

Public Bank Valuation

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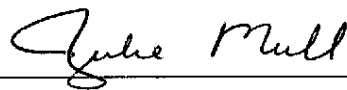
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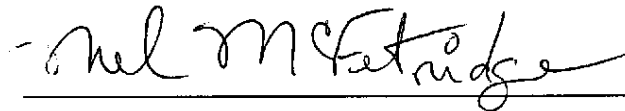
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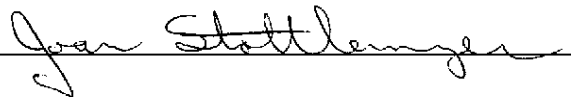
This thesis for honors recognition and to meet the requirements of the Carroll College Honors Scholars Program has been approved by the following:

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Joan Stottlemyer, Reader

Abstract

Through delving into the efficient market hypothesis, it is evident that the practice of corporate valuation is practicable in determining the fundamental intrinsic value of an investment. Focusing on the analysis of a publicly traded banking institution, it is clear that both Relative valuation and Discounted Cash Flow valuation models are the most applicable. These valuation techniques are first discussed with regard to the public banking sector as a whole and then applied to a specific publicly traded bank holding company: Sterling Financial Corporation. The use of valuation models provides investors with the ability to make informed investment decisions grounded in the fundamentals of the company. In addition, the practice of valuation allows investors to potentially earn excess returns and maximize their return on investment. Due to the role of banks and financial institutions in the financial crisis that began in late-2007, an examination of these entities is both timely and relevant.

Dedicatory

Upon beginning my post-secondary education at Carroll College in fall 2008, I was joined by distinguished bank executive and economist Dr. Jerry E. Pohlman. Through taking Dr. Pohlman's Principles of Microeconomics and Principles of Macroeconomics courses, we became close friends due to our common interest in banking and economics. Dr. Pohlman graciously served as my mentor during his time at Carroll College and provided me with an opportunity to work with him on the Carroll College Community Banking Program. Involvement with this program was an incredible learning experience and was integral in fostering my love of finance and economics.

Dr. Pohlman's extensive economics and banking background in both the private and public sectors made him a great educator. Every class was enriched with real-life anecdotes and was focused solely on the economic concepts that would be applicable in our future careers—this approach truly embodied Carroll College's motto "not for school, but for life."

In addition to his innate ability to teach, I will always remember Jerry as being a true gentleman. Dr. Pohlman, accompanied by his wife Betty, took my family out for dinner while passing through Miles City on their way to New York. This act was one of the kindest gestures I had experienced since being at Carroll College and was a true exemplification of Jerry's care for his students.

Upon hearing of Dr. Pohlman's passing on September 4, 2010, I was devastated. Not only had I lost an outstanding professor, but I had lost a great friend. In reflecting on the positive impact Dr. Pohlman had on my life, I knew I needed to do pay tribute to a

man who played such an integral role in shaping my college career. Thus, it is a great honor to dedicate this honors thesis to the life and lasting legacy of Dr. Pohlman.

Acknowledgements

I would like to extend my deepest gratitude and appreciation for the direction and guidance provided by my thesis director, Mrs. Julie Mull, and thesis readers, Mr. Mel McFetridge and Mrs. Joan Stottlemeyer. Their comments and continual support were paramount in the successful completion of my honors thesis. In addition, I am greatly indebted to Mr. Jason Brent, Private Equity Analyst at the Montana Board of Investments, for acting as Carroll College's CFA Research Challenge Team's industry mentor. Lastly, I would like to thank Quincey Kuiava, Mark Wallingford, Thomas McSherry, and Kurtis Miros for their tremendous contributions to the sell-side equity analysis of Sterling Financial Corporation.

I am very thankful for the tremendous education I have received from both the Carroll College Business department and academic institution as a whole. Through their hard work and willingness to meet during and outside of office hours, Carroll's professors have fostered my ability to think critically and have provided me with the necessary tools to complete an honors thesis—something for which I am extremely thankful.

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Introduction

The efficient market hypothesis' roots trace back to 16th century Italian mathematician Girolamo Cardano.¹ This notion, one that embraces the idea of equal opportunity in the marketplace, was later championed by “the father of modern finance”: Chicago Booth School of Business professor Eugene F. Fama.² In 1965, Fama published an article in the University of Chicago's *Journal of Business* titled “The Behavior of Stock-Market Prices.” In this landmark commentary, Fama defined an efficient market as “a market where, given the available information, actual prices at every point in time represent very good estimates of intrinsic values.”³ Four years later, Fama expounded upon his definition in his article “Efficient Capital Markets: A Review of Theory and Empirical Work,” stating that an efficient market was one in “which prices always ‘fully reflect’ available information.”⁴ Famous Princeton economist Burton G. Malkiel describes an efficient market as a financial market that does “not allow investors to earn above-average returns without accepting above-average risks.”⁵ The efficient market hypothesis stands as a cornerstone for this thesis on corporate valuation. The purpose in which we undergo valuation processes is governed by whether or not markets are efficient. If the efficient market hypothesis is correct, valuations are used to prove that market prices are accurate. If markets contain pricing inefficiencies, we use valuation models to determine what the true intrinsic value of a security is and whether or not it is over- or undervalued relative to its market price.⁶ In this light, the efficient market hypothesis will be further scrutinized.

Robert Shiller, professor of economics at Yale University, depicts the simplest version of the efficient markets model as follows: $P_t = \sum_{k=0}^{\infty} \gamma^{k+1} E_t D_{t+k}$ when

$0 < \gamma < 1$.⁷ The components of the efficient markets model are as follows: P_t represents the real price of a security at time t , γ^{k+1} is the constant real discount factor, E_t is a mathematical expectation conditional on information available at time t , and D_{t+k} is the real dividend paid.⁸ Simplified, Shiller states that “the efficient markets model can be described as asserting that $P_t = E_t P_t^*$, i.e., P_t is the mathematical expectation conditional on all information available at time t of P_t^* .”⁹ Congruent with Fama’s definition, Shiller’s model states that the price of a security is a reflection of all available information pertaining to said security. Malkiel, in reflecting the views of many past and present scholars, states that “many of us economists who believe in efficiency do so because we view markets as amazingly successful devices for reflecting new information rapidly and, for the most part, accurately.”¹⁰

A model used by both Fama and Malkiel to depict the efficiency of financial markets is the “Random Walk Model.” Malkiel states that a random walk “is a term loosely used in the finance literature to characterize a price series where all subsequent price changes represent random departures from previous prices.”¹¹ In his work *Efficient Capital Markets: A Review of Theory and Empirical Work*, Fama states that “the current price of a security ‘fully reflects’ available information was assumed to imply successive price changes (or more usually, successive one-period returns) are independent.”¹² The random walk theory of Fama and Malkiel was reaffirmed by British statistician Maurice Kendall. After completing an analysis of nineteen British indices and spot prices for both cotton and wheat, Kendall concludes that “the series looks like a wandering one, almost as if once a week the Demon of Chance drew a random number from a symmetrical population of fixed dispersion and added it to the current price to determine the next

week's price."¹³ According to proponents of the efficient market hypothesis, market prices fully reflect all available information, and the independent movement of prices—and pricing nuances—does not allow investors to consistently earn above-average returns.

This notion of market efficiency, however, was challenged by numerous financial economists and statisticians over the course of the 20th century. Most of the dissention between proponents of the efficient market hypothesis and those who stand in opposition derives from the volatility of prices' not being solely attributable to new information.

Wharton School Finance professor Jeremy J. Siegel states:

The chinks in the armor of the efficient market hypothesis have grown too large to be ignored. . . The noisy market hypothesis, which makes the simple yet convincing claim that the prices of securities often change in ways that are unrelated to fundamentals, is a much better description of reality and offers a simple explanation for why value-based investing beats the market.¹⁴

In expounding on his noisy market hypothesis, Siegel emphasizes:

That prices can be influenced by speculators and momentum traders, as well as by insiders and institutions that often buy and sell stocks for reasons unrelated to fundamental value, such as for diversification, liquidity, and taxes. In other words, prices of securities are subject to temporary shocks that I call “noise” that obscures their true value.¹⁵

The movement of securities' prices away from their true, fundamental value represents slight pricing inefficiencies within financial markets. This notion is re-affirmed by

former Harvard president and economist Lawrence Summers, who claims that “the hypothesis that market valuations include large persistent errors is as consistent with the available empirical evidence as is the hypothesis of market efficiency.”¹⁶ Although not necessarily statistically significant, variances in securities’ prices away from the true underlying value of the investment imply that markets are not wholly efficient in nature.

Another economic occurrence that challenges the efficient market hypothesis is speculative asset bubbles. Deutsche Bank economist Peter Garber, when examining the tulip mania that occurred in Holland, notes “that in January 1636 even common tulip bulbs, not only those infected with the mosaic virus [produces rare bulb colorations], increased twentyfold in price and then underwent a precipitous decline.”¹⁷ Garber admits that even he was unable to find a rational explanation for the large spike in prices. The tulip bubble in Holland during the 17th century is a historic example of how prices can fail to reflect an investment’s fundamental value when investors engage in irrational behavior.

In his book fittingly titled *Irrational Exuberance*, Yale economist Robert Shiller states that “in sum, stock prices clearly have a life of their own; they are not simply responding to earnings or dividends nor does it appear that they are determined only by information about future earnings or dividends.”¹⁸ Shiller believes:

There are in fact many examples of financial prices that, it seems, cannot possibly be right. They are regularly reported in the media. Recently, many of these examples have been Internet stocks: judging from their prices, the public appears to have an exaggerated view of their potential.¹⁹

The overpricing of Internet stocks Shiller refers to deals with the Dot-Com bubble of the early 2000s when prices for Internet start-up companies were rampantly inflated. In an online article taken from Daily Finance, "Researchers Michael Cooper, Orlin Dimitrov, and Raghavendra Rau –in a study titled 'A Rose.com by Any Other Name' –found an average five-day jump of 53% for companies that changed their names to an 'Internet-related' name, and an increase of almost 90% over a two-month period surrounding the change."²⁰ Based on the study performed by Cooper, Dimitrov, and Rau, it is evident that market prices derived from speculation and did not reflect the fundamental inner workings of the companies themselves.

Empirical observations such as the January effect, small-firm effect, the day-of-the-week effect, and the price to earnings (P/E) effect also challenge the efficient market hypothesis. In commenting on the empirical evidence that weakens the efficient market hypothesis, Malkiel states "the January Effect,' similar returns around certain holidays, and stock price fluctuations based on a specific day, although there are some patterns, they are not dependable from period to period."²¹ The P/E effect, as discovered by Sanjoy Basu and David Dreman, is "that stocks with low price-to-earnings ratios had significantly higher returns than stocks with high price-to-earnings ratios; small stocks with low price-to-earnings ratios (small value stocks) enjoyed particularly outstanding returns."²² Although not completely reliable for short-term profit maximization, the presence of some correlation and predictability in the stock market leads me to believe that financial markets may contain pricing inefficiencies.

Through analyzing both the proponents' and opponents' arguments regarding the efficient market hypothesis, it is evident that a tremendous amount of theoretical and

empirical research supports both sides. In reviewing this evidence, I was unable to accurately refute or proclaim that the efficient market hypothesis is in fact correct. However, through my research, I concluded that valuation processes are useful in either instance. If the efficient market hypothesis is in fact true, valuations are useful for two reasons: 1) the inputs used in the valuation based on market prices are deemed to be correct according to the efficient market hypothesis and 2) valuation models can prove that markets prices truly reflect the intrinsic values of the assets. If financial markets are inefficient in their inclusion of information in asset prices, valuation models are useful in determining the asset's intrinsic value and whether or not it is under- or overvalued relative to its market price. Through my analyses of the efficient market hypothesis, I have given life to the usefulness of valuation in making well-informed investment decisions.

The purpose of this thesis is to explore the components of two valuation methodologies—Discounted Cash Flow (DCF) valuation and relative valuation—and develop a model that will best determine the intrinsic value of a publicly traded bank. Upon delving into the DCF valuation and relative valuation models, I will conduct a case study on Sterling Financial Corporation (Ticker Symbol: STSA) that results in the formulation of a sell-side equity research report. Through observing a feasible valuation model for publicly traded banks, the thesis reader will gain extensive knowledge on how to make well-informed investment decisions based on both quantitative and qualitative research.

Discounted Cash Flow Valuation

Discounted Cash Flow (DCF) valuations estimate the intrinsic value of a security through discounting the security's expected future cash flows. DCF valuations are regularly taught in undergraduate and graduate-level finance courses due to their structure as a present value calculation. However, the DCF valuation model is not frequently used by analysts due to the number of explicit inputs required. Altering one facet of the model can exponentially change the calculated intrinsic value, making the use of DCF valuations susceptible to error.

The first step in performing a DCF valuation is to determine whether or not to value the entire firm or focus on the firm's equity. Performing a firm valuation entails discounting the Free Cash Flow to the Firm (FCFF). FCFF, as defined, is the "cash flow available to the company's suppliers of capital after all operating expenses (including taxes) have been paid and necessary investments in working capital (e.g., inventory) and fixed capital (e.g., equipment) have been made."²³ When valuing the firm's equity, one concerns oneself with Free Cash Flow to Equity (FCFE). The difference between the aforementioned FCFF and FCFE is that FCFE focuses on the cash flow available to the firm's common shareholders. Choosing between discounting FCFF or FCFE is dependent upon two items: the firm's leverage and the type of investor.²⁴ In commenting on the situational uses of FCFF and FCFE, *Equity Asset Valuation* states "an analyst may prefer to use one approach rather than the other . . . because of the characteristics of the company being valued. For example, if the company's capital structure is relatively stable, using FCFE to value equity is more direct and simpler than using FCFF."²⁵ In addition, the text states that use of FCFF is preferred over FCFE when

valuing “a levered company with a changing capital structure.”²⁶ When examining a firm’s leverage, one should focus on either the ratio of the firm’s total debt to total assets or the proportionate share of total debt to total stockholder’s equity. A stable debt ratio implies a lack of large changes in a firm’s total leverage, making FCFE a viable cash flow to discount. There is currently no quantitative industry standard that defines the acceptable debt/equity variance of a stable leverage firm, causing one to be reliant upon professional judgment when determining the firm’s proper classification.

The second facet that determines one’s decision on whether to discount FCFF or FCFE deals with the type of investor. If an individual or entity is a preferred shareholder or bondholder, he or she may prefer discounting FCFF because it “is the after-tax cash flow going to all suppliers of capital to the firm.”²⁷ However, if an investor is merely looking to buy non-controlling, common shares in a company, discounting FCFE is appropriate because it is representative of the cash flows available to the common shareholders.

Due to the nature of a commercial bank’s business model, the firms are typically highly leveraged. According to San Jose State University economist Thayer Watkins, “in the 1980’s insured commercial banks had an average leverage ratio of slightly over 15 to 1.”²⁸ The high leverage of commercial banks has been commonplace over the course of history and will be reliable in the future barring any changes in regulatory capital ratios. In addition, my intent in formulating a valuation model for publicly traded banking institutions is to aide potential common shareholders in making an informed decision on whether to buy, sell, or hold the bank’s stock. Based on the aforementioned breakdown

of commercial banks' operating leverage and the intent for which I have developed the valuation model, I will focus on valuing the bank's FCFE.

Upon determining that I would be discounting the bank's FCFE, the next step was to estimate the firm's discount rate. As previously mentioned, the rate used to discount current and future cash flows is equal to the firm's cost of equity. Dr. Aswath Damodaran, professor of finance at the Stern School of Business, states that one of the fundamental principles of valuation is to "never mix and match cash flows and discount rates."²⁹ To arrive at a meaningful intrinsic value, it is imperative that one couples an equity discount rate with equity cash flows. Mixing and matching cash flows and discount rates compromises the integrity of the valuation and will provide a meaningless output. Lastly, it is essential to confirm that the cash flows and cost of equity are computed in the same currency as well as in either nominal or real terms.³⁰ Ensuring that the firm's cash flows and cost of equity are calculated according to like terms is essential in constructing a reliable DCF valuation model.

