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IDENTIFY THE INDUSTRY – ANALYSIS of FINANCIAL STATEMENT DATA

Since companies in the same industry face similar opportunities and constraints, they tend to make similar investment, dividend, and financing decisions. Thus, the financial characteristics of firms in the same industry tend to cluster together. For example, old economy businesses with large amounts of tangible assets may have higher leverage ratios because such assets provide good collateral for lenders. Service or trading firms may have large amounts of intangible assets such as knowledge assets or a large and loyal customer base, and, hence, have low leverage ratios because growth options can devalue quickly. On the other hand, companies in different industries tend to exhibit different financial characteristics, as measured by financial ratios, because of cross-sectional differences in operating and financing decisions. With some knowledge of the different operating, investing, and financing decisions across industries, financial ratios may be used to identify an industry (see Exhibit 1 for the definition of ratios used).

Common-sized balance sheets (all items scaled by total assets), common-sized income statements (all items scaled by net sales), and selected financial ratios for the nine companies are provided. Since unusual deviation from target values may occur in any given year, the values for the items were averaged over three years. The three-year average common-sized balance sheet, common-sized income statement, and financial ratios are reported in Exhibits 2, 3, and 4, respectively.

The 9 companies are drawn from the following 9 different industries:

- Liquor producer and distributor
- Discount airline
- Commercial bank (items fitted into the same categories as the non-financial firms)
- Computer software company
- Large integrated oil and gas company
- Mobile phone service operator
- R&D-based pharmaceutical manufacturer
- Retail grocery company
- R&D-based semiconductor manufacturer

Assignment

Using the financial statement data provided in Exhibits 2, 3, and 4, match the companies with their industry.

NOTE: #DIV/0! or #Value! indicates that the item was not separately disclosed.

Exhibit 1. Definitions of Some Key Financial Ratios

LIQUIDITY RATIOS

Cash & Marketable Securities to Total Assets = $(\text{Cash} + \text{Market Securities}) / \text{Total Assets}$
Acid Test Ratio = $(\text{Cash} + \text{Market Securities} + \text{Receivables}) / \text{Current Liabilities}$
Current ratio = $\text{Current Assets} / \text{Current Liