Role Models Deserving of Regulatory Support or Pretenders With Obsolete Purpose? A Study of Mutual Banks in the U.S.

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Role Models Deserving of Regulatory Support or Pretenders with Obsolete Purpose?

A Study of Mutual Banks in the U.S.

Edward S. Park

A Thesis in the Field of Legal Studies

for the Degree of Master of Liberal Arts in Extension Studies

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Abstract

The new Dodd-Frank era in bank regulation imposes stricter standards and requirements for banks. In contrast, there have been a number of attempts in Congress to legislatively protect with more accommodative regulation a specific type of banks that are in the mutual form, based on the notion that mutual banks are valuable to the banking system. In light of these developments, I investigate how mutual banks compare to stock banks, in order to assess whether there exists tangible evidence of mutual banks deserving regulatory protection. I examined the past 10-year financial data on all mutual and stock banks in the U.S. to determine how each type compared to the other in terms of performance, risk-taking, operational efficiency, and potential benefits to ownership. I found that stock banks had higher earnings than mutual banks on average, even during the most recent financial crisis when losses were severe. I found no compelling evidence that mutual banks were better than stock banks in terms of efficiency and providing benefits to ownership. I also confirmed findings of previous studies in this area that mutual banks take less risk than stock banks and exhibit expense-preference behaviors, probably for maximizing manager utility. Being mindful of the select number of variables tested and other limitations identified during the research process, I cautiously conclude that there is no obvious evidence revealing clear advantages of mutual banks over stock banks to the extent legislative and regulatory protection for mutual banks would be warranted.
Acknowledgments

I am forever indebted to Dr. David Scharfstein for his exceptional guidance from the very beginning to the end of the thesis process. It was undeservingly my great fortune and honor to have someone of his stature as my thesis director. I sincerely thank Dr. James Morris for helping me navigate through this last most critical step towards the degree completion in his kind, gentle, and encouraging manner. I also send my personal thanks to Dr. Jaehwa Choi, Mr. Tate Wilson, and my lifelong mentor, Mr. J.W. Gee, for their helpful discussions and assistance.

Special thanks to my mother, my wife, my daughter, and my son, for always being there with me during the past six years of my humble academic journey and giving me the reason to try my best. I love you.

And last but not least, thanks be to Lord God, "who is, and who was, and who is to come, the Almighty."
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Chapter I. Introduction

The enactment of the Dodd-Frank Wall Street Reform and Consumer Protection Act\(^1\) officially marked the beginning of a new financial regulatory regime as an aftermath of the 2007 financial crisis that resulted in the most severe economic recession since the Great Depression. Based on the types of issues that emerged during the crisis, the new law imposes more stringent regulations on financial institutions and the government’s supervision of their business activities, in order to eliminate excessive risk-taking and the resulting systemic threat the institutions cause.\(^2\) Furthermore, the law generally requires banks to hold much higher levels of capital for absorbing losses during stressful macroeconomic conditions. Large banks with much greater systemic footprint must also maintain a “living will” or resolution plans to ensure that they can liquidate their businesses in an orderly fashion without disrupting the financial system in case of an insolvency—implying that there would be no government bailout available in such cases.

The DFA was in effect a Congressional declaration to the banking industry that the “good old days” of aggressive risk-taking for maximizing profit without consequences were over.


\(^2\) For more detailed discussion of the root causes of the financial crisis and potential solutions to fix them, refer to \textit{The Squam Lake Report: Fixing the Financial System (2010)}, written by a group of fifteen prominent academics in the U.S. Almost all of the issues discussed in this book have been addressed in the DFA in some form or another.
Interestingly, contrary to Congress’s strong commitment to strictly regulate the banking industry by means of the DFA, there has also been a series of concurrent legislative attempts, albeit unsuccessful, within Congress to “support and promote” a particular type of bank—“mutual banks”—through three separate bills introduced over the course of the past three years. The origin of mutual banks goes back to the very beginning of traditional banking in the U.S., and they are primarily distinguishable in terms of their legal ownership structure compared with the other type of banks that exist today, which are “stock banks.” In contrast to having shareholders as legal owners for the stock banks, the legal ownership of mutual banks belongs to their depositors, and thus the banks theoretically exist to serve the depositors’ best interest in the absence of shareholders. The three bills that have been introduced in the Congress are identical in terms of granting mutual banks the capability to: issue investment certificates that qualify as core regulatory capital, and expand lending capabilities beyond residential mortgages without concentration limits through a new federal mutual bank charter. It also has been

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4 The proposed bills allow mutual banks to issue so called, “Mutual Investment Certificates” that are not voting shares but qualify as either Tier 1 Capital (H.R. 4217 and H.R. 1603) or even Tier 1 Common Capital (H.R. 4252). The Certificates only pay dividends at the board of directors’ or trustees’ discretion. They are unsecured investments, subordinate to all claims, not usable as collateral and not redeemable for five years from issuance. Also, there are no preemptive rights. This type of hybrid capital instrument gives great advantages to mutual banks, which sounds strikingly similar to trust preferred securities that are no longer allowed to be counted as Tier 1 Capital under the DFA because of the troubles they caused during and after the financial crisis.
revealed that the initial draft of the DFA originally included a section similar to the three aforementioned bills, but it did not survive through the final drafting of the law.\(^5\)

Then, why is it that some members of Congress are so compelled to believe that mutual banks should get such special treatment through legislation designed to provide advantage, while the restrictions on the other banks have been strengthened by a flood of new regulations coming out of the DFA? Statements by the primary sponsor of H.R. 4217 and H.R. 1603, former Congressman Michael Grimm, reflect the common beliefs amongst the advocates of new laws to help mutual banks:

One of the most enduring traditions of the American financial system has been the ability of small mutual community banks to serve as engines of prosperity in their communities. \textit{Unlike the most financial institutions they have no stockholders, but rather are owned by their depositors. They exist for only one purpose, to provide local, economical finance to their customers and their community…} They answer to a higher authority the community at large, our constituents. Unfortunately, the one size fits all approach to the regulation of financial institutions not only burdens the ability of mutual banks to thrive but in some cases literally their ability to survive… To place disproportionate burdens on mutual banks threatens survival of a \([\text{sic]}\) entire class of well managed sound institutions that have served our constituents exceedingly well for almost two centuries…\(^6\) (emphasis added)

From the historical context, it is true that mutual banks were originally established for philanthropic reasons, and the ones that still exist today are mostly small community banks. However, no specific evidence currently exists that concretely supports the claim


that present-day mutual banks still benefit the banking system. The assertions here are based more on common perceptions toward mutual banks rather than proven facts.

Therefore, as Congress continuously considers potential laws intended to grant special privileges to mutual banks in the midst of the DFA’s stringent regulatory regime, based on the beliefs that they are beneficial to the banking system and deserve regulatory protection, the intent of this study is to examine and analyze the current state of mutual banks in the U.S. in comparison with stock banks. In doing so, the ultimate aim is to shed light on whether mutual banks are still truly valuable to our present-day banking system considering their risk profile, performance, efficiency, and mutual ownership benefits. Specifically, I generally seek answers to the following in order to draw an overall conclusion:

1. How did mutual banks perform before, during, and after the 2007 financial crisis compared to stock banks? Is there enough evidence to support that mutual banks financially performed better than stock banks, indicative of sound management?

2. How do risk-taking behaviors of mutual banks differ from those of stock banks? Are they really more conservative in nature than stock banks?

3. How efficient are mutual banks in terms of operating their business compared to stock banks?

4. What financial benefits do depositors receive as owners of mutual banks, similar to shareholders receiving dividends from stock banks they own? Is it evident that depositors financially gain by putting their money into mutual
banks? What financial benefits do borrowers receive from mutual banks that differ from stock banks?

5. If mutual banks and stock banks are further classified into different organizational types based on characteristics such as corporate entity structures (for mutual banks) or publicly-traded/privately-held (for stock banks), how would they compare to each other in terms of the questions above?

I hypothesize that today’s mutual banks in the U.S. provide no distinguishable benefits to the overall banking system compare to the stock banks. I postulate that the banking system has gone through multiple stages of development since mutual banks were first introduced in the country, and the initial benefits that mutual banks brought to the system have almost completely disappeared. I anticipate that the results of this research will show mutual banks lagging behind stock banks in terms of overall performance, efficiency, and serving the best interest of their ownership, while risk-taking is not much less than stock banks.

This research is a quantitative study that examines key financial metrics in 10-year regulatory reporting data to draw a comprehensive comparison of mutual banks and stock banks in a meaningful way. The significance of this research is two-fold. First, it has relevant policy implications. It informs lawmakers and policymakers whether today’s mutual banks serve the banking system in truly meaningful and valuable ways so that it is necessary to provide legal and regulatory measures to promote their growth and survival. Such determination would be quite critical for the integrity of our legal and political system because any law or policy targeted to support or favor a certain group
(mutual banks) over another (stock banks) needs to be justified based on more concrete evidence than by asserting its implementation would somehow benefit our society as a whole. Moreover, hasty deregulations without careful examination of potential consequences could cause problems within the financial system as evidenced by deregulations during the 1970s and 1980s as well as the Gramm–Leach–Bliley Act of 1999. New laws that are continuously being proposed in Congress for mutual banks are indeed greatly deregulatory in nature and thus need heightened scrutiny based on past experience.

Second, but not least, this research is considered the first study of all mutual banks in the U.S.—including all federally and state-chartered savings banks and savings and loan associations—that documents how they quantitatively compare against stock banks in terms of overall performance, operational efficiency, risk-taking, and providing benefits to mutual ownership. These findings help to provide a better understanding of present-day mutual banks in the context of domestic banking laws and regulations.