To compute the cost of equity for a firm, there are numerous financial models one can use. Typically, when computing a firm's cost of equity, the Capital Asset Pricing Model (CAPM) is the preferred model due to its simplicity. Mathematically, CAPM is depicted as follows:

$$E(R) = R_f + \beta (R_m - R_f) \text{ or } E(R) = R_f + \beta (ERP). \quad (1)$$

In qualitative terms, the mathematical model sets the security's expected rate of return ($E(R)$) equal to the risk-free rate (R_f) plus the equity beta (β) times the difference between the market return (R_m) and the return on a risk-free asset (R_f). The inclusion of

the second CAPM equation is to highlight that the difference between the market return and risk-free rate is commonly referred to as the equity risk premium (*ERP*).

In computing the cost of equity, the CAPM calculation can be broken down into three parts: the risk-free rate, the equity beta, and the equity risk premium. The risk-free rate is commonly computed using the rate on a three-month U.S. government security. This practice is incorrect for two reasons. The United States government, largely regarded as the most stable economic entity in the world, had its credit rating downgraded by Standard and Poors from AAA to AA+ in 2011. This implies that the rate on a U.S. government security is truly not risk-free and thus has to be adjusted by the probability of sovereign default. Secondly, using the rate on a three-month U.S. government security, there is a potential for reinvestment risk. After three months, investors holding the three-month security are required to reinvest the principal and accrued interest in another security. To counter these issues, the risk-free rate should be computed by subtracting the sovereign default spread—the measure of sovereign default risk—from the ten-year U.S. government bond rate.³¹ A ten-year bond maturity will alleviate the presence of reinvestment risk and more closely represents the cash flows one is discounting. By subtracting the sovereign default spread from the coupon rate on a ten-year U.S. government bond, one has calculated a true risk-free rate.

The second component of CAPM, the equity beta, measures the risk of the security being valued. The equity beta can be computed using a number of methodologies, but the commonplace calculation of beta is completed by regressing the security's return against the returns of the S&P 500; the S&P 500 is an index composed of 500 blue-chip stocks and is considered to be an accurate representation of the U.S.

market. A beta of one implies that the security's returns will map the returns of the entire market exactly. As beta increases, the returns and losses of the security will be greater than the returns of the stock market. Consequently, as a security's beta decreases, its returns and losses will be smaller than the market's. Through examining the preceding examples, it is evident that securities with larger betas are riskier investments. Although regressing the security's returns against the returns of the stock market is simplistic, this practice provides for a large standard deviation that can skew the representation of risk for said security. The solution to this problem, as taught by Dr. Damodaran in his MBA-level Valuation course, is to use a bottom-up beta. The standard error of bottom-up betas is equal to the average standard error across betas divided by the square root of the number of firms in the statistical sample.³² Aside from providing a smaller standard error than a regression beta, bottom-up betas are enticing because they can be manipulated "to reflect changes in the firm's business mix and financial leverage."³³ To compute a bottom-up beta that reflects a firm's financial leverage, one begins by calculating the unlevered beta using the following formula:

$$\text{Unlevered Beta} = \text{Average Beta across Publicly Traded Firms} / (1 + (1-t) (\text{Average Debt/Equity Ratio across Firms})) \tag{2}$$

The Average Beta across Publicly Traded Firms and the Average Debt/Equity Ratio across Firms can be calculated by looking at the regression betas and debt-to-equity ratios for the companies that make up the S&P 500. The final component, the income tax rate, can be found on the company's annual or quarterly financial statements. Once an unlevered beta is computed, a levered beta—a beta that reflects a company's debt-to-equity ratio—can be found using the subsequent formula:

$$\text{Unlevered Beta} * (1 + (1-t) (\text{Debt/Equity Ratio})).^{35}$$

(3)

The levered beta—specific to the company being valued—is the appropriate value to be used in the CAPM calculation.

The final component of CAPM—and arguably the hardest to compute—is the equity risk premium. The equity risk premium, as previously mentioned, is synonymous with the difference between the market return—the required rate of return investors require to be compensated for excess risk—and the risk-free rate. The commonplace methodology for computing the equity risk premium is by looking at historical data. In his lecture notes for the Valuation course, Dr. Damodaran states that “the historical risk premium is the difference between the realized annual return from investing in stocks and the realized annual return from investing in a riskless security over a past time period.”³⁶ However, in computing the historical equity risk premium, one encounters the same problem that arose in calculating a regression beta: a high degree of standard error. Looking at historical data causes the standard deviation of the data to increase, making the output values less reliable. Another issue stems from multinational companies’ having operations in countries outside of the United States. Equity risk premiums often vary among countries and have to be taken into account when valuing a company with a global business structure.

As described by Dr. Damodaran, there are three ways to estimate a country’s equity risk premium. The first approach is to examine the default spread on the country bond. In using this method, “the country equity risk premium is set equal to the default spread of the bond issued by the country.”³⁷ Dr. Damodaran’s second approach to

calculating a firm's equity risk premium is based on the relative volatility of the stock market within the foreign country where the company is located. The equation for computing the total equity risk premium based on standardizing the stock market standard deviation is as follows:³⁸

$$\text{Total Equity Risk Premium} = \text{U.S. Risk Premium} * \left(\frac{\text{Standard Deviation of Emerging Market Equity Index}}{\text{Standard Deviation of the S\&P 500}} \right) \quad (4)$$

Lastly, the third methodology is based on multiplying the default spread on the country bond by the standard deviation of the country's equity market divided by the standard deviation of the country bond.³⁹ Rather than dividing the standard deviation of the country's equity market index with the U.S. market index, using the third methodology one is able to keep all variables specific to the foreign country itself. Due to the importance of firms' expanding into the international marketplace, it is crucial to consider the equity risk premiums for the countries in which the company is located.

Upon successfully computing the cost of equity for the firm, the next step in performing a DCF valuation is estimating both current and future cash flows to the common shareholders. According to Dr. Damodaran's lecture notes, the current cash flow to equity for a firm whose leverage fluctuates is calculated as follows:

$$\text{Net Income} - (\text{Capital Expenditures} - \text{Depreciation}) - \text{Changes in Non-Cash Working Capital} - (\text{Principal Repayments} - \text{New Debt Issues})^{40} \quad (5)$$

For a firm with stable leverage, current FCFE can be calculated using this formula:

$$\text{Net Income} - [(\text{Capital Expenditures} - \text{Depreciation}) (1 - \text{Debt/Capital ratio})] - [(\text{Change in Working Capital} (1 - \text{Debt/Capital ratio}))]^{41} \quad (6)$$

In computing a bank's current FCFE, one will typically encounter two issues: the firm's Debt/Capital ratio will be greater than one, and the nature of a commercial bank's business does not generate cash flows before financing costs. With a Debt/Capital ratio greater than one, multiplying $(1 - \text{Debt/Capital Ratio})$ by $(\text{Capital Expenditures} - \text{Depreciation})$ results in a negative value. Mathematically, subtracting a negative number from Net Income is equivalent to adding the value, which in this case is not fundamentally correct. Secondly, a commercial bank's business model does not generate cash flows similar to that of a retail firm. FCFE and FCFD are to be representative of a firm's cash flow after financing costs and other expenditures. Due to a bank's operations, all of the firm's cash flows derive from financing, making a DCF valuation not particularly useful in valuing a financial services firm.

Due to the inability to discount a bank's FCFE, one is forced to explore discounting the financial institution's stream of dividend payments using a Dividend Discount Model (DDM). According to the CFA Institute's book titled *Equity Asset Valuation*, the simplest DDM can be mathematically represented as follows:

$$V_0 = \frac{D_1}{(1+r)^1} + \frac{P_1}{(1+r)^1} = \frac{D_1 + P_1}{(1+r)^1} \quad (7)$$

Breaking down the formula's components, V_0 represents the current value of a share of stock, D_1 is the expected dividend at the end of year one, r is the required rate of return for the stock, and P_1 is the expected price of the stock at year-end.⁴² The simple DDM

takes into consideration both D_1 and P_1 because the cash flow on a share of stock stems from the dividend paid by the corporation as well as the share price the investment can be sold for at year-end. If a long-term investor intends to hold the stock for longer than one year, the DDM is altered to read as follows:

$$V_0 = \sum_{t=1}^n \frac{D_t}{(1+r)^t} + \frac{P_n}{(1+r)^n} \quad (8)$$

As described in *Equity Asset Valuation*, “For an n-period model, the value of a stock is the present value of the expected dividends for the n periods plus the present value of the expected price in n periods (at $t = n$).”⁴³ If we take the $\lim_{n \rightarrow \infty} \sum_{t=1}^n \frac{D_t}{(1+r)^t} + \frac{P_n}{(1+r)^n}$, the current value of the share of stock becomes a function of the present value of future dividend payments. Mathematically, the standard DDM is diagrammed as follows:⁴⁴

$$V_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t} \quad (9)$$

The revision to the DDM causes the stock’s value to be solely reliant upon estimated future dividend payments. To estimate future dividends, analysts typically choose among the Gordon Growth Model, the two-stage growth model, or the three-stage growth model.⁴⁵ In this thesis, I will focus on the Gordon Growth Model due to its wide use and acceptance in the field of finance.

The Gordon Growth Model was developed in 1959 by famous economics and finance professor Myron J. Gordon.⁴⁶ Dr. Gordon’s model was constructed as follows:⁴⁷

$$V_0 = \frac{D_0 (1 + g)}{r - g} \quad (10)$$

To use the Gordon Growth Model, one would need to input the predicted constant dividend growth rate for the company as well as the investor's required rate of return. For the model to be useful in equity valuation, the required rate of return should be greater than the constant dividend growth rate to ensure that V_0 is a finite number.⁴⁸

The simplicity of the Gordon Growth Model's inputs makes it an enticing DCF model to use in valuing a publicly traded bank. When using the Gordon Growth Model, both the current dividend payment (D_0) and estimated constant dividend growth rate are required inputs. The ability to use this model is contingent upon two items: the bank is required to pay a common stock dividend, and one has to be able to ascertain a constant dividend growth rate for the financial institution. To compute the constant dividend growth rate, I recommend performing a trend analysis—a Microsoft *Excel* program that uses the least-squares regression methodology in forecasting future trends according to historic data—based on the bank's prior dividend payments. In addition, it is crucial to question the bank's management team regarding their dividend payout goals and future projections.

If the commercial bank is issuing a dividend, the DDM is a feasible valuation model to use in discounting the expected future cash flows back to their present value. However, it is a commonplace industry practice to undergo numerous valuations to reaffirm the intrinsic value derived from the DDM. Upon completing a number of valuations, analysts typically weight the methods according to the model's ability to accurately reflect the intrinsic value of the security. Based on this industry standard, I decided to use the most prevalent methodology in valuing financial institutions: relative valuation.

Relative Valuation

Relative, as defined, means “considered in relation to something else.”⁴⁹ When valuing a security using relative valuation, one is looking to compare the value of said security with the value of either comparable securities or a peer group average. The essence of relative valuation is best described by Dr. Damodaran as comparing “the standardized value or multiple for the asset being analyzed to the standardized value for a comparable asset, controlling for any differences between the firms that might affect the multiple, to judge whether the asset is under or overvalued.”⁵⁰ When Dr. Damodaran says standardized value, what does he mean? A standardized value is a ratio where the market value of the firm is the numerator and what one is getting in return serves as the denominator.⁵¹ When standardizing the value, we have to be cognizant not to mismatch equity and firm values; this concept is equally relevant in performing relative valuations. There are a large number of multiples at one’s disposal in developing a valuation model, and to choose between them requires one to take an in-depth look at the fundamentals of the company.

When choosing an appropriate multiple to value financial institutions, I looked for one predominantly used by research analysts in valuing banks. With nearly 85% of current equity research analysts publishing reports using relative valuation metrics, I did not have to look far.⁵² The staple of relative valuation multiples used in valuing financial institutions is the Price to Book Value (P/BV) ratio. In practice, it is possible for a corporation to have negative shareholders’ equity—although it is not advisable. For example, in struggling companies where probable, unfavorable litigations have caused liabilities to substantially exceed assets, shareholders’ equity can be negative to offset the

large differential. However, due to regulatory capital constraints placed on banks, firms are required to be well capitalized. Because banks' Tier-1 leverage ratios are under constant scrutiny, it is necessary for the firm's shareholders' equity to be positive. This property of banks makes the P/BV ratio a reliable measurement stick for determining whether the financial institution is under-, fairly, or overvalued.

The P/BV ratio, as mathematically defined, is the market value of equity divided by the book value of equity. It is important to note that the market value and book value of equity should be specific to common shareholders. To ensure that this is the case, the market value of equity is computed by taking the number of common shares outstanding multiplied by the current market price for the stock. The book value of equity is total shareholders' equity less preferred equity. Preferred equity is a hybrid between debt and common stock and should not be included in calculations specific to equity available to common shareholders.

Once the P/BV ratio is computed, it is necessary to determine the bank's comparables as a means of comparison. To define comparables for any business is a challenging task because of the numerous variances that exist among entities. In determining comparable banks, one should focus on three criteria: market capitalization, geographic location, and asset mix. Market capitalization is a measure of the firm's size and is equal to the market value of equity used in calculating the P/BV ratio. Geographic location is an important facet to consider because banks operating within close geographic proximity to one another deal with the same demand for loanable funds, cost of funding, and macroeconomic environment. Lastly, the factor that held the greatest weight in determining the bank's comparables was the asset mixes of other financial

institutions. Due to the nature of a bank's operations, the institution's assets are composed of cash and cash equivalents, investments, and loans receivable. Although cash, cash equivalents, and investments are important assets to a financial institution, when referring to a bank's asset mix, one should focus specifically on the composition of the institution's loan portfolio. The best measure of whether a bank is a good comparable or not is how closely its asset mix reflects that of the bank being valued. Similar asset mixes imply that the institutions' operations are similar in nature.

To begin searching for comparable banks, it is worthwhile to analyze numerous investment research websites. Websites such as Yahoo! Finance, Bloomberg, Reuters, Google Finance, and FactSet provide valuable information on companies such as key statistics, charts, industry reports, and competitors. Through looking at the competitors listed for the bank being valued, one will be able to conduct further research on these entities according to the three facets necessary for banks to be valid comparables. As an alternative to determining comparable banks based on market capitalization, geographic location, and asset mix, it is feasible to compare the bank's P/BV ratio to its peer group median's P/BV ratio as stated on the Federal Financial Institution Examination Council's UBPR report for the bank being valued. This methodology eliminates the difficulty of finding strong comparable banks and decreases the potential for conducting a relative valuation based on poor comparables. However, for this thesis, I will focus on using the three aforementioned criteria to determine comparable banks.

Ideally, one would be able to determine as many comparable banks as possible in performing a relative valuation due to the law of large numbers—a statistical rule that states that as the sample size increases, the average of the sample becomes a better

estimate of the average of the entire population.⁵³ When the bank's comparables are determined, it is necessary to consistently compute the P/BV ratio for each entity. Once the P/BV ratio is obtained for each comparable bank, one can compare the values to determine whether the bank being valued is trading at a discount or premium relative to its comparables.

Despite being similar relative to size, operating location, and loan portfolio composition, comparable banks may contain different fundamentals that require the P/BV ratio to be adjusted. As Dr. Damodaran's third step to understanding multiples states, it is crucial to "understand the fundamentals that drive each multiple, and the nature of the relationship between the multiple and each variable."⁵⁴ The drivers of a firm's P/BV ratio, as stated in Dr. Damodaran's Valuation course, are the cost of equity, expected growth rate, payout ratio, and return on equity (ROE). By calculating the aforementioned variables for each firm and examining them along with the firm's respective P/BV ratios, one has constructed an accurate model to determine whether the securities are under-, fairly, or overvalued. Due to the importance of the P/BV ratio's drivers, each will be further analyzed.

The cost of equity for the bank's comparables is calculated using the Capital Asset Pricing Model (CAPM). Through using identical inputs across the spectrum of comparables, one will ensure that the banks' computed costs of equity are consistent. The cost of equity is an important value to calculate because it reflects a firm's risk. Riskier firms will have a higher cost of equity because they are required to compensate investors for taking on additional risk in providing capital to the institution. If two

businesses have similar P/TBV ratios, holding all else constant, the firm with the higher cost of equity will be viewed as less attractive relative to the other company.

