This paper was awarded an Honorable Mention by *The AFG Journal of Equity Valuation & Selection* in the 2009 AFG Research Summit Competition.

VALUING COMMUNITY BANK STOCKS

The objective of this paper is to illustrate, explain and critique the four most relevant approaches to valuing community bank stocks, and to discuss other issues germane to the community bank stock valuation process in an effort to provide practitioners with insights for future investment decisions.

Introduction

The process of assigning a value to a share of common stock involves more art than science – or at least more than securities analysts would like to admit. This, of course, is due to the significant impact that expectations regarding future profitability and earnings growth have on current stock prices, and the attendant uncertainty surrounding such expectations. As Niels Bohr (and later, more famously, Yogi Berra) noted, "It's hard to make predictions, especially about the future."

This paper focuses on the valuation of *community* bank stocks (herein just "bank stocks" for purposes of simplicity) as opposed to the stocks of "regional" and "money center" banks. While there is certainly a great deal of overlap between the valuation processes for the various classes of banks, regional and money center banks tend to have considerably more complicated businesses (as a result of their larger size, wider product offerings, and extensive off-balance sheet instruments), and thus more complicated valuation issues, than community banks, which tend to focus on the core blocking-and-tackling banking strategy of gathering deposits and underwriting loans.

The best approach to valuing bank stocks – or any other type of stock for that matter – is to employ multiple valuation techniques that encompass both sound financial theory as well as current market realities, as the latter are often wholly disconnected from the former. Although, hopefully, in most cases the analyst will find that the values derived from both "theory-based" and "reality-based" techniques aren't too far removed from one another.

The four most relevant approaches to valuing bank stocks are (1) peer group comparisons, (2) dividend discount models, (3) takeout values, and (4) liquidation values.

Most analysts – of the banking variety and others – simply apply a price-to-earnings (P/E) multiple to a company's estimated earnings in order to come up with the company's projected stock price. Apparently, these analysts would have investors believe that the P/E multiple is an independent variable, and the derived value is the dependent variable, in determining the value of a share of common stock. Clearly, this should not be the case. The value of a share of common stock, after all, is the estimated present value of its future dividends (or free cash flow), and the P/E multiple is derived by dividing this value by the company's earnings. In other words, the P/E multiple is the *de*pendent variable, not the *inde*pendent variable, in the valuation process.

Many analysts would reply to the above criticism by suggesting that their projected P/E multiple captures the effect of discounting estimated cash flows, and that the aforementioned reproach is to some degree a matter of semantics. This, in fact, may be the case. Nevertheless, the number of valuation analyses involving economic profits and/or discounted dividends/cash flow that most investment professionals run across over their careers is rather small as a percentage of the total research that ultimately ends up at the local landfill. At the end of the day, it is important to "check" market prices using a discounted dividend/cash flow framework (i.e., theory) while, at the same time, acknowledging that relative peer group valuations (i.e., current realities) are the driving force behind most stock prices in the short run.

Peer Group Comparisons

To say that Wall Street is fixated on peer group comparisons is an understatement. A bank's valuation relative to its peers is the single most important element in determining the company's value *in the short term.* The vast majority of Wall Street research reports reach their conclusion

regarding valuation with verbiage resembling the following: "We believe that Bank X should trade roughly in line with its peers, which are trading at 13x EPS, yielding a price target of Y."

The appeal of using this approach is obvious: it is easy. The two main problems with this approach, however, are it: (1) ignores the over- or under-valuation of the bank's peer group as a whole (that is, it assumes market efficiency), and (2) tends to overemphasize the short-term issue of earnings growth over the longer-term issues of dividend growth and return on capital. Nevertheless, as a result of this technique's ubiquitous use, it is important to understand how to properly use peer group comparisons in valuing bank stocks.

The first step in making a peer group comparison is to find an appropriate peer group for the bank under evaluation. Second, the analyst should compare the bank's core (P/E) ratio, price-to-tangible book value, or tangible deposit premium (depending on the metric being used in the comparison) with that of its peer group. Third, the analyst must determine whether or not the bank should trade at a discount or premium to its peer group based on the institution's relative attractiveness in terms of projected earnings growth, return on equity, asset quality, deposit base, and quality of management, among many other variables. Finally, the analyst applies the premium or discount to the estimate of the variable in question to come up with a value for the bank's common stock.

The data in Exhibit 1 are useful for illustrating an example of this approach. The peer group for the bank in question – Bank X – consists of all commercial banks with assets between $1 billion and $5 billion in Bank X's region. Bank X is trading at 11.82x its Year 1 actual EPS (of $1.91) and 10.45x its estimated Year 2 EPS (of $2.16). This compares to its average peer, which is trading at 15.28x actual Year 1 EPS and 14.07x estimated Year 2 EPS. Thus, on a P/E basis, Bank X appears to be undervalued relative to its peers.

The next step is to figure out why Bank X is trading at a discount to its peers on a P/E basis. From Exhibit 1 we can find a few – and only a few – reasons why this might be the case.

First, Bank X's Return on Average Assets (ROAA) – which reflects the company's core, unleveraged profitability – at 1.35% is a bit lower than that of its average peer which generates a 1.54% ROAA. While Bank X's Return on Average Equity (ROAE) is slightly better than that of its typical peer, this result is achieved by using greater leverage, as opposed to generating superior core profitability. Thus, slightly below-peer profitability is one reason that an analyst might discount Bank X's P/E ratio relative to its average peer.

Second, Bank X's stock is not as liquid as its typical peer, with an average daily trading volume of just 30,560 shares versus 110,993 shares for its average peer and 48,028 shares for its median peer. Below-peer liquidity is another reason that an analyst might discount Bank X's P/E ratio relative to its typical peer.

Finally, Bank X's asset quality and reserve coverage, while not necessarily problematic, are slightly sub-par relative to its peers; thus, one more reason for applying a discount to Bank X's relative P/E.

Thus, Bank X should probably trade at a discount to its peer group on a P/E basis based on the three reasons cited above. Now the hard part: What discount should be applied? This is where art meets science in the valuation process, because the "right" answer is not at all clear.