Definition of Key Terms

**Mutual Banks**: all depository institutions in the mutual form in which the depositors collectively have the legal ownership (includes mutual savings banks and mutual savings and loan associations).

**Stock Banks**: all depository institutions in the stock form in which shareholders/stockholders that hold voting stocks through equity investments have the legal ownership (also includes stock savings and loan associations).

**Savings and Loan Associations (S&Ls)**: federally chartered depository institutions that
are formed under Home Owners Loan Act of 1933, also commonly refer to as “thrift institutions.” This could either be mutual or stock form.

*Mutual Savings Banks (MSBs):* state chartered depository institutions in the mutual form.

*Bank Holding Company:* a company that owns one or more depository institution as subsidiaries, regulated under Bank Holding Company Act of 1956.

*Mutual Holding Company:* a bank holding company that has one or more mutual banks as subsidiaries.

*Savings and Loan Holding Company:* a holding company that has one or more Savings and Loan Associations as subsidiaries. This could either be mutual or stock form depending on the subsidiary bank’s form.

**History of Mutual Savings Banks**

A mutual bank is a financial institution that is chartered by the state government and designed to provide a safe place for individuals to protect deposits, save and invest their money. *And unlike public banks, as a mutual bank, we do not have shareholders and do not need to answer to Wall Street, so we are free to concentrate on serving our customers and neighbors in the best possible way* – from Watertown Savings Bank website.\(^7\) (emphasis added)

The Industrial Revolution and the development of a factory production system created an ever increasing pool of wage earners, who ultimately needed safe facilities to put their hard-earned savings other than under their mattresses since commercial banks at that time were not open to such ordinary working class people. Thus, philanthropically-

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minded wealthy individuals started creating institutions known as “savings banks” to accommodate the financial needs of the working class in continental Europe and England.⁸ Due to their philanthropic nature, these early savings banks were established in mutual forms, designed to be non-profit organizations for the sole benefit of their depositors.

The first mutual savings banks (MSBs) in the U.S. are known to be the Provident Institution for Savings in Boston, incorporated and chartered in 1816, and the Philadelphia Saving Fund Society, established in 1816 but not chartered until 1819.⁹ The locations of the banks are reflective of industrial centers of the country during that time. Although mutual savings banks were eventually chartered in 19 states, historically, more than 95% of total deposits in MSBs were in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Washington.¹⁰ The initial activities of MSBs included safe keeping of depositors’ funds and investing them either by providing personal loans or purchasing government securities. The profits from the investments were used to cover operating expenses, interest for depositors, and building capital to absorb potential losses from investments. By 1975, there were nearly 500 state-chartered MSBs operating in the U.S.¹¹

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⁹ Ibid., 17.


¹¹ Ibid., 214.
History of Savings & Loan Associations

Although originating in the same historical context as MSBs, the beginnings of savings and loan associations (S&Ls) or “thrifts” in the mutual form were more cooperative in nature, created by groups of wage earners themselves to facilitate home ownership.\(^\text{12}\) Each member of an association would deposit a pre-agreed fixed amount every month to collectively create a savings pool. Then, whenever the pool accumulated enough funds to build or buy a house, the fund was then distributed to a member in the form of a loan based on the sequence determined by a lottery. The member who received the home loan had to pay interest in addition to the regular monthly payment. The first S&L in the U.S. was established in Frankford, Pennsylvania in 1831 as Oxford-Provident Building Association and prospered throughout Northeast states and later throughout all states.\(^\text{13}\) The early S&Ls were originally created to dissolve once all of the members achieved home ownership and fully repaid their loans. However, their activities eventually evolved to operate more like traditional banks as relevant laws and regulations developed, but remained singularly focused on residential mortgage loans funded through deposits.

In order to address various difficulties and numerous S&L failures that the industry experienced during the Great Depression, and also to rebuild the housing market, the Federal Home Loan Bank Act and the Home Owners’ Loan Act were enacted.\(^\text{14}\) The

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\(^{13}\) Ibid., 6.

FHLBA allowed S&Ls to be part of the newly created Federal Home Loan Bank System, which acted as a central bank to all S&Ls and as the lender of last resort. The HOLA authorized state regulated S&Ls to become federally chartered, and created the Federal Savings and Loan Insurance Corporation to minimize any future deposit runoffs.\textsuperscript{15} However, due to the inherent asset liability mismatch stemming from providing long-term mortgage loans funded by deposits, S&Ls continued to exhibit vulnerability to changes in interest rates, housing market volatility, and other macroeconomic factors. This led to a series of deregulations during late 1970s and early 1980s. For instance, the Depository Institutions Deregulation and Monetary Control Act of 1980 allowed S&Ls diversify their investments to consumer loans, corporate bonds and commercial papers, and also eased restrictions on their received deposits.

The most significant deregulation measures came through the Garn-St. Germain Depository Institutions Act of 1982. This act not only authorized S&Ls to further expand into investment and lending scope more similar to commercial banks, but also allowed them to convert from mutual to stock form. Nevertheless, the industry still ended up going through so called, “Savings and Loan Crisis” for the rest of the 1980s and into the 1990s. The severity of the crisis was unprecedented and has been a constant subject of debate amongst policymakers and academics ever since. As of 1975, there were approximately 4,931 S&Ls in operation.\textsuperscript{16} Between 1976 and 1990, a period that

\textsuperscript{15} Ornstein, \textit{Savings Banking}, 41.

\textsuperscript{16} Federal Deposit Insurance Corporation, \textit{History}, 214.
included major deregulations as well as the crisis, 1,228 S&Ls failed, which accounted for 65% of aggregate bank failures during the period.\(^{17}\)

Present Landscape of Mutual Banks

As the history of mutual banks indicates, it is important to note that these institutions were originally created for serving specific needs of people, such as acting as instruments to keep savings or achieve home ownership. Given those specific purposes, mutual ownership perfectly made sense, and the scope of banking activities limited to serve those purposes made sense as well. However, as the banking industry overall expanded and went through major macroeconomic downturns, mutual banks—with regulatory assistance—had to evolve and become more like regular commercial banks in order to survive. This implies that the original spirit of mutuality also has diminished, perhaps even disappeared, because through the evolution process today’s mutual banks are completely different animals compared to those that existed more than 200 years ago.

There are approximately 582 mutual banks presently operating throughout the U.S., and their total deposits represent approximately 2% of total bank deposits.\(^{18}\) Mutual banks today exist in many different forms with a rather complex regulatory structure. MSBs are all chartered and regulated by the 19 states that have the relevant


statutes.\textsuperscript{19} Mutual S&Ls could be either state or federally chartered (although most are federally chartered). State chartered S&Ls are regulated and supervised by their respective states, while federally chartered S&Ls under HOLA are regulated and supervised by the Office of the Comptroller of the Currency (OCC).\textsuperscript{20} The complexity comes into play when holding companies are added to the picture. Under the Bank Holding Company Act and HOLA, mutual banks can be part of a bank holding company (BHC).\textsuperscript{21} Under the BHCA, a BHC’s subsidiaries could include either stock banks or MSBs. If a BHC has one or more MSBs under it, it is effectively a mutual holding company (MHC). A savings and loan holding company (SLHC) is governed by HOLA, and similar to BHCs, an SLHC could be either stock or mutual SLHC depending on whether the subsidiary S&L(s) are in the stock form or mutual form. The MHCs and SLHCs (stock and mutual) are all regulated and supervised at the federal level by the Board of Governors of the Federal Reserve System.\textsuperscript{22}

Mutual to Stock Conversions and Conflict of Interest

As mentioned above, a series of regulatory reliefs for mutual banks in the 1970s

\textsuperscript{19} Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Alaska, Delaware, Florida, Indiana, Maryland, Minnesota, Ohio, Oregon, Vermont, Wisconsin, and Washington

\textsuperscript{20} The supervision authority was transferred from the Office of Thrift Supervision (OTS) to the OCC under DFA. The OTS has been effectively dissolved into the OCC.

\textsuperscript{21} Bank Holding Company Act of 1956, 12 U.S.C § 1841 (1956). Hereafter cited parenthetically in the text as BHCA.

\textsuperscript{22} Under DFA, OTS’s supervision authority over SLHCs was transferred to the Federal Reserve.
and 1980s eventually allowed them to convert to a stock form. Converting to a stock bank resolves the key limitation that mutual banks are born with, the inability to raise external capital once established. Through the conversion, a mutual bank becomes a stock bank with shareholders that inject new capital having ownership interest of the bank.\footnote{More precisely, a new stock bank holding company is established as a parent of the bank, which effectively makes the bank a stock bank. Since one of the purposes of this section is to provide a general sense of how the mutual to stock conversion works, the explanation of legal or financial technicality involved is minimized as much as possible.} This is a typical conversion process that mutual banks take; however, it is not always simple and clear-cut. While a mutual bank can legally convert to a stock bank in one-step as mentioned, it does not always happen that way for many different reasons relating to individual circumstances.

