including S-corporation status), annual branch locations, and all acquisition activity. We collected state-level personal and corporate tax rates from the Tax Foundation.

S status provides an effective means of encouraging increased payouts to shareholders, though not measurably more than the shareholders' anticipated tax bill. The increased payouts are paralleled by a decrease in pretax operating efficiency as a result of conversion to S status.

These findings are somewhat consistent with recent research showing that simply lowering capital tax rates causes more substitution between dividends and stock repurchases, but does not tend to provide the promised boost to overall payouts (see Blouin, Raedy, and Shackelford [2007]).

We also find that community banks that did convert were much less likely to be sold than their C-corporation peers. Moreover, banks prove highly responsive to tax factors in their choice of organizational form. Exploiting differences in state-level taxation, we estimate a 2 to 3 percent elasticity in choice of organizational form. This finding, consistent with the estimate of Goolsbee (2004) for the retail sector in 1992, is useful for projecting the effect on corporate form of prospective changes in personal, corporate, and capital tax rates.

Overall, it seems that allowing S-corporation election does promote smaller banks by increasing their after-tax profitability and thus shielding them from acquisition, though the benefits stem directly from paying lower overall taxes. There is no evidence of the hypothesized increased in operating efficiency, as there are no appreciable reductions in retained earnings. Understanding all these results together is important for informing the use of tax-law changes to achieve business policy goals.

The paper proceeds as follows. Section 2 outlines the inception and evolution of laws concerning S corporations and the special treatment of depository institutions. Section 3 describes the aggregate banking industry trends toward consolidation and S-corporation status for community banks. Section 4 describes the data. Section 5 contains results of our estimation of payout changes for converting banks. Section 6 discusses the effect S corporations have had at the industry level and presents results regarding acquisitions. Section 7 presents the effect that

tax factors have on choice of corporate form. Section 8 concludes and provides the policy implications of our findings.

## 2. Legislative history and taxation of S corporations and banks

In 1958, a period prior to the advent of the limited liability company (LLC), concerns about high marginal tax rates from double taxation on corporate earnings of small privately held firms led the U.S. Congress to add Subchapter S to Subtitle A, Chapter One of the Internal Revenue Code (Title 26 of the U.S. Code), which created the S corporation.[2] The profits from an S corporation are not taxed at the corporate level; instead, they are passed through the corporate entity to shareholders on a pro rata basis and taxed only at the personal level.[3] In 2004, some 12 percent of businesses were S corporations, corresponding to over 60 percent of all corporations.[4]

Both new and existing corporations may elect to become S corporations. Like those of C corporations, shareholders of S corporations enjoy free transferability of their interests, a major distinction from LLCs or other partnerships. However, S corporations are subject to a number of restrictions that do not apply to C corporations, including limits to one class of stock and the type of shareholders allowed and, most notably, restrictions on the number of shareholders. Originally, this shareholder limit was set at ten but was subsequently raised to fifteen in 1976, to twenty-five in 1981, to thirty-five in 1982, to seventy-five in 1996, and to 100 in 2004. Higher shareholder limits, besides making more businesses immediately eligible, also facilitate the

[2] S corporations require the same corporate formalities as C corporations, including articles of incorporation, a board of directors, an annual shareholders' meeting, corporate minutes, and shareholder votes on major corporate decisions.
[3] Because some states' corporate income tax rates are higher than individual rates, a business organized as a regular corporation may pay higher state taxes than if it is organized as a partnership or S corporation. However, this difference may not be significant in the few states that tax unincorporated businesses.
[4] Internal Revenue Service, Statistics of Income, http://www.irs.gov/taxstats/bustaxstats/article/0,,id=96405,00.html.

bequeathing of small business stock to multiple heirs. Community bankers are currently lobbying Congress to substantially increase the shareholder limit to 150, while also allowing S corporations to issue preferred stock.[5] According to *American Banker*, Cynthia Blankenship, chairwoman of the Independent Community Bankers of America, testified that community banks "could better compete with the likes of larger banks, credit unions, and Farm Credit lenders if more changes were made."[6]

As a general rule, the higher the percentage of corporate income to be distributed, the more beneficial S election is. The S-corporation form benefits an existing profit-making corporation that does not reinvest earnings, or cannot do so because of an accumulated earnings problem, and expects to distribute substantially all of its income to shareholders.

Most states follow the federal example, exempting S corporations from the corporate income tax. Two states, California and Illinois, recognize the pass-through nature of S corporations, but still impose a tax at the entity level. Still others, like New Hampshire and Tennessee, do not recognize S status at all and treat any corporation operating in their jurisdiction as a regular corporation, subjecting the entity to a corporate tax and its shareholders to a personal income tax on any dividends received.

S status provides a significant advantage over other corporate forms if a business is operating at a loss, particularly if most or all of the owners are in the highest tax brackets. If the losses are not generated by passive activities, shareholders can use those losses to shelter other personal income. In contrast, C-corporation status does not provide an immediate tax benefit

[5] The inability of S banks to issue preferred stock became an issue when the government's Troubled Asset Relief Program (TARP) was introduced, as hundreds of mutual thrifts and roughly 2,500 banks structured as Subchapter S corporations cannot participate in TARP because they are not permitted to issue preferred stock (*American Banker,* October 15, 2008).

[6] *American Banker*, "Shareholder Cap Increase Key Goal in S Corp Effort," June 19, 2008.

from operating losses unless a business can use an optional provision permitting carry-back of losses against profits during the three most recent tax years. However, if a new business loses money in the first years of operation, the carry-back provision does not provide any current benefit. Losses not used in the current tax year or carried back can be carried forward and used to offset profits in future years, but several years may pass before the firm's profits are large enough to realize the full tax benefit of the early losses.

When Congress granted the choice of tax regime to small corporations in 1958, commercial banks were excluded from the list of eligible institutions. Not until the adoption of the Small Business Job Protection Act of 1996 were banks given the choice of organizational form for tax purposes. The exclusion of banks was initially motivated by the tax benefits they already derived from using the reserve method of accounting for bad debt (see, for example, Goldstein [1997] and Levy, Collins, Doyle, and Kulish [1997]). This special tax benefit was granted to depository institutions as early as 1947, in recognition of their crucial role in the economy (and the adverse consequences of bank runs) and, therefore, to confine their failures.

As early as 1993, the ineligibility of banks to organize themselves as S corporations was challenged on the grounds that their previous tax benefits had been eroded (see Kummer [2004], p. 329). Over time, the tax benefits to depository institutions for loan loss reserves had become more limited, and by 1996, when the law was passed, depository institutions effectively had very small tax benefits relative to nonfinancial firms. Community banks were also perceived as disadvantaged relative to credit unions, which are tax exempt, and at risk of being consolidated by national banks benefiting from various economies of scale and scope.[7]

[7] As reported in *American Banker*, "6% of Banks Said to Become S Corporations During '97," December 19, 1997. The article also cites the need to pay estate taxes out of earnings so that family banks will not be sold upon the owner's death.

Starting in 1997, all depository institutions of any asset size could organize themselves as S corporations (taking into account the constraint on the number of shareholders), except thrifts and commercial banks having assets of less than $500 million and employing the reserve method of accounting for bad debts.[8] However, three legislative changes had the potential for large impacts on depository institutions that had become S corporations. The Economic Growth and Tax Relief Reconciliation Act of 2001 reduced personal marginal tax rates, lowering the highest bracket to 35 percent by 2003. The Jobs and Growth Tax Relief and Reconciliation Act of 2003 reduced the tax rate on qualified dividends and capital gains to 15 percent. The American Jobs Creation Act of 2004 raised the maximum number of allowable shareholders for S corporations to 100 from seventy-five. As Denis and Sarin (2002) demonstrate, lower personal marginal tax rates relative to corporate marginal tax rates make S corporations more attractive. In contrast, the reduction in dividend and capital gains tax rates should reduce but not eliminate the tax advantage of pass-through entities relative to C corporations. Increasing the number of allowable shareholders for S corporations should expand the pool of eligible commercial banks.

## 3. The rise of S corporation banks

As shown in Figures 1 and 2, the number of banks electing S status rose quickly. In 1997, the first year that commercial banks could file as S corporations, 601, or more than 6 percent of all banks, chose to do so. By the end of 2007, a total of 2,357 banks were S corporations, representing more than 32 percent of all banks. In aggregate, by the end of 2007, S corporations accounted for 3.7 percent of total banking industry assets (and 4.6 percent of deposits). Outside of the fifty largest banks, S corporations account for a more economically significant 14.7 percent of aggregate commercial bank assets (and 16.2 percent of deposits). As

[8] See Goldstein, p. 649, for a discussion on gradual removal of tax benefits to depository institutions.

shown in Figure 3, S corporations are heavily concentrated in the Midwest. Between 1990 and 2007, the number of commercial banks of any size fell from 12,370 to 7,339, a drop of about 40 percent. Over the same period, community banks declined in number from 10,415 to 6,351, or about 39 percent of all banks. [9]

Figure 4 plots the fraction of commercial banks that are community banks and their share of total commercial banking assets. In both 1996 and 2007, community banks accounted for about 86 percent of all banks, while their share of total industry assets declined from 17 percent to 12 percent over the same period. The same chart plots the community bank share of acquisitions over time. This number stood at 48 percent in 1996, but has since increased dramatically: Community banks account for 60 percent or more of all bank acquisitions since 2002. The 8,266 community banks in existence in 1996 had dropped to 6,351 by 2006.

The vast majority of S corporations meet our definition of community banks; however, because S-corporation eligibility is based on number of shareholders instead of directly on asset size, some sixty-nine S corporations were not community banks in 2007. The largest of these had over $3 billion in total assets. Figure 5 breaks down the distribution of S-corporation banks by asset size. At the end of 2007, less than 2 percent of S banks had assets above $1 billion, and more than half had assets of less than $100 million.

Figure 6 plots the fraction of community banks that are S corporations and the fraction of community bank acquisitions where the target was an S corporation. In every year since 1997, S corporations have accounted for a share of community bank acquisitions between 5 percent and 15 percent lower than their prevalence among community banks would suggest. For instance, in 2006, some 34 percent of community banks were S corporations, but they accounted for only 24

[9] We define a community bank as a commercial bank owned by an organization with less than $1 billion in total banking assets, following "The Role of Community Banks in the U.S. Economy," *Federal Reserve Bank of Kansas City Economic Review*, Second Quarter 2003.

percent of total community bank acquisitions. An S corporation acquired by a C corporation loses its prior exemption from double taxation, though the target's shareholders would likely still have to be compensated at the higher tax-advantaged value. Countervailing this fact, the acquirer can take greater tax deductions when purchasing an S corporation through an asset sale, without greatly increasing taxes for the target's shareholders.

Though S corporations have predominately been conversions from existing C corporations, there have been some *de novo* S corporations. Figure 7a decomposes the population of S corporations into continuing S corporations, conversions, and new S corporations. As with acquiring an S corporation, choosing to charter a *de novo* S-corporation bank has two main opposing considerations. If the young bank loses money, then the shareholders can pass through these losses to offset income from other sources. On the other hand, *de novo* banks generally cannot pay dividends during their first three years. So should an S bank become profitable during this period, the shareholders will face a tax liability that cannot be covered by distributions from the bank (see Weinstock [2007]).

