Competition, taxes, and organizational form

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Abstract

This study examines whether competition between tax-advantaged and tax-disadvantaged firms influences organizational form choice, and explores two consequences of this choice. Using a sample of 5,268 private U.S. banks from 1997 to 2010, we find that competitive pressure within a Metropolitan Statistical Area from S corporation banks that do not pay entity-level income tax leads C corporation banks that do pay entity-level tax to convert to S corporation status. We also find that (1) the competitive pressure exerted by S corporations is attenuated after Congress reduced the relative tax advantage of S over C corporations in 2003, and (2) banks in a Bertrand market structure (price-takers) are more likely to convert to S status than those in a Cournot market structure (price-setters). In terms of consequences, converting banks increase their future market share more than non-converting banks, with some evidence that advertising growth and new bank branches facilitate this increase. Finally, competing banks that do not convert increase their tax avoidance, mostly through deferral strategies. In all, our findings provide economic insight into how competition shapes—and is shaped by—taxes and organizational form.

Keywords: competition; taxes; organizational form; S corporation; Cournot; Bertrand

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Competition, taxes, and organizational form

1. Introduction

Organizational form is a fundamental business decision. A number of factors, such as taxes, liability exposure of owners, and access to capital influence this decision (Ayers et al. 1996). Although businesses with different organizational forms can supply identical goods and services, their after-tax rates of return can vary because income taxation depends on organizational form (Scholes et al. 2014). As firms compete over customers and capital by trading off marginal revenues with marginal costs, identifying and quantifying the advantages of organizational forms in the tax treatment of income becomes increasingly important as taxes are a major cost to the firm. Although prior research considers the role of tax and nontax factors in the choice of organizational form (see Shackelford and Shevlin 2001; Hanlon and Heitzman 2010), it largely ignores whether and how competition shapes—and is shaped by—this choice. Our study examines whether competition between tax-advantaged and tax-disadvantaged firms influences organizational form choice, and explores two consequences of this choice.

To isolate the role of taxes and competition in organizational form choice, we consider two corporate forms that primarily differ on income taxation: Subchapter C corporations and Subchapter S corporations. Subchapter C of the U.S. Internal Revenue Code (IRC) levies an entity-level tax on corporate profits, which upon distribution (e.g., as dividends) are taxed again to shareholders. This structure is commonly referred to as double taxation. Under Subchapter S, however, corporations satisfying specific criteria can elect to avoid the entity-level tax and instead "pass through" corporate income, losses, deductions, and credits directly to its shareholders for tax reporting purposes (Internal Revenue Service [IRS] 2013a).[1] Aside from income taxation, these two organizational forms are legally the same type of entity. Subchapter S

[1] See Section 2 for relevant criteria.

simply combines the legal benefits of incorporation (i.e., limited liability, perpetual life) with tax benefits similar to that of partnerships or sole proprietorships (i.e., no entity-level tax). As a result, S corporations are a popular organizational form, accounting for nearly 44 percent of all business tax returns filed during 2012 (IRS 2013b).[2]

As a material cost, income taxes are an important consideration in organizational form choice (see Hanlon and Heitzman 2010). Research shows that nontax factors, such as legal risk and financial reporting benefits, are also important considerations and, in some cases, dominate the tax factors (Ayers et al. 1996). Nevertheless, few studies directly consider the choice between C and S corporations as substitutes, while those that do (1) omit the role of competition; (2) rely on proprietary data or surveys; (3) examine heterogeneous activities; and (4) focus on historical events, such as the Tax Reform Act of 1986 (Scholes and Wolfson 1992; Plesko 1999; Omer et al. 2000). To address these issues and provide more recent evidence on organizational form choices, we examine the setting of depository institutions, i.e., commercial banks and thrifts.[3]

The bank setting offers four advantages. First, both public and private banks file Call Reports with the Federal Deposit Insurance Corporation (FDIC) that, in addition to financial data, specify organizational form. S corporations are not publicly traded and thus their operations are rarely observed; the banking setting offers a rare glimpse at this organizational form. Second, Subchapter C status was mandatory for banks until the Small Business Job Protection Act of 1996, which gave banks the option to elect Subchapter S status (but not any other status) beginning in 1997. This regulatory change allows us to identify all banks that convert (or start as) S corporations, thus modeling all possible organizational form choices. This deregulation is

[2] S corporations filed 4.5 million tax returns in 2012, compared to 3.6 for partnerships and 2.3 for C corporations.
[3] We exclude credit unions because they are nonprofit cooperatives, relatively small, and regulated differently than other banks. We also exclude bank holding companies as these entities do not necessarily engage in banking activity. For brevity and because thrifts are increasingly similar to commercial banks (Ryan 2007), we use the term "banks" when it is not necessary to differentiate between the two.

economically significant; nearly one-third of all banks now operate as S corporations (Mayberry et al. 2014), holding $386 billion in deposits and extending $295 billion in loans. Third, banks are a relatively homogenous group in terms of products, services, operations, accounting, and assets/liabilities, which mitigates alternative explanations by ruling out inter-industry differences as determinants of organizational form choice. Lastly, bank data allow us to consider competition at the local geographic (rather than industry) level, enhancing construct validity.

Our primary tests focus on whether the extent of competition from tax-advantaged S corporation banks leads existing rival C corporation banks to convert to S corporation status. Firms, including banks, regularly compete with one another for customers and capital (Rogers 2003; Jackson 2010). Prior research suggests that competitive pressure influences a firm's divisional structure (Palmer et al. 1993; Rao and Sivakumar 1999), accounting choices (Reppenhagen 2010), and use of technology (Bothner 2003). Further, Kubick et al. (2014) find that firms mimic the tax planning strategies of powerful firms in their product markets. By alleviating the entity-level tax under Subchapter C, Subchapter S status provides the competitive advantage of higher after-tax cash flow, which can be used for any number of purposes to attract customers and capital. Although Hodder et al. (2003) find that banks elect Subchapter S status in response to this tax advantage, they do not consider how competition exerted by S banks on existing rival C banks influence these C banks to elect S status. Thus, our central hypothesis is that greater competition with S corporation banks in local markets increases the likelihood that a rival C corporation bank will elect S status to alleviate its tax-related competitive disadvantage.

We test our hypothesis using a discrete-time hazard model, which evaluates whether an S corporation conversion in year t+1 is associated with competitive pressure from S corporations in year t. Our primary sample consists of 5,268 private banks that exist as C corporations for at

least one year (i.e., banks that are "at-risk" of conversion), where banks that convert to S corporations are removed from the sample after conversion.[4] We use data from Call Reports in the Compustat Bank Regulatory file from 1997 to 2010. We begin with 1997 as it is the first year that banks were eligible to elect Subchapter S, and end with 2010 due to data availability. We measure competitive pressure as market share, or the percent of total deposits held by S banks and their branches by Metropolitan Statistical Area (MSA) and year.[5] We define the competitive boundary to be an MSA because it is widely used in economic analysis and accounts for 90 percent of U.S. gross domestic product (Dunne and Fee 2013). Following prior studies (e.g., McGuire et al. 2012), we define MSA as the geographic market where a bank is headquartered.[6]

Our empirical tests find a positive relation between current period S corporation market share and future period conversions of C corporation banks to Subchapter S status. A one standard deviation increase in the market share of S banks increases the odds of conversion by about 31 percent. We also find similar results in a subsample that (a) excludes the ten largest banks in each year, which helps ensure our tests focus on banks that are "at-risk" of converting to S corporations; and (b) includes banks operating in only a single MSA, which relaxes our empirical assumption that competitive pressure primarily arises in the headquarter MSA. Consistent with our hypothesis, the results suggest that competition with tax-advantaged firms

[4] The benefit of this approach is that it allows for greater specification of control variables and also is consistent with the fact that a large majority of S corporation conversions are from preexisting C corporations rather than de novo bank charters (Mehran and Suher 2009). We consider de novo banks in Section 4.4.3.

[5] We focus on deposits to calculate market share because (1) deposits and loan products are typically purchased as a bundle rather than individually (Kwast et al. 1997; Amel and Hannan 1999); and (2) regulators do not collect loan-based information by branch or MSA, so the data prevent us from measuring market share using loans. Note that our sample contains only privately held banks, i.e., those at risk of conversion, while the denominator of total deposits in an MSA includes deposits from both public and private banks to reflect the entire competitive landscape over deposits in which the at-risk C and converted S banks operate.

[6] Although banks were permitted to operate in multi-branch structures after the Riegle-Neal Act of 1994, we attribute the competitive environment of the headquarter branch to the entire bank. Corporate officers and other key decision makers typically reside in the MSA of the headquarter branch; thus, competition in this MSA is likely the most relevant for organizational form decisions. This approach is consistent with prior research in both accounting (e.g., McGuire et al. 2012) and banking (e.g., Adams et al. 2007).

influences organizational form choice for tax-disadvantaged firms.

In sharpening our inferences, we perform two tests. First, we evaluate if changes in the relative tax advantages of S over C corporations mediate the effect of competitive pressure from S corporations on S conversions. Notably, the Jobs and Growth Tax Relief Reconciliation Act (JGTRRA) of 2003 reduced the tax advantage of S over C corporations by lowering dividend tax rates to a greater extent than individual tax rates on ordinary income. That is, JGTRRA reduced the double-tax disadvantage of C corporations by reducing the shareholder-level tax. We find that the competitive pressure exerted by S corporation banks is attenuated, but not eliminated, after JGTRRA. This result corroborates that *tax*—rather than unspecified nontax—factors are important determinants of how competition shapes organizational form choices. Second, we examine whether the nature of competition within an MSA influences the competition exerted by S corporations. When banks are price-takers (Bertrand 1883) versus price-setters (Cournot 1838), converting to a tax-advantaged organizational form is likely appealing as it is otherwise difficult for price-takers to shift the cost of taxes to customers. Consistent with this notion, we find banks that are less capable of passing costs on to consumers (i.e., price-takers) are more likely to convert to an S corporation in response to competitive pressure from S corporations.

Finally, we examine two consequences of the decision to convert (or not convert) to S status. First, among banks that operate in a single MSA, we find an increase in market share up to two years after conversion, but no growth for non-converting banks. We investigate reasons for this difference and find that converting banks likely use their tax savings to increase advertising and open more new bank branches. Second, we find a negative relation between competitive pressure and future effective tax rates (ETRs), consistent with non-converting banks engaging in more tax avoidance to alleviate the tax-related competitive pressure from rival S

banks. We also find evidence that most of the tax avoidance takes the form of deferral strategies. In all, our findings suggest that competition with tax-advantaged firms influences organizational form choice, which in turn has consequences for both future market share and tax avoidance.

This study contributes to several streams of research. First, although numerous studies conclude that taxes affect organizational form (e.g., Shevlin 1987; Petroni and Shackelford 1995; Ayers et al. 1996), none to our knowledge consider the role of competition. Similarly, accounting and finance research on product market competition finds that market power affects performance (Spence 1984; Porter 1990), capital structure (Brander and Lewis 1986; Chevalier 1995), and other factors; however, it largely omits organizational form choice. We contribute to these two lines of research by showing that tax-related competitive pressure from S corporations influences the organizational form choices of existing rival C corporations. By doing so, we answer the call in Hanlon and Heitzman (2010, 156), who state, "whether the tax system helps or impedes firms that must adapt their organizational form to compete with new firms is an open question."

