KEUSAL LEARNING

ANALYZING REPAYMENT SOURCES

COURSE WORKBOOK

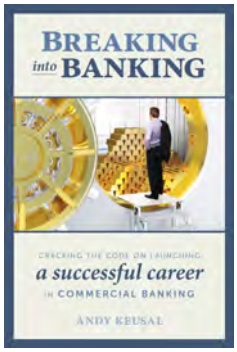
Important Notice

breaking into banking

Analyzing Repayment Sources

Module 1

Introduction and Overview



Module 1: What We'll Cover

- Why does this topic (ARS) matter?
- What we'll cover in next 8 Modules
- Why Module 9 was added

What Business Are We In?

- Generating Net Interest Income:

  Pay depositors 1%

  Charge borrowers 4%

  Net (spread) = 3% (or 300 bps)

  IF…

We make money at this…

- IF…we get repaid as agreed
  - On time
  - With interest
- Must focus on repayment sources
  - Primary
  - Secondary

First Things First…

- Don't get bogged down in ratios
- We lend cash, and…
- We want to be repaid with CASH

Risk

- Get good at identifying risk
- Learn to manage risk
- Eliminate risk?

Definition:

RISK = The possibility of something bad or dangerous happening

So Why Take Risk?

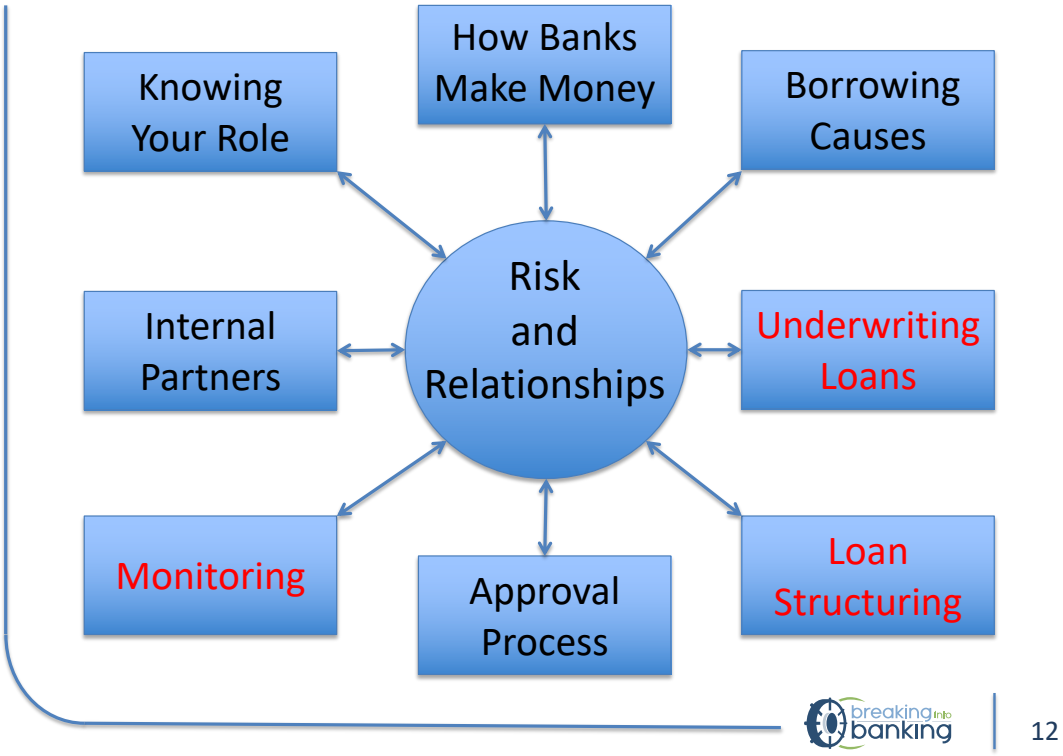
Because It Pays Well!

Risk

- We do want to take risk…
- But we must become skilled at *assessing* whether we're going to be repaid

Understanding vs. Memorization

- Master thought process & principles
- Banks use different analytical tools
- Charts and tables may vary
- THEN, learn it *your* bank's way


How Banks Make Money
Knowing Your Role
Borrowing Causes
Risk and Relationships
Internal Partners
Underwriting Loans
Monitoring
Approval Process
Loan Structuring
breaking into banking
12

101 Modules 3 & 4: Underwriting

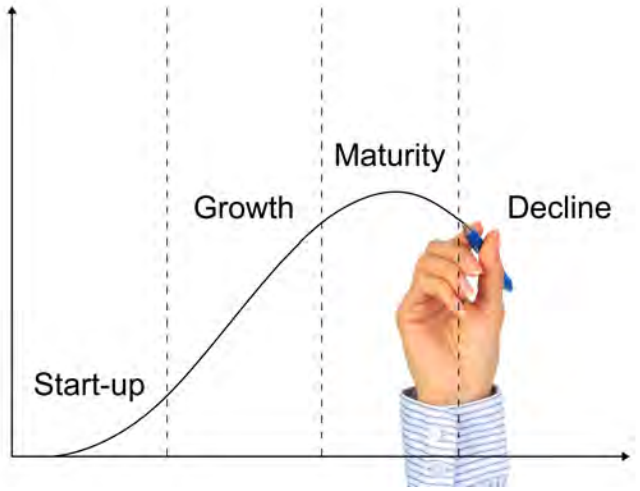
- Bank identifies risks, then decides whether to take those risks
- Qualitative vs. Quantitative

Refresher: Qualitative Underwriting

- Trajectory of borrower's industry
- Life cycle stage of the business
- Quality of management team

Business Life Cycle: Maturity

- Predictable revenues & cash flow
- Sweet spot for bankers



Quality of Management

- Bet on the jockey, not the horse
- What does it really mean?
  - Competence
  - Experience
  - Reputation
- Character matters

Our Focus: Quantitative U/W

- Balance Sheet Analysis (2 & 3)
- Income Statement Analysis (4 & 5)
- Collateral (6-8)

Sources of Repayment

- Primary:
  - Cash flow from operations
  - Converting current assets to cash
- Secondary: liquidating collateral
- Guarantees – covered in 101
- Covenants – not repayment source

Module 9 – Risk Ratings

- Not typically covered
- What impact does your analysis have on your bank's financials?
- See page 1 of Reference Guide to understand bank's P&L

Why Does This Analysis Matter?

Analysis of financial statements →

Risk Ratings →

Expected Loss →

Provision for Credit Losses

How Each Module Works

- Self-check after each module
- Keep Reference Guide handy
- Case study: Auto MetalBending, Inc.

Why Your Bank Pays You

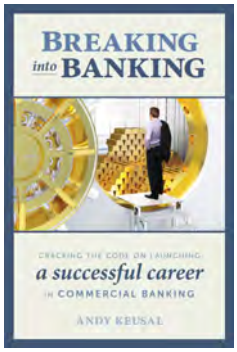
- Never look at financials same way
- You'll have key to unlock clues
- Your bank wants to lend money and to be repaid as agreed
- Let's get started!

breaking into banking

Analyzing Repayment Sources

Module 2

Analyzing Liquidity



Analyzing a Balance Sheet

- Definitions of Assets:
  - What company owns
  - What company has invested in that will generate cash flow

Analyzing a Balance Sheet

- Definitions of Liabilities & Equity:
  - What company owes
  - How company has financed assets

Analyzing a Balance Sheet

- Creditors have claims on cash flow
  - Suppliers and vendors
  - Employees
  - Banks
- Owners and investors do, too
  - (more in Module 3…)

Analyzing a Balance Sheet

- Statement of "assets and claims"
- What generates cash flow, and what are the claims on that cash flow

Introduce AMB, Inc.

- Read company summary on page 2
- Then picture what their place of business would look like
- For example…

Financing a Law Firm?

Financing a Retailer?

What Would You See at AMB?

- Raw Materials

What Would You See at AMB?

What Would You See at AMB?

- Labor ("Value Added")

What Would You See at AMB?

What Would You See at AMB?

What Would You See at AMB?

What Would You See at AMB?

- Finished Goods (Inventory)

What Would You See at AMB?

A Business Owner's Biggest Worry

- Same as banker's biggest worry:
- Running out of cash
  - Can't pay employees
  - Can't buy raw materials
  - Can't pay the light bill
  - Can't make payments on bank debt

Definitions of Liquidity

- The ability to quickly convert assets to cash with little or no loss in value
- A company's ability to meet its short-term cash requirements on a regular basis

Interim Financial Statements

- Liquidity relates to short-term needs
- Bankers need *current* financials
  - Quarterly
  - Monthly

Key: How to Measure Liquidity

- Amount of current assets?
- Compare to current liabilities
  - Are assets sufficient to cover liabilities?

Liquidity Formulas:

- Working Capital ($ amount) =

  Current Assets – Current Liabilities

Liquidity Formulas:

- Working Capital ($ amount) =

  Current Assets – Current Liabilities

- Current Ratio =

  Current Assets ÷ Current Liabilities

Liquidity Formulas:

- Working Capital ($ amount) = Current Assets – Current Liabilities
- Current Ratio = Current Assets ÷ Current Liabilities
- Quick Ratio = (Current Assets – Inventory) ÷ Current Liabilities

Activity (Turnover) Ratios [p. 8]

All three are similar calculations:

$$\frac{\text{Balance Sheet account} \times 365}{\text{Income Statement account}}$$

Activity (Turnover) Ratios [p. 8]

A/P Turnover = (A/P x 365) / COGS

INV Turnover = (INV x 365) / COGS

A/R Turnover = (A/R x 365) / Revenue

What Do These Ratios Tell Us?

- Key: What is the impact of ratios on borrower's cash flow?
- What would you *expect* AMB's A/R turnover ratio to be?
- Calculate A/R turnover ratios…

A/R Turnover Ratios

- Is there a trend over three years?
- If so, what is the impact on cash flow?
- Deeper analysis: What are potential drivers of this trend?

Pros and Cons of Liquidity Ratios

- Pro: simple to calculate
- Cons:
  - Balance sheet is at point in time
  - Lacks detail: can't measure *quality* of assets
  - (More in Modules 7-8)

Access to Cash

- Quickest and simplest way?

Access to Cash

- Quickest and simplest way?
- Draw on working capital line of credit….

