



Session 2: **Financial Statement Analysis**

Professor Ron Kasznik | June 22 | Ignite Full-Time 2022

Key Relations in Financial Statements

The Balance Sheet Equation

$$\text{Assets} \equiv \text{Liabilities} + \text{Total Stockholders' Equity}$$

To preserve this identity, for EACH accounting transaction:

$$\Delta \text{Assets} \equiv \Delta \text{Liabilities} + \Delta \text{Total Stockholders' Equity}$$



Recording Transactions

General Framework

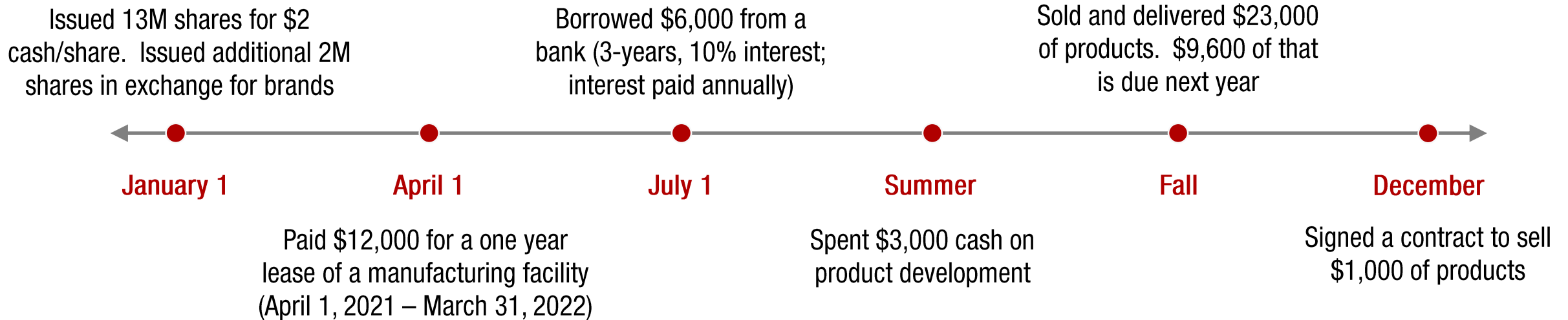
	Assets				=	Liabilities + Owners' Equity					
1/1 Balance											
	Δ	Δ	Δ	Δ	=	Δ	Δ	Δ	Δ	Δ	Δ



Radiation Shields

AegisGuard™ Radiation Shields

The 1/1/2021 - 12/31/2021 Period (\$ amounts in thousands)



As of December 31st 2021:

- 9 months of the lease term 'expired'.
- Accrued 6 months of interest on bank loan.



Radiation Shields

(\$ amounts in thousands)

1. January 1: Issued 13 million shares for \$2 cash per share.
Issued additional 2 million shares in exchange for brands.

Assets (in \$ thousands)			=	Liab. + Owners Equity (in \$ thousands)			
Accounts	Cash	Brands	=	Liabilities	Contributed Capital (PIC)	Earned Capital (R/E)	
						Expenses -	Revenue +
	+26,000	+4,000			+26,000 +4,000		



Radiation Shields

(\$ amounts in thousands)

2. April 1: Paid \$12,000 for a one year lease of a manufacturing facility.

Assets (in \$ thousands)				= Liabilities + Owners' Equity (in \$ thousands)							
Accounts	Cash	Brands	Pre-Paid Lease							Paid-In-Capital	
1/1 Balance	0	0	0				=			0	
1	26,000	4,000					=			30,000	
2	-12,000		+12,000				=				

Assets: Probable and reasonably measurable future economic benefits resulting from past transactions.



Radiation Shields

(\$ amounts in thousands)

Accounts	Assets							= Liabilities + Owners Equity				
	Cash	Brands	Pre-Paid Lease							PIC	Retained Earnings	
											Expenses	Revenue
1/1 Balance	0	0	0				=			0	0	
1	26,000	4,000					=			30,000		
2	-12,000		12,000				=					
Adjustments:												
7 By yearend			-9,000								-9,000	

By yearend, 9 months of the lease term 'expired'



Radiation Shields

(\$ amounts in thousands)

3. July 1: Borrowed \$6,000 from a bank (10% interest, paid annually).

Accounts	Assets (in \$ thousands)						=	Liabilities + Owners Equity (in \$ thousands)			
	Cash	Brands	Pre-Paid Lease					Bank Loan		Paid-in-Capital	
1/1 Balance	0	0	0				=	0		0	
1	26,000	4,000					=			30,000	
2	-12,000		12,000				=				
3	+6,000						=	+6,000			