A typical conversion could involve many steps as shown in Fig. 1. If the mutual bank itself is a sole entity, it could first choose to establish a mutual holding company on top (either MHC or mutual SLHC depending on the bank charter) and become a subsidiary stock bank. By doing this, depositors’ ownership of the bank shifts up to the newly established mutual holding company, and this holding company holds 100% stake in the newly converted stock bank.
Subsequently, another company is established in the stock form, and it becomes a subsidiary of the existing mutual holding company. This entity is called a “mid-tier holding company.” The mid-tier now holds 100% stake in the bank. The ownership interest in the mid-tier would then be divided up. By law, the parent mutual holding company always gets a majority ownership interest in the mid-tier, but the minority stake is sold to investors. This phase of conversion is often referred to as “first-step conversion” as shown in Fig. 1. Upon completion of this step, the bank virtually becomes a “hybrid” mutual institution, where the ownership interests are shared between the depositors and the stock investors. The ownership interest in the ultimate parent holding company still belongs to depositors because that entity is indeed in the mutual form, but the parent company does not own the entire stake in its mid-tier stock.
subsidiary that owns the bank. If the conversion process would go further from here, the next and final phase is the “second-step conversion,” where the mutual holding company is dissolved and the bank is left with a stock holding company parent. This is often when the IPO of the bank happens and becomes a publicly traded entity in the full stock form. Depositors no longer have ownership interest in the bank after completing this stage.

What follows when a bank completes the first-step conversion and becomes a hybrid mutual institution, raises some contentious issues. The investors that collectively become the minority shareholders of the mid-tier subsidiary, in almost all instances, include directors or senior management of the parent mutual holding company (effectively the bank directors and management). At first glance this might look fine on the surface, but issues emerge when it comes to the term called “dividend waivers.” For instance, when the subsidiary bank generates profits or has excess capital, the bank pays a dividend to its shareholder, in this case the mid-tier entity. Once the mid-tier receives the dividend, it would have to be up-streamed further to its shareholders, to the parent mutual holding company and to the minority shareholders mentioned above. If the parent company were to have a 60% stake in the mid-tier and the investors had a 40% stake, the dividend paid out by the mid-tier would be split 6:4. However, at this point, the parent mutual holding company waives its right to receive the dividend, so only the investors receive the dividend.

One might ask then, what happens to the portion of the dividend that has not been paid out the mutual holding company? Most likely, it is also paid to the investors. The trick is behind the dividend payout ratio. If the mid-tier declares a dividend amount that significantly exceeds what it has received from the bank for the given period and the
mutual parent waives its portion of it, it is possible for investors to receive the entire dividends generated by the bank during that particular period. Given that the investors mostly consist of the parent company’s management and directors themselves, the dividend waiver virtually serves as a mechanism for bank insiders to reward themselves on the profit that the bank generates—a clear conflict of interest. No matter how inappropriate and disturbing this may sound, especially based on the fact that it happens while the majority stake in the bank is still legally owned by the depositors, it had been permitted by the Office of Thrift Supervision (OTS), the former mutual SLHC regulator that was dissolved as result of the DFA.

The Federal Reserve, who had been the MHC regulator and is now also the mutual SLHC regulator after the OTS’s dissolution, has made it clear that the dividend waiver practice was not permissible through its public order issued in 1997, regarding dividend waiver request filed by Greater Delaware Valley Holding, MHC:

… The [Federal Reserve] Board previously has expressed serious concern at the prospect of a mutual holding company waiving receipt of dividends declared by a majority owned subsidiary bank because of the management conflict of interest inherent in dividend waivers that reflects adversely on the managerial resources of the bank holding company. In most cases, the board of trustees of the mutual holding company, as in this case, is comprised of the same individuals as the board of directors of the subsidiary bank, and these same individuals are also minority shareholders of the bank. As a result, the individuals who establish the dividend rate for the bank and declare the dividends on behalf of the bank, may also waive them on behalf of the holding company, and, as minority shareholders, gain personally from any financial benefits stemming from the waiver. The decision to execute such a waiver is not reviewed by the mutual members of the bank holding company, and rests exclusively with the trustees, who have a financial interest and cannot be removed by the mutual members…. Accordingly, in light of the facts of this case and for reasons discussed above, in particular the conflict of interest inherent in the proposed dividend waiver, the [Federal Reserve] Board has denied
the request by Greater Delaware to waive receipt of dividends to be declared by Bank. 24

Perhaps as result of lobbying efforts from the S&L industry when it was known that the DFA would include dissolution of the OTS and transfer of its SLHC supervision authorities to the Federal Reserve, the DFA Section 625 also included an amendment to HOLA, which allowed certain mutual SLHCs to continue to waive dividends as long as certain conditions are met. Upon taking over the mutual SLHC supervision authority in accordance with the DFA, the Federal Reserve issued Regulation MM, which specifies the agency’s regulation of mutual holding companies. 25 Under Reg. MM, dividend waivers are not permitted for all mutual SLHCs except those “grandfathered” by the DFA. Even for the grandfathered mutual SLHCs, certain strict conditions were applicable such as obtaining permissions from members/depositors. 26 The regulation is known to have been highly controversial, receiving numerous objecting comments from the S&L industry before it was finalized.

Given that one of the goals of this study is to find evidence as to whether mutual banks exist today for the best interests of its depositors, the dividend waiver example here clearly exhibits that there is a possibility of principal and agent issue where management and board directors of mutual banks behave to maximize their own benefits instead of those of the depositors.

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25 Regulation MM: Mutual Holding Companies, 12 C.F.R § 239 (2012). Hereafter cited parenthetically in the text as Reg. MM.

26 12 C.F.R § 239.8(d) (2012).
Current Challenges

As mentioned above, mutual banks do face more challenges following the enactment of the DFA. Because the new law significantly heightened regulation and supervision of banking institutions overall, not just mutual banks but many small community banks too lament that compliance-related costs significantly increased, which affected these small institutions more severely than the large banks. Lawmakers and policymakers are currently considering ways to relieve these burdens faced by small community banks, including mutual banks.27

Since the DFA requires higher levels of regulatory capital for banks, mutual banks voice difficulty in meeting those requirements based on their inherent limitations in raising capital. As a possible reflection of the difficulties that mutual banks face, mutual to stock conversion activities significantly increased starting in 2010, the year the DFA was passed, as shown in Fig. 2 below. It is expected that mutual banks, whether financially strong or weak, will continue to convert to stock form or consolidate through M&A, in order to raise more capital, realize better efficiency, or simply to benefit their directors and management.

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27 Refer to recent Senate Banking Committee hearing held on February 12, 2015.

Mutual Banks vs. Mutual Insurance Companies

One particular type of mutual financial service entities that are comparable to mutual banks are mutual insurance companies. Although the business activities they conduct are quite different from those of mutual banks, the mutual form of organization is virtually identical. For mutual insurance firms, the ownership interest is held by policyholders, the customers, just like depositors in mutual banks. However, a critical difference is observed in terms of benefits. Policyholders of mutual insurance firms receive dividends annually in the form of a discount, meaning that instead of receiving cash, the policyholders get discounts applied to their annual policy premium that is equivalent to the dividend declared. For mutual banks, however, there is no instance of depositors receiving any sort of dividend. Moreover, there is no mention of any sort of

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dividend that could be paid to depositors in any existing laws and regulations pertaining to mutual banks.

Review of Literature

An abundance of literature serves as a solid theoretical foundation for this research, especially as it relates to comparisons between mutual banks and stock banks in terms of risk-taking behaviors and operational efficiency. The vast majority of the studies conducted in these areas to date are either in the context of the Savings and Loan Crisis (S&L Crisis) during the 1980s, or mutual to stock conversion activities that resulted from deregulatory measures such as the Garn-St. Germain Depository Institutions Act. This reflects significant political, legal, and academic attention that those events received, and clearly there has been much debate whether the series of deregulations to accommodate mutual banks has caused them to take more risk and eventually led to the industry-wide crisis. Although those events are not really the focus of this research, previous works that compare mutual banks to stock banks are still invaluable.

In terms of examining risk-taking behaviors, Cordell et al. found empirical evidence that “demutualization” or mutual to stock conversion increased risk in the S&L industry based on balance sheet composition changes.29 Therefore, the authors alluded that the series of deregulations including the permission to convert to stock form contributed to the S&L Crisis by unintentionally promoting excessive risk-taking.

Similarly, Fraser and Zardkoohi also confirmed that S&Ls took more risk due to the series of other deregulation occurring during the 1970s and 1980s, in addition to the increased risk-taking through demutualization.\(^{30}\)

Esty agreed with Cordell et al. that allowing conversions increased risk-taking and hence the crisis, but provided additional perspectives as to why that was the case.\(^{31}\) By examining and comparing profit volatility of mutual and stock S&Ls, Esty’s study concluded that risk-taking was greater for stock S&Ls than mutual S&Ls, given that risk-taking is dependent upon whether or not “fixed and residual claims” are separable.\(^{32}\) In the case of mutual S&Ls, fixed and residual claims were not separable based on the ownership structure where the increase in the value of residual claims results in a decrease in the depositor’s fixed claims.\(^{33}\) For stock S&Ls, because the change in the value of residual claims does not impact the value of fixed claims, there is more incentive to take risk. Interestingly, Esty pointed out that given mutual S&Ls have a “diffused” ownership structure, it is not in the mutual S&L managers’ best interest to engage in additional risk-taking beyond maintaining solvency of the firm because their salaries are also a fixed claim, which could eventually be compromised if excessive risk is taken.\(^{34}\) This conceptual framework posed by Esty as well as many others in the literature seems


\(^{32}\) Ibid., 26.

\(^{33}\) Ibid., 28.

\(^{34}\) Ibid., 29.
quite important in understanding mutual banks because the agency problem arising from
a diffused ownership structure appears to be reflected in management’s risk-taking and
utility maximizing behaviors, which ultimately impact the bank’s performance and
operational efficiency.

