

JULY 2021

# Bank Watch

ARTICLE

## Tangible Book Value Earn-Back

A Simplified Model

### In This Issue

---

Tangible Book Value Earn-Back A Simplified Model	1
Public Market Indicators	6
M&A Market Indicators	7
Regional Public Bank Peer Reports	8
About Mercer Capital	9

# Tangible Book Value Earn-Back

## A Simplified Model

Determining an appropriate price for an acquisition target involves assessing a mosaic of valuation methodologies – comparable recent transaction pricing, earnings per share accretion, and discounted cash flow or internal rate of return analyses often are employed. However, a transaction that looks favorable on these metrics may flounder if one additional metric produces an unfavorable result: the tangible book value earn-back period.

A tangible book value earn-back calculation is a form of payback analysis. Intuitively, payback analyses are compelling. They are simple to compute with the numerator usually consisting of the purchase price and the denominator representing some measure of profits or cash flow generated from the acquisition. The resulting quotient, representing a time period, can be benchmarked against other investment opportunities, either internally (such as reinvestment in capital expenditures) or externally (M&A).

The banking industry uses a variation on a traditional payback analysis. Instead of using the purchase price in the numerator, banking industry convention uses the dilution to the buyer's tangible book value per share (TBVPS) resulting from the transaction. This reflects several factors. One is the importance of tangible book value as a valuation metric. A second factor is that TBVPS dilution is a proxy for an acquisition's effect on the buyer's regulatory capital. By reducing regulatory capital via an M&A transaction, the buyer sacrifices the ability to deploy that regulatory capital via internal growth, dividends, or share repurchases. Third, a payback period calculation using purchase price rather than TBVPS in the numerator would exaggerate the earn-back period in certain situations, like banks with excess capital.

Payback analyses, for the banking industry and other industries, share common drawbacks. One is that they are agnostic as to the target's performance after the earn-back period ends. As indicated in Table 1, investments A and B both have a payback period of three years (\$12 dilution divided by \$4 earnings contribution), but Investment A clearly trounces investment B with its continued earnings growth after the earn-back period terminates.

**Table 1**

	<b>Initial Dilution</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Investment A	(\$12)	\$4	\$4	\$4	\$6	\$8
Investment B	(\$12)	\$4	\$4	\$4	\$2	\$0

Another downside to using a tangible book value earn-back period in the banking industry is its complexity. Investment bankers and accountants often prepare a detailed pro forma balance sheet (to compute the initial dilution to tangible book value) and quarterly projections of the buyer's earnings with and without the acquired entity (to determine when the buyer's TBVPS, including the target's contribution, exceeds the buyer's stand-alone TBVPS absent the acquisition).

This article attempts to demystify the complexity surrounding TBVPS analyses. With a few simplifying assumptions, we can streamline the TBV earn-back calculation, which would enable buyers to perform a quick check to determine if a potential acquisition falls within a "normal" range of TBVPS earn-back periods and evaluate the key sensitivities driving reported earn-back periods.

Table 2 provides the financial parameters for a hypothetical transaction used in our calculations.

**Table 2**

	Buyer	Target
1 Total Assets	\$1,111,111	\$277,778
2 Tangible Equity	\$100,000	\$25,000
3 Net Income	\$14,000	\$2,500
4 Shares	10,000	1,250
5 TBVPS	\$10.00	\$20.00
6 Price / TBV	1.60x	n/a
7 Price / Earnings	11.43x	n/a
8 Stock Price	\$16.00	n/a
9 Dividends per Share	\$0.32	n/a
10 Deal Price / TBV	n/a	1.50x
11 Deal Price / Earnings	n/a	15.00x
12 Deal Value	n/a	\$37,500
13 % Stock	n/a	100%
14 Shares Issued	n/a	2,344
15 Pro Forma Ownership	81.0%	19.0%
16 FV Marks (% Assets)	n/a	1.00%
17 Fair Value Marks	n/a	\$2,778
18 Deal Costs (After-Tax)	\$600	\$1,125
19 Operating Expenses	n/a	\$7,000
20 Expense Saves %	n/a	35%
21 Exp. Saves (After-Tax)	n/a	\$1,838

## Step 1. Calculate TBVPS Dilution

In a transaction involving stock consideration, three factors drive the dilution (or potentially accretion) to the buyer's pro forma TBVPS:

1. The pick-up in TBVPS derived from issuing shares, assuming that the buyer's stock price exceeds its TBVPS
2. The impact of goodwill and other intangible assets created as a result of the transaction, which are deducted in computing TBVPS
3. Deal costs

Using the assumptions in Table 2, we derive in Table 3 the following values for the three factors.