The profitability driver that complements the banks' cost of equity is return on equity (ROE). ROE is calculated by taking the sum of four quarters of net income divided by the average shareholders' equity over the four quarters. Mathematically, the ROE formula is represented as follows:

$$ROE = \frac{\sum_{t=1}^4 \text{Net Income}}{(\text{Shareholders' Equity}_{Q1} + \text{Shareholders' Equity}_{Q2}) \div 2} \quad (11)$$

The relationship between a bank's ROE and its cost of equity in determining its P/BV ratio can be seen when the equation is re-written using the P/BV ratio's fundamental drivers. The new variation of the P/BV ratio is as follows:

$$\frac{P_0}{B_0} = \frac{ROE - g}{r - g} \quad (12)$$

Understanding that r represents the required rate of return, or cost of equity, it can be deduced that "if you earn well above your cost of equity, you will trade well above book value"⁵⁵ and vice versa. Knowledge of how both ROE and cost of equity impact the P/BV ratio allows the analyst to deduce why the company's stock is trading above or below book value. As stated by Pinto, Henry, Robinson, and Stowe in *Equity Asset Valuation*, "If we are evaluating two stocks with the same P/B, the one with the higher ROE is relatively undervalued, all else equal."⁵⁶ By examining a bank's profitability relative to comparables with similar P/BV ratios, one is able to ascertain whether or not the security is an attractive investment.

The next driver of P/BV is the company's payout ratio. A firm's payout ratio deals with the percentage of the firm's bottom-line earnings it pays out in dividends to its common shareholders. The formula for computing a firm's payout ratio is dividends per share divided by earnings per share.⁵⁷ As previously mentioned in the section on DCF valuation, investors' cash flows are generated through dividend payments and price appreciation. Firms with strong payout ratios, when compared to firms with similar P/BV ratios and weak payout ratios, will appear to be undervalued due to the attractiveness of their dividend streams.

The last fundamental component of the P/BV ratio is the expected growth rate. The expected growth rate is a strong complement to the firm's payout ratio because it deals with estimated future dividend payments. In the DCF section of the thesis, the Gordon Growth Model—namely formula (9)—was discussed as a means of forecasting a firm's expected dividend growth rate. Due to the typically steady growth of financial institutions, I would recommend using the Gordon Growth Model in valuing a publicly traded bank. A firm with higher expected dividend growth in the future is more attractive relative to a firm with lower future growth estimates, holding P/BV constant.

After the P/BV ratios and subsequent adjustments are tabulated for the bank and its comparables, one should organize the information within a table. After the information is input into the table, the bank being valued can be compared, taking into account the previously noted adjustments, to its comparable banks to determine if it is valued at a discount or a premium.

To further understand the application of DCF valuations and relative valuations with respect to financial institutions, it is necessary to apply these methodologies to a publicly traded bank.

The Company: Sterling Financial Corporation

Sterling Financial Corporation, founded in Spokane, Washington in 1983, serves as a bank-holding company for its main subsidiary: Sterling Savings Bank.⁵⁸ Sterling Savings Bank is one of the largest regional community banks in the Pacific Northwest with approximately \$9.175 billion in assets as of September 30, 2011. Sterling's West Coast operations include 71 branches in Washington, 67 in Oregon, 13 in California, 18 in Idaho, and 7 in Montana. Currently, Sterling is awaiting regulatory approval of its acquisition of First Independent Bank. This acquisition would strengthen Sterling's low-cost deposit base, enhance its investment product offerings, improve the bank's current asset mix, and provide access to a lucrative market through operation of 14 branches in the Portland/Vancouver area. Sterling Savings Bank is segregated into 4 main operating segments: community banking, residential construction lending, residential mortgage banking, and commercial mortgage banking. Within Sterling's business model, the corporation's primary clientele are individual consumers, small businesses, and large corporations.

Sterling Financial Corporation Valuation

Discounted Cash Flow (DCF) Valuation

As mentioned in the general overview of DCF valuations, it is necessary to determine whether to discount the FCFF or FCFE. In the case of Sterling Financial

Corporation, I chose to discount the firm's FCFE due to the company's exhibition of stable leverage; computing Sterling's debt ratio from 2002 to 2010 revealed a range of 15.17% to 34.80%. The consistently high leverage of a commercial bank due to the nature of its business reaffirmed my decision in discounting Sterling's FCFE.

The first step in completing my DCF valuation of Sterling Financial Corporation was to determine the firm's cost of equity that would serve as my discount rate. To compute Sterling's cost of equity, I used the Capital Asset Pricing Model (CAPM). In computing the risk-free rate, I took the interest rate on the ten-year U.S. government bond (2%) and subtracted the 2011 sovereign default spread for the United States (0.25) as calculated by Dr. Damodaran. The United States' sovereign default spread of 0.25 derives from the credit default spreads listed on the rating agencies' websites.⁵⁹ To calculate Sterling's levered beta, I began by calculating the firm's unlevered beta using formula (1). Through using an Average Beta across Publicly Traded Firms of 1.15, an Average Debt/Equity Ratio across Firms of 36.04%,⁶⁰ and an income tax rate of 37%, I was able to calculate an unlevered beta for Sterling of 0.9372. To convert Sterling's unlevered beta to a levered beta, I needed to take into consideration the company's Debt/Equity ratio. Sterling's total debt outstanding—securities sold under repurchase agreements and funds purchased, advances from the Federal Home Loan Bank, and junior subordinated debentures—as of September 30, 2011 was \$1,708,641,000. The corporation's shareholders' equity on September 30, 2011 was \$859,493,000. By dividing Sterling's total debt by its shareholder's equity, I found Sterling's Debt/Equity ratio to be 1.9880. Through inputting the 1.9880 Debt/Equity ratio into formula (2), I was able to compute a levered beta for Sterling of 2.110. Sterling's levered beta reflects

the firm's excess risk due to the tremendous amount of debt on its balance sheet following the Great Recession of late 2007-2009. The final input necessary to compute Sterling's cost of equity is the equity risk premium. Because Sterling operates solely in the United States, I was able to disregard the methods used to compute the equity risk premium for a firm operating in different countries. However, due to my concern over the high standard error involved with historical equity risk premiums, I decided to focus on the United States' forward equity risk premium. The formula for computing forward equity risk premiums, as depicted in *Financial Management: Theory and Practice*, is as follows:⁶¹

$$\begin{aligned} & \text{Dividend Yield on Index Based on Year-Ahead Aggregate Forecasts} + \text{U.S. Government} \\ & \text{10-Year Bond Rate} - \text{U.S. Government 10-Year TIPS} \end{aligned} \tag{13}$$

Because I did not have access to the necessary data to forecast the dividend yield for the S&P 500—consensus estimates would be available on Capital IQ or Bloomberg Professional—I used the S&P 500's current dividend yield of 1.97%.⁶² The ten-year U.S. government bond rate is the same 2.00% used in computing the risk-free rate. The ten-year U.S. government TIPS (Treasury Inflation-Protected Securities) had a coupon rate of 0.625. Substituting these data for the variables in formula (12), I estimated an equity risk premium for the United States of 1.3947. Upon completing my calculation of the equity risk premium according to formula (12), I concluded that the value was too low.

According to Dr. Damodaran, the “average equity risk premium across all mature equity markets = 4%.”⁶³ The 1.3947 equity risk premium I calculated is lower than Damodaran's average because it is being depressed by the current interest rate environment in the United States. Because an abnormally low equity risk premium

would understate Sterling's cost of equity, I felt that the 6.04% implied equity risk premium for the S&P 500 calculated by Dr. Damodaran for end-of-year 2011 would be the most reliable value.⁶⁴ Through inputting the 1.75% risk-free rate, the 2.110 levered beta, and the 6.04% equity risk premium into the CAPM formula, I determined Sterling's cost of equity to be 14.5%.

The next step in performing Sterling's DCF valuation was to determine the firm's FCFE. In computing Sterling's current FCFE, I encountered the very two issues I cautioned about in my prior DCF valuation discussion: Sterling's Debt/Capital ratio was 1.7092, and the nature of Sterling's business does not generate cash flows before financing costs. Sterling's large Debt/Capital ratio is not congruent with the FCFE calculation. In addition, Sterling's lack of cash flows not derived from financing makes discounting the firm's FCFE impracticable. Despite my inability to discount Sterling's FCFE, I continued with the prospect of performing a DCF valuation by using a Dividend Discount Model (DDM).

The DDM valuation method defines future dividend streams as a firm's cash flow. Through discounting Sterling's future dividend payments using the cost of equity I previously calculated, I would arrive at the firm's present value. However, due to the Great Recession that wreaked havoc on the real estate market in which Sterling was overexposed, Sterling's last dividend payment was made in 2008 due to net operating losses in years 2008, 2009, and 2010. In addition to Sterling's failure to pay a dividend in the previous three years, "pursuant to the Reserve Bank Agreement, Sterling is prohibited from paying any dividends without the prior written approval of the Reserve Bank."⁶⁵ In speaking with Sterling's management, I discovered that the earliest Sterling

would be able to pay a dividend to its common shareholders would be in either late 2012 or early 2013, pending regulatory approval. Due to Sterling's dividend deficiency and current regulatory constraints, the necessary inputs for the DDM were not available.

Although DCF valuations provide valuable insight into the intrinsic value of a security, Sterling's three consecutive years of net operating losses and the nature of its business model impeded my ability to arrive at a useful output. These setbacks caused me to reevaluate whether or not DCF valuations had a place in valuing a financial institution that had experienced a prolonged period of economic duress. I determined that to complete the valuation of Sterling Financial Corporation, based on the company's current circumstances, I was going to have to rely upon the multiple approach.

Relative Valuation

The ideal multiple used in valuing a financing institution, as previously mentioned, is the Price-to-Book-Value (P/BV) ratio. Qualitatively, Sterling's P/BV ratio is calculated by taking its market value of equity divided by its book value of equity. In calculating Sterling's market value of equity, I multiplied the number of common shares outstanding as of 9/30/2011 (61,968,510) by the current stock price (\$15.64) and arrived at a value of \$969,187,496.40. Sterling's book value of equity is equal to the firm's total shareholders' equity of \$859,493,000 because all of Sterling's preferred stock—owned by governmental agencies as part of the Troubled Asset Relief Program (TARP)—was converted into common stock. By dividing Sterling's market value of equity by its book value of equity, I arrived at a P/BV ratio of 1.13.

For Sterling's P/BV ratio to be useful in determining whether the company was trading at a discount or a premium, I had to determine comparable banks using three criteria: market capitalization, geographic location, and asset mix. To begin my search for comparable banks, I began by recording Sterling's competitors as listed on Yahoo! Finance, Bloomberg, Reuters, Google Finance, and FactSet. After narrowing my search using these investment research websites, I completed a horizontal analysis of Sterling and its competitors according to the firms' size, operating locale, and loan portfolios.

My cumulative research on Sterling and its potential comparable banks is summarized as follows:

Sterling Savings Bank (STSA)

- Market Cap: \$1.04 billion
- Geographic Location: Washington (40.34%); Oregon (38.07%); California (7.39%); Idaho (10.23%); Montana (3.98%)
- Asset Mix (10-Q):
 - Residential Real Estate: 12.50%
 - Multi-family Real Estate: 17.64%
 - Commercial Real Estate: 22.93%
 - Construction
 - Residential: 0.80%
 - Multi-family: 0.52%
 - Commercial: 2.63%
 - Consumer: 12.19%
 - Commercial Banking: 30.80%

Bank of America (BAC)

- Market Cap: \$56.76 Billion
- Geographic Location: Bank of America operates in all 50 states, the District of Columbia, and in 40 countries.

Banner Corporation (BANR)

- Market Cap: \$293.57 Million

- Geographic Location: Washington (70.87%); Oregon (18.44%); Idaho (10.68%)
- Asset Mix:
 - Construction/Development: 10%
 - Commercial/Agribusiness: 24%
 - Consumer: 9%
 - Residential: 20%
 - Multifamily/Commercial Real Estate: 37%

Rainier Pacific Financial Group, Inc. (RPFG)

- ✓ De-listed from the NASDAQ due to the institution's bankruptcy and subsequent liquidation.

Home Federal Bancorp, Inc. (HOME)

- Market Cap: \$180.18 Million
- Geographic Location: Oregon (61.76%); Idaho (38.24%)
- Asset Mix:
 - Home Equity and Consumer: 10.98%
 - CRE: 39.3%
 - Multi-family: 3.68%
 - Construction: 6.07%
 - 1-4 Family: 25.9%
 - C&I: 13.2%
 - Leases: 0.83%

Wilshire Bancorp, Inc. (WIBC)

- Market Cap: \$246.67 Million
- Geographic Location: California (75%); New York/New Jersey (16.67%); Texas (8.33%)
- Asset Mix:
 - Real Estate Construction: 2%
 - Residential Real Estate: 3.9%
 - Commercial Real Estate: 78%
 - Commercial and Industrial: 15.5%
 - Consumer: 0.7%

Prudential Bancorp, Inc. of PA (PBIP)

- Market Cap: \$51.32 Million
- Geographic Location: Pennsylvania (100%)
- Asset Mix:

- 1-4 Family Residential: 79.86%
- Multi-family Residential: 15.73%
- Commercial Real Estate: 8.56%
- Construction and Land Development: 9.4%
- Commercial Business: 0.33%
- Consumer: 0.26%

Bank of Marin Bancorp (BMRC)

- Market Cap: \$196.54 Million
- Geographic Location: California (100%)
- Asset Mix:
 - Commercial: 17.37%
 - Commercial Real Estate, Owner-Occupied: 16.17%
 - Commercial Real Estate, Investor: 42.35%
 - Construction: 5.52%
 - Home Equity: 9.8%
 - Other Residential: 6.43%
 - Installment and other Consumer: 2.35%

Heritage Oaks Bancorp (HEOP)

- Market Cap: \$81.72 Million
- Geographic Location: California (100%)
- Asset Mix:
 - Multi-family Real Estate: 2.47%
 - 1-4 Family Real Estate: 3.24%
 - Home Equity: 4.63%
 - Commercial Real Estate: 56.17%
 - Farmland: 1.54%
 - C&I: 20.68%
 - Commercial Agriculture: 2.47%
 - Single-family Construction: 1.85%
 - Multi-family Construction: 0.31%
 - Commercial Construction: 1.08%
 - Other: 1.08%
 - Land: 4.48%

Greene County Bancorp (GCBC)

- Market Cap: \$72.18 Million
- Geographic Location: New York (100%)

- Asset Mix:
 - Residential: 70%
 - Commercial: 29%
 - Installment: 1%

Pathfinder Bancorp Inc. (PCBC)

- Market Cap: \$23.19 Million
- Geographic Location: New York (100%)
- Asset Mix:
 - 1-4 Family First-Lien Residential Mortgages: 53.07%
 - Residential Construction: 1.03%
 - Commercial Real Estate: 24.07%
 - Commercial Lines of Credit: 4.69%
 - Other Commercial and Industrial: 7.71%
 - Municipal Loans: 0.73%
 - Home Equity: 8.46%
 - Other Consumer: 1.27%

New York Community Bancorp, Inc. (NYB)

- Market Cap: \$5.41 Billion
- Geographic Location: New York (57.10%); New Jersey (18.55%); Ohio (10.18%); Florida (9.09%); Arizona (5.09%)
- Asset Mix:
 - Multi-family loans: 68.7%
 - Commercial Real Estate: 26.2%
 - Other Held-for-Investment Loans: 5.1%
- ✓ New York Community Bancorp, Inc. completed 10 acquisitions since 2000.

MB Financial Inc. (MBFI)

- Market Cap: \$947.45 Million
- Geographic Location: Illinois (97.75%); Indiana (1.12%); Pennsylvania (1.12%)
- Asset Mix:
 - Commercial Loans: 20.46%
 - Commercial Loans Collateralized by Assignment of Lease Payments: 20.95%
 - Commercial Real Estate: 36.21%
 - Residential Real Estate: 6.21%
 - Construction Real Estate: 4.13%
 - Indirect Vehicle: 3.71%

- Home Equity: 6.85%
- Consumer Loans: 1.49%

iBERIABANK Corp. (IBKC)

- Market Cap: \$1.50 Billion
- Geographic Location: Louisiana (45.61%); Alabama (7.02%); Florida (24.56%); Tennessee (1.17%); Arkansas (19.88%); Texas (2.34%)
- Asset Mix:
 - Commercial Real Estate: 29%
 - Business: 22%
 - Other Consumer: 1%
 - Automobile: 0%
 - Indirect Automobile: 4%
 - Credit Card: 1%
 - Home Equity: 10%
 - Residential: 4%
 - Other: 4%
 - Capital South, Orion, Century, and Sterling: 19%

BFC Financial Corp (BFCF.PK)

- Market Cap: \$27.77 Million
- Geographic Location: 78 branches in Florida, 55 resorts, 114 restaurants
- ✓ BFC Financial Corp's business model is drastically different from Sterling's and thus would *not* be a good comparable.

