Bank Valuation

Moving Past the Crisis

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Outline

Introduction

- Current Industry Issues Affecting Bank Financial Analysis

Current Valuation Issues

- Asset Approach
- Guideline Company Method
- Guideline Transactions Method
- Discounted Cash Flow Method

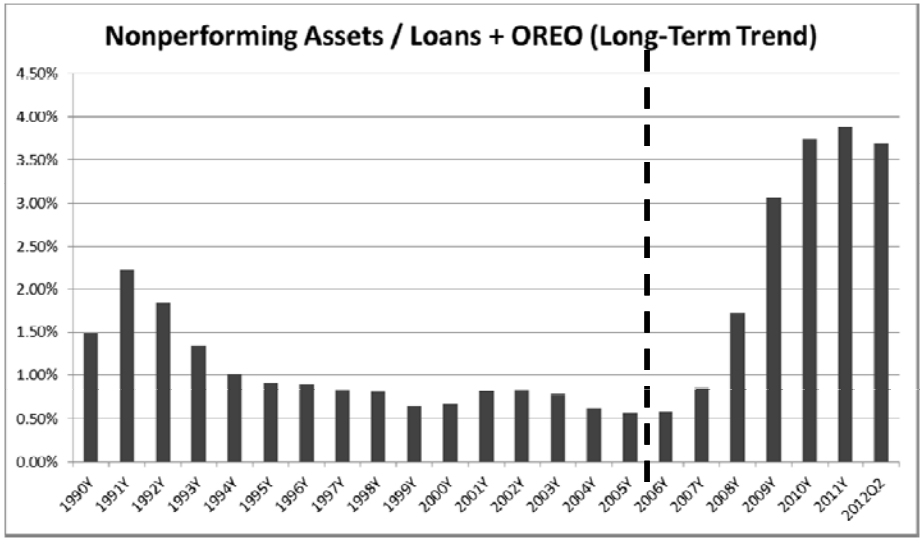
Current Issues in Bank Financial Analysis

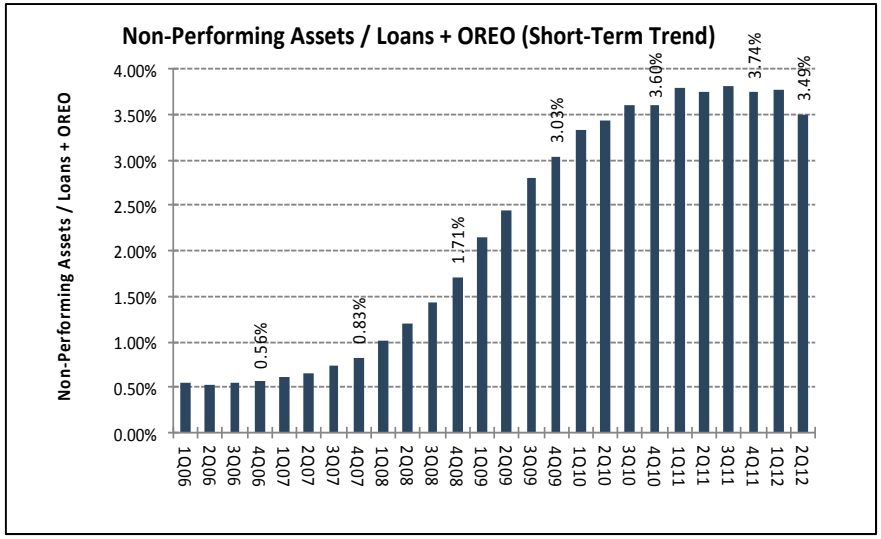
1. Overview

- Bank financial analysis is an exercise in risk assessment and measurement
  1. Credit risk
  2. Interest rate risk
  3. Liquidity risk
- Other Issues
  1. Capital
  2. Holding company/subsidiary relationship

2. Asset Quality

- Median nonperforming asset ratios remain elevated
- Emphasis has shifted from problem asset identification to resolution