**Table 3**

Factor #1: Pick-Up In Tangible Book Value	
Buyer's Stock Price	\$16.00
- Buyer's TBVPS	(10.00)
= Market Premium over TBVPS	\$6.00
x Target's Pro Forma Ownership	19.0%
= Pick-Up to TBVPS	\$1.14
Factor #2: Intangible Assets	
Deal Value	\$37,500
- Target's Tangible Equity	(25,000)
= Preliminary Intangible Assets	\$12,500
+ / - Additional Fair Value Marks	2,778
= Total Intangible Assets	\$15,278
÷ Pro Forma Shares Outstanding	12,344
= Purchase Accounting Dilution	\$1.24

Factor #3: Deal Costs	
Total Deal Costs (After-Tax)	\$1,725
÷ Pro Forma Shares Outstanding	12,344
<b>= Dilution from Purchase Accounting</b>	<b>\$0.14</b>

Assembling our components in Table 4, we determine that the potential transaction is 2.4% dilutive to the buyer's pro forma TBVPS.

Table 4

Pro Forma Tangible Book Value per Share	
Buyer's TBVPS	\$10.00
+ Pick-Up to TBVPS	1.14
- Purchase Accounting Dilution	(1.24)
- Deal Costs	(0.14)
= Pro Forma TBVPS	\$9.76
<b>= Dilution to Buyer's TBVPS</b>	<b>\$0.24</b>
<b>% Dilutive to TBVPS</b>	<b>-2.4%</b>

The intangible assets created and total deal costs (the numerators in Table 3 for Factors 2 and 3) should be similar, regardless of the acquirer's identity. Issuing fewer or greater shares to the target would affect the dilutive impact of Factors 2 and 3 to the buyer (by changing the pro forma shares in the calculation's denominator); thus, the dilutive effect of these factors would be diminished for buyers with stronger acquisition currencies. However, from a specific buyer's standpoint, Factor 1 (the strength of the buyer's acquisition currency in relation to the P/TBV multiple paid for the target) mostly drives the initial TBVPS dilution.

Transaction costs sometimes merit more attention than they receive by investors. Certain valuation methodologies, such as EPS accretion and discounted cash flow analyses may omit deal costs. Meanwhile, the costs usually are deemed "non-recurring" by the acquirer and its investors. However, transaction costs are far from

a free lunch. As our example indicates, the assumed deal costs (6.1% of the transaction value on a pre-tax basis, or 4.6% after-tax) account for \$0.14 of the \$0.24 TBVPS dilution created by the transaction.

Next, we estimate the period of time over which the buyer can recapture this \$0.24 per share dilution to its TBVPS.

## Step 2. Calculate the Earn-Back Period

The initial TBVPS dilution will be recaptured to the extent that pro forma TBVPS growth (including the target) exceeds growth in the buyer's stand-alone TBVPS. Usually, recouping the initial TBVPS dilution requires realizing cost savings, since buyers generally do not model specific revenue synergies from a bank acquisition. Complicating matters, though, are the various purchase accounting adjustments. Purchase accounting marks to loans result in accretion of loan discounts into interest income. However, this acquired loan accretion can be offset by incremental loan loss provisions—as the buyer establishes reserves on new loans originated by the target—and core deposit intangible amortization. These accounting considerations require more complex modeling, but purchase accounting mark accretion and offsetting amortization in our experience usually do not materially change the TBVPS recapture period, absent a particularly large loan portfolio mark.

We can compute the change in retained earnings—equivalent to TBVPS growth—resulting from the transaction as indicated in Table 5, which involves the following three steps:

1. Compute the buyer's stand-alone growth in TBVPS (\$1.08 per share annually).
2. Compute the dilution from the transaction. By issuing shares to the target, the buyer is spreading its existing earnings over a larger number of shares. Absent any earnings from the target, the buyer's TBVPS growth would drop to \$0.87 per share annually. The gap between the stand-alone and diluted TBVPS growth (\$0.21, or \$1.08 minus \$0.87) must be filled by the target's contribution to TBVPS growth.