In my view, the discount currently applied to Bank X's stock is too great based on the information given (and assuming all else is equal, of course). Three of Bank X's peers – Banks E, F and L – are meaningfully inferior to Bank X on an ROAE basis and yet they trade at substantial premiums to Bank X on a P/E basis. In fact, the only company among Bank X's peers that trades at an equivalently low multiple of earnings is Bank G, which has a considerably lower ROAA than

Bank X, a lower NIM, inferior relative reserve coverage, and lower estimated earnings growth for 2003 relative to Bank X.

With the information given, it would seem logical that Bank X should trade somewhere between 10.47x estimated 2003 EPS (Bank G's P/E multiple) and 14.0x estimated 2003 EPS (the average of Bank X's peers). In my view, given the facts, a conservative target for Bank X is 12x estimated 2003 EPS, which reflects a 14% discount to its average peer and 15% upside from its current price of $22.57.

One could apply the same analysis to Bank X based on its price/book value (P/BV) multiple relative to its peers as well. However, it is critically important to look at relative capital levels (here, the ratio of tangible equity to assets) when comparing P/BV multiples to ensure that an apples-to-apples comparison is being made. Most investors are unwilling to pay a premium for a bank's "excess" equity – that is, any equity in excess of 6%-7% of assets, which is considered by most investors to be the optimal amount of equity with which most banks should operate. Consequently, when comparing P/BV multiples, the analyst should "normalize" equity levels across the companies being compared.

In Exhibit 2 it is assumed that a normalized ratio of tangible equity to assets is 7% (Column 4). In Column 5 (of Exhibit 2) each bank's excess equity is calculated by multiplying the difference between Column 3 (Tangible Equity/Assets) and Column 4 ("Normalized" Tangible Equity/Assets) by Column 1 (Total Assets). Next, to calculate a normalized P/BV multiple, Column 5 (Excess Equity) is subtracted from Column 7 (Market Cap) and the result is divided by Column 6 ("Normalized" Tangible Book Value). In this last step each bank's excess equity is removed from both the company's market capitalization and its tangible equity, thereby neutralizing such excess equity for valuation considerations. Clearly, on this basis, Bank X looks even cheaper relative to its peers than on a comparative P/E basis.

Exhibit 1
Bank X vs. Peer Group

Company Name	(1) Total Assets ($000)	(2) Closing Price ($)	(3) Price/ Year 1 Actual EPS (x)	(4) Price/ Year 2 Est. EPS (x)	(5) Est. EPS Growth Year 1 - Year 2 (%)	(6) Price/ Book (%)	(7) Price/ Tangible Book (%)	(8) Market Cap ($M)	(9) Avg. Daily Volume (Shares)	(10) Tang. Equity/ Assets (%)	(11) Core ROAA Year 1 (%)	(12) Core ROAE Year 1 (%)	(13) NIM Year 1 (%)	(14) NPAs/ Assets YE Year 1 (%)	(15) Reserves/ NPAs YE Year 1 (%)
Bank C	1,073,523	23.75	12.24	11.31	8.22	181.57	181.57	167.32	12,081	8.58	1.39	15.17	5.67	0.97	137.51
Bank D	1,425,178	17.10	12.76	11.88	7.41	200.70	200.70	235.31	25,707	8.23	1.44	16.92	4.02	0.29	265.86
Bank E	1,928,022	17.00	14.66	13.93	5.24	192.31	192.31	404.43	23,806	10.91	1.48	11.38	5.65	0.67	135.39
Bank F	2,161,088	34.00	20.99	15.53	35.16	164.41	399.53	517.68	44,024	6.00	1.16	8.53	5.50	0.69	160.11
Bank G	2,457,890	20.41	11.25	10.47	7.45	117.57	117.57	235.52	45,427	8.15	0.92	11.38	3.65	0.75	150.17
Bank H	2,665,084	41.16	15.24	13.95	9.25	260.33	274.03	740.84	22,812	10.14	1.84	17.74	4.32	0.37	237.06
Bank I	2,848,316	26.26	20.20	17.51	15.36	338.60	376.22	914.19	50,628	8.53	1.74	19.41	4.79	0.03	912.00
Bank J	3,245,839	34.07	17.04	15.01	13.52	296.67	312.28	813.20	145,100	8.02	1.66	18.57	4.29	0.17	611.81
Bank K	3,326,065	42.90	21.45	17.23	24.49	351.64	390.71	843.75	184,522	6.49	1.42	22.20	3.96	0.09	947.00
Bank L	3,863,599	18.67	15.82	14.36	10.17	153.28	153.28	799.65	579,682	13.50	1.53	9.08	5.79	0.53	363.55
Bank M	4,083,899	26.00	13.00	12.62	3.01	263.42	263.42	904.25	83,649	8.41	1.71	19.51	5.26	1.07	126.27
Bank N	4,209,564	39.98	15.32	14.18	8.04	386.49	429.43	1,340.15	114,482	7.41	2.22	29.84	5.74	0.24	536.85
	Average	**N/A**	**15.83**	**14.00**	**12.28**	**242.25**	**274.25**	**659.69**	**110,993**	**8.70**	**1.54**	**16.64**	**4.89**	**0.49**	**381.97**
	Median	**N/A**	**15.28**	**14.07**	**8.74**	**230.51**	**268.73**	**770.25**	**48,028**	**8.32**	**1.51**	**17.33**	**5.03**	**0.45**	**251.46**
Bank X	**1,416,401**	**22.57**	**11.82**	**10.45**	**13.11**	**159.56**	**159.56**	**169.83**	**30,560**	**7.51**	**1.35**	**17.73**	**4.73**	**0.77**	**219.69**

