

Bank & Financial Institution Modeling:

– Certification Quiz Questions

Module 5 – Bank Growth Equity Model

- 1. Which of the following statements BEST describes how the Returns Sources in a growth equity deal for a bank might differ from the Returns Sources for a traditional company?**
 - a. Unlike in a growth equity deal for a traditional company, Debt Repayment cannot be a Returns Source for a bank.
 - b. Dividends are a significant Returns Source in a bank growth equity deal, but they could not be in a deal for a traditional company.
 - c. Cash Generation boosts returns in traditional growth equity deals, but it makes no impact in bank deals because banks cannot freely distribute their Cash.
 - d. The Returns Sources are similar, but financial growth and multiple expansion are based on different metrics in bank growth equity deals.

- 2. Your firm is considering purchasing a minority stake in a publicly traded bank at a 2.0x P / TBV multiple. How might you assess the risk of multiple contraction in such a deal?**
 - a. Review the bank's historical P / TBV multiples and its corresponding financial metrics (ROA, ROTCE, etc.) over a long period.
 - b. Calculate the Implied Exit Multiple on potential exit dates, based on ROTCE, Net Income Growth, and the bank's Cost of Equity.
 - c. Review the multiples that comparable public companies are trading at, as well as the multiples they have traded at historically.
 - d. All of the above.

3. You have built a growth equity model for a commercial bank that assumes an investment in 10% of the bank's equity and an exit in 3.5 years based on a range of P / TBV multiples. To check your work, you have also calculated the Exit P / TBV multiple *implied* by the bank's financial metrics in each period, as shown below:

Returns to Equity Investors:	Units:	Projected							
		1H 17	2H 17	1H 18	2H 18	1H 19	2H 19	1H 20	2H 20
Exit P / TBV Multiple:									
Upside	x		2.00 x	2.15 x	2.30 x	2.45 x	2.60 x	2.75 x	2.90 x
Base	x		1.80 x	1.90 x	2.00 x	2.10 x	2.20 x	2.30 x	2.40 x
Downside	x		1.70 x	1.60 x	1.50 x	1.40 x	1.50 x	1.60 x	1.70 x
Selected Exit P / TBV Multiple:	x		1.80 x	1.90 x	2.00 x	2.10 x	2.20 x	2.30 x	2.40 x
Tangible Book Value Upon Exit:	\$ B		\$ 63.2	\$ 64.2	\$ 65.2	\$ 66.3	\$ 67.5	\$ 68.7	\$ 69.9
Implied Equity Value Upon Exit:	\$ B		113.8	122.0	130.5	139.3	148.4	158.0	167.8
Net Income Growth:	%		9.5%	14.6%	12.2%	12.3%	16.6%	15.5%	13.6%
Return on Tangible Common Equity (ROTCE):	%		11.0%	10.9%	10.9%	11.6%	12.4%	13.0%	13.6%
Return on Equity (ROE):	%		9.8%	9.8%	9.9%	10.6%	11.4%	12.0%	12.6%
P / TBV Multiple Implied by ROTCE and NI Growth:	x		(0.79 x)	0.52 x	0.27 x	0.14 x	0.47 x	0.31 x	0.01 x
Cash Flows to Equity Investors:									
(-) Initial Equity Investment:	\$ B	(9.3)	-	-	-	-	-	-	-
(+) Portion of Dividends:	\$ B		0.1	0.3	0.3	0.3	0.3	0.4	0.4
(+) Proceeds from Sale of 10.0% Stake:	\$ B		-	-	-	-	-	-	16.8
Total Cash Flows to Equity Investors:	\$ B	(9.3)	0.1	0.3	0.3	0.3	0.3	0.4	17.2
Money-on-Money (MoM) Multiple:	x								2.0 x
Internal Rate of Return (IRR):	%								23.6%
Multiple for Sensitivities:	x	2.0 x							
IRR for Sensitivities:	%	23.6%							

What do these Implied P / TBV multiples tell you about the analysis?