Source: Mercer Capital research, SNL Financial
Peer group includes approximately 3,700 banks with assets between $100 million and $5 billion
OREO = Other Real Estate Owned = Foreclosed Property

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2. Asset Quality

- What trends would indicate higher credit risk?
  - Level of and trend in non-performing assets
  - Composition of the portfolio (e.g., level of construction and development loans; type of C&D loans, such as land vs. finished houses)
  - Historical growth rates
  - Weak market (AZ, FL, NV, Atlanta, etc.)
  - High loan yields
  - Out-of-market loans, particularly purchased participations
  - Large exposures to one borrower
  - Experience of management
  - Off balance sheet exposure (mortgage repurchase claims, for instance)
  - Low charge-offs in relation to level of problem loans
  - Less onerous loan terms (interest only versus amortizing loans, for example)
  - Growing other real estate owned balances

2. Analyzing Asset Quality

- Loans Loss Reserve Adequacy
  - Reserve / Loan Ratio
    - Effect: Declining ratio suggests that the bank's loan loss provision is not keeping up with growth or loan losses. Future income could be affected as provisions are recorded to account for previous growth
  - Reserve / Non-Performing Assets
    - Effect: Declining ratio suggests that credit risk in the portfolio is mounting and reserve may not be adequate to cover potential losses
  - Directional consistency
    - Expect that reserve should increase along with problem loans
  - Composition of portfolio
  - Gut instinct – impression of management, markets in which the bank operates, product types emphasized