Exhibit 2
Normalizing Book Value

Company Name	(1) Total Assets ($000)	(2) Total Tangible Equity ($000)	(3) Tang. Equity/ Assets (%)	(4) "Normalized" Tang. Equity/ Assets (%)	(5) Excess Equity[1] ($000)	(6) "Normalized" Tangible Book [2] ($000)	(7) Market Cap * ($M)	(8) Market Cap Less Excess Equity * ($M)	(9) Price/ Tangible Book (%)	(10) "Normalized" Price/ Tangible Book [3] (%)
Bank C	1,073,523	92,152	8.58	7.00	17,005	75,147	167.32	150.31	181.57	200.03
Bank D	1,425,178	117,245	8.23	7.00	17,482	99,762	235.31	217.83	200.70	218.35
Bank E	1,928,022	210,301	10.91	7.00	75,340	134,962	404.43	329.09	192.31	243.84
Bank F	2,161,088	129,572	6.00	7.00	-21,704	151,276	517.68	539.38	399.53	356.56
Bank G	2,457,890	200,323	8.15	7.00	28,271	172,052	235.52	207.25	117.57	120.46
Bank H	2,665,084	270,350	10.14	7.00	83,794	186,556	740.84	657.05	274.03	352.20
Bank I	2,848,316	242,993	8.53	7.00	43,611	199,382	914.19	870.58	376.22	436.64
Bank J	3,245,839	260,407	8.02	7.00	33,199	227,209	813.20	780.00	312.28	343.30
Bank K	3,326,065	215,953	6.49	7.00	-16,872	232,825	843.75	860.62	390.71	369.64
Bank L	3,863,599	521,692	13.50	7.00	251,240	270,452	799.65	548.41	153.28	202.78
Bank M	4,083,899	343,273	8.41	7.00	57,400	285,873	904.25	846.85	263.42	296.23
Bank N	4,209,564	312,076	7.41	7.00	17,407	294,669	1,340.15	1,322.74	429.43	448.89
	Average		**8.70**						**274.25**	**299.08**
	Median		**8.32**						**268.73**	**319.77**
Bank X	**1,416,401**	**106,436**	**7.51**	**7.00**	**7,288**	**99,148**	**169.83**	**162.54**	**159.56**	**163.94**

[1] *Excess Equity = [(3) - (4)] * (1)*

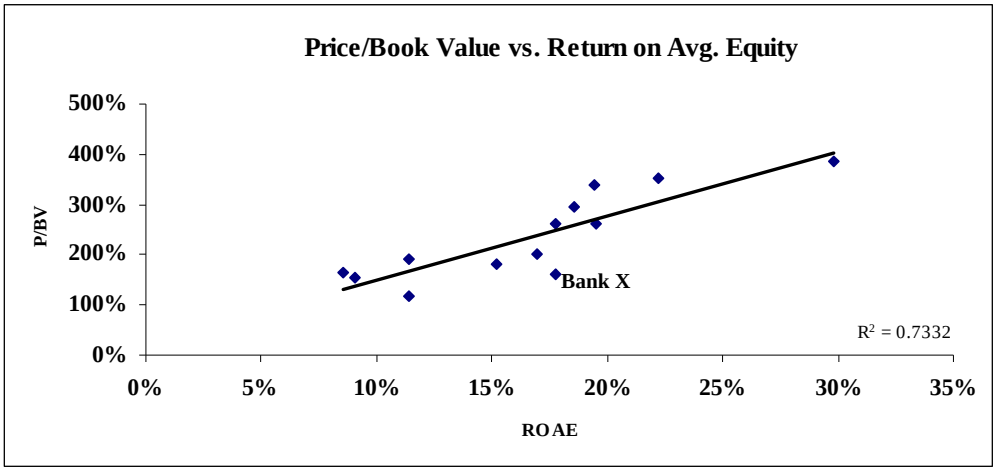
[2] *Normalized Tangible Book = (2) - (5)*

[3] *Normalized Price/Tangible Book = (8) / (6)*

** When doing the math, remember to adjust (7) and (8) for $millions, as the others are in $000s*

Exhibit 3 shows the relationship between the respective P/BV multiples and Returns on Average Equity for the group of banks in Exhibit 1. Clearly, for the group under consideration, there is a strong correlation between P/BV multiples and ROAE. In fact, 73% of the difference in P/BV multiples can be explained by differences in ROAE alone. This finding should be intuitive. After all, all else being equal, a bank with a higher sustainable ROAE should trade at a higher multiple of book value than a bank with a lower ROAE. Another way of thinking about this is: the greater the spread between a bank's Return on Capital (ROAE in this case) and its Cost of Capital (which, for convenience, we will assume is the same for all of the banks in this example), the greater the multiple of such capital (equity) at which the bank should trade.

Exhibit 3
Price/Book Value vs. ROAE

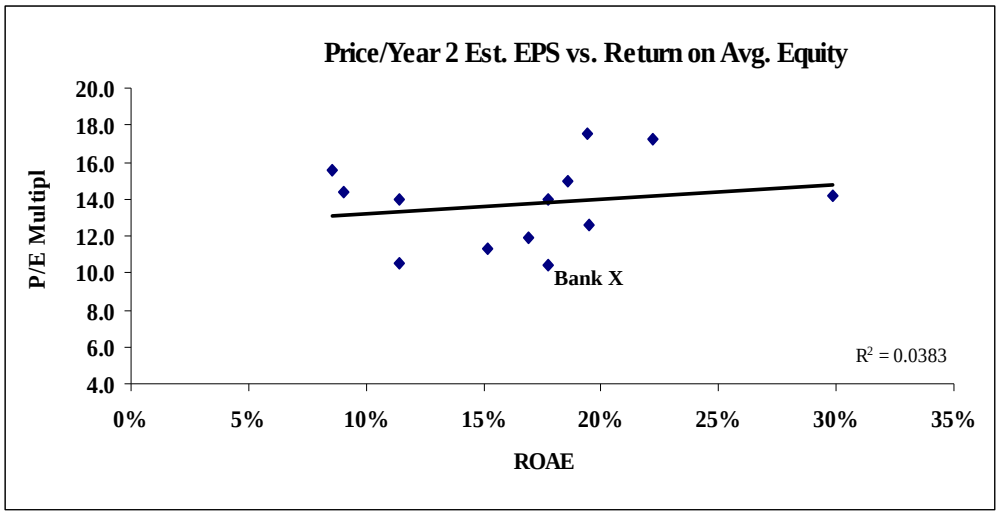


A simplistic way of interpreting Exhibit 3 is that the banks above the regression line are (relatively) overvalued and the banks beneath the regression line are (relatively) undervalued. Clearly, however, this kind of graph should serve as merely one reference point among many in the whole valuation process, as it only measures the relationship between two variables. Nevertheless, the information in Exhibit 3 suggests that Bank X is the most undervalued bank among its peers as it lies the farthest beneath the regression line. If we were to place Bank X on the regression line, the Company would trade at almost 250% of book value, or over 50% higher than its current price.