Northwest Bancshares Inc. (NWBI)

- Market Cap: \$1.23 Billion
- Geographic Location (169 total): Pennsylvania, Ohio, New York, Maryland
- Asset Mix:
 - Residential Mortgage Loans: 42.33%
 - Home Equity Loans: 19.52%
 - Other Consumer Loans: 4.39%
 - Commercial Real Estate: 26.14%
 - Commercial Loans: 7.62%

Washington Mutual (WAMUQ.PK)

- ✓ Washington Mutual was acquired by Chase Bank.

AmericanWest Bancorporation (AWBCQ.PK)

- ✓ American West Bancorporation was purchased by SKBHC Hawks Nest Acquisition Corp. on December 20, 2010.

WSB Financial Group, Inc. (WSFGQ.PK)

- ✓ There is no publicly available information for WSB Financial Group, Inc.

Umpqua (UMPQ)

- Market Cap: \$1.41 Billion
- Geographic Location: California (38.17%); Nevada (2.15%); Oregon (41.94%); Washington (17.74%)
- Asset Mix:
 - CRE—Owner Occupied: 23%
 - CRE—Non-owner Occupied: 39%
 - Other: 1%
 - Residential Development: 2%
 - Commercial Construction: 3%
 - Residential Real Estate: 9%
 - Commercial: 23%

BNP Paribas (BNP.PA)

- Market Cap: \$35.35 Billion
- ✓ The firm's international business model, diverse business holdings, and large size make BNP Paribas an invalid comparable for Sterling Savings Bank.

Washington Federal (WFSL)

- Market Cap: \$1.49 Billion
- Geographic Location: Washington (38.69%), Oregon (16.07%), Idaho (9.52%), Utah (5.95%), Nevada (2.38%), Arizona (12.5%), New Mexico (11.31%), Texas (3.57%)
- Asset Mix:
 - Single-Family Residential: 74.9%
 - Construction—Speculative: 1.7%
 - Construction—Custom: 3.4%
 - Land—Acquisition and Development: 2.4%
 - Land—Consumer Lot Loans: 2.0%
 - Multi-family: 8.4%
 - Commercial Real Estate: 3.7%
 - Commercial and Industrial: 1.3%
 - HELOC: 1.4%

- Consumer: 0.8%

HomeStreet

- ✓ HomeStreet is currently privately traded so no financial information is readily accessible.

Due to the companies' similar asset mixes and geographic locations in the West Coast marketplace, I chose Home Federal Bancorp, Inc. (HOME), Heritage Oaks Bancorp (HEOP), and Bank of Marin Bancorp (BMRC) as valid comparables for Sterling. Although smaller in size, these three bank-holding companies have historically faced the same economic and lending environment Sterling has and will continue to do so in the future. In addition, although the bank's primary operations are in the Midwest, due to its similar size and asset mix, I determined MB Financial Inc. (MBFI) to be another strong comparable for Sterling.

Originally, having determined four comparable banks for Sterling, I was going to compute the P/BV ratio for each firm and then compare my results. However, the potential for account differences between the banks impeded my ability to use the P/BV ratio. These accounting differences arise due to Generally Accepted Accounting Principles (GAAP) allowing companies to calculate and value certain financial items differently while still remaining in compliance with the accounting standards. Firms are legally allowed to use different methods of depreciation for tangible and intangible assets, and the fair value of consideration used in computing a company's goodwill is subjective. To counteract the issue of accounting differences among banks, I decided to use the P/TBV ratio for Sterling and its comparables. The P/TBV ratio differs from the P/BV ratio only in the amount used in the denominator of the equation. The tangible book value of equity for a firm is simply the shareholders' equity available to common

shareholders—the value used in the denominator of the P/BV ratio—less goodwill and other intangible assets. Goodwill is the fair value of consideration provided in an acquisition less the fair value of net identifiable assets. Other intangible assets include patents, trademarks, and copyrights, all of which can be valued slightly differently from company to company. Through opting to use the P/TBV ratio, I eliminated the possibility that accounting differences would affect my comparison of Sterling and its comparable banks.

To compute the P/TBV ratio for Sterling, I was able to use the same market value of equity (\$969,187,496.40) as in the P/BV calculation. However, I needed to adjust Sterling's book value of equity—the denominator of the equation—by subtracting the firm's goodwill and other intangible assets. Due to Sterling's non-cash goodwill impairment incurred during 2009,⁶⁶ it was only necessary to deduct Sterling's other intangible assets of \$13,290,000 from the firm's total stockholders' equity. This adjustment provided me with a tangible book value of equity of \$846,203,000. By dividing Sterling's market value of equity by its tangible book value of equity, I determined Sterling's P/TBV ratio to be 1.33. Using the same methodology, I computed the P/TBV ratio for each of Sterling's comparable banks.

The results of my calculations are as follows:

Sterling Savings Bank (STSA)		
Price to Book Value Ratio		
	10-K (12/31/2010)	10-Q (9/30/2011)
Shares Outstanding	61,926,187.00	61,968,510.00
Current Stock Price	\$15.64	\$15.64
Book Value of Equity	\$770,767,000.00	\$859,493,000.00
Price to Book Value	1.2566	1.1276
Price to Tangible Book Value	1.2848	1.1453
Total Stockholders' Equity	\$770,767,000	\$859,493,000
Preferred Stock	\$0	\$0
Goodwill	\$0	\$0
Intangible Assets	\$16,929,000	\$13,290,000

Heritage Oaks Bancorp (HEOP)		
Price to Book Value Ratio		
	10-K (12/31/2010)	10-Q (9/30/2011)
Shares Outstanding	25,082,344.00	25,081,819.00
Current Stock Price	\$3.54	\$3.54
Book Value of Equity	101464000	105963000
Price to Book Value	0.8751	0.8379
Price to Tangible Book Value	1.0057	0.9533
Total Stockholders' Equity	\$121,256,000	\$126,031,000
Preferred Stock	\$19,792,000	\$20,068,000
Goodwill	\$11,049,000	\$11,049,000
Intangible Assets	\$2,127,000	\$1,771,000

MB Financial Inc. (MBFI)		
Price to Book Value Ratio		
	10-K (12/31/2010)	10-Q (9/30/2011)
Shares Outstanding	54,576,043.00	54,822,463.00
Current Stock Price	\$17.10	\$17.10
Book Value of Equity	\$1,150,682,000.00	\$1,174,060,000.00
Price to Book Value	0.8110	0.7985
Price to Tangible Book Value	1.2811	1.2399
Total Stockholders' Equity	\$1,344,786,000	\$1,368,622,000
Preferred Stock	\$194,104,000	\$194,562,000
Goodwill	\$387,069,000	\$387,069,000
Intangible Assets	\$35,159,000	\$30,904,000

Home Federal Bancorp, Inc. (HOME)		
Price to Book Value Ratio		
	10-K (9/30/2011)	10-K (9/30/2010)
Shares Outstanding	16,057,434.00	16,687,561.00
Current Stock Price	\$10.40	\$10.40
Book Value of Equity	\$196,654,000.00	\$205,088,000.00
Price to Book Value	0.8492	0.8462
Price to Tangible Book Value	0.8634	0.8629
Total Stockholders' Equity	\$196,654,000	\$205,088,000
Preferred Stock	\$0	\$0
Goodwill	\$0	\$0
Intangible Assets	\$3,246,000	\$3,971,000

Bank of Marin Bancorp (BMRC)		
Price to Book Value Ratio		
	10-K (12/31/2010)	10-Q (9/30/2011)
Shares Outstanding	5,290,082.00	5,331,368.00
Current Stock Price	\$ 37.59	\$37.59
Book Value of Equity	\$121,920,000.00	\$133,001,000.00
Price to Book Value	1.6310	1.5068
Price to Tangible Book Value	1.6310	1.5068
Total Stockholders' Equity	\$121,920,000	\$133,001,000
Preferred Stock	\$0	\$0
Goodwill	\$0	\$0
Intangible Assets	\$0	\$0

The P/TBV ratio for Sterling and its comparable banks is summarized in the following table:

P/TBV Ratio	
Sterling Financial Corporation	1.33
MB Financial Inc.	1.34
Bank of Marin Bancorp	1.54
Home Federal Bancorp, Inc.	0.85
Heritage Oaks Bancorp	0.98

In analyzing the P/TBV ratio table, it is evident that Sterling Financial Corporation is trading at a discount relative to MB Financial Inc. and Bank of Marin Bancorp and at a premium relative to Home Federal Bancorp, Inc. and Heritage Oaks Bancorp. However, this comparison does not take into consideration the differences in fundamentals that exist among companies—the institutions' cost of equity, payout ratio, ROE, and expected future growth rate. To better ascertain the relationship between Sterling Financial Corporation and its comparables, I calculated the P/TBV drivers for each bank and synthesized the information into the following table:

P/BV Ratio	Sterling Savings Bank	Heritage Oaks Bancorp	MB Financial Inc.	Home Federal Bancorp, Inc.	Bank of Marin Bancorp
<i>10-K (12/31/2010)</i>	1.2566	0.8751	0.8110	0.8462	1.6310
<i>10-Q (9/30/2011)</i>	1.1276	0.8379	0.7985	0.8492	1.5068
P/TBV Ratio	1.33	0.98	1.34	0.85	1.54
Cost of Equity	14.500%	8.622%	9.222%	N/A	8.486%
Payout Ratio	0.00%	0.00%	15.00%	0.00%	21.00%
ROE (DepositAccounts.com)	4.32%	3.79%	2.02%	-3.05%	13.66%

All of the P/TBV drivers are included except for the expected growth rate. In light of making my relative valuation model for Sterling easy to update, I decided to forego computing the expected growth rate for the five banks. One may be able to estimate the future earnings growth rate for a firm by looking at historical earnings per share trends, but this calculation requires making numerous assumptions regarding similar economic conditions and has a potentially high standard of error.

In examining the P/TBV variances, one observes that the two banks whose P/TBV ratios are closest to Sterling's are Bank of Marin Bancorp (+0.21) and MB Financial Inc. (+0.01). Through comparing Sterling Financial Corporation and Bank of

Marin Bancorp, I noticed that Sterling's high cost of equity is unattractive. Also, Sterling's ROE of 4.32% is less than Bank of Marin's ROE of 13.66%. Based on the importance of the profitability metric ROE, I believe that although Sterling is trading at a pricing discount relative to Bank of Marin Bancorp, it is a fundamentally less attractive investment. Setting Sterling side-by-side with MB Financial Inc. shows that Sterling's higher cost of equity and non-existent payout ratio make MB Financial Inc. look very attractive. Despite the increased risk and lack of dividend payments, Sterling's ROE is 2.139 times larger than that of MB Financial Inc. Although Sterling boasts a higher ROE, MB Financial Inc. appears to be slightly more attractive due to the lower cost of equity, dividend payments, and moderate ROE.

Through examining Sterling Financial Corporation with respect to the firm's four comparable banks, one can gain valuable insight into how the firms compare in terms of profitability, risk, and overall value. Sterling's high cost of equity and payout ratio of 0% is evidence of the trouble endured by the firm during the Great Recession. Despite the firm's increased risk coming out of 2008-2010, Sterling's strong ROE reflects the bank's future profitability prospects. Although a minute number of Sterling's fundamentals are unattractive relative to its comparables, I would recommend STSA stock as being an attractive addition to investors' portfolios. My initiation of coverage recommendation will be further highlighted in the sell-side equity research report produced for Sterling Financial Corporation.

Sell-Side Equity Research Report: Sterling Financial Corporation

Financial: Bank

Carroll College Student Research

This report is published for educational purposes only by students competing in the CFA Institute Research Challenge

Sterling Financial Corporation

Date 01.27.2012

Ticker: • STSA (NASDAQ)

Price: • \$18.25

Recommendation: • Buy

Price Target: • \$25

	Sterling Financial Corporation Earnings per Share (\$)					P/E Ratio
	Q1	Q2	Q3	Q4	Year	
2009A	(0.48)	(0.65)	(8.93)	(6.41)	(16.48)	NM
2010A	(112.70)	(73.91)	1.31	(12.79)	(53.05)	NM
2011A	0.09	0.12	0.18	0.23	0.62	26.93x
2012E	0.28	0.33	0.43	0.48	1.52	16.5x

Source: Sterling's financial statements, CC estimates

Highlights

•**Initiation of Coverage with Buy Recommendation.** We initiate our coverage of Sterling Financial Corporation with a Buy rating and a \$25 price target.

•**Net Interest Margin (NIM) Expansion.** Sterling's NIM increased from 2.77% (3rd quarter 2010) to 3.34% (3rd Quarter 2011). This expansion was a direct result of Sterling's improvement in its low-cost deposit base and its decline in nonperforming assets from \$965.8 million (3rd Quarter 2010) to \$434.7 million (3rd Quarter 2011). Sterling's management forecasts a long-term NIM margin of 4% which we think is attainable due to Sterling's healthy loan portfolio and low-cost funding.

•**Realignment of Asset Mix.** Sterling's management has directed its lending focus to multifamily real estate in California and the Pacific Northwest. Multifamily lending has provided Sterling with a weighted average yield of 4.8% and originations have experienced steady growth since November 2010. Due to the rate of foreclosures and high number of unemployed workers in the Pacific Northwest, we believe that multifamily lending is a profitable venture within the immediate future.

•**First Independent Bank Acquisition.** Pending regulatory approval, Sterling's acquisition of First Independent Bank will increase Sterling's market share in the Portland/Vancouver area from #12 to #7. Sterling's access to low-cost core deposits, healthy assets from a new geographic area, and the addition of Trust Services to its business model will add value going forward.

•**Board of Directors and CEO Appointments.** Sterling appointed J. Gregory Seibly as director and CEO in November 2009. Seibly has focused the efforts of Sterling Savings Bank on "Back to Basics" banking: cost-effective funding, improved asset quality, high quality relationship-based asset generation, and expense control. Along with the addition of Seibly, Sterling appointed Scott L. Jaeckel and David A. Coulter to Sterling's Board of Directors in August 2010. These two private equity representatives have an extensive banking background and will provide valuable input for future growth.

Source: Sterling Financial Corporation Investor Presentation

Business Description

Sterling Financial Corporation (ticker symbol: STSA) is the bank-holding company for the commercial bank, Sterling Savings Bank.

Sterling Savings Bank is one of the largest regional community banks in the Western United States and is currently the largest commercial bank headquartered in Washington. Sterling Savings Bank was founded in Spokane, Washington in 1983. Initially, Sterling was comprised of 13 employees and has since grown to more than 2,500 employees. Sterling Savings Bank has increased the breadth of its service to a growing number of geographic areas in the Western United States. This includes 178 branches in Washington, Idaho, Oregon, Montana, and California. Sterling Savings Bank provides services to more than 25,000 small to mid-sized businesses and almost 200,000 retail accounts throughout the Western United States. To expand its scope of operations, Sterling has recently acquired First Independent Bank. This transaction is expected to be finalized in early 2012. This acquisition will increase Sterling's market to include the Portland/Vancouver geographic area. Also, due to First Independent Bank's wealth management segment, Trust Services will be added to Sterling Savings Bank's business model. In attempting to personalize their services to create life-long customers, Sterling's corporate culture is now characterized by management's focus on relationship banking.

Business Units. 4 Segments (as of 12/31/2010)

- Community Banking; 80.5%
- Residential Mortgage Banking; 19.1%
- Residential Construction Lending; 0.3%
- Commercial Mortgage Banking and Other; 0.1%

Deposit and Loan Composition.

- ❖ Sterling Saving Bank's deposits are divided into two components: interest-bearing and noninterest-bearing accounts (as of 9/30/2011):
 - Interest-Bearing (interest-bearing transaction accounts, saving accounts, money market demand accounts, and time deposits.): 80.6%
 - Noninterest-Bearing (noninterest-bearing transaction accounts): 19.4%
- ❖ Sterling Saving Bank's loan portfolio has been segregated into six main divisions (as of 9/30/2011):
 - Commercial Banking: 30.8%
 - Commercial Real Estate: 22.9%
 - Multifamily Real Estate: 17.6%
 - Residential Real Estate: 12.5%
 - Consumer: 12.2%
 - Construction: 3.9%
 - Residential: 20.1% (of Construction loans)
 - Multifamily: 13.2% (of Construction loans)
 - Commercial: 66.6% (of Construction loans)

Geographic Locations. Sterling Savings Bank encompasses five states in the Pacific Northwest with a total of 176 branches in the following states:

1. **-Washington:** 71 branches making up 2.93% of the deposit market share in Washington.
2. **-Oregon:** 67 branches making up 3.16% of the deposit market share in Oregon.
3. **-California:** 13 branches making up 0.11% of the deposit market share in California.
4. **-Idaho:** 18 branches making up 2.55% of the deposit market share in Idaho.
5. **-Montana:** 7 branches making up 1.09% of the deposit market share in Montana.