Figure 8 plots the ratio of *de novo* community banks to all community banks, with the contributions from C and S corporations. From this chart, it appears that *de novo* community banks have become more prevalent than in the early 1990s, but *de novo* S corporations have not played a significant role in this trend.

## 4. Data

Quarterly data on commercial banks were obtained from the Federal Reserve's Call Report database, which since 1997 has included an indicator for S status. We compute a number of key variables from this data. *ROA* is the ratio of earnings before extraordinary items and taxes

(EBET) to total assets. *ROE* is the ratio of EBET to book equity. *Payout ratio* is the ratio of common dividends to net income. *Salary cost* is the ratio of total salaries and benefits to revenue. *Compensation mix* is common dividends divided by salaries plus common dividends. *Deposits* is the ratio of total deposits to assets. *NPL ratio* is the ratio of nonperforming loans to gross loans. *Tier 1* is the regulatory Tier-1 capital ratio, defined as the ratio of Tier-1 capital to risk-weighted assets. *ROA volatility* is the standard deviation of quarterly ROA over the past 12 quarters. *Ag loans* is the ratio of agricultural loans to gross loans. *S density* is the fraction of community banks that are S corporations in the bank's state. *Community prevalence* is the fraction of aggregate bank assets held by community banks in the bank's state. *Built-in gains*, for the conversion choice probit model, is the difference between the market and book values of investment securities over assets. In the logistic regression on acquisition, it is a dummy variable indicating whether a bank is subject to the rules for built-in gains. *Loss carry-forward* is a dummy variable that is 1 if a bank has past losses to use against future income. *AMT* is net income subject to the alternative minimum tax over assets. *Regulatory* is a dummy variable, defined, following Hodder, McAnally, and Weaver (2003), as 1 if a bank is in the top fifth percentile of the ratio of deferred taxes to risk-based capital, or whose loss of deferred taxes would drop the bank to a lower regulatory capital threshold and/or below an 8 percent total capital ratio. *Loan loss* is the ratio of loan loss reserves to assets. *Loan shares* is the ratio of the corresponding loan type to gross loans. The FDIC's Summary of Deposits data are used for the number of branches and number of states of operation for each commercial bank. Data from the National Information Center are used to identify acquisitions.

## 5. The effect of S-corporation choice on bank payout

As noted in the earlier quotation from Friedman, when shareholders face taxes on the entirety of a firm's income, they will want that income paid out and invested where they see most profit. They will want gains plowed back into the firm only if this promises higher rates of return than their outside investment options. Shareholders also must pay taxes on their pro rata share of income, so they will always want dividends covering at least this expense. Thus, dividends are expected to increase substantially. Dividends may also increase owing to the elimination of the dividend tax, postponement of payouts until after conversion, and the prevalence of owner-managers who substitute dividends for salary to avoid payroll taxes.

### 5.1 Impact of conversion

Ratios of bank dividends to income over the period are plotted from three years before to three years after conversion, in excess of an industry benchmark. Also reported are the results from regressions at the individual bank level. These are univariate regressions of a bank characteristic post-conversion on the same bank characteristic pre-conversion.[10] All characteristics are taken net of a benchmark value computed each year. This adjustment is done to account for industry-wide trends. The estimated coefficient captures correlation between a bank characteristic before and after conversion. The intercept is then a measure of the conversion's impact on a bank characteristic that is independent of pre-conversion levels of that characteristic:

$$(S_i^{post} - Index^{post}) = \alpha + \beta(S_i^{pre} - Index^{pre}) + \varepsilon$$

[10] We follow the methodology used in Healy, Palepu, and Ruback (1992) and Cole and Mehran (1998).

The two benchmarks used are the median value for all commercial banks that never became S corps, as well as the median value for all commercial banks in the same asset decile that never became S corps. The dependent variable is the mean or median of the characteristic net of the benchmark value, from the three years after the year of conversion to S status. The independent variable is the mean or median of the characteristic net of the benchmark value, from the three years before the year of conversion to S status.[11]

Table 1 presents the regression results for changes in dividends. As expected, dividends increase substantially after conversion. Our regressions give an industry-adjusted increase of about 32 percent against comparably sized firms. Figure 9 shows that these elevated dividend levels persist beyond the first year after conversion. Since many S-corporation owners are also managers, we look at compensation measures to identify substitution of dividends for salary. We find that industry-adjusted salary (including benefits) as a percentage of revenue declines somewhat. If total compensation is defined as salary plus dividends, our regressions show dividends increasing their industry-adjusted share of total compensation by about 22 percent.

Though the post-conversion increase in payout is substantial, it is actually less than predicted. Since shareholders will have to treat their bank's net income as personal income, the relevant rates are the personal marginal tax rates. During the final years of our sample, when these taxes were lowest, the top federal rate was 35 percent and the top state rates averaged 5.6 percent. This implies that owners of S banks may actually be receiving less in dividends after taxes than when their banks were C corporations. The impact of pass-through taxation would then only be to lower total taxes paid and shift the tax incidence from the firm to the

[11] The sample is restricted to banks with three years of pre-conversion data and at least one-year of post-conversion data.

shareholders. In an attempt to understand this surprising result, we look at different ways of measuring conversion's impact on dividends in the next section.

### 5.2 Treatment effects

In contrast to C banks, S banks simultaneously experience lower tax rates, different tax incidence, and significant shareholder constraints. We employ a two-stage Heckman selection model with treatment effects, a technique used previously in the corporate finance literature to measure effects such as the diversification discount of multi-segment firms (see Campa and Kedia [2002]). It is clear that banks self-select into the S-corporation form and that the decision is highly nonrandom. The selection framework allows us to explicitly model the choice to convert and use this information to estimate unbiased conversion treatment effects. Our discussion of the selection model follows that of Li and Prabhala (2005).

In particular, the selection model assumes that private information plays a significant role in the conversion decision—something that is particularly relevant in the S-conversion framework. The conversion decision involves comparing the benefits of operating as an S corporation against the constraints of the S form and the explicit conversion costs. We do not observe the number or type of shareholders a bank has or the other business interests of the shareholders. We also have no direct information on management's beliefs regarding prospects for the bank's growth and its need for additional future capital. The importance of this unobserved information dictated our choice of a selection model instead of a matching model, where each S bank would be paired with a similar C bank, for estimating the impact of conversion to S status (for a comparison of selection and matching models, see, e.g., Li and Prabhala [2005]).

The first stage of the selection model is a probit regression on conversion to S corporation by bank $i$ in year $j$.

$$S_{i,j} = \begin{cases} 1, W_{i,j} = Z_{i,j}\gamma + \eta_{i,j} > 0 \\ 0, W_{i,j} = Z_{i,j}\gamma + \eta_{i,j} <= 0 \end{cases}$$

Banks convert to S status if the net benefit from conversion, denoted by the latent variable $W_i$, is positive. $Z_i$ is a vector of variables that are expected to predict the conversion decision; $\eta_i$ is an error term that includes firm-specific private information bearing on the conversion decision. We draw on the prior work of Hodder, McAnally, and Weaver (2003) and Cyree, Hein, and Koch (2005) in specifying the probit equation. Explanatory variables include asset growth, earnings growth, bank size, and loan loss reserves, all averaged over three years prior to the potential conversion year. Measures of built-in gains and alternative minimum tax (AMT) are included, as are dummies for loss carry-forward, proximity to regulatory capital ratios, rural banks, and *de novo* banks. Bank age and a dummy for a state's favorability to S corporations are also included. There are also dummy variables for the potential conversion year, the asset quartile in which the bank fits, and the interaction between these two dummies.

Table 2 largely confirms the prior results, showing that smaller banks heavy on agricultural loans are more likely to convert. Banks less likely to convert are those with heavy use of loan loss reserves, loss carry-forwards, and deferred tax assets unavailable under the S form of organization.

In the second stage, a bank characteristic is regressed on a lag of that same characteristic.

$$Y_{i,j}^{post} = \alpha + \beta Y_{i,j}^{pre} + \sum \gamma_j Year_j + \sum \gamma_k Size_k + \sum \gamma_{j,k} Year_j * Size_k + \delta S_{i,j} + \varepsilon_{i,j}$$

Each characteristic is taken as an average over the three years after and three years before the potential conversion year, denoted as $Y_{i,j}$. There are also dummy variables for the

potential conversion year, the bank's asset quartile, and the interaction between these two dummies. The year dummies control for industry-wide trends in the bank characteristics investigated. The asset quartile dummies control for size effects, while the interaction dummies allow these size effects to vary with time. Finally, there is the treatment variable, $S_{i,j}$, a dummy indicating whether bank $i$ converted to an S corporation in year $j$.

The errors from the two stages, $\eta_{i,j}$ and $\varepsilon_{i,j}$, are assumed to be bivariate normal. The correlation between the error terms, $\rho$, is estimated and tested for significance. Converting banks appear only once, while nonconverters appear every year. Only banks with three years of pre-conversion data are included. Conversion years go from 1997 until 2004, to allow for three years of post-conversion data (banks lacking three years of post-conversion data owing to merger or failure are still included). The model is estimated using full maximum likelihood. Standard errors are clustered by bank to account for error correlation in a given bank's repeated choice to not convert.

We also independently estimate the same second-stage equation without the self-selection correction. This gives us a measure of the observed difference in an S-corporation bank characteristic post-conversion, net of industry trends. We compare this with the results from the self-selection model to see how much of the difference is attributable to the act of conversion instead of the endogeneity surrounding the conversion decision. These results appear in Table 3.

Using the OLS model, we estimate an increase in the payout ratio of about 22 percent. The treatment effects model shows a negative correlation in the errors between the probit selection model and the subsequent increase in dividends. With this correction we estimate an increase of about 33 percent in the payout ratio. This result is very similar to that from the univariate regression of Section 5.1.

In an attempt to explain this result, we apply the same treatment effects framework to the profitability measures of pretax return on assets (ROA) and return on equity (ROE). While the OLS model shows that both these measures increase slightly after conversion, the treatment effects framework shows significant positive correlation in the errors between the probit selection model and the impact conversion has on profitability. Correcting for selection effects, we estimate that conversion causes pretax ROA to fall by 0.6 percent and pretax ROE by 6.4 percent. This decrease in efficiency is commensurate with the surprising finding that S-corporation dividends do not even rise enough to fully offset shareholder tax bills.

The prediction was that pass-through taxation, coupled with elimination of the tax on dividends, should increase a firm's efficiency by eliminating excess retained earnings. The fact that this is not happening raises questions about the providence of pass-through taxation as a policy tool. One possible explanation is the capital-raising constraints of the S form due to the shareholder limitations. If S banks wish to expand without the current owners adding more capital, they will need to use retained earnings. Another interesting possibility is that this result is being driven by the coexistence of both the pass-through and corporate forms of taxation in one industry. Since the S form promises greater after-tax returns, there may be over-investment in S banks from a nontax perspective.

## 6. Impact of S corporations on industry structure and acquisitions

It is not obvious *a priori* what the impact of allowing S corporations would have on the structure of the banking industry. Even after documenting the effects of conversion at the bank level, how these firm trends will manifest themselves industry-wide remains unclear. As of the end of 2007, the number of commercial banks with S status totaled 2,357, representing nearly

one-third of all banks, though less than 4 percent of industry assets. While it is impossible to know exactly what the banking industry would look like without the advent of S corporations, we focus on acquisitions, an important arena for shaping industry structure.