Second, we extend research on depository institutions (e.g., Ryan 2007) by examining the role of competition on organizational form choice in a setting where firms conduct homogenous business activities. While our findings rely on a bank setting, they likely generalize to other sectors as all industries contain a nontrivial number of S corporations (IRS 2013b). Finally, our study complements the tax avoidance literature, which often focuses on "aggressive" transactions (Lisowsky et al. 2013). In contrast, converting to S status, while not without some costs, can generate substantial tax savings with an arguably low risk of scrutiny from tax authorities.

We proceed as follows. Section 2 provides a brief background and develops our hypothesis. Our research design and main results are described in Sections 3 and 4, respectively. Section 5 evaluates the consequences of S corporation conversion, and Section 6 concludes.

2. Background and hypothesis development

2.1 Organizational form

Businesses operate under various incorporated and unincorporated organizational forms, each with their own unique tax and nontax features (Scholes et al. 2014). In particular, corporations are legal entities that conduct business activities independent of their owners. The corporate form provides limited personal liability to its owners, perpetual life, centralized management, and transferability of ownership. A corporation organized under Subchapter C of the IRC is subject to an entity-level income tax, while a corporation organized under Subchapter S is not. Conversely, unincorporated forms, such as partnerships and sole proprietorships, are simply "alter egos for their owners" (Ayers et al. 1996, 51) that do not pay a separate entity-level tax on business income; all income is reported and taxed at the individual owner level. However, these forms do not provide the traditional benefits of incorporation, instead subjecting its owners to unlimited personal liability, restrictions on the transfer of ownership, and termination upon departure or death of an owner.

Organizational form choice affects numerous aspects of business, including liability exposure, access to capital, and taxes (Ayers et al. 1996). For instance, MacKie-Mason and Gordon (1997) analytically demonstrate that profitable firms shy away from the corporate form as the tax costs of operating as a C corporation increase. More recently, Allen and Raghavan (2012) find that loss firms tend to organize as C corporations rather than more tax-advantaged forms due to operating efficiencies. Other studies suggest taxes explain the (1) use of general partnerships (Guenther 1992), limited partnerships (Shevlin 1987), master limited partnerships (Gentry 1994; Terando and Omer 1993; Shelley et al. 1998), and real estate investment trusts (Goolsbee and Maydew 2002); (2) acquisition price of corporate subsidiaries (Erickson and

Wang 2000); and (3) organizational form of venture capital funds (Johnson 2009), start-ups (Bankman 1994; Fleisher 2004), and property-casualty insurers (Petroni and Shackelford 1995). Still, some evidence on the importance of taxes in organizational form choice is mixed. For example, Goolsbee (1998) concludes that the effect of taxes on organizational form during 1900-1939 was relatively small, while other research finds that nontax factors (e.g., business risk, firm age, firm size, and financial reporting benefits) explain a variety of organizational form choices and, in many cases, trump the tax incentives (Beatty et al. 1995; Ayers et al. 1996).

Our study considers the two *incorporated* organizational forms of Subchapter C and Subchapter S corporations, which primarily differ on tax features. In the U.S., corporate profits are taxed twice under Subchapter C of the IRC. That is, C corporations pay an entity-level tax at corporate rates when income is earned, and shareholders pay tax at shareholder rates when income is distributed from the corporation to its owners as dividends. However, after 1958, Subchapter S allows corporations meeting specific criteria to elect out of the entity-level tax. Instead, the owners of an S corporation report their ratable share of corporate income/losses on their personal tax returns and pay tax only at individual rates when income is earned (rather than distributed). As predominantly a tax election, Subchapter S offers the traditional benefits of incorporation without the double taxation on income under Subchapter C.

<INSERT FIGURE 1 ABOUT HERE>

Figure 1 stylizes the tax savings of S corporations relative to C corporations, where Panel A (B) incorporates dividend tax rates before (after) JGTRRA in 2003.[7] In Panel A, a firm earns $100 of pre-tax income. Under Subchapter C, the firm pays an entity-level tax of $35. If $40 is distributed to shareholders, who then pay tax at their individual rate of 38.6 percent, then the C

[7] Our sample period straddles JGTRRA so we illustrate both pre- and post-JGTRRA scenarios for completeness. We also explicitly consider the effects of JGTRRA as part of our main analysis in Section 4.2.

corporation yields $49.56 of total after-tax income.[8] In contrast, under Subchapter S, the $100 of pretax income flows through directly to shareholders, who pay tax only at their individual rate of 38.6 percent. The residual $61.40 of after-tax income for the S corporation and its owners is almost 24 percent greater than that of the C corporation and its owners. Although the reduction in dividend and income tax rates after JGTRRA in 2003 made S corporations less tax-advantaged than before, the 10.17 percent difference in after-tax income (Panel B) is nonetheless material.

Aside from alleviating double taxation, Subchapter S provides other tax benefits. For example, it allows shareholders some flexibility in using net operating losses over the life of the firm. S corporation shareholders can control loss recognition, to some extent, with corporate loans while C corporation shareholders receive no direct tax benefit from current losses (Omer et al. 2000). An S corporation also avoids the Adjusted Current Earnings computation, personal holding company tax, and accumulated earnings tax.[9] Nevertheless, the S corporation form also has restrictions and disadvantages. For instance, to qualify for and maintain S corporation status a firm must (1) be a domestic corporation; (2) have only individual and certain trust/estate shareholders (i.e., no partnerships, corporations, or non-resident aliens); (3) have no more than 100 shareholders; (4) have only one class of stock[10]; and (5) not be otherwise ineligible.[11] Moreover, S corporation shareholders are taxed on their ratable share of income, regardless of whether it is distributed, allowing fewer opportunities for tax deferral at the shareholder level

[8] We select $40 because our sample banks pay dividends at a mean rate of 40 percent of pretax income.

[9] Adjusted Current Earnings (ACE) is a version of corporate earnings that more closely represents economic income. Personal holding company tax is a penalty tax on the undistributed income of a personal holding company, and the accumulated earnings tax is assessed on a corporation that retains earnings without a business reason to do so. See Spilker et al. (2014) and Hoffman et al. (2014) for further details.

[10] The limitations on the number of shareholders and classes of stock effectively prevent an S corporation from becoming publicly held. Therefore, our tests only consider a sample of privately held banks.

[11] Firms that meet these criteria can make an S corporation election by filing Form 2553, *Election by a Small Business Corporation*, signed by all shareholders, with the IRS. However, certain financial institutions, insurance companies, and domestic international sales corporations are ineligible. Firms have used various forms of corporate restructurings (e.g., redemption offers, reverse stock splits, mergers) to ensure all shareholders consent to Subchapter S taxation and/or to satisfy the limit on the number of shareholders (Toppin 2011).

compared to C corporations. Finally, some states apply a corporate income tax on S corporations, which eliminates any state-level income tax advantage compared to C corporations.[12]

Despite a vast literature on organizational form, few studies directly consider the choice between C and S corporations, while those that do generally focus on heterogeneous industries and the effects of the Tax Reform Act of 1986. For example, Scholes and Wolfson (1992) predict that an increase in corporate operating costs, relative to pass-through alternatives, will trigger corporate conversions to pass-through entities, especially S corporations. Consistent with this prediction, Plesko (1999) finds a surge in Subchapter S elections after 1986 while Omer et al. (2000) document that other tax factors, such as taxes on built-in gains, discouraged some firms from converting to S corporation status.[13] We contribute to this literature by considering whether competition from tax-advantaged S corporations influences the organizational form choice of rival C corporations when firms conduct homogenous business activities.

2.2 Depository institutions

Depository institutions serve as intermediaries between depositors (a type of lender) and borrowers of capital (Ryan 2007). These institutions consist of (1) commercial banks; (2) thrifts, which include credit unions, savings banks, and savings and loan associations; and (3) bank holding companies (BHCs). Commercial banks hold a large fraction of industrial loans and provide financial services such as risk management, trading, market making, and securities underwriting. Thrifts primarily take deposits from households and make residential mortgages, while BHCs control one or more banks. We focus on commercial banks and all thrifts except

[12] See Scholes et al. (2014), Spilker et al. (2014), and Hoffman et al. (2014) for a more detailed comparison of C and S corporations.

[13] Omer et al. (2000) examine the natural resources industry, but the sub-industries (e.g., mining, timber, and oil and gas) are likely more heterogeneous than banking sub-industries. Built-in-gains represent the difference between the fair value and historical cost of assets. They are taxed if the assets are sold within ten years of a C corporations converting to an S corporation, or an S corporation acquiring appreciated assets from a C corporation in a tax-free transaction. The tax on built-in gains for S corporations prevents C corporations from circumventing the effects of a taxable liquidation at the entity level by simply electing S corporation status. See Anderson (2012) for details.

credit unions. We exclude credit unions because they are nonprofit cooperatives, relatively small, and regulated differently than other banks.[14] We exclude BHCs as these entities do not necessarily engage in banking activity. As a result, all of the banks we consider are incorporated entities. For brevity and because thrifts are increasingly similar to commercial banks (Ryan 2007), we use the term "banks" when it is not necessary to differentiate between the two.

Historically, banks were ineligible for Subchapter S status. However, the Small Business Job Protection Act of 1996 amended the IRC to allow banks the option of electing S corporation status starting in 1997, provided that the other criteria (e.g., number and type of shareholders) are satisfied. While S corporation banks face essentially the same regulatory constraints as C corporation banks (GAO 2000), some unique issues arise. For instance, banks must write-off deferred tax assets when they convert to S status (FASB 1992), which can reduce regulatory capital and lead to regulatory intervention (Hodder et al. 2003). Also, because corporate income and losses flow through to cash-basis shareholders, S corporations cannot reserve for bad debts and, thus, may report higher taxable income (GAO 2000). Despite such limitations, S corporations are a popular organizational form, accounting for about one-third of banks (Mehran and Suher 2009; Mayberry et al. 2014).

Prior research considers taxes and the organizational form choices of banks, including Subchapter S elections. Hodder et al. (2003) find that banks convert to S corporations in response to the tax savings of Subchapter S, but that the potential for built-in gains taxes and write-off of deferred tax assets disincentivizes conversion. In addition, Mehran and Suher (2009) find that, due to the tax-free nature of S corporation dividends, S corporation banks pay more dividends and have lower retained earnings than C corporation banks. They further document that S corporation banks are less likely to be sold because large banks tend to initiate acquisitions

[14] In addition, branch-level data for credit unions are not publicly available.

and the flow-through benefits of Subchapter S are more valuable to S corporation shareholders than those of the acquiring corporation (which may not even qualify for Subchapter S). Finally, Mayberry et al. (2014) find that S banks are less likely to fail during the recent subprime crisis as a result of increased monitoring and tax savings, unless investment quality is poor and dividend payments lead to undercapitalization. We complement these and other studies on depository institutions (e.g., Clark 1988) by examining whether competition from tax-advantaged S corporation banks motivates C corporation banks to alter their organizational form.

2.3 Competition

Firms, including banks, regularly compete for customers and capital (Rogers 2003; Jackson 2010). A long literature in industrial economics evaluates the effect of competition on the formation of market prices. Cournot (1838) and Bertrand (1883) develop the two dominant theories of competition in a duopoly or oligopoly. In a Cournot market structure, firms set prices and compete on output quantity due to the presence of market power, imperfect competition, and lack of product differentiation. Under a Bertrand structure, firms compete on price, which allows an oligopoly to achieve a perfectly competitive outcome due to the lack of market power among producers even when there are only two firms operating in the market (Vives 1984). As a result, the Cournot oligopoly—a setting of price-setting—is relatively more monopolistic than a Bertrand oligopoly—a setting of price-taking (Singh and Vives 1984; Ciconte et al. 2014).