Since Esty’s monumental work on examining organizational form and risk-taking
in the S&L industry, the literature on this specific topic has not been developed much
further. However, there are a few studies on European banks. Although the findings of
these studies are not directly applicable to mutual and stock banks in the U.S., and there
are also some inconsistent findings, they do confirm that mutual banks have less risk-
taking tendencies. For instance, Iannotta et al. sampled 181 large banks from 15
European countries and found that mutual banks exhibit lower profitability even with
lower costs in comparison with stock banks because of lower asset risk.\(^{35}\) The
inconsistency here is the finding that mutual banks have lower expenses, which has not
always been the case for mutual banks in the U.S. In a comparison of Spanish
commercial banks and mutual savings banks, Garcia-Marco and Robles-Fernandez
concluded that commercial banks were more prone to risk-taking.\(^{36}\) Moreover, they
argued that moral hazard exists in banks where owners are more risk-prone with the
availability of deposit insurance. In contrast to Garcia-Marco and Robles-Fernandez,
Karels and McClatchey observed no meaningful support for deposit insurance leading to

\(^{35}\) Giuliano Iannotta, Giacomo Nocera and Andrea Sironi, “Ownership Structure, Risk
2127-2149.

\(^{36}\) Teresa Garcia-Marco and M. Dolores Robles-Fernandez, “Risk-taking Behaviour and
Ownership in the Banking Industry: The Spanish Evidence.” *Journal of Economics and Business*
increased risk-taking in the credit union industry, although the fact that units of analysis were credit unions could have been the reason for the inconsistency. Credit unions are mutual cooperative institutions where members hold joint ownership. However, they are considerably different from banks, especially in terms of the laws and regulations they operate under.

There also have been interesting findings about differences in bank risk-taking based on organizational structures rather than forms, depending on whether privately owned or publicly traded ownership as well as levels of concentration in ownership. These studies are also relevant in looking at mutual banks and stock banks. As mentioned earlier, mutual banks also exist today in the hybrid form in which a minority stake in a mid-tier holding company is either privately owned or publicly traded by investors. Stock banks, of course, are either privately owned or publicly traded. Barry et al., for instance, analyzed a set of privately owned and publicly traded European commercial banks to test whether risk-taking differs based on who actually owns the banks (i.e. family, institutional investors, management, etc.). Their findings indicated that ownership structure is indeed closely associated with risk-taking, but it was more profound for privately owned banks than listed banks. Banks privately owned by individuals or families tended to take less risk, while those privately owned by institutional investors took more risk. Barry et al. asserted that this is due to the fact that


institutional investors have diversified portfolios of investments to balance their portfolio risk, while individuals or families’ ownership was likely to be concentrated in the bank that they own.39

Using balance sheet data of approximately 500 banks in more than 50 different countries, Shehzad et al. analyzed concentration of ownership and risk-taking.40 Their indicators of risk were the level of non-performing loans and capital adequacy. Their conclusion was that high ownership concentration significantly reduces risk through a decrease in non-performing loans and an increase in capital adequacy ratio. A combination of the findings of Barry et al. and Shehzad et al. suggests banks are more likely to take less risk when the ownership is closely held privately by a small group of individuals or families.

The area of investigating efficiency and performance of mutual banks is largely dominated by studies testing Williamson’s groundbreaking “expense-preference theory.”41 The expense-preference theory suggests that firms also exhibit utility-maximizing behavior rather than sole profit-maximizing, driven by managers’ rational pursuit of self-interest. Where management utility maximization (i.e. higher salary, more staffing, etc.) clashes with the entity’s overall profit maximization tendencies, management prefers to incur higher expenses for management’s own benefit, thereby

39 Barry et al., *Ownership Structure*, 1339.


compromising profit. Williamson also offered a view that the expense-preference behavior should be more profound in cases where: 1) the firm is a dominant player in its market with less reason to maximize efficiency to stay competitive, 2) shareholders’ control is weak or diffused to monitor management behavior, or 3) a regulatory constraint exists in the form of a maximum allowable rate of return for the firm with management gaining nothing by producing profit beyond the allowable return.42

Edwards’s 1977 study was the first attempt to test the expense-preference theory in the context of the banking industry.43 By regressing wage and salary expenditures with firms’ relative market shares, Edwards concluded that “an expense-preference model may be a more useful framework for describing and predicting bank behavior than traditional profit-maximization model,” and profit maximization may not be the key objective of managers of highly regulated banking industry.44 Through additional empirical testing, Hannan also confirmed Edwards’s findings in terms of the expense-preference behavior in banking.45

Verbrugge and Goldstein took the expense-preference theory to the next level and applied it to S&Ls in order to examine how ownership structure influences expense-

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preference through financial performance. Specifically, the study compared risk-taking behaviors and operating performances of mutual S&Ls and stock S&Ls, and was able to establish the linkage between the ownership structure and expense-preference by discovering two significant findings. First, they found mutual S&Ls took less risk than stock S&Ls based on portfolio composition, and thus exhibited lower returns. Second, mutual S&Ls exhibited clear tendencies toward expense-preference behavior with significantly higher operational costs, especially in personnel and occupancy expenses. The authors suggested that such findings collectively indicate a lack of overall profit maximizing incentives on the side of mutual S&L managers, which results in risk-averse and expense-preference behaviors, possibly due to “lack of competitive pressures from the market and absence of owner-influence.”

Akella and Greenbaum interpreted “mutual form of ownership as reflecting extreme diffusion of ownership.” Through additional empirical analyses of mutual and stock S&Ls, they identified diffused ownership as a primary factor leading to expense-preference behavior of mutual S&Ls. Thus, mutual S&Ls in comparison to stock S&Ls, exhibit “suboptimal allocation of resources” and maximization of management’s own utility because the diffused ownership of depositors lacks control over how management conducts business. Such findings are consistent with Verbrugge and Goldstein’s findings

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that relative inefficiency and lower performance of mutual S&Ls were considerably attributed to agency issues inherent in the mutual ownership structure.

Rasmusen’s “Uninformed Depositor Model” provides an excellent comprehensive explanation about mutual bank management behavior based on the agency problem stemming from the diffused ownership structure.49 Because depositors in mutual banks are not sufficiently informed of management’s actions based on the diffused ownership structure, the agency problem occurs where management behaves to maximize its own utility (similar to expense preference). The utility maximization by mutual bank management results in investing into less risky assets to ensure that the bank does not fail so that management can continue fulfilling its own best interest. Utility maximizing management has no incentive to take additional risk when higher returns beyond what is necessary to operate the bank provide no additional benefit to management. Rasmusen posited that this uninformed depositor model also explains why mutual banks historically had been able to retain and attract depositors during the period when government deposit insurance protection was not in place because management’s conservative investments based on its own utility maximization was in line with depositors’ interest in preserving their money in the bank.

Looking at the expense-preference behavior from a more extreme angle, Gropper and Beard applied the expense-preference methodology to a study that sought to find determinants of employee compensation and occupancy costs for mutual and stock S&Ls. Interestingly they found strong evidence that insolvency led to higher compensation and

occupancy expenses. Furthermore, the degree of increased expenses was higher with mutual S&Ls than stock S&Ls. Based on these findings, Gropper and Beard concluded that an insolvency of mutual or stock S&Ls creates a “moral hazard” for management where the expense-preference behavior gets worse while the bank is in the process of failure.

Masulis’s study adds another interesting perspective to the overall examination of mutual bank behaviors. Masulis attempted to explain why mutual banks might choose to convert to a stock form. By analyzing empirical data on S&L conversion activities, Masulis concluded that organizational change is motivated by an S&L’s desire to achieve better economic efficiency, also based on the prediction of agency theory. Although Masulis is in general agreement with the existence of mutual bank management’s expense-preference behavior and risk aversion caused by diffused ownership, he found that mutual banks would still be prone to converting into stock form as long as management also benefits from the conversion (i.e. by obtaining ownership interest in the converted entity). Given that a mutual bank manager would always seek to maximize his or her own utility, Masulis’s assertions would make sense only if the manager has a clear idea and certainty that conversion would bring more benefit than the status quo, considering all matters including potential future risk. However, in the absence of clear

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51 Gropper and Beard, *Insolvency*, 615.

benefits to management, Masulis’s explanation is unclear why the mutual bank would still have the tendency to convert in pursuit of higher efficiency alone.

Unlike Masulis’s conclusions, Jahera et al. found that mutual to stock conversions of S&L themselves did not result in significant changes in either financial strategy or financial performance. Moreover, although it was observed that mutual to stock conversion certainly alters the agency relationship, the results suggested that no alteration appeared to influence overall financial strategy.

In contrast to the wide acceptance of the existence of expense-preference behaviors and agency issues in mutual bank management, a number of studies did arrive at contradictory findings and conclusions. For instance, using alternative quantitative methods such as the “stochastic cost frontier approach,” empirical analyses conducted by Cebenoyan et al. or Mester concluded that organizational form (mutual or stock) was not a meaningful factor affecting the efficiency of S&Ls. In other words there was no strong relationship between organizational structure and expense-preference behaviors.

Lastly, an attempt to find literature that covers the benefits of depositors in mutual banks rather than stock banks was unsuccessful. However, Kreider provided some insight based on his comprehensive analysis of policyholder and depositor rights in


mutual insurance companies and banks. He found that ownership rights of policyholders and depositors of mutual institutions were much less defined and weak in laws and regulations compared to those of shareholder owned institutions. Due to weakly defined ownership rights, “incumbent managements free from any direction or control by the mutual members to the extent that it can be realistically stated that mutuals are owned by their managements instead of the members,” and thus legislative reform was necessary to address the issue. Clearly, based on Kreider’s assertions, depositors of mutual banks severely lack ownership rights, and it is highly doubtful that they have any benefits as the legal owners of those institutions.

