



HAWK|100

Ohio University—Accounting 611 Financial Statement Analysis and Security Valuation

**Financial Analysis
Techniques and Applications
*May 21, 2011***

6600 Perimeter Dr.
Suite 200
Dublin, Ohio 43016

614.791.4295

www.Hawk100.com

A large, light gray silhouette of a hawk in flight, positioned on the right side of the slide, partially overlapping the text.

Your wealth.
Your life.
Aligned.

Class	Topics	Text Chapters
1 Apr 2	Introduction Describe course framework, introduce financial analysis and valuation and assess comprehension.	
2 Apr 9	Employee Compensation Discuss and analyze financial reporting issues regarding employee compensation in the form of postretirement benefits and share-based compensation.	Robinson 14
3 Apr 16	Intercorporate Investments and Multinational Operations Discuss and analyze financial reporting issues regarding corporate ownership of companies and from operating and competing in a global setting.	Robinson 15 & 16
4 Apr 23	Earnings Manipulation Discuss and analyze financial reporting shenanigans used to manipulate earnings.	Schilit 3—9
5 Apr 30	Cash Flow Manipulation Discuss and analyze financial reporting shenanigans used to manipulate cash flows.	Schilit 10—13
6 May 7	Midterm Examination—Financial Analysis	
7 May 14	Guest Lecturer Connecting concepts from Accounting 610.	
8 May 21	Financial Analysis Techniques and Applications Demonstrate use of financial ratio analysis to evaluate company and industry historical results and to develop projections and screens for potential investments.	Robinson 7 & 9
9 May 28	Security Valuation Modeling, I Compare and contrast various valuation models that use financial analysis to assess equity securities.	Robinson 17, Schilit 16
10 Jun 4	Security Valuation Modeling, II Assuming applied practitioner perspective, create and implement models to evaluate equity securities.	
11 Jun 11	Final Examination—Financial Analysis and Valuation	



Evaluate and compare companies using ratio analysis, common-size financial statements, and charts in financial analysis.

Describe the limitations of ratio analysis.

Describe the various techniques of common-size analysis and interpret the results of such analysis.

Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.

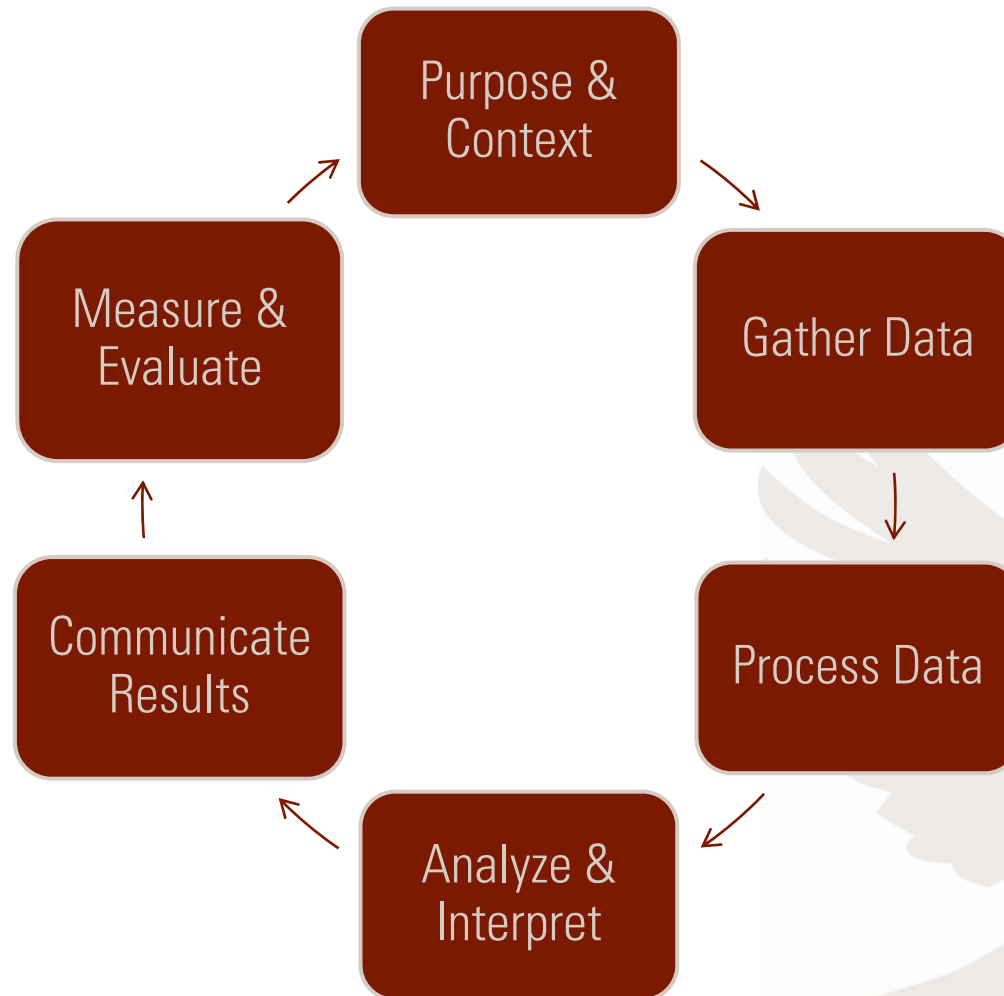
Demonstrate how ratios are related and how to evaluate a company using a combination of different ratios.

Demonstrate the application of and interpretation of changes in the components of the DuPont analysis.

Calculate and interpret the ratios used in equity analysis, credit analysis, and segment analysis.

Describe how ratio analysis and other techniques can be used to model and forecast earnings.

Financial Analysis Framework.



Copyright 2011 Hawk Investment Management, LLC. All Rights Reserved. Contents have been adapted from *International Financial Statement Analysis*, by Robinson, Greuning, Henry, and Broihahn. Copyright 2009 by CFA Institute. *Financial Shenanigans*, by Schilit and Perler. Copyright 2010 by Howard Schilit. As CFA Institute Presidents Council Representative, instructor offers no special advantage as to mastery of CFA curriculum.

Your wealth.
Your life.
Aligned.



Determine critical aspects of performance.

Measure performance versus critical aspects.

Assess key causes of performance.

Additional questions for forward looking analysis.

- Likely impact of event or trend
- Likely management response
- Likely impact on cash flows (amount, duration)
- Likely risks
- Resulting recommendations



HAWK|100

Communicating Analysis.

Report purpose.

Relevant aspects of business context.

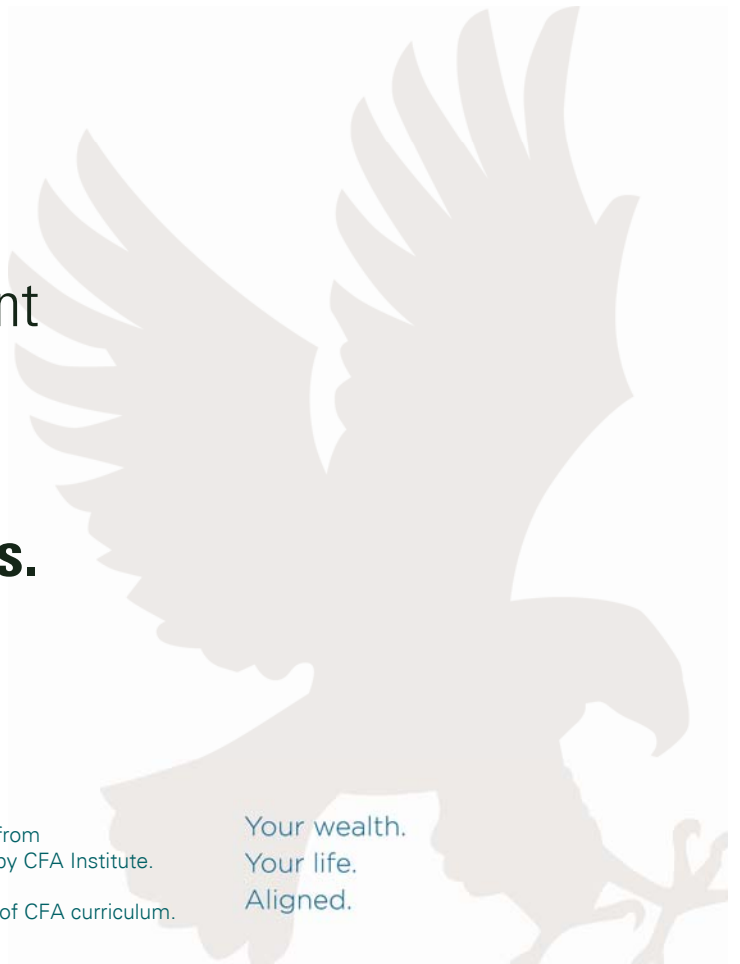
- Economic environment
- Financial infrastructure
- Legal and regulatory environment

Corporate governance.

Financial and operational data analysis.

Concluding recommendations.

Copyright 2011 Hawk Investment Management, LLC. All Rights Reserved. Contents have been adapted from *International Financial Statement Analysis*, by Robinson, Greuning, Henry, and Broihahn. Copyright 2009 by CFA Institute. *Financial Shenanigans*, by Schilit and Perler. Copyright 2010 by Howard Schilit. As CFA Institute Presidents Council Representative, instructor offers no special advantage as to mastery of CFA curriculum.



Your wealth.
Your life.
Aligned.