3. Given our assumptions about the target's stand-alone earnings, cost savings, and dividends paid on the shares issued, the target will enhance the buyer's TBVPS per share growth by \$0.29 per share annually.

Table 5

Step 1: Stand-Alone Retained Earnings Growth	
Stand-Alone Net Income	\$14,000
Stand-Alone Dividends per Share	(3,200)
= Retained Earnings Growth	\$10,800
÷ Stand-Alone Shares Outstanding	10,000
= Retained Earnings Growth per Share	\$1.08
Step 2: Dilution from Transaction	
Stand-Alone Retained Earnings Growth	\$10,800
÷ Pro Forma Shares Outstanding	12,344
= Diluted Retained Earnings Growth	\$0.87
Pro Forma Retained Earnings Growth	\$0.87
- Stand-Alone Retained Earnings Growth	(\$1.08)
= Dilution to Retained Earnings Growth	(\$0.21)
Step 3: Target's Contribution	
Target's Net Income	\$2,500
+ After-Tax Expense Savings	1,838
- Dividends Paid to Target's Shareholders	(750)
= Retained Earnings Growth from Target	\$3,588
÷ Pro Forma Shares Outstanding	12,344
= Retained Earnings Growth per Share	\$0.29

Lastly, we can compute the earn-back period as (a) the initial dilution to TBVPS (\$0.24 per share) and (b) the pick-up in retained earnings growth (\$0.085 per share). Our simplified model suggests a TBVPS earn-back period of 2.8 years, which is within the range of current market expectations (generally two to three years).

Table 6

Earn-Back Period Calculation	
Retained Earnings Growth -- Pro Forma	\$0.2907
- Retained Earnings Growth -- Stand-Alone	(0.2051)
= Pick-Up in Retained Earnings Growth	\$0.0856
Initial TBVPS Dilution	\$0.2382
÷ Pick-Up in Retained Earnings Growth	\$0.0856
Earn-Back Period	2.8 years

## Conclusion

In deal announcements, companies seldom present the math that underlies the reported TBVPS earn-back periods. This discussion may not entirely deconstruct the earn-back calculations, but it should allow users to focus on the key variables influencing the reported earn-back metrics without formulating a detailed pro forma balance sheet and earnings projections. In a future article, we will analyze the sensitivity of earn-back periods to changes in variables such as the buyer's trading multiples, cost savings assumptions, and deal costs.

**Andrew K. Gibbs, CFA, CPA/ABV**  
gibbsa@mercercapital.com | 901.322.9726

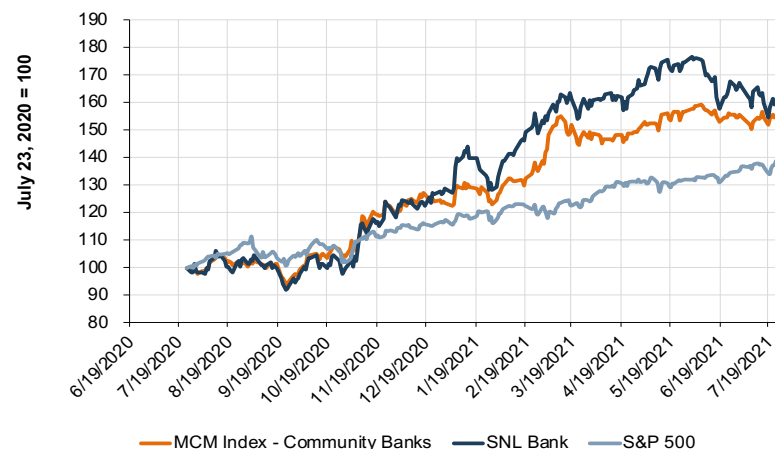
## WHAT WE'RE READING

**Citizens Financial** announced acquisition of Investors Bancorp in a **deal worth \$3.5 billion** that would give Citizens a top-10 deposit market share in metro New York. Elsewhere, **M&T Bank's CFO** discusses M&A strategy and activity.