Prior research considers the costs and benefits of product market competition by examining its effects on firm performance (Spence 1984; Porter 1990; Nickell 1996), capital structure (Brander and Lewis 1986), innovation (Boone 2000), contracting (Karuna 2007), and disclosure (Li 2010). Most relevant to our study, research suggests that competition influences firm structure. In particular, Palmer et al. (1993) find a relation between competitive pressure

and the adoption of a multidivisional corporate structure. Similarly, Rao and Sivakumar (1999) suggest the existence of investor-relations departments in a firm's industry motivates that firm to create a similar department in its own corporate structure. Competition also influences accounting choices and business operations. For example, a firm is more likely to elect to expense stock options for financial reporting purposes when its industry rivals do as well (Reppenhagen 2010), and Bothner (2002) shows that one firm's adoption of technology pressures its rivals to do the same. Finally, from a tax planning perspective, Kubick et al. (2014) find that firms mimic the tax avoidance outcomes of powerful firms in their product markets; however, their study does not consider the choice of organizational form.

Accordingly, we contend that spillover effects occur as a result of competition in a local geographically-defined banking market when a bank operates as an S corporation. Namely, we argue that relative costs, specifically a higher tax burden, accrue to C corporation banks when another bank in the same MSA operates as an S corporation. As income tax is a material expense on most firms' financial statements (Dyreng et al. 2008), we expect that C corporation banks will respond to the S corporation status of competing banks by also electing Subchapter S status.

As Figure 1 demonstrates, an S corporation bank realizes higher after-tax cash flow, all else equal. By alleviating tax at the entity-level, Subchapter S provides a competitive advantage of greater internal resources. In turn, such resources can be allocated to any number of purposes, such as enhancing customer service, using more aggressive advertising, hiring more skilled managers, and/or investing in firm operations. All of these actions can attract customers, capital providers, and depositors. Thus, the greater the competition with S corporation banks, the greater the likelihood that a C corporation bank will elect Subchapter S status to alleviate its competitive tax disadvantage. This intuition leads to our hypothesis:

Hypothesis: There is a positive relation between current period S corporation market share and future period conversion to Subchapter S status.

3. Research design and data

3.1 Empirical model

Our empirical strategy is based on Phillips (2013), who advises that an examination of competition should follow five steps: (1) define the market; (2) identify competitors; (3) identify the type of competition; (4) measure the competition; and (5) identify or quantify the effects of competition. Although we explain each step in detail throughout the rest of the paper, we summarize our approach here. First, in defining the market, we select the MSA where banks are headquartered. Second, we identify Subchapter C and S corporation banks as competitors. Third, we investigate competition on average, and by Bertrand or Cournot structures. Fourth, we measure competition using market share of deposits by S banks relative to total deposits in the MSA. Finally, our empirical models below help identify and quantify the effects of competition.

We test our hypothesis using a discrete-time hazard model (e.g., McGuire et al. 2014), where C corporation banks that convert to S corporations are removed from the sample immediately after conversion.[15] In particular, we estimate the following logistic regression:

$$\begin{aligned} SConversion_{t+1} = {} & \beta_0 + \beta_1 SMktShr + \beta_2 Divs + \beta_3 CurrETR + \beta_4 BIG + \beta_5 NOL + \beta_6 AMT \\ & + \beta_7 State + \beta_8 Deftax + \beta_9 Grow + \beta_{10} Lev + \beta_{11} Size + \beta_{12} Age + \beta_{13} Pop \\ & + \beta_{14} GDP + \beta_{15} Inflate + \beta_{16} Unemp + \beta_{17} TBill + \varepsilon. \end{aligned} \quad (1)$$

The dependent variable, $SConversion_{t+1}$, is an indicator variable equal to 1 when a bank converts

[15] As noted by McGuire et al. (2014), a discrete-time hazard model is an event history analysis that is comprised of three components: (1) the event function, specifying the independent variables that affect event occurrence; (2) the survivor function, indicating the likelihood that the event will not take place in a given period; and (3) the hazard rate, indicating the likelihood the event will take place in a given period (Box-Steffensmeier and Jones 1997; Omer and Shelley 2004). The time intervals between data periods (e.g., days, years) determine which event history method should be employed (e.g., discrete versus continuous time assumptions). Allison (1984) suggests that when data are measured in large units (e.g., years), the discrete-time approach is most appropriate. For our study, this model is useful because it considers the "patterns and causes of change" as well as how the time spent as a C corporation influences the probability of converting to an S corporation (Yamaguchi 1991; Box-Steffensmeier and Jones 1997).

from a C to an S corporation in the subsequent year; 0 otherwise. Our sample (described later) only includes banks that are "at-risk" for conversion, namely private domestic U.S. banks that exist as C corporations for at least one year. Unless otherwise noted, we cluster standard errors by bank (Petersen 2009).

Our variable of interest, *SMktShr*, proxies for the competitive pressure a bank faces from S corporation banks. It is defined as the dollar value of deposits held by S corporation banks in a given MSA-year, scaled by the total deposits held by all banks in that MSA-year.[16] As in prior studies (Amel and Hannan 1999; Adams et al. 2007), we define the MSA as the primary geographic market in which a bank operates and competes.[17] Because banks can operate in many different MSAs, we measure *SMktShr* in the MSA where a bank is headquartered. This approach assumes that all banks equally experience the same level of competitive pressure from S corporations and that competition primarily arises in the headquarter MSA rather than in other branches of the bank.[18] We conduct several tests (described later) to assess the sensitivity of these assumptions. Consistent with our hypothesis, we expect a positive coefficient for *SMktShr*.

We highlight two reasons that our research design precludes a mechanical relation between *SConversion* and *SMktShr*. First, *SConversion* is measured at *t*+1, and once a bank

[16] This variable is not subject to the bias that can arise from measuring competition using strictly public firms (Ali et al. 2009). Although our sample contains only private banks, we calculate our measure of competition (*SMktShr*) more expansively and consider all deposits in a given MSA, regardless of whether a bank is public or private. For example, Wachovia Bank and Bank of America are included in (the denominator of) *SMktShr* when they hold deposits in a given MSA, but are not in our sample because they are not "at-risk" for S corporation conversion given their size and number of shareholders. However, simply because Wachovia and Bank of America are not at-risk for conversion does not imply their presence in a local market does not intensify competition. Accordingly, we include all banks when we measure competition, but only include private banks when we evaluate conversion decisions.

[17] We are unable to measure competitive pressure using loans because such data are not available on an MSA-level basis. Moreover, loans differ in type (e.g., real estate, consumer, business) to a greater extent than deposits.

[18] Our approach is consistent with prior research in banking (Pilloff 1999; Adams et al. 2007; Cohen and Mazzeo 2007; Cyree and Spurlin 2012; Dou et al. 2013) and accounting (La Porta et al. 1999; Leuz et al. 2003; McGuire et al. 2011; Brown et al. 2013; Donohoe and Knechel 2014). To the extent our assumption is false, we bias against finding results. Nevertheless, we verify that our results are not driven by MSAs with few headquartered banks by estimating Equation (1) on a subsample containing at least ten headquartered banks in each MSA. Inferences remain the same. We also restrict our sample to banks that operate in a single MSA, as well as calculate our competition measure exclusively for single-MSA banks in Section 4.4.2.

converts to an S corporation, it is removed from the sample. Consistent with McGuire et al. (2014), this approach creates a break in the timing between when we measure S corporation market share and conversions. Second, total deposits in the denominator of *SMktShr* captures more than just corporations headquartered in an MSA. It also includes deposits in the MSA of branches of banks headquartered elsewhere, de novo corporations, and expansions of banks/branches. For example, to the extent that new banks enter the MSA at a faster pace than banks convert to S status, it is not mechanical that banks converting to S in the current period will translate into a larger market share of S banks in that MSA in future periods.

We rely on Hodder et al. (2003) to identify three groups of control variables for Equation (1). First are controls based on tax considerations ("Tax"). We expect a positive coefficient for dividends (*Div*) because their tax-free nature (for S corporation shareholders) incentivizes S conversion. We similarly expect a positive coefficient for the current ETR (*CurrETR*) as banks with higher (entity-level) taxes are more likely to elect Subchapter S status. *BIG* captures built-in gains, or the difference between fair value and historical cost of available for sale securities. S corporations pay an entity-level tax when built-in gains exist and such assets are sold within ten years of conversion; thus, we expect a negative coefficient for *BIG*. We also expect a negative coefficient for net operating loss carryforwards (*NOL*) because banks that elect Subchapter S status can lose the related tax benefits.[19] Moreover, because C corporation banks that have larger portfolios of tax exempt securities are more likely to pay alternative minimum tax, we expect a positive coefficient for the ratio of tax exempt securities and leases to assets (*AMT*). *State* reflects a bank that is headquartered in a state that does not recognize Subchapter S, which reduces the

[19] Consistent with Hodder et al. (2003), we control for net operating loss carrybacks by considering banks with zero or negative tax expense as having a net operating loss, provided the sum of tax expense in year $t-1$ and $t-2$ do not exceed the negative tax expense in the current year.

likelihood of conversion.[20] Finally, we expect a negative coefficient for *Deftax* because S banks cannot include deferred taxes in regulatory capital.

Second are controls based on non-tax considerations ("Non-tax"). Banks with more asset growth (*Grow*) likely require equity to maintain their growth. Insofar as restrictions on the number of S corporation shareholders limit a bank's ability to raise capital, we expect a negative coefficient. Similarly, leverage (*Lev*), assets (*Size*), and bank age (*Age*) control for prior access to, and demand for, capital. Third are controls based on macroeconomic factors ("Macro"), which we use to supplement the Hodder et al. (2003) model. We include MSA population (*Pop*) to account for investment opportunities and/or competition that is not attributable to S corporations. We also include four variables to capture time-varying economic conditions that likely influence conversion to S status: (1) growth in gross domestic product (*GDP*); (2) change in the consumer price index (*Inflate*); (3) national unemployment (*Unemp*); and (4) the risk-free rate (*TBill*).[21] All variables are defined in the Appendix.

3.2 Sample selection

Our sample consists of banks headquartered in the United States during 1997–2010. We focus on private banks by eliminating bank holding companies, which are typically publicly traded and sometimes have foreign owners, as well as credit unions, which are tax exempt and for which reliable data are not available. We begin with 1997 as it is the first year that banks were eligible for Subchapter S status, and end with 2010 due to data availability.[22] We obtain financial data from Call Reports in the Compustat Bank Regulatory file (131,467 bank-years).

[20] Although there would be no state income tax advantage of S over C corporations in these states, the tax benefits at the U.S. federal level may still be substantial since the top federal tax rate is much higher than the top state tax rate. However, the lack of a state tax advantage would mean banks will be less likely to convert to S status in these states.
[21] We include these variables instead of year fixed-effects (Greene 2004); however, year effects yield similar results.
[22] Although our sample overlaps with the subprime crisis, we find similar results after excluding observations from 2007-2010 or estimating our models on observations in the 2007-2010 period only.