Importantly, before performing such an analysis, it is important to first adjust the earnings of the banks in question to make sure an apples-to-apples comparison is being made from an earnings perspective; that is, the "R" in ROAE. Despite its importance, however, this exercise is beyond the scope of this paper. Furthermore, one must ensure consistency in comparing banks based on Return on Average Equity or on Average Tangible Equity – that is, the "AE" in ROAE. It is alright to use either measure – ROAE or ROATE (my preference is ROAE) – but one should be consistent in using the same measure for all of the banks under analysis.

Exhibit 4 shows the relationship between the respective P/E multiples and ROAE for the group of banks in Exhibit 1. With an r-squared of just 4%, it appears that the relationship between these variables is not nearly as strong as those in Exhibit 3. This relationship is typically measurably weaker than the P/BV-ROAE relationship. Consequently, when looking at relative valuations versus returns on capital, the analyst should stress the P/BV-ROAE relationship.

Exhibit 4
P/E vs. ROAE



One problem with analyzing the P/E-ROAE relationship among a large group of banks is that some banks may have both low ROAEs and high P/Es because these companies don't have much in the way of earnings (the "E" in P/E), and investors are valuing such stocks based on book

value. In such cases, the high P/E is somewhat irrelevant and merely a function of the book value-based valuation. So, theoretically, if we remove the low-ROAE banks and regress the P/E-ROAE relationship between only high-ROAE banks, we should come up with a tighter relationship. The results of such a regression yield an r-squared of 15%, suggesting that 15% of the difference in P/E multiples can be explained by differences in ROAE alone. While 15% is considerably better than the 4% in Exhibit 4, it's still nothing to write home about.

Dividend Discount Model

Although theoretical in nature, it is helpful to be able to value a bank stock using a dividend discount model (DDM). At the end of the day, after all, every company's stock price must ultimately be reconciled with the cash flows that its shareholders are expected to receive over the life of the investment discounted at the appropriate risk-adjusted rate. Banks are particularly good candidates for DDM valuations because (1) they tend to have long histories of paying dividends, (2) their payout ratios tend to be relatively stable over time, and (3) their long-term growth rates (that is, *long* long-term growth rates) are modest and fall into a range that can be estimated with a higher degree of confidence than those of companies that fall into most other industry classifications.

In order to calculate a bank's value under a two-stage DDM framework, one needs (1) a beginning dividend (to discount, of course), (2) a "first-stage" growth rate (years 1-5) of EPS and dividends, (3) a "second-stage" growth rate (years 6 into perpetuity) of EPS and dividends, and (4) a discount rate.

Dividend growth rates (and earnings growth rates) among different banks will vary dramatically over the short term as a result of different operating environments and management teams. When using a DDM framework to value a bank, however, the analyst must make an assumption regarding the perpetual growth rate of a bank's dividends – that is, its rate of dividend growth during the "second stage" (years 6 into perpetuity).

In my view, the best assumption regarding a perpetual growth rate for a bank's dividends is 6%. This 6% is based on the assumption of a long-term, full-cycle ROE of 12% and a 50% payout ratio. (*Growth = ROE × [1 - Payout Ratio]*.) The logic underpinning the 12% full-cycle ROE assumption is the observation that the typical economic cycle is comprised of five to six years of expansion for every one year of recession, and that the range of ROEs over a cycle will generally range from 0% (and sometimes negative returns) to 18% (or more, as witnessed in recent years for well-run banks); the average, however, will likely be in the 12% range over the long term. The 50% payout ratio assumption for year 6 and beyond is necessary because it allows for assets, deposits and capital to grow at the same rate assuming a constant cost/revenue structure, thus reducing concerns regarding regulatory capital. Clearly, some banks will grow dividends at a higher rate than 6% into perpetuity and some will be lower, but 6% is a relatively conservative assumption to use for a perpetual growth rate given the inherent uncertainties surrounding all long-term projections. In essence, the 6% growth rate assumption is a "mean reverting" mechanism, which is appropriate more often than not, given that most analysts don't look out more than a few years in their projections anyhow.

Formulating the proper rate at which to discount a bank's dividends is no easy task. The Capital Asset Pricing Model (CAPM) remains the most popular methodology despite its numerous practical flaws, which include the instability of betas and risk premia over time, among other issues. As an entire book could be written on how to properly formulate discount rates for bank dividends (and there would be considerable debate regarding the conclusions), such a discussion is beyond the scope of this paper. Consequently, the "professorial" 10% is used in the example that follows.

Example

Exhibit 5 illustrates an example of a bank stock valuation using a DDM that incorporates the elements discussed above. The bank in Exhibit 5 possesses the following characteristics: (1) $1.00 in

actual Year 1 EPS, (2) $1.10 in estimated Year 2 EPS, (3) 10% annual growth in EPS and a 35% payout ratio from Year 2 through Year 7, (4) 12% ROE and 50% payout ratio from Year 7 into perpetuity, and (5) a 10% cost of equity capital. The present value of estimated dividends in this example is $15.00, which yields an imputed forward P/E and P/BV of 13.6x and 194.4%, respectively.

Exhibit 5
Valuation Using Dividend Discount Model

	Year 1 A	Year 2 E	Year 3 E	Year 4 E	Year 5 E	Year 6 E	Year 7 E [1]
Earnings per Share	$ 1.00	$ 1.10	$ 1.21	$ 1.33	$ 1.46	$ 1.61	$ 1.71
Dividends per Share	$ 0.35	$ 0.39	$ 0.42	$ 0.47	$ 0.51	$ 0.56	$ 0.85
Ending Book Value per Share	$ 7.00	$ 7.72	$ 8.50	$ 9.37	$ 10.32	$ 11.37	$ 12.22
Present Value of Dividends (by Period)		$ 0.35	$ 0.35	$ 0.35	$ 0.35	$ 0.35	$ 13.25
Total Present Value of Dividends		**$ 15.00**					
Implied P/E		13.6 x					
Implied P/BV		194.4%					
First Stage EPS Growth Rate		10%					
First Stage Payout Ratio		35%					
Second Stage EPS Growth Rate		6%					
Second Stage Payout Ratio		50%					
Discount Rate		10%					

[1] *$13.25 = [($0.85/(10%-6%)]/[(1.10)^5]*

Clearly, the assumptions used in this or any other DDM are up for debate. No one has the last word where such issues are concerned. Ultimately, however, the market must "agree" with the analyst's assessment in order for the derived valuation to have meaning from an investment standpoint. Consequently, deceiving one's self through the use of overly optimistic (or pessimistic) assumptions is not a particularly sound strategy for arriving at an attainable valuation target.