**Commercial real estate sales volume** has recovered to pre-pandemic levels as Sunbelt cities posted record sales.

Banking Exchange reviews how banks can organize themselves to take advantage of the **impending wealth transfer of roughly \$30 trillion** from Baby Boomers as they begin to retire to the Millennial generation.

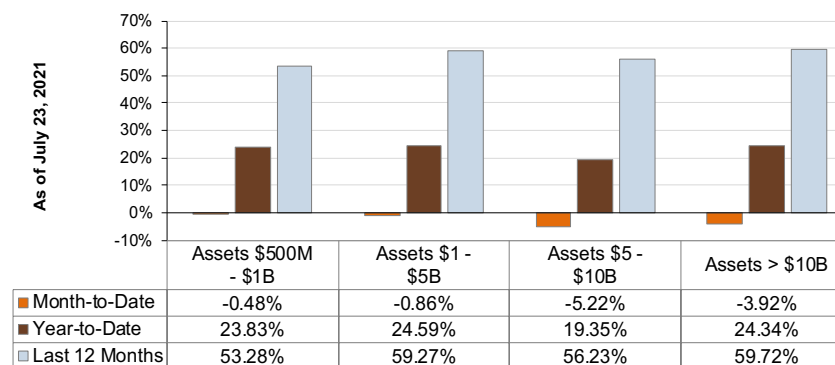
### Mercer Capital's Bank Group Index Overview



Source: S&P Global Market Intelligence

### Return Stratification of U.S. Banks

by Asset Size



Source: S&P Global Market Intelligence

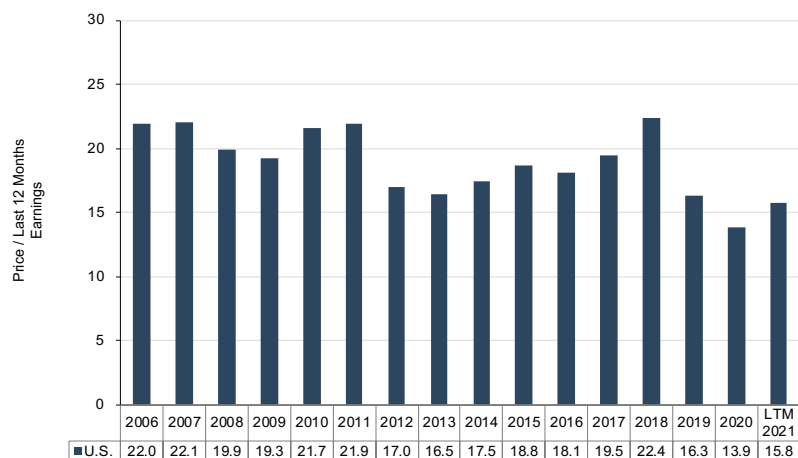
### Regional Index Data

	Total Return			Regional Index Data as of July 23, 2021					
	Month-to-Date	Year-to-Date	Last 12 Months	Price/LTM EPS	Price / 2021 (E) EPS	Price / 2022 (E) EPS	Price / Book Value	Tangible Book Value	Dividend Yield
Atlantic Coast Index	1.4%	39.2%	80.5%	11.5x	11.7x	13.1x	119%	126%	2.4%
Midwest Index	0.1%	16.5%	40.6%	9.9x	10.2x	11.0x	106%	119%	2.4%
Northeast Index	0.9%	24.9%	53.0%	10.2x	9.8x	10.0x	106%	113%	3.1%
Southeast Index	-0.6%	22.6%	47.9%	10.8x	9.8x	10.5x	113%	116%	2.5%
West Index	0.5%	28.5%	59.6%	11.4x	11.4x	12.4x	116%	135%	2.2%
Community Bank Index	0.6%	25.7%	55.0%	10.5x	10.2x	11.1x	108%	119%	2.5%