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56 Kreider, Who Owns Mutuals, 310.
Chapter II. Method

For this research, the Federal Financial Institutions Examination Council’s (FFIEC) quarterly Uniform Bank Performance Report (UBPR) financial data on 6,593 banks operating in the U.S. were collected over approximately a 10-year horizon, from the quarter-end March 31, 2004 to the quarter-end June 30, 2014 (a total of 42 quarters). The total number of banks included 582 mutual banks and 6,011 stock banks. As shown in Fig. 3 below, mutual banks and stock banks were then categorized further based on their corporate ownership structures, and each category served as a unit of analysis.

Fig. 3. Mutual and Stock Bank Categorizations
Units of Analysis – Mutual and Stock Bank Category Variables

The additional categorizations were aimed to not only test the main hypothesis, but also to examine if the comparisons between mutual and stock banks could be more meaningful or any different. The mutual banks were further categorized into two different types: Pure Mutuals and Hybrid Mutuals. Then, the Hybrid Mutuals were further divided into Hybrid Mutuals 1 and 2. The stock banks were further categorized into publicly-traded and privately-held ownership structure types.

As specified in Appendix A, each category of the mutual or stock banks has distinguishable characteristics. Pure Mutuals are considered traditional “plain-vanilla” mutual banks, operating either as a standalone depository institution or with a mutual holding company parent. Hybrid Mutuals are mutual banks with a mid-tier holding company in between the top-tier parent mutual holding company and the bank and were further divided into Hybrid Mutuals 1 and 2. Hybrid Mutuals 1 are mutual banks with a mid-tier holding company where the top-tier mutual holding company is a sole shareholder owning the entire stake of the mid-tier. This type of mutual bank is most likely in an interim stage, in the process of eventually becoming a Hybrid Mutuals 2. As described in the previous chapter, Hybrid Mutuals 2 are mutual banks with a mid-tier holding company where ownership stake is divided between the top-tier mutual holding company and investors; they are just one step away from becoming full stock banks.

In stock bank categories, Private Stocks are privately owned banks with a limited number of individual or institutional shareholders, and Public Stocks are banks that are publicly listed and traded in exchanges such as the New York Stock Exchange or NASDAQ.
Units of Observation – Financial Metrics Variables

Four different sets of relevant financial metrics were chosen as units of observation to compare the categorized mutual banks to stock banks broadly in terms of: 1) performance, 2) risk-taking, 3) efficiency, and 4) potential mutual ownership benefits. Appendix B outlines detailed definitions of the financial metrics variables used. As such, it is necessary and important to note the limitations of this study in testing the hypothesis. Because the conclusion would only be based on these sets of variables examined, it would be uncertain if the conclusion would always be consistent in case entirely different sets of financial metrics variables or any other additional variables were examined. Moreover, simple univariate comparisons of these limited variables without a regression analysis would not take into account other potential factors that may have impacted how certain metrics compare between mutual banks and stock banks.

For metrics relating to performance, Return on Average Assets (ROAA), Net Loss to Total Loans (NL), and Delinquent Loans to Total Loans (DL) ratios were examined. These metrics were chosen based on the assumption that a higher ROAA and lower NL and DL ratios would generally be indicative of better performance. However, it should be noted that all of these chosen performance metrics could also be indicators of risk-taking because a bank’s performance is an end result of its risk-taking behavior. As an example of this in the previous chapter, Esty looked at profit volatility to assess risk-taking. Thus, more volatile ROAA could also mean higher risk-taking. Similarly, NL and DL ratios could also be risk-taking indicators, based on their levels. Shehzad et al. actually used the level of non-performing loans in their study to examine risk-taking. NL
and DL ratios were categorized here as performance metrics based on the assumption that levels of delinquent loans or loan losses also reflect banks’ ability or capability to minimize problem loans, hence also considered a performance indicator. Therefore, all of the metrics chosen for assessing performance will also be taken into consideration as risk-taking indicators.

Percentages of Construction & Development (C&D) loans, Residential Mortgage loans, Multi-Family Real Estate (Multi-Family RE) loans, Commercial Real Estate (CRE) loans, and Commercial & Industrial (C&I) loans relative to the banks’ capital levels were chosen to compare the level of risk-taking based on loan concentration. The general assumption here was that a higher composition of C&D, CRE and C&I loans in a balance sheet would be indicative of more risk-taking. Conversely, higher levels of Residential Mortgage and Multi-Family RE loans were assumed to be indicative of a lower level of risk-taking. This approach of looking at the balance sheet asset composition is in line with what Cordell et al. or Verbrugge & Goldstein have previously done to examine risk-taking.

Salary Expense to Assets (SEA), Average Salary Expense per Employee (SEE), Total Overhead Expense to Assets (OEA), and the Efficiency Ratio (ER) were chosen to examine operating efficiencies of mutual banks and stock banks. The assumption was that higher figures in those measures would generally indicate lower operating efficiency or expense-preference behavior.

Lastly, for examining benefits to depositors provided by mutual banks, Cost of Interest Bearing Deposits (CID), Yield on Residential Loans (YRL), Yield on Other Real Estate Loans (YOL), Yield on C&I Loans (YCL), and Yield on Personal Loans (YPL)
were chosen as units of observation. The purpose of examining these metrics is to determine whether there could be any clues as to mutual banks providing any sort of financial benefits to their customers, primarily the depositors who are the owners of the banks. Since stock banks are owned by shareholders, it is a widely accepted fact that those banks operate to maximize shareholder profits. Thus, these set of metrics were not specifically meant to directly compare mutual banks and stock banks, but to use stock bank figures as benchmarks to assess whether mutual banks are providing benefits to their depositors. The principal metric here was the CID. Because depositors hold the legal ownership of mutual banks, it was assumed that one of the apparent ways for the banks to provide benefits to the owners would be through offering higher interest on the deposits, similar to the example of mutual insurance companies providing benefits to policyholders through dividends or reduced premiums. Therefore, mutual banks’ CID should theoretically be higher than stock banks if they were treating their depositors more favorably.

YRL, YOL, YCL and YPL, were included as supplementary metrics in the absence of interest rate data in the UBPR. The idea is that a lower interest rate is better for customers/borrowers. However, because loan yields are different from interest rates, it would not be suitable to draw any conclusion on benefits to borrowers through these metrics. Moreover, it would not be surprising if the loan yields or interest rates are higher for stock banks than mutual banks based on the more risks that they take. Therefore, the loan yield metrics variables were intended only for checking for possible surprises contrary to the expectation that those would be higher for stock banks and to
determine if the yields were actually higher for mutual banks, which would be quite phenomenal.

Analysis of Data

Data analysis and comparison consisted of two parts: exploratory analysis and sample mean comparison. The exploratory analysis was a simple graphical examination of trends in a 10-year time-series line chart of a given financial metric, comparing mutual banks vis-à-vis stock banks across the different categories. The sample mean comparison involved calculating a 10-year mean of a given financial metric for each of the banks in the population. Then, the 10-year means for the banks in a particular category were aggregated and averaged to get the overall mean for that category as depicted in Fig. 4 below. In order to assess the statistical significance of the differences in mean figures calculated for the two comparison categories, a two-sample t-test was performed. Both the exploratory analysis and the sample mean comparison were conducted for all possible mutual to stock bank comparison combinations (i.e. all mutuals vs. all stocks, all mutuals vs. Private Stocks, all mutuals vs. Public Stocks, Pure Mutuals vs. all stocks, and so forth).
For comparing Performance Metrics sample means, the timeframe of comparison was further segmented in addition to the overall 10-year period. The periods were divided into Financial Crisis and Non-Financial Crisis periods. The Financial Crisis Period was determined as three full years from the beginning of 2008 to the end of 2010, during which the impact of the recent financial crisis was considered to be most severe in terms of GDP contraction and rise in unemployment. The additional timeframe segmentations for Performance Metrics variables were to determine if the mean comparison results would be any different from the 10-year comparisons for the segmented periods.

In conducting the exploratory analysis as well as the sample mean comparisons, some data integrity issues arose that necessitated some adjustments. First, in cases where financial metrics data for a bank were not available for certain periods, those periods were excluded in the calculation of the 10-year mean. For instance, when only 10 quarters of data on a bank were available out of the total 42 quarters covered, the overall
“10-year mean” for that bank was deemed equal to the average calculation based on the available 10 quarters. Second, the number of observations varied depending on data availability for sample mean comparisons. For instance, certain data were not available on certain metrics for many of the thirty-one Hybrid Mutuals 2, thus impacting a number of observations. As a result, the number of observations and degrees of freedom sometimes were as low as “5” for Hybrid Mutuals 2 for some of the Performance metrics figures in the two-sample t-test. As such, the statistical limitations were cautiously considered in drawing a conclusion. Third, some extreme data outliers were excluded in the mean calculations. For example, there were a few cases where the ROAA mean for a bank exceeded negative or positive 50. Considering that ROAA typically ranges from -2 to +2 for banks, anything exceeding 50 was too extreme, materially impacting results, and therefore, excluded. Lastly, only the previous 5 years of data were available in the UBPR for YRL and YOL instead of 10 years.
Chapter III. Results

In general, stock banks had higher earnings than mutual banks as measured by ROAA, even during the Financial Crisis Period, despite sustaining much higher loan loss. Stock banks also appeared to have more volatility in earnings and loan losses than their mutual counterparts, which indicated more risk-taking. In line with the performance metrics results, loan portfolio concentrations relative to capital levels indicated that stock banks held significantly riskier assets than mutual banks.