One stated goal of the 1996 S-corporation legislation was to support community banks, including preventing their need to be acquired by larger banks in order to survive. This goal is contrary to the widely accepted view that S-corporation status is advantageous to shareholders wishing to sell their business. Erickson and Wang (2007) lay out the theoretical argument and show that, empirically, S corporations across all industries receive higher purchase prices relative to comparable C corporations. Tax and estate planners consistently advise small business owners of C corporations to strongly consider conversion to S status, particularly if they are contemplating selling their business in the future. Additionally, it is easier to acquire a bank with fewer shareholders, and many banks reduced their number of shareholders to qualify for S status.

A first look at aggregate data gives the impression that allowing banks to become S corporations has not slowed the acquisition of community banks. Yet those community banks that did become S corporations were less likely to sell themselves than their C-corporation peers in every year since the law went into effect. This would imply that, on balance, banks choose S status to preserve themselves, not as a prelude to a sale.

Should S status curb acquisitions? The answer will depend on why larger institutions acquire community banks, and why community bank owners convert to S status. Hein, Koch, and MacDonald (2005) list the many reasons why community banks should theoretically be disadvantaged: "excessive concentration or risk in lending; competitive pressures from deregulation and new technologies; and limitations on market power, brand recognition, and technological investment." Banks likely undertake acquisitions for similar reasons. Growth in

general is expected to yield economies of scale and scope, reduced competition, and geographic diversification to avoid the effects of regional downturns. Acquisitions provide a means of garnering more branches and customers quickly, and probably more cheaply, than through self-expansion. Banks may also engage in acquisitions when they discern an undervalued bank or a bank that could be made more efficient.

As Erickson and Wang (2007) document, in comparison with C corporations, S corporations provide tax advantages in a sale. With some simplification, the reason is as follows. From the perspective of an acquirer, purchasing a company's assets provides greater tax benefits than buying the same company's stock. The opposite is true from the perspective of a seller of a target C corporation. The proceeds from an asset sale would be taxed at the corporate level and again when distributed as dividends to the owners. On the other hand, an asset sale by an S corporation incurs only one layer of taxation—at the shareholder level. Additionally, when selling an S corporation, it is permissible to undertake an administratively simpler stock sale that is still treated for tax purposes as an asset sale.

The most important exception to these tax benefits is what is known as *built-in gains*, which are increases in the value of an S corporation's assets that occurred while it was still a C corporation. In an asset sale, these gains are taxed at the corporate level. Built-in gains are no longer recognized after ten years as an S corporation and do not exist for *de novo* S corporations. Their potential impact is investigated below.

In light of the different tax treatments described above, given two identical banks in the same location, one a C corporation and one an S corporation, which would be the more attractive target? After acquisition, the S corporation would lose its tax advantage, so both acquired banks would have the same operating value. On a stand-alone basis, the S corporation is more valuable

than the C corporation. Even though an acquirer may fully pass along the tax benefits from an asset purchase, S-corporation owners will likely not sell unless offered more than the stand-alone value of their bank. So the acquirer would choose to purchase the S corporation only if the tax gains in the acquisition exceeded the additional stand-alone value of the S bank.

Such thinking is misleading, however, as ostensibly there are no identical S and C banks. Otherwise, they would have chosen the same corporate form. A bank that remained a C corporation could have had too many shareholders, could have expected substantial future capital needs, or, as Hodder, McAnally, and Weaver (2003) show empirically, could have been located in a state that does not fully recognize S-corporation status. Choosing S status can give a competitive edge that allows a community bank to survive consolidation and head off competition from credit unions. It can also be a conscious prelude to a sell-off, to take advantage of the tax benefits relative to C corporations in a purchase transaction. Thus, it is theoretically uncertain which effect will dominate. We have observed that community banks that are S corporations are being acquired at a slower pace than community banks that are C corporations.

We can test empirically how much of this trend is directly attributable to S status by running a logistic regression on S status as a predictor of a community bank sell-off in the following year. The results are presented in Table 4. Our sample of bank years has 67,364 observations, about 25 percent of which are from S corporations. The observations correspond to potential sales in the years 1997 to 2007. S status is for the year of potential sale, while all other bank characteristics are from the prior year. The sample likelihood of sell-off in the next year is 2.89 percent overall and 3.29 percent and 1.69 percent conditional on C and S status, respectively. We control for bank-level characteristics found to differ significantly for S corporations and include a dummy for publicly listed banks.

Column (1) shows S status is a significant negative predictor of sell-off, with an odds ratio of 0.58. If our controls are held at their mean values, S status implies a 1.2 percent reduction in sell-off probability, more than 40 percent of the sample probability. Column (2) adds controls for the years a bank has been an S corporation, as well as a dummy for whether the S bank is still subject to built-in gains taxes upon an asset sale. Column (3) introduces state-level variables for the prevalence of S banks and community banks in a state.[12] Both specifications yield a similar increase in the impact of S status, implying a 1.5 percent reduction in sell-off probability, or an odds ratio of 0.49. Column (4) introduces year dummies to control for waves in acquisition trends over time, but this has a negligible impact on the importance of S status as a predictor of sell-offs. As for the controls, public status, ROA volatility, S duration, the built-in gains dummy, and community bank prevalence have statistically significant positive effects on sell-off probability. There were many statistically significant negative predictors of sell-off, including ROA, Tier-1 capital, the log of branches, the nonperforming loan ratio, agricultural loans, and the prevalence of S banks in a state. When year dummies were incorporated, the log of states, deposits/assets, and the prevalence of community banks in a state were all insignificant predictors.

Built-in gains, described above, reduce the tax benefits to selling an S corporation. The year 2007 is the first when any S banks could be ten years old, the horizon for built-in gains. It is natural to ask how large role built-in gains have in sale decisions. It is conceivable that many S banks are waiting out the ten years before trying to sell themselves. The built-in gains dummy in these regressions is significant at the 10 percent level, providing some evidence that this is a factor in sell-off decisions. The same is true for the S duration variable, which is also positive

[12] *S density* is the fraction of community banks that are S corporations in the bank's state. *Community prevalence* is the fraction of aggregate bank assets held by community banks in the bank's state.

and significant. Prior to the ten-year horizon, the longer a bank is an S corporation, the lower is the proportion of its value attributable to its pre-conversion years.

Only about 1 percent of the full sample of banks are not subject to built-in gains, so we try the same logistic regression restricted to potential sales in the year 2007, as this sample should have a lower ratio of built-in gains to total value, relative to the full sample, and 2007 is the only year with some ten-year S corporations. Of the 5,465 banks in the sample, nearly 9 percent are not subject to built-in gains. Interestingly, as seen in column (5), the coefficient on S corporation becomes insignificant for this sample when the built-in gains variables are excluded. In column (6), when we add back S duration and the built-in gains dummy, S status regains its significance and is strongly negative, with an odds ratio of 0.27. This result suggests that acquirers are targeting S banks that have passed the built-in gains threshold and/or that owners of S banks are delaying their sell-off until after the ten-year mark. One should bear in mind that these are just one year's data and that 2007 saw the fewest acquisitions of any year in our sample.

As pointed out above, the banks that chose to convert to S status were different from the average bank and continued to diverge after conversion. Thus we look at post-estimation results using as control values the average S bank in our sample instead of the average across both S and C banks. For such a bank, controlling for duration, state, and year effects (column (4)), S status reduces the probability of sell-off by 1.2 percent. This result is less than that for the average bank in our overall sample (1.4 percent), but still represents more than 40 percent of the unconditional sample probability of sell-off in the following year.

The importance of S density (the ratio of S banks to all community banks in a state) as a negative predictor of sell-off is an interesting result. It shows that even after controlling for the

prevalence of community banks in a state, having more S banks in a state reduces the likelihood of sell-off for both S and C community banks. In conjunction with Figure 3, which shows the strong geographic concentration of S banks, this result is potential evidence of a union-like effect among community banks that chose S status.

Our results show that, on balance, community banks that chose S status did not do so in preparation for a sale and that S status confers some protection against acquisition. It is possible banks that became S corporations were already those less likely to be acquired, but their unattractiveness as targets would have to be for reasons other than the firm and location variables for which we have controlled—a situation that seems unlikely.

## 7. Conversion sensitivity to tax rates

Previous studies have tried to measure empirically how sensitive a firm's choice of organizational form is to differences in taxation between the corporate and noncorporate sector. Gordon and MacKie-Mason (1997) look at the corporate share of business activity across the entire economy from 1959 to 1986, against changing relative tax rates. Goolsbee (2004) uses state-level data for retail firms in 1992 in an attempt to measure the tax rate elasticity of incorporation. He employs a number of state-level characteristics to control for nontax preferences for incorporation, such as limited liability and access to capital markets. For that study, data limitations force S and C corporations to be lumped together. Because of the short time period in which banks have been eligible for S status, as well as the low variation in tax rates at the federal level over that time, we employ Goolsbee's cross-sectional state-level approach. Figure 3 shows substantial variation from state to state in the number of banks choosing S status. We collect the top marginal state-level corporate and personal tax rates for

2006, then combine them with federal corporate, personal, and dividend tax rates to yield the corporate tax premium for each state:

$$Ctaxpremium = \tilde{\tau}_c + (1 - \tilde{\tau}_c)\tilde{\tau}_e - \tilde{\tau}_p$$

$$\tilde{\tau}_i = \tau_i^{ST} + \tau_i^F - \tau_i^{ST}\tau_i^F, i \in \{c, p\}$$

where τ is a tax rate identified by the subscripts c, p, or e as corporate, personal, or equity, respectively, and the ST or F as state or federal. Each term is a combination of federal and state tax rates, accounting for federal deductibility of state taxes, and state deductibility of federal taxes or specific S-corporation taxes where appropriate. These C-corporation tax premiums appear in Table 5. California is the least advantageous state in which to become an S corporation, having an effective C corporation premium of only 5.5 percent. Alaska is the most advantageous, having a steep 15 percent premium on effective C-corporation tax rates. This assumes that banks are operating in only one state, which is true for the median community bank in our sample. The share of community banks that are S corporations in each state is regressed on the effective C-corporation premium (Ctaxpremium) and some controls for the prevalence of community banks in the state (**X**):

$$\frac{CommunityS}{Community} = \alpha + \beta_1 Ctaxpremium + \boldsymbol{X\beta} + \varepsilon$$

The controls are the share of a state's banking industry assets held at community banks and the log of either total community bank assets or the number of community banks in the state. The resulting estimates, presented in Table 6, are increases of 2.3 percent for S-corporation assets and 2.7 percent for S-corporation banks, for a 1-percentage-point increase in the effective C-corporation tax premium. The influence of nontax factors is reduced by both S and C banks being corporations, although they are not eliminated because S corporations have relatively less access to capital, as discussed above. These numbers are similar to Goolsbee's estimates for a

different industry and year and are therefore a good guide for projecting the changing prevalence of pass-through entities due to relative future changes in corporate and dividend tax rates relative to personal rates.