We retain (a) observations with the necessary data to calculate firm-level controls in Equation (1), and (b) all C corporation bank-years and the first year a bank converts to an S corporation (78,048 bank-years). Consistent with a discrete-time hazard model, we exclude all observations after a bank converts to S corporation status.[23] Finally, we require that each bank is headquartered in an MSA and have data available to calculate *SMktShr* and MSA population (*Pop*). We obtain deposit data necessary to calculate *SMktShr* and the number of bank branches from the FDIC, and MSA population data from the U.S. Census Bureau. Our primary sample consists of 36,233 observations from 5,268 unique banks. Of these banks, 740 (14 percent) convert to an S corporation while the remainder operate as C corporations.[24] Further, converting banks represent 3,496 bank-year observations (2,756 observations before conversion and 740 conversions), while non-converting C corporations constitute 32,737 bank-year observations.

<INSERT TABLE 1 ABOUT HERE>

Table 1 reports the sample characteristics and descriptive statistics. Panel A shows that 32 percent of our sample conversions occur in the first two years after deregulation (i.e., 146 and 90 conversions in 1998 and 1999, respectively). The conversion rate remains relatively steady through 2007 at between 6 and 9 percent (or between 44 and 68 conversions per year). The final three years of the sample, 2008 to 2010, report the lowest number of conversions, likely reflecting that any new S corporation banks in existence are chartered de novo with S status.

Panel B reports the top 20 conversion banks by total deposits, their converting year, and MSA. Deposits range from $529.6 million by NLSB Bank of Chicago-Naperville-Joliet, which

[23] This screen does not directly influence sample size as we have already restricted the sample to observations with data necessary to calculate firm-level controls. As many of the firm-level controls in Equation (1) only exist for C corporations (e.g., *CurrETR*, *Deftax*), the data are already effectively structured for a discrete-time hazard model.

[24] The 14 percent S corporation conversion rate represents a lower bound estimate of total S corporation banks operating in the population because *SConversion* does not capture de novo S corporations, but does reflect de novo C corporations. We examine de novo banks using a MSA-level analysis (Section 4.4.4).

converted in 1999, to $4.8 billion by Emigrant Savings Bank of New York-Northern New Jersey-Long Island, which converted in 2004. At conversion, total deposits held by these top 20 S corporation banks exceeded $24.3 billion, clearly an economically significant amount.

Finally, Panel C reports descriptive statistics for variables in Equation (1) and those used in later tests. The mean of *SConversion* is 0.020, consistent with the 740 conversion observations in the overall sample of 36,233 bank-year observations. Moreover, the mean of *SMktShr* is 0.048, indicating that S corporation banks hold 4.8 percent of total deposits per MSA on average. This variable ranges from zero in Akron, Ohio, to 66 percent in Kankakee-Bradley, Illinois. Reported values for control variables are consistent with prior research (e.g., Hodder et al. 2003).

4. Main results

4.1 Hypothesis test

We begin our analysis with Figure 2, which plots $SConversion_{t+1}$ across quintiles of non-zero S corporation market share ($SMktShr_t$). The positive slope offers preliminary evidence that future conversions to S corporations monotonically increase with current period S corporation market share. Specifically, *SConversion* is less than 1 percent in the bottom quintile of *SMktShr*, but increases to 1.55, 2.36, 3.28, and 4.62 percent (on average) in quintiles 2 to 5, respectively. While consistent with our hypothesis, we perform multivariate tests before drawing inferences.

<INSERT FIGURE 2 & TABLE 2 ABOUT HERE>

Table 2 reports estimates of Equation (1), where coefficients are based on the full sample of 36,233 bank-years in column (1) and two subsamples in the remaining columns. Specifically, in column (2), we use a subsample of 36,103 bank-years that excludes the ten largest banks in each year.[25] The exclusion of large national banks helps ensure that our tests focus on banks that are "at-risk" of converting to S corporations (e.g., limits on the number and types of shareholders

[25] Because none of the ten largest banks are S corporations, this subsample continues to include 740 conversions.

and classes of stock can restrict access to capital). In column (3), we use a subsample of 23,819 bank-years that only operate in a single MSA.[26] By excluding banks with branch operations in multiple MSAs, we can evaluate whether our empirical assumption that competitive pressure primarily arises in the headquarter MSA (rather than in other branches) influences the results.

Consistent with our hypothesis, the coefficient for *SMktShr*, our variable of interest, is positive and significant ($p<0.01$) using the full sample in column (1), the subsample excluding the ten largest banks in column (2), and the subsample of single-MSA banks in column (3). The coefficient estimates indicate that a one standard deviation increase in S corporation market share (*SMktShr*) increases the odds of S corporation conversion (*SConversion*) by about 31 percent for the full sample.[27] The area under the ROC curve exceeds 0.73 in all three columns, indicating that the model has ample discriminatory power (Hosmer and Lemeshow 2000).[28]

The coefficient estimates for control variables are largely consistent with prior research (Hodder et al. 2003). For example, the likelihood of S corporation conversion increases with the general tax-free nature of dividends for S corporation shareholders (*Div*), and decreases with built-in gains (*BIG*), tax loss carryforwards (*NOL*), and deferred taxes in regulatory capital (*Deftax*). In addition, S conversion rates increase with tax burden (*CurrETR*), alternative minimum tax exposure (*AMT*), bank age (*Age*), and MSA economic growth (*GDP*), while the rates decrease in bank leverage (*Leverage*), assets (*Size*), and states that do not recognize S corporations (*State*). Overall, consistent with our hypothesis, the evidence in Table 2 suggests that competition from S corporations leads C corporations to elect Subchapter S status.[29]

[26] There are 194 multi-MSA S conversion banks that are dropped, leaving 546 conversions for this subsample.
[27] We compute this estimate as: $1-e^{3.385*0.080}$.
[28] The area under the ROC curve in column (1) is 0.732 when *SMktShr* is excluded (untabulated), compared to 0.751 when *SMktShr* is included. In addition, all results remain qualitatively identical if we replace *SMktShr* with its quintile rank or drop observations where *SMktShr* equals zero.
[29] Although we include *Size* in Equation (1), the restriction on the number and type of shareholders for Subchapter S taxation may prevent larger banks with greater capital requirements from converting to an S corporation. To

4.2 Changes in the relative tax advantages of S corporations

Our main findings suggest that C banks change their organizational form as competition from S banks increases. However, to ensure that *tax* factors explain these conversion rates, we examine changes in S conversion rates after an exogenous change in tax law during our sample period. Notably, in 2003, JGTRRA lowered dividend tax rates to a greater extent than it did individual tax rates on ordinary income.[30] Thus, S corporations became less tax-advantaged relative to C corporations after 2003 than before because the cost of double-taxation dramatically decreased. Recall that Figure 1 shows that the relative tax benefits realized by S corporation shareholders decreases from 24 percent before JGTRRA (Panel A) to 10 percent after (Panel B). Because the relative tax benefits of S corporations declined by more than 14 percent, the *tax*-related competition exerted by S corporation banks is likely less prevalent after 2003.

To examine this issue, Figure 3 plots $SConversion_{t+1}$ by quintile of non-zero $SMktShr_t$, where the solid (dashed) line depicts S corporation conversions before (after and including) 2003. The overall positive slope of both lines is consistent with our main hypothesis that future conversions to S corporation status increase with current period S corporation market share. However, the dashed line consistently tracks below the solid line, indicating fewer S corporation conversions as a function of *SMktShr* after JGTRRA in 2003.

<INSERT FIGURE 3 & TABLE 3 ABOUT HERE>

To formally test whether JGTRRA reduced the tax advantage of S corporations relative to rival C Corporations, we perform a structural break test (Donohoe and McGill 2011). We re-

alleviate this concern, we also estimate Equation (1) using a different reference group. Specifically, we only include C banks in the sample if they are no larger than the largest S bank in sample (as opposed to all C banks in the primary tests). The (unreported) results are consistent with those in Table 2. Separately, we find similar results when we include the Herfindahl Index of bank deposits for each MSA-year in Equation (1). An interaction test between banks in the top quintile of the Herfindahl Index and *SMktShr* further suggests that the effect of competition from S corporation banks is exacerbated in more concentrated markets.

[30] The top individual income tax rate was reduced from 38.6 to 35 percent while the top dividend income tax rate was reduced from 38.6 to 15 percent.

estimate Equation (1) after including (a) an indicator variable, *Post*, that equals 1 for observations in 2003 and later (0 otherwise), and (b) its interaction with *SMktShr*. Table 3 reports the results using the full sample in column (1), omitting the largest ten national banks in column (2), and retaining only single-MSA banks in column (3).

As before and consistent with our hypothesis, we find positive and significant ($p<0.01$) coefficients for *SMktShr* in all three columns. The coefficients for *Post* are negative and significant ($p<0.05$), suggesting fewer banks convert to S corporations when there are fewer tax incentives to do so. Importantly, we find negative and significant ($p<0.05$) coefficients for *Post*×*SMktShr* in all columns, indicating that the tax-related competition exerted by S corporation banks is attenuated (but not eliminated) after JGTRRA reduced the relative tax advantage of S over C corporations. This result supports the inference that tax—rather than some unobservable nontax—factors underlie the competitive pressure that S corporations exert on C corporations. The coefficients in column (1) suggest that, before JGTRRA, a one standard deviation increase in *SMktShr* increased the odds that a bank converted to an S corporation by about 45 percent, whereas after JGTRRA, the same increase in *SMktShr* increased the odds of S corporation conversion by 30 percent.[31]

4.3 Nature of competition within an MSA

In complementing the above analysis confirming that tax factors are important determinants of S conversion, in this section we confirm that *competitive pressure* is a companion mechanism by which S corporation market share influences future S corporation

[31] We compute these estimates as follows: $1-e^{4.602*0.080}$ and $1-e^{(4.602-1.358)*0.080}$. We also note that there is some debate among econometricians about the extent to which an interaction term in a non-linear model, such as logistic regression, is interpretable. Ai and Norton (2003) claim such interactions are not informative and suggest an alternative specification. However, Greene (2010) and Kolasinski and Siegel (2010) claim the alternative is prone to additional concerns and thus recommend the more conventional interpretation. Nevertheless, for completeness, we find results (unreported) consistent with the above interpretations when using the Ai and Norton (2003) approach.

conversions. To do so, we examine cross-sectional variation in the type of competition present in each MSA. As noted earlier, firms are considered price-takers in a Bertrand market structure and price-setters in a Cournot market structure (Singh and Vives 1984; Vives 1984). Thus, if a bank faces Bertrand competition, converting to a tax-advantaged organizational form could be more appealing because the cost of taxes is more difficult to pass on to depositors and borrowers.

We first identify whether a Bertrand or Cournot market structure predominantly exists in a given MSA. Consistent with Ciconte et al. (2014), we regress (by MSA) banks' pretax return on assets on the Herfindahl index for each MSA (defined as the annual sum of squared deposit market shares) and bank asset size. If the coefficient for the Herfindahl index is negative, suggesting a negative relation between market concentration and profitability, we designate the MSA as having a Bertrand market structure; Cournot otherwise.

Using these classifications, in Figure 4 we plot $SConversion_{t+1}$ by quintile of non-zero $SMktShr_t$, where the solid (dashed) line depicts S conversions for the Bertrand (Cournot) market structure. As before, the positive slope for both lines is consistent with our main hypothesis. However, the slope for Bertrand competition is steeper than that for Cournot competition, especially in quintiles 2 to 5, which suggests that competition from S corporations has a stronger influence on future S corporation conversions when firms are price-takers (Bertrand) rather than price-setters (Cournot). Stated differently, as competitive pressure from S banks increases, conversions to S status increase at a faster rate under Bertrand than Cournot competition.