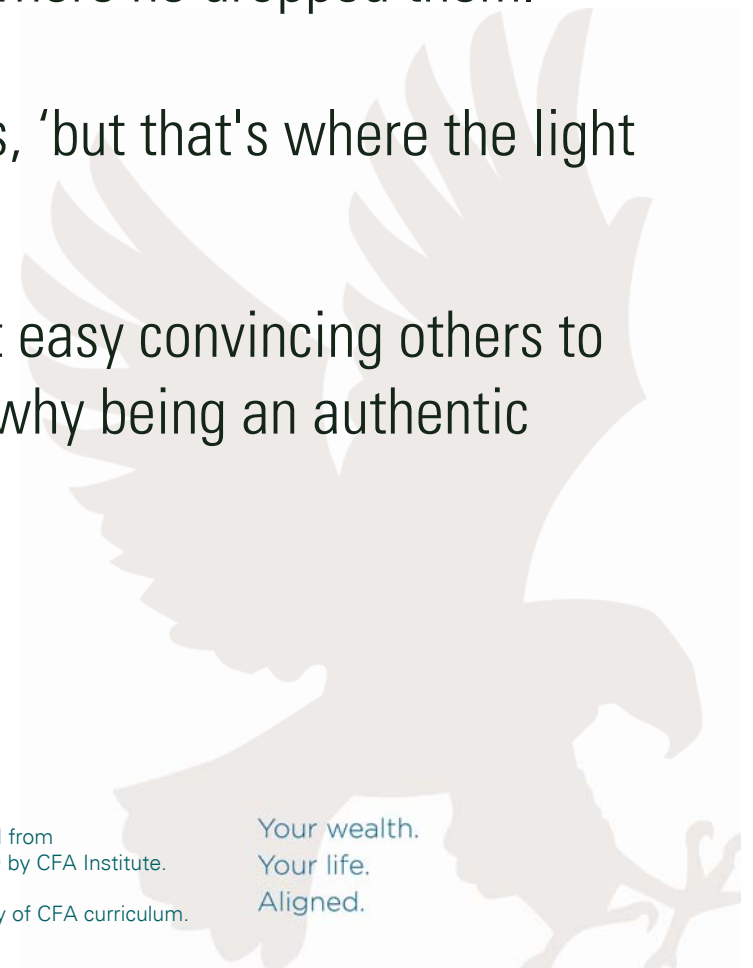


“... the classic story of the drunkard looking for his car keys under a streetlight even though he knows it's not where he dropped them.

‘I know my keys aren't there,’ he confesses, ‘but that's where the light is.’

It's not easy searching in the dark. Nor is it easy convincing others to join you in the search. Which is precisely why being an authentic leader is so difficult these days.”

- *Barry Gruenberg*



■ HAWK|100 Common Size Financial Statements.

Position Statement.

- Restate as percent of assets
- Restate each year relative to base year

Statement of Operations.

- Restate as percent of sales
- Restate each year relative to base year

Statement of Cash Flows.

- Determine your denominator
- Restate each year relative to base year

Abbott (ABT)	2010	2009	2010	2009
Cash and cash equivalents	3,648,371	8,809,339	6.1%	16.8%
Investments primarily time deposits and certificates of deposit and restricted funds	3,675,569	1,122,709	6.2%	2.1%
Trade receivables less allowances	7,184,034	6,541,941	12.1%	12.5%
Inventories	3,188,734	3,264,877	5.4%	6.2%
Deferred income taxes	3,076,051	2,364,142	5.2%	4.5%
Other prepaid expenses and receivables	1,544,770	1,210,883	2.6%	2.3%
Total Current Assets	22,317,529	23,313,891	37.5%	44.5%
Investments	302,049	1,132,866	0.5%	2.2%
Property and Equipment at Cost	17,374,302	16,486,906	29.2%	31.5%
Less accumulated depreciation and amortization	9,403,346	8,867,417	15.8%	16.9%
Net Property and Equipment	7,970,956	7,619,489	13.4%	14.5%
Intangible Assets net of amortization	12,151,628	6,291,989	20.4%	12.0%
Goodwill	15,930,077	13,200,174	26.8%	25.2%
Deferred Income Taxes and Other Assets	790,027	858,214	1.3%	1.6%
Total Assets	59,462,266	52,416,623	100.0%	100.0%

% of Total Assets (Capital)

Abbott (ABT)	2010	2009	2010	2009
Short term borrowings	4,349,796	4,978,438	7.3%	9.5%
Trade accounts payable	1,535,759	1,280,542	2.6%	2.4%
Salaries wages and commissions	1,328,665	1,117,410	2.2%	2.1%
Other accrued liabilities	6,014,772	4,363,032	10.1%	8.3%
Dividends payable	680,749	620,640	1.1%	1.2%
Income taxes payable	1,307,723	442,140	2.2%	0.8%
Obligation in connection with conclusion of the TAP Pharmaceutical Products JV	0	36,105	0.0%	0.1%
Current portion of long term debt	2,044,970	211,182	3.4%	0.4%
Total Current Liabilities	17,262,434	13,049,489	29.0%	24.9%
Long term Debt	12,523,517	11,266,294	21.1%	21.5%
Post employment obligations, Deferred taxes and Other long term liabilities	7,199,851	5,202,111	12.1%	9.9%
Total liabilities	36,985,802	29,517,894	62.2%	56.3%
Common shares	8,744,703	8,257,873	14.7%	15.8%
Common shares held in treasury	-3,916,823	-3,310,347	-6.6%	-6.3%
Earnings employed in the business	18,927,101	17,054,027	31.8%	32.5%
Accumulated other comprehensive income loss	-1,366,846	854,074	-2.3%	1.6%
Total Abbott Shareholders Investment	22,388,135	22,855,627	37.7%	43.6%
Noncontrolling interests in subsidiaries	88,329	43,102	0.1%	0.1%
Total Shareholders Investment	22,476,464	22,898,729	37.8%	43.7%

% of Total Assets (Capital)

Abbott (ABT)	2010	2009	2010	2009
Cash and cash equivalents	3,648,371	8,809,339	0.41	1.00
Investments primarily time deposits and certificates of deposit and restricted funds	3,675,569	1,122,709	3.27	1.00
Trade receivables less allowances	7,184,034	6,541,941	1.10	1.00
Inventories	3,188,734	3,264,877	0.98	1.00
Deferred income taxes	3,076,051	2,364,142	1.30	1.00
Other prepaid expenses and receivables	1,544,770	1,210,883	1.28	1.00
Total Current Assets	22,317,529	23,313,891	0.96	1.00
Investments	302,049	1,132,866	0.27	1.00
Property and Equipment at Cost	17,374,302	16,486,906	1.05	1.00
Less accumulated depreciation and amortization	9,403,346	8,867,417	1.06	1.00
Net Property and Equipment	7,970,956	7,619,489	1.05	1.00
Intangible Assets net of amortization	12,151,628	6,291,989	1.93	1.00
Goodwill	15,930,077	13,200,174	1.21	1.00
Deferred Income Taxes and Other Assets	790,027	858,214	0.92	1.00
Total Assets	59,462,266	52,416,623	1.13	1.00

Divide by Base Year

Abbott (ABT)	2010	2009	2010	2009
Short term borrowings	4,349,796	4,978,438	0.87	1.00
Trade accounts payable	1,535,759	1,280,542	1.20	1.00
Salaries wages and commissions	1,328,665	1,117,410	1.19	1.00
Other accrued liabilities	6,014,772	4,363,032	1.38	1.00
Dividends payable	680,749	620,640	1.10	1.00
Income taxes payable	1,307,723	442,140	2.96	1.00
Obligation in connection with conclusion of the TAP Pharmaceutical Products JV	0	36,105	-	1.00
Current portion of long term debt	2,044,970	211,182	9.68	1.00
Total Current Liabilities	17,262,434	13,049,489	1.32	1.00
Long term Debt	12,523,517	11,266,294	1.11	1.00
Post employment obligations, Deferred taxes and Other long term liabilities	7,199,851	5,202,111	1.38	1.00
Total liabilities	36,985,802	29,517,894	1.25	1.00
Common shares	8,744,703	8,257,873	1.06	1.00
Common shares held in treasury	-3,916,823	-3,310,347	1.18	1.00
Earnings employed in the business	18,927,101	17,054,027	1.11	1.00
Accumulated other comprehensive income loss	-1,366,846	854,074	(1.60)	1.00
Total Abbott Shareholders Investment	22,388,135	22,855,627	0.98	1.00
Noncontrolling interests in subsidiaries	88,329	43,102	2.05	1.00
Total Shareholders Investment	22,476,464	22,898,729	0.98	1.00

Divide by Base Year

Statement of Operations.

Abbott (ABT)	2010	2009	2010	2009
Net Sales	35,166,721	30,764,707	100.0%	100.0%
Cost of products sold	14,665,192	13,209,329	41.7%	42.9%
Gross profit	20,501,529	17,555,378	58.3%	57.1%
Research and development	3,724,424	2,743,733	10.6%	8.9%
Acquired in process research and development	313,200	170,000	0.9%	0.6%
Selling general and administrative	10,376,324	8,405,904	29.5%	27.3%
Operating Earnings	6,087,581	6,235,741	17.3%	20.3%
Interest expense	553,135	519,656	1.6%	1.7%
Interest income	-105,453	-137,779	-0.3%	-0.4%
Net foreign exchange gain loss	-10,924	35,584	0.0%	0.1%
Other income expense net	-62,011	-1,375,494	-0.2%	-4.5%
Earnings from Continuing Operations Before Taxes	5,712,834	7,193,774	16.2%	23.4%
Taxes on Earnings from Continuing Operations	1,086,662	1,447,936	3.1%	4.7%
Earnings from Continuing Operations	4,626,172	5,745,838	13.2%	18.7%
Gain on Sale of Discontinued Operations net of taxes	0	0	0.0%	0.0%
Net Earnings	4,626,172	5,745,838	13.2%	18.7%

% of Net Sales

Statement of Operations.