Access to Cash

- Quickest and simplest way?
- Draw on working capital line of credit….IF there is availability
- Let's do a quick example…

Back of the Napkin Calculation:

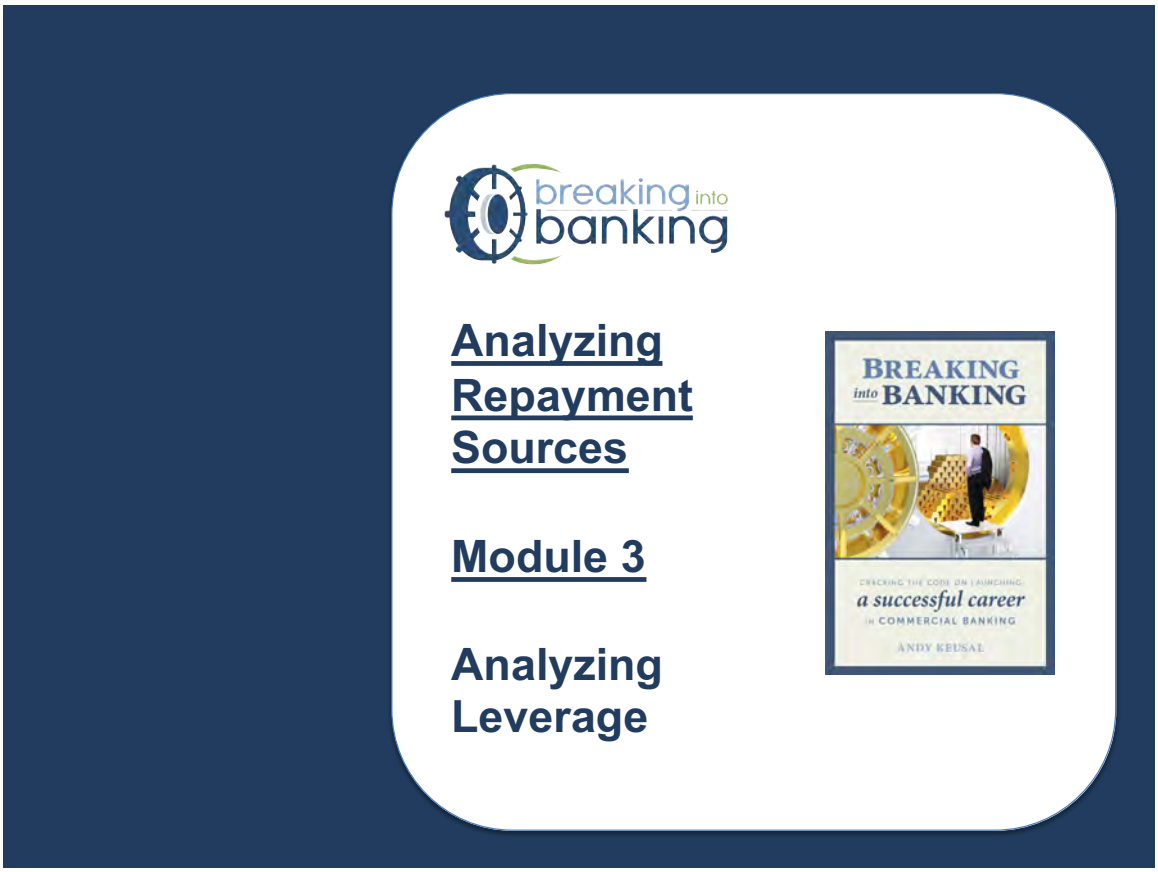
- Go to spreads - Year 3
- Calculate 80% of A/R & 50% of INV
- Gives us ~ “lendable collateral”

Back of the Napkin Calculation:

- Go to spreads - Year 3
- Calculate 80% of A/R & 50% of INV
- Compare w/ LOC balance
  (N/P – Bank in current liabilities)
- What is the limit on LOC?

This Method is Better than Ratios…

- Still not perfect
- More accurate? Borrowing Bases


breaking into banking
Analyzing Repayment Sources
Module 3
Analyzing Leverage
BREAKING into BANKING
a successful career
IN COMMERCIAL BANKING
ANDY KEUSAL

More Balance Sheet Analysis

- Left side reflects assets
  - Generate cash flow → Repays debt
- Right side shows Liabilities & Equity
  - How assets were financed
  - How much Debt vs. Equity (Net Worth)
  - Comparing these → Leverage

Analagous to Residential Mortgage

- Buy a $100K home
  - $80K mortgage loan (debt)
  - $20K down payment (equity)
  - Ratio = 4:1 or 4.0x

Analagous to Residential Mortgage

- Buy a $100K home
  - $95K mortgage loan (debt)
  - $5K down payment (equity)
  - Ratio = 19:1 or 19.0x
- Question: who is taking more risk?

Balance Sheet Leverage

- Question: Who is taking more risk…
  - Creditors
  - Owners of company

Balance Sheet Leverage

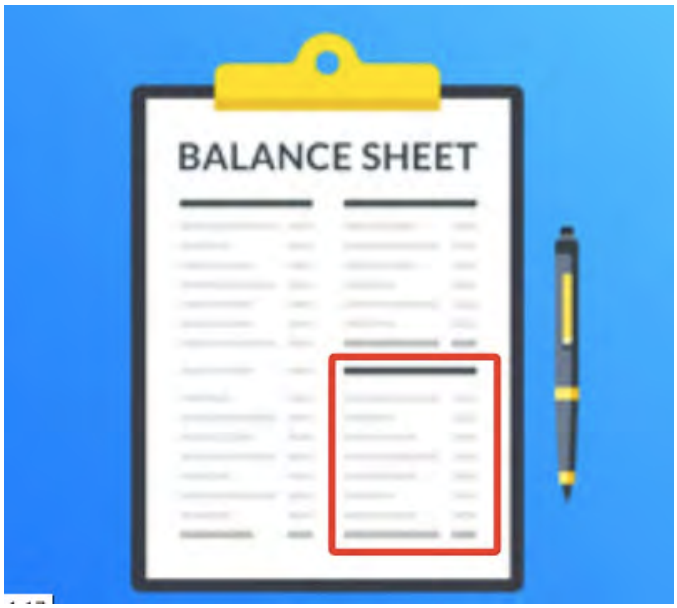
- Question: Who is taking more risk…
  - Creditors
    - No ownership stake in company
    - Expect scheduled repayment of P & I
    - First (Senior) in repayment

Balance Sheet Leverage

- Question: Who is taking more risk…
  - Creditors
  - Owners of company
    - In "long term" – not immediately repaid
    - More patient for return on investment
    - Typically not scheduled ("amortized")

What % Assets Financed by Debt?

What % Assets Financed by Equity?



How Leverage Correlates to Risk

- More (amortizing) debt → higher
- Less (amortizing) debt → lower
- Why?

How Leverage Correlates to Risk

- More (amortizing) debt → higher
- Less (amortizing) debt → lower
- Why? Debt payments are required

The BIG Question:

- Is the company generating enough cash flow to meet all its obligations?
  - The more obligations, the harder for the company to generate sufficient cash flow

How to Measure Leverage

- Note: “Debt” includes *all* liabilities
  - Accrued salaries must be paid
  - Suppliers (A/P) must be paid

How to Measure Leverage

- Components of Equity Section:
  - Common Stock
  - Preferred Stock
  - Paid in Capital
  - Retained Earnings
  - Treasury Stock

How to Measure Leverage

- Keep it Simple:

  Equity =

  Original Investment

  + Earnings to date

  - Withdrawals / Dividends

Reconciling Retained Earnings (p.5)

Reconciliation of Retained Earnings

BEGINNING RETAINED EARNINGS	17,854	18,347
Net Profit	1,232	1,700
Dividends - Common	739	1,020
ENDING RETAINED EARNINGS	18,347	19,027

Formulas to Measure Leverage (p.8)

- Debt / Net Worth (from 101 course)

  = (Total Liabilities) ÷ (Net Worth)

  Expressed as a ratio e.g., 3:1

Formulas to Measure Leverage (p.8)

- Debt / Tangible Net Worth

  = (Total Liabilities) ÷

  (Net Worth – Intangible Assets)

- Most Common Intangible?

Formulas to Measure Leverage (p.8)

- Debt / Tangible Net Worth

  = (Total Liabilities) ÷

  (Net Worth – Intangible Assets)

- Most Common Intangible: Goodwill
  - Typically from an acquisition
  - Hard for banks to monetize in liquidation

Formulas to Measure Leverage (p.8)

- Think through what ratio tells us…
  - Intangible assets → lower TNW
  - Larger denom. → higher (riskier) ratio
- Debt / Tangible Net Worth

  = (Total Liabilities) ÷

  (Net Worth – Intangible Assets)

Subordinated Debt

- Sub = “under”
- Ordinal = number / counting
- Typically owner lends $ to company
  - “Debt” on balance sheet
  - Owner doesn’t expect repayment soon
  - If not amortizing, not claim on cash flow

Subordinated Debt

- Feels & smells more like equity
- Distinguish:
  - "Senior" debt (e.g., bank) – 1st in line
  - vs. Sub. debt (second in line)

Formulas to Measure Leverage (p.8)

Sr. Liabilities / Effective Net Worth =

(Total Liabilities – Subordinated Debt) ÷

(Net Worth – Intangible Assets + Sub Debt)

Note: Since Sub Debt is more like equity, remove it from numerator and add to denom.

Formulas to Measure Leverage (p.8)

Debt to Capitalization =

(CPLTD + Sr. Debt + Sub Debt) ÷

(Net Worth + CPLTD + Sr. Debt + Sub Debt)

Note: Capitalization refers to sum of all parts of how the company is financed

Formulas to Measure Leverage (p.8)

Debt to Capitalization =

(CPLTD + Sr. Debt + Sub Debt) ÷

(Net Worth + CPLTD + Sr. Debt + Sub Debt)

Answers the Question:

What % of total capitalization is debt?

Formulas to Measure Leverage (p.8)

Debt to EBITDA =

(Total Liabilities) ÷ EBITDA

aka “Cash Flow Leverage”

Analagous to residential mortgage loan

Key ratio: borrower’s debt / income

Formulas to Measure Leverage (p.8)

- Lease-Adjusted Leverage
  - Applies to “off-balance sheet” debt
  - Large lease / rent expense
  - Contractual claim on cash flow
    - Feels and smells like debt
  - Balance Sheet leverage is understated

Formulas to Measure Leverage (p.8)

- Lease-Adjusted Leverage
- Formulas vary
- "Rent" = Operating Lease Expense

(Total Liabilities + [multiple] x Annual rent) ÷

(EBITDA + Annual rent)

- Sometimes called EBITDAR

Pro Forma Leverage

- Pro Forma = "What If?"
- Not same as projections
  - What will balance sheet look like next year or 3 years from now?
- Layer proposed debt onto historical balance sheet

Exercise

- Calculate Debt / Net Worth – 3 yrs.
- Do it manually

Analysis of Leverage Ratios

- Compare to RMA Industry averages
- Look for trends
- As leverage increases, so does risk
- What are the drivers (causes)?