Takeout Value

One of the primary reasons for owning equity in a community bank is the hope that the company will one day be acquired for a significant premium by a larger bank. Therefore, one must have an understanding of the various valuation techniques that acquirers use when evaluating acquisition

targets. The most popular of these techniques are (1) sales of comparable institutions, (2) potential earnings accretion to the acquire, and (3) the present value of dividendable cash flow to the acquirer.

Sales of Comparable Institutions

The most common method of determining a suitable range of potential acquisition values for a particular bank is to look at the multiple of earnings acquiring institutions have recently paid for companies comparable to the bank under evaluation. Other popular metrics analyzed in evaluating comparable sales include price-to-tangible book value as well as the franchise premium-to-core deposits paid in the transactions.

In using the comparable sales technique, one should look at the average multiples paid for comparable institutions and then adjust the estimated takeout value for the degree to which the particular bank under analysis differs from the average comparable company in terms of (1) overall profitability, (2) the scarcity value of its franchise, (3) the degree to which its expense base could be reduced in an acquisition, (4) its capital level, and (5) asset quality. Furthermore, the analyst needs to compare current market conditions with those that existed when the comparable sales took place, and adjust valuations accordingly.

Example

Bank X (from Exhibit 1) is valued below using the comparable sales technique. Exhibit 6 displays a list of companies comparable to Bank X – that is, commercial banks with assets between $1 Billion and $5 Billion located in Bank X's geographic region – that were acquired during the previous two years.

One must be careful when choosing comparable acquisitions for valuation purposes. The "comps" (in investment banking parlance) should be (1) relatively recent sales (within two years), (2)

of similar asset size, (3) from the same geographic region, and (4) of the same industry type as the company in question (that is, don't mix savings and loans in with banks and vice versa).

Exhibit 6
Bank X's Acquisition Comparables

Bank Acquired	Price/ Book Value (%)	Price/ Tang. Book (%)	Price/ Earnings (x)	Franchise Premium/ Core Deposits (%)
Bank I	193.65	238.45	25.89	19.75
Bank II	241.97	243.87	12.81	16.62
Bank III	296.46	297.78	18.20	23.10
Bank IV	204.00	211.65	14.05	23.56
Bank V	165.94	165.94	9.02	9.55
Bank VI	211.78	255.50	16.24	18.02
Bank VII	126.70	126.70	15.98	6.73
Bank VIII	127.95	219.78	19.21	10.62
Median	**198.83**	**229.12**	**16.11**	**17.32**

To simplify the analysis, it is assumed that Bank X is no different than the average company among this group of eight that was acquired during the previous two years. More specifically, it is assumed that Bank X's profitability, scarcity value, cost base, capital level and asset quality are roughly equal to the average bank in this group.

Applying the median values in Exhibit 6 to Bank X yields the following acquisition values:

Book Value [1]	198.83% × $14.15 = $28.13
Tangible Book Value [1]	229.12% × $14.15 = $32.42
Earnings Per Share [2]	16.11x × $ 1.91 = $30.77
	Average $31.11

[1] From Exhibit 1 - $22.57 ÷ 159.56% = $14.15
[2] From Exhibit 1 - $22.57 ÷ 11.82x = $1.91

The average of the three pricing metrics yields a theoretical acquisition value of $31.11 for Bank X under the comparable sales technique.

There is not enough information about Bank X to value it using the franchise premium-to-core deposits (or simply the "Core Deposit Premium") approach. Although use of this technique is

not illustrated herein, it is important because it places a value on the bank's deposit franchise irrespective of earnings or capital levels. The calculation of the core deposit premium is relatively straightforward. Let's assume, for example, that Bank X has $100 million in tangible equity and $1 billion in core deposits. Let's further assume that Bank X is acquired for $250 million. The premium over tangible book paid by the acquirer in this example is $150 million ($250 million - $100 million). Thus, the franchise premium-to-core deposits is 15%, or the $150 million premium divided by the Bank's $1 billion in core deposits.

The biggest advantage to using the comparable sales technique is that it is the method used most often by investment bankers in the sale process. Consequently, this technique is most representative of the way many buyers and sellers are trained to think about acquisition values. In addition, the comparable sales technique is also quite simple from an analytical standpoint.

Earnings Accretion to a Potential Acquirer

Another technique used for determining a suitable range of potential acquisition values for a particular bank is to find out how much the bank's most likely acquirers are capable of paying while assuming a certain minimum level of earnings per share accretion for each acquirer.

A potential flaw with the "earnings accretion" valuation approach is that it assumes that different acquirers can generate different internal rates of return from the same acquisition as a result of differences in these acquirers' stock prices.

Let's assume, for example, that Bank One and Bank Two are evaluating Bank Three as a potential acquisition candidate. All else being equal, if Bank One's stock trades at 20x EPS and Bank Two's stock trades at 15x EPS, then Bank One can pay a higher price for Bank Three and expect the same level of earnings accretion (or dilution) relative to Bank Two.

This, of course, is illogical from a traditional view of modern finance. After all, if all else is truly equal, then Bank One's proposed acquisition must, by definition, generate a lower return on

investment than Bank Two's proposal because Bank One is willing to pay more money to acquire Bank Three; that is, where return on investment (ROI) is concerned, Bank One is willing to put up more "I" for the same level of "R."

Assuming a stock-for-stock transaction, some analysts might argue that because the currency to be used in the proposed transaction is not cash, Bank One is not really paying any more for Bank Three than would Bank Two. In investment banking parlance, Bank One is using its "high-powered currency" – that is, its high P/E stock – to make the acquisition economically attractive (that is, accretive to EPS). This view, while widely accepted by the financial community, violates modern financial theory because it makes an artificial distinction between cash and stock as forms of capital. The only reason that Bank One should be able to pay more (in cash or stock) for Bank Three than Bank Two can pay, is that Bank One can cut more costs and/or grow revenues at a greater rate at Bank Three.