Besides the size of the tax savings, the other major consideration in conversion to an S corporation is the limit on shareholders. As mentioned earlier, this restriction has been increased many times since the advent of S corporations, though only once since banks became eligible, and it is likely that the number of shareholders allowed under subchapter S will go up in the future. Ideally, one would perform an exercise similar to that for the tax premium, to project how many more banks would convert for a given increase in the shareholder limit. Unlike with the tax rates, the shareholder limit is the same in all states, which makes a formal analysis difficult. The only relevant variation is the 2004 increase to 100 shareholders from seventy-five, and this action occurs against the backdrop of recent reductions in the personal marginal tax rates and the dividend tax rate. Figure 7b plots the net percent of banks that converted each year, meaning conversions plus *de novo* S banks minus reverse conversions. Informally, the conversion rate does spike again after 2004. Assuming the 2004 conversion rate was something of a steady state under the new federal tax regime, roughly 58 additional banks converted as a result of the increased shareholder limit.

## 8. Discussion and conclusion

The application of Subchapter S status to commercial banks has significant effects at the firm and industry levels. On average, banks that convert to S status have their dividend payouts increase dramatically, though surprisingly by less than their new shareholder tax bills would dictate. S banks actually become less operationally efficient on a pretax basis as a result of

conversion. Over the eleven years since the law was passed, community banks that did convert were significantly less likely to sell themselves, though there is some recent evidence that this trend will change as banks pass the threshold of ten-year built-in gains. Banks are significantly responsive in their choice of organizational form to differential tax rates. A shift of 2 to 3 percent of banks from C status to S status is predicted for a 1-percentage-point increase in the C-corporation tax premium.

Since passage of the law, community banks have maintained their share of all commercial banks, but have seen further significant declines in their aggregate share of banking industry assets. Our investigation shows that S-corporation tax laws can be effective at achieving business policy goals such as promoting small businesses, though they appear to do this only by lowering overall tax bills. Given that small banks in general have more difficulty raising capital in times of crisis, S corporations, because they face significant capital-raising constraints.[13]

While previous research has documented the many characteristics that lead banks to convert to S status, the requisite data are not available for investigating the effects of the restriction on number of shareholders. According to the trade press, the shareholder limit is the main reason some community banks have not become S corporations. The second most important reason is the limits on types of shareholders allowed, and the third reason is that some states do not recognize S corporations. Bank owners that do not meet all the criteria for conversion must weigh the cost of conversion against the later benefits. Buying out excess shareholders is potentially very costly, and small banks also tend to have more shareholders than

[13] *American Banker*, "Small Banks Find Capital Faucet Tapped," February 25, 2008.

small businesses in other industries.[14]

Our research suggests that if preserving community banks is a worthy goal, then enabling more of them to become S corporations is arguably one way to achieve this. Statutory changes such as the removal of barriers to S status at the state level, as well as increases in the shareholder limit might work to increase the number of banks making this change. Another possibility might involve imposing different criteria on depository institutions for S-status eligibility, such as a direct restriction on asset size instead of a shareholder limit. In a few years, new data will provide a better gauge of the importance that built-in gains have on community bank acquisitions. More broadly, considering the significant impact of S-corporation legislation, future research may exploit these discrete legislative changes to further investigate the economic importance of community banks and small businesses in general.

[14] *GAO Report to Congressional Committees,* "Banking Taxation: Implications of Proposed Revisions Governing S-Corporations on Community Banks," GAO/GGD-00-159, June 2000.

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Figure 1
Total Number of S-Corps and Share of all Commercial Banks: Q4 of Each Year