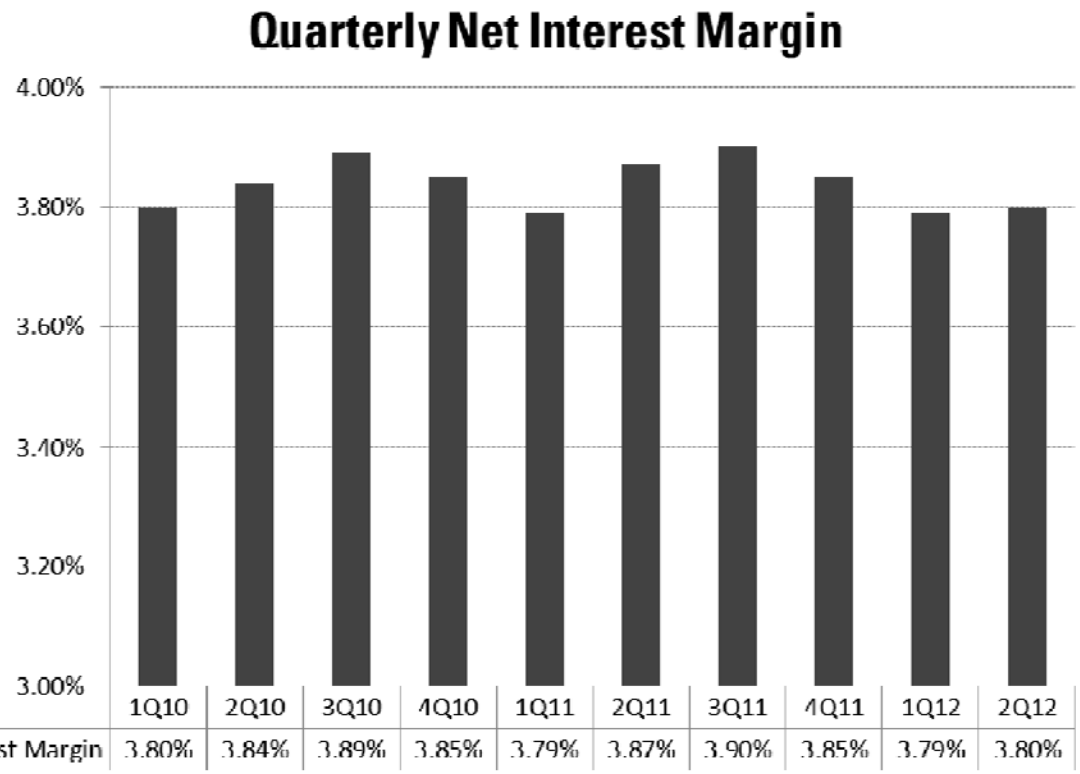
2. Analyzing Asset Quality

- Assume that you believe the reserves are appropriate and management has a good grasp of the portfolio. How should you reflect asset quality issues in an appraisal?
  - Locate a group of guideline companies/transactions that share the characteristics of the subject bank
  - Factor the asset quality issues into the cash flows of a discounted cash flow analysis or adjust the discount rate
- Assume, on the other hand, that you don't believe the reserves are appropriate or that credit risk is greater than management believes. How should you deal with this issue?
  - Adjust the loan loss reserve for the assumed deficiency
  - Adjust the guideline company/transaction multiples
  - Perform some type of scenario analysis in a DCF with higher credit loss scenarios

3. Interest Rate Risk

- Interest rate risk represents the impact on revenue, earnings, or equity attributable to changing interest rates
- Community banks' net interest margins generally widened in 2011 but cracks are beginning to appear
  - Funding cost leverage is waning
    - Limited opportunities to reduce rates on non-maturity deposits and declining spreads between rates on new CDs and maturing CDs
    - Loan competition is aggressive
    - Obtaining yield in the bond market is challenging without going out on the yield curve
- In short, Fed's zero interest rate policy will be a challenge for banks in 2013 and 2014
  - Most at risk appear to be banks with higher proportions of securities and non-maturity deposits

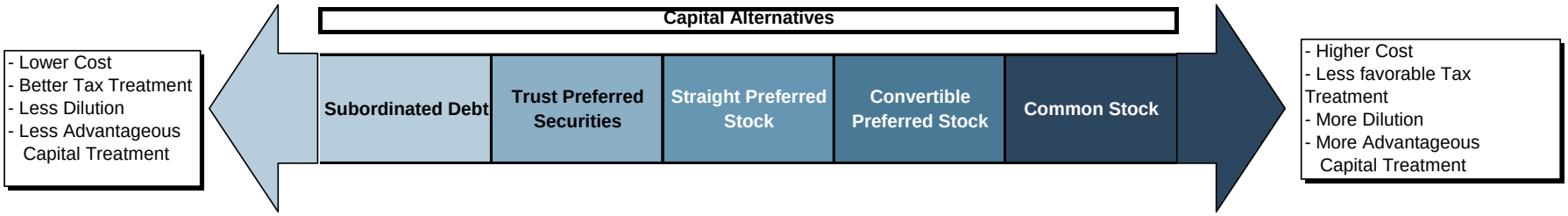
3. Interest Rate Risk



Source: Mercer Capital research, SNL Financial
Peer group includes approximately 3,700 banks with assets between $100 million and $5 billion
Net Interest Margin = Net Interest Income / Average Earning Assets (Yield on Earning Assets – Cost of Earning Assets)

4. Capital

- By regulation, banks need to maintain certain ratios of "capital" to assets
  - Currently, "Tier 1 Capital" is basically defined as shareholders' equity, minus intangible assets, plus/minus the loss/gain on available-for-sale securities
    - Also can include preferred stock and trust preferred securities (subject to certain limits) in holding company's Tier 1 capital
    - TARP Capital Purchase Program preferred stock is Tier 1
  - "Tier 2" capital includes the loan loss reserve and subordinated debt



4. Capital

- Capital standards are subject to significant changes in coming years
  - Transition to Basel III standards for banks and holding companies with more than $500 million in assets
  - Introduction of a new capital measure – Tier 1 common ratio
  - Significant tightening of rules regarding instruments that qualify as capital; hybrid instruments, such as trust preferred securities, to be phased out
  - Less favorable treatment of items such as mortgage servicing rights
  - New rules regarding the calculation of risk-weighted assets
  - New capital buffer and impact on dividends and bonuses
  - Implications
    - Need to augment capital to comply with Tier 1 common metric
    - Impact on return on equity