Abbott (ABT)	2010	2009	2010	2009
Net Sales	35,166,721	30,764,707	1.14	1.00
Cost of products sold	14,665,192	13,209,329	1.11	1.00
Gross profit	20,501,529	17,555,378	1.17	1.00
Research and development	3,724,424	2,743,733	1.36	1.00
Acquired in process research and development	313,200	170,000	1.84	1.00
Selling general and administrative	10,376,324	8,405,904	1.23	1.00
Operating Earnings	6,087,581	6,235,741	0.98	1.00
Interest expense	553,135	519,656	1.06	1.00
Interest income	-105,453	-137,779	0.77	1.00
Net foreign exchange gain loss	-10,924	35,584	(0.31)	1.00
Other income expense net	-62,011	-1,375,494	0.05	1.00
Earnings from Continuing Operations Before Taxes	5,712,834	7,193,774	0.79	1.00
Taxes on Earnings from Continuing Operations	1,086,662	1,447,936	0.75	1.00
Earnings from Continuing Operations	4,626,172	5,745,838	0.81	1.00
Gain on Sale of Discontinued Operations net of taxes	0	0	NA	1.00
Net Earnings	4,626,172	5,745,838	0.81	1.00

Divide by Base Year

Statement of Cash Flows.

Abbott (ABT)	2010	2009	2010	2009
Net earnings	4,626,172	5,745,838	59.9%	92.9%
Less noncash items included in net income	3,324,688	1,828,737	43.1%	29.6%
Less nonoperating items included in net income and gain on sale of discontinued operations	126,337	41,967	1.6%	0.7%
Less increase in working capital	658,784	-341,382	8.5%	-5.5%
Net Cash From Operating Activities	8,735,981	7,275,160	113.1%	117.6%
Acquisitions of property and equipment	-1,015,075	-1,089,048	-13.1%	-17.6%
Acquisitions of businesses and technologies net of cash acquired	-9,433,243	-2,370,630	-122.2%	-38.3%
Purchases of investment securities	-805,932	-248,970	-10.4%	-4.0%
Proceeds from sales of investment securities	954,361	16,306	12.4%	0.3%
Deposit of restricted funds and other	-1,888,426	-6,368	-24.5%	-0.1%
Net Cash Used in Investing Activities	-12,188,315	-3,698,710	-157.9%	-59.8%
Proceeds from issuance of debt	3,796,146	6,217,331	49.2%	100.5%
Repayments of debt	-1,673,998	-2,483,176	-21.7%	-40.1%
Proceeds from stock options exercised including income tax benefit	328,411	508,669	4.3%	8.2%
Purchases of common shares	-866,825	-826,345	-11.2%	-13.4%
Dividends paid	-2,671,475	-2,414,460	-34.6%	-39.0%
Net Cash Used in Financing Activities	-1,087,741	1,002,019	-14.1%	16.2%
Effect of exchange rate changes on cash and cash equivalents	-620,893	118,848	-8.0%	1.9%
Net Decrease in Cash and Cash Equivalents	-5,160,968	4,697,317	-66.8%	75.9%

% of Free Cash Flow

Cash Balance,
Net Income,
Operating Cash Flow,
Change in Cash

Statement of Cash Flows.

Abbott (ABT)	2010	2009	2010	2009
Net earnings	4,626,172	5,745,838	0.81	1.00
Less noncash items included in net income	3,324,688	1,828,737	1.82	1.00
Less nonoperating items included in net income and gain on sale of discontinued operations	126,337	41,967	3.01	1.00
Less increase in working capital	658,784	-341,382	(1.93)	1.00
Net Cash From Operating Activities	8,735,981	7,275,160	1.20	1.00
Acquisitions of property and equipment	-1,015,075	-1,089,048	3.98	1.00
Acquisitions of businesses and technologies net of cash acquired	-9,433,243	-2,370,630	0.93	1.00
Purchases of investment securities	-805,932	-248,970	3.24	1.00
Proceeds from sales of investment securities	954,361	16,306	58.53	1.00
Deposit of restricted funds and other	-1,888,426	-6,368	296.55	1.00
Net Cash Used in Investing Activities	-12,188,315	-3,698,710	3.30	1.00
Proceeds from issuance of debt	3,796,146	6,217,331	0.61	1.00
Repayments of debt	-1,673,998	-2,483,176	0.67	1.00
Proceeds from stock options exercised including income tax benefit	328,411	508,669	0.65	1.00
Purchases of common shares	-866,825	-826,345	1.05	1.00
Dividends paid	-2,671,475	-2,414,460	1.11	1.00
Net Cash Used in Financing Activities	-1,087,741	1,002,019	(1.09)	1.00
Effect of exchange rate changes on cash and cash equivalents	-620,893	118,848	(5.22)	1.00
Net Decrease in Cash and Cash Equivalents	-5,160,968	4,697,317	(1.10)	1.00

Divide by Base Year



HAWK|100

Common Size Application.

Position Statement.

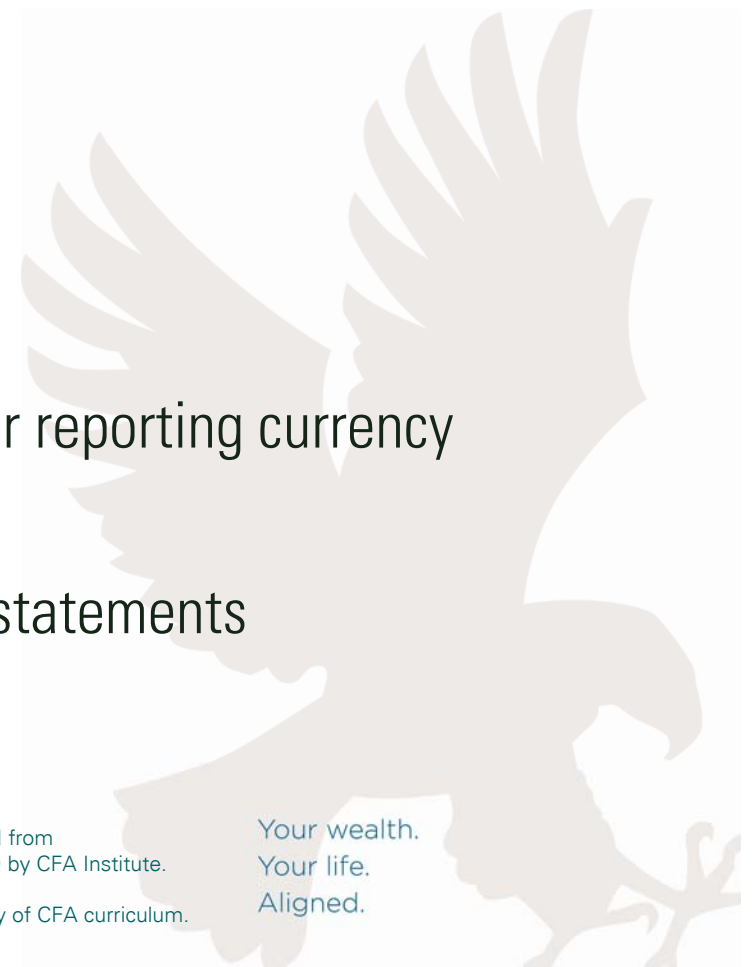
- Leverage, Liquidity

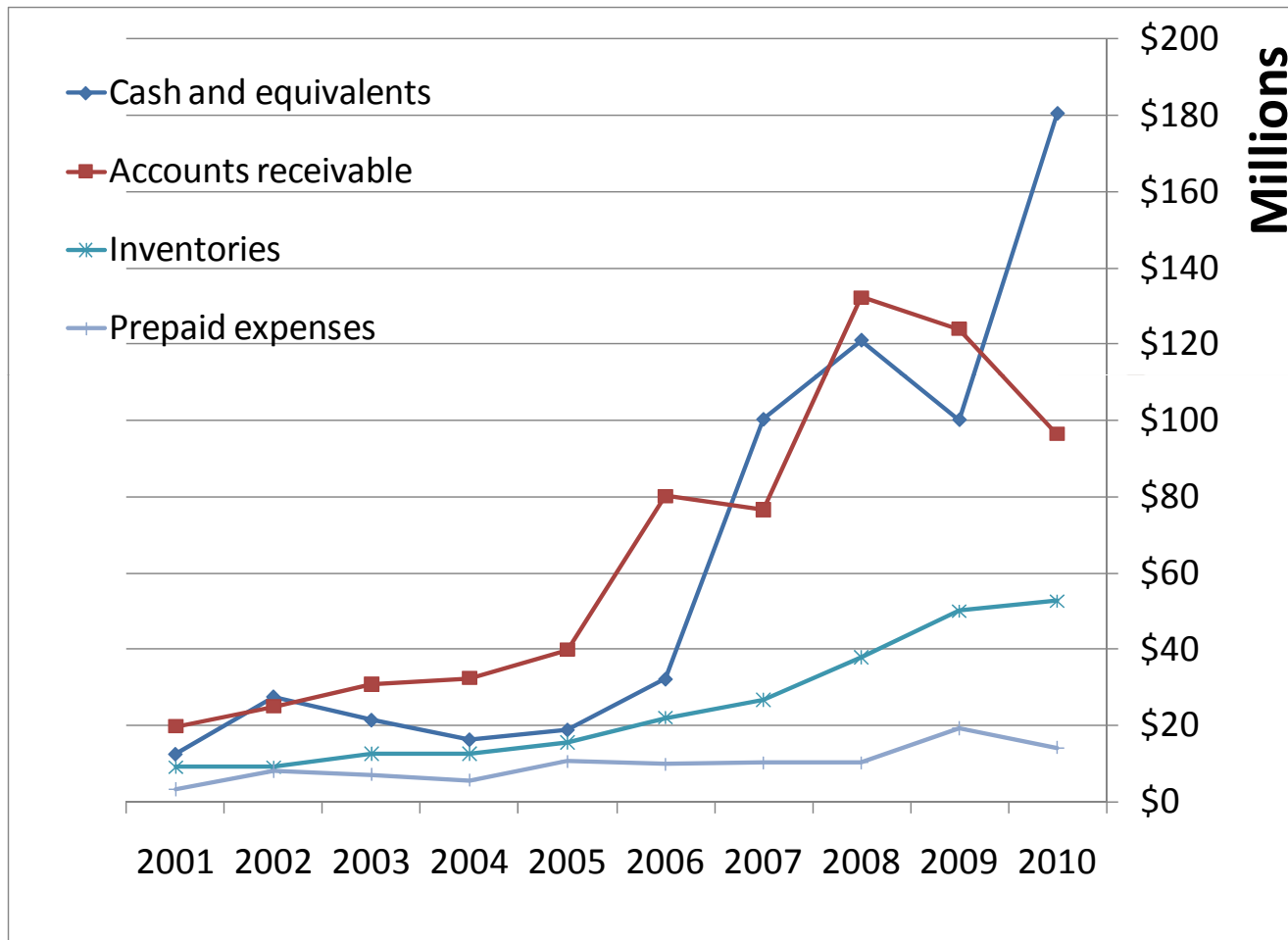
Statement of Operations.

- Margins, Efficiency

Facilitates analysis.

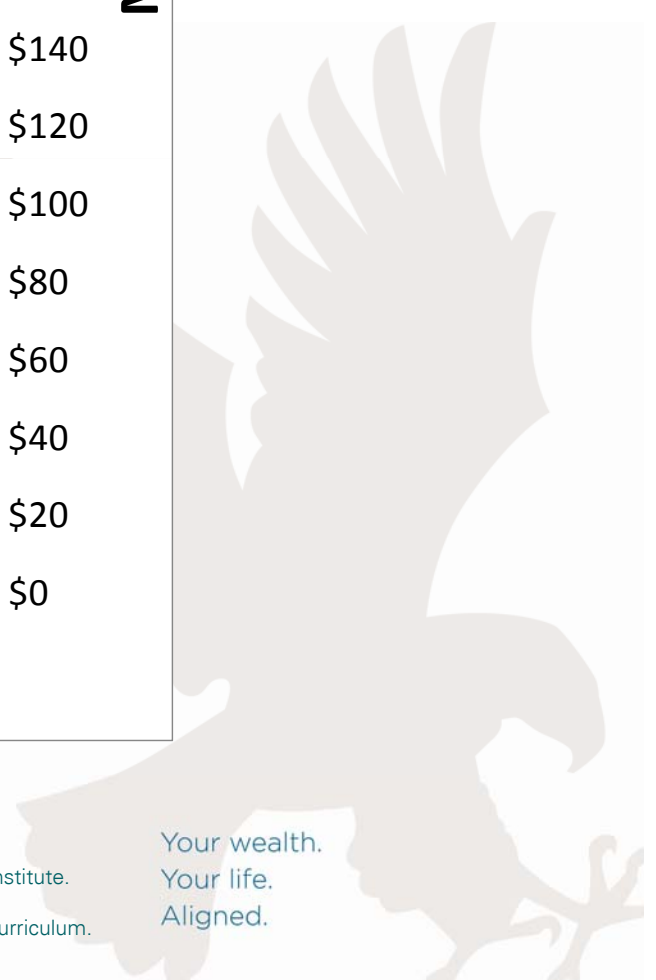
- Cross sectional, different size or reporting currency
- Cross period trend analysis
- Relationships among financial statements





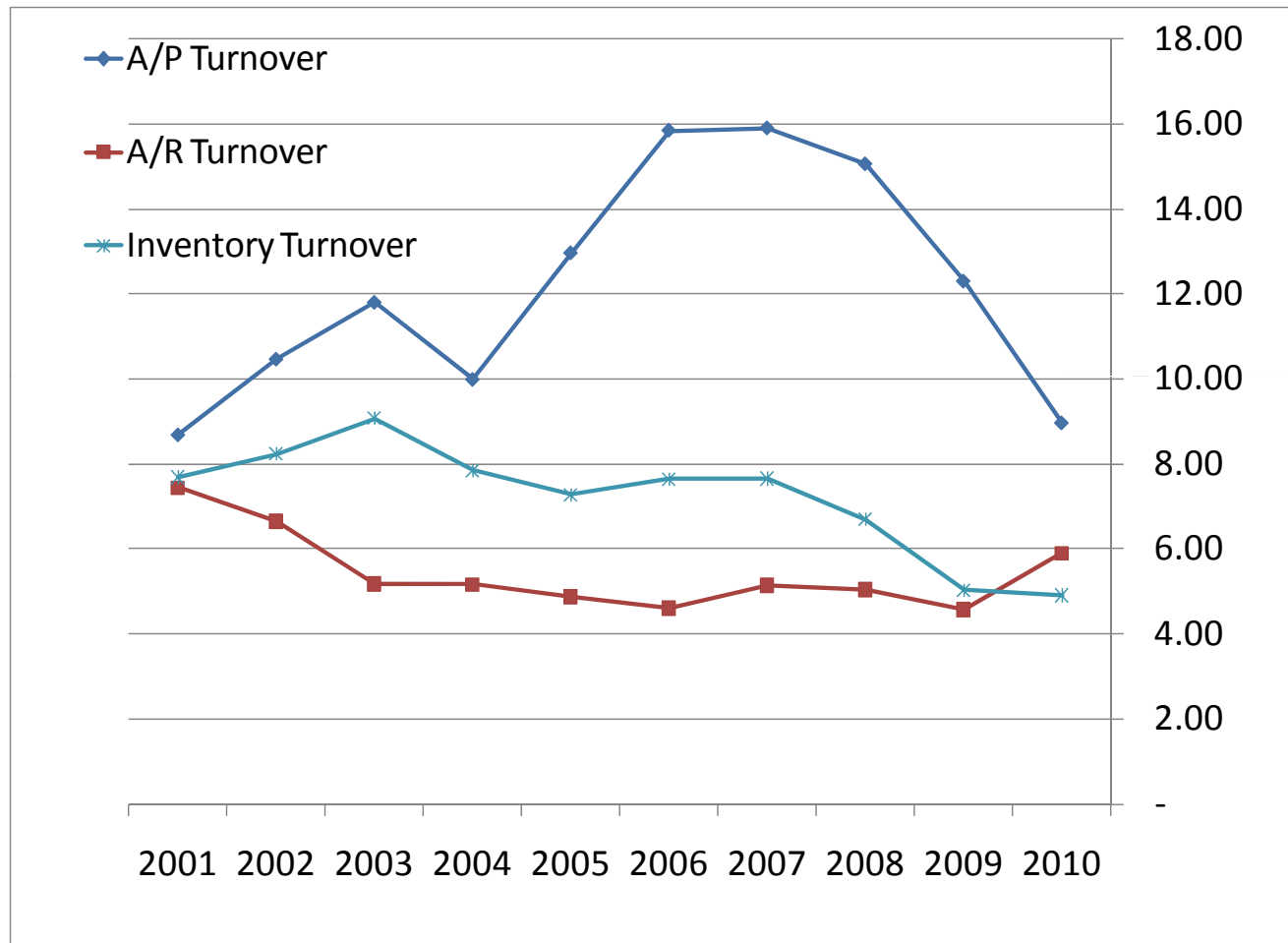
Copyright 2011 Hawk Investment Management, LLC. All Rights Reserved. Contents have been adapted from *International Financial Statement Analysis*, by Robinson, Greuning, Henry, and Broihahn. Copyright 2009 by CFA Institute. *Financial Shenanigans*, by Schilit and Perler. Copyright 2010 by Howard Schilit. As CFA Institute Presidents Council Representative, instructor offers no special advantage as to mastery of CFA curriculum.

Your wealth.
Your life.
Aligned.



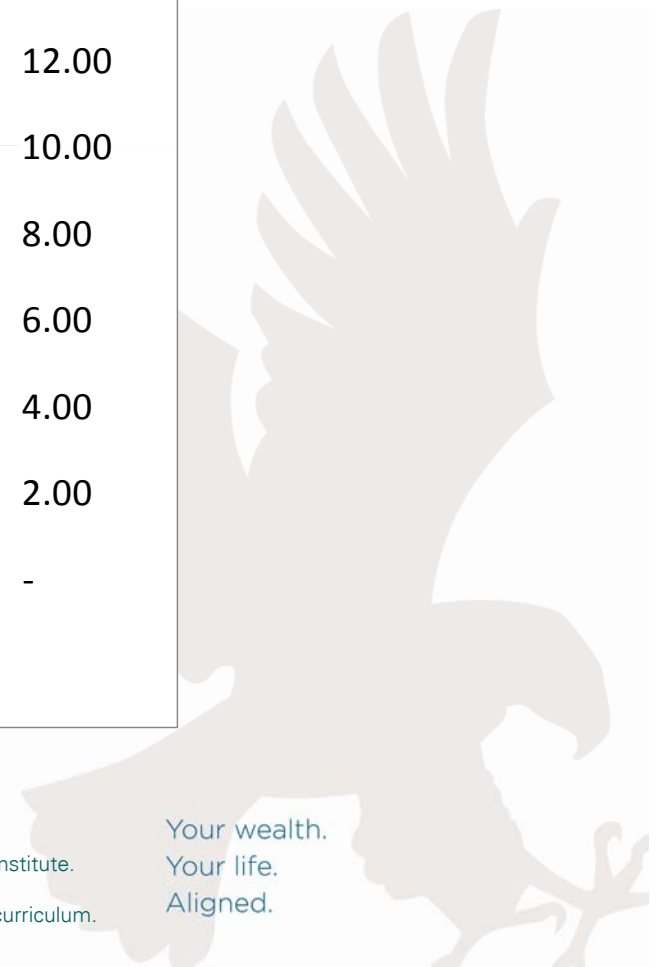
HAWK 100

Using Graphs.



Copyright 2011 Hawk Investment Management, LLC. All Rights Reserved. Contents have been adapted from *International Financial Statement Analysis*, by Robinson, Greuning, Henry, and Broihahn. Copyright 2009 by CFA Institute. *Financial Shenanigans*, by Schilit and Perler. Copyright 2010 by Howard Schilit. As CFA Institute Presidents Council Representative, instructor offers no special advantage as to mastery of CFA curriculum.

Your wealth.
Your life.
Aligned.