Drivers of Increasing Leverage:

- Higher bank borrowings (why?)
- Decreased equity (why?)

Drivers of Increasing Leverage:

- Higher bank borrowings (why?)
- Decreased equity (why?)
  - Look at reconciliation in spreads
  - Owner distributions

How Much Leverage is Too Much?

- It depends…
  - Industry
  - Business Model
  - Management Team

New Category: "Leveraged Lending"

- Large loan amount
- Purpose: acquisition
- Sr. Debt ÷ TTM EBITDA
- Greater regulatory scrutiny
  - Financials, Risk Ratings, Covenants

Wrap-up of Balance Sheet Analysis

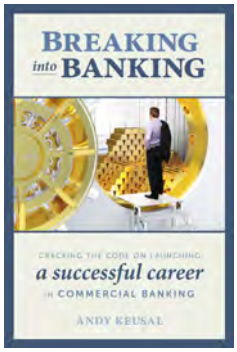
- Liquidity: can borrower get cash?
- Leverage: Who is taking more risk?

breaking into banking

Analyzing Repayment Sources

Module 4

Analyzing Revenues & Profit Margins



Analyzing Revenues & Margins

- What's the "bottom line?"

Analyzing Revenues & Margins

- What's the "bottom line?"

TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880
Interest Expense	864	1.0	1,220	1.3	1,568
Other Expenses	224	0.3	255	0.3	133
PROFIT BEFORE TAXES	2,834	3.3	1,580	1.7	2,179
Current Income Tax	623	0.7	348	0.4	479
NET PROFIT	$2,211	2.5	$1,232	1.3	$1,700

Why Profit is So Important

- Profit is the primary component of a company's cash flow
- Cash flow is what repays our loans!

Four Levels of Financial Analysis:

Four Levels of Financial Analysis:

Four Levels of Financial Analysis:

Four Levels of Financial Analysis:

Start at the Top – Revenues (p.4)

- Note: In "accrual accounting," recognized revenue isn't necessarily cash coming into business
- Note about "Other Income"
  - Hoods & panels both included
  - What about rental income?

Start at the Top - Revenues

- Is $106 MM a good number?

Months Covered	12		12		12	
Audit Method	Reviewed		Reviewed		Reviewed	
Accountant	C. Brown, CPA		C. Brown, CPA		C. Brown, CPA	
Analyst	ATK		ATK		ATK	
Stmt Type	Annual		Annual		Annual	
SALES / REVENUE	86,912	100.0	91,420	100.0	105,854	100.0
COGS - Materials	54,021	62.2	57,330	62.7	66,830	63.1
COGS - Labor	17,883	20.6	19,011	20.8	22,042	20.8
COGS - Depreciation	2,757	5.1	3,015	5.3	3,301	4.9
Cost of Goods Sold	74,661	85.9	79,356	86.8	92,173	87.1
GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3

Start at the Top - Revenues

- Is there a trend?

Analyst	ATK		ATK		ATK	
Stmt Type	Annual		Annual		Annual	
SALES / REVENUE	86,912	100.0	91,420	100.0	105,854	100.0
COGS - Materials	54,021	62.2	57,330	62.7	66,830	63.1
COGS - Labor	17,883	20.6	19,011	20.8	22,042	20.8
COGS - Depreciation	2,757	3.1	3,015	3.3	3,301	3.1
Cost of Goods Sold	74,661	85.9	79,356	86.8	92,173	87.1
GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3

Measuring Revenue Growth

- Formula (on p. 8):

(Current Yr Revenues – Prior Yr Revenues)

÷ (Prior Yr Revenues)

- Calculate it for both years…

Measuring Revenue Growth

Revenue Growth calculations for AMB:

Yr. 1 to Yr. 2: 91,420 – 86,912 = 4,508

4,508 ÷ 86,912 = 5%

Yr. 2 to Yr. 3: 105,854 – 91,420 = 14,434

14,434 ÷ 91,420 = 16%

Level 3: Drivers of Revenue Growth

- Page 2 – Company Summary
- Educated guess…

Level 3: Drivers of Revenue Growth

- Page 2 – Company Summary
- Educated guess…Honda contract for hoods

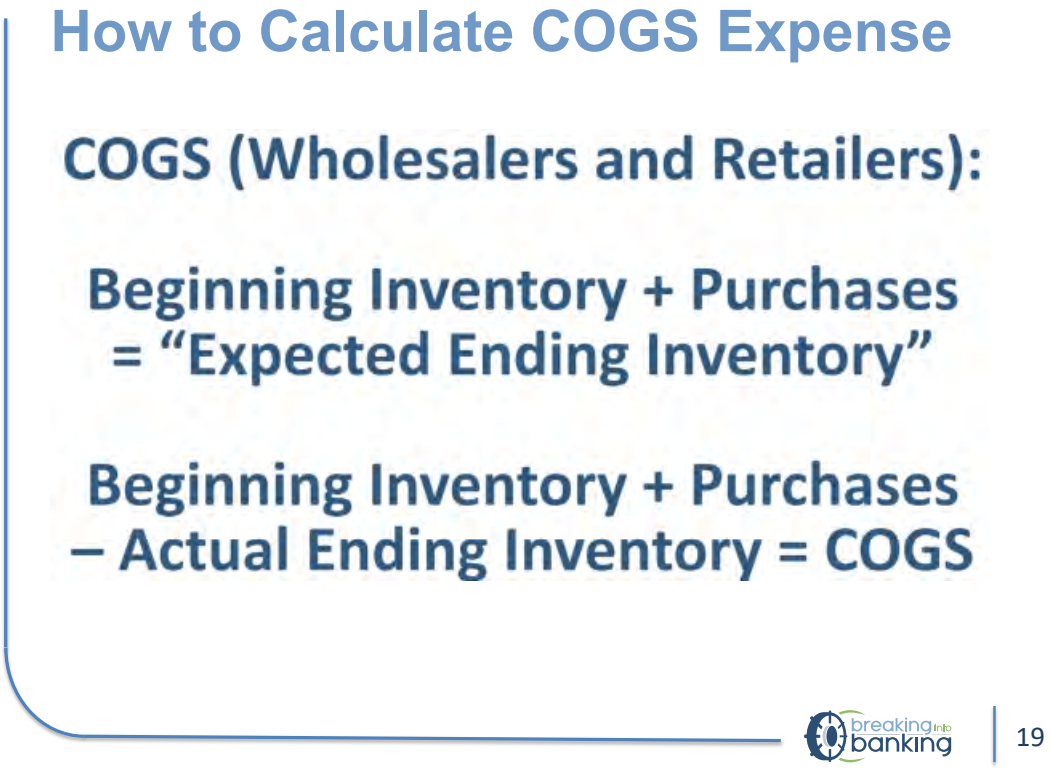
Sales Projections

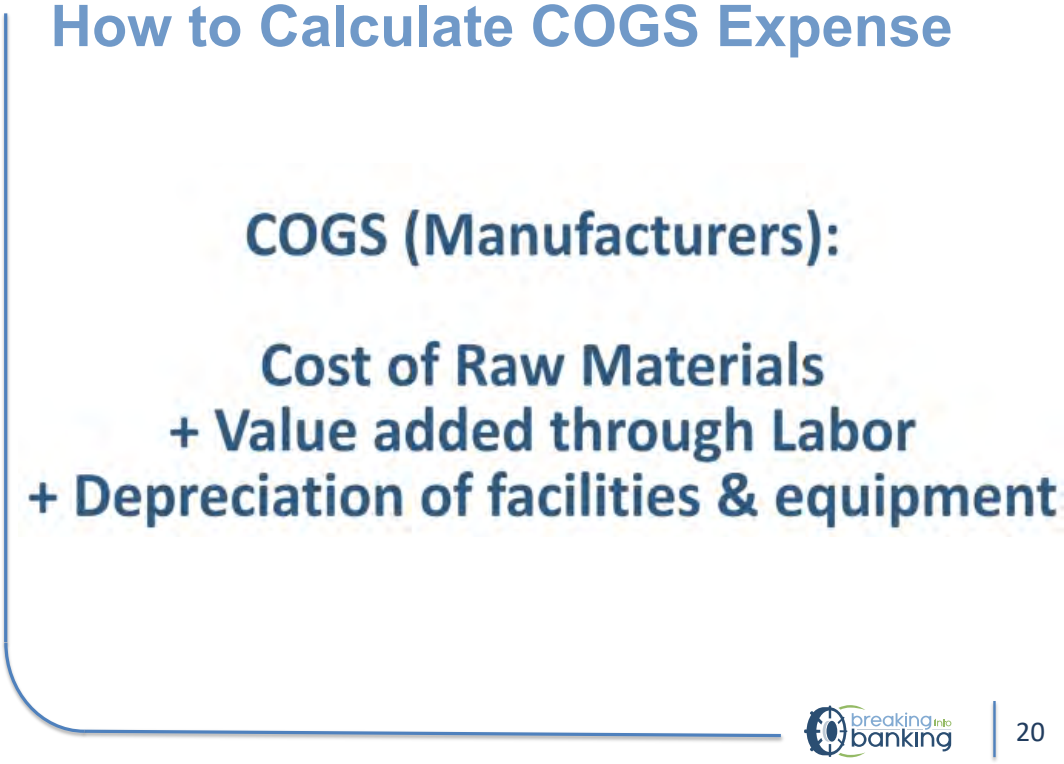
- What are their assumptions?
- Do these seem valid?
- Historically accurate?

→ Do we have faith in projections?