<INSERT FIGURE 4 & TABLE 4 ABOUT HERE>

To formally examine the role of market structure on S corporation conversion rates, we re-estimate Equation (1) after including (a) an indicator variable, *Bertrand*, that equals 1 for Bertrand market structure observations as defined above (0 otherwise), and (b) its interaction

with *SMktShr*. Table 4 reports the results using the full sample in column (1), omitting the largest ten banks in column (2), and retaining only single-MSA banks in column (3).

In all three columns, the coefficients for *SMktShr* are positive and significant ($p<0.01$) while those for *Bertrand* are insignificant. Importantly, we find positive and significant ($p<0.05$) coefficients in all three columns for *Bertrand*×*SMktShr*. These results suggest banks that are less capable of passing costs on to consumers (i.e., those facing Bertrand competition) are more likely to convert to S corporations in response to competitive pressure from existing S corporations than banks that are more capable of passing costs on to consumers (i.e., those facing Cournot competition). Thus, future S corporation conversions are explained when market structure is considered in conjunction with tax status *and* the extent of competition, and *not by market structure alone*. In economic terms, for banks that are price-takers (Bertrand), a one standard deviation increase in S corporation market share increases the odds of S corporation conversion by about 38 percent. However, for banks that are price-setters (Cournot), the same increase in S corporation market share increases the odds of S conversion by about 24 percent.[32]

4.4 Additional tests

4.4.1 State-level analysis

Our main analysis assumes that the relevant competitive space exists within the boundaries of MSAs. However, this approach excludes banks that operate in rural, non-MSA areas. Also, rural banks operate under unique competitive conditions that might not generalize to more urban settings (Cyree and Spurlin 2012). To confirm that our use of MSAs in defining competitive boundaries is not driving our results, we re-estimate our tests after defining our measure of competitive pressure, *SMktShr*, to be within state rather than MSA. All results remain qualitatively identical (untabulated).

[32] We compute these estimates as follows: $1-e^{(2.667+1.346)*0.080}$ and $1-e^{2.667*0.080}$.

4.4.2 Market segmentation

It is possible that multi-branch and single-branch banks may not directly compete with one another, but instead segment the market with smaller banks in order to serve smaller clients (Pilloff 1999; Hannan and Prager 2004; Adams et al. 2007). To evaluate whether the possibility of market segmentation influences our results, we modify *SMktShr*, such that it only reflects single-branch banks in both the numerator and denominator. Thus, this new variable captures the competitive pressure exerted by single-MSA S corporation banks on other single-MSA banks. We re-estimate Equation (1) on a subsample of single-branch banks and again find a positive and significant coefficient on the augmented *SMktShr* variable (untabulated). This result suggests that competitive pressure from S banks incentivizes C banks to convert to S status even when the banking market is likely to be segmented.

4.4.3 MSA-level analysis

The preceding analyses consider a pre-existing bank's decision to convert from a C corporation to an S corporation. Thus, we exclude de novo banks initially chartered as S corporations. To complement the bank-level conversion tests, we perform analyses at the MSA-year level by re-estimating Equation (1) with two modifications. First, we replace the $SConversion_{t+1}$ dependent variable with $PercS_{t+1}$, the number of S banks headquartered in an MSA as a percentage of all banks headquartered in the MSA. This variable accommodates de novo banks initially chartered as S corporations as well as conversions of pre-existing banks into S corporations. Second, we use the control variables from Equation (1), but average each variable by MSA-year and omit *CurrETR*, *NOL*, and *Deftax* as they are not calculable for S corporations. We continue to find a positive and significant coefficient for *SMktShr* (untabulated), consistent with competition exerted by S banks leading C banks to convert *or* be

newly chartered as S corporations in the following period.[33]

5. Consequences and mechanisms of S corporation conversion and non-conversion

This section considers the consequences of a bank's decision to convert (or not convert) to an S corporation and the mechanisms for doing so. The evidence in Section 4 indicates that the entity-level income tax advantage of S corporations help them exert competitive pressure on C corporations. Here, we evaluate whether and how a bank's decision to convert to S status influences its future market share, and whether and how a bank's decision to remain as a C corporation influences its future tax avoidance. We examine these consequences because if there is tax-related competitive pressure on banks to convert to S status to gain a competitive advantage, then in turn, future market share for converting firms should increase more than for non-converters. Similarly, if non-converters do not or cannot convert to S status, then these firms might seek ways to minimize their explicit taxes to reduce their competitive tax disadvantage. In all, if taxes and competition shape organizational form, then the change in organizational form should in turn shape future competition and taxes.

5.1 Future market share of converting banks

As noted in Section 2, the restrictions on the number and type of S corporation shareholders limits access to capital markets. In addition, banks must write-off deferred tax assets when they convert to S status (FASB 1992), which can reduce regulatory capital and lead to regulatory interventions (Hodder et al. 2003). Despite such costs, we anticipate that banks converting to S status will reap a competitive benefit in the future through an increase in market share (e.g., Campello 2006). Similar to Fresard (2010), we investigate this issue by estimating

[33] For these tests, we cluster standard errors by MSA. We find similar results when we estimate this model using Tobit regression. We also find similar results when we estimate the model as a first-differences specification. In particular, changes in *SMktShr* are positively related to subsequent increases in *PercS*. Finally, results hold when we estimate the model using a subsample requiring at least ten banks per MSA-year.

the following OLS model on a subsample of single-MSA banks:[34]

$$\begin{aligned} BankShr_{t+n} = {} & \varphi_0 + \varphi_1 SConversion + \varphi_2 BankShr + \varphi_3 SConversion \times BankShr + \varphi_4 Divs + \varphi_5 BIG \\ & + \varphi_6 AMT + \varphi_7 State + \varphi_8 Grow + \varphi_9 Lev + \varphi_{10} Size + \varphi_{11} Age + \varphi_{12} Pop + \varphi_{13} GDP \\ & + \varphi_{14} Inflate + \varphi_{15} Unemp + \varphi_{16} TBill + \varepsilon. \end{aligned} \quad (2)$$

The dependent variable ($BankShr_{t+n}$) reflects a bank's market share in subsequent periods ranging from one to three years. The variable of interest is the interaction between the bank's current period market share and S corporation conversion (*SConversion*×*BankShr*). A positive coefficient for this variable would be consistent with an increase in future market share for banks that convert to an S corporation. Control variables are similar to those in Equation (1), except that we omit *CurrETR*, *NOL*, and *Deftax* as they are not calculable for S corporations.

<INSERT TABLE 5 ABOUT HERE>

Panel A of Table 5 reports the results of estimating Equation (2), where the dependent variable is the bank's market share (*BankShr*) in year *t*+1, *t*+2, and *t*+3 in columns (1), (2), and (3), respectively. The coefficients for *SConversion*×*BankShr* are positive and significant in columns (1) and (2) (0.028 and 0.045, respectively; both $p<0.05$), but insignificant in column (3). These estimates suggest that conversion to S status results in a 2.8 and 4.5 percent increase in a bank's market share one and two years after conversion, respectively. Untabulated F-tests indicate that the coefficient for *BankShr* is indistinguishable from one, suggesting that C banks do not experience a significant growth in market share during the sample period. Similarly, in Panel B, we report that the sum of coefficients for *BankShr* and *SConversion*×*BankShr* is greater than one in columns (1) and (2). This evidence further suggests banks that convert to S status realize an increase in market share. Collectively, these results are consistent with banks reaping

[34] We use a subsample of single-MSA banks for these tests because data limitations preclude a straightforward measure of total market share for multi-branch banks. In particular, data do not exist on total deposits for each bank branch in each MSA that the bank operates.

competitive benefits from their decisions to convert to S corporations.[35]

5.2 Mechanisms for future S corporation market share growth

Because banks significantly increase market share after converting to S status, a natural question is how this increase is achieved. Given that our study focuses on the market for bank deposits, we examine two potential mechanisms that can facilitate growth in deposit market share using tax savings from conversion: (1) advertising and (2) opening new bank branches. To remain consistent with the previous analysis, we only investigate the single-MSA bank setting.

To examine future advertising, we estimate the following OLS regression:

$$\begin{aligned} Advert_{t+n} = {} & \gamma_0 + \gamma_1 SConversion + \gamma_2 Advert + \gamma_3 SConversion \times Advert + \gamma_4 Roa + \gamma_5 RevChg \\ & + \gamma_6 Lev + \gamma_7 Size + \gamma_8 Age + \gamma_9 Pop + \gamma_{10} GDP + \gamma_{11} Unemp + \gamma_{12} TBill + \varepsilon. \end{aligned} \quad (3)$$

The dependent variable ($Advert_{t+n}$) reflects a bank's advertising intensity, calculated as advertising expense divided by gross interest income (which is analogous to revenue) in subsequent periods ranging from one to three years. The variable of interest is the interaction between the bank's current period advertising intensity and S conversion (*SConversion*×*Advert*). A positive coefficient for this variable would be consistent with an increase in future advertising for banks that convert to an S corporation. Control variables are similar to those in Equation (1), except we replace the "Tax" control variables with return on assets (*ROA*) and change in gross interest income (*RevChg*), which are conceptually better-suited to explain advertising intensity.

<INSERT TABLE 6 ABOUT HERE>

Panel A of Table 6 reports the results of estimating Equation (3), where the dependent variable is the bank's advertising intensity (*Advert*) in year *t*+1, *t*+2, and *t*+3 in columns (1), (2),

[35] We find similar results when we estimate Equation (2) using Tobit regression. Overall, evidence that single-MSA S corporation banks obtain more market share while single-MSA C corporation banks do not implies that multi-MSA C corporation banks potentially lose market share. This could arise if, for example, the local branches of large C corporation banks (headquartered elsewhere) are not as reactive to the effects of local competition, or if large C corporation banks perceive less competition from S corporation banks in their headquarter MSA. Unfortunately, due to data constraints noted earlier, we are unable to formally examine these possibilities.

and (3), respectively. The coefficients for *SConversion*×*Advert* are positive and significant in columns (1) and (2) (0.144 and 0.123, respectively; both $p<0.05$), but insignificant in column (3). These estimates suggest that conversion to S status results in more than a 20 percent increase in a bank's advertising each of one and two years after conversion, respectively.[36] Interestingly, the increase in advertising over the first two years after conversion, but not the third year after conversion, mirrors the findings in Table 5 that market share increases during the first two years after conversion. This evidence suggests banks that convert to S status may be using their tax savings for additional advertising to realize an increase in market share.

Our second analysis investigates whether conversion-related tax savings are potentially used to fund investments in new bank branches, which in turn help converting banks increase market share. To investigate this possibility, we re-estimate Equation (3) after replacing *Advert* with *Branches*, the number of bank branches the firm operates. That is, the dependent variable is $Branches_{t+n}$ and the independent variable (interaction) is $Branches_t$ ($SConversion_t \times Branches_t$). We estimate this modified equation using a negative binomial regression because the dependent variable is a count whose standard deviation (6.5) exceeds its mean (4.1) (see Table 1).[37]

Panel B of Table 6 reports the results of estimating our augmented Equation (3), where the dependent variable is the number of bank branches (*Branches*) in year t+1, t+2, and t+3 in columns (1), (2), and (3), respectively. The coefficient for *SConversion*×*Branches* is positive and marginally significant only in column (1) (0.048, $p<0.10$), suggesting that conversion to S status facilitates some investment in new bank branches only during the first year after conversion. However, opening new branches in one year can still translate into multi-year increases in market share if the branch itself increases its depositor base (i.e., realizes the original intent of

[36] The coefficient on the interaction term in column 1 (column 2) of 0.144 (0.123) is divided by the coefficient on the main effect of *Advert* of 0.710 (0.582) to obtain a 20.3 (21.1) percent increase in advertising in year *t+1* (*t+2*).
[37] Results remain similar using Poisson regression.

opening the branch in the first place). Collectively, our results on advertising and new bank branches provide some explanations for *how* converting banks increase their future market share.