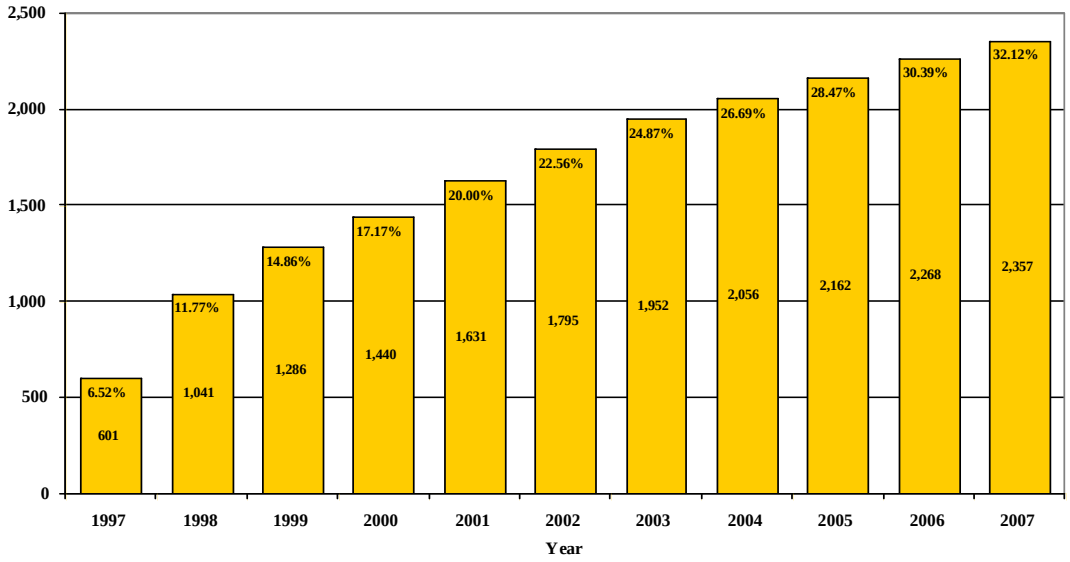


Figure 2a
S-Corp Assets: 1997 to 2007

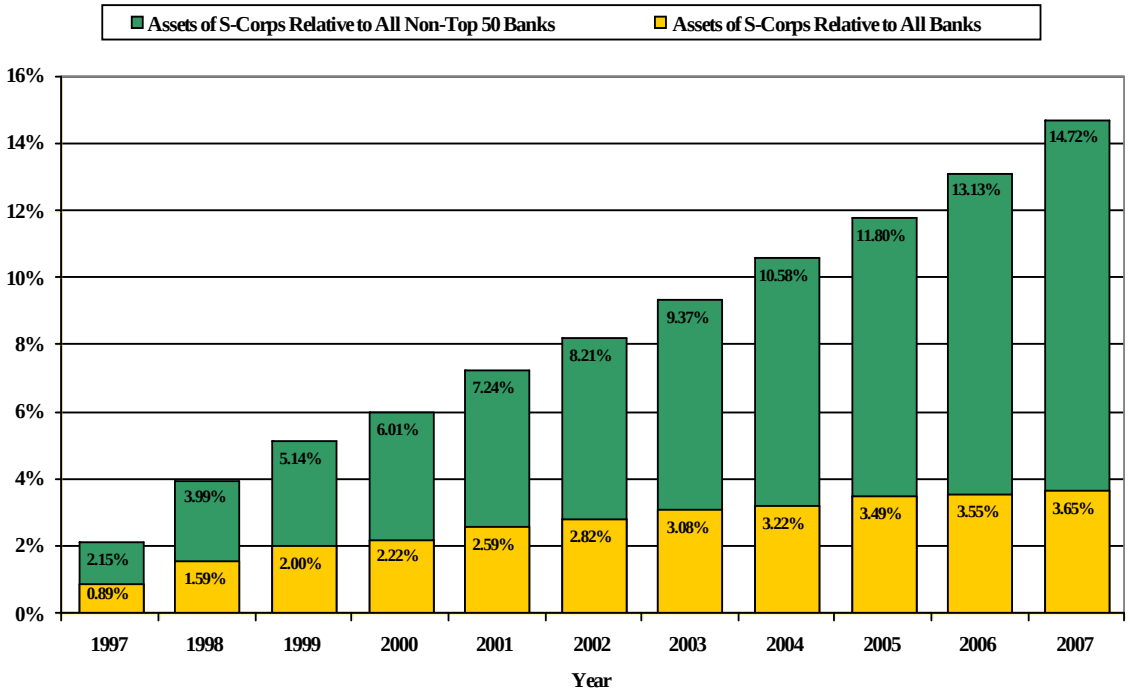



Figure 2b
S-Corp Deposits: 1997 to 2007

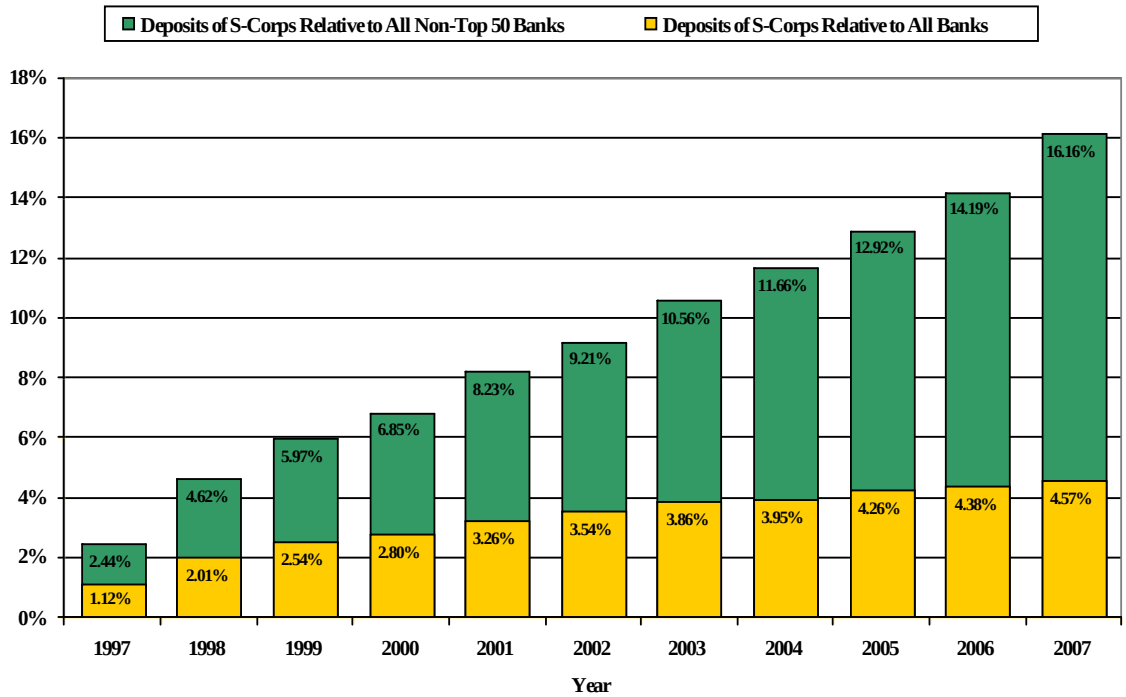


Figure 3
Commercial Bank S Corporations by State in 2007

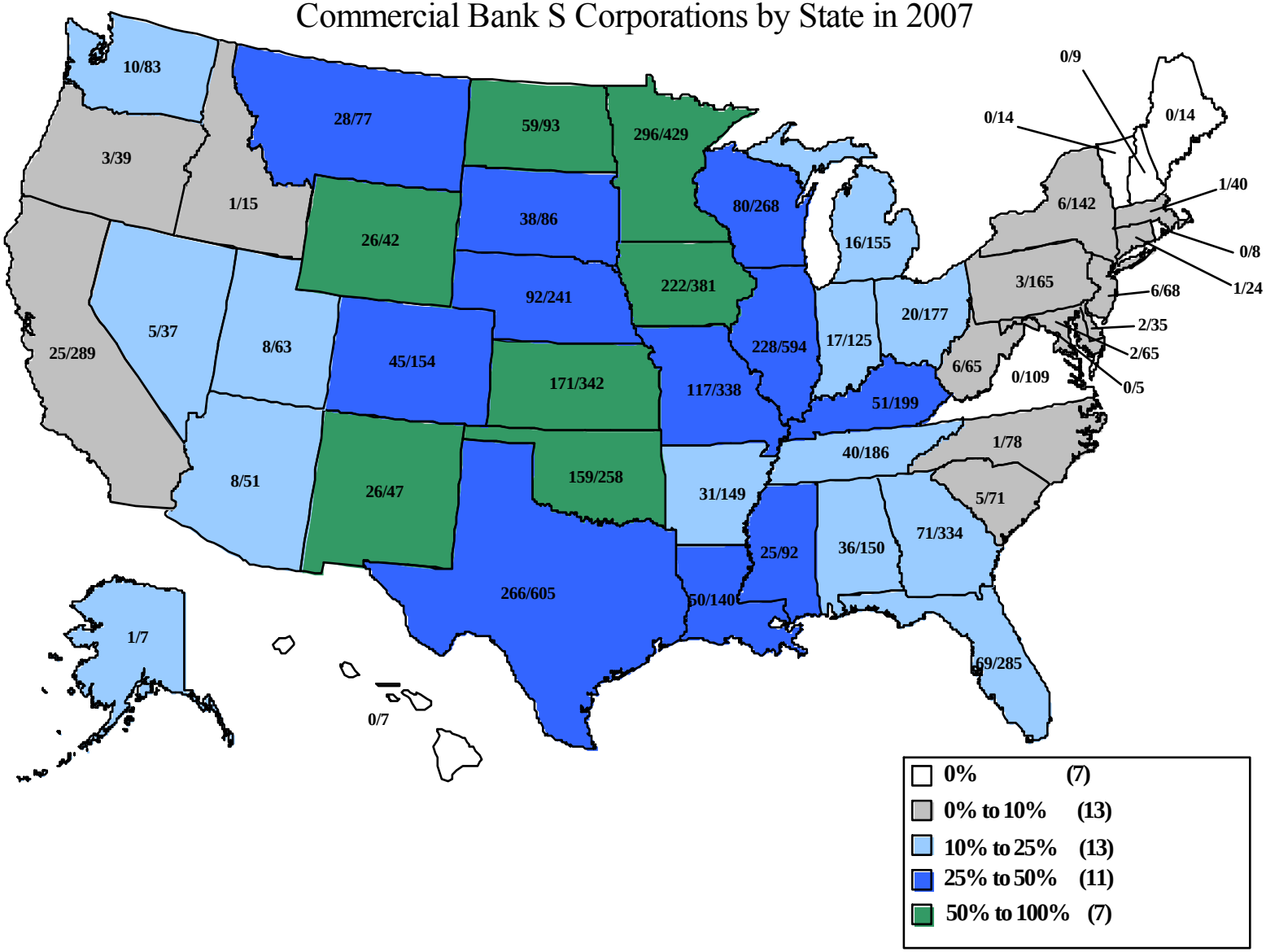


Figure 4
Subchapter S: Impact on Community Banks

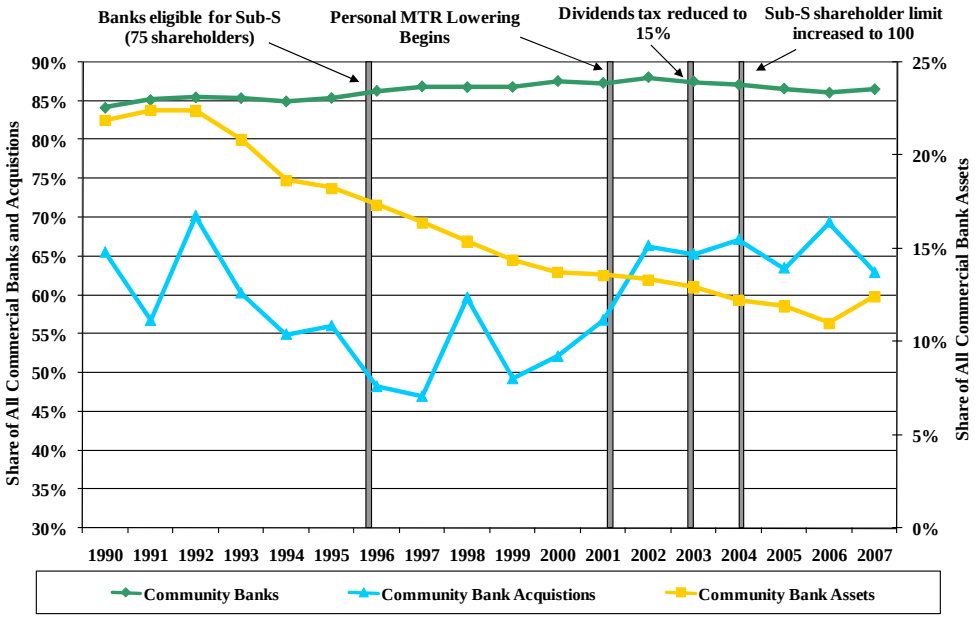



Figure 5
S-Corp Asset Distribution - 2,357 Banks
Q4 2007

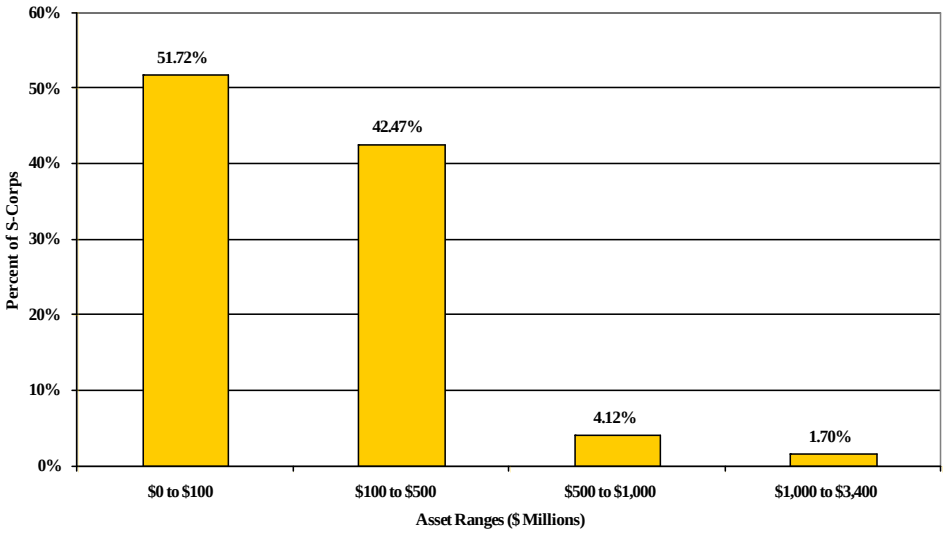


Figure 6
Acquistion of Community Banks

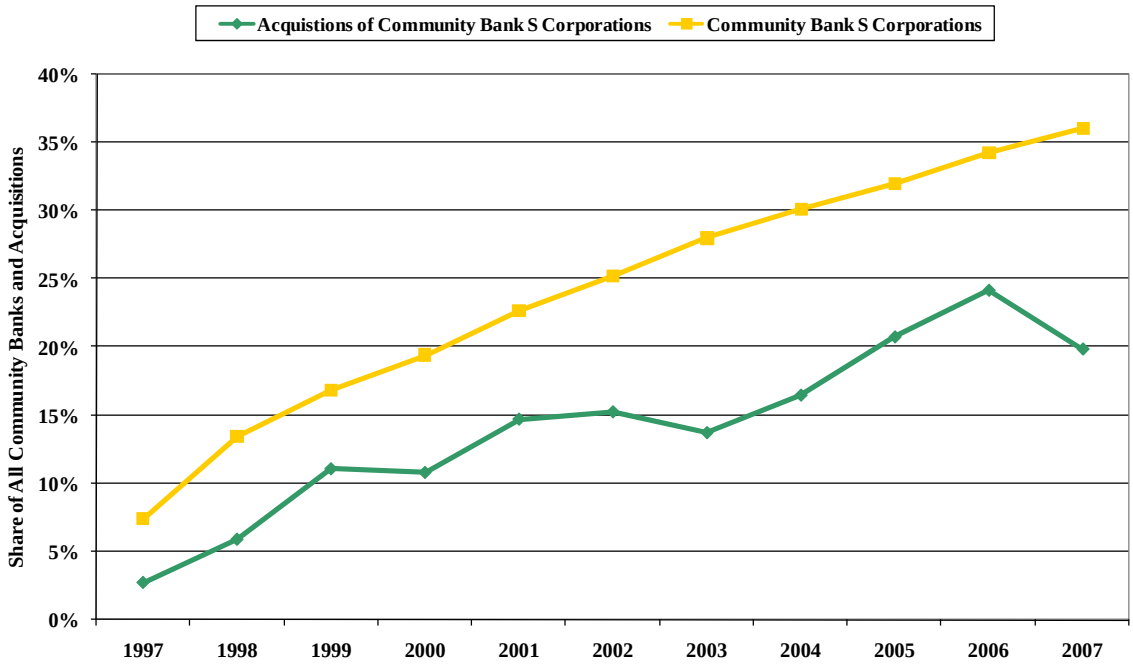



Figure 7a
S-Corp Dynamics by Year: 1997 to 2007

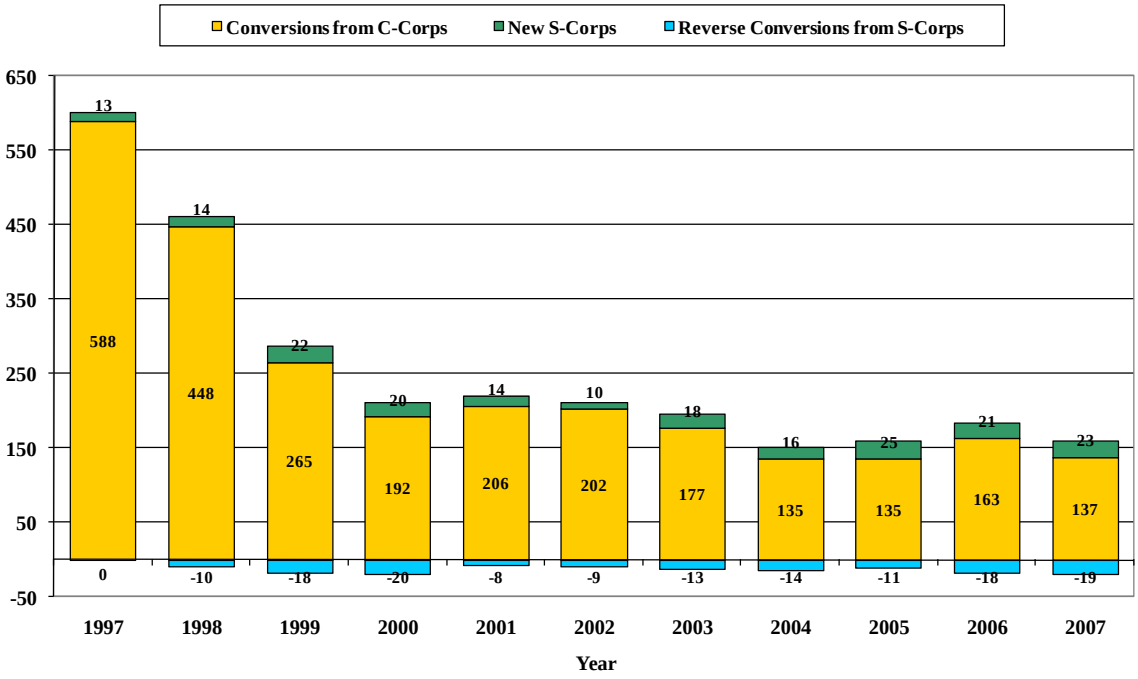


Figure 7b
Net New S-Corps by Year: 1997 to 2007

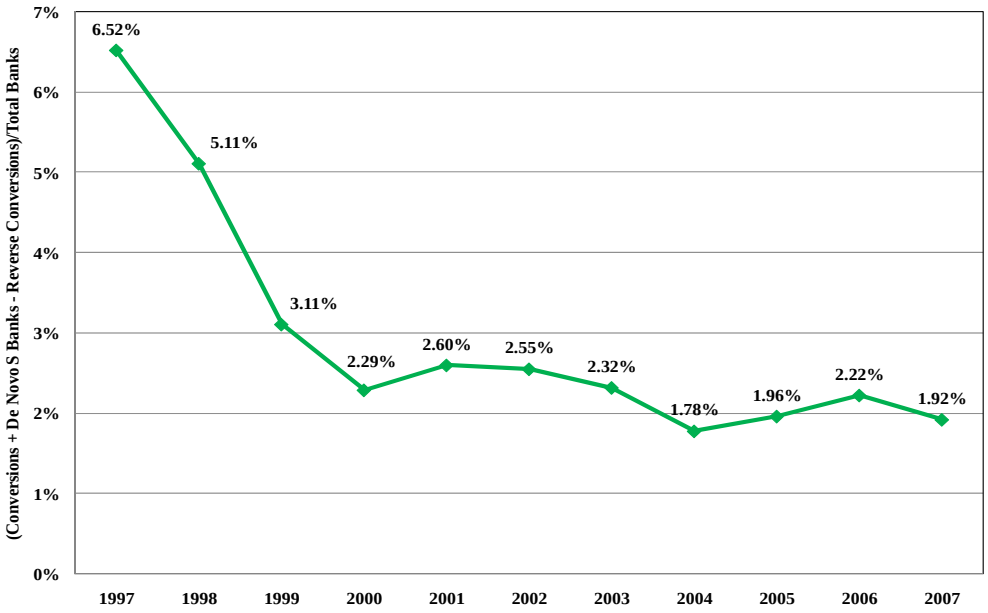
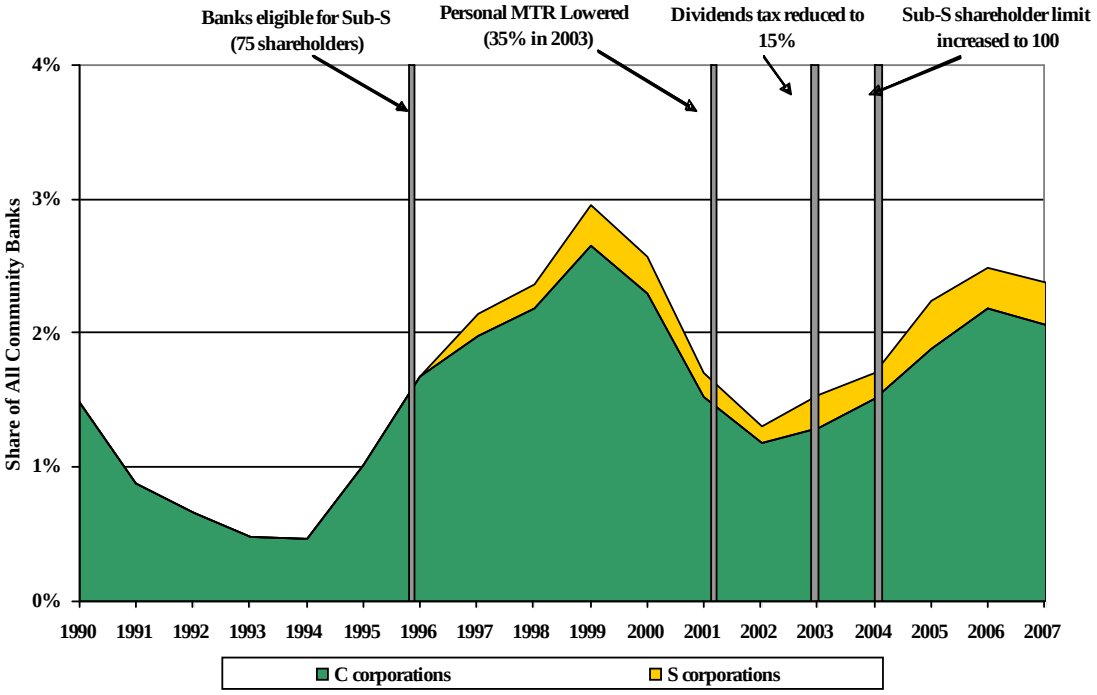



Figure 8
Ratio of De Novo Banks to All Community Banks

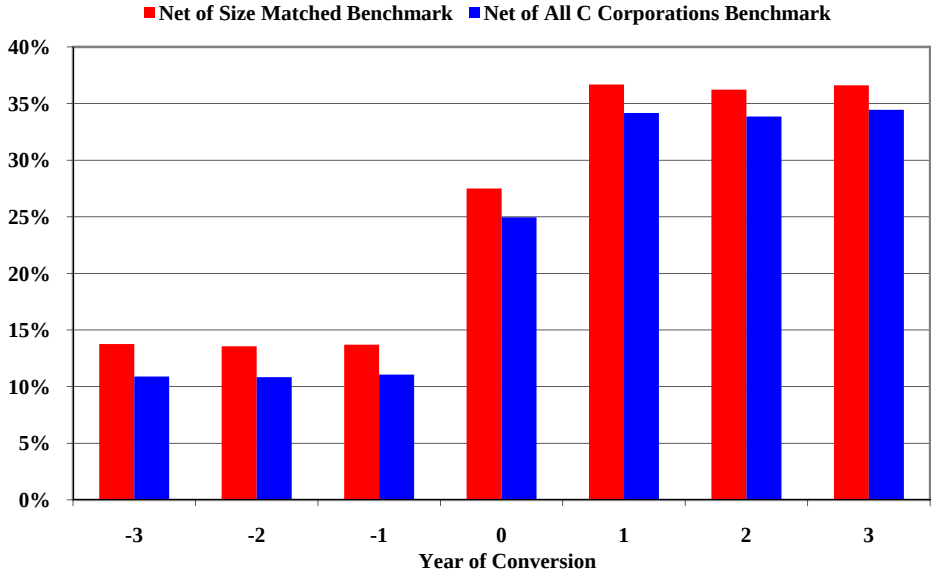


## Table 1. Converting S Corporation Payouts: Before and After

*Payout ratio* is the ratio of common dividends to net income. Observations are dropped if net income is negative or dividends exceed net income. *Salary cost* is the ratio of total salaries and benefits to revenue. *Compensation mix* is common dividends divided by salaries plus common dividends. t-stats appear below estimated parameters. These are univariate regressions of a bank characteristic post-conversion on the same bank characteristic pre-conversion. All characteristics are taken net of a benchmark value computed each year. The two benchmarks used are the median value for all commercial banks that never became S corps, and the median value for all commercial banks in the same asset decile that never became S corps. The dependent variable is the mean or median of the characteristic net of the benchmark value, from the three years after the year of conversion to S corporation. The independent variable is the mean or median of the characteristic net of the benchmark value, from the three years before the year of conversion to S corporation. The chart plots the means of the data used in the payout ratio regression. Significance levels: *** 1 percent, ** 5 percent, * 10 percent.