Analyzing Profit Margins

- Gross margin is key: why?
- COGS expense is often largest
  - So changes in it have big impact


How to Calculate COGS Expense
COGS (Wholesalers and Retailers):
Beginning Inventory + Purchases
= "Expected Ending Inventory"
Beginning Inventory + Purchases
– Actual Ending Inventory = COGS
breaking into banking
19


How to Calculate COGS Expense
COGS (Manufacturers):
Cost of Raw Materials
+ Value added through Labor
+ Depreciation of facilities & equipment
breaking into banking
20

How to Calculate COGS Expense

SALES / REVENUE	86,912	100.0	91,420	100.0	105,854	100.0
COGS - Materials	54,021	62.2	57,330	62.7	66,830	63.1
COGS - Labor	17,883	20.6	19,011	20.8	22,042	20.8
COGS - Depreciation	2,757	5.1	3,015	5.3	3,301	4.9
Cost of Goods Sold	74,661	85.9	79,356	86.8	92,173	87.1
GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880	3.7
Interest Expense	864	1.0	1,220	1.3	1,568	1.5
Other Expenses	224	0.3	255	0.3	133	0.1

How to Calculate COGS Expense

SALES / REVENUE	86,912	100.0	91,420	100.0	105,854	100.0
COGS - Materials	54,021	62.2	57,330	62.7	66,830	63.1
COGS - Labor	17,883	20.6	19,011	20.8	22,042	20.8
COGS - Depreciation	2,757	5.1	3,015	5.3	3,301	4.9
Cost of Goods Sold	74,661	85.9	79,356	86.8	92,173	87.1
GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880	3.7
Interest Expense	864	1.0	1,220	1.3	1,568	1.5
Other Expenses	224	0.3	255	0.3	133	0.1

Gross Profit Doesn't Matter…

SALES / REVENUE	86,912	100.0	91,420	100.0	105,854	100.0
COGS - Materials	54,021	62.2	57,330	62.7	66,830	63.1
COGS - Labor	17,883	20.6	19,011	20.8	22,042	20.8
COGS - Depreciation	2,757	5.1	3,015	5.3	3,301	4.9
Cost of Goods Sold	74,661	85.9	79,356	86.8	92,173	87.1
GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880	3.7
Interest Expense	864	1.0	1,220	1.3	1,568	1.5
Other Expenses	224	0.3	255	0.3	133	0.1
PROFIT BEFORE TAXES	2,834	3.3	1,580	1.7	2,179	2.1

Gross Profit Doesn't Matter…

SALES / REVENUE	86,912	100.0	91,420	100.0	105,854	100.0
COGS - Materials	54,021	62.2	57,330	62.7	66,830	63.1
COGS - Labor	17,883	20.6	19,011	20.8	22,042	20.8
COGS - Depreciation	2,757	5.1	3,015	5.3	3,301	4.9
Cost of Goods Sold	74,661	85.9	79,356	86.8	92,173	87.1
GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880	3.7
Interest Expense	864	1.0	1,220	1.3	1,568	1.5
Other Expenses	224	0.3	255	0.3	133	0.1
PROFIT BEFORE TAXES	2,834	3.3	1,580	1.7	2,179	2.1

Gross Margin Analysis

- Is there a trend?
- What are the potential drivers?
  - _____
  - _____
  - _____
  - _____

Gross Margin Analysis

- Is there a trend?
- What are the potential drivers?
  - Change in sales price per unit
  - Higher material or labor costs
  - Change in product mix
  - Some combination of all three

Gross Margin Analysis – Level 4

- Impact of gross margin change?
- Calculate it in $$ (Yr 1 → Yr 3)…

Gross Margin Analysis – Level 4

12.9% of $105,854 = $13,681 Gross Profit

14.1% of $105,854 = $14,925 Gross Profit

$14,925 - $13,681 = $1,244

Next: Operating Profit

- SG&A Expenses:
  - Management & office salaries
  - Rent
  - Utilities
  - Advertising
  - Professional fees

Next: Operating Profit

- SG&A Expenses: Fixed or Variable?
- Formula for Operating Exp. Ratio:

(Total Operating Expenses) ÷ (Revenues)

Next: Operating Profit

GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880	3.7
Interest Expense	864	1.0	1,220	1.3	1,568	1.5
Other Expenses	224	0.3	255	0.3	133	0.1
PROFIT BEFORE TAXES	2,834	3.3	1,580	1.7	2,179	2.1
Current Income Tax	623	0.7	348	0.4	479	0.5
NET PROFIT	$2,211	2.5	$1,232	1.3	$1,700	1.6

Operating Expense Ratio

- Measures efficiency
  - How much spent in SG&A to earn operating profit?
- The lower, the better
  - 9.3 is better than 9.9
- Calculate impact on cash flow…

Operating Expense Ratio

- Impact of improved efficiency:

9.9% x $105,854 = $10,480

$10,480 - $9,801 = $679

Analyzing Operating Profit Margin

- Compare with RMA industry avg.
- What are the drivers?
- This reflects quality of management
  - e.g. - hiring, firing, OT decisions
- Different than Operating Exp. Ratio
  - Earnings after production and Op. Exp.

Interest Expense

GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880	3.7
Interest Expense	864	1.0	1,220	1.3	1,568	1.5
Other Expenses	224	0.3	255	0.3	133	0.1
PROFIT BEFORE TAXES	2,834	3.3	1,580	1.7	2,179	2.1
Current Income Tax	623	0.7	348	0.4	479	0.5
NET PROFIT	$2,211	2.5	$1,232	1.3	$1,700	1.6

Interest Expense – Drivers?

Interest Expense – Drivers?

Furniture & Fixtures, net	1,464	1,370	1,711
Other Assets	403	511	600
TOTAL NON-CURRENT	29,069	33,167	38,506
TOTAL ASSETS	59,287	60,819	67,690
CURRENT LIABILITIES			
Note Payable - Bank	4,423	3,029	5,555
CPLTD - Bank	3,207	3,666	4,513
Accounts Payable	8,918	9,474	12,008
Accrued Expenses	5,858	6,026	6,340
TOTAL CURRENT LIAB.	22,406	22,195	28,416
NON-CURRENT LIAB.			
Long Term Debt - Bank	17,475	20,988	24,966

Interest Expense - Drivers?

- Why has term debt increased?

Interest Expense - Drivers?

- Why has term debt increased?
  - Need for more equipment…why?

Interest Expense - Drivers?

- Why has term debt increased?
  - Need for more equipment…why?
- Increased production requirements due to Honda contract

Two Other Items…

- Exclude Extraordinary Gains / Loss
  - Unexpected
  - Not part of normal course of business
- Exclude Gain / Loss on Asset Sale
  - Compare proceeds of sale with Net Fix Asset Value

Return on Assets (ROA)

- Why do companies invest in assets?

Return on Assets:

ROA = (Net Profit) ÷ (Total Assets)

Return on Assets (ROA)

- Why do companies invest in assets?
- Calculate for all three years…

Return on Assets:

ROA = (Net Profit) ÷ (Total Assets)

Return on Assets (ROA)

- Year 1: 3.7x
- Year 2: 2.0x
- Year 3: 2.5x

- Are these figures good or bad?

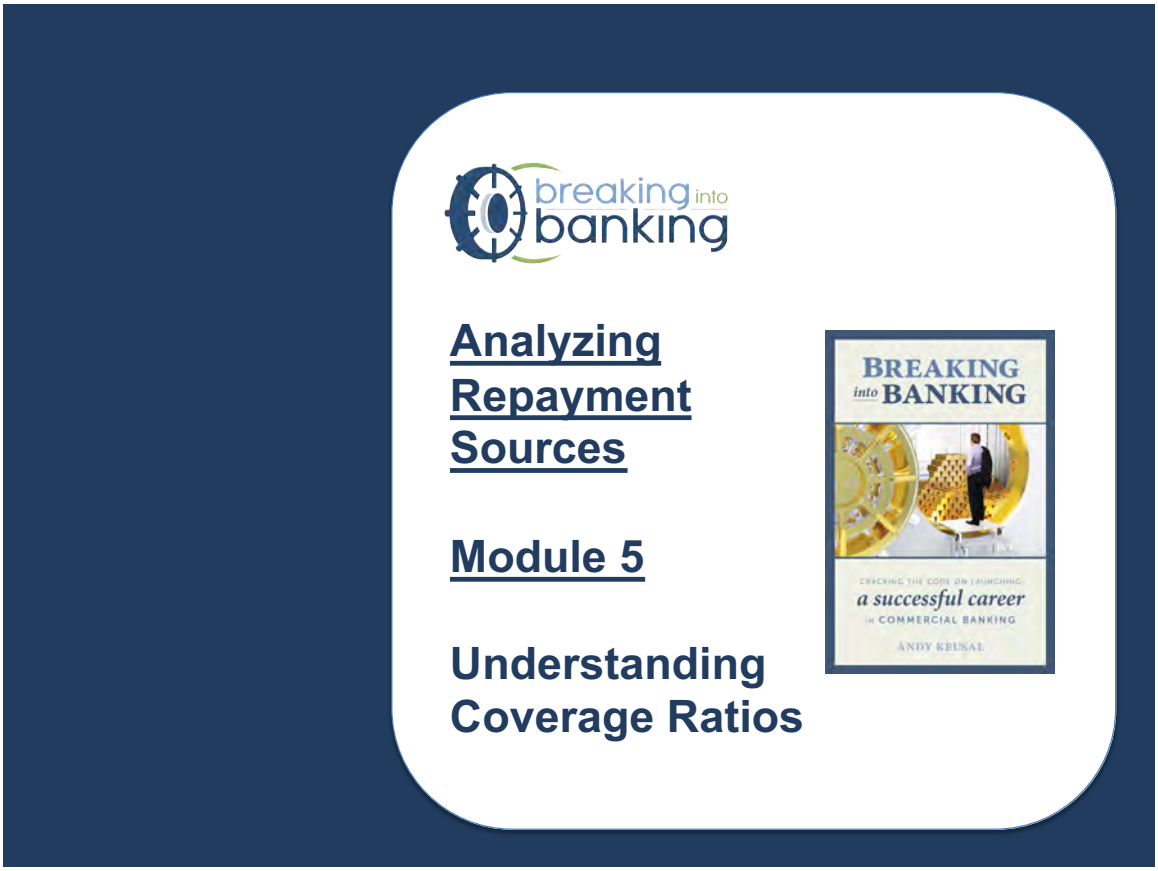
Return on Assets (ROA)

- Compare with RMA averages
- Also, note large increase in assets:

NON-CURRENT ASSETS			
Land & Buildings, net	10,029	11,285	11,309
Property, Plant, Equip, net	17,173	20,001	24,886
Furniture & Fixtures, net	1,464	1,370	1,711
Other Assets	403	511	600
TOTAL NON-CURRENT	29,069	33,167	38,506
TOTAL ASSETS	59,287	60,819	67,690
CURRENT LIABILITIES			
Note Payable - Bank	4,423	3,029	5,555
CPLTD - Bank	3,207	3,666	4,513
Accounts Payable	8,918	9,474	12,008
Accrued Expenses	5,858	6,026	6,340
TOTAL CURRENT LIAB.	22,406	22,195	28,416
NON-CURRENT LIAB.			

Where Do We Go from Here?