See Notice of Proposed Rulemaking from Federal Reserve, Office of Comptroller of the Currency, and FDIC:

1. Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Minimum Regulatory Capital Ratios, Capital Adequacy, Transition Provisions, and Prompt Corrective Action
2. Regulatory Capital Rules: Standardized Approach for Risk-Weighted Assets; Market Discipline and Disclosure Requirements

Most recent version published in the Federal Register on August 30, 2012

5. Holding Company/ Sub. Relationship

- Relationship between the bank and holding company is important
- A bank holding company can appear reasonably stable from a consolidated perspective but have underlying financial challenges
  - Given legal structure between bank and holding company, bank is the primary source of funds for the holding company (absent the sale of equity/debt by the holding company)
  - Holding company, in turn, has liquidity needs of its own (debt service, operating expenses, taxes)
  - Limitation may exist at the bank that prevents funds from being transferred to the parent
- It's important to review the sources and uses of funds at the parent company level

Valuation Structure

Organizational Structure

- Most banks are wholly-owned subsidiaries of bank holding companies. Most valuation engagements, in turn, involve valuing the common stock of the bank holding company
- In the adjacent example, the valuation analyst would use shareholders' equity of $7,000 and net income of $780 in the valuation analysis

Bank Holding Company Balance Sheet

Investment in the Bank (equal to the bank's equity) ($10,000)	Line of Credit ($1,000) Trust Preferred Securities ($2,000) Common Stock ($7,000)

Bank Holding Company Income Statement

Bank Net Income ($1,000)	LOC Interest ($60) Trust Preferred Interest ($160) Net Income ($780)

Common Valuation Metrics

- Bank valuation analyses use multiples based on both income statement and balance sheet metrics

Income Statement

» Historical net income

» Forward net income

» Pre-tax, pre-provision net income (net interest income, plus non-interest income, minus non-interest expense)

Balance Sheet

» Stated (GAAP) shareholders' equity

» Tangible shareholders' equity (stated shareholders' equity less acquisition-related intangible assets)

» Deposits

» Core deposits (variously defined, but can exclude CDs > $100,000, CDs > $250,000, and/or brokered deposits)

» Assets

Earning Power Analysis

- How does your assessment of the income statement and balance sheet affect your analysis?
- Scenario 1: Assume that the bank is profitable
  1. Adjust the income statement and balance sheet
  2. Use balance sheet-based measures as another indicator of value
- Scenario 2: Assume that the bank's earnings are depressed or it is operating at a loss
  1. Adjust the income statement and balance sheet
  2. Estimate earning power via a normalized return on assets or equity
  3. Emphasize balance sheet-based measures over income statement measures
  4. Discounted cash flow analysis

Adjust the Financial Statements

- Common Adjustments:

Income Statement

» Eliminate non-recurring gains and losses (e.g., securities)

» Recognize normalized loan loss provision

» Normalize tax rate

» Purchase accounting amortization

» Life insurance proceeds

Balance Sheet

» Adjust to reflect market values of assets

- Securities carried at cost
- Investments in other companies carried at cost or equity

» Recognize estimated cost of settling contingent liabilities

» Normalize loan loss reserve

» Adjust intangible assets

Estimate Normalized ROA/ROE

- Sometimes, a bank has a (really) bad year but otherwise has a profitable history. You can use historical returns to estimate earning power
  - Danger is glossing over the exposures arising from the current environment
  - Past returns may not be indicative of future returns

	2011	2010	2009	2008	2007	2006
Average Assets	$277,372	$254,470	$231,336	$226,800	$210,000	$200,000
Average Equity	$23,148	$25,228	$22,785	$20,518	$18,205	$16,000
Net Income	($2,080)	$2,443	$2,267	$2,313	$2,205	$2,000
Return on Average Assets	-0.75%	0.96%	0.98%	1.02%	1.05%	1.00%
Return on Average Equity	-8.99%	9.68%	9.95%	11.27%	12.11%	12.50%