In terms of efficiency, stock banks had higher overhead expenses relative to asset levels, which was unexpected, but there are some legitimate factors that might have been in play, which are discussed more in detail below. Nevertheless, in Efficiency Ratio, an essential ratio that measures a bank’s cost to generate income, stock banks were found to incur less expense than mutual banks in generating the same amount of income, and thus were more operationally efficient. More notably, Salary Expense per Employee was higher for mutual banks than stock banks, consistent with the expense-preference theory and the notion of management’s utility maximization.

In terms of potential benefits to mutual ownership, mutual banks generally paid less interest to depositors than stock banks, which did not indicate that mutual banks are treating their depositors more favorably. Although there could be different reasons for

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57 For the purpose of discussion hereinafter, “mutual banks” specifically refers to the entire population of 582 mutual banks examined in aggregate without the categorizations, and “stock banks” specifically refers to the entire population of 6,011 stock banks examined without the categorizations.
this outcome, which is discussed in more detail below, it was clear that mutual banks are not serving the best interest of their ownership in one of the key possible measures.

When mutual banks and stock banks were further broken down into smaller categories based on distinguishable corporate or ownership structures, there were some interesting outcomes. Most notably, two things stood out. First, Hybrid Mutuals displayed more volatility in performance and higher risk profile than Pure Mutuals, exhibiting more “stock-bank-like” features amongst mutual banks. Second, Public Stocks were observed to have more volatility in performance with higher risk profile and higher efficiency than any other categories.58

Discussion of Performance Variable Outcomes

Table 1 shows stock banks having consistently higher ROAA than Pure Mutuals and Hybrid Mutuals 1, even during the Financial Crisis Period, and the differences were statistically significant. However, the higher ROAA of the stock banks was found not to be statistically significant compared to Hybrid Mutuals 2 for the aggregate 10-year period and the Financial Crisis Period. Given that Hybrid Mutuals 1’s mean difference with the stock banks was statistically significant and Hybrid Mutuals 1’s mean being lower than that of Hybrid Mutuals 2’s by only about 1 basis point, the non-statistical significance for this particular figure was most likely due to data limitations of the Hybrid Mutuals 2 during the Financial Crisis Period, as mentioned in the previous chapter. Nevertheless, it

58 The results reported in the tables and figures in Appendices C and D only show comparison of the three mutual bank categories relative to all stock banks. The results relative to Private or Public stock bank categories were generally similar with very few exceptions (noted in the footnotes below).
should be noted that the differences in the mean ROAA with stock banks overall were less for both types of Hybrid Mutuals than that of Pure Mutuals, indicative of the Hybrid Mutuals having different financial characteristics than traditional mutual banks and somewhat resembling the stock banks.59

Graphical analysis of ROAA presented in Fig. 5 is consistent with the findings reported in Table 1. Mean ROAA of stock banks stayed above throughout the 10-year period than that of Pure Mutuals, with a much closer gap during the Financial Crisis Period. Hybrid Mutuals, especially Hybrid Mutuals 2, visibly displayed more volatility in earnings like the stock banks. Again, this is likely due to a combination of data limitations of Hybrid Mutuals 2 as well as the overall resemblance of Hybrid Mutuals to the stock banks.

As Table 1 reports, stock banks' NL ratio was higher than those of the mutual banks in general with statistical significance. The higher NL was also reflective of greater risk-taking among stock banks. Similar to ROAA, however, the statistical significance weakened when compared with the Hybrid Mutuals, especially with Hybrid Mutuals 2. Consistently depicted in Fig. 6, Hybrid Mutuals appeared to resemble stock banks more than Pure Mutuals.60

In general, as shown in Table 1, the DL ratio of the stock banks was considered not statistically higher than the mutual banks, except during the Financial Crisis Period.

59 Public Stocks’ ROAA during the Financial Crisis Period were either not statistically higher than mutual banks or even lower compared to the Hybrid Mutuals, demonstrating the harder hit taken in earnings during the downturn, indicative of higher earnings volatility.

60 The NL ratio was actually higher for Hybrid Mutuals 2 than Private Stocks, despite not being statistically significant.
Notably, Hybrid Mutuals 2’s DL ratio was higher than the stock banks for the 10-year period with statistical significance, except when compared with Public Stocks. As such, Fig. 7 graphically confirms Hybrid Mutuals 2 displaying the higher DL level with a significant bump during the Financial Crisis Period.

Given that the stock banks generally incurred higher loan losses as indicated in the NL ratio outcomes, it is interesting that there was little difference in DL ratio between the mutual and stock banks. While not conclusive, such an inconsistency between NL and DL ratio outcomes could be interpreted as credit risk management practices in the mutual and stock banks resulting in similar levels of delinquency, with a much higher inherent credit risk profile among the stock banks. In other words, the NL ratios might indicate that the stock banks originate inherently riskier loans that sustain more severe losses in case of a macroeconomic downturn, but the DL ratios might indicate that day-to-day credit risk management practices of both types of banks lead to the delinquency levels that are statistically non-differentiable. This in turn could be an indication that stock bank credit risk management practices are more rigorous or advanced due to their higher credit risk profile.

Discussion of Risk-Taking Variable Outcomes

As presented in the first section of Table 2 and Figs. 8 through 12, the examination of loan portfolio concentrations relative to capital clearly shows that stock banks were taking more risk. For loans considered more risky, including C&I, CRE and C&I loans, stock banks held much more relative to capital than mutual banks, with statistical significance. For Residential Mortgage and Multi-Family RE loans, which are
generally considered less risky than the others, mutual banks held much more than stock banks with statistical significance.\textsuperscript{61} Hybrid Mutuals had relatively higher levels of riskier loans than Pure Mutuals, exhibiting again more of the stock bank characteristics amongst mutual banks. It is also interesting to note that the Hybrid Mutuals also had slightly higher concentrations of Residential Mortgage and Multi-Family RE loans than Pure Mutuals, indicating that Hybrid Mutuals generally have higher aggregate loan concentration relative to capital than Pure Mutuals.

Discussion of Efficiency Variable Outcomes

The second section of Table 2, and Figs. 13 and 14 report stock banks having higher SEA and OEA ratios than the mutual banks with statistical significance. This was contrary to expectation. However, it must be acknowledged that these measures might not be completely suitable for the purpose of comparing efficiency in this study. Because stock banks engage in riskier and more complex banking activities, reflected in the risky asset concentrations, it actually makes sense that stock banks have higher personnel and overhead expenses relative to asset size. The level of salary and overhead expenses as percentage of assets, therefore, should be commensurate with a bank’s inherent risk profile. Notably, SEA and OEA ratios of Hybrid Mutuals did not appear to differ materially from Pure Mutuals, despite sharing a risk profile closer to stock banks.

\textsuperscript{61} For Multi-Family Real Estate loans, Public Stocks were observed to have higher concentration than mutual banks. There could be different reasons for this. One possibility would be because certain types of Multi-Family RE loans are riskier than Residential Mortgage loans and therefore, more attractive to stock banks. It is difficult to draw a conclusion based on the scope of this research.
SEE and ER results did conform to expectations. Stock banks had lower SEE and ER than the mutual banks with statistical significance (except Hybrid Mutual 2's ER being not statistically significant). The SEE, which is calculated by dividing total number of employees by total salary expenses, was higher for mutual banks, indicative of more spending on per-capita basis. The ER, which is the percentage of overhead expense for generating a dollar income, was higher for mutual banks, indicative of less operational efficiency in generating income compared to stock banks. In other words, mutual banks spend more on salary per employee than stock banks and incur more overhead expense to generate the same income as stock banks. This is also consistent with the notion of expense-preference behavior in mutual banks. However, the fact that mutual banks generally are small community institutions may also explain the relative inefficiency from economies-of-scale perspective. As shown in Figs. 15 and 16, ER and SEE for Hybrid Mutuals were again graphically indicative of being more like stock banks than Pure Mutuals.

Discussion of Mutual Ownership Benefits Variable Outcomes

As shown in the last section of Table 2 and Fig. 17, Pure Mutuals were observed to have lower CID than stock banks with statistical significance, meaning that mutual banks are actually paying less interest than stock banks on the deposits they hold. It must be pointed out that there could be some fair reasons for such an outcome. For instance, because mutual banks take less risk and earn less, it might be practical that they are willing to pay less for deposits. Moreover, since stock banks in general should be more commercial deposit oriented than retail deposits (based on the findings that stock banks
have more commercial loans), they might have to offer a higher rate than mutual banks to retain deposits. At least from the ownership's best interest perspective, however, this is one clear indication that depositors of mutual banks, as legal owners, are not being treated more favorably in an important aspect.

Lastly, for Hybrid Mutuals, the results were somewhat conflicting. Hybrid Mutuals 1 had higher CID than stock banks but not statistically significant, while Hybrid Mutuals 2 had lower CID than stock banks with statistical significance. Accordingly, as shown in Fig. 17, it is difficult to draw a solid conclusion given the large variances in CID for the hybrids, but it is clearly shown that they are not on par with Pure Mutuals.