5.3 Future tax avoidance of non-converting banks

C banks that do not convert to S status face competitive pressure from S banks. Although electing S status is one strategy for alleviating tax-related competitive pressure, other strategies exist. In particular, a non-converting bank can engage in more tax avoidance; that is, it reduces explicit taxes. We examine this possibility by estimating the following tax avoidance model using OLS on a subsample of non-converting C corporation banks:

$$CurrETR_{t+1} = \lambda_0 + \lambda_1 SMktShr + \lambda_2 Lev + \lambda_3 Size + \lambda_4 Roa + \lambda_5 CapInt + \lambda_6 Age + \lambda_7 Pop + \lambda_8 GDP + \lambda_9 Inflate + \lambda_{10} Unemp + \lambda_{11} TBill + \varepsilon. \quad (4)$$

The dependent variable, $CurrETR_{t+1}$, is a C bank's current ETR (as previously defined) in the next year. Lower ETRs imply higher levels of tax avoidance. Consistent with non-converters alleviating some competitive pressure from S banks by increasing their tax avoidance, we expect a negative coefficient for *SMktShr*. The variables *Roa* and *CapInt* capture pretax return on assets and capital intensity, respectively. Other variables are those used in earlier tests.[38]

<INSERT TABLE 7 ABOUT HERE>

Table 7 reports the results of estimating Equation (4) using the C bank sub-sample in column (1), omitting the ten largest banks in column (2), and retaining only single-MSA banks in column (3).[39] We find negative and significant (p<0.10) coefficients for *SMktShr* in all three

[38]We are unable to calculate other common determinants of tax avoidance (e.g., Lisowsky 2010; Lisowsky et al. 2013; Donohoe 2014), such as intangible intensity and the market-to-book ratio, because the necessary data is not available from bank Call Reports or for private banks. These data also omit a Statement of Cash Flows, precluding the use of a cash ETR (Dyreng et al. 2008). For these tests, *CurrETR* and *SMktShr* are calculated at the bank- and MSA-level, respectively, where *SMktShr* varies over time and geography. We obtain similar results using a three-year measure of subsequent current ETRs.

[39] Recall from footnotes 25 and 26 that columns (1) and (2) include 740 conversions while column (3) includes 546 conversions. Therefore, relative to the main sample sizes reported in Table 2, the sample size in column 3 of Table 7 drops by only 546 rather than 740 when examining only non-converting C corporation banks.

columns, which is consistent with C banks headquartered in MSAs with high competitive pressure from S banks engaging in higher levels of tax avoidance to alleviate at least some of their tax disadvantage. In additional tests, we replace the dependent variable with total ETR (total tax expense divided by pretax income), but only find significant results on *SMktShr* in the Single-MSA test (untabulated). Because *SMktShr* is negatively related to current ETR in all three subsamples, but negatively related to total ETR in only the Single-MSA subsample, the results suggest that non-converting banks mostly utilize deferral strategies to avoid tax.

6. Conclusion

This study examines whether competition between tax-advantaged and tax-disadvantaged corporations influences organizational form choice, and evaluates two consequences of this choice. Using a sample of 5,268 private U.S. banks during 1997-2010 grouped by Metropolitan Statistical Area, we find that greater competition from S corporation banks that do not pay entity-level income tax leads existing C corporation banks that do pay entity-level income tax to convert to S corporation status. We estimate that a one standard deviation increase in the market share of S corporation banks increases the odds of conversion to S status by almost one-third.

We sharpen our inferences with two tests. First, we evaluate if changes in the relative tax advantages of S over C corporations mediate the effect of competitive pressure from S corporations on S conversions. We find that the tax-related competition exerted by S corporation banks is attenuated, but not eliminated, after the Jobs and Growth Tax Relief Reconciliation Act (JGTRRA) of 2003, which exogenously reduced the relative tax advantage of S over C corporations due to a dramatic reduction in the dividend tax rate. This finding corroborates that tax rather than nontax factors are important determinants in how competition shapes organizational form choices. Second, we examine whether the nature of competition within an

MSA influences the competition exerted by S corporations. We find that C corporation banks that are less capable of passing costs on to consumers (i.e., price-taking banks operating in a Bertrand market structure) are more likely to convert to S status in response to competitive pressure than C banks that are price-setters (i.e., those operating in a Cournot market structure).

In exploring the consequences of S corporation conversion, we find that, relative to non-converting banks, converting banks realize an increase market share for up to two years after conversion, which is consistent with S corporation conversion leading to competitive benefits. We further find some evidence that increased advertising and opening new bank branches facilitates this increase in market share for converting banks. Finally, we find that non-converting banks engage in more tax avoidance—in particular, deferral strategies—as competition with S corporation banks increases, consistent with tax-related competition applying pressure on C corporations to reduce tax costs. In all, our findings provide economic insight into how competition shapes—and is shaped by—taxes and organizational form (Scholes et al. 2014).

Appendix
Variable definitions

Dependent variable

SConversion Indicator variable equal to 1 if a C corporation bank converts to an S corporation in the subsequent year; 0 otherwise. Note that observations are dropped from the sample after conversion.

Independent variables

SMktShr Market share of an S corporation bank in a local MSA, where market share is defined as the dollar value of deposits held by S corporations divided by total deposits in the MSA. Source: FDIC Summary of Deposits.

Divs Dividends scaled by assets.

CurrETR Current effective tax rate, defined as current tax expense scaled by pre-tax income. Current tax expense equals the difference between total tax expense and change in net deferred tax assets.

BIG Built-in gains, defined as the difference between fair value and historical cost of a bank's available-for-sale securities, scaled by assets.

NOL Indicator variable equal to 1 if a bank has a net operating loss; 0 otherwise. Net operating loss is defined as zero or negative tax expense, provided the sum of tax expenses in years $t-1$ and $t-2$ do not exceed negative tax expense in the current year (to control for carrybacks).

AMT Potential of paying the Alternative Minimum Tax, defined as the ratio of tax-exempt securities and leases to assets.

State Indicator variable equal to 1 if a bank is headquartered in a state that does not recognize S corporation status (Alabama, Arkansas, Delaware, Florida, Iowa, Maryland, Massachusetts, Mississippi, New Jersey, Oklahoma, Rhode Island, South Carolina, Vermont, and Wisconsin); 0 otherwise (Plesko 1999; Hodder et al 2003).

Deftax Ratio of deferred tax assets allowed in regulatory capital to the sum of Tier 1 and Tier 2 capital, where allowable deferred taxes equals total deferred tax assets less disallowed deferred tax assets.

Grow Percentage change in assets between year t and $t-1$.

Lev Ratio of non-deposit liabilities to assets.

Size Natural log of assets.

Age Number of years since a bank was initially chartered.

GDP Percentage change in gross domestic product between year t and $t-1$. Source: Compustat Economic Indicators.

Inflate Change in Consumer Price Index between year t and $t-1$. Source: Compustat Economic Indicators.

Unemp Rate of national unemployment. Source: Compustat Economic Indicators.

TBill Interest rate charged on a three-month U.S. Treasury bill. Source: Compustat Economic Indicators.

Other variables

Post	Indicator variable equal to 1 for the year 2003 and after; 0 otherwise.
Bertrand	Indicator variable equal to 1 for banks operating in a Bertrand market structure; 0 otherwise. We regress, by MSA, pretax return on assets (dependent variable) on the Herfindahl index (defined as the annual sum of squared deposit market shares) and bank size (independent variables). Bertrand market structure is defined as a negative coefficient for the Herfindahl index. See Ciconte et al. (2014).
PercS	Number of S corporation banks headquartered in an MSA as a percentage of all banks headquartered in the MSA.
SingleSMktShr	*SMktShr*, where single-branch banks are included in the numerator and denominator.
BankShr	Individual market share of a given bank, defined as deposits held by that bank scaled by all deposits in the MSA. This variable is only populated for single-MSA banks.
Advert	Advertising intensity, defined as advertising expense scaled by gross interest income.
Roa	Return on assets, defined as pre-tax income scaled by assets.
RevChg	Percentage change in gross interest income between t and $t-1$.
Branches	Number of bank branches. Source: FDIC.
CapInt	Capital intensity, defined as the ratio of property, plant, and equipment to assets.

Note: Unless otherwise indicated, data are obtained from the Bank Regulatory File in Compustat.

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Table 1
Sample characteristics and descriptive statistics

Panel A: S corporation conversions by year

Year	Number of S Conversions	Percent	Cumul. Percent
1998	146	20	20
1999	90	12	32
2000	44	6	38
2001	66	9	47
2002	67	9	56
2003	68	9	65
2004	47	6	71
2005	52	7	78
2006	50	7	85
2007	60	8	93
2008	28	4	97
2009	18	2	99
2010	4	1	100
	740	100	

Panel B: Top 20 S corporation conversions by total deposits

Rank	Year	Bank	Deposits ($M)	Metropolitan Statistical Area
1	2004	Emigrant Savings Bank	$4,824.6	NY-Northern NJ-Long Island, NY-NJ-PA
2	2007	Intrust Bank NA	2,606.9	Wichita, KS
3	2007	First American Bank	2,220.6	Chicago-Naperville-Joliet, IL-IN-WI
4	2005	Pinnacle Bank	1,476.5	Omaha-Council Bluffs, NE-IA
5	2007	Centier Bank	1,440.7	Chicago-Naperville-Joliet, IL-IN-WI
6	2005	Fremont Bank	1,177.2	San Francisco-Oakland-Fremont, CA
7	2009	First Bank Highland Park	1,138.4	Chicago-Naperville-Joliet, IL-IN-WI
8	2005	Bank of Colorado	1,029.7	Fort Collins-Loveland, CO
9	1998	Amboy National Bank	997.5	NY-Northern NJ-Long Island, NY-NJ-PA
10	1999	Marquette Bank NA	907.0	Minn.-St. Paul-Bloomington, MN-WI
11	2005	Inter National Bank	797.9	McAllen-Edinburg-Mission, TX
12	2007	Extraco Banks NA	775.4	Killeen-Temple-Fort Hood, TX
13	2007	Glenview State Bank	761.8	Chicago-Naperville-Joliet, IL-IN-WI
14	2007	RCB Bank	744.2	Tulsa, OK
15	2003	Morton Community Bank	644.8	Peoria, IL
16	2004	Cross Country Bank	610.7	Phil.-Camden-Wilmington, PA-NJ-DE-MD
17	2005	Prosperity Bank	597.8	Jacksonville, FL
18	2002	Commerce Bank & Trust	540.7	Topeka, KS
19	2007	United Bank	533.3	Atlanta-Sandy Springs-Marietta, GA
20	1999	NLSB Bank	529.6	Chicago-Naperville-Joliet, IL-IN-WI