Radiation Shields

(\$ amounts in thousands)

Accounts	Assets							= Liabilities + Owners Equity				
	Cash	Brands	Pre-Paid Lease					Bank Loan	Payable Interest	PIC	Retained Earnings	
							=				Expenses	Revenue
1/1 Balance	0	0	0				=	0		0		0
1	26,000	4,000					=			30,000		
2	-12,000		12,000				=					
3	6,000						=	6,000				
Adjustments:												
7 By yearend			-9,000								-9,000	
8 By yearend									+300		-300	

6 months of accrued interest



Radiation Shields

(\$ amounts in thousands)

Accounts	Assets (in \$ thousands)							= Liabilities + Owners Equity (in \$ thousands)				
	Cash	Brands	Pre-Paid Lease					Loan		PIC	Retained Earnings	
											Expenses	Revenue
1/1 Balance	0	0	0	0			=	0		0	0	
1	+26,000	+4,000					=			+30,000		
2	-12,000		+12,000				=					
3	+6,000						=	+6,000				
12/31 Balance												



Financial Statement Analysis

Tools and Approaches



Financial statement analysis is a framework to understand the underlying source and nature of firm performance and to assess the firm's economic condition.

Tools

- Common size statements.
- Financial ratios:
 - + Profitability Ratios
 - + Asset Turnover ratios
 - + Capital Structure
 - + Liquidity Ratios

Approaches used with each tool

- *Time-series analysis*: the same firm over time.
- *Cross-sectional analysis*: different firms at the same point in time.



Financial Statement Analysis

Common size financial statements

Common size financial statements are standardized representations of the firm to allow for comparisons over time and across firms.

Balance Sheet:

Accounts reflected as a **percent of total assets**.

- + Composition of the firm's assets.
- + Sources of financing and capital structure.



Income Statement:

Accounts reflected as **percentage of revenue**.

- + Understand source and characteristics of the firm's profit margins.





Common Size Balance Sheet

<u>Assets:</u>	31-Dec-17	31-Dec-16	31-Dec-17	31-Dec-16
Current Assets				
Cash And Cash Equivalents	13,741	11,616	2.42%	1.94%
Net Receivables	30,478	30,160	5.37%	5.03%
Inventory	18,852	18,098	3.32%	3.02%
Other Current Assets	8,294	28,567	1.46%	4.76%
Total Current Assets	71,365	88,441	12.57%	14.75%
Long Term Investments	14,330	17,608	2.52%	2.94%
Property Plant and Equipment	232,160	230,134	40.90%	38.37%
Goodwill and Intangibles	234,909	247,507	41.39%	41.27%
Other Assets	14,817	16,038	2.61%	2.67%
Total Assets	567,581	599,728	100.00%	100.00%

<u>Liabilities:</u>	31-Dec-17	31-Dec-16	31-Dec-17	31-Dec-16
Current Liabilities				
Accounts Payable	46,428	40,338	8.18%	6.73%
Short/Current Long Term Debt	16,973	1,222	2.99%	0.20%
Other Current Liabilities	48,778	40,444	8.59%	6.74%
Total Current Liabilities	112,179	82,004	19.76%	13.67%
Long Term Debt	177,022	235,016	31.19%	39.19%
Other Liabilities	67,962	85,983	11.97%	14.34%
Total Liabilities	357,163	403,003	62.93%	67.20%
<u>Stockholders' Equity:</u>				
Common Stock	144,654	127,336	25.49%	21.23%
Retained Earnings	21,402	15,645	3.77%	2.61%
Other Equity Accounts	44,362	53,744	7.82%	8.96%
Total Stockholder Equity	210,418	196,725	37.07%	32.80%
Total liabilities and Equity	567,581	599,728	100.00%	100.00%



Common Size Income Statement

	31-Dec-17	31-Dec-16
Revenue	100.00%	100.00%
Cost of Revenue	65.68%	64.19%
Gross Margin	34.32%	35.81%
Operating Expenses	21.70%	21.59%
Other Expenses	7.33%	7.19%
Income Before Tax	5.29%	7.03%
Income Tax Expense	0.20%	1.25%
Income After Tax	5.09%	5.78%
Discontinued Operations	0.81%	-0.16%
Net Income	5.90%	5.61%