Category	Measure
Activity ratios	How efficiently company performs routine business such as receivables collection and inventory management
Liquidity ratios	Company ability to meet short-term obligations
Solvency ratios	Company ability to meet long-term obligations (leverage, debt)
Profitability ratios	Company ability to generate profitable sales from its resources (assets)
Valuation ratios	Quantity of an asset of flow associated with ownership of a specified claim (bonds or share of preferred or common equity)

Ratio	Measures	Numerator	Denominator
Inventory turnover	Efficiency of inventory production and sales processes. Indicates resources occupied in inventory.	Cost goods sold *	Avg inventory **
Days inventory on hand		Days in period	Inventory turnover
Receivables turnover	Efficiency of accounts receivable collections process. Indicates effective customer credit policy.	Revenue *	Avg receivables **
Days sales outstanding		Days in period	A/R turnover
Payables turnover	Efficiency of accounts payable payment process and making use of cash management credit terms.	Cost goods sold *	Avg payables **
Days of payables		Days in period	A/P turnover
Working capital turnover	Utilization of working capital (current assets less current liabs)	Revenue *	Avg working cap**
Fixed asset turnover	Utilization of fixed assets (property, plant, equipment)	Revenue *	Avg net PP&E **
Total asset turnover	Utilization of total assets (capital)	Revenue *	Avg total assets **

* Amount reflects a period of flows.

** Amount reflects a point in time and should reflect the average for the period.

HAWK|100

Liquidity.

Ratio	Measures	Numerator	Denominator
Current ratio	Ability to meet ST obligations.	Current assets (CA)	Current liabilities
Quick ratio	More conservative, best when inventory may be problematic.	+Cash +ST marketable secs +A/R (or +CA -Inventory)	Current liabilities
Cash ratio	Most conservative, best when receivables may be doubtful.	+Cash +ST marketable secs	Current liabilities
Defensive interval ratio	Time company can continue to pay expenses from existing liquid assets without additional flows.	+Cash +ST marketable secs +A/R	Daily cash expenditures
Cash conversion cycle (net operating cycle)	Time required from cash payment to cash collection	+ Days inventory on hand + Days sales outstanding – Days of payables	

* Both measures reflect a point in time, so there is no need to calculate average for period.

Ratio	Measures	Numerator	Denominator
Debt-to-assets (aka total debt ratio)	Financial risk, percentage of assets financed with debt.	Total debt*	Total assets
Debt-to-capital	Capital structure, percentage of capital financed with debt.	Total debt*	Ttl int bearing debt + total s/h equity
Debt-to-equity	Amount of debt relative to equity, alternatively use market values.	Total debt*	Total s/h equity
Financial leverage	Total assets supported for each unit of equity (DuPont analysis).	Average total assets	Avg total equity
Interest coverage	Times company can service debt interest from operating profits	EBIT	Interest payments
Fixed charge coverage	Times company can debt and leases from operating profits	+ EBIT + lease payments	+ Interest payment + lease payments

* Includes total short-term and long-term interest bearing debt.

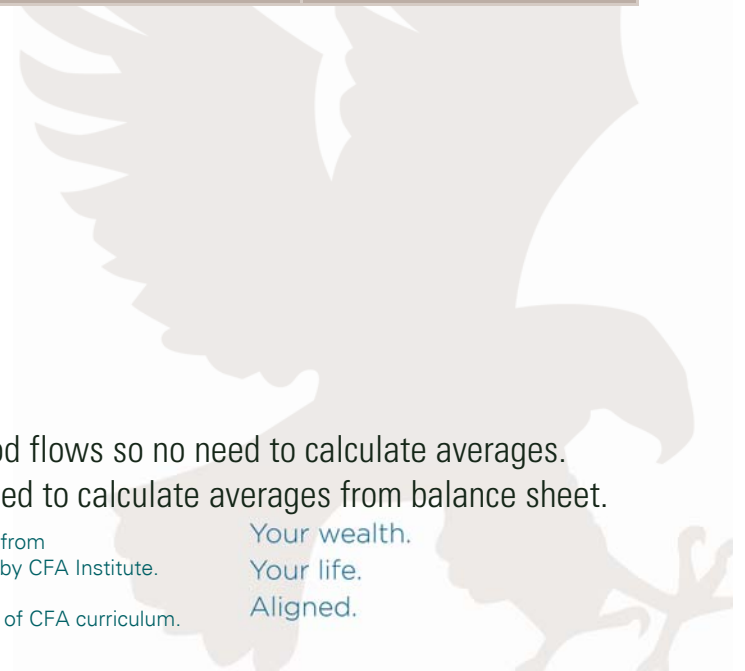
Ratio	Measures	Numerator	Denominator
Return on sales *			
Gross profit margin	Percentage revenue available to cover operating expenses	Gross profit	Revenue
Operating profit margin	Profitability subject to mgmt discretionary control	Operating income (or EBIT)	Revenue
Pretax margin	Profitability before taxes	EBT	Revenue
Net profit margin	Total profitability	Net income	Revenue

* From common size statement of operations. Return on sales compares period flows so no need to calculate averages.

** Return on investment compares period flows to point in time balances so need to calculate averages from balance sheet.

Copyright 2011 Hawk Investment Management, LLC. All Rights Reserved. Contents have been adapted from *International Financial Statement Analysis*, by Robinson, Greuning, Henry, and Broihahn. Copyright 2009 by CFA Institute. *Financial Shenanigans*, by Schilit and Perler. Copyright 2010 by Howard Schilit.
As CFA Institute Presidents Council Representative, instructor offers no special advantage as to mastery of CFA curriculum.

Your wealth.
Your life.
Aligned.



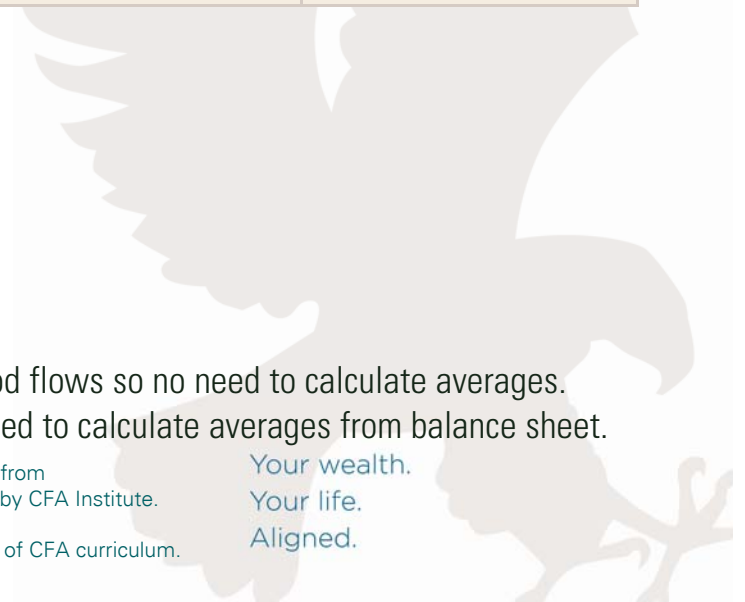
Ratio	Measures	Numerator	Denominator
Return on investment **			
Return on Assets (ROA)	Income earned on assets	Net income	Avg total assets
Operating ROA	Preferable to ROA	Operating income	Avg total assets
Return on total capital	Profits earned and available to all capital	EBIT	+ Avg ST & LT debt + Avg equity
Return on Equity (ROE)	Includes minority and preferred	Net income	Avg equity
ROCE (common)	Return only to common equity	Net income – pfd div	Avg common equity

* From common size statement of operations. Return on sales compares period flows so no need to calculate averages.

** Return on investment compares period flows to point in time balances so need to calculate averages from balance sheet.

Copyright 2011 Hawk Investment Management, LLC. All Rights Reserved. Contents have been adapted from *International Financial Statement Analysis*, by Robinson, Greuning, Henry, and Broihahn. Copyright 2009 by CFA Institute. *Financial Shenanigans*, by Schilit and Perler. Copyright 2010 by Howard Schilit.
As CFA Institute Presidents Council Representative, instructor offers no special advantage as to mastery of CFA curriculum.

Your wealth.
Your life.
Aligned.

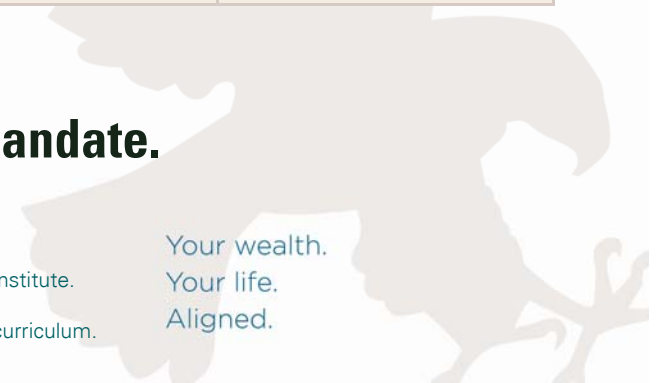


Ratio	Measures	Numerator	Denominator
Price:Earnings P/E	Relative value based on company bottom line earnings, best with stable capital structure.	Price per share	Earnings per share (preferably diluted)
Price:Cash flow P/CF	Relative value based on company bottom line earnings, best with low quality of earnings.	Price per share	Cash flow / share (preferably FCF)
Price:Sales P/S	Relative value based on company top line revenues, best with growth company with ST losses and net cash outflow.	Price per share	Sales per share
Price:Book Value P/B	Relative value based on book value of equity, best with liquidation or consolidation.	Price per share	Equity book value per share

Useful in ranking investment opportunities within a mandate.

Copyright 2011 Hawk Investment Management, LLC. All Rights Reserved. Contents have been adapted from *International Financial Statement Analysis*, by Robinson, Greuning, Henry, and Broihahn. Copyright 2009 by CFA Institute. *Financial Shenanigans*, by Schilit and Perler. Copyright 2010 by Howard Schilit. As CFA Institute Presidents Council Representative, instructor offers no special advantage as to mastery of CFA curriculum.

Your wealth.
Your life.
Aligned.



Company goals and strategy.

- Compare with company strategic objectives

Cross-sectional analysis of industry norms.