Average Return on Assets	1.00%	<> *excluding 2011*
Average Return on Equity	11.10%	<> *excluding 2011*

	ROA	ROE
Balance Sheet Parameter (2011)	$277,372	$23,148
x Normalized ROA / ROE	1.00%	11.10%
= Estimated Earning Power	**$2,779**	**$2,570**

Asset Approach

Asset Approach

- Common adjustments
  - Assets
    - Loans (interest and credit mark)
    - Other real estate owned
    - Securities carried as held-to-maturity
    - Unrecognized intangible assets (core deposit intangible asset)
  - Liabilities
    - Certificates of deposit
    - Fixed term borrowings (FHLB advances)
    - Borrowings with wider/narrower credit spreads than at issuance (e.g., trust preferreds)
  - Equity
    - Preferred stock

Guideline Company Method

Guideline Public Co. Method

- Factors to consider in selecting guideline public companies
  - Entity type (bank vs. thrift)
  - Size
  - Profitability
  - Location
  - Non-performing assets
  - Capital structure (TARP vs. non-TARP)

Trading Multiples: Asset Size Sort

- Smaller banks have traded at discounts to larger banks; reflects (a) liquidity, (b) more limited access to capital, (c) growth opportunities, such as industry consolidation

Return on Tangible Equity > 10%	Price / LTM EPS	Price / Tangible Book Value	Dividend Yield	Total Assets	Return on Tangible Equity	Non-Performing Assets / Tangible Equity + Reserves	Number of Banks
Assets $5 Billion - $10 Billion	14.3	162%	2.91%	6,614,769	12.6%	16.66%	20
Assets $1 Billion - $5 Billion	12.3	147%	2.33%	2,412,097	13.2%	17.57%	68
Assets < $1 Billion	9.4	109%	2.45%	677,476	12.8%	19.43%	21
Return on Tangible Equity 0% - 10%							
Assets $5 Billion - $10 Billion	21.4	131%	0.41%	7,163,572	7.7%	31.34%	9
Assets $1 Billion - $5 Billion	16.1	106%	0.62%	1,587,471	6.8%	27.94%	60
Assets < $1 Billion	12.5	80%	0.89%	642,370	7.0%	25.62%	55
Return on Tangible Equity < 0%							
Assets $5 Billion - $10 Billion	nm	31%	0.00%	8,345,465	-2.1%	128.81%	1
Assets $1 Billion - $5 Billion	nm	104%	0.00%	1,334,852	-17.5%	83.13%	13
Assets < $1 Billion	nm	56%	0.00%	524,462	-11.6%	53.84%	21

Notes:

Return on stated equity used when ROTE unavailable; price/BV used when price/TBV unavailable

Table includes 268 publicly traded banks with assets < $10 billion; market data as of September 6, 2012; financial data as of June 30, 2012

Trading Multiples: Asset Quality Sort

- Discounts to tangible book value become more pronounced when the Texas ratio* begins to exceed 50%

	Non-Performing Assets / Tangible Equity + Reserves	Price / Tangible Book Value	Price / LTM EPS	Dividend Yield	Total Assets	Return on Tangible Equity	Number of Banks
Texas Ratio < 10%	6%	144%	12.8	3.18%	1,422,838	12.81%	31
Texas Ratio 10% - 20%	16%	127%	13.3	2.68%	2,013,720	11.00%	74
Texas Ratio 20% - 30%	24%	109%	12.5	1.48%	1,407,000	9.49%	65
Texas Ratio 30% - 50%	39%	97%	13.3	0.00%	1,385,245	6.77%	51
Texas Ratio 50% - 75%	62%	57%	12.8	0.00%	785,111	2.35%	25
Texas Ratio > 75%	110%	53%	8.2	0.00%	1,195,474	-8.32%	23

NPAs = Non-Performing Assets (Non-Accrual Loans + Loans 90+ Days Past-Due + Other Real Estate Owned)

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* Texas ratio = Non-performing assets divided by (tangible equity plus loan loss reserve)