- Now we know how we arrived at the net income figure
- How do we use this information to help assess company's ability to *repay its bank debt* ?
- …..Module 5


breaking into banking
Analyzing Repayment Sources
Module 5
Understanding Coverage Ratios
BREAKING into BANKING
a successful career
IN COMMERCIAL BANKING
ANDY KEUSAL

The Critical Question:

- Can the company generate enough cash flow to meet all its needs?
- Analagous to your personal finances
  - How much is coming in?
  - How much is going out?

The Key Ratios

- Debt Service Coverage
- Fixed Charge Coverage
  - Define “fixed charges”
  - Not “expenses”

Fixed Charges

- Debt Service (P and I)
  - Interest Expense + prior yr. CPLTD

Fixed Charges

- Debt Service (P and I)
  - Interest Expense + prior yr. CPLTD
- Income tax expense

Fixed Charges

- Debt Service (P and I)
  - Interest Expense + prior yr. CPLTD
- Income tax expense
- Distributions to owners / investors

Fixed Charges

- Debt Service (P and I)
  - Interest Expense + prior yr. CPLTD
- Income tax expense
- Distributions to owners / investors
  - Is this discretionary?

Fixed Charges

- Debt Service (P and I)
  - Interest Expense + prior yr. CPLTD
- Income tax expense
- Distributions to owners / investors
  - Is this discretionary?
- Capital Expenditures

Fixed Charge: Capital Expenditures

- Buying expensive stuff
- Maintenance vs. Growth
- Calculate Maintenance CapEx:

  (Change in Net Fixed Assets) x 0.2

What About New Proposed Debt?

- Pro forma debt service
- Not same as projections
- Layer new debt onto historical balance sheet and income statement

Fixed Charge Coverage Ratio

$$\frac{??}{\text{Debt Service + Income Tax Expense + Maintenance CapEx + Dividends)}}$$

Primary Source of Cash Flow: Profit

- We've already learned how profit figure is generated
- Is Net Profit the correct numerator?
- Add back Interest & Tax expenses

  → EBIT

- Is this the correct numerator?

Adding Back Depreciation Expense

Analyst Stmt Type	ATK Annual		ATK Annual		ATK Annual	
SALES / REVENUE	86,912	100.0	91,420	100.0	105,854	100.0
COGS - Materials	54,021	62.2	57,330	62.7	66,830	63.1
COGS - Labor	17,883	20.6	19,011	20.8	22,042	20.8
COGS - Depreciation	2,757	5.1	3,015	5.3	3,301	4.9
Cost of Goods Sold	74,661	85.9	79,356	86.8	92,173	87.1
GROSS PROFIT	12,251	14.1	12,064	13.2	13,681	12.9
SG&A Expense	8,023	9.2	8,674	9.5	9,434	8.9
Depreciation	306	0.4	335	0.4	367	0.3
TOTAL OPERATING EXP	8,329	9.6	9,009	9.9	9,801	9.3
NET OPERATING PROFIT	3,922	4.5	3,055	3.3	3,880	3.7
Interest Expense	864	1.0	1,220	1.3	1,568	1.5

Why is Depreciation "Non-Cash?"

- Explain what the expense is
- "Recognized" but not paid in cash
- Expense is a GAAP convention
- So we add it back to arrive at a "cash profit" figure

Exercise: Calculate EBITDA

- Calculate for each of three years
- Add back Interest, Taxes, Depr. exp.
- Note: no amortization expense

Fixed Charge Coverage Ratio

$$\frac{\text{EBITDA}}{\text{Debt Service + Income Tax Expense + Maintenance CapEx + Dividends)}}$$

Limitations of EBITDA

- Doesn't account for changes in balance sheet accounts
- Assume those are handled by working capital line of credit
- EBITDA needs to cover term debt

Debt Service Coverage Ratio:

(EBITDA) ÷ (Debt Service)

Debt Service Coverage Ratio:

A/R Turnover Days	66	54	48
INV Turnover Days	39	40	40
A/P Turnover Days	44	44	48
Dividends		739	1,020
Net Fixed Assets	28,666	32,656	37,906
Change Net Fixed Assets	N/A	3,990	5,250
20% of Change in NFA	N/A	798	1,050
DSC Ratio	1.7	1.4	1.3
FCC Ratio	N/A	0.97	0.95
Return on Assets	3.7	2.0	2.5

Is a DSC Ratio > 1.0 Sufficient?

- What about other fixed charges?
- Calculate DSC and FCC for Year 2…

DSC Ratio – Year 2

Debt Service Coverage Ratio (FY2):

$$\frac{\text{EBITDA} = \$6{,}150}{\text{Debt Service} = \$3{,}207 + \$1{,}220}$$

FCC Ratio – Year 2

Fixed Charge Coverage Ratio (FY2):

$$\frac{\text{EBITDA} = \$6{,}150}{\$4{,}227 + \$348 + \$739 + \$798}$$

Dividends on Reconciliations Page

Statement Date	12/31/20X1	12/31/20X2	12/31/20X3
Months Covered	12	12	12
Audit Method	Reviewed	Reviewed	Reviewed
Accountant	C. Brown, CPA	C. Brown, CPA	C. Brown, CPA
Analyst	ATK	ATK	ATK
Stmt Type	Annual	Annual	Annual
Reconciliation of Retained Earnings			
BEGINNING RETAINED EARNINGS		17,854	18,347
Net Profit		1,232	1,700
Dividends - Common		739	1,020
ENDING RETAINED EARNINGS		18,347	19,027

Maintenance Capital Expenditures

Change in Net Fixed Assets:

$32,656 - $28,666 = $3,990

$3,990 x 0.2 = $798

FCC Ratio – Year 2

- $6,150 ÷ $6,312 = 0.97x
- What are the drivers?
- What management decisions could have improved this ratio?

Exercise:

Calculate AMB's DSC ratio for FY3

Calculate AMB's FCC ratio for FY3

Calculate both these figures if gross margin were 14.1% in FY3

Exercise – Year 3

- Gross Margin of 14.1% would have yielded addl $1,244 EBITDA ($8,659)
- DSC = 2.0x
- FCC = 1.11x

Effective Elevator Conversation

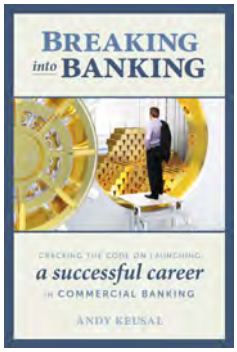
- Not about revenue (or even profit)
- Your CCO wants to know the FCC
- Note: your formulas may differ

breaking into banking

Analyzing Repayment Sources

Module 6

Evaluating Non-Current Assets as Collateral



Focus So Far: Primary Sources

- Balance Sheet
  - Liquidity – can borrower get cash?
  - Leverage – who owns risk?
- Income Statement
  - How were profit margins generated?
  - Was EBITDA sufficient?

Banks Need a Backup Plan

- Secondary source of repayment
- Typically liquidation of collateral
- Loan is “secured” by filing lien
- Caution: only CASH repays loans

Two Purposes for Taking Collateral

- We want our borrowers to have "skin in the game"
- Liquidation of collateral may generate cash to repay loan

Commercial Real Estate as Collateral

- Long useful life of asset
  - Restaurant inventory moves quickly
  - Equipment lasts a little longer
  - Dirt and buildings last

Commercial Real Estate as Collateral

- Long useful life of asset
  - Restaurant inventory moves quickly
  - Equipment lasts a little longer
  - Dirt and buildings last
- Fixed in one location

Commercial Real Estate as Collateral

- Fluctuation in market value
- Frequent (re-)assessment required
- Valuations and appraisals
  - Why not simply use balance sheet value?
- Example from 2009…

Methods to Appraise CRE

- Estimate cost to re-construct replica
- Market (comparable sales)
  - Geography
  - Type of property
- Income capitalization
  - Value based on NOI

Income Capitalization Approach

- NOI is ~ Operating Profit
- NOI = Rent Income – Op. Expenses
- Capitalization ("Cap") Rate
  - Derived from comparable sales
  - Cap Rate (%) = NOI ÷ Sales Price

Income Capitalization Approach

Income Approach
(for income-generating properties):

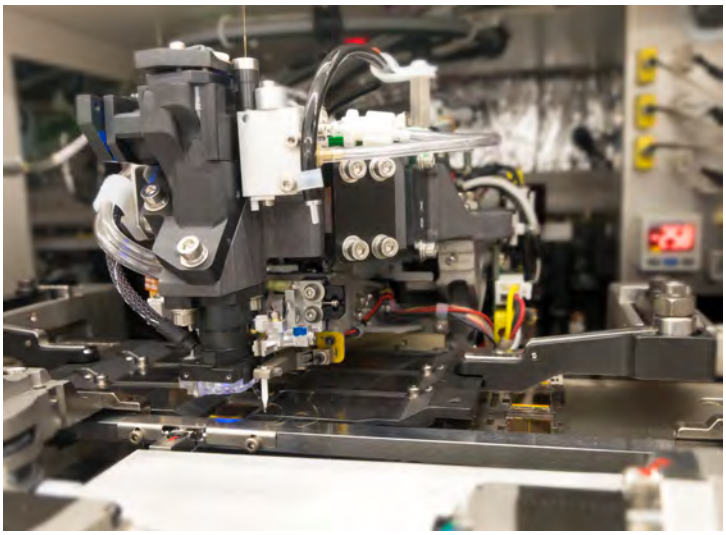
$$\text{Value} = \frac{\text{(Net Operating Income)}}{\text{(Capitalization rate)}}$$

CRE Appraisal → LTV Ratio

- LTV = Balance ÷ Appraised Value
- Lower ratio → less risk
  - …and therefore better collateral
- Each bank has LTV policies
  - Max LTV typically 75-85%
  - Depends on whether owner-occupied

Fixed Assets as Collateral

- Manufacturing Equipment



Fixed Assets as Collateral

- Material Handling Equipment

Fixed Assets as Collateral

- Railroad Cars, etc.

Fixed Assets as Collateral

- Earth-moving Vehicles

Fixed Assets as Collateral

- Fleets of Delivery Vehicles

Assessing Value of Equipment

- Professional equipment appraisers
  - In-house
  - Contracted (outsourced) appraisers
- Provide three values:
  - FMV, OLV, FLV


Fair Market Value (FMV)
The value expected in any transaction with a single seller and a single buyer with no compulsion to buy or any time restriction. Typically at a dealership in a retail/resale transaction or in a private party transaction.
breaking into banking
20

Orderly Liquidation Value (OLV)

Similar to FLV, except that the seller is given an undefined, reasonable amount of time to find a buyer… always less than FMV, since it's still a liquidation scenario in which the seller is under compulsion to sell.