Panel C: Descriptive statistics

		N	Mean	Std. Dev.	Q1	Median	Q3
	Dependent variable						
	SConversion$_{t+1}$	36,233	0.020	0.141	0.000	0.000	0.000
	Independent variables						
	SMktShr	36,233	0.048	0.080	0.000	0.014	0.058
Tax	*Divs*	36,233	0.004	0.007	0.000	0.002	0.006
Tax	*CurrETR*	36,233	0.331	0.201	0.226	0.333	0.411
Tax	*BIG*	36,233	0.002	0.003	0.000	0.000	0.002
Tax	*NOL*	36,233	0.040	0.197	0.000	0.000	0.000
Tax	*AMT*	36,233	0.001	0.002	0.000	0.000	0.002
Tax	*State*	36,233	0.273	0.446	0.000	0.000	1.000
Tax	*Deftax*	36,233	0.022	0.028	0.000	0.014	0.033
Non-tax	*Grow*	36,233	0.138	0.227	0.030	0.085	0.170
Non-tax	*Lev*	36,233	0.081	0.096	0.012	0.049	0.114
Non-tax	*Size*	36,233	12.180	1.480	11.207	12.016	12.927
Non-tax	*Age*	36,233	3.561	1.227	2.708	4.025	4.575
Macro	*Pop*	36,233	6.957	1.469	5.680	6.994	8.306
Macro	*GDP*	36,233	0.029	0.018	0.018	0.034	0.045
Macro	*Inflate*	36,233	2.475	0.867	2.193	2.668	3.222
Macro	*Unemp*	36,233	5.207	1.276	4.400	4.900	5.700
Macro	*TBill*	36,233	3.294	1.892	1.710	3.990	5.170
	Other test variables						
	Post	36,233	0.452	0.498	0.000	0.000	1.000
	Bertrand	36,233	0.502	0.500	0.000	1.000	1.000
	BankShr	20,608	0.015	0.029	0.001	0.004	0.015
	Advert	15,117	0.011	0.013	0.000	0.009	0.017
	Roa	20,608	0.010	0.017	0.005	0.011	0.017
	RevChg	15,117	0.218	0.690	−0.047	0.049	0.195
	Branches	14,730	4.139	6.517	1.000	3.000	5.000

Note: Variables are defined in the Appendix.

Table 2
Effect of competitive pressure from S corporations on future S corporation conversions

				(1)	(2)	(3)
				Full Sample	No Largest 10	Single MSA Only
				$SConversion_{t+1}$	$SConversion_{t+1}$	$SConversion_{t+1}$
			Exp.	Coeff. (*z*-stat)	Coeff. (*z*-stat)	Coeff. (*z*-stat)
	SMktShr	Hyp.	+	3.385***	3.385***	3.329***
				(10.15)	(10.16)	(8.44)
Tax	*Divs*		+	36.448***	36.461***	39.312***
				(8.27)	(8.28)	(7.95)
	CurrETR		+	0.626***	0.626***	0.456**
				(3.27)	(3.27)	(2.05)
	BIG		−	−20.595	−20.757	−2.209
				(−1.61)	(−1.62)	(−0.16)
	NOL		−	−0.841***	−0.839***	−0.684**
				(−2.78)	(−2.77)	(−2.15)
	AMT		+	65.382***	65.356***	60.035***
				(3.58)	(3.58)	(2.87)
	State		−	−0.123	−0.123	−0.172
				(−1.31)	(−1.31)	(−1.56)
	Deftax		−	−16.476***	−16.546***	−14.505***
				(−6.49)	(−6.50)	(−4.90)
Non-tax	*Grow*		−	−0.090	−0.089	0.101
				(−0.51)	(−0.51)	(0.48)
	Lev		−	−2.996***	−2.983***	−2.239***
				(−5.62)	(−5.60)	(−3.91)
	Size		−	−0.242***	−0.239***	−0.172***
				(−7.69)	(−7.53)	(−4.12)
	Age		+	0.098***	0.099***	0.126***
				(2.65)	(2.66)	(2.93)
Macro	*Pop*		+/−	−0.000	−0.000	−0.000
				(−0.44)	(−0.45)	(−1.14)
	GDP		+/−	10.125*	10.134*	9.691
				(1.84)	(1.84)	(1.61)
	Inflate		+/−	0.012	0.011	0.030
				(0.21)	(0.20)	(0.46)
	Unemp		+/−	−0.028	−0.027	0.021
				(−0.27)	(−0.27)	(0.19)
	TBill		+/−	0.028	0.028	0.085*
				(0.70)	(0.70)	(1.77)
	Constant		+/−	−1.831**	−1.862**	−3.188***
				(−2.00)	(−2.03)	(−3.11)
	Observations			36,233	36,103	23,819
	Area under ROC			0.751	0.751	0.733

Note: *, **, and *** denotes statistical significance levels of 0.10, 0.05, and 0.01, respectively. Reported *z*-statistics are based on robust standard errors clustered by bank (Petersen 2009). Variables are defined in the Appendix.

Table 3
Changes in the relative tax advantages of S corporations after JGTRRA of 2003

	(1)	(2)	(3)
	Full Sample *SConversion*$_{t+1}$ Coeff. (*z*-stat)	No Largest 10 *SConversion*$_{t+1}$ Coeff. (*z*-stat)	Single MSA Only *SConversion*$_{t+1}$ Coeff. (*z*-stat)
SMktShr	4.602***	4.605***	5.670***
	(9.00)	(9.01)	(9.25)
Post	−0.314**	−0.315**	−0.465***
	(−2.55)	(−2.55)	(−3.34)
SMktShr×*Post*	−1.358**	−1.361**	−2.569***
	(−2.18)	(−2.18)	(−3.63)
Constant	−3.167***	−3.203***	−5.486***
	(−3.34)	(−3.38)	(−5.13)
Controls	Included	Included	Included
Observations	36,233	36,103	23,819
Area under ROC	0.757	0.756	0.745

Note: *, **, and *** denotes statistical significance levels of 0.10, 0.05, and 0.01, respectively. Reported *z*-statistics are based on robust standard errors clustered by bank (Petersen 2009). Variables are defined in the Appendix.

Table 4
Nature of competition within an MSA

	(1)	(2)	(3)
	Full Sample $SConversion_{t+1}$ Coeff. (*z*-stat)	No Largest 10 $SConversion_{t+1}$ Coeff. (*z*-stat)	Single MSA Only $SConversion_{t+1}$ Coeff. (*z*-stat)
SMktShr	2.667***	2.669***	2.335***
	(5.75)	(5.75)	(4.42)
Bertrand	−0.099	−0.099	−0.138
	(−1.10)	(−1.10)	(−1.32)
SMktShr×*Bertrand*	1.346**	1.344**	1.960***
	(2.23)	(2.23)	(2.77)
Constant	−1.743*	−1.774*	−3.095***
	(−1.90)	(−1.93)	(−3.00)***
Controls	Included	Included	Included
Observations	36,233	36,103	23,819
Area under ROC	0.752	0.752	0.734

Note: *, **, and *** denotes statistical significance levels of 0.10, 0.05, and 0.01, respectively. Reported *z*-statistics are based on robust standard errors clustered by bank (Petersen 2009). Variables are defined in the Appendix.

Table 5
Future market share of converting banks: Single MSA only

Panel A: Regression results

		(1)	(2)	(3)
		$BankShr_{t+1}$ Coeff. (*t*-stat)	$BankShr_{t+2}$ Coeff. (*t*-stat)	$BankShr_{t+3}$ Coeff. (*t*-stat)
	SConversion	−0.000**	−0.001**	−0.001
		(−2.39)	(−2.28)	(−1.36)
	BankShr	1.000***	0.995***	1.005***
		(242.61)	(112.84)	(75.70)
	SConversion×*BankShr*	0.028**	0.045**	0.019
		(1.93)	(1.84)	(0.60)
Tax	*Divs*	−0.000	−0.001	0.001
		(−1.48)	(−1.63)	(0.65)
	BIG	−0.003	−0.005	0.013
		(−1.27)	(−1.29)	(0.79)
	AMT	−0.038***	−0.030	−0.027
		(−2.86)	(−1.21)	(−0.74)
	State	−0.000	0.000	0.000
		(−0.02)	(0.28)	(0.84)
Non-tax	*Grow*	0.000***	0.000*	0.000
		(20.81)	(1.67)	(1.11)
	Lev	−0.003***	−0.004**	−0.003
		(−4.11)	(−2.21)	(−1.09)
	Size	0.000***	0.000***	0.001***
		(5.06)	(4.16)	(3.17)
	Age	−0.000***	−0.001***	−0.001***
		(−12.66)	(−9.84)	(−11.27)
Macro	*Pop*	−0.000***	−0.000***	−0.000***
		(−9.66)	(−9.24)	(−7.03)
	GDP	−0.006	−0.001	−0.014
		(−1.28)	(−0.07)	(−1.31)
	Inflate	−0.000***	−0.000	−0.000**
		(−4.33)	(−0.97)	(−2.11)
	Unemp	−0.000**	0.001***	−0.001***
		(−2.05)	(2.99)	(−3.08)
	TBill	0.000	0.000***	−0.000
		(0.94)	(4.22)	(−1.50)
	Constant	0.000	−0.005***	0.009**
		(0.02)	(−3.02)	(2.13)
	Observations	20,608	17,284	14,473
	Adjusted R^2	0.97	0.94	0.91

Panel B: Tests of coefficients

	H_0: *BankShr* + *SConversion*×*BankShr* = 1		
	t+1	*t*+2	*t*+3
F-stat	3.90	3.03	0.68
p-value	0.02	0.04	0.20

Note: The coefficient for *BankShr* reflects the persistence in market share for the average bank, the coefficient for *SConversion*×*BankShr* reflects the incremental persistence in market share for converting banks, and the sum of these coefficients (*BankShr*+*SConversion*×*BankShr*) reflects overall persistence in market share. *, **, and *** denotes statistical significance levels of 0.10, 0.05, and 0.01, respectively. Reported *t*-statistics are based on robust standard errors clustered by bank (Petersen 2009). Variables are defined in the Appendix.