- The Selected Exit P / TBV multiples at the top of this screenshot are wildly unrealistic, so this returns analysis is invalid.
- It's hard to say because we don't know if the company's financial metrics have stabilized by these exit dates – if they haven't, these Implied Multiples may not mean much.
- These results indicate that we should estimate the company's Exit Value based on P / E multiples rather than P / TBV multiples.
- These results mean that the vast majority of returns in this deal come from TBV growth rather than P / TBV multiple expansion.

4. In the Downside Case for this deal (screenshot shown below), the IRR and MoM Multiple are slightly below your firm's targets of 1.5x and 12%, respectively:

Returns to Equity Investors:	Units:	Projected							
		1H 17	2H 17	1H 18	2H 18	1H 19	2H 19	1H 20	2H 20
Exit P / TBV Multiple:									
Upside	x		2.00 x	2.15 x	2.30 x	2.45 x	2.60 x	2.75 x	2.90 x
Base	x		1.80 x	1.90 x	2.00 x	2.10 x	2.20 x	2.30 x	2.40 x
Downside	x		1.70 x	1.60 x	1.50 x	1.40 x	1.50 x	1.60 x	1.70 x
Selected Exit P / TBV Multiple:	x		1.70 x	1.60 x	1.50 x	1.40 x	1.50 x	1.60 x	1.70 x
Tangible Book Value Upon Exit:	\$ B		\$ 62.8	\$ 63.6	\$ 64.4	\$ 65.2	\$ 66.1	\$ 67.0	\$ 68.0
Implied Equity Value Upon Exit:	\$ B		106.8	101.7	96.6	91.3	99.1	107.3	115.6
Net Income Growth:	%		2.1%	(10.4%)	(17.7%)	(3.8%)	16.0%	21.7%	19.1%
Return on Tangible Common Equity (ROTCE):	%		10.3%	8.5%	7.6%	7.9%	8.6%	9.4%	9.9%
Return on Equity (ROE):	%		9.2%	7.7%	6.9%	7.2%	7.8%	8.6%	9.2%
P / TBV Multiple Implied by ROTCE and NI Growth:	x		1.53 x	1.06 x	1.00 x	1.04 x	0.87 x	0.87 x	0.79 x
Cash Flows to Equity Investors:									
(-) Initial Equity Investment:	\$ B	(9.3)	-	-	-	-	-	-	-
(+) Portion of Dividends:	\$ B		0.1	0.2	0.2	0.2	0.2	0.3	0.3
(+) Proceeds from Sale of 10.0% Stake:	\$ B		-	-	-	-	-	-	11.6
Total Cash Flows to Equity Investors:	\$ B	(9.3)	0.1	0.2	0.2	0.2	0.2	0.3	11.8
Money-on-Money (MoM) Multiple:	x								1.4 x
Internal Rate of Return (IRR):	%								10.6%
Multiple for Sensitivities:	x	1.4 x							
IRR for Sensitivities:	%	10.6%							

The Purchase P / TBV multiple was approximately 1.7x, which was a ~10% discount to the company's pre-transaction share price. What is the MOST PLAUSIBLE way to boost the MoM multiple and IRR in this deal?

- Negotiate a higher upfront discount to reduce the Purchase P / TBV multiple.
- Assume a lower Targeted CET 1 Ratio so that the bank can issue more in Dividends in each period.
- Assume a higher Exit P / TBV multiple since the company's financial metrics improve by the end of the period.
- Assume an Exit in Year 2 or 3 instead of waiting for 3.5 years.

5. A publicly traded bank wants to complete a follow-on equity offering – partially to gain additional equity it can use to fund growth, and partially to boost its Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR).

However, no institutional investors are interested because the returns to equity investors are too low, given the bank's current multiples and low growth rates.

What's the most viable alternative for this bank if it cannot boost its LCR and NSFR via additional equity?

- a. Sell the bank's Derivative Assets, but not its Derivative Liabilities.
- b. Divest some of the Loan Portfolio, but do **not** divest the corresponding Deposits.
- c. Issue 10-year Subordinated Notes, and let most of the proceeds remain in the bank's Cash balance.
- d. Raise additional Deposits with long-term maturities, and let most of the proceeds remain in the bank's Cash balance.