Key Financial Ratios

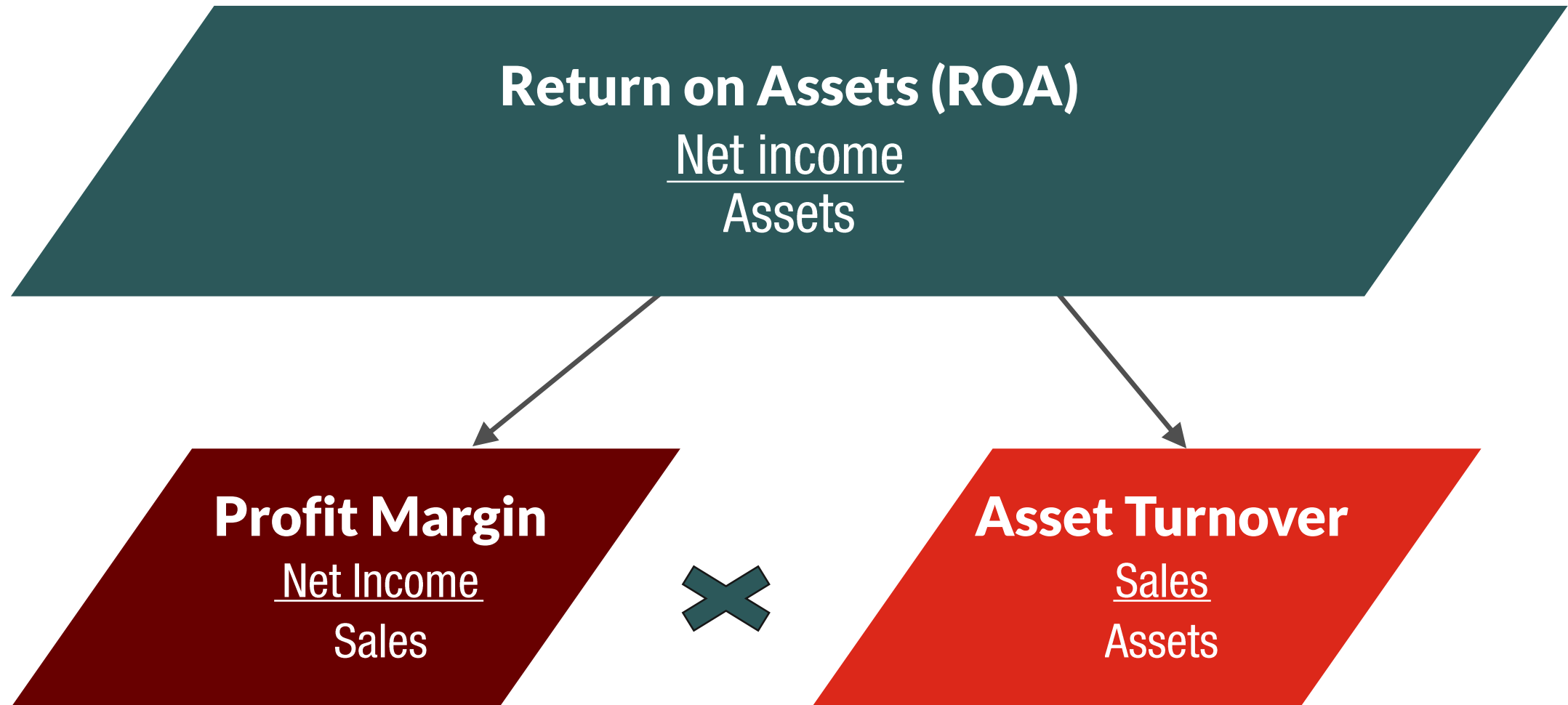
Profitability ratios:

Return on Equity: $ROE = \text{Net Income} / \text{Stockholders' Equity}$

Return on Assets: $ROA = \text{Net Income} / \text{Total Assets}$



Return-on-Asset Decomposition



Financial Statement Analysis

Decomposition of ROA



Within a specific industry, the “tradeoff” between profit margins and asset turnover frequently reflects the firm’s strategic choices.

For example, does the firm primarily compete on the basis of price or product differentiation?

- Low volume & high margin business (e.g., luxury brands)
versus
High volume & low margin business (e.g., mass market products)

Company	ROA	Profit Margin	Asset Turnover
Prada Group? The Gap?	17.85%	18.10%	0.98
	17.16%	8.14%	2.10