Table 6
Mechanism for future S corporation market share growth: Single-MSA only

Panel A: Advertising intensity (OLS regression)

		(1)	(2)	(3)
		$Advert_{t+1}$ Coeff. (*t*-stat)	$Advert_{t+2}$ Coeff. (*t*-stat)	$Advert_{t+3}$ Coeff. (*t*-stat)
	SConversion	−0.001	−0.000	−0.000
		(−1.39)	(−0.53)	(−0.23)
	Advert	0.710***	0.582***	0.509***
		(60.42)	(37.30)	(30.46)
	SConversion×*Advert*	0.144***	0.123**	0.035
		(3.17)	(2.10)	(0.49)
	Roa	0.036***	0.027**	−0.016
		(4.67)	(2.15)	(−1.05)
	RevChg	−0.001***	−0.002***	−0.002***
		(−8.01)	(−8.93)	(−7.99)
Non-tax	*Lev*	−0.001	−0.001	−0.003*
		(−0.62)	(−1.13)	(−1.78)
	Size	0.000***	0.001***	0.001***
		(5.16)	(5.64)	(6.22)
	Age	0.000***	0.000***	0.001***
		(3.35)	(4.83)	(5.17)
Macro	*Pop*	−0.000**	−0.000*	−0.000**
		(−2.23)	(−1.92)	(−2.48)
	GDP	−0.070***	−0.139***	−0.131***
		(−9.51)	(−13.14)	(−11.66)
	Inflate	−0.001***	−0.002***	0.001***
		(−14.52)	(−10.47)	(6.38)
	Unemp	−0.002***	−0.002***	0.005***
		(−13.85)	(−7.45)	(9.07)
	TBill	−0.001***	−0.000**	0.002***
		(−10.50)	(−2.03)	(9.06)
	Constant	0.014***	0.016***	−0.037***
		(10.38)	(7.14)	(−9.35)
	Observations	15,117	12,611	10,360
	Adjusted R^2	0.58	0.41	0.34

Panel B: Number of branch locations (Negative Binomial regression)

		(1)	(2)	(3)
		$Branches_{t+1}$ Coeff. (*z*-stat)	$Branches_{t+2}$ Coeff. (*z*-stat)	$Branches_{t+3}$ Coeff. (*z*-stat)
	SConversion	−0.253**	−0.159	−0.147
		(−2.34)	(−0.89)	(−0.99)
	Branches	0.046***	0.051***	0.056***
		(4.85)	(4.90)	(5.25)
	SConversion×Branches	0.048*	0.020	0.025
		(1.64)	(0.39)	(0.60)
	Roa	−2.59**	−2.177*	−2.361*
		(−2.47)	(−1.85)	(−1.90)
	RevChg	−0.031**	−0.002	0.016
		(−2.27)	(−0.21)	(1.15)
Non-tax	*Lev*	−0.820***	−0.603***	−0.432**
		(−5.32)	(−3.79)	(−2.39)
	Size	0.424***	0.421***	0.425***
		(12.38)	(11.32)	(11.26)
	Age	0.053***	0.022**	−0.005
		(5.98)	(2.38)	(−0.51)
Macro	*Pop*	−0.000***	−0.000***	−0.000***
		(−4.26)	(−4.15)	(−3.84)
	GDP	−0.288	−1.021**	−1.531**
		(−0.91)	(−2.00)	(−2.37)
	Inflate	−0.044***	−0.040***	−0.037***
		(−6.13)	(−4.83)	(−4.99)
	Unemp	0.030**	−0.007	−0.102***
		(2.21)	(−0.40)	(−3.75)
	TBill	0.028***	0.030***	−0.012
		(4.97)	(4.86)	(−1.16)
	Constant	−4.139***	−3.775***	−3.078***
		(−10.04)	(−9.53)	(−7.42)
	Observations	14,730	12,053	9,838
	Log Likelihood	−28,514.75	−24,107.84	−20,170.63

Note: *, **, and *** denotes statistical significance levels of 0.10, 0.05, and 0.01, respectively. Reported *t*-statistics (Panel A) and *z*-statistics (Panel B) are based on robust standard errors clustered by bank (Petersen 2009). Variables are defined in the Appendix.

Table 7
Future tax avoidance of non-converting banks

	(1)	(2)	(3)
	Full Sample $CurrETR_{t+1}$ Coeff. (*t*-stat)	No Largest 10 $CurrETR_{t+1}$ Coeff. (*t*-stat)	Single MSA Only $CurrETR_{t+1}$ Coeff. (*t*-stat)
SMktShr	−0.035**	−0.033**	−0.032*
	(−2.13)	(−2.04)	(−1.57)
Lev	0.077***	0.078***	0.102***
	(5.45)	(5.58)	(5.84)
Size	0.012***	0.012***	0.018***
	(11.38)	(11.61)	(11.39)
Roa	−0.000***	−0.000***	−0.000***
	(−8.65)	(−8.56)	(−6.02)
CapInt	−0.309***	−0.308***	−0.323***
	(−3.38)	(−3.37)	(−2.92)
Age	−0.004***	−0.004***	−0.000
	(−3.97)	(−3.91)	(−0.11)
Pop	0.000***	0.000***	0.000***
	(6.12)	(6.23)	(4.33)
GDP	3.157***	3.164***	2.754***
	(21.58)	(21.58)	(15.45)
Inflate	0.017***	0.017***	0.021***
	(9.57)	(9.32)	(9.14)
Unemp	0.041***	0.040***	0.040***
	(15.30)	(15.14)	(12.26)
TBill	−0.004***	−0.004***	0.007***
	(−3.53)	(−3.58)	(5.51)
Constant	−0.137***	−0.139***	−0.242***
	(−5.60)	(−5.62)	(−7.63)
Observations	35,493	35,363	23,273
Adjusted R^2	0.03	0.03	0.04

Note: *, **, and *** denotes statistical significance levels of 0.10, 0.05, and 0.01, respectively. Reported *t*-statistics are based on robust standard errors clustered by bank (Petersen 2009). Variables are defined in the Appendix.

Figure 1
Stylized example of the tax benefits of S corporations relative to C corporations

Panel A: Prior to JGTRAA of 2003

	C corporation	S corporation	Net Benefit
Pre-tax income	$100.00	$100.00	
Corporate tax rate	35.00%	-	
Individual tax rate	-	38.60%	
Income tax	$ 35.00	$ 38.60	
Shareholder distribution†	$ 40.00	$40.00	
Dividend tax rate	38.60%	-	
Dividend tax	$ 15.44	-	
Total tax	$ 50.44	$ 38.60	
After-tax income	$ 49.56	$ 61.40	23.89%

Panel B: After JGTRAA of 2003

	C corporation	S corporation	Net Benefit
Pre-tax income	$100.00	$100.00	
Corporate tax rate	35.00%	-	
Individual tax rate	-	35.00%	
Income tax	$ 35.00	$ 35.00	
Shareholder distribution†	$ 40.00	$40.00	
Dividend tax rate	15.00%	-	
Dividend tax	$ 6.00	-	
Total tax	$ 41.00	$ 35.00	
After-tax income	$ 59.00	$ 65.00	10.17%

†Consistent with sample banks, we assume that 40 percent of pre-tax income is distributed as dividend.

Figure 2
Future S corporation conversion rates by current S corporation market share

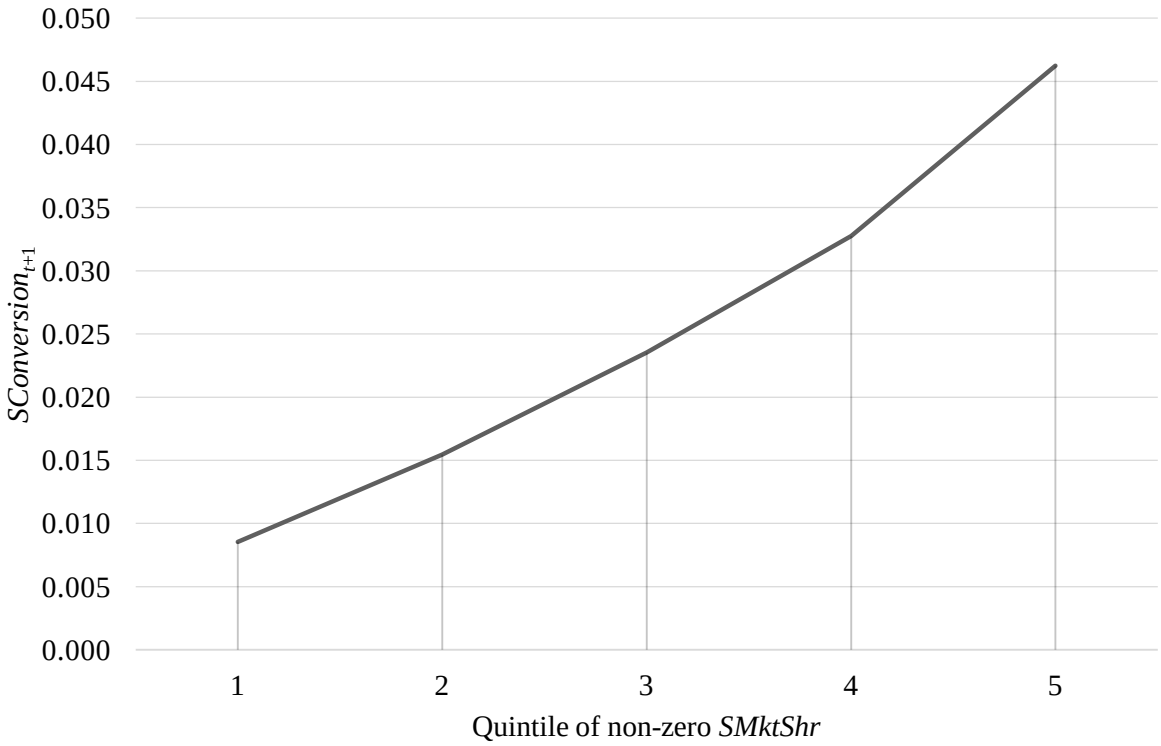

Figure 3
Future S corporation conversion rates by current S corporation market share: Pre- and post-JGTRRA of 2003

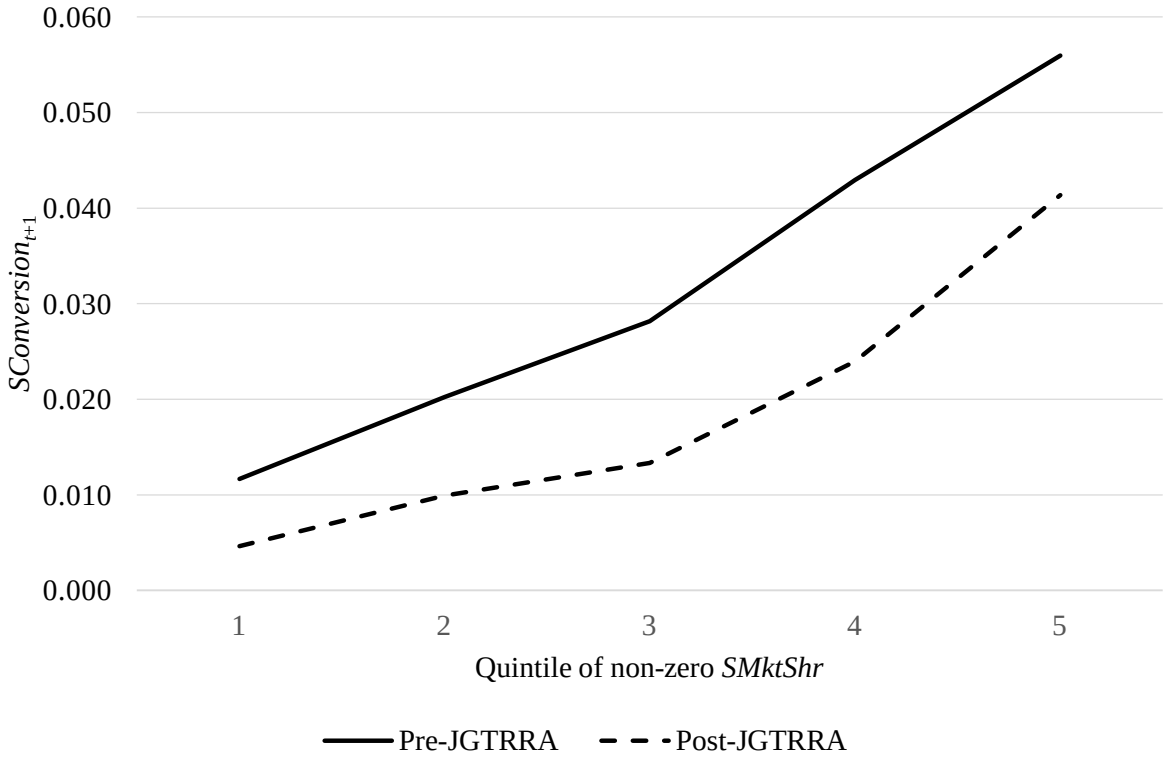

Figure 4

Future S corporation conversion rates by current S corporation market share: Cournot versus Bertrand market structures