To be fair to the investment banking community, however, it is always possible that its methodology is valid and that, in fact, it is financial theory that is flawed – or, even more likely, that the answer lies somewhere in between. It should be noted, however, that using the earnings accretion approach to value a bank typically yields a higher takeout value than discounting cash flows. As higher deal values lead to higher deal fees (and more deals in general), it should be obvious why investment bankers like this valuation technique.

The fact that a transaction is accretive to an acquirer's per share earnings does not necessarily mean that the transaction is good for the acquirer from the standpoint of ROI, and vice versa. Ultimately, expected cash flows discounted back to the present at an appropriate risk-adjusted rate should determine whether or not an acquisition is worthwhile. Nevertheless, both Wall Street and most of the acquirers it advises are fixated on EPS accretion, so it would be foolish for the analyst to ignore this valuation methodology.

Present Value of Dividendable Cash Flow to a Potential Acquirer

The approach here is to apply a DDM to the value of the target's *potential* dividends (paid to the acquirer) *after* adjusting for any cost savings that an acquirer might be able to take out of the target.

Exhibit 7 displays the same bank (and corresponding figures) used in Exhibit 6 and assumes that an acquirer is capable of reducing the bank's non-interest expense to the extent that the target's net income increases to $1.50/share (from $1.10/share) in Year 2. Keeping the payout ratio steady at 50% means that the target has $0.75/share of earnings that could *theoretically* be paid out as dividends to the acquirer's shareholders in Year 2, with such dividends increasing from that base in the following years. Calculating the present value of these theoretical dividends yields a value of $21.48 for the target.

The approach used in this example is merely application of a DDM framework to valuing a bank from the perspective of a potential acquirer.

Exhibit 7
Valuation Using Target's Dividendable Cash Flow

	Year 1 A	Year 2 E [1]	Year 3 E	Year 4 E	Year 5 E	Year 6 E	Year 7 E [3]
Earnings per Share	$ 1.00	$ 1.50	$ 1.65	$ 1.82	$ 2.00	$ 2.20	$ 2.33
Dividendable Cash Flow per Share	$ 0.35	$ 0.75	$ 0.83	$ 0.91	$ 1.00	$ 1.10	$ 1.16
Present Value of Dividendable Cash Flow (by Period)		$ 0.68	$ 0.68	$ 0.68	$ 0.68	$ 0.68	$ 18.07
Total Present Value of Dividendable Cash Flow		**$ 21.48**					
Implied P/E [2]		19.5 x					
Implied P/BV [2]		278.4%					
First Stage EPS Growth Rate		10%					
First Stage "Payout" Ratio		50%					
Second Stage EPS Growth Rate		6%					
Second Stage "Payout" Ratio		50%					
Discount Rate		10%					

[1] *EPS jump to $1.50 as a result of a reduction in non-interest expense*

[2] *P/E is based on $1.10 in EPS and P/BV is based on $7.72 in BV per share, both from Exhibit 5*

[3] *$18.07 = [($1.16/(10%-6%)]/[(1.10)^5]*

Applying a Discount to the Average Estimated Takeout Value

Once the potential acquisition values for the bank have been derived using the various techniques described above, the next step is to take a simple average of these values and assign a discount to

this average value. In order to come up with an appropriate discount to apply to the average estimated takeout value, one should look at sales of comparable institutions over the previous two years, and take the average of the acquisition premiums garnered in these transactions relative to the acquirers' stock prices one month prior to announcement. In using the average premium relative to the sellers' stock prices one month prior to announcement, the analyst will avoid distorting the "true" acquisition premium. The acquisition premium, after all, often shrinks as the announcement date approaches due to breaches in confidentiality and speculation surrounding a deal. The discount applied to the average takeout value will typically be approximately 20%, which implies that a 25% acquisition premium should remain in the average bank stock for trading purposes. This sort of analysis, however, is largely dependent on market conditions. There are periods during which many bank stocks trade at a significant discount to their takeout values and periods when the same stocks trade at very small discounts to their acquisition values.

Liquidation Value

Although rare, there are occasions when a bank's prospects become so bleak that no group of investors is willing to recapitalize it and no acquirer is willing to purchase the entire bank. This situation typically arises as a result of significant asset quality problems coupled with disparate business lines. In these instances the only avenue left for investors is to liquidate the bank – that is, sell off the various pieces of the bank and distribute the net proceeds to shareholders.

When a bank is in such deep trouble that the market value of its liabilities exceeds the market value of its assets, the institution's primary regulator generally steps in and closes the bank. Subsequently, the FDIC is appointed the bank's receiver and handles the job of liquidating the bank in an effort to protect as much of the depositors' funds as possible.

When the value of the bank's assets exceeds the value of its liabilities – that is, when a bank's liquidation value is a positive number – an investment banker will typically be hired to assist the

company in selling off its assets and liabilities. Exhibit 8 illustrates an example of such a liquidation in the form of Liquidating Bank ("LB").

Starting at the top of LB's Balance Sheet, the market values of Cash and Due from Banks and Fed Funds Sold should equal their reported book values. In LB's case, it is assumed that rates have declined such that the investment securities portfolio has a market value that is 3% greater than its book value. Assuming that they are priced properly – that is, that their interest rates properly reflect risk-adjusted market pricing – LB's Performing Loans should also be worth some premium because the buyer will not have to pay the costs associated with originating the loans. Performing Loans might get a "haircut," or a discount to their reported book value, if they are priced below market pricing and/or if their pricing doesn't appropriately reflect their inherent risk. For example, if average market pricing for typical multi-family loans is 8% and a bank prices similar loans at 6.5% in an effort to grow its loan portfolio quickly, these loans will sell at a discount in liquidation or in the secondary market to reflect this improper pricing. In LB's case, it is assumed that the Performing Loan portfolio is priced properly. Consequently, the premium market valuation merely reflects the buyer's foregone origination costs.

It is further assumed that LB's Nonperforming Loan portfolio gets a 60% haircut in liquidation. Clearly, asset quality problems ultimately unhinged LB, as Nonperforming Loans equal almost 20% of total Gross Loans.

For liquidation purposes, the reported book values of LB's Loan Loss Reserve and Unearned Loan Fees are equal to their market values. In reality, these amounts will be "attached" to specific loans and reflected in the sale value of these loans. But, when looking at the liquidation in aggregate, the analyst should simply carry the Loan Loss Reserve and Unearned Loan Fees at book value.