For yields on loans outstanding, as shown in Table 2 and Figs. 18 to 21, stock banks were found to have higher yields than mutual banks on all types of loans examined, including YRL, YCL, YOL, and YPL. This was consistent with the expectation that stock banks should have higher yields based on higher concentration of risky assets. There were no surprises. Loan yields for stock banks were higher than mutual banks even for the Residential Mortgage loans. The higher yield on Residential Mortgage loans could be interpreted as stock banks holding more of the riskier residential mortgage loans, such as jumbo mortgages. Hybrid Mutuals generally had lower yields across all types of loans, even compared with Pure Mutuals. Given that Hybrid Mutuals had been exhibiting similar characteristics to stock banks such as more risk-taking, lower yield on loans are considered as an inconsistency.
Chapter IV. Conclusion

With the distinct purpose of examining how mutual banks compare to stock banks in terms of key areas such as performance, risk-taking, efficiency, and potential mutual ownership benefits, my general hypothesis in the beginning of this study was that mutual banks would not reveal any special characteristics that are materially more valuable for the banking system vis-à-vis stock banks to justify any enhanced legislative protection. The results appear to broadly support the hypothesis and additionally revealed some interesting outcomes, especially when the two types of banking institutions were further broken down into more distinct categories for comparison. Nevertheless, there are two important caveats that necessitate caution in drawing an overall conclusion. First, the outcomes were only based on the limited number of financial metrics variables examined. Because I have not included a complete spectrum of variables that could be considered for comparisons between mutual and stock banks, mostly due to data availability reasons, it is uncertain whether outcomes would be consistent when additional or different sets of variables were to be analyzed. Second, the outcomes were only based on univariate comparisons without being supported by a regression analysis to control for other potential factors that may have impacted the results. For instance, it is uncertain whether the relative inefficiency of mutual banks were solely due to the expense-preference behavior as I assert or some other factors such as small size of the institutions, or the combination of both. Therefore, being mindful of such limitations of this analysis, the following summarizes the primary findings:
1. Stock banks overall had higher earnings than mutual banks throughout the 10-year period, even after suffering more severe loan losses. Earnings and loan losses were more volatile for stock banks, indicative of more risk-taking than mutual banks. Despite the differences in loan losses, loan delinquency levels were not much different between the two bank types.

2. Based on a comparison of balance sheet loan concentrations by type, stock banks had higher concentrations of riskier assets than mutual banks, which indicated more risk-taking.

3. Unexpectedly, mutual banks had lower salary and overhead expense as a percentage of assets than stock banks, but this was most likely due to stock banks having a higher concentration of risky assets that require additional expense to monitor them. In line with general expectations, salary expense per capita was higher for mutual banks than stock banks, indicative of management utility maximization and expense-preference. Furthermore, the Efficiency Ratio, the core measure of efficiency, was found to be lower for stock banks than mutual banks, indicating that mutual banks incur more expense than stock banks to generate the same amount of income.

4. Mutual banks had lower deposit costs than stock banks, indicating that mutual banks are not providing one of the key possible benefits to its ownership.

5. Hybrid forms of mutual banks sometimes exhibited characteristic similar to stock banks, especially the Hybrid Mutuals 2 that are considered to be in a final stage before converting to a stock form. However, data limitations on Hybrid Mutuals 2 weakened the statistical significance of the outcomes.
Based on the findings above, I have confirmed the findings of previous studies regarding mutual banks and stock banks. Mutual banks take less risk than stock banks (Esty, Cordell et al., Verbrugge & Goldstein) and exhibit Williamson’s expense-preference behavior (Verbrugge & Goldstein). The combination of less risk-taking and expense-preference indicates that managers of mutual banks may tend to focus on their own utility maximization given the “diffused” ownership structure of mutual banks (Esty, Verbrugge & Goldstein, Akella & Greenbaum, Rasmusen). In addition, it was revealed that hybrid forms of mutual banks that are likely in transition to eventually becoming stock banks behaved more like actual stock banks in certain aspects, especially in risk-taking. This is considered a new finding that could potentially be explored further in future studies concerning mutual to stock conversions.

I also found little evidence of mutual banks providing benefits to their depositors in terms of interest on deposits held. Average interests paid to depositors by mutual banks were actually lower than those of stock banks. This finding could have been reasonable in the past when no deposit insurance was available, so even though depositors as owners would get paid less for their deposits, they would have had the peace of mind knowing their deposits were safer in mutual banks, which were less likely to fail than stock banks given the less risk the mutual banks took. However, from the present day depositor’s perspective where all deposits less than $250,000 are legally protected by the FDIC regardless of a bank’s risk profile, it is difficult to justify mutual banks paying less to their depositors, especially if the depositors are the very owners of those banks.
Returning to the initial question that this research was intended to answer, whether mutual banks provide distinguishable advantages to the overall banking system compare to the stock banks, to the extent that it is necessary to protect them through legislative and regulatory support, the evidence appears insufficient. Clearly, it has been confirmed that mutual banks take less risk than stock banks, which is definitely a positive, but systemic footprint of mutual banks is too small to have any positive material impact to the risk profile of the entire banking system (a mere 2% of the total deposit share in the U.S. as noted in Chapter 1). Otherwise, there was no other compelling finding showing absolute advantages of mutual banks over stock banks. On the other hand, there were a few findings to the contrary, especially with respect to the expense-preference behavior and lower deposit interests paid, all possibly at the expense of their own ownership, the depositors. Again, due to the limitations of this research as discussed above, it would be overreaching to draw a definitive conclusion that mutual banks do not deserve legislative and regulatory support.

Mutual banks were first introduced hundreds of years ago, and the banking industry has evolved, perhaps to the extent the very spirit on which the mutual banks were established is no longer relevant. While it has become more challenging for stock banks to survive in the new Dodd-Frank era to be in compliance with the heightened regulations, any new potential legislation and regulation that intends promote mutual banks and create an uneven playing field must be evaluated carefully in terms of what tangible value it would bring for the sustainment of safe and sound banking system.
Appendix A: Definition of Mutual and Stock Bank Category Variables

*Pure Mutuals:* “plain-vanilla” mutual banks, operating either as a standalone entity or with a sole mutual holding company parent.

*Hybrid Mutuals:* mutual banks with a mid-tier holding company in between the top-tier parent mutual holding company and the bank. Hybrid Mutuals 1 and Hybrid Mutuals 2 are variations of Hybrid Mutuals.

*Hybrid Mutuals 1:* mutual banks with a mid-tier holding company where a top-tier mutual holding company is the sole shareholder owning the entire stake of that mid-tier. This type of mutual bank is most likely in an interim stage, in the process of eventually becoming a Hybrid Mutuals 2.

*Hybrid Mutuals 2:* mutual banks with a mid-tier holding company where the ownership stake is divided between the top-tier mutual holding company and investors (the mid-tier could be either privately held or publicly traded).

*Private Stocks:* privately owned stock banks.

*Public Stocks:* publicly listed and traded stock banks.
Appendix B: Definition of Financial Metrics Variables

1. Performance Metrics:

*Return on Average Assets (ROAA)*: net income as a percentage of average assets, where average assets is the average of quarterly total assets year-to-date, or the average total assets of most recent four quarters.

*Net Loss to Total Loans (NL)*: net loss on loans as a percentage of average total loans.

*Delinquent Loans to Total Loans (DL)*: total of loans that are either more than 90 days past due or no longer accruing interest due to delinquency, divided by gross total loans.

2. Risk-Taking Metrics:

*Construction & Development (C&D) Loans to Capital*: total loan balance to fund construction or development, divided by total risk-based capital.

*Residential Mortgage Loans to Capital*: total loan balance secured by 1-4 Family Residential properties, divided by total risk-based capital.

*Multi-Family Real Estate Loans to Capital*: total loan balance secured by five or more residential properties, divided by total risk-based capital.

*Commercial Real Estate (CRE) Loans to Capital*: total loan balance secured by commercial properties, excluding farming properties, divided by total risk-based capital.
Commercial & Industrial (C&I) Loans to Capital: total commercial loan balance, divided by total risk-based capital.

3. Efficiency Metrics:

Salary Expense to Assets (SEA): total salary expense, as a percentage of average assets.

Average Salary Expense per Employee (SEE): total salary expense divided by total number of employees.

Total Overhead Expense to Assets (OEA): total overhead expense, including salaries, as a percentage of average assets.

Efficiency Ratio (ER): total overhead expense expressed as a percentage of net interest income plus non-interest income.

4. Mutual Ownership Benefits Metrics:

Cost of Interest Bearing Deposits (CID): interest on all interest-bearing time and savings deposits, divided by average interest-bearing time and savings deposits.

Yield on Residential Loans (YRL): interest and fees on loans secured by 1-4 Family Residential real estate loans, divided by average loans secured by 1-4 Family Residential real estate.

Yield on Other Real Estate Loans (YOL): interest and fees on all other loans secured real estate (including multi-family and commercial real estate), divided by average loans secured by real estate. This includes multi-family and CRE loans.

Yield on C&I Loans (YCL): interest and fees on domestic office commercial and industrial loans, divided by average domestic commercial and industrial loans.
Yield on Personal Loans (YPL): interest and fees to individuals for household, family and other personal expenditures, divided by average loans to individuals for household, family, and other personal expenditures.
Appendix C: Sample Mean Analyses

Sample mean analyses of performance, risk-taking, efficiency, and mutual ownership benefits financial metrics variables below for Pure Mutuals, Hybrid Mutuals 1, and Hybrid Mutuals 2 are relative to all stock banks. The asterisk next to the mean difference denotes significance at the 5% level.