Company Strategy. Sterling Savings Bank's desire to formulate stronger customer relationships and reduce balance sheet risk will be addressed by concentrating on the following strategic goals:

- Strengthening asset quality oversight and resolution.

- Focus on identifying and resolving classified assets that are currently or expected to become problem assets, including construction and commercial real estate-related assets.
- Reduce exposure to construction and commercial real estate loans.
- Originating low-cost core deposits with relationship banking initiatives.
 - Sterling has implemented a number of relationship-focused deposit initiatives to grow core deposits and improve its overall deposit mix.
- Expanding and diversifying fee income.
 - Sterling continues to develop and enhance its offering of financial products and services to grow fee and service income.
- Improving operating efficiency through enhanced expense management.
 - To improve efficiency, Sterling has implemented several initiatives including the August 2010 merger of Golf Savings Bank.
- Maintaining capitalization levels.
- Following its recapitalization program, Sterling Financial Corporation and Sterling Savings Bank has well exceeded the 5% well-capitalized level set by regulators. However, due to the bank's receipt of TARP funds, the FDIC and WBF (Sterling's primary regulators) require Sterling to have a Tier-1 capital ratio of 8%. Sterling's Tier-1 ratio for 3rd Quarter 2011 was 11.1% for the entire bank-holding company. The bank-holding company's Tier-1 ratio was 10.1% on December 31, 2010, compared to 3.5% on December 31, 2009. Sterling's recapitalization efforts that culminated in August 2010 increased the financial health of Sterling and provided a solid foundation for the company's future growth.

Industry Overview

Banking in the United States. Over the last decade, we have seen a complete overhaul of the U.S. banking system. With the collapse of the housing market, the Troubled Asset Relief Program (TARP) and the Dodd-Frank Wall Street Reform and Consumer Protection Act were enacted. Regulations have tightened banks' ability to lend and have restricted who can qualify for loans. TARP injected \$700 billion into financial institutions on the verge of failure and created a system where the government was allowed to purchase illiquid assets of the ailing financial institutions. By accepting these funds, banks were not allowed to recoup on the losses of the specified assets. As a result of the TARP distributions, the government put into place the Emergency Economic Stabilization Act of 2008. This act allowed the TARP participants to issue non-voting warrants to protect the taxpayers and ensure that if these financial institutions were to recover, the government and taxpayers would participate. In addition to TARP, the Dodd-Frank Act was signed into law in 2010. This act was enacted to protect consumers against corrupt financial institutions, to promote accountability of these institutions, and to end taxpayer bailouts. The Dodd-Frank Act also created new federal agencies to ensure that banks follow these strict regulations. Another prominent issue within the U.S. banking industry is the current interest rate environment. The Federal Reserve Bank's implementation of Operational Twist—the purchase of \$400 billion long-term U.S. Treasury securities between September 21, 2011 and June 2012—will drive down long-term interest rates. The Fed plans on keeping interest rates low until at least mid-2013, causing a compression of Sterling's NIM.

Source: *Financial Times*

The yield curve in the United States is positively sloping with a spread of 2.89% as of 1/20/2012 (See Figure 5.). The yield curve spread experienced a downward trend in 2010 and 2011, declining 4.53% and 4.38%, respectively. Despite the depressed interest rate levels in the current economy, we find the positively-sloped yield curve to be an enticing economic indicator for Sterling. Once the Fed begins to raise short-term interest rates, the long-term U.S. Treasury rates will follow suit and increase Sterling's NIM to pre-recession levels.

Source: *YieldCurve.com*

The Federal Reserve plans to keep interest rates low—not to limit financial institutions net income, but to try to stimulate the economy and provide more income for financial institutions in the long run. The Federal Reserve has also set initiatives for larger financial institutions. The Fed's annual capital plan requires large financial institutions to have forward-looking plans to account for extraordinary events and to have the adequate capital to maintain normal operations during turbulent times. Such forward-looking plans will try to prevent another systemic failure.

Source: *Federal Reserve*

Emerging Multifamily Housing Markets. As the housing market was in free-fall and foreclosures were increasing exponentially, Sterling recognized that there was a need for family housing. Comparing Sterling's loan portfolio from the third quarter of 2010 with the third quarter of 2011, there has been a sizable increase in multifamily loans and a decrease in new housing construction loans and single-family housing loans. In the Pacific Northwest, home prices have remained higher, relative to rents, than their long-term average. The lower cost of renting will lead to an increase in multifamily loan demand in Sterling's area of operations. The National Association of Home Builders has reported three consecutive quarterly increases of multifamily home demand. The Multifamily Product Index (MPI) has shown an increase of 40.8 to 41.7 (out of 100) in the first quarter of 2011 (See Figure 6.). The Multifamily Vacancy Index (MVI) has reported a decrease in the available vacancies in the U.S (See Figure 7.). Multifamily housing projects are a bright spot in today's housing market and provide a tremendous niche for Sterling Savings Bank.

Source: *New York Times, National Association of Home Builders*

Declining Markets: Family Housing. Between 2007 and 2009, Sterling faced a major decline in the U.S. housing market. At the height of the collapse in 2008, Sterling was heavily invested in states which had some of the highest foreclosure rates. In 2008, California's rate was 1 in 173 for home foreclosures, Oregon had 1 for every 357, and Washington was 1 in 874. Even though the market has significantly improved, foreclosures are still prevalent. As of November 2011, California had 1 for every 211, Oregon was 1 in 671, and Washington was 1 in 1,072. Therefore, Sterling's focus has moved away from the risky single-family housing market. By being able to sell a majority of its other real estate owned (OREO), Sterling has been able to improve its efficiency ratio though minimizing noninterest expenditures.

Source: *USA Today*

Washington, Oregon, and California Markets. The decline in the United States' economy—namely the housing market—hit Washington, Oregon, and California particularly hard. Sterling Savings Bank was heavily exposed to the housing and construction markets in these states. With the deterioration of housing prices and new home construction loans, Sterling has restructured their asset mix going forward.

Acquisition. While the majority of large banks were forced into acquiring failing banks, Sterling Financial Corporation acquired First Independent Bank willingly in order to expand into an attractive new marketplace. By acquiring First Independent Bank, Sterling's market share of deposits went from 1.1% to 3.0% in the Portland-Vancouver area. Post-acquisition Sterling will have the seventh largest market share for deposits in this geographic area. In total, the acquisition will increase Sterling's branches by 14. This gives Sterling's brand name a larger presence in both Washington and Oregon.

Source: *Sterling Financial Corporation Investor Presentation*

U.S. Banking after the Recovery. As Sterling grows to be one the leading banks in the Northwestern United States, the corporation has a lot to consider. With the acquisition of First Independent Bank, Sterling will have to face a growing number of new regulations from the Dodd-Frank Act. Upon reaching 10 billion dollars in assets, Sterling will fall under the scope of the Durbin Amendment which will result in the loss of approximately 7 million dollars in fee-based revenue every year. This would result in an approximate reduction in fee-based revenue of 12.79%. This amount will decrease Sterling's ability to quickly expand and will prolong dividend reinstatement.

Source: *Sterling Financial Corporation Investor Presentation*

Competitive Positioning

Market Share. Sterling Savings Bank's competitors include Banner Corp, Glacier Bancorp, Columbia Banking System, West Coast Bancorp, Washington Federal, and Umpqua Holdings. Sterling Savings Bank (ranked #7 with 3.57% of total deposits) is within close proximity to Washington Federal (ranked #6 with 4.01% of total deposits) and Columbia Banking System (ranked #8 with 3.08% of total deposits). As of 3rd Quarter 2011, Sterling Savings Bank has

retained 3.16% of deposits in Oregon. Sterling's aggregate deposits in the Oregon marketplace rank them #7. West Coast Bancorp and Washington Federal are close behind with rankings of #8 (2.79%) and #9 (2.28%), respectively. Sterling Savings Bank's closest competitor in Idaho is Washington Federal, which is ranked #10 with 3.15% of deposits. Sterling Savings Bank is ranked #11 with 2.55% of the state's deposits.

Competitive Strategies. Sterling Savings Bank and its competitors have a newfound commitment to strengthen their customer service. Since the recession, banks are attempting to reinforce their personal relations. Both Sterling and its competitors are restructuring their loan mix. However, Sterling seems to be the only bank of its competitors that is focusing on multifamily lending. Some competitors, such as Banner Corp and Umpqua Holdings, are planning on strengthening their multifamily lending, but only in small percentages. Sterling and all of its competitors are attempting to decrease their 1-4 family residential construction and lot construction portfolio. Product restructuring is another advantage banks are attempting to use as a competitive advantage. Sterling's competitors are trying to improve their product mix by including such products as VISA Card Services and International Banking in an effort to compete with Sterling. Sterling will also be expanding its product mix by adding Trust Services through its acquisition of First National Bank.

Source: Banner Corp's financial statements, Glacier Bancorp's financial statements, Columbia Banking System financial statements, West Coast Bancorp financial statements, Washington Federal financial statements, Umpqua Holdings financial statements

Investment Summary

Our initiation of coverage on Sterling Financial Corporation begins with a Buy rating and an end-of-year 2012 target price of \$25. The \$25 target price reflects a 36.98% upside potential. Sterling's target price was calculated using the Microsoft Excel "trend" function. Through regressing the company's end-of-year stock prices from 1999 to 2011, we were able to forecast Sterling's stock price for December 31, 2012. Sterling's end-of-year price estimate for 2012 resulted in a P/E ratio of 16.5x. For a regression analysis to be a feasible method of forecasting Sterling's future share price, extreme outliers were removed to foster a stronger correlation. The outliers that were removed from the regression were for years 2008 and 2009.

Sterling's management has a 4% Net Interest Margin (NIM) target—a 19.76% increase from the Sterling's 3rd Quarter NIM (3.34%). We have evaluated NIM as being the main driver of Sterling's Earnings per Share (EPS). Through minimizing NPL's and NPA's and growing its low-cost deposit base, we expect Sterling's EPS to grow by approximately 145% from year-end 2011 to year-end 2012.

Following the Great Recession from 2008-2010, Sterling's management intends to originate a larger percentage of multifamily loans going forward. Sterling's multifamily lending has provided the bank with a weighted average yield of 4.8% and has seen growth in the number of originations since late 2010. The high unemployment (8.7%, 9.1%, and 11.3%) and foreclosure rates in Washington, Oregon, and California make renting currently a more viable option than buying a home. In addition to the prevailing unemployment and foreclosure rates post-recession, the current vacancy rate for multifamily lending in the United States has fallen to 5.2%. The inability for consumers to obtain a mortgage loan due to financial difficulties and banks' tighter lending standards, coupled with the declining vacancy rate across the United States, will create a strong demand for multifamily loans.

The acquisition of First Independent Bank that we believe will come to fruition in 3rd Quarter 2012 has positive implications for Sterling's net interest margin (NIM), earnings per share, and market share in the Portland/Vancouver marketplace. Through gaining access to interest-bearing deposits that are .34% cheaper than their peer group, Sterling will expand its largest profitability driver: NIM. Through acquiring \$691 million in core deposits costing .41% and \$455 million in assets, Sterling's earnings per share for 3rd Quarter and 4th Quarter 2012 will increase by \$.05. Upon completion of the acquisition, Sterling will own and operate 14 new branches in the Portland/Vancouver area, increasing the bank's market share from #12 to #7.

The appointment of Director and CEO Gregory Seibly in November 2009 has provided Sterling with a long-term outlook focused on "Back to Basics" banking. Seibly's strategic vision for Sterling is to generate cost-effective funding through promotion of noninterest-bearing accounts, improve asset quality, develop high quality relationship-based asset generation, and control

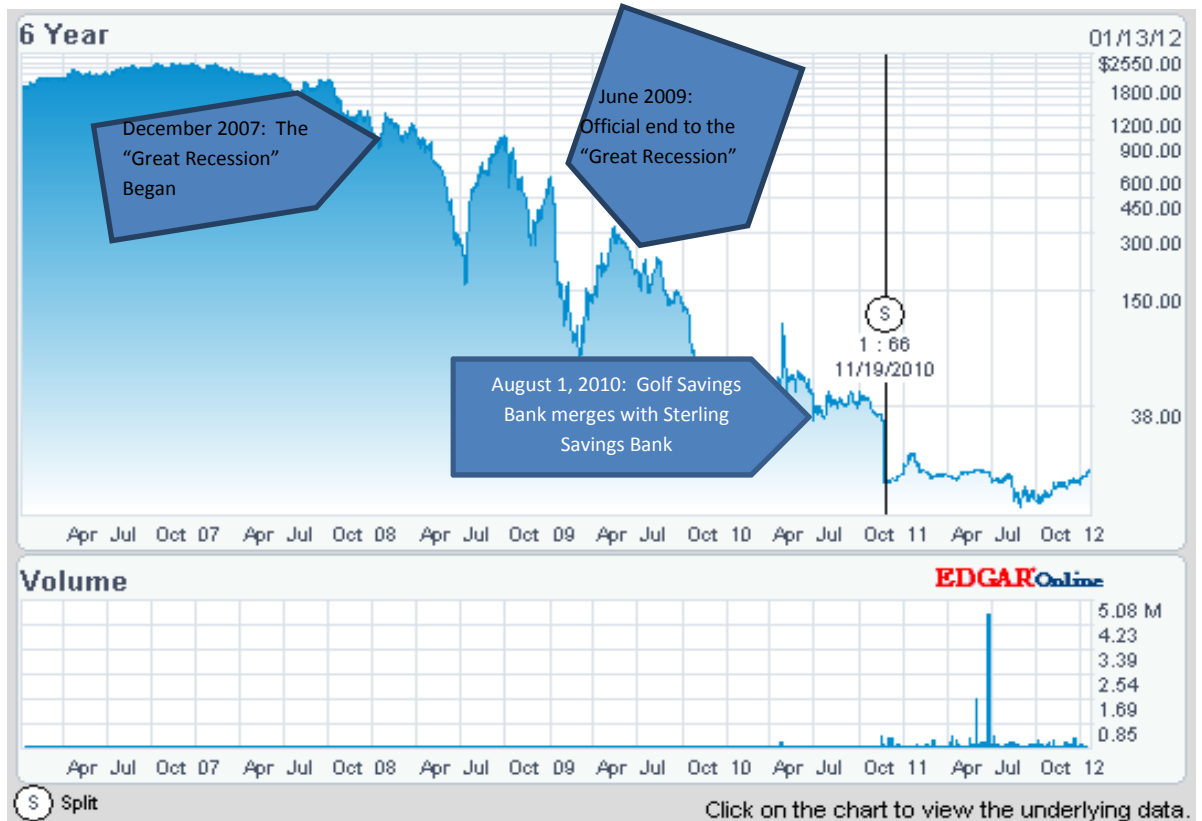
expenditures. The traditional banking approach taken by Sterling will smooth out returns over the long-run and keep the institution’s risk at a manageable level. The addition of Scott L. Jaeckel and David A. Coulter (representatives for Thomas H. Lee Partners and Warburg Pincus who own a combined 41.8% of Sterling Financial Corporation) will improve Sterling’s future vision. Jaeckel and Coulter have diverse banking backgrounds, and through their management positions at major private equity firms, have invaluable connections for Sterling’s management team and Board of Directors.

Due to Sterling’s operating losses from 2008-2010, the company has accrued a Deferred Tax Asset of \$290 million in earnings and capital. Based on common stock shares outstanding as of September 30, 2011, the Deferred Tax Asset could provide an increase of up to \$4.68 per share if exercised within the next 20 years.