Trading Multiples: Profitability Sort

- Price/tangible book value multiples have held up better for banks with returns on equity greater than 10%

	Return on Tangible Equity	Price / Tangible Book Value	Price / LTM EPS	Dividend Yield	Total Assets	Non-Performing Assets / Tangible Equity + Reserves	Number of Banks
Return on Tangible Equity > 15%	17.2%	156%	10.2	1.71%	1,966,976	17.35%	31
Return on Tangible Equity 10% - 15%	11.9%	143%	12.4	2.65%	2,412,097	17.57%	78
Return on Tangible Equity 5% - 10%	8.4%	101%	12.9	1.25%	1,116,365	24.24%	84
Return on Tangible Equity 0% - 5%	3.4%	75%	21.7	0.00%	1,070,527	36.85%	40
Return on Equity < 0%	-14.6%	66%	nm	0.00%	936,070	65.43%	35

Notes:

Return on stated equity used when ROTE unavailable; price/BV used when price/TBV unavailable

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Guideline Public Co. Method

- After you have identified a group of comparable companies, common valuation metrics are LTM earnings, forward earnings (one or two years), stated book value, and tangible book value
- Appraisers often adjust public company multiples for differences between the public companies and the subject company. For example:
  - Size (banks appraisers value are often smaller than the smallest publicly traded banks)
  - Location (appraisers see more banks in rural areas)
  - Growth (banks in communities without much population or economic growth may have more limited growth prospects than the public companies)

Guideline Public Co. Method

- Adjustments for differences in the capital structure of the publicly traded banks and the subject bank may also be necessary
  - For example, the subject banks may have tangible equity equal to 10% of assets; comparable ratio is 8% for the public banks
  - "Excess equity is valued dollar-for-dollar"

Capitalization of Tangible Book Value (Shareholders' Equity)		
Tangible Book Value		$10,000,000
Tangible Assets	$100,000,000	
Normalized Tangible Equity/Tangible Assets Ratio	8.00%	
Normalized Tangible Equity		8,000,000
Excess Tangible Equity		$2,000,000
Normalized Tangible Equity		$8,000,000
x Price/Tangible Book Value Ratio		1.25
= Capitalized Normalized Equity		$10,000,000
+ Excess Tangible Equity		2,000,000
= Capitalized Tangible Book Value		**$12,000,000**
INDICATED VALUE: GUIDELINE PUBLIC COMPANY METHOD		
- CAPITALIZED TANGIBLE BOOK VALUE		**$12,000,000**

Guideline Transactions Method

Guideline Transactions Method

- Perhaps easier to apply to a small bank than a larger bank due to the fact that most transaction activity involves smaller banks
- The guideline transactions can often be tailored relatively closely to the subject bank's location, size, performance, etc.
  - Trade-off is the timeliness of data. How far back in time should you go?
    - Probably depends on the M&A markets at large

Guideline Transactions Method

» Search for comparable transactions based on:

- Size
- Profitability
- Location (e.g., Texas)
- Metropolitan vs. rural location (e.g., rural Texas vs. Dallas, Houston, etc.)

» Can derive indications of value using:

- Net income
- Book value and tangible book value
- Assets
- Core deposits

Guideline Transactions Method

» Difficulties have arisen in applying the guideline transactions method

- Have the same issues in determining earning power as in the guideline public company analysis
- More deals involve banks in distress with resultant difficulty in determining the true value of the transaction (e.g., contingent payments)

Guideline Transactions Method

» Median price/tangible book value multiple is only 112%

- Reflects industry conditions – uncertain credit quality, lack of growth, Fed's zero interest rate policy, new regulatory and capital standards