- Relate ratios to industry norms or peer subset
 - ✿ Industry specific ratios (e.g., airline load factor)
 - ✿ Heterogeneous lines of business (e.g., GE) and strategies

Economic conditions.

- Cyclicity and seasonality of business
- Examine results in light of business cycle phase



Evaluate management.

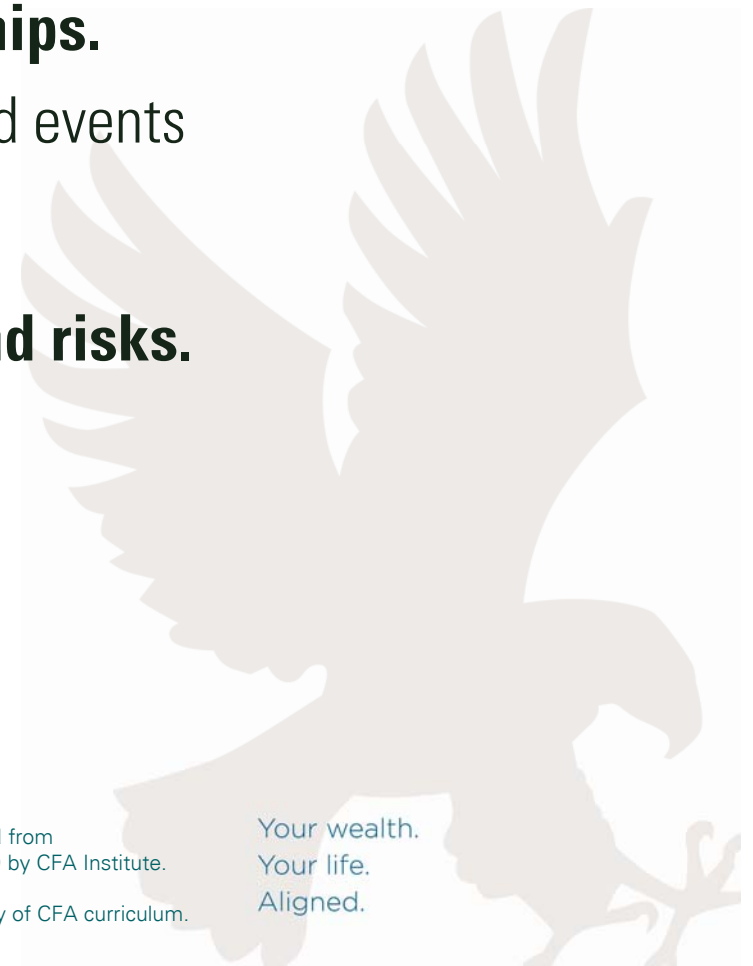
Understand microeconomic relationships.

- Interpret response to trends and events
- Forecast cash flows

Evaluate financial position, results, and risks.

Facilitate comparison.

- Peers
- Periods



Homogeneity of company operating activities.

Need to resolve inconsistent results.

■ Problematic ratios

■ Positive ratios

} Balance evidence, Determine duration

Need to judge materiality, reasonableness.

Reflect economics rather than reported results.

Be mindful of financial shenanigans.

Reconcile discrepancies in accounting methods, estimates.

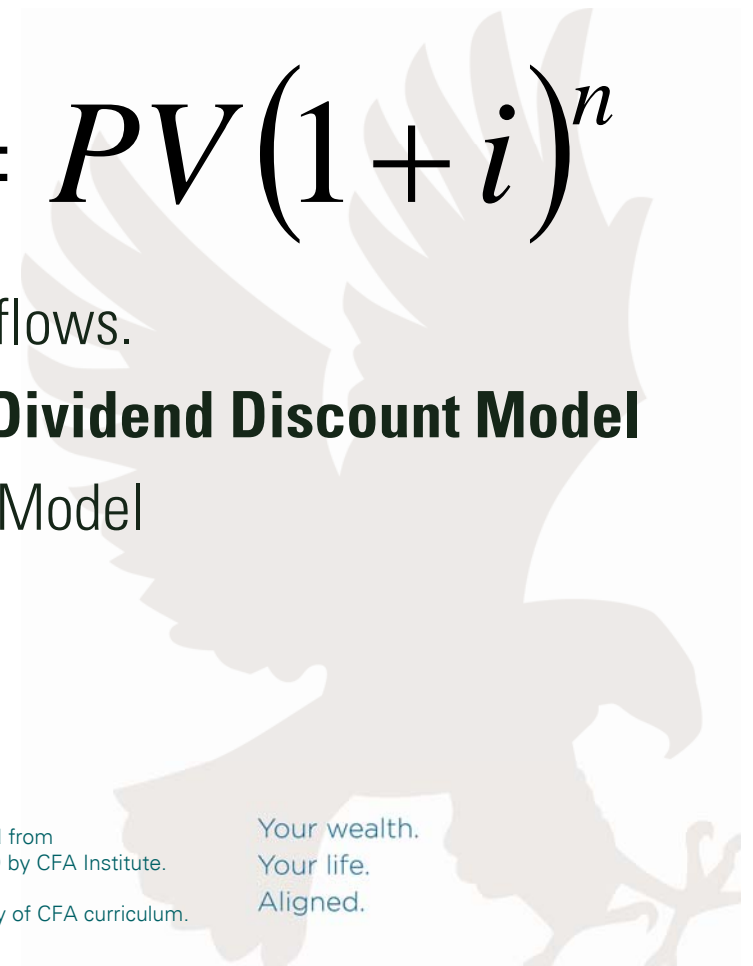
Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.

Market valuation.

$$FV = PV(1 + i)^n$$

Intrinsic valuation.

- Discount expected future cash flows.
- **“Gordon” Constant Growth Dividend Discount Model**
- Multi-stage Dividend Discount Model
- Residual Earnings
- Abnormal Earnings Growth



Price of a stock may be estimated as the next year's dividend divided by the difference between the required rate of return and the growth rate of dividends.

- Constant, stated dividend policy
- Constant, stated capital structure
- Constant, sustainable growth rate
- Constant, required rate of return
- Required return exceeds growth rate

$$P = \frac{D_1}{r - g}$$

Price of any financial asset should be equal to its discounted future cash flow.

$$P = \frac{CF_1}{(1+r_1)^1} + \frac{CF_2}{(1+r_2)^2} + \frac{CF_3}{(1+r_3)^3} + \dots + \frac{CF_n}{(1+r_n)^n}$$

Future common stock cash flows are dividends and sales proceeds.

Those dividends may change (grow) over time.

$$P_0 = \frac{D_0(1+g_1)}{(1+r_1)^1} + \frac{D_1(1+g_2)}{(1+r_2)^2} + \frac{D_2(1+g_3)}{(1+r_3)^3} + \dots + \frac{D_{n-1}(1+g_n)^n + P_n}{(1+r_n)^n}$$

If r and g are constant, then :

$$P = \frac{D_0(1+g)^1}{(1+r)^1} + \frac{D_0(1+g)^2}{(1+r)^2} + \frac{D_0(1+g)^3}{(1+r)^3} + \dots + \frac{D_{n-1}(1+g)^n + P_n}{(1+r)^n}$$

which mathematically simplifies to :

$$P = \frac{D_1}{r - g}$$

Horizon Value

HAWK|100 Valuation Model Inputs – Dividends.

Ratio	Measures	Numerator	Denominator
Dividend payout ratio	Earnings paid to shareholders as return of capital and no longer under management discretion	Common dividends per share	Earnings per common share (preferably diluted)
Earnings retention rate	Percentage of earnings retained and reinvested into firm for future growth opportunities	Net income to common s/h s – Common dividends	Net income to common s/h s
Sustainable growth rate	Gordon Constant Growth Rate	$ROE \times (1 - \text{Dividend Payout Ratio})$ $ROE \times \text{Retention Rate}$	

**Must be constant, stated dividend payout policy (earnings retention policy).
Reliable source to estimate is from management guidance.**