Due to the potential for accounting differences between banks, a Price to Tangible Book Value (P/TBV) ratio was used to determine whether Sterling traded at a discount or at a premium relative to its comparable banks. Sterling’s four comparable banks—MB Financial Inc., Bank of Marin Bancorp, Heritage Oaks Bancorp, and Home Federal Bancorp—were chosen based on three criteria: market capitalization, geographic location, and asset mix. Sterling’s P/TBV of 1.33 is a slight discount relative to MB Financial Inc. (1.34) and Bank of Marin Bancorp (1.54). Sterling trades at a premium relative to Heritage Oaks Bancorp (0.98) and Home Federal Bancorp, Inc. (0.85).

Source: Sterling Financial Corporation Investor Presentation, Google.com (Public Data)

Sterling Financial Corporation Stock Price
 Stock Price Chart (April '06-Jan. '12)



Source: NASDAQ

Valuation

Our initial inclination in valuing Sterling Financial Corporation was to focus on two methodologies: Relative valuation and Discounted Cash Flow (DCF) valuation. However, the nature of a bank's business model and Sterling's operating losses from 2008 to 2010 impeded our ability to construct a valid DCF model. Our inability to perform a DCF valuation fostered our reliance on a commonplace valuation model used by analysts to assess the intrinsic value of a financial institution: the Price to Tangible Book Value (P/TBV) ratio.

Price to Tangible Book Value Ratio. The P/TBV ratio, as defined, is the market value of equity divided by the book value of equity less goodwill and other intangible assets. Due to the potential for differences in accounting for goodwill and intangible assets among banks, we opted to use the P/TBV ratio. P/TBV allows us to determine whether or not investors are paying a premium or a discount for the book value of equity in the firm. The P/TBV ratio is an effective rubric for valuing a bank because banks' assets and liabilities are typically closer to their market values than for most non-bank companies. In addition, banks are required to maintain a positive book value of equity due to regulatory constraints. To find the numerator of the P/TBV equation, we used Sterling's third quarter (9/30/2011) book value of equity and current stock price as of 1/25/2012. Sterling's market value of equity is \$1,131 million. The tangible book value of equity for Sterling is \$846 million. By dividing the market value of equity by the tangible book value of equity, we arrived at a P/TBV ratio for Sterling of 1.33. We believe that Sterling's P/TBV will increase to approximately 1.8. However, for Sterling's current P/TBV ratio to be meaningful, we needed to determine banks comparable to Sterling as a means of comparison (See Appendix 1.).

Comparable Banks. Comparable banks were chosen based on the following characteristics: market capitalization, geographic location, and asset mix. In choosing comparable banks, we placed the most weight on the institutions' asset mix because it is a strong reflection of whether or not the banks' business models are similar to that of Sterling. Based on the aforementioned criteria, we determined that Heritage Oaks Bancorp, MB Financial Inc., Home Federal Bancorp, Inc., and Bank of Marin Bancorp were valid comparables for Sterling. Heritage Oaks, Home Federal, and Bank of Marin all operate in the West Coast marketplace, have market capitalizations within proximity to Sterling, and have asset mixes similar to that of Sterling. Although, MB Financial does not have any branch locations on the West Coast, it is the closest in size to Sterling and has a comparable asset mix.

To determine the future stock price of Sterling for end-of-year 2012, we used three methodologies: Trend Analysis, P/E ratio, and Benjamin Graham's valuation equation.

Trend Analysis. In running a trend analysis of Sterling's end-of-year stock prices from 1999-2011 (2008 and 2009 outliers removed) using Microsoft Excel, we determined Sterling's 2012 year-end price target to be \$25.

P/E Ratio. The Price-to-Earnings (P/E) ratio is a firm's current stock price divided by the firm's earnings per share (EPS). In forecasting Sterling's future price, we used a trend analysis for Sterling's P/E ratios for years 1999-2011, not including 2008 and 2009 due to their presence as extreme outliers. The trend analysis provided us with an approximate P/E ratio for end-of-year 2012 of 15.0. To determine the denominator of the P/E ratio, we performed a trend analysis for Sterling's EPS and then adjusted the 3rd quarter, 4th quarter, and annual values because we believe this is when the accretion of First Independent Bank (FIB) will occur. Sterling's EPS for year-end 2012 is forecasted to be \$1.52. Through multiplying the predicted P/E ratio for end-of-year 2012 by the forecasted EPS, we arrived at an approximate stock price of \$22.82.

Benjamin Graham's Valuation Equation. Using famous value investor Benjamin Graham's stock valuation equation, we determined that Sterling's end-of-year 2012 stock price should be approximately \$29.97 based on our estimated EPS growth rate of 19.93% and current EPS of \$0.62 for year-end 2011.

In analyzing our range of Sterling's potential end-of-year 2012 stock prices using the aforementioned methodologies, we chose to use the \$25 forecasted share price. We believe that our \$25 price target represents a plausible price appreciation during the year based on Sterling's acquisition of FIB, strong NIM, and return to "Back to Basics" banking.

Source: *The Graham Investor*

Primary Risks to Our Price Target. Our price target of \$25 for end-of-year 2012 (a price appreciation of 36.98% from its current level) could be missed for the following reasons:

- An unfavorable ruling on any of the three pending lawsuits against Sterling Financial Corporation.
- A sharp increase in interest rates that cause Sterling's interest expense to rise while holding interest income constant.
- A shift in demand from multifamily rental structures to single-family housing spurred by a decrease in the unemployment rate and improvement of consumers' ability to enter into a mortgage contract.
- An oversupply of multifamily housing in the Washington, Oregon, and California markets.
- A deterioration of the United States' economy that leads to increased NPA's, NPL's, and charge-offs.
- Regulator disapproval of the First Independent Bank acquisition in 2012.
- Erosion of Sterling's bottom-line due to current bank regulatory environment (i.e. Dodd-Frank Act and Durbin Amendment).

Financial Analysis

Net Interest Margin. Due to general economic conditions, market interest rates, competitive pressures, and allowing the bank's level of deposits to decline to minimize the cost of funding, Sterling's reliance on the wholesale market may increase. Acquiring funds in the wholesale market, due to the increased cost of funds, would have a negative impact on Sterling's net interest margin.

Although deposit accounts—both interest-bearing and noninterest-bearing—are Sterling's primary source of funds, Sterling must also use advances from the FHLB, reverse repurchase agreements, and federal funds to supplement its deposits. During 2010, these borrowings decreased in the aggregate by \$949.6 million due to FHLB advances reaching maturity and Sterling's prepayment of \$295 million of the advances. The prepayment is expected to have a positive impact on Sterling's NIM for the next several quarters.

As of 3rd Quarter 2011, Sterling's NIM was 3.34%. Management's long-run NIM forecast of 4% would substantially increase the profitability of the financial institution.

Capital Ratios. After the commencement of Sterling's recapitalization program in August 2010, the bank's capital ratios have substantially improved relative to its peer group (all bank holding companies in the United States between \$7 billion and \$25 billion in assets). Sterling's Tier-1 leverage ratio is 11.1%, up from 10.1% on December 31, 2010 and 3.5% on December 31, 2009. Sterling's Tier-1 risk-based capital ratio for 3rd Quarter 2011 was 17.1%, compared to the bank's peer group median of 13.8%. Sterling's total risk-based capital was 18.4%, compared to its peer group median of 16.0%. Sterling's strong capital position has increased the health of the bank and, if maintained, will strengthen its competitive position.

Source: *Sterling Financial Corporation Investor Presentation*

Asset Mix. Before the financial crisis that arose in late-2007, Sterling Savings Bank's asset mix was heavily weighted in construction loans. As of Sept. 30, 2011, Sterling Savings Bank's loan portfolio consisted of:

- Commercial Banking: 30.8%
- Commercial Real Estate: 22.9%
- Multifamily Real Estate: 17.6%
- Residential Real Estate: 12.5%
- Consumer: 12.2%
- Construction: 3.9%
 - Residential: 20.1%
 - Multifamily: 13.2%
 - Commercial: 66.6%

Going forward, Sterling's management has expressed their intent to focus on multifamily lending in California and the Pacific Northwest. With apartment vacancies at an all-time low (due to high unemployment rates and foreclosures), multifamily lending appears to provide a lucrative market niche. However, there is a risk if Sterling becomes over-weighted in multifamily lending. If the housing market recovers and unemployment levels decline to the normal rate of unemployment (4-5%), rental property could become less enticing relative to single-family homes.

Residential construction loans decreased from 21% of the total nonperforming assets on December 31, 2010 to 10% on September 30, 2011. Sterling has decreased its total nonperforming assets by 46.75% and its net nonperforming assets by 46.13% from December 31, 2010 to September 30, 2011.

Total nonperforming loans decreased by 50.64% from December 31, 2010 to September 30, 2011. There was a 61.18% decrease in charge-offs on nonperforming loans from December 31, 2010 to September 30, 2011. Although Sterling experienced a 21.13% decrease in transfers to OREO from third quarter 2010 to fourth quarter 2010, there was a 3.24% increase in transfers from December 31, 2010 to September 30, 2011. Despite transfers to OREO increasing from end-of-year 2010 to 3rd Quarter 2011, Sterling's total OREO decreased in the aggregate by 30.98% during that time frame. The amount of charge-offs, nonperforming loans, and OREO on a bank's financial statements is a strong indicator of the institution's credit quality. Sterling's substantial decrease in nonperforming loans, charge-offs, and OREO from December 31, 2010 to September 30, 2011 shows the bank's increase in loan quality and overall health.

Source: Sterling Financial Corporation Investor Presentation

Deposit Composition: From December 31, 2010 to September 30, 2011, Sterling's deposit composition has changed as follows:

Deposits (nearest million)	9/30/2011	12/31/2010	Change (+/-)
Noninterest-Bearing	\$1,168	\$992	17.74%
Interest-Bearing	\$5,312	\$5,919	(10.25%)
Total	\$6,479	\$6,911	(6.25%)

The increase in noninterest-bearing transaction accounts and decrease in interest-bearing transaction accounts directly correlates with management's strategic objective to develop a low-cost core deposit base. Management's promotion of noninterest-bearing transaction accounts will lead to an expansion of Sterling's net interest margin and foster future profitability.

Texas Ratio. The Texas Ratio reveals how much tangible equity capital a bank has in comparison to their nonperforming loans. A Texas Ratio of near or above 100% shows a bank to be at risk. Sterling Savings Bank's Texas Ratio showed a significant decrease from 71.49% as of 9/30/2010 to 31.04% as of 9/30/2011. This indicates that the health of Sterling's loan portfolio has substantially i

Texas Ratios for Sterling and Comparables				
Banks	<i>Sterling Savings Bank</i>	<i>Heritage</i>	<i>Home</i>	<i>Marin</i>
Texas Ratio	31.04%	11.51%	36.73%	8.27%

Efficiency Ratio. The efficiency ratio analyzes a bank's total noninterest expense relative to the sum of its net interest income and noninterest income. Sterling's efficiency ratio is currently at 84.12% as of 9/30/2011 (See Figure 8.). Sterling's management has a long-term goal of achieving a 60% efficient ratio or better. By reducing their efficiency ratio through controlling noninterest expenditures, namely OREO, Sterling will increase the holding company's overall profitability.

Acquisition. Sterling Savings Bank has recently acquired First Independent Bank. The acquisition is expected to be finalized at the beginning of 2012, pending regulatory approval, and we believe will begin affecting Sterling Financial Corporation's financial statements in the third quarter of 2012. First Independent Bank had the #9 ranked deposit market share in the Portland-Vancouver MSA. Sterling Savings Bank (pre-acquisition ranking of #12) will stand at #7 after the acquisition is finalized. First Independent Bank will expand Sterling Savings Bank's market presence and add 14 branches to Sterling Savings existing 176 branches. In addition, Sterling will now provide Trust Services. Trust Services stems from First Independent Bank's Wealth Management segment and will expand Sterling Savings Bank's available products.

Source: Sterling Financial Corporation Investor Corporation

Deferred Tax Asset. As of December 31, 2010, Sterling's net deferred tax asset was approximately \$359 million, which includes about \$263 million of federal and state net operating losses. Sterling currently has a valuation allowance of \$359 million against this deferred tax asset. The results from 2009 included a provision for credit losses of \$681.4 million and an initial allowance against the deferred tax asset of \$269 million. In 2010, Sterling recorded a \$90 million increase in the allowance against the deferred tax asset due to the increase in its net operating loss. This resulted in Sterling not recognizing an income tax benefit during 2010.

Investment Risks

Strategic Risks

Failed Home Loans. Sterling Savings Bank, like the majority of U.S. banks, took heavy losses in its single-family home mortgage portfolio. The rate of foreclosures has dropped and Sterling has seen a decrease in its OREO. However, there still is an underlying risk in single-family mortgage loans. To counteract this risk, Sterling Savings has turned its attention to multifamily residential loans and providing housing for those who can no longer afford single-family housing.

Unemployment Rate. Although the current unemployment rate has reached its lowest level in three years, it is still a headwind for Sterling Savings Bank. With the recent number of jobs and homes lost, many individuals will be hesitant to invest in the housing market. In addition, we see young adults residing in their parents' home or choosing to have multiple roommates. This highlights young consumers' inability to qualify for mortgage loans. The local unemployment rate and forecasts of regional growth will play a factor in whether or not Sterling will consider investing in housing units in that city.

Asset Mix. Sterling's representatives stressed the importance of increasing multifamily loans in their loan portfolio to decrease the risk of nonperforming assets. This is a wise move for the present, but we have concern for the future. The personal savings rate in the United States has improved to 3.5% as of 11/1/2011, up from its 52-year low of 0.9% on 10/1/2011. This means that individual consumers have accrued more disposable income than historically. If consumers have funds available and are able to qualify for home loans, demand may shift from multifamily housing back to single-family housing.

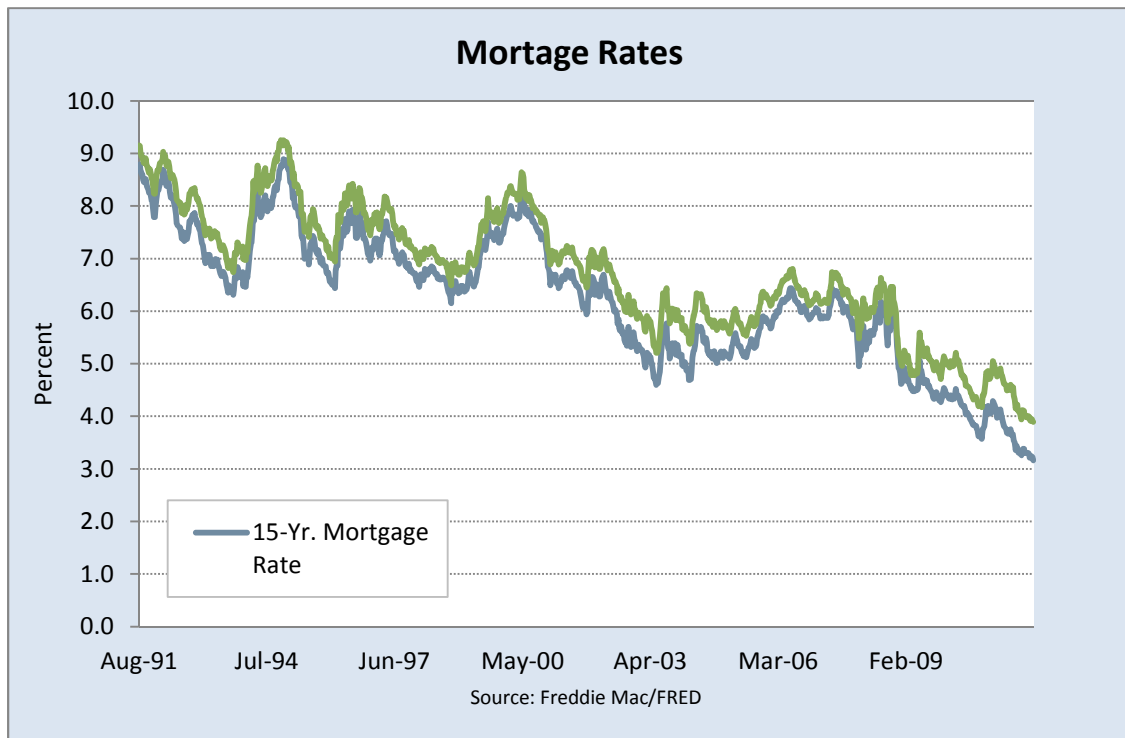
Financial Risks

Interest Rate Environment. With mortgage interest rates at records lows of 3.92% (30-year loan) and multifamily housing at 5.72% (30-year loan), Sterling faces profit constraints on these loans. With Sterling's loans having a greater maturity than their core deposit base, if interest rates rapidly rise, NIM will be eroded.