Non-Performing Assets / Total Assets	Number of Transactions	Median Return on Equity (%)	Median Total Assets	Median Non-Performing Assets / Total Assets	Median Price / Tangible Book Value	Transactions with P/TBV < 1.00x	% of Total Transactions
< 1.00%	20	2.79	112,287	0.23	130.26	3	15%
1.00% - 2.00%	15	5.39	259,163	1.39	144.32	2	13%
2.00% - 3.00%	9	4.59	100,136	2.46	118.76	1	11%
3.00% - 5.00%	11	2.58	235,647	4.38	97.16	7	64%
5.00% - 7.00%	15	(3.79)	204,797	5.71	91.93	9	60%
7.00% - 10.00%	5	(9.89)	186,970	8.66	88.78	4	80%
> 10.00%	8	(48.96)	225,598	11.19	61.83	6	75%
Overall Total / Median	83	0.67	191,910	2.78	111.86	32	39%

Source: Mercer Capital research, SNL Financial

Table includes all bank transactions with assets below $5 billion and a reported deal value announced between January 1, 2011 and September 6, 2012

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Guideline Transactions Method

» More transactions involve contingent consideration, particularly involving targets with weaker asset quality metrics

	Total Deal Value ($ million)	% of Total	Number of Transactions	% of Total	Median NPAs / Assets
Capital Contribution	$63	1%	2	3%	6.07
Contingent Consideration	330	4%	9	15%	5.98
Common Stock	1,375	15%	12	20%	1.34
Mixed Cash & Stock	2,059	22%	22	36%	2.01
Cash*	5,532	59%	16	26%	2.12
Overall Total / Median	$9,360	100%	61	100%	
*Cash Deals, Excl. RBC & Pacific Cap.	$567	13%			

Common stock deal would represent 31% and mixed cash/stock deals would represent 47%, excluding RBC & Pacific Capital

See Gibbs and MacDonald; *Non-Traditional Transaction Structures for Banks*; Mercer Capital & Jones Day webinar; April 18, 2012

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Guideline Transactions Method

» Example application of the guideline transaction method:

	Net Income	Tangible Book Value	Core Deposits
Financial Metric	$1,000,000	$10,000,000	$100,000,000
x Multiple	15.00	1.25	4.00%
= Product	$15,000,000	$12,500,000	$4,000,000
+ Tangible Book Value	na	na	10,000,000
= Indicated Value	**$15,000,000**	**$12,500,000**	**$14,000,000**

Note: Core deposits are defined by SNL as total deposits, less CDs over $100,000, less foreign deposits

Discounted Cash Flow Method

"CF" – Cash Flow Component

- Since cash is fungible in a bank, the cash flow measure incorporated into a DCF model differs from that used in a non-financial company
  - Most analysts use some form of dividends or "distributable tangible equity" in a DCF model
- Valuing a minority interest
  - Minority investors have no ability to compel the bank to manage to an optimal capital structure. Therefore, the cash flows discounted could be based on the bank's historical and/or expected dividend policy

"CF" – Cash Flow Component

- Valuing a controlling interest
  - A control investor has the ability to manage to an optimal capital structure
  - Therefore, the analyst can estimate the "distributable tangible equity" that the bank generates, based on a target capital structure or regulatory capital norms
    - In other words, the amount of earnings above the amount necessary to remain in compliance with regulatory capital standards can be distributed
    - What is the "well capitalized" level now?
- To derive a controlling interest value, the appraiser can adjust the projections for expected synergies
  - Ordinarily, "synergies" take the form of reduced operating expenses. Expected expense reductions are reported by SNL Financial

"CF" – Cash Flow Component

- Projections can involve varying degrees of complexity
  - A projection of asset growth and a projected return on assets
  - A projection of pre-tax, pre-provision net income (i.e., net interest income, plus non-interest income, minus non-interest operating expenses), coupled with a projection of expected loan losses
  - A full projection of a balance sheet and income statement

"CF" – Cash Flow Component

- Projection "risks"
  - Projecting an income statement without a balance sheet
    - Remember that balance sheets drive income statements for financial institutions
  - Not presenting a roll-forward of the loan loss reserve
    - Risk of ending up with unexpected outcomes, such as negative charge-offs (i.e., a net recovery of prior charge-offs)
  - Not evaluating the flow of funds between the bank and holding company
    - For example, projecting cash expenses or distributions at the holding company when the bank cannot pay dividends to the holding company