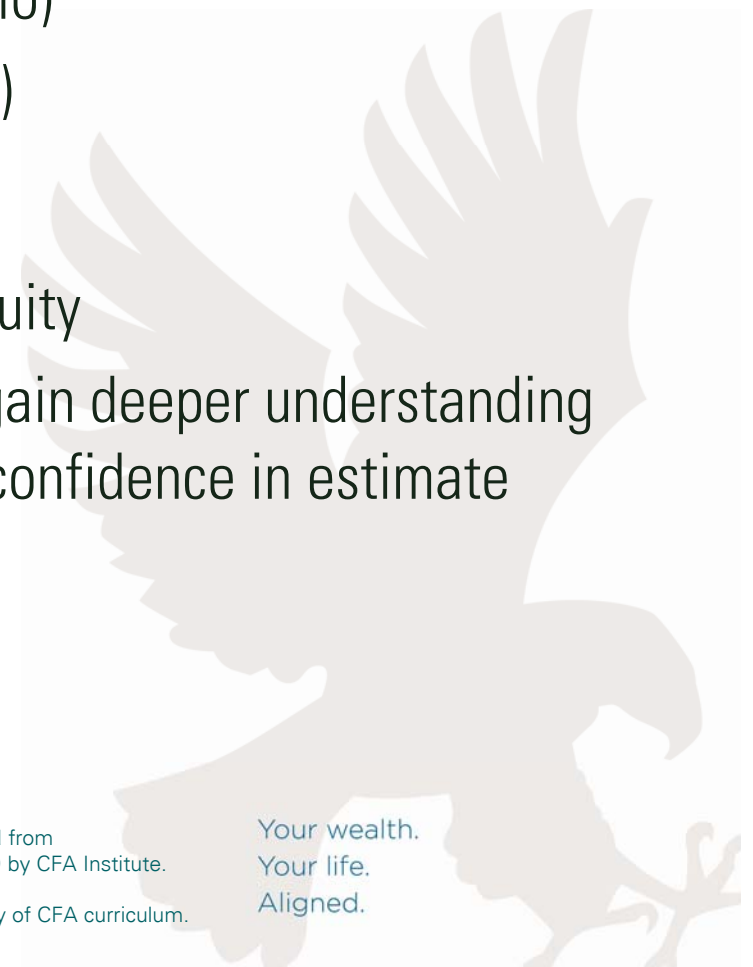


Sustainable growth rate

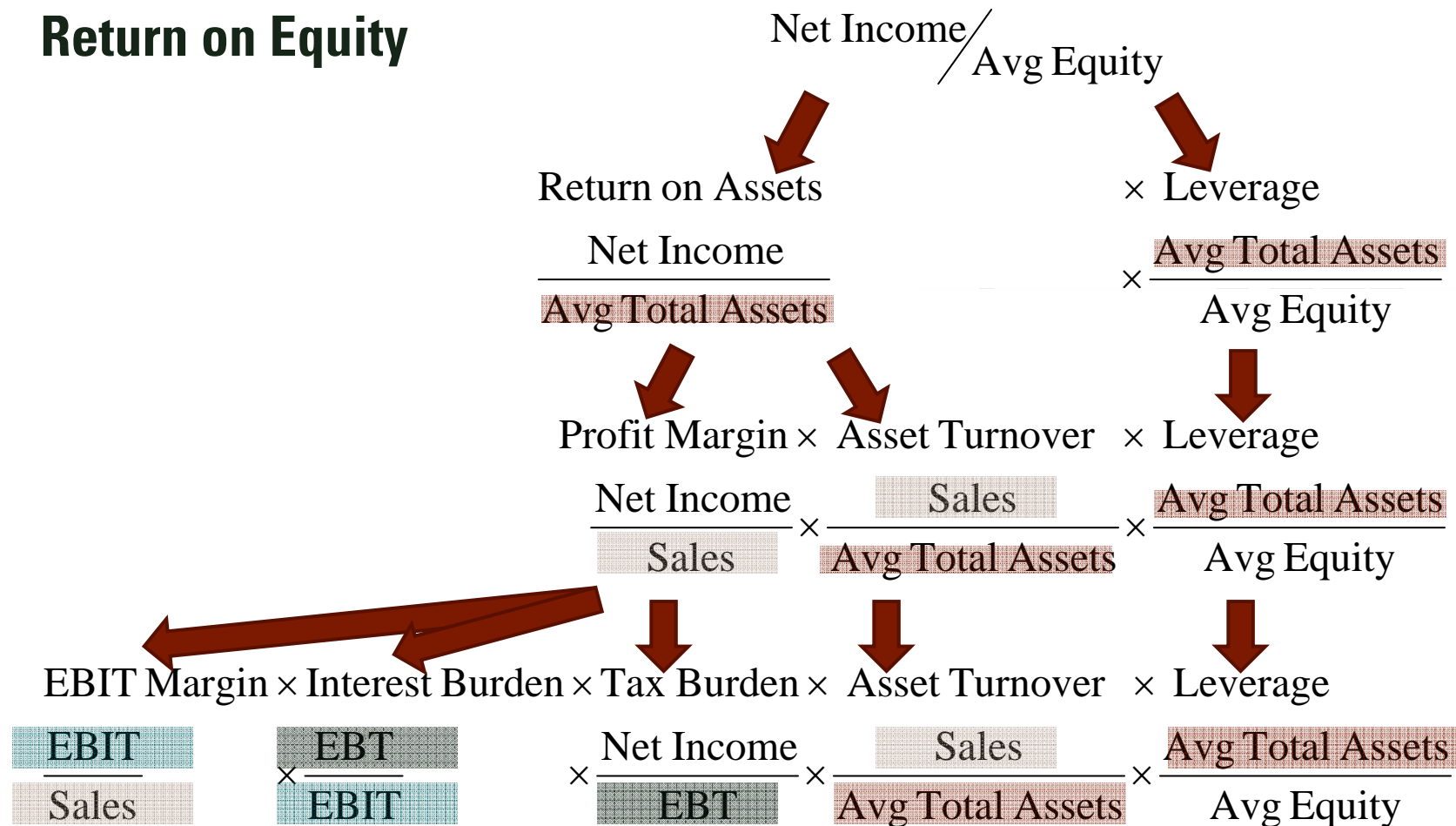
- ROE x (1 – Dividend Payout Ratio)
- ROE x (Earnings Retention Rate)

Return on Equity (ROE)

- Actually return on **common** equity
- Evaluate component inputs to gain deeper understanding of growth drivers and improve confidence in estimate
- Basic DuPont Model
- Extended DuPont Model



Return on Equity



Valuation Model Inputs – Risk.

$$r = E(R) = ???$$

CAPM

$$R_f + \beta(R_m - R_f)$$

APT

$$R_f + \sum_{F=1}^x \beta_F R_F \text{ where } x \text{ is number of factors } F$$

Variance

Standard deviation of model input variables

Buildup

$$R_f + R_{\text{inflation}} + R_{\text{credit}} + R_{\text{equity}}$$

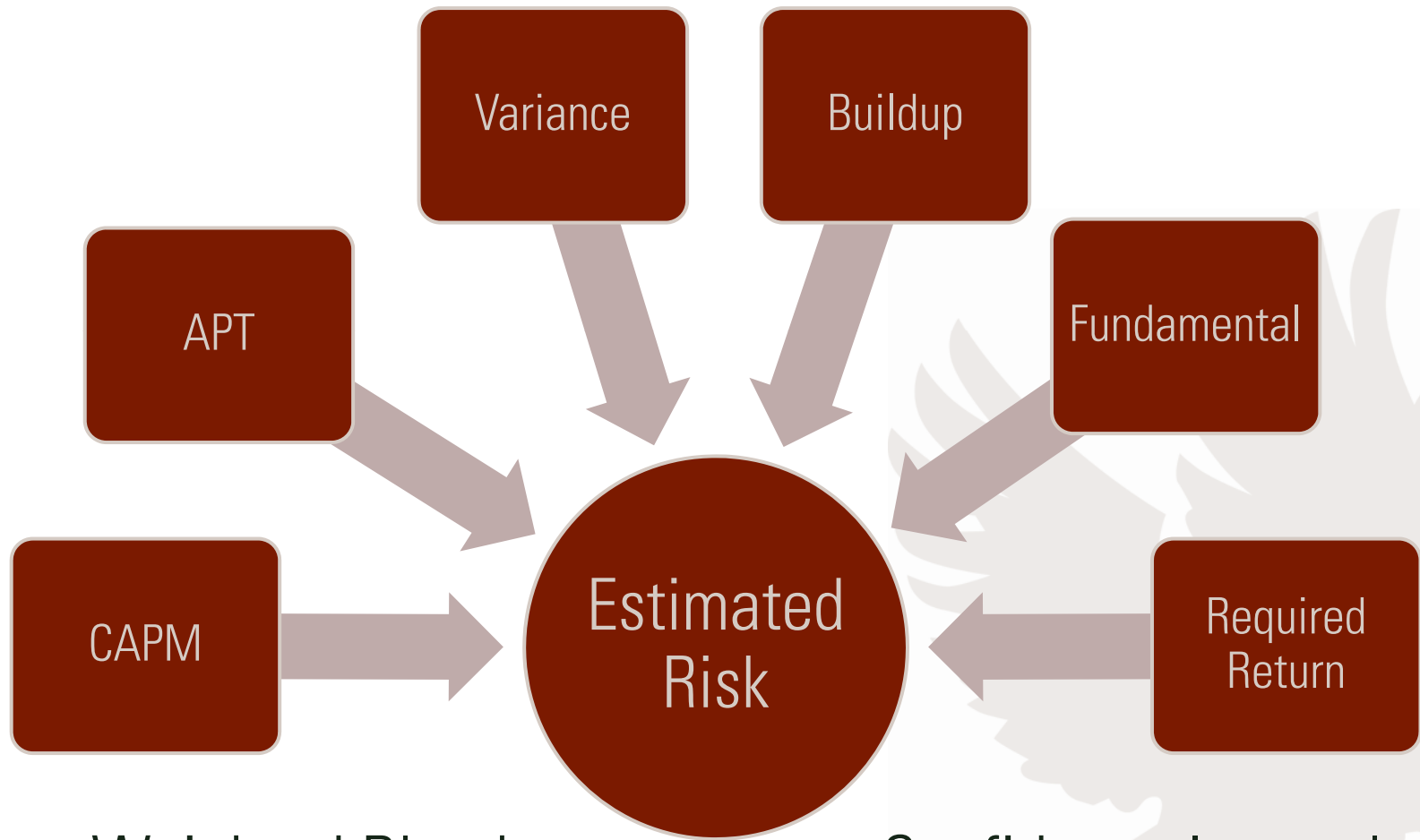
Fundamental

$$R_f + R_{\text{inflation}} + R_{\text{market}} + R_{\text{business}} \\ + R_{\text{operating}} + R_{\text{financial}} + R_{\text{currency}}$$