Source: S&P Global Market Intelligence

## Median Price/Earnings Multiples

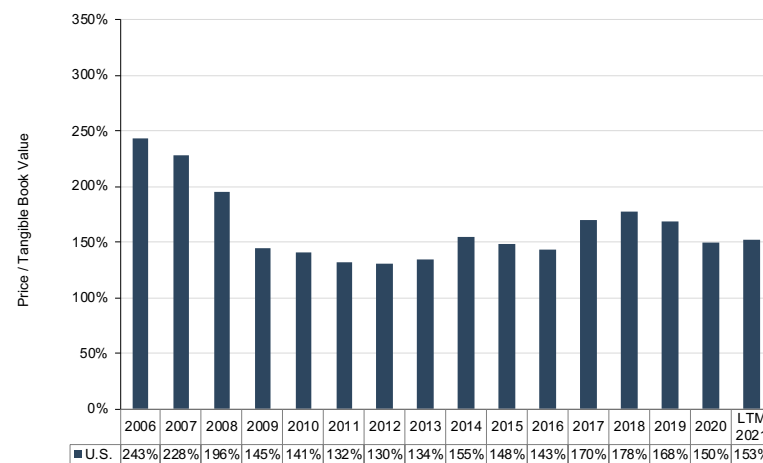
Target Banks' Assets <\$5B and LTM ROE >5%



Source: S&P Global Market Intelligence

## Median Price/Tangible Book Value Multiples

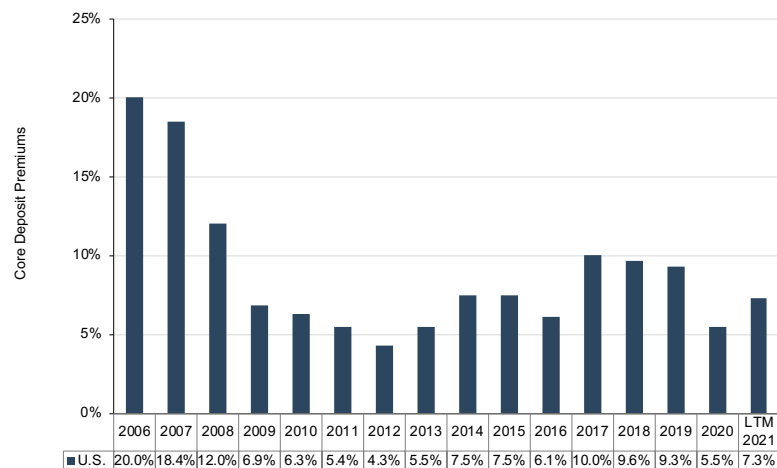
Target Banks' Assets <\$5B and LTM ROE >5%



Source: S&P Global Market Intelligence

## Median Core Deposit Multiples

Target Banks' Assets <\$5B and LTM ROE >5%



Source: S&P Global Market Intelligence

## Median Valuation Multiples for M&A Deals

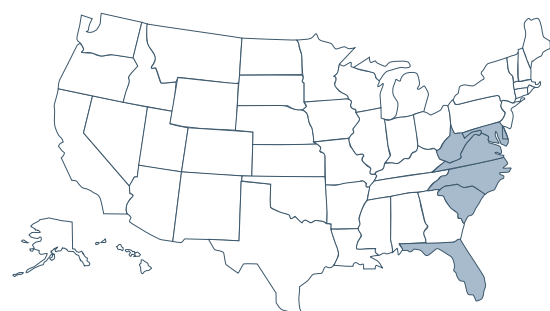
Target Banks' Assets <\$5B and LTM ROE >5%, 12 months ended July 22, 2021

Regions	Price / LTM Earnings	Price/ Tang. BV	Price / Core Dep Premium	No. of Deals	Median Deal Value (\$M)	Target's Median Assets (\$000)	Target's Median LTM ROAE
Atlantic Coast	17.0x	174%	9.8%	11	210.8	840,286	9.3%
Midwest	17.7x	154%	7.3%	39	109.2	160,712	8.6%
Northeast	14.0x	153%	7.6%	5	141.3	596,948	10.8%
Southeast	15.3x	145%	8.0%	20	96.2	356,526	9.9%
West	14.7x	162%	6.9%	12	157.4	1,078,723	10.6%
<b>National Community Banks</b>	<b>15.8x</b>	<b>153%</b>	<b>7.3%</b>	<b>87</b>	<b>124.0</b>	<b>305,738</b>	<b>10.1%</b>