| | | All Banks | | | | | Asset Decile | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Payout Ratio$_{post}$** | | **Alpha** | | **Payout Ratio$_{pre}$** | | **RSQ** | **Alpha** | | **Payout Ratio$_{pre}$** | | **RSQ** | **Banks** |
| Mean Benchmark Value | Mean | **0.3117** | *** | **0.2554** | *** | **0.1100** | **0.3215** | *** | **0.2795** | *** | **0.1265** | **1,189** |
| 0.2853 | | 55.6856 | | 12.1137 | | | 53.7849 | | 13.1125 | | | |
| | Median | **0.3162** | *** | **0.2256** | *** | **0.0874** | **0.3266** | *** | **0.2511** | *** | **0.1037** | **1,189** |
| | | 53.7281 | | 10.6595 | | | 52.3390 | | 11.7173 | | | |
| **Salary Cost$_{post}$** | | **Alpha** | | **Salary Cost$_{pre}$** | | **RSQ** | **Alpha** | | **Salary Cost$_{pre}$** | | **RSQ** | **Banks** |
| Mean Benchmark Value | Mean | **-0.0022** | *** | **0.7851** | *** | **0.5492** | **-0.0062** | *** | **0.8190** | *** | **0.5564** | **2,435** |
| 0.2270 | | -2.7977 | | 54.4460 | | | -8.0897 | | 55.2383 | | | |
| | Median | **-0.0022** | *** | **0.8391** | *** | **0.5826** | **-0.0057** | *** | **0.8681** | *** | **0.5859** | **2,435** |
| | | -3.0132 | | 58.2731 | | | -7.8331 | | 58.6775 | | | |
| **Compensation Mix$_{post}$** | | **Alpha** | | **Compensation Mix$_{pre}$** | | **RSQ** | **Alpha** | | **Compensation Mix$_{pre}$** | | **RSQ** | **Banks** |
| Mean Benchmark Value | Mean | **0.2081** | *** | **0.3868** | *** | **0.1371** | **0.2210** | *** | **0.4160** | *** | **0.1615** | **2,435** |
| 0.1399 | | 63.4729 | | 19.6585 | | | 62.1939 | | 21.6478 | | | |
| | Median | **0.2163** | *** | **0.3480** | *** | **0.1175** | **0.2304** | *** | **0.3773** | *** | **0.1405** | **2,435** |
| | | 66.0733 | | 17.9986 | | | 65.3819 | | 19.9403 | | | |
| | | | | | | | | | 17.2571 | | | |