Compliance Risks

Regulations. After the housing crash, the Federal Government enacted many new laws in an attempt to avoid future catastrophes. Now with such acts as Dodd-Frank in place, Sterling faces strict operating rules. Upon completion of the First Independent Bank acquisition, Sterling will be even closer to facing the constraints imposed by the Durbin Amendment. These tighter restrictions will inhibit net income growth within the corporation.

Litigation. There are currently three lawsuits pending against Sterling Financial Corporation. These include: a shareholder derivative suit against current and former officers of Sterling for alleged breaches of fiduciary duty, a securities class action lawsuit which alleges current and former officers of Sterling have made false and misleading statements concerning the financial statements of Sterling, and a class action lawsuit which alleges breaches of fiduciary duties to participants in the Sterling Savings Bank Employee Savings and Investment Plan and Trust. The pending litigations outcomes are not estimable but should be taken into effect when assessing the future profitability of Sterling.



Appendix 1. Comparable Banks

Branch Locations (%)									
	WA	OR	ID	MT	CA	IL	IN	PA	
<i>Sterling Savings Bank</i>	40.34%	38.07%	10.23%	3.98%	7.39%				
<i>Home Federal Bancorp, Inc.</i>		61.76%	38.24%						
<i>Bank of Marin Bancorp</i>					100%				
<i>Heritage Oaks Bancorp</i>					100%				
<i>MB Financial Inc.</i>						97.75%	1.12%	1.12%	

Market Cap (in Millions)	
<i>Sterling Savings Bank</i>	\$1,004
<i>Home Federal Bancorp, Inc.</i>	\$180
<i>Bank of Marin Bancorp</i>	\$196
<i>Heritage Oaks Bancorp</i>	\$81
<i>MB Financial Inc.</i>	\$947

Construction	
<i>Sterling Savings Bank</i>	3.90%
<i>Home Federal Bancorp, Inc.</i>	6.07%
<i>Bank of Marin Bancorp</i>	5.52%
<i>Heritage Oaks Bancorp</i>	3.24%
<i>MB Financial Inc.</i>	4.13%

Multifamily Real Estate	
<i>Sterling Savings Bank</i>	17.60%
<i>Home Federal Bancorp, Inc.</i>	3.68%
<i>Bank of Marin Bancorp</i>	0.00%
<i>Heritage Oaks Bancorp</i>	2.47%
<i>MB Financial Inc.</i>	0.00%

Consumer	
<i>Sterling Savings Bank</i>	12.20%
<i>Home Federal Bancorp, Inc.</i>	10.98%
<i>Bank of Marin Bancorp</i>	12.15%
<i>Heritage Oaks Bancorp</i>	4.63%
<i>MB Financial Inc.</i>	8.34%

Commercial Banking	
<i>Sterling Savings Bank</i>	30.80%
<i>Home Federal Bancorp, Inc.</i>	13.20%
<i>Bank of Marin Bancorp</i>	17.37%
<i>Heritage Oaks Bancorp</i>	20.68%
<i>MB Financial Inc.</i>	41.41%

Note: The aforementioned percentages for construction, multifamily real estate, consumer, and commercial banking loans were calculated as a percentage of the net loans receivable for each of the respective financial institutions.

Appendix 2. Texas Ratios

Texas Ratio = Nonperforming Assets / Tangible Equity Capital (Nearest Million)				
	<i>Sterling</i>	<i>Heritage</i>	<i>Home</i>	<i>Marin</i>
Tangible Equity Capital	9/30/2011	9/30/2011	9/30/2011	9/30/2011
Common Stock	7.31	26.83	0.001	87.68
+ Surplus	2,012.26	84.51	85.98	0.00
+ Retained Earnings and Other C.I.	(956.88)	20.01	64.13	39.74
+ Securities Gains/(Losses)	57.30	0.84	5.83	57.30
+ Allowance for Loan Losses	186.20	20.41	14.37	13.22
- Goodwill	-	11.41	-	-
- Other Intangible Assets	34.45	1.83	3.25	0.70
Total Tangible Equity Capital	1,271.73	139.36	167.06	197.24
Nonperforming Assets				
Loans past due 90 days or more and still accruing	-	-	-	-
+ Nonaccrual Loans	260.84	13.09	36.46	10.74
+ OREO	111.51	2.19	23.28	0.15
+ Loans restructured in troubled debt restructurings	22.44	0.76	1.63	5.43
Total Nonperforming Assets	394.79	16.04	61.36	16.32
Texas Ratio	31.04%	11.51%	36.73%	8.27%

Appendix 3. Efficiency Ratio

Sterling Savings Bank Efficiency Ratio

Efficiency Ratio (Thousands)	10-Q (9/30/2011)	10-K (2010)	10-K (2009)	10-K (2008)
Total Noninterest Expenses (Net Interest Income + Noninterest Income)	84.12%	93.84%	79.09%	67.68%

Inputs

	10-Q (9/30/2011)	10-K (2010)	10-K (2009)	10-K (2008)
Total Noninterest Expenses	\$ 266,515	\$ 395,045	\$ 369,974	\$ 305,517
Net Interest Income	\$ 223,386	\$ 284,027	\$ 343,977	\$ 359,552
Noninterest Income	\$ 93,429	\$ 136,965	\$ 123,814	\$ 91,895

Appendix 4. Sterling Financial Corporation vs. Comparable Banks

	Sterling Savings Bank	Heritage Oaks Bancorp	MB Financial Inc.	Home Federal Bancorp	Bank of Marin Bancorp
P/BV Ratio					
<i>10-K (12/31/2010)</i>	1.27	0.88	0.811	0.85	1.63
<i>10-Q (9/30/2011)</i>	1.13	0.84	0.79	0.85	1.51
P/TBV Ratio	1.15	0.95	1.24	0.85	1.51
Return on Equity	(8.30%)	(15.46%)	1.49%	(2.27%)	9.68%
Cost of Equity	14.50%	8.62%	9.22%	N/A	8.49%
ROE (DepositAccounts.com)	4.32%	3.79%	2.02%	(3.05%)	13.66%

Appendix 5. Trend Analysis



Years	Net Interest Income	Net Income	EPS	Stock Price
1999	75,105	12,819	1.08	11.50
2000	79,766	13,653	1.15	12.12
2001	84,869	16,188	1.34	14.55
2002	100,348	25,587	1.96	18.82
2003	124,920	34,913	2.40	34.22
2004	196,186	56,503	2.49	39.26
2005	216,535.00	61,219.00	1.77	24.98
2006	263,912	73,946	2.03	33.81
2007	335,360	93,289	1.87	16.79
2008	359,552	(335,534)	(6.51)	8.80
2009	343,977	(838,094)	(16.48)	0.62
2010	284,027	(224,282)	(53.05)	18.97
2011	223,386	24,300	0.62	16.70

Years	Stock Prices	EPS	PE Ratio
1999	11.5	1.08	10.65
2000	12.12	1.15	10.54
2001	14.55	1.34	10.86
2002	18.82	1.96	9.60
2003	34.22	2.4	14.26
2004	39.26	2.49	15.77
2005	24.98	1.77	14.11
2006	33.81	2.03	16.66
2007	16.79	1.87	8.98
2010	18.97	(53.05)	(0.36)
2011	16.7	0.62	26.93
2012	25	1.52	15

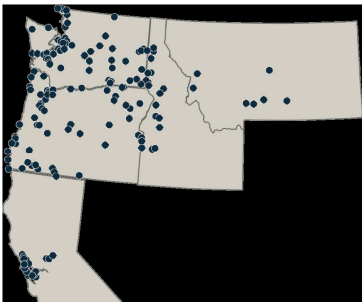
Disclosure: The following regressions and subsequent charts were computed using the aforementioned data, excluding extreme outliers in years 2008 and 2009. When attempting to determine a correlation from numerous data groups, it is necessary to remove statistical anomalies to strengthen one's regression and forecast future data points.

Appendix 6. Important Charts

Key Financial Data	
Book Value/Share (09.30.2011)	\$13.96
P/BV Ratio (01.25.2012)	\$1.32
Tangible BV/Share (09.30.2011)	\$13.66
P/TBV Ratio (01.25.2012)	\$1.33
Earnings/Share (09.30.2011)	\$0.39
P/E Ratio (09.30.2011)	31.74x
Market Cap (09.30.2011)	\$1.07B
Profitability Ratios	
Return on Assets (09.30.2011)	0.26%
Return on Equity (09.30.2011)	4.32%
Other Financial Data	
Unlevered Beta (09.30.2011)	0.94
Levered Beta (09.30.2011)	2.12
Texas Ratio (09.30.2011)	31.04%

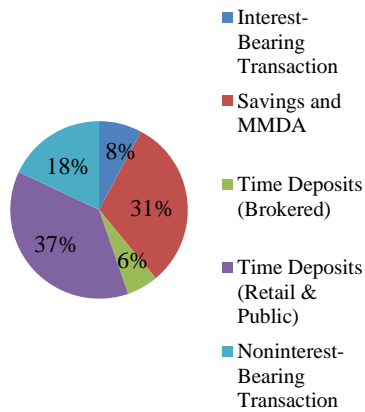


Figure 1. Branch Locations



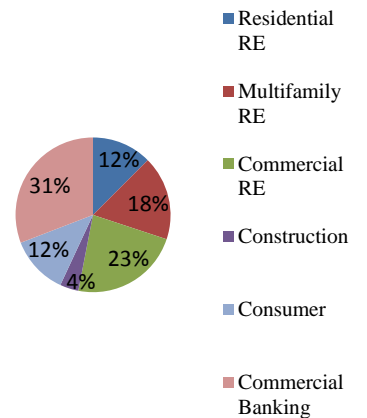
Source: Sterling Financial Corporation Investor Presentation

Figure 2. Deposit Composition



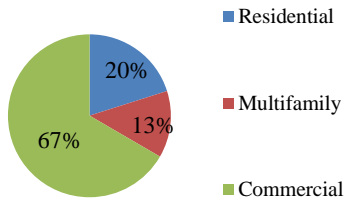
Source: 10-Q (9/30/2011)

Figure 3. Loan Portfolio



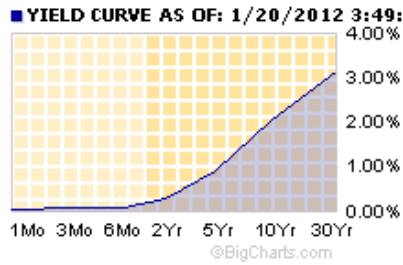
Source: 10-Q (9/30/2011)

Figure 4. Construction Loans



Source: 10-Q (9/30/2011)

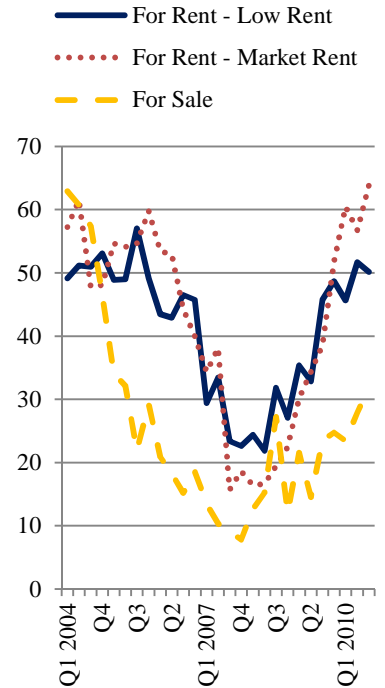
Figure 5. Yield Curve



Source: WSJ MarketWatch

Figure 6. MPI

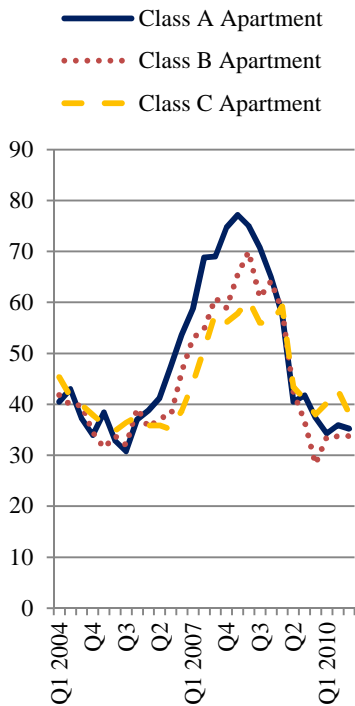
Multifamily Production Index – Components



Source: National Association of Home Builders

Figure 7. MVI

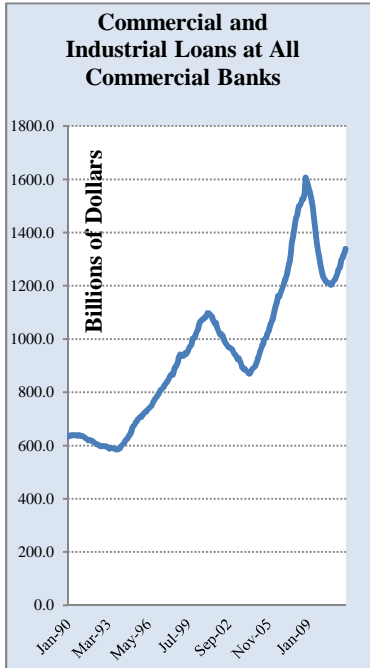
Multifamily Vacancy Index – Components



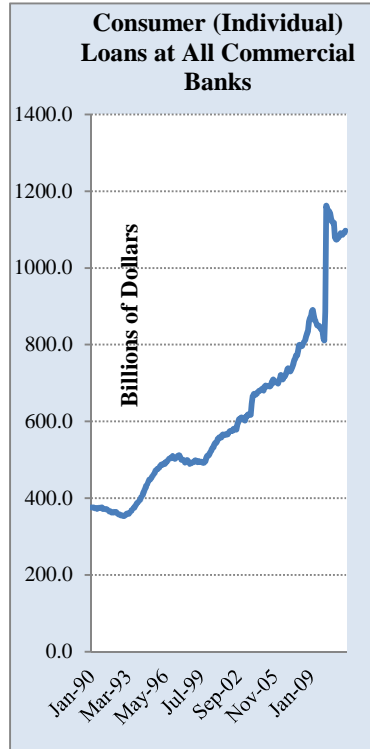
Source: National Association of Home Builders

Figure 8. Efficiency Ratio

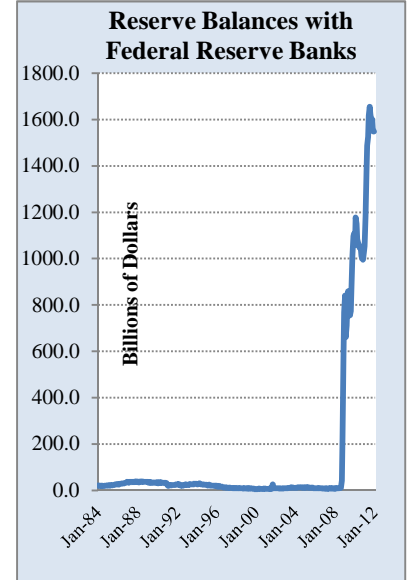
Sterling Savings Bank	Efficiency Ratio
2011 10-Q (Q3)	84.12%
2010 10-K	93.84%
2009 10-K	79.09%
2008 10-K	67.68%



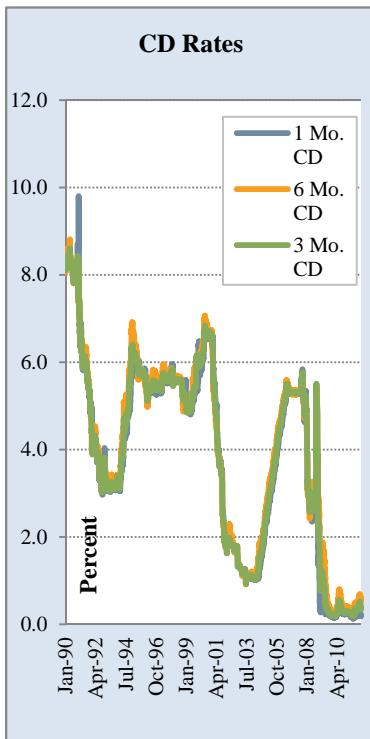
Source: Board of Governors of the Federal Reserve System/FRED