Forced Liquidation Value (FLV)

The value of an asset
with a single seller
and multiple potential buyers;
the seller has a very short time window
and is constrained by location.
Typically at auction.

Other Notes – Fixed Asset Collateral

- Collateral is typically the asset financed
  - Match useful life to term of loan
- "Blanket lien" on all assets (instead of securing w/ particular assets)
  - Current *and future* assets

Key Final Thoughts…

- Demand for assets often evaporates when seller most needs to sell…

Key Final Thoughts…

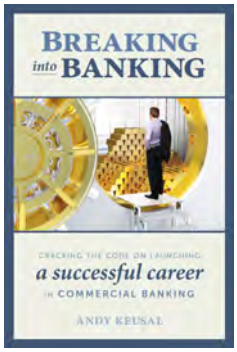
- Highlights need for *current* appraisals
  - Real estate
  - Fixed assets
- What's our collateral worth right now?

breaking into banking

Analyzing Repayment Sources

Module 7

Evaluating Trading Assets as Collateral



Working Capital (Trading) Assets

- Collateral supporting line of credit

Working Capital (Trading) Assets

- Collateral supporting line of credit
- Most common type of credit facility

Working Capital (Trading) Assets

- Collateral supporting line of credit
- Most common type of credit facility
- Value changes daily
- "Self-liquidating" collateral
  - Why is A/R even better than INV?

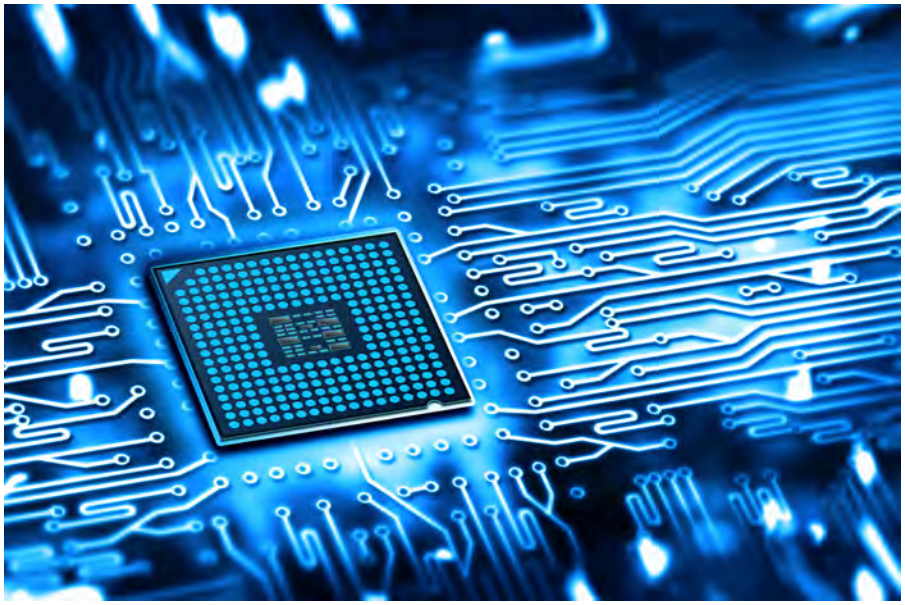
Remember Liquidity Ratios?

- Current and Quick Ratio
- A/R and INV Turnover Ratio
- These ratios have limited value…
  - Don't know quality of the assets

Problems w/ Inventory on Bal Sheet

- Product Concentration / mix
  - Gross margins may vary
- Perishable?
- Risk of obsolescence…

Problems w/ Inventory on Bal Sheet



Problems w/ Inventory on Bal Sheet

Problems w/ Obsolete Inventory

- Company has already bought it
- Line of Credit is already drawn up
- Likely won't be sold…

Problems w/ Inventory on Bal Sheet

- Product Concentration / mix
  - Gross margins may vary
- Perishable?
- Risk of obsolescence
- Valuation method: LIFO / FIFO
  - Only matters if they switch methods

Problems w/ Inventory on Bal Sheet

- Product Concentration / mix
  - Gross margins may vary
- Perishable?
- Risk of obsolescence
- Valuation method: LIFO / FIFO
- Is any INV work-in-process?

AMB's Inventory – Raw Materials

AMB's Inventory – Finished Goods

AMB's Inventory - WIP

- No value in the market
- No value to us as bankers
- Typically excluded from our calculation of "lendable" collateral
- May not be broken out on balance sheet

AMB's Inventory - WIP

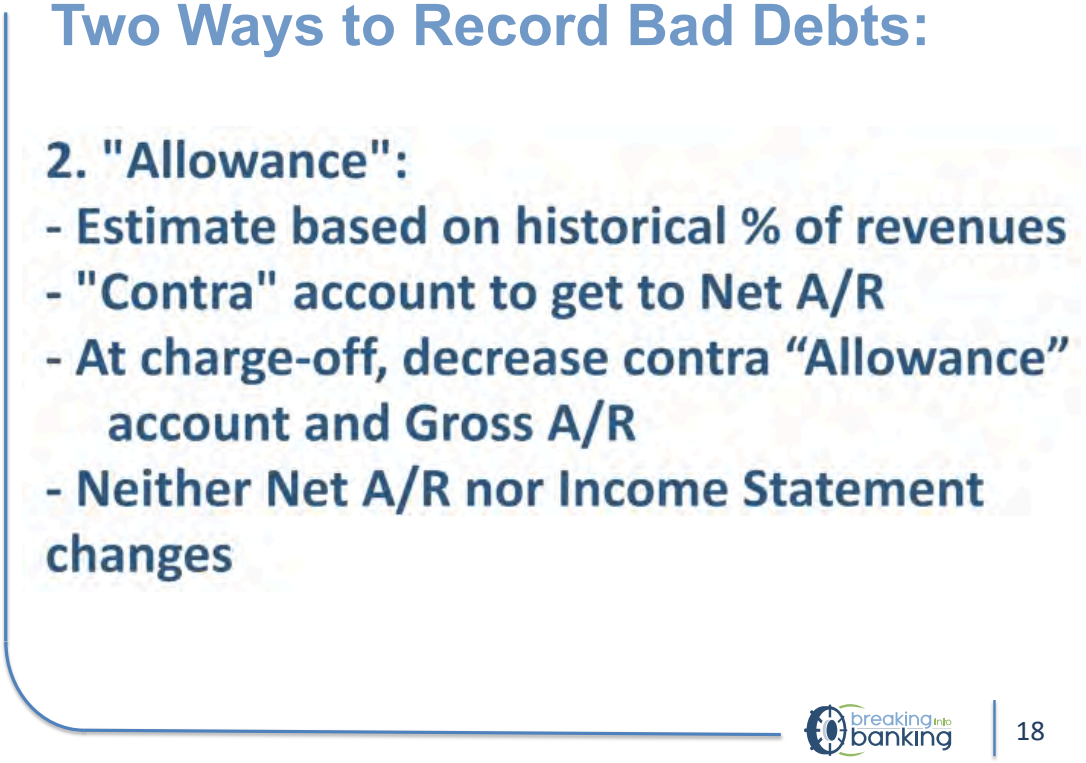
Statement Date	12/31/20X1	12/31/20X2	12/31/20X3
Months Covered	12	12	12
Audit Method	Reviewed	Reviewed	Reviewed
Accountant	C. Brown, CPA	C. Brown, CPA	C. Brown, CPA
Analyst	ATK	ATK	ATK
Stmt Type	Annual	Annual	Annual
CURRENT ASSETS			
Cash	4,473	3,461	3,336
Accts Rec - Trade	15,723	13,528	13,809
Raw Materials	4,947	5,751	6,401
Work in Process	1,501	1,645	1,702
Finished Goods	1,551	1,385	1,906
Total Inventory	7,999	8,781	10,009
Other Current Assets	2,023	1,882	2,030
TOTAL CURRENT ASSETS	30,218	27,652	29,184
NON-CURRENT ASSETS			
Land & Buildings, net	10,029	11,285	11,309
Property, Plant, Equip, net	17,173	20,001	24,886

Problems w/ A/R on Balance Sheet

- Banks care about being repaid
- Company cares about being repaid
- They expect some % of “bad debts”

Two Ways to Record Bad Debts:

1. "Direct Write-off":
   Increase Bad Debt Expense
   (Income Statement)
   Decrease A/R and Net Worth
   (Balance Sheet)


Two Ways to Record Bad Debts:
2. "Allowance":
- Estimate based on historical % of revenues
- "Contra" account to get to Net A/R
- At charge-off, decrease contra "Allowance" account and Gross A/R
- Neither Net A/R nor Income Statement changes
breaking into banking
18

Two Ways to Record Bad Debts

- Direct method is simpler
  - …but violates ”matching principle”
- Allowance method is more accurate
  - More conservative, so banks prefer it

AMB's Balance Sheet – A/R

Statement Date	12/31/20X1	12/31/20X2	12/31/20X3
Months Covered	12	12	12
Audit Method	Reviewed	Reviewed	Reviewed
Accountant	C. Brown, CPA	C. Brown, CPA	C. Brown, CPA
Analyst	ATK	ATK	ATK
Strnt Type	Annual	Annual	Annual
CURRENT ASSETS			
Cash	4,473	3,461	3,336
Accts Rec - Trade	15,723	13,528	13,809
Raw Materials	4,947	5,751	6,401
Work in Process	1,501	1,645	1,702
Finished Goods	1,551	1,385	1,906
Total Inventory	7,999	8,781	10,009
Other Current Assets	2,023	1,882	2,030
TOTAL CURRENT ASSETS	30,218	27,652	29,184
NON-CURRENT ASSETS			
Land & Buildings, net	10,029	11,285	11,309
Property, Plant, Equip, net	17,173	20,001	24,886
Furniture & Fixtures, net	1,464	1,370	1,711

Problems w/ A/R on Balance Sheet

- Banks care about being repaid
- Company cares about being repaid
  - They expect some % of "bad debts"
- Customer concentration not shown

Problems w/ A/R on Balance Sheet

- Banks care about being repaid
- Company cares about being repaid
  - They expect some % of "bad debts"
- Customer concentration not shown
- Stale A/R % not reflected

How to Solve These "Problems"

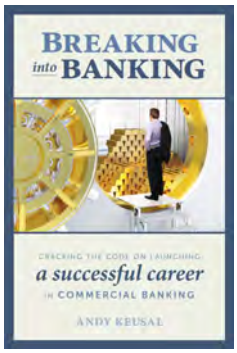
- May not actually be problems
  - i.e., bank may still be repaid
- But we need more detailed information
- Stay tuned for tools in Module 8…

breaking into banking

Analyzing Repayment Sources

Module 8

Solving Problems Evaluating Collateral



Reminders – CRE and Fixed Assets

- CRE: appraisal → LTV ratio
  - Lower ratio indicates lower risk, thus better collateral
- Equipment: appraisal → FMV, OLV, FLV (most helpful figure)