Exhibit 8
Liquidating Bank

Balance Sheet	Reported Book Value	Premium (Discount) %	Premium (Discount) $	Market Value	Notes and Assumptions
Assets					
Cash and Due From Banks	$ 25,000	0.0%	$ -	$ 25,000	Book Value = Market Value
Fed Funds Sold	25,000	0.0%	0	25,000	Book Value = Market Value
Investments (HTM and AFS)	100,000	3.0%	3,000	103,000	Rates have declined so securities are worth a small premium
Gross Performing Loans	265,000	1.0%	2,650	267,650	Performing loans are priced properly and worth a small premium
Gross Nonperforming Loans	60,000	-60.0%	(36,000)	24,000	Nonperforming loans are a disaster and get a 60% haircut
Loan Loss Reserve	(5,000)	0.0%	0	(5,000)	Book Value = Market Value
Unearned Loan Fees	(1,000)	0.0%	0	(1,000)	Book Value = Market Value
Net Loans	319,000			285,650	
Real Estate Owned	1,000	-20.0%	(200)	800	20% haircut to REO
Securitization Residuals	5,000	-50.0%	(2,500)	2,500	50% haircut to the Securitization Residuals
Goodwill and Other Intangibles	5,000	-100.0%	(5,000)	0	Goodwill is worthless in this liquidation
Other Assets	20,000	-75.0%	(15,000)	5,000	75% haircut to Other Assets
Total Assets	$ 500,000			$ 446,950	
Liabilities and Shareholders' Equity					
Transaction Deposit Accounts	$ 240,000	15.0%	$ 36,000	$ 204,000	15% premium for Transaction Deposits
Time Deposits (<$100,000)	80,000	5.0%	4,000	76,000	5% premium for Non-Jumbo Time Deposits
Time Deposits ($100,000 or more)	80,000	0.0%	0	80,000	Jumbo CDs get no premium
Total Deposits	400,000			360,000	
Federal Home Loan Bank Borrowings	43,000	2.0%	(860)	43,860	2% prepayment penalty due to declining rates
Subordinated Debt	10,000	0.0%	0	10,000	Book Value = Market Value
Other Liabilities	5,000	0.0%	0	5,000	Book Value = Market Value
Total Liabilities	58,000			58,860	
Trust Preferred Securities	10,000	0.0%	0	10,000	Book Value = Market Value
Common Stock	750	N/A	N/A	N/A	
Retained Earnings	30,250	N/A	N/A	N/A	
Net Unrealized Gain on AFS Securities	1,000	N/A	N/A	N/A	
Total Shareholders' Equity	32,000			18,090	Remaining Equity = Assets - Liabilities
Total Liabilities and Shareholders' Equity	$ 500,000			$ 446,950	
Total Shareholders's Equity				18,090	Remaining Equity = Assets - Liabilities
Liquidation Expenses				(2,000)	$2 million in net liquidation expenses (legal, banking fees, etc.)
Residual Equity Per Share				**$ 16,090**	Residual equity to be distributed to shareholders
Shares Outstanding	5,000			5,000	
Equity Per Share	$ 6.40			**$ 3.22**	

Real Estate Owned (REO) has received a 20% haircut in this example (theoretically REO already has appropriate reserves put up against it, so the reported value of REO should be its market value), and a 50% discount has been applied to LB's Securitization Residuals. Goodwill has been written down to zero because Goodwill has no value in a bank liquidation. Finally, a 75% discount has been applied to Other Assets to reflect the fact that these assets – equipment, furniture, etc. – in the aggregate rarely get anything close to book value in a liquidation.

On the liability side of the balance sheet, the most important consideration is what premium LB's deposits will garner in a sale. Which begs the question: Why would a company pay a premium to acquire a liability? The answer lies in the acquirer's funding opportunity cost or, essentially, the next best rate (after deposit rates) at which an acquirer can fund itself.

Exhibit 9 displays a simple example of the manner in which a potential acquirer of deposits might view the economics of such an acquisition. In this example, it is assumed that LB's overall cost of deposits is 2.36% and that the rate paid on medium-term Federal Home Loan Bank (FHLB) borrowings – a good proxy for a deposit acquirer's funding opportunity cost – is 4.00%. It is further assumed that (1) the average expected duration of LB's deposit relationships is eight years, (2) interest rates remain unchanged over the average expected duration period, and (3) the rate on 10-year Treasury notes is 6.50%. Discounting the net spread between the Fed Funds rate and LB's cost of deposits over eight years by the risk-free rate yields a present value of 10.00%. Consequently, the break-even economics to an acquirer of LB's deposits would be payment of a 10.00% premium, or $40 million, for these deposits. And, assuming a competitive bidding market, LB should be able to get such a premium for its deposits.

Exhibit 9
Deposit Premium Economics

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Rate on FHLB Borrowings*	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Seller's Cost of Deposits	2.36%	2.36%	2.36%	2.36%	2.36%	2.36%	2.36%	2.36%
Net Spread	1.64%	1.64%	1.64%	1.64%	1.64%	1.64%	1.64%	1.64%
10-year Treasury Rate	6.50%							
Present Value of Net Spread**	**10.00%**							

** Represents the acquiror's funding opportunity cost*

*** Discounted at the 10-year Treasury Rate*

As Exhibit 8 illustrates, there is a significant disparity in value between Transaction Deposits, Non-jumbo CDs and Jumbo CDs. This should be intuitive. Transaction Deposits, after all, tend to pay rates that are considerably lower than standard (or "retail") CDs which, in turn, pay less than Jumbo CDs. Jumbo CDs, in fact, typically pay rates that are close to the rates paid on Federal Home Loan Bank (FHLB) borrowings, rendering them virtually worthless from an acquirer's viewpoint.

From a liquidation accounting standpoint, it is important to recognize that the premium applied to LB's deposits represents a reduction in the market value of the Bank's deposit liabilities.

This may be somewhat counterintuitive. After all, on the asset side of the balance sheet, premiums are added, and discounts subtracted from the assets' reported book values. On the liability side of the balance sheet, one must do the opposite – that is, subtract premiums and add discounts to the liabilities' reported book values. The net effect of these adjustments will be properly reflected in the Bank's remaining equity.