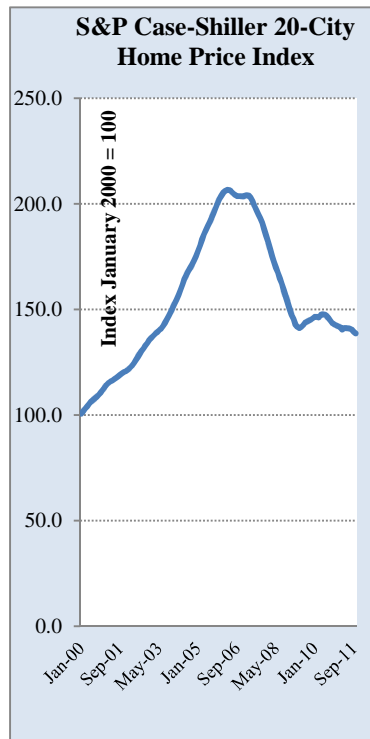
Source: Board of Governors of the Federal Reserve System/FRED



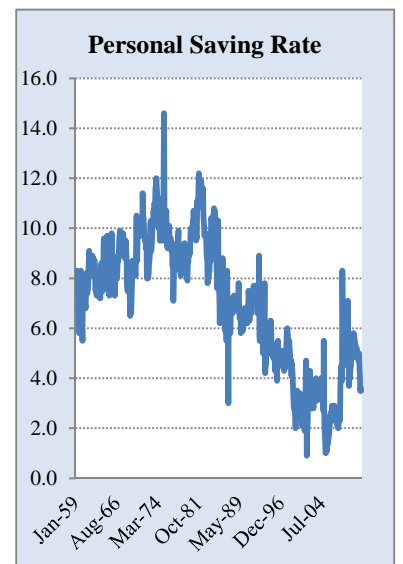
Source: Board of Governors of the Federal Reserve System/FRED



Source: Board of Governors of the Federal Reserve System/FRED



Source: Standard & Poors/FRED



Source: U.S. Dept. of Commerce: BEA/FRED

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Conclusion

Through performing an in-depth analysis of the efficient market hypothesis and analyzing the arguments posed by both its proponents and opponents, it is clear that there is not enough evidence to substantiate the correctness of either claim. Initially, in beginning this thesis with a critique of the efficient market hypothesis, my intent was to validate the use of valuation models by proving that markets were inefficient. However, in conducting further research regarding the efficient market hypothesis, I found that valuations were necessary regardless of whether or not markets were wholly efficient. If financial markets are deemed to be efficient, one can use valuation models to validate the market price. In an inefficient market, performing a valuation allows the investor to determine whether the asset in question is under-, over-, or fairly valued. Through thwarting my initial predisposition that valuation models were only useful in an inefficient market, I concluded that, when attempting to determine the intrinsic value of a publicly traded bank, a valuation model was an integral component.

Through rigorous research and conducting a case study on Sterling Financial Corporation, it was clear that the most effective valuation techniques in analyzing a publicly traded bank were as follows: 1) Relative valuation 2) Discounted Cash Flow (DCF) valuation. Due to the nature of a bank's business model, using a Price to Book Value or Price to Tangible Book Value ratio with respect to the firm's peer group median or comparable banks is an effective means of determining whether the institution is valued at a discount or a premium. Using a DCF valuation methodology is only plausible if one constructs a Dividend Discount Model (DDM) because the stream of dividend payments made by the firm represents the firm's cash flow to be discounted. If the

publicly traded bank does not issue a dividend, as in the case of Sterling Financial Corporation, a DDM is not plausible.

Through constructing Relative valuation and DCF valuation models for the particular bank being valued, remaining cognizant of the firm's fundamentals and operating environment, one can gain important insight into the intrinsic value of the company. Through allocating the necessary time and resources to build a valuation model, one will be able to make educated investment decisions grounded in the fundamentals of the bank. Famous Renaissance scientist Sir Isaac Newton once stated that "if I have seen a little further it is by standing on the shoulders of Giants."⁶⁷ Though following the aforementioned valuation model, one will truly be standing on the shoulders of giants

Endnotes

¹ Martin Sewell, Efficient Market Hypothesis: History, University College London, last modified November 4, 2011, <http://www.e-m-h.org/history.html>.

² Eugene F. Fama, The University of Chicago Booth School of Business, last modified 2012, http://www.chicagobooth.edu/faculty/bio.aspx?person_id=12824813568.

³ Eugene F. Fama, “The Behavior of Stock-Market Prices,” *The Journal of Business*, Vol. 38, No. 1 (Jan., 1965), <http://www.jstor.org/stable/2350752>, 90.

⁴ Eugene F. Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *The Journal of Finance*, Vol. 25, No. 2 (May, 1970), <http://www.jstor.org/stable/2325486>, 383.

⁵ Burton G. Malkiel, “The Efficient Market Hypothesis and Its Critics,” *The Journal of Economic Perspectives*, Vol. 17, No. 1 (Winter, 2003), <http://www.jstor.org/stable/3216840>.

⁶ Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset, Second Edition* (New York: John Wiley & Sons, Inc., 2002), 112.

⁷ Robert J. Shiller, “Do Stock Prices Move too Much to be Justified by Subsequent Changes in Dividends,” *The American Economic Review*, Vol. 71, No. 3 (Jun., 1981), <http://www.jstor.org/stable/1802789>, 424.

⁸ *Ibid*, 425.

⁹ *Ibid*, 422.

¹⁰ Burton G. Malkiel, “The Efficient Market Hypothesis and Its Critics,” *The Journal of Economic Perspectives*, Vol. 17, No. 1 (Winter, 2003), <http://www.jstor.org/stable/3216840>.

¹¹ *Ibid*, 3.

¹² Eugene F. Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *The Journal of Finance*, Vol. 25, No. 2 (May, 1970), <http://www.jstor.org/stable/2325486>, 386.

¹³ *Ibid*, 390.

¹⁴ Jeremy J. Siegel, “The ‘Noisy Market’ Hypothesis,” *The Wall Street Journal*, June 14, 2006,

<http://www.nd.edu/~mbamicro/datafiles/articles/The%20'Noisy%20Market'%20Hypothesis.pdf>, 4.

¹⁵ Ibid, 2.

¹⁶ Lawrence H. Summers, “Does the Stock Market Rationally Reflect Fundamental Values,” *The Journal of Finance*, Vol. 41, No.3 (Jul., 1986), <http://www.jstor.org/stable/2328487>, 598.

¹⁷ Robert J. Shiller, *Irrational Exuberance* (Princeton, New Jersey: Princeton University Press, 2000), 179.

¹⁸ Ibid, 183.

¹⁹ Ibid, 175.

²⁰ Selena Maranjian, “A Sneaky Way Companies Boost Their Stock price,” *Daily Finance*, last modified July 29, 2011, <http://www.dailyfinance.com/2011/07/29/a-sneaky-way-companies-boost-their-stock-price/>.

²¹ Burton G. Malkiel, “The Efficient Market Hypothesis and Its Critics,” *The Journal of Economic Perspectives*, Vol. 17, No. 1 (Winter, 2003), <http://www.jstor.org/stable/3216840>, 12.

²² Jeremy J. Siegel, “The ‘Noisy Market’ Hypothesis,” *The Wall Street Journal*, June 14, 2006, <http://www.nd.edu/~mbamicro/datafiles/articles/The%20'Noisy%20Market'%20Hypothesis.pdf>, 2.

²³ Jerald E. Pinto et al., *Equity Asset Valuation*, 2nd ed. (Hoboken, New Jersey: John Wiley & Sons, Inc., 2010), 147.

²⁴ Aswath Damodaran, “Valuation: Lecture Note Packet 1 Intrinsic Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011).

²⁵ Jerald E. Pinto et al., *Equity Asset Valuation*, 2nd ed. (Hoboken, New Jersey: John Wiley & Sons, Inc., 2010), 147.

²⁶ Ibid, 148.

²⁷ Ibid, 147.

²⁸ Thayer Watkins, “Capital Leverage: Financial Intermediation,” San Jose State University Economics Department, <http://www.sjsu.edu/faculty/watkins/leverage.htm>.

²⁹ Aswath Damodaran, “Valuation: Lecture Note Packet 1 Intrinsic Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011), 11.

³⁰ *Ibid*, 20.

³¹ Aswath Damodaran, “Valuation: Lecture Note Packet 1 Intrinsic Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011).

³² *Ibid*, 73.

³³ *Ibid*, 73.

³⁴ *Ibid*, 72.

³⁵ *Ibid*, 72.

³⁶ *Ibid*, pre-class test.

³⁷ *Ibid*, 38.

³⁸ *Ibid*, 38.

³⁹ *Ibid*, 39.

⁴⁰ Aswath Damodaran, “Valuation: Lecture Note Packet 1 Intrinsic Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011).

⁴¹ *Ibid*, 123.

⁴² Jerald E. Pinto et al., *Equity Asset Valuation*, 2nd ed. (Hoboken, New Jersey: John Wiley & Sons, Inc., 2010), 94.

⁴³ *Ibid*, 95.

⁴⁴ *Ibid*, 96.

⁴⁵ *Ibid*, 96.

⁴⁶ Myron J. Gordon,
<http://www.rsc.ca/documents/GordonMyronJElectedin19931920-2010.pdf>.

⁴⁷ Jerald E. Pinto et al., *Equity Asset Valuation*, 2nd ed. (Hoboken, New Jersey: John Wiley & Sons, Inc., 2010), 97.

⁴⁸ *Ibid*.

- ⁴⁹ “Relative,” Dictionary.com, <http://dictionary.reference.com/browse/relative>.
- ⁵⁰ Aswath Damodaran, “Valuation: Lecture Note Packet 2 Relative Valuation and Private Company Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011).
- ⁵¹ Ibid, 6.
- ⁵² Ibid, 3.
- ⁵³ “Law of Large Numbers,” Investopedia, <http://www.investopedia.com/terms/l/lawoflargenumbers.asp#axzz1nw23HQwH>.
- ⁵⁴ Aswath Damodaran, “Valuation: Lecture Note Packet 2 Relative Valuation and Private Company Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011), 7.
- ⁵⁵ Ibid, 96.
- ⁵⁶ Jerald E. Pinto et al., *Equity Asset Valuation*, 2nd ed. (Hoboken, New Jersey: John Wiley & Sons, Inc., 2010), 304.
- ⁵⁷ “Payout Ratio,” Investopedia, <http://www.investopedia.com/terms/p/payoutratio.asp#axzz1jgX3N8X4>.
- ⁵⁸ “Sterling Financial Corp. (STSA),” Yahoo! Finance, last updated March 29, 2012, <http://finance.yahoo.com/q/pr?s=STSA+Profile>.
- ⁵⁹ Aswath Damodaran, “Valuation: Lecture Note Packet 2 Relative Valuation and Private Company Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011), 29.
- ⁶⁰ Aswath Damodaran, “Betas by Sector,” Damodaran Online, last modified January 2012, http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html.
- ⁶¹ Michael C. Ehrhardt and Eugene F. Brigham, *Financial Management: Theory and Practice* (Mason, Ohio: South-Western Cengage Learning, 2011), 347-350.
- ⁶² “S&P 500 Dividend Yield,” last modified March 29, 2012, <http://www.multpl.com/s-p-500-dividend-yield/>.
- ⁶³ Aswath Damodaran, “Valuation: Lecture Note Packet 1 Intrinsic Valuation,” (lecture, MBA Valuation course, New York, NY, August 30-December 14, 2011), 171.

⁶⁴ Aswath Damodaran, "Equity Risk Premiums: The 2012 Edition," *Musing on Markets*, March 23, 2012, <http://aswathdamodaran.blogspot.com/>.

⁶⁵ U.S. Securities and Exchange Commission, *Sterling Financial Corporation 10-K* (Washington, DC: GPO, 2010), 15.

⁶⁶ *Ibid*, TX1.

⁶⁷ "Standing on the Shoulders of Giants," The Phrase Finder, <http://www.phrases.org.uk/meanings/268025.html>.

Bibliography

- Damodaran, Aswath. "Betas by Sector." Damodaran Online. Last modified January 2012. http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html.
- Damodaran, Aswath. "Equity Risk Premiums: The 2012 Edition. *Musing on Markets*. March 23, 2012. <http://aswathdamodaran.blogspot.com/>.
- Damodaran, Aswath. *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset, Second Edition*. New York: John Wiley & Sons, Inc., 2002.
- Damodaran, Aswath. "Valuation: Lecture Note Packet 1 Intrinsic Valuation." Lecture for MBA Valuation course, New York, NY, August 30-December 14, 2011.
- Damodaran, Aswath. "Valuation: Lecture Note Packet 2 Relative Valuation and Private Company Valuation." Lecture for MBA Valuation course, New York, NY, August 30-December 14, 2011.
- Ehrhardt, Michael C., and Eugene F. Brigham, *Financial Management: Theory and Practice* Mason, Ohio: South-Western Cengage Learning, 2011.
- Fama, Eugene F. "The Behavior of Stock-Market Prices." *The Journal of Business*, Vol. 38, No.1 (Jan., 1965). <http://www.jstor.org/stable/2350752>.
- Fama, Eugene F. "Efficient Capital Markets: A Review of Theory and Empirical Work." *The Journal of Finance*, Vol. 25, No. 2 (May, 1970). <http://www.jstor.org/stable/2325486>.
- Fama, Eugene F. The University of Chicago Booth School of Business. Last modified 2012. http://www.chicagobooth.edu/faculty/bio.aspx?person_id=12824813568.
- "Law of Large Numbers." Investopedia. <http://www.investopedia.com/terms/l/lawoflargenumbers.asp#axzz1nw23HQwH>.
- Malkiel, Burton G. "The Efficient Market Hypothesis and Its Critics." *The Journal of Economic Perspectives*, Vol. 17, No. 1 (Winter, 2003). <http://www.jstor.org/stable/3216840>.
- Maranjian, Selena. "A Sneaky Way Companies Boost Their Stock price." Daily Finance. Last modified July 29, 2011. <http://www.dailyfinance.com/2011/07/29/a-sneaky-way-companies-boost-their-stock-price/>.
- Myron J. Gordon, <http://www.rsc.ca/documents/GordonMyronJElectedin199319202010.pdf>.

“Payout Ratio.” Investopedia.

<http://www.investopedia.com/terms/p/payoutratio.asp#axzz1jgX3N8X4>.

Pinto, Jerald E., Elaine Henry, Thomas R. Robinson, John D. Stowe. *Equity Asset Valuation*, 2nd ed. Hoboken, New Jersey: John Wiley & Sons, Inc., 2010.

“Relative.” Dictionary.com. <http://dictionary.reference.com/browse/relative>.

Sewell, Martin. Efficient Market Hypothesis: History. University College London. Last modified November 4, 2011. <http://www.e-m-h.org/history.html>.

Shiller, Robert J. “Do Stock Prices Move too Much to be Justified by Subsequent Changes in Dividends.” *The American Economic Review*, Vol. 71, No. 3 (Jun., 1981). <http://www.jstor.org/stable/1802789>.

Shiller, Robert J. *Irrational Exuberance*. Princeton, New Jersey: Princeton University Press, 2000.

Siegel, Jeremy J. “The ‘Noisy Market’ Hypothesis.” *The Wall Street Journal*, June 14, 2006,
<http://www.nd.edu/~mbamicro/datafiles/articles/The%20'Noisy%20Market'%20Hypothesis.pdf>.

“S&P 500 Dividend Yield.” Last modified March 29, 2012. <http://www.multip.com/s-p-500-dividend-yield/>.

“Standing on the Shoulders of Giants.” The Phrase Finder.
<http://www.phrases.org.uk/meanings/268025.html>.

“Sterling Financial Corp. (STSA).” Yahoo! Finance. Last updated March 29, 2012.
<http://finance.yahoo.com/q/pr?s=STSA+Profile>.

Summers, Lawrence H. “Does the Stock Market Rationally Reflect Fundamental Values.” *The Journal of Finance*, Vol. 41, No.3 (Jul., 1986).
<http://www.jstor.org/stable/2328487>.

U.S. Securities and Exchange Commission. *Sterling Financial Corporation 10-K* Washington, D.C.: GPO, 2010, 15.

Watkins, Thayer. “Capital Leverage: Financial Intermediation.” San Jose State University Economics Department.
<http://www.sjsu.edu/faculty/watkins/leverage.htm>.