Assessing Value of Trading Assets

- A/R and INV fluctuate daily
- Balance sheet lacks needed detail
- Bank must understand value of its collateral on LOCs

Customer Concentrations

➢Request A/R Aging Report

Auto MetalBending, Inc.
A/R Aging Report
as of 12/31/20X3 ($000)

Customer Name	Current	31-60 Days	61-90 Days	90+ days	Total
BMW	$1,855	$0	$0	$0	$1,855
Daimler	$1,623	$205	$0	$0	$1,828
Volkswagen	$1,077	$0	$0	$343	$1,420
Toyota	$1,240	$0	$0	$0	$1,240
Honda of America Mfg.	$991	$0	$0	$0	$991
Fred's Precision Panels, Inc.	$249	$0	$23	$483	$755
Taylor Auto Body LLC	$334	$105	$116	$0	$555
Ford Motor Co.	$514	$0	$0	$0	$514
Other	$3,799	$423	$329	$100	$4,651
Total	$11,682	$733	$468	$926	$13,809

Customer Concentrations

- Request A/R Aging Report
- Look for customers >10% of total

Customer Name	Current	31-60 Days	61-90 Days	90+ days	Total
BMW	$1,855	$0	$0	$0	$1,855
Daimler	$1,623	$205	$0	$0	$1,828
Volkswagen	$1,077	$0	$0	$343	$1,420
Toyota	$1,240	$0	$0	$0	$1,240
Honda of America Mfg.	$991	$0	$0	$0	$991
Fred's Precision Panels, Inc.	$249	$0	$23	$483	$755
Taylor Auto Body LLC	$334	$105	$116	$0	$555
Ford Motor Co.	$514	$0	$0	$0	$514
Other	$3,799	$423	$329	$100	$4,651
Total	$11,682	$733	$468	$926	$13,809

Analyzing A/R Aging Report

- Are there any stale A/R?
- What credit terms does AMB offer?
- Remember A/R Days calculations:
  - 66 days…54 days…48 days
- Why so much longer than terms?

Analyzing A/R Aging Report

- Are there any stale A/R?

Customer Name	Current	31-60 Days	61-90 Days	90+ days	Total
BMW	$1,855	$0	$0	$0	$1,855
Daimler	$1,623	$205	$0	$0	$1,828
Volkswagen	$1,077	$0	$0	$343	$1,420
Toyota	$1,240	$0	$0	$0	$1,240
Honda of America Mfg.	$991	$0	$0	$0	$991
Fred's Precision Panels, Inc.	$249	$0	$23	$483	$755
Taylor Auto Body LLC	$334	$105	$116	$0	$555
Ford Motor Co.	$514	$0	$0	$0	$514
Other	$3,799	$423	$329	$100	$4,651
Total	$11,682	$733	$468	$926	$13,809

Analyzing A/R Aging Report

- What about Fred's and Taylor?
- What about $343 A/R from VW?

Analyzing A/R Aging Report

- "Tainted" A/R – Fred's

Customer Name	Current	31-60 Days	61-90 Days	90+ days	Total
BMW	$1,855	$0	$0	$0	$1,855
Daimler	$1,623	$205	$0	$0	$1,828
Volkswagen	$1,077	$0	$0	$343	$1,420
Toyota	$1,240	$0	$0	$0	$1,240
Honda of America Mfg.	$991	$0	$0	$0	$991
Fred's Precision Panels, Inc.	$249	$0	$23	$483	$755
Taylor Auto Body LLC	$334	$105	$116	$0	$555
Ford Motor Co.	$514	$0	$0	$0	$514
Other	$3,799	$423	$329	$100	$4,651
Total	$11,682	$733	$468	$926	$13,809

Analyzing A/R Aging Report

- How much of A/R from Fred's is lendable collateral?

Customer Name	Current	31-60 Days	61-90 Days	90+ days	Total
BMW	$1,855	$0	$0	$0	$1,855
Daimler	$1,623	$205	$0	$0	$1,828
Volkswagen	$1,077	$0	$0	$343	$1,420
Toyota	$1,240	$0	$0	$0	$1,240
Honda of America Mfg.	$991	$0	$0	$0	$991
Fred's Precision Panels, Inc.	$249	$0	$23	$483	$755
Taylor Auto Body LLC	$334	$105	$116	$0	$555
Ford Motor Co.	$514	$0	$0	$0	$514
Other	$3,799	$423	$329	$100	$4,651
Total	$11,682	$733	$468	$926	$13,809

Analyzing A/R Aging Report

- How much of AMB's total A/R is lendable collateral?

Customer Name	Current	31-60 Days	61-90 Days	90+ days	Total
BMW	$1,855	$0	$0	$0	$1,855
Daimler	$1,623	$205	$0	$0	$1,828
Volkswagen	$1,077	$0	$0	$343	$1,420
Toyota	$1,240	$0	$0	$0	$1,240
Honda of America Mfg.	$991	$0	$0	$0	$991
Fred's Precision Panels, Inc.	$249	$0	$23	$483	$755
Taylor Auto Body LLC	$334	$105	$116	$0	$555
Ford Motor Co.	$514	$0	$0	$0	$514
Other	$3,799	$423	$329	$100	$4,651
Total	$11,682	$733	$468	$926	$13,809

Analyzing A/R Aging Report

➢What about A/R from Taylor?

Customer Name	Current	31-60 Days	61-90 Days	90+ days	Total
BMW	$1,855	$0	$0	$0	$1,855
Daimler	$1,623	$205	$0	$0	$1,828
Volkswagen	$1,077	$0	$0	$343	$1,420
Toyota	$1,240	$0	$0	$0	$1,240
Honda of America Mfg.	$991	$0	$0	$0	$991
Fred's Precision Panels, Inc.	$249	$0	$23	$483	$755
Taylor Auto Body LLC	$334	$105	$116	$0	$555
Ford Motor Co.	$514	$0	$0	$0	$514
Other	$3,799	$423	$329	$100	$4,651
Total	$11,682	$733	$468	$926	$13,809

Analyzing A/R Aging Report

- "Eligible" A/R:
  - $13,809 - $1,198 = $12,611

Problems Assessing Value of INV

- Product Mix – Need to ask borrower
- Obsolescence (stay tuned…)
- What % of INV is WIP?
  - Look at AMB's balance sheet

Work-in-Process Inventory

Statement Date	12/31/20X1	12/31/20X2	12/31/20X3
Months Covered	12	12	12
Audit Method	Reviewed	Reviewed	Reviewed
Accountant	C. Brown, CPA	C. Brown, CPA	C. Brown, CPA
Analyst	ATK	ATK	ATK
Stmt Type	Annual	Annual	Annual
CURRENT ASSETS			
Cash	4,473	3,461	3,336
Accts Rec - Trade	15,723	13,528	13,809
Raw Materials	4,947	5,751	6,401
Work in Process	1,501	1,645	1,702
Finished Goods	[illegible]	[illegible]	[illegible]
Total Inventory	7,999	8,781	10,009
Other Current Assets	2,023	1,882	2,030
TOTAL CURRENT ASSETS	30,218	27,652	29,184
NON-CURRENT ASSETS			
Land & Buildings, net	10,029	11,285	11,309
Property, Plant, Equip, net	17,173	20,001	24,886
Furniture & Fixtures, net	1,464	1,370	1,711

breaking into banking 23

Work-in-Process Inventory

- May indeed have value to AMB
- Not valuable to bank in liquidation
  - Exclude from lendable collateral
  - Probably a bit conservative

Accounting for Ineligible Collateral

- Borrowing Base (aka “formula”)
- Accounts for all known detail about trading assets (A/R and INV)
- BB Certificate compares lendable collateral with LOC limit

Borrowing Base Certificate

- BB Certificate compares lendable collateral with LOC limit
- Available liquidity =

  LOC limit – lendable collateral
- Much more accurate way to measure borrower's liquidity

Recall "Back of Napkin" Calculation

(80% of A/R) + (50% of INV)
$11 million + $5 million = $16 million

Compare with outstanding balance on line of credit ($6 million)

$16 million - $6 million = $10 million "available"

Borrowing Base is More Accurate

Auto MetalBending, Inc.
Borrowing Base Certificate (12/31/20X3)

		Accounts Receivable	Inventory	Total
Collateral as of:	12/31/20X3	$13,809	$10,009	$23,818
Less Ineligible Accounts as of:	12/31/20X3	$1,198	$1,702	$2,900
Eligible Collateral		$12,611	$8,307	$20,918
Rate of Advance:		80%	50%	
Net Collateral		$10,089	$4,154	$14,242
Line of Credit Limit:				20,000
Less Line Balance as of:	12/31/20X3			$5,555
Net Availability as of:	12/31/20X3			$8,687

Advance Rates on A/R and INV

- 80% of A/R – most self-liquidating
- 50% of INV – not yet sold

Advance Rates on A/R and INV

Auto MetalBending, Inc.
Borrowing Base Certificate (12/31/20X3)

		Accounts Receivable	Inventory	Total
Collateral as of:	12/31/20X3	$13,809	$10,009	$23,818
Less Ineligible Accounts as of:	12/31/20X3	$1,198	$1,702	$2,900
Eligible Collateral		$12,611	$8,307	$20,918
Rate of Advance:		80%	50%	
Net Collateral		$10,089	$4,154	$14,242
Line of Credit Limit:				20,000
Less Line Balance as of:	12/31/20X3			$5,555
Net Availability as of:	12/31/20X3			$8,687

Advance Rates on A/R and INV

- Conservative collateral values
- How much would bank actually get in event of liquidation?