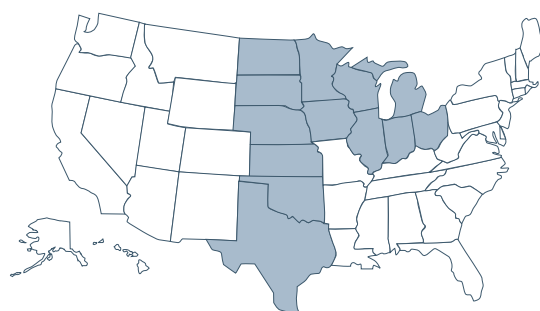
Source: S&P Global Market Intelligence

# Mercer Capital's Regional Public Bank Peer Reports

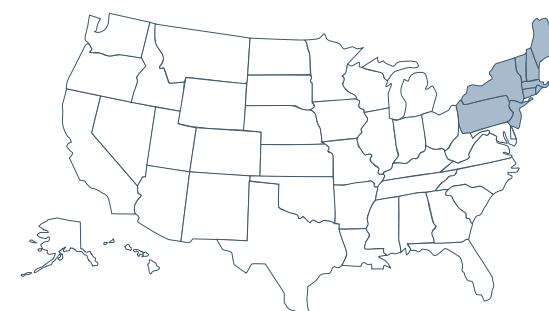
Updated weekly, Mercer Capital's Regional Public Bank Peer Reports offer a closer look at the market pricing and performance of publicly traded banks in the states of five U.S. regions. Click on the map to view the reports from the representative region.



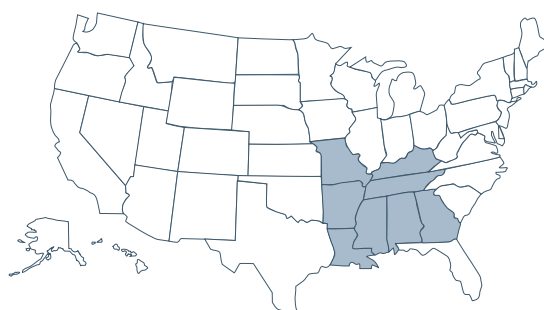
**Atlantic Coast**



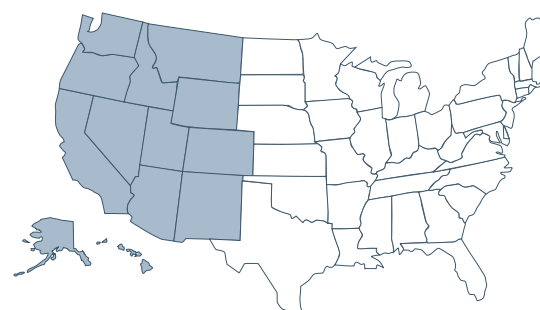
**Midwest**



**Northeast**



**Southeast**



**West**

**MERCER CAPITAL**

# Depository Institutions Services

Mercer Capital assists banks, thrifts, and credit unions with significant corporate valuation requirements, transaction advisory services, and other strategic decisions.

Mercer Capital pairs analytical rigor with industry knowledge to deliver unique insight into issues facing banks. These insights underpin the valuation analyses that are at the heart of Mercer Capital's services to depository institutions.

- » Bank valuation
- » Litigation support
- » Tax compliance
- » Financial reporting for banks
- » Stress Testing
- » Transaction advisory
- » Goodwill impairment
- » Loan portfolio valuation
- » Strategic planning

## Depository Institutions Team



**Jeff K. Davis, CFA**  
615.345.0350  
jeffdavis@mercercapital.com



**Andrew K. Gibbs, CFA, CPA/ABV**  
901.322.9726  
gibbsa@mercercapital.com



**Jay D. Wilson, Jr., CFA, ASA, CBA**  
469.778.5860  
wilsonj@mercercapital.com



**Eden G. Stanton, CFA, ASA**  
901.270.7250  
stantone@mercercapital.com



**Mary Grace Arehart, CFA**  
901.322.9720  
arehartm@mercercapital.com



**Brian F. Adams, CFA**  
901.322.9706  
adamsb@mercercapital.com



**William C. Tobermann, CFA**  
901.322.9783  
tobermannw@mercercapital.com



**Heath A. Hamby, CFA**  
615.457.8723  
hambyh@mercercapital.com



**Mary Jane McCaghren**  
901.322.9780  
mccaghrenm@mercercapital.com

[www.mercercapital.com](http://www.mercercapital.com)





**Mercer Capital**

[www.mercercapital.com](http://www.mercercapital.com)