<table>
<thead>
<tr>
<th>Performance (10-year)</th>
<th>Pure Mutuals</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutuals 1</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutuals 2</th>
<th>Difference (t-stat)</th>
<th>Stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Average Assets</td>
<td>0.370</td>
<td>-0.208*</td>
<td>0.438</td>
<td>-0.140*</td>
<td>0.427</td>
<td>-0.151</td>
<td>0.578</td>
</tr>
<tr>
<td>Net Loss to Total Loans</td>
<td>0.240</td>
<td>-0.149*</td>
<td>0.271</td>
<td>-0.118*</td>
<td>0.355</td>
<td>-0.034</td>
<td>0.389</td>
</tr>
<tr>
<td>Delinquent Loans to Total Loans</td>
<td>1.797</td>
<td>-0.016</td>
<td>1.658</td>
<td>-0.155</td>
<td>2.383</td>
<td>0.570*</td>
<td>1.813</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance (Financial Crisis)</th>
<th>Pure Mutuals</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutuals 1</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutuals 2</th>
<th>Difference (t-stat)</th>
<th>Stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Average Assets</td>
<td>0.264</td>
<td>-0.222*</td>
<td>0.279</td>
<td>-0.207*</td>
<td>0.359</td>
<td>-0.127</td>
<td>0.486</td>
</tr>
<tr>
<td>Net Loss to Total Loans</td>
<td>0.233</td>
<td>-0.336*</td>
<td>0.262</td>
<td>-0.307*</td>
<td>0.616</td>
<td>0.047</td>
<td>0.569</td>
</tr>
<tr>
<td>Delinquent Loans to Total Loans</td>
<td>1.566</td>
<td>-0.621*</td>
<td>1.829</td>
<td>-0.358*</td>
<td>4.028</td>
<td>1.841</td>
<td>2.187</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Performance (Non-Financial Crisis)</th>
<th>Pure Mutuals</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutuals 1</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutuals 2</th>
<th>Difference (t-stat)</th>
<th>Stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Average Assets</td>
<td>0.406</td>
<td>-0.267*</td>
<td>0.485</td>
<td>-0.188*</td>
<td>0.431</td>
<td>-0.242*</td>
<td>0.673</td>
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<tr>
<td>Net Loss to Total Loans</td>
<td>0.231</td>
<td>-0.084*</td>
<td>0.260</td>
<td>-0.055</td>
<td>0.337</td>
<td>0.022</td>
<td>0.315</td>
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<tr>
<td>Delinquent Loans to Total Loans</td>
<td>1.781</td>
<td>0.127</td>
<td>1.579</td>
<td>-0.075</td>
<td>2.307</td>
<td>0.653*</td>
<td>1.654</td>
</tr>
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</table>

Table 1. Sample Mean Analysis of Performance Variables
<table>
<thead>
<tr>
<th></th>
<th>Pure Mutu</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutu</th>
<th>Difference (t-stat)</th>
<th>Hybrid Mutu</th>
<th>Difference (t-stat)</th>
<th>Stocks</th>
</tr>
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<tr>
<td><strong>Risk-Taking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(18.833)</td>
<td></td>
<td>(-7.776)</td>
<td>(8.273)</td>
<td></td>
<td>(6.322)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Mortgage Loans to Capital</td>
<td>380.314</td>
<td>214.531*</td>
<td>384.322</td>
<td>218.539*</td>
<td>392.030</td>
<td>226.247*</td>
<td>165.783</td>
</tr>
<tr>
<td>(27.083)</td>
<td></td>
<td>(8.273)</td>
<td>(1.997)</td>
<td></td>
<td>(6.322)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-Family RE Loans to Capital</td>
<td>17.806</td>
<td>2.355*</td>
<td>20.063</td>
<td>4.612*</td>
<td>44.925</td>
<td>29.474*</td>
<td>15.451</td>
</tr>
<tr>
<td>(1.707)</td>
<td></td>
<td>(1.997)</td>
<td>(1.997)</td>
<td></td>
<td>(6.322)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRE Loans to Capital</td>
<td>71.615</td>
<td>-75.736*</td>
<td>102.481</td>
<td>-44.87*</td>
<td>75.653</td>
<td>-71.698*</td>
<td>147.351</td>
</tr>
<tr>
<td>(-21.336)</td>
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<td>(-5.326)</td>
<td>(-5.326)</td>
<td></td>
<td>(-7.399)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C&amp;I Loans to Capital</td>
<td>18.698</td>
<td>-67.198*</td>
<td>29.304</td>
<td>-56.592*</td>
<td>19.386</td>
<td>-66.51*</td>
<td>85.896</td>
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<tr>
<td>(-44.125)</td>
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<td>(-16.422)</td>
<td>(-16.422)</td>
<td></td>
<td>(-16.435)</td>
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<tr>
<td><strong>Efficiency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary Expense to Assets</td>
<td>1.499</td>
<td>-0.449*</td>
<td>1.524</td>
<td>-0.424*</td>
<td>1.426</td>
<td>-0.522*</td>
<td>1.948</td>
</tr>
<tr>
<td>(-12.514)</td>
<td></td>
<td>(-5.382)</td>
<td>(-5.738)</td>
<td></td>
<td>(-5.738)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Overhead Expense to Assets</td>
<td>2.757</td>
<td>-0.986*</td>
<td>2.834</td>
<td>-0.909*</td>
<td>2.618</td>
<td>-1.125*</td>
<td>3.743</td>
</tr>
<tr>
<td>(-14.043)</td>
<td></td>
<td>(-5.710)</td>
<td>(-5.906)</td>
<td></td>
<td>(-5.906)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency Ratio</td>
<td>79.534</td>
<td>4.849*</td>
<td>77.518</td>
<td>2.833*</td>
<td>72.905</td>
<td>-1.780</td>
<td>74.685</td>
</tr>
<tr>
<td>(5.832)</td>
<td></td>
<td>(2.353)</td>
<td>(-0.503)</td>
<td></td>
<td>(-0.503)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ave. Salary Expense per Employee</td>
<td>70.373</td>
<td>7.509*</td>
<td>69.182</td>
<td>6.318*</td>
<td>70.432</td>
<td>7.568*</td>
<td>62.864</td>
</tr>
<tr>
<td>(8.997)</td>
<td></td>
<td>(4.416)</td>
<td>(2.860)</td>
<td></td>
<td>(2.860)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of Interest Bearing Deposits</td>
<td>1.171</td>
<td>-2.13*</td>
<td>3.712</td>
<td>0.411</td>
<td>0.515</td>
<td>-2.786*</td>
<td>3.301</td>
</tr>
<tr>
<td>(-9.759)</td>
<td></td>
<td>(0.313)</td>
<td>(-12.561)</td>
<td></td>
<td>(-12.561)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yield on Residential Loans</td>
<td>5.262</td>
<td>-0.951*</td>
<td>5.083</td>
<td>-1.13*</td>
<td>5.076</td>
<td>-1.137*</td>
<td>6.213</td>
</tr>
<tr>
<td>(-24.962)</td>
<td></td>
<td>(-18.479)</td>
<td>(-9.751)</td>
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<td>(-9.751)</td>
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<tr>
<td>Yield on Other Real Estate Loans</td>
<td>5.659</td>
<td>-0.472*</td>
<td>5.853</td>
<td>-0.278*</td>
<td>5.419</td>
<td>-0.712*</td>
<td>6.131</td>
</tr>
<tr>
<td>(-6.063)</td>
<td></td>
<td>(-1.974)</td>
<td>(-5.440)</td>
<td></td>
<td>(-5.440)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yield on C&amp;I Loans</td>
<td>5.934</td>
<td>-1.064*</td>
<td>5.794</td>
<td>-1.204*</td>
<td>5.769</td>
<td>-1.229*</td>
<td>6.998</td>
</tr>
<tr>
<td>(-7.312)</td>
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<td>(-3.326)</td>
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<td>(-6.510)</td>
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<td>(-5.531)</td>
<td>(-4.727)</td>
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Table 2. Sample Mean Analysis of Risk-Taking, Efficiency, and Benefits Variables
Appendix D: Time Series Exploratory Analysis

![Fig. 5. Return on Average Assets (%)](image1)

![Fig. 6. Net Loss to Total Loans (%)](image2)
Fig. 7. Delinquent Loans to Total Loans (%)

Fig. 8. C&D Loans to Capital (%)
Fig. 9. Residential Mortgage Loans to Capital (%)

Fig. 10. Multi-Family RE Loans to Capital (%)
Fig. 11. CRE Loans to Capital (%)

Fig. 12. C&I Loans to Capital (%)

[Charts showing CRE and C&I loans to capital from March 2004 to January 2014, with different categories represented by lines of different colors and styles.]
Fig. 13. Salary Expense to Assets (%)

Fig. 14. Total Overhead Expense to Assets (%)

Fig. 15. Efficiency Ratio (%)

Fig. 16. Average Salary Expense per Employee
Fig. 17. Cost of Interest Bearing Deposits (%)

Fig. 18. Yield on Residential Loans (%)

Fig. 19. Yield on Other Real Estate Loans (%)

Fig. 20. Yield on C&I Loans (%)
Fig. 21. Yield on Personal Loans (%)
References

Concludes that expense-preference behavior is apparent in mutual banks due to diffused ownership structure. Implies agency problem.

Examines German mutual and stock banks but finds no difference in terms of efficiency and performance.


White paper discussing possible elimination of federal mutual thrift charter due to its obsolescence. Good background reference.


Good source for the law’s background. Studies the new law’s impact on shareholder returns at S&Ls.


Points out the need for legal reform due to lack of owner rights exhibited in mutual insurance and banking industries.


Discussion of ways to promote mutual banking industry. Good source of historical perspective.

Finds that mutual banks take less risk and exhibit expense-preference behavior. Implies agency problem.

Discussion of origin and history of mutual banks. Good source of historical perspective.