**Figure 9**
**Dividend to Net Income Ratio**



## Table 2. Probit Regression on Conversion to S Corporation in the Following Year

The sample covers potential conversion to S corporation in the years 1997 to 2004 for banks having at least three years of history. The dependent variable is 1 if the bank converts to an S corporation in a given year. *Built-in gains* is the difference between the market and book values of investment securities over assets. *Loss carry-forward* is a dummy variable that is 1 if a bank has past losses to use against future income. *AMT* is net income subject to the alternative minimum tax over assets. *State* is a dummy variable that is 1 if a bank is based in a state that fully recognizes S corporations. *Asset growth* is the change in assets from the previous year. Regulatory is a dummy variable defined following Hodder, McAnally, and Weaver (2003) as 1 if a bank is in the top fifth percentile of the ratio of deferred taxes to risk-based capital, or whose loss of deferred taxes would drop the bank to a lower regulatory capital threshold and/or below an 8 percent total capital ratio. *Assets* are total assets. *Age* is years since a bank was founded. *Rural* is a dummy that is 1 if a bank is not in an urban area according to the Summary of Deposits data. *De novo* is a dummy variable that is 1 if a bank is less than five years old. *EBET growth* is the growth over the previous year in earnings before extraordinary items and taxes. *Loan loss* is the ratio of loan loss reserves to assets. *Ag loans* is the ratio of agricultural loans to gross loans. *C&I loans* is the ratio of commercial and industrial loans to gross loans. Standard errors are clustered by bank. Z statistics are in parentheses. Significance levels: *** 1 percent, ** 5 percent, * 10 percent. Marginal effects for dummy variables are for a discrete change from 0 to 1. To remove implausible values in the data, ROA is trimmed each year at 1 and 99 percent levels. Assets are also trimmed each year at the 1 and 99 percent level to remove the mega banks as well as implausibly small banks.

| | | Share of Observations by Banks Converting to S | |
|---|---|---|---|
| | | 5.52% | |
| | Predicted Sign | Coefficient | Marginal Effect |
| **Built-in Gains** | - | -6.113* | -0.483* |
| | | (-1.802) | (-1.802) |
| **Loss Carry-Forward** | - | -0.495*** | -0.0258*** |
| | | (-4.606) | (-4.606) |
| **AMT** | + | -21.93*** | -1.733*** |
| | | (-3.355) | (-3.355) |
| **State** | + | 0.0872*** | 0.00720*** |
| | | (2.721) | (2.721) |
| **Asset Growth** | - | -0.232** | -0.0183** |
| | | (-1.991) | (-1.991) |
| **Regulatory** | - | -1.402*** | -0.0434*** |
| | | (-6.419) | (-6.419) |
| **Log(Assets)** | - | -0.0942*** | -0.00744*** |
| | | (-3.489) | (-3.489) |
| **Log(Age)** | - | 0.266*** | 0.0210*** |
| | | (7.957) | (7.957) |
| **Rural** | + | 0.0156 | 0.00123 |
| | | (0.493) | (0.493) |
| **De Novo** | | 0.208 | 0.0197 |
| | | (1.495) | (1.495) |
| **EBET Growth** | + | -0.00292 | -0.000231 |
| | | (-0.718) | (-0.718) |
| **Loan-Loss** | - | -19.35*** | -1.529*** |
| | | (-5.040) | (-5.040) |
| **Ag Loans** | + | 0.733*** | 0.0580*** |
| | | (7.381) | (7.381) |
| **C&I Loans** | | 0.639*** | 0.0505*** |
| | | (4.982) | (4.982) |
| **Constant** | | -1.176*** | |
| | | (-4.185) | |
| **Year Dummies** | | Yes | |
| **Asset Quartile Dummies** | | Yes | |
| **Year*Asset Quartile Dummies** | | Yes | |
| **Bank-Year Observations** | | 37,184 | |
| **Log likelihood** | | -7,226 | |
| **Psuedo $R^2$** | | 8.98% | |

## Table 3. Comparison of OLS and Two-stage Treatment Effects Estimation of Impact of S Conversion

*Payout ratio* is the ratio of common dividends to net income. *ROA* and *ROE* are the ratio of earnings before extraordinary items and taxes to assets and equity, respectively. *Rho* is the correlation in errors between the probit model and the treatment effects estimation. *Sigma* is the standard deviation of the dependent variable. *Lamda* is their product. All specifications include dummies for a bank's asset quartile, the year, and their interaction. T or Z statistics are in parentheses. Standard errors are clustered by bank. Significance levels: *** 1 percent, ** 5 percent, * 10 percent.

| | Pre-conversion Mean | OLS | | | Treatment Effects | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dependent Variable | Post-conversion Mean | S-corp | Lagged Value | R Squared | S-corp | Lagged Value | Rho | Sigma | Lambda | Observations |
| Payout Ratio | 0.419 | 0.224*** | 0.618*** | 0.401 | 0.329*** | 0.613*** | -0.248 | 0.208 | -0.052 | 37,184 |
| | 0.631 | (40.60) | (79.42) | | (11.81) | (73.03) | | | | |
| ROA | 0.017 | 0.000701*** | 0.590*** | 0.398 | -0.00611*** | 0.600*** | 0.609 | 0.006 | 0.003 | 37,184 |
| | 0.0158 | (5.545) | (54.46) | | (-18.33) | (56.59) | | | | |
| ROE | 0.175 | 0.0109*** | 0.547*** | 0.397 | -0.0639*** | 0.551*** | 0.591 | 0.064 | 0.038 | 37,184 |
| | 0.163 | (6.678) | (27.62) | | (-9.471) | (24.43) | | | | |

## Table 4. Logistic Regression on Sell-Off in the Next Year

The sample goes from 1996 to 2006, corresponding to sell-offs in 1997 to 2007. The dependent variable is 1 if the bank is sold in the next year. S corp is 1 if the bank is an S corporation in the next year (when it would be acquired). All other variables are measured as of the year before potential acquisition. Publicly listed is 1 if the bank or its parent is a public company. Branches is the total number of branches. States is the number of states in which the bank has branches. ROA is the ratio of earnings before extraordinary items and taxes (EBET) to assets. Deposits is the ratio of total deposits to assets. NPL ratio is the ratio of non-performing loans to gross loans. Tier 1 is the regulatory tier 1 capital ratio, defined as the ratio of tier 1 capital to risk-weighted assets. Total Capital is the ratio of book equity to book assets. ROA Volatility is the standard deviation of quarterly ROA over the past 12 quarters. Ag Loans is the ratio of agricultural loans to gross loans. S duration is the number of years a bank has been an S corporation in the prospective acquistion year (0 for C corporations). Built-in gains is a dummy variable which is 1 if a bank has been an S corporation for over ten years was a de novo S corporation, eliminating built-in gains considerations from an asset sale. S density is the fraction of community banks which are S corporations in the bank's state. Community prevalence is the fraction of aggregate bank assets held by community banks in the bank's state. Year dummies are for base year 1996 in models (1), (2), and (3). ROA, Deposits/Assets, Assets, ROA Volatility, Total Capital, and Tier 1 Ratio are trimmed at the 1% and 99% level. z-scores appear below estimated parameters. Standard errors are clustered by bank. Significance levels: *** 1%, ** 5%, * 10%. Post estimation results are provided for discrete changes in the categorical variables and for changes from half a standard deviation below the mean value to half a standard deviation above the mean.

| | | | S Corp Share of Sample | | | | Sample Acquistion Probability | | | | Sample Acquistion Probability \| C | | | | Sample Acquistion Probability \| S | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 25.03% | | | | 2.89% | | | | 3.29% | | | | 1.69% | | | |
| | | | | | (1) | | | | | (2) | | | | | (3) | | | |
| | | Mean/SD | Firm Controls | | | | | | Firm and Duration Controls | | | | | | Firm, Duration and State Controls | | | |
| | Predicted Sign | Models (1),(2),(3) and (4) | Coefficients | Odds Ratio | 0 to 1 | -SD/2 to + SD/2 | Coefficients | Odds Ratio | 0 to 1 | -SD/2 to + SD/2 | Coefficients | Odds Ratio | 0 to 1 | -SD/2 to + SD/2 |
| **Constant** | | | -3.603*** | | | | -3.636*** | | | | -3.432*** | | | |
| | | | (-9.27) | | | | (-9.33) | | | | (-8.65) | | | |
| **S corp** | +/- | 25.03% | -0.537*** | 0.58 | -0.0119 | -0.0058 | -0.714*** | 0.49 | -0.0153 | -0.0077 | -0.704*** | 0.49 | -0.0150 | -0.0076 |
| | | | (-8.09) | | | | (-5.68) | | | | (-5.60) | | | |
| **Publicly listed** | + | 3.98% | 0.970*** | 2.64 | 0.0379 | 0.0047 | 0.972*** | 2.64 | 0.0379 | 0.0047 | 0.928*** | 2.53 | 0.0353 | 0.0045 |
| | | | (12.0) | | | | (12.0) | | | | (11.3) | | | |
| **Log(Branches)** | + | 1.18 | -0.0633* | | | -0.0012 | -0.0626* | | | -0.0012 | -0.0716** | | | -0.0013 |
| | | 0.76 | (-1.85) | | | | (-1.83) | | | | (-2.09) | | | |
| **Log(States)** | + | 0.01 | -0.0156 | | | 0.0000 | -0.0200 | | | 0.0000 | -0.00274 | | | 0.0000 |
| | | 0.08 | (-0.058) | | | | (-0.075) | | | | (-0.010) | | | |
| **ROA** | - | 1.44% | -17.95*** | | | -0.0032 | -17.75*** | | | -0.0032 | -18.80*** | | | -0.0034 |
| | | 0.72% | (-5.16) | | | | (-5.11) | | | | (-5.40) | | | |
| **Deposits/Assets** | + | 84.98% | 0.794* | | | 0.0012 | 0.823* | | | 0.0012 | 0.707* | | | 0.0010 |
| | | 5.94% | (1.89) | | | | (1.95) | | | | (1.68) | | | |
| **NPL ratio** | - | 0.95% | -6.603*** | | | -0.0018 | -6.561*** | | | -0.0018 | -6.676*** | | | -0.0018 |
| | | 1.09% | (-2.77) | | | | (-2.76) | | | | (-2.80) | | | |
| **Tier 1 ratio** | + | 16.43% | -1.605*** | | | -0.0033 | -1.579*** | | | -0.0032 | -1.669*** | | | -0.0034 |
| | | 8.12% | (-3.91) | | | | (-3.85) | | | | (-4.04) | | | |
| **ROA Vol.** | + | 0.15% | 97.84*** | | | 0.0034 | 97.82*** | | | 0.0034 | 96.62*** | | | 0.0033 |
| | | 0.14% | (7.51) | | | | (7.52) | | | | (7.42) | | | |
| **Ag Loans** | - | 10.88% | -0.903*** | | | -0.0034 | -0.893*** | | | -0.0034 | -0.801*** | | | -0.0030 |
| | | 15.15% | (-4.58) | | | | (-4.53) | | | | (-3.91) | | | |
| **S duration** | | 1.19 | | | | | 0.0301 | 1.03 | | 0.0019 | 0.0442** | 1.05 | | 0.0027 |
| | | 2.50 | | | | | (1.39) | | | | (2.01) | | | |
| **Built-in gains** | | 1.13% | | | | | 0.428* | 1.53 | 0.0131 | 0.0011 | 0.424* | 1.53 | 0.0128 | 0.0011 |
| | | | | | | | (1.89) | | | | (1.88) | | | |
| **S Density** | + | 25.04% | | | | | | | | | -0.632*** | | | -0.0026 |
| | | 16.76% | | | | | | | | | (-3.43) | | | |
| **Community Prevalence** | - | 38.97% | | | | | | | | | 0.162 | | | 0.0008 |
| | | 20.22% | | | | | | | | | (1.23) | | | |
| **Year Dummies** | | | No | | | | No | | | | No | | | |
| **Bank-Year Observations** | | | 67,364 | | | | 67,364 | | | | 67,364 | | | |
| **Log likelihood** | | | -8,588 | | | | -8,584 | | | | -8,578 | | | |
| **Psuedo $R^2$** | | | 2.65% | | | | 2.69% | | | | 2.76% | | | |