"CF" – Projections

- We often prepare the projections at the subsidiary bank level and then roll them up to the holding company

			Projected Financial Statements				
Consolidated Net Income ($000)		2011	2012	2013	2014	2015	2016
Bank Net Income		$728	$656	$991	$1,115	$1,247	$1,386
1) Interest Expense -- Holding Co. Debt		0	0	0	0	0	0
2) Other Holding Company Expense		0	0	0	0	0	0
3) Interest Expense -- Trust Preferred		0	(140)	(140)	(140)	(140)	(140)
4) Income Tax (Expense) / Benefit	38.3%	0	54	54	54	54	54
CONSOLIDATED NET INCOME		**$728**	**$570**	**$905**	**$1,029**	**$1,160**	**$1,300**
Projected Shareholder Dividend Payout Ratio			12.00%	12.00%	24.00%	35.00%	46.50%
Projected Dividends Paid to Shareholders			**$68**	**$109**	**$247**	**$406**	**$605**

"CF" – Projections

- Cash remaining at holding company level is distributed to shareholders

	Projected Financial Statements				
Holding Company Cash Flow	2012	2013	2014	2015	2016
Cash Receipts:					
Dividends from Bank	$164	$198	$334	$499	$693
Income Tax Benefit	54	54	54	54	54
Trust Preferred Issuance	0	0	0	0	0
Additional Borrowings	0	0	0	0	0
Total Inflows	**$218**	**$252**	**$388**	**$552**	**$747**
Cash Disbursements:					
Holding Company Expenses	$140	$140	$140	$140	$140
Injections into Bank Subsidiary	0	0	0	0	0
Share Repurchase	0	0	0	0	0
Common Dividends Paid	68	109	247	406	605
Total Outflows	**$208**	**$249**	**$387**	**$546**	**$745**
REMAINING CASH FLOW AVAILABLE	**9**	**3**	**1**	**6**	**2**

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Discount Rate

- Do you use a cost of equity or a weighted average cost of capital for a bank?
  - Generally, analysts use a cost of equity
  - A WACC constructed with the cost of deposits as an input makes little sense (cost of deposits does not increase along with leverage)
  - However, a WACC incorporating the holding company's cost of borrowings (such as the cost of its trust preferred securities) makes some theoretical sense
    - Effectively, the analyst is assuming that the bank's regulatory capital requirements are funded with some mixture of debt and equity and the cost of such capital can be captured in a WACC

Information Sources

From Bank

- Board packets
- Asset quality information:
  - Past-due/classified loan reports
  - Loan loss reserve calculation and supporting documentation
  - Write-ups of significant classified loans
  - Schedule of other real estate owned
  - Loan participation reports
  - Loans to large borrowers report
  - Loan concentration report (such as for industry concentrations)
  - Commercial real estate concentration analyses
- Securities portfolio inventories
- Asset/liability management reports
- Capital plan

Publicly Available

- Federal Financial Institutions Examination Council (www.ffiec.gov)
  - Regulatory filings for bank holding companies (FR Y-9s)
  - Regulatory filings for banks (Call Reports) and thrifts (Thrift Financial Reports)
  - Uniform Bank Performance Reports – peer group data
- FDIC (www.fdic.gov)
  - Regulatory filings for banks (Call Reports) and thrifts (Thrift Financial Reports)
  - Reviews of industry performance
  - Summary of Deposits – tracks deposit market share for banks
  - Regulatory orders
- SNL Financial (Charlottesville, VA) (www.snl.com)
  - Track and sell data on bank M&A transactions
- American Bankers Association (www.aba.com)
- American Banker newspaper (www.americanbanker.com)
  - In particular, see Banker's Glossary (http://www.americanbanker.com/glossary/a.html)
- Mercer Capital (www.mercercapital.com)
  - Monthly *BankWatch* publication, summarizing regional trends in bank stock pricing and bank M&A activity
  - *The Bank Director's Valuation Handbook* provides an overview of valuation issues frequently occurring among financial institutions