Conclusion from Borrowing Base

Auto MetalBending, Inc.
Borrowing Base Certificate (12/31/20X3)

		Accounts Receivable	Inventory	Total
Collateral as of:	12/31/20X3	$13,809	$10,009	$23,818
Less Ineligible Accounts as of:	12/31/20X3	$1,198	$1,702	$2,900
Eligible Collateral		$12,611	$8,307	$20,918
Rate of Advance:		80%	50%	
Net Collateral		$10,089	$4,154	$14,242
Line of Credit Limit:				20,000
Less Line Balance as of:	12/31/20X3			$5,555
Net Availability as of:	12/31/20X3			$8,687

Borrowing Base Reporting

- Monthly, Weekly or Daily
- Asset-Based Lending (ABL)
  - Bank relies on INV as primary source of repayment
- Floorplan Lending (vehicle dealerships)

Limitations of Borrowing Bases

- Dave: "A BB Certificate is only a piece of paper with numbers on it, until…"

Limitations of Borrowing Bases

- Dave: "A BB Certificate is only a piece of paper with numbers on it, until…the bank conducts a Field Exam (aka Collateral Audit)

Field Exam (Collateral Audit)

- Conducted on-site at borrower's place of business
  - Physically count some INV
  - Call customers to confirm A/R
- Findings should confirm figures on BB Certificate

Summary Collateral Chart

- Answers question: Is bank covered?
- A/R and INV with advance rates
- Fixed Assets w/ FMV, OLV, FLV
- Real Estate w/ LTV ratios

Unusual Collateral Situations

- Unsecured – no collateral
  - Large companies w/ strong liquidity
- Under-secured – collateral is insufficient to cover balance
  - Typically results from acquisitions
  - Gap is “airball” or “blue sky”

Unusual Collateral Situations

- How to mitigate airball risk:
- Cash Flow Recapture provision (CFR)
  - Borrower provides EBITDA projection
  - Accelerated principal repayment
  - Reduces leverage (and risk) sooner

Conclusion of Modules 2-8:

- It's all about getting repaid!


breaking into banking
Analyzing Repayment Sources
Module 9
Risk Ratings, Expected Loss, Loss Provisions
BREAKING into BANKING
a successful career
IN COMMERCIAL BANKING
ANDY KEUSAL

We've Learned Ratios to Measure:

- Liquidity
- Leverage
- Debt Service Coverage
- Fixed Charge Coverage

How Ratio Analysis Impacts Bank

- Step back to look at entire portfolio
- How do we assess its quality?
  - i.e., is bank making good loans, and are they continuing to perform well?

Tools to Mitigate Risk

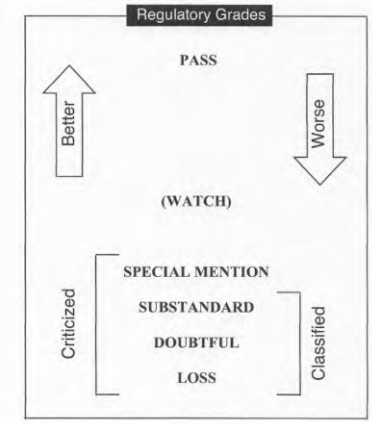
- Covenants and Guarantees (101)
- Appraisals (equipment & CRE)
- A/R Aging Reports
- Borrowing Base formulas
- Field Exams
- CFR provisions

Big Question for Banks:

- How much of the money we've lent out is not going to be repaid?
- Examine risk factors:
  - Low liquidity
  - High Leverage
  - Low FCC ratio

Analyzing Bank's Risk Factors

- Risk exists…but how to measure it?
- Start w/ OCC's risk grades:



Regulatory Classification Definitions

Special mention (SM)

"A special mention asset has potential weaknesses that deserve management's close attention. If left uncorrected, these potential weaknesses may result in deterioration of the repayment prospects for the asset or in the institution's credit position at some future date. Special mention assets are not adversely classified and do not expose an institution to sufficient risk to warrant adverse classification."

Regulatory Classification Definitions

Substandard

"A substandard asset is inadequately protected by the current sound worth and paying capacity of the obligor or of the collateral pledged, if any. Assets so classified must have a well-defined weakness, or weaknesses, that jeopardize the liquidation of the debt. They are characterized by the distinct possibility that the bank will sustain some loss if the deficiencies are not corrected."

Pass Credits Require Granularity

Classification	Risk Rating
Pass	1
Pass	2
Pass	3
Pass	4
Pass	5
Pass	6
Watch	7
Special Mention	8
Substandard	9
Substandard Non-Accrual	10
Doubtful	11
Loss	12

Risk Ratings (Obligor Level)

- Based on borrower's:
  - Fixed Charge Coverage ratio
  - Liquidity
  - Leverage
  - Quality of management team

Q #1: What Is Chance He Will Fall?

- Strength
- Stamina
- Experience
- Maturity

Q #1: What is **Probability of Default**?

- Strength
- Stamina
- Experience
- Maturity

Probability of Default (PD)

PD	Classification	Risk Rating
0.10%	Pass	1
0.15%	Pass	2
0.20%	Pass	3
0.30%	Pass	4
1.00%	Pass	5
4.00%	Pass	6
6.00%	Watch	7
10.00%	Special Mention	8
20.00%	Substandard	9
30.00%	Substandard Non-Accrual	10
35.00%	Doubtful	11
100.00%	Loss	12

Most Obligors Have >1 Obligation

- Each loan has different collateral
- Should loans have same risk rating?

Q #2: How Bad Will It Be if He Falls?

- How high is he?
- What to land on?

Q #2: What is Loss Given Default?

- How high is he?
- What to land on?
- LGD or LIED (Loss in Event of Default)

Need for Further Granularity

- Required by regulators
- Leads to “dual risk ratings”
- Combining PD and LGD
- What would impact LGD?

Q #1: What is Probability of Default?

- Weak arms
- Tired
- First climb
- Daredevil

Q #1: What is **Probability of Default**?

- Weak arms
- Tired
- First climb
- Daredevil

→ High PD

Q #2: What is Loss Given Default?

- His feet are only 6" off of the ground

  → Low LGD

Expected Loss (or CECL)

- Calculated for each loan
- EL = PD (%) x LGD (%)

Expected Loss (or CECL)

- Calculated for each loan
- EL = PD x LGD x loan balance
  - Expressed as $ amount)

Expected Loss (or CECL)

- Scenario #1:
  - High PD
  - High LGD
  - Low outstanding balance
  - → Small Expected Loss

Expected Loss (or CECL)

- Scenario #2:
  - Low PD
  - Low LGD
  - Large outstanding balance
  - → Higher Expected Loss

So…What is EL Used For?

Assessment of balance sheet, income statement, collateral →

Risk Ratings (PD & LGD)

So…What is EL Used For?

Assessment of balance sheet, income statement, collateral →

Risk Ratings (PD & LGD) →

Expected Credit Loss (EL)

So…What is EL Used For?

Assessment of balance sheet, income statement, collateral →

Risk Ratings (PD & LGD) →

Expected Credit Loss (EL) →

Provision for Credit Losses

Provision for Credit Losses

Income Statement Data ($000)

	2009	2010	2011	2012	2013
Interest Income	$2,238,142	$2,145,392	$1,970,226	$1,930,263	$1,860,637
Interest Expense	$813,855	$526,587	$341,056	$219,739	$156,029
Net Interest Income	$1,424,287	$1,618,805	$1,629,170	$1,710,524	$1,704,608
Provision for Credit Losses	$2,074,671	$634,547	$174,059	$147,388	$90,045
Net Interest Income after Provision	$650,384	$984,258	$1,455,111	$1,563,136	$1,614,563
Net Income (loss)	$3,097,179	$312,347	$542,613	$641,022	$638,741

Provision for Credit Losses

Income Statement Data ($000)

	2009	2010	2011	2012	2013
Interest Income	$2,238,142	$2,145,392	$1,970,226	$1,930,263	$1,860,637
Interest Expense	$813,855	$526,587	$341,056	$219,739	$156,029
Net Interest Income	$1,424,287	$1,618,805	$1,629,170	$1,710,524	$1,704,608
Provision for Credit Losses	$2,074,671	$634,547	$174,059	$147,388	$90,045
Net Interest Income after Provision	$650,384	$984,258	$1,455,111	$1,563,136	$1,614,563
Net Income (loss)	$3,097,179	$312,347	$542,613	$641,022	$638,741

Provision for Credit Losses

Income Statement Data ($000)

	2009	2010	2011	2012	2013
Interest Income	$2,238,142	$2,145,392	$1,970,226	$1,930,263	$1,860,637
Interest Expense	$813,855	$526,587	$341,056	$219,739	$156,029
Net Interest Income	$1,424,287	$1,618,805	$1,629,170	$1,710,524	$1,704,608
Provision for Credit Losses	$2,074,671	$634,547	$174,059	$147,388	$90,045
Net Interest Income after Provision	$650,384	$984,258	$1,455,111	$1,563,136	$1,614,563
Net Income (loss)	$3,097,179	$312,347	$542,613	$641,022	$638,741

Provision for Credit Losses

Income Statement Data ($000)

	2009	2010	2011	2012	2013
Interest Income	$2,238,142	$2,145,392	$1,970,226	$1,930,263	$1,860,637
Interest Expense	$813,855	$526,587	$341,056	$219,739	$156,029
Net Interest Income	$1,424,287	$1,618,805	$1,629,170	$1,710,524	$1,704,608
Provision for Credit Losses	$2,074,671	$634,547	$174,059	$147,388	$90,045
Net Interest Income after Provision	$650,384	$984,258	$1,455,111	$1,563,136	$1,614,563
Net Income (loss)	($3,097,179)	$312,347	$542,613	$641,022	$638,741

Provision for Credit Losses

Income Statement Data ($000)

	2009	2010	2011	2012	2013
Interest Income	$2,238,142	$2,145,392	$1,970,226	$1,930,263	$1,860,637
Interest Expense	$813,855	$526,587	$341,056	$219,739	$156,029
Net Interest Income	$1,424,287	$1,618,805	$1,629,170	$1,710,524	$1,704,608
Provision for Credit Losses	$2,074,671	$634,547	$174,059	$147,388	$90,045
Net Interest Income after Provision	$650,384	$984,258	$1,455,111	$1,563,136	$1,614,563
Net Income (loss)	$3,097,179	$312,347	$542,613	$641,022	$638,741

And They Lived Happily Ever After…

Income Statement Data ($000)

	2009	2010	2011	2012	2013
Interest Income	$2,238,142	$2,145,392	$1,970,226	$1,930,263	$1,860,637
Interest Expense	$813,855	$526,587	$341,056	$219,739	$156,029
Net Interest Income	$1,424,287	$1,618,805	$1,629,170	$1,710,524	$1,704,608
Provision for Credit Losses	$2,074,671	$634,547	$174,059	$147,388	$90,045
Net Interest Income after Provision	$650,384	$984,258	$1,455,111	$1,563,136	$1,614,563
Net Income (loss)	$3,097,179	$312,347	$542,613	$641,022	$638,741

Conclusion

- Your job really does matter
- Banks need sound financial analysis
- Current and accurate loan data
- Correct risk ratings and EL figures
- When your bank prospers, so will you