## Table 4 - (Continued): Logistic Regression on Sell-Off in the Next Year

| | | | | | | Potential 2007 Sell-Offs Only | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | S Corp Share of Sample | | Sample Acquistion Probability | | Sample Acquistion Probability \| C | | Sample Acquistion Probability \| S | |
| | | | | | | 39.34% | | 2.91% | | 3.47% | | 2.05% | |
| | (4) | | | | | (5) | | | | (6) | | | |
| | Firm, Duration, State and Year Controls | | | | Mean/SD | 2007 Only | | | | 2007 Only - Duration Controls | | | |
| | Coefficients | Odds Ratio | 0 to 1 | -SD/2 to + SD/2 | Models (5) and (6) | Coefficients | Odds Ratio | 0 to 1 | -SD/2 to + SD/2 | Coefficients | Odds Ratio | 0 to 1 | -SD/2 to + SD/2 |
| **Constant** | -3.695*** | | | | | -5.779*** | | | | -5.650*** | | | |
| | (-8.82) | | | | | (-4.28) | | | | (-4.23) | | | |
| **S corp** | -0.673*** | 0.51 | -0.0141 | -0.0071 | 39.34% | -0.173 | 0.84 | -0.0038 | -0.0019 | -1.305*** | 0.27 | -0.0261 | -0.0139 |
| | (-5.48) | | | | | (-0.85) | | | | (-2.61) | | | |
| **Publicly listed** | 0.934*** | 2.54 | 0.0349 | 0.0044 | 1.88% | 1.205*** | 3.34 | 0.0488 | 0.0037 | 1.188*** | 3.28 | 0.0457 | 0.0035 |
| | (11.3) | | | | | (3.26) | | | | (3.21) | | | |
| **Log(Branches)** | -0.0756** | | | -0.0014 | 1.18 | -0.276** | | | -0.0048 | -0.277** | | | -0.0046 |
| | (-2.16) | | | | 0.78 | (-2.38) | | | | (-2.40) | | | |
| **Log(States)** | -0.0127 | | | 0.0000 | 0.01 | -0.158 | | | -0.0004 | -0.118 | | | -0.0003 |
| | (-0.047) | | | | 0.12 | (-0.22) | | | | (-0.16) | | | |
| **ROA** | -19.79*** | | | -0.0035 | 1.34% | 0.102 | | | 0.0000 | -1.200 | | | -0.0002 |
| | (-5.57) | | | | 0.74% | (0.0092) | | | | (-0.11) | | | |
| **Deposits/Assets** | 0.687 | | | 0.0010 | 83.75% | 3.485** | | | 0.0050 | 3.381** | | | 0.0047 |
| | (1.61) | | | | 6.43% | (2.38) | | | | (2.33) | | | |
| **NPL ratio** | -5.878** | | | -0.0016 | 0.87% | -12.45 | | | -0.0029 | -12.84 | | | -0.0029 |
| | (-2.47) | | | | 1.05% | (-1.29) | | | | (-1.33) | | | |
| **Tier 1 ratio** | -1.743*** | | | -0.0034 | 15.96% | 0.920 | | | 0.0016 | 0.942 | | | 0.0016 |
| | (-4.17) | | | | 7.80% | (0.79) | | | | (0.82) | | | |
| **ROA Vol.** | 97.04*** | | | 0.0033 | 0.14% | 138.2*** | | | 0.0043 | 136.7*** | | | 0.0040 |
| | (7.39) | | | | 0.14% | (3.65) | | | | (3.59) | | | |
| **Ag Loans** | -0.815*** | | | -0.0030 | 9.21% | -1.954* | | | -0.0060 | -2.034* | | | -0.0060 |
| | (-3.90) | | | | 13.64% | (-1.75) | | | | (-1.81) | | | |
| **S duration** | 0.0388* | 1.04 | | 0.0024 | 2.83 | | | | | 0.137** | 1.15 | | 0.0121 |
| | (1.81) | | | | 4.05 | | | | | (2.28) | | | |
| **Built-in gains** | 0.377* | 1.46 | 0.011 | 0.0010 | 8.89% | | | | | 0.308 | 1.36 | 0.0075 | 0.0019 |
| | (1.65) | | | | | | | | | (0.87) | | | |
| **S Density** | -0.740*** | | | -0.0030 | 38.26% | -2.109*** | | | -0.0089 | -2.230*** | | | -0.0090 |
| | (-3.27) | | | | 18.76% | (-2.84) | | | | (-2.99) | | | |
| **Community Prevalence** | 0.230* | | | 0.0011 | 38.49% | 0.632 | | | 0.0028 | 0.675 | | | 0.0029 |
| | (1.66) | | | | 19.99% | (1.10) | | | | (1.17) | | | |
| **Year Dummies** | Yes | | | | | No | | | | No | | | |
| **Bank-Year Observations** | 67,364 | | | | | 5,465 | | | | 5,465 | | | |
| **Log likelihood** | -8,538 | | | | | -687 | | | | -682 | | | |
| **Psuedo $R^2$** | 3.22% | | | | | 4.42% | | | | 5.16% | | | |

## Table 5. Financial C-corporation Tax Premiums in 2006

This table shows the estimated tax premium in each state for operating a commercial bank as a C corporation rather than a S corporation next to the fraction of a state's community banks that are S corporations and the fraction of community bank assets held by S corporations. It is computed with the top tax bracket of federal and state personal tax rates, federal and state corporate tax rates, and the corporate dividend tax rate. It also takes account of federal deductibility of state taxes and, where appropriate, state deductibility of federal taxes or specific S corporation taxes. A Spearman rank correlation is computed between the tax premium and the measures of S corporation presence.

| State | Corporate Tax Premium | Fraction of Community Banks which are S corps. | Fraction of Community Assets |
|---|---|---|---|
| **California** | 5.54% | 10.78% | 10.69% |
| **South Carolina** | 7.69% | 7.69% | 5.82% |
| **Hawaii** | 7.92% | 0.00% | 0.00% |
| **North Carolina** | 8.20% | 1.69% | 0.16% |
| **Michigan** | 8.26% | 12.61% | 9.72% |
| **Rhode Island** | 8.29% | 0.00% | 0.00% |
| **Vermont** | 8.49% | 0.00% | 0.00% |
| **Arkansas** | 8.79% | 24.80% | 27.57% |
| **Idaho** | 8.88% | 0.00% | 0.00% |
| **New Jersey** | 8.89% | 5.88% | 2.88% |
| **Oklahoma** | 9.00% | 58.54% | 59.67% |
| **Maine** | 9.16% | 0.00% | 0.00% |
| **Georgia** | 9.17% | 24.81% | 21.43% |
| **Mississippi** | 9.26% | 24.71% | 16.28% |
| **Colorado** | 9.30% | 38.46% | 42.21% |
| **Virginia** | 9.33% | 0.00% | 0.00% |
| **New York** | 9.44% | 4.71% | 2.17% |
| **Tennessee** | 9.44% | 23.08% | 27.92% |
| **District of Columbia** | 9.61% | 0.00% | 0.00% |
| **Kansas** | 9.62% | 50.00% | 50.53% |
| **Nebraska** | 9.62% | 34.63% | 40.27% |
| **Kentucky** | 9.72% | 24.18% | 21.40% |
| **Wisconsin** | 9.73% | 29.32% | 24.48% |
| **Nevada** | 9.75% | 23.53% | 20.99% |
| **Washington** | 9.75% | 13.24% | 17.23% |
| **Wyoming** | 9.75% | 58.33% | 66.71% |
| **Alabama** | 9.91% | 23.85% | 21.21% |
| **Ohio** | 9.98% | 12.42% | 8.29% |
| **Louisiana** | 9.99% | 34.56% | 26.29% |
| **North Dakota** | 10.02% | 63.74% | 50.09% |
| **Minnesota** | 10.06% | 68.70% | 68.81% |
| **Illinois** | 10.33% | 40.99% | 44.00% |
| **Utah** | 10.42% | 16.67% | 5.98% |
| **Arizona** | 10.49% | 21.43% | 20.71% |
| **West Virginia** | 10.50% | 9.84% | 6.44% |
| **New Mexico** | 10.50% | 63.41% | 75.22% |
| **Maryland** | 10.53% | 2.13% | 0.77% |
| **Connecticut** | 10.64% | 4.76% | 2.53% |
| **Delaware** | 10.69% | 9.09% | 12.93% |
| **Oregon** | 10.70% | 10.00% | 8.97% |
| **Missouri** | 10.78% | 36.18% | 33.20% |
| **Montana** | 11.41% | 40.91% | 43.46% |
| **New Hampshire** | 11.61% | 0.00% | 0.00% |
| **Iowa** | 11.90% | 58.86% | 58.81% |
| **Massachusetts** | 12.11% | 3.45% | 0.50% |
| **Texas** | 12.24% | 43.78% | 41.42% |
| **Indiana** | 12.24% | 13.13% | 9.63% |
| **Florida** | 12.79% | 27.23% | 21.75% |
| **South Dakota** | 13.07% | 48.61% | 39.01% |
| **Pennsylvania** | 13.27% | 3.03% | 2.70% |
| **Alaska** | 14.94% | 25.00% | 23.97% |
| **Average** | 10.07% | 22.60% | 21.47% |
| | | | |
| **Spearman Rank Correlation Test** | | 0.309 | 0.276 |
| **p-value** | | (0.0273) | (0.0501) |

## Table 6. Taxes and Choice of Organizational Form in 2006

The dependent variables are the share of community bank assets or firms that are S corporations in each state in 2006. C tax premium is the difference between the tax rate paid by a C corporation and an S corporation in the state. It incorporates state and federal taxes on personal, corporate, and dividend income, correcting for deductibility of state and federal taxes, and special financial S corporation taxes where appropriate. The top marginal rates are used in all categories. Banks are assumed to be operating in only one state. Community assets and community banks are the total number for these variables in each state. The District of Columbia is included for 51 observations. Standard errors are robust. Significance levels: *** 1 percent, ** 5 percent, * 10 percent.

| | (1)<br>S share of community assets | (2)<br>S share of community banks |
|---|---|---|
| **C tax premium** | 2.285** | 2.704** |
| | (2.16) | (2.33) |
| **Community share of assets (1996)** | 0.731*** | 0.606*** |
| | (7.61) | (6.38) |
| **Ln (community assets) (2006)** | 0.0383** | |
| | (2.52) | |
| **Ln (community banks) (2006)** | | 0.0571*** |
| | | (4.07) |
| **Constant** | -0.839*** | -0.449*** |
| | (-3.21) | (-3.81) |
| **Observations** | 51 | 51 |
| **Adjusted R-squared** | 0.46 | 0.56 |