Because in this example it was assumed that interest rates have declined, it is further assumed that a 2% prepayment penalty will be attached to the prepayment of LB's FHLB Borrowings. The logic behind the prepayment penalty should be intuitive. The FHLB loaned money to LB at a particular rate. Now, because interest rates have declined, if LB pre-pays its FHLB obligations, the FHLB will have to reinvest (or lend out) that money at a lower rate than LB had been paying. Consequently, the FHLB will require that LB pay a prepayment penalty to offset this forgone future income.

Finally, after marking LB's balance sheet to market, the market value of the Bank's liabilities is subtracted from the market value of its assets to come up with the remaining equity, or $18.1 million.

There are a few additional equity adjustments to consider however. During the liquidation process, investment bankers and lawyers, among others, have been collecting fees or are due fees for their involvement. Consequently, an estimate of such fees must be subtracted from LB's liquidation value to arrive at the amount of remaining capital that will ultimately be distributed to shareholders. In LB's case $2 million in fees (net of taxes) is assumed, which leaves $16.1 million for the Bank's shareholders.

The mark-to-market values for different banks' balance sheets will vary considerably. This is especially true of loans and deposits due to the significant variation in quality that exists between banks for these two balance sheet items. Consequently, when evaluating a bank from a liquidation

standpoint, it is critical to get a good handle on the true market values of the various components of the balance sheet. Banks are highly leveraged entities, so a small error in valuing a bank's assets or liabilities leads to a large variance in the value of the company's equity.

Appropriate Use of Each Valuation Technique

As one might expect, different valuation techniques are appropriate for different situations. For the most part, use of a particular valuation approach will be dependent upon the investor's time horizon.

In short- to medium-term trading situations (i.e., less than three years), use of peer group comparisons will often yield the best result. In the short term, after all, banks will trade largely as a group, with the differences between individual banks' performance largely a function of relative valuation and fundamentals.

For obvious reasons, the DDM is only useful for long-term investing (i.e., greater than three years). A DDM approach is simply applying an "owner" mentality to the institution in question. Over short and medium time horizons, a bank's equity value will trade well above and below the value derived from a DDM. Over the long term, however, the DDM, if properly and carefully applied (and assuming reasonably accurate inputs), will yield an intrinsic value to which the stock's value should revert over time.

Regardless of whether one is investing for the short or long term, it is always important to have an estimate of the takeout value of the bank in question. Incorporating a bank's takeout value into the investment equation, however, should be done with extreme care. There are many banks that have been rumored as near-term sellers over the years that remain independent today. Consequently, unless there are very good reasons to believe that a particular bank is going to get acquired over a particular period of time, one should not give the takeout value much weight in the short term.

The liquidation value technique is typically only used in the case of troubled institutions. The liquidation value is, in theory, the worst case scenario for the company's valuation. It is important to realize, however, that bad things tend to happen when regulators start liquidating a bank's assets and liabilities. Regulators tend to be hasty and imprudent liquidators, so one must be very careful to properly mark the bank's assets and liabilities to worst-case scenario market values under such circumstances. Typically, if it is anticipated that the bank will have equity remaining after liquidation, the regulators will allow the bank's management and investment bankers to control the liquidation process. In contrast, when the regulators are called in and "take the keys" from the bank's management, it is rare that any equity remains for common shareholders after the liquidation process is completed.

A Valuation Debate: Book Value vs. Earnings

An enduring debate among bank stock investors is the relative importance of book value and earnings in valuing a bank. While one group insists that book value is the more important metric in the valuation equation, the other group argues that book value is irrelevant and that earnings are the only measure that truly matters.

As to whether book value or earnings is more important in determining a bank's value, the answer is: it depends. More precisely, it depends on the current and expected future profitability of the institution in question.

If a bank is relatively profitable – that is, it earns more than 1% on assets on a fully-taxed basis – the company should be valued based on its cash earnings (and/or dividends). A healthy company (bank or otherwise) that consistently generates a high level of net income (re: cash flow) should be valued by estimating the present value of projected future cash flows. For banks that fit this description, book value is largely (but not totally) irrelevant as long as the institution has enough regulatory capital to keep growing as projected. In these instances, earnings and/or dividends are

the primary valuation issues. One must, however, take note of the leverage a bank applies to generate such earnings and adjust the valuation to reflect incremental risk.

A bank that is not expected to be reasonably profitable anytime in the near future should be valued based on the sum of its tangible equity and the value of its deposit franchise. If a bank doesn't have a solid stream of cash flow to discount back to the present, after all, then all it has to reflect its value are its tangible shareholders' equity and deposit base. In these instances, the franchise premium-to-core deposits calculation (referenced previously) is most applicable because this approach gives credit not only to the institution's tangible book value but also to the quality of its deposit base.

There are deep value investors who invest solely with book value in mind. Typically, these investors intellectually understand the argument for using earnings-based valuation techniques but choose to invest with the mindset that, "Problems could surface at any time and earnings could decline substantially – book value has significantly less downside volatility." This group falls firmly into the "you make your money when you buy the stock" camp.

Unfortunately, such an attitude relegates these investors largely to the securities of troubled banks and overcapitalized and/or modestly profitable S&Ls. Nevertheless, many bank investors have generated excellent returns over long periods of time using this approach alone.

Most sophisticated bank investors, however, approach each investment opportunity as a unique event and place more emphasis on book value or earnings based on the projected profitability (or other factors) of the institution in question. This mindset allows for a much larger pool of potential investment candidates, both long and short, thus considerably increasing flexibility in the overall investment process.

Conclusion

There are myriad ways to approach the process of community bank stock valuation. Each technique has its strengths and drawbacks, and each is valid for use in different situations. This paper has provided an overview and critique of the most relevant approaches to valuing community bank stocks in an effort to both provide practitioners with insights helpful to future investment decisions as well as assist investment professionals in identifying over- and under-valued bank equities.

Submitted by:

David B. Moore, CFA
President
Marathon Capital Holdings, Inc.
964 5th Avenue, Suite 214
San Diego, CA 92101
Phone/Fax: 619.501.9194
Cell: 760.470.3662
Email: dmoore@mch-inc.com
www.mch-inc.com