Required return

$$R_{\text{investor}} + R_{\text{estimation}}$$

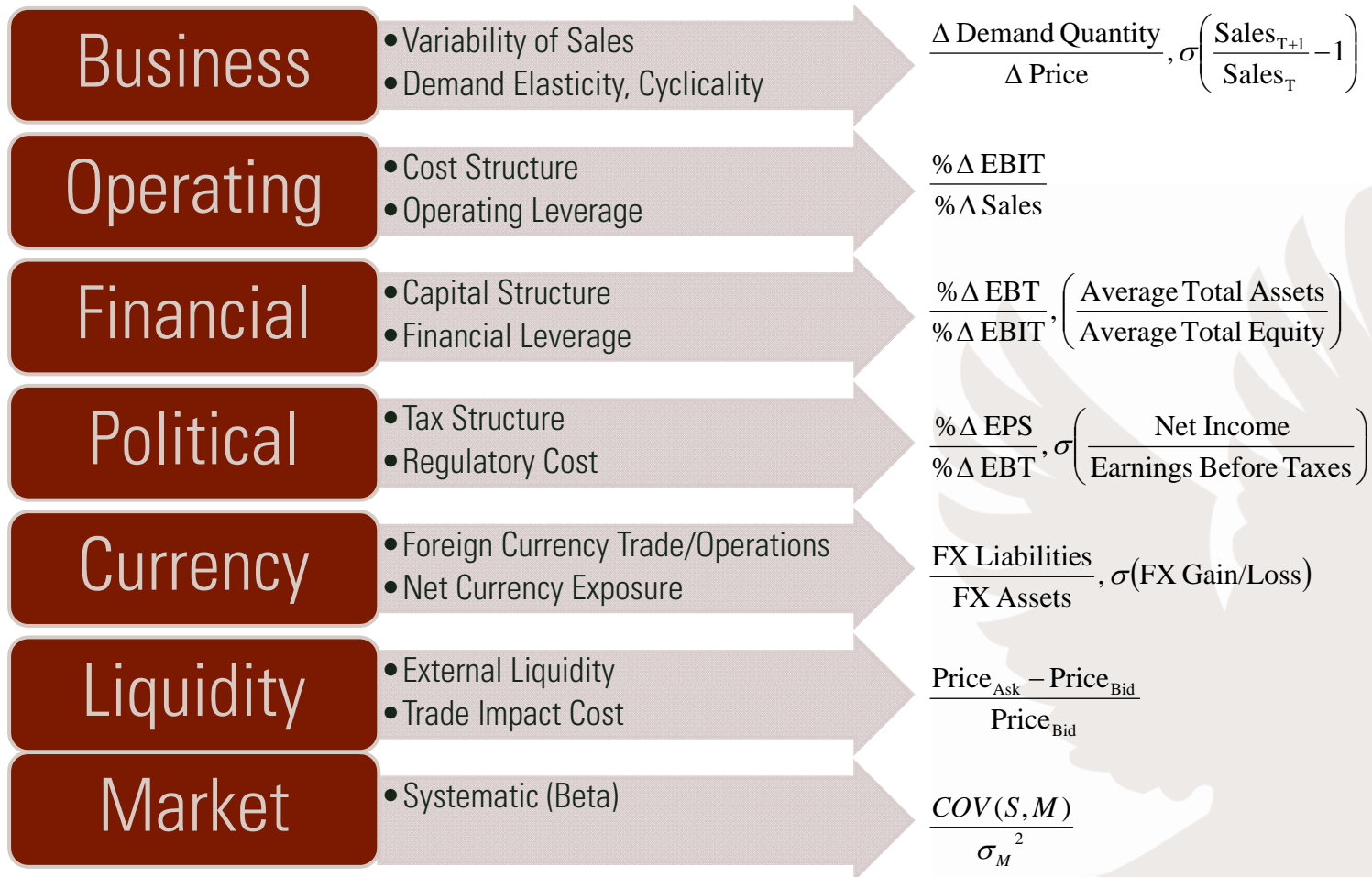
Weighing Multiple Risk Measures.



Weighted Blend

--

Confidence Interval



Ratio	Measures	Numerator	Denominator
Coefficient of variation of revenues	Coefficients of variation (or their reciprocals) are useful to measure the relationship of variability to an average statistic. Higher ratios indicate greater business risk requiring wider confidence intervals.	Standard deviation of revenues	Average revenues
Coefficient of variation of operating income		Standard deviation of operating income	Average operating income
Coefficient of variation of net income		Standard deviation of net income	Average net income

$$\sigma / \mu$$



Evaluate past financial performance and explain how a company's strategy is reflected in past financial performance.

Prepare a basic projection of a company's future net income and cash flow.

Describe the role of financial statement analysis in assessing the credit quality of a potential debt investment.

Discuss the use of financial statement analysis in screening for potential equity investments.

Determine and justify appropriate analyst adjustments to a company's financial statement to facilitate comparison with another company.

Anchor on What You Know.

- (or at least on what you have high degree of confidence)

Forecast the information you need for your appropriate model

- Book value, sales, profit, cash flow, residual earnings, ...
- Consider industry life cycle and quality of forecast

Regress macroeconomic variables.

Consider internal financial trends.

Consider exogenous factors that may influence trends.

Abbott (ABT)	Source	2010	2011	2012
Net Sales	GDP >> Industry >> Company	30,764,707	31,000,000	33,000,000
Cost of products sold	Capacity Utilization, PPI >> Industry >> Company	13,209,329	13,300,000	14,200,000
Gross profit	Sales – COGS	17,555,378	17,700,000	18,800,000
Research and development	Trends (e.g., % sales) >> Industry >> Company	2,743,733	2,800,000	3,000,000
Acquired in process research and development	Acquisition strategy	170,000	0	0
Selling general and administrative	Labor, rents >> Industry >> Company	8,405,904	8,900,000	9,500,000
Operating Earnings	Gross profit – R&D – SG&A	6,235,741	6,000,000	6,300,000
Interest expense	Debt structure >> Industry >> Company	519,656	470,000	420,000
Interest income	Financial market forecast >> Investment composition	-137,779	-120,000	-110,000
Net foreign exchange gain loss	Currency market forecast >> Currency exposure	35,584	40,000	40,000
Other income expense net	Trends (e.g., % sales) >> Industry >> Company	-1,375,494	-1,390,000	-1,480,000
Earnings from Continuing Operations Before Taxes	Operating earnings – interest – currency – other	7,193,774	7,000,000	7,430,000
Taxes on Earnings from Continuing Operations	Tax rate forecast >> Industry >> Company	1,447,936	1,408,934	1,495,483
Earnings from Continuing Operations	EBT – Taxes	5,745,838	5,591,066	5,934,517
Gain on Sale of Discontinued Operations net of taxes	Company strategy	0	0	0
Net Earnings	Net	5,745,838	5,591,066	5,934,517

Sample screens

- “Professional”
✿ <http://i-metrix.edgar-online.com/FinancialScreener.aspx>
- “Serious”
✿ <http://screen.morningstar.com/StockSelector.html>
- “Investor”
✿ <http://research2.fidelity.com/fidelity/screeners/commonstock/index.asp?page=landing.asp>
- “Free”
✿ <http://screener.finance.yahoo.com/newscreener.html>

Materiality.

- Will the adjustment affect decisions from the analysis

Standards and methods.

- What are affects of different accounting standards applied or different accounting methods used?

Estimates.

- What are affects of differences in estimates?

Economics.

- How do reported results differ from economics?



HAWK|100

Frequent Analyst Adjustments.

Inventory.

- Current cost estimates

Property, plant, and equipment.

- Current cost and depreciation

Goodwill.

- Intangible value

Off-Balance Sheet financing.

- Operating leases



Position Statement, inventory.

- FIFO preferred
- If LIFO reported, add back LIFO reserve to balance
- Increases inventory when rising prices, adding layers

Statement of Operations, cost of goods sold.

- LIFO preferred
 - If FIFO reported, add change in LIFO reserve to COGS
 - Increases COGS when rising prices, adding layers
- Note: adjusted financial statements will not balance!

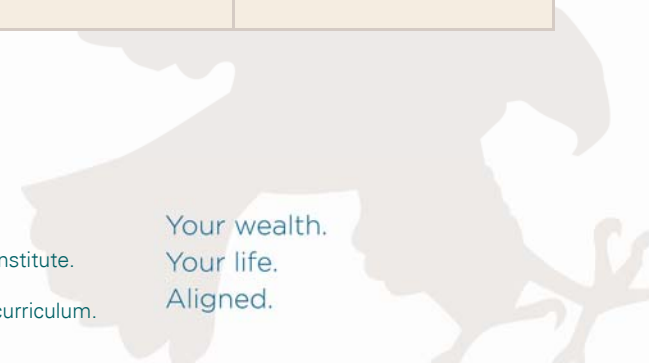
Position Statement, net PP&E.

- Current value preferred
- Restate asset balance at current value (replacement cost)
- Increases assets when rising prices, older equipment

Statement of Operations, depreciation.

- Economic use depreciation preferred
- If straight line, adjust for estimated use
- If estimated lives unreasonable, estimate affect
- Increases depreciation when increasing PP&E

Ratio (unofficial)	Measures	Numerator	Denominator
Percentage Used	How much useful life has passed	Accum depreciation	Gross PP&E
Average Age	How many years have been recognized	Accum depreciation	Depn expense
Remaining Life	How many useful years remain	Net PP&E	Depn expense
Life at Installation	Average asset life at installation	Gross PP&E	Depn expense
Asset Base Renewed	What percentage of asset base is being renewed through new capital investment	CAPEX	+Gross PP&E +CAPEX
Asset Base Growth	Growth of asset base	+ CAPEX – Asset disposal	Depn expense



Position Statement, goodwill.

- Growth through acquisitions builds goodwill
- Growth organically does not build goodwill

Statement of Operations, amortization, impairment.

- Acquirer
 - ✿ Before acquisition, no expenses
 - ✿ After acquisition, goodwill amortization expense
- Organic
 - ✿ Before, advertising and marketing expenses
 - ✿ After, no goodwill amortization

Position Statement, PP&E, lease obligation.

- Capitalize the property
 - ✿ Net book value of leased asset
- Capitalize the lease obligation
 - ✿ Net present value of future lease payments

Increases assets (lower ROA, lower Asset Turnover)

Increases debt (higher Leverage, higher Debt:Equity)

Statement of Operations, interest expense, depreciation.

- Operating lease
 - ✿ Rent expense for entire payment
- Capital lease
 - ✿ Interest expense for amortizing lease obligation
 - ✿ Depreciation expense for using leased asset

Increases expenses (lower NI, lower ROE), in early years

Cash Flows

- Operating— CFO outflow (rent)
- Capital—CFF outflow (liability), CFO or CFF outflow (interest)

Describe financial shenanigans prevalent in assigned industry sector. Points will be awarded on five factors:

- personal professionalism,
- adherence to assigned guidelines,
- written and oral presentation quality,
- content completeness, and
- content originality.

Take an analyst perspective, not an accountant.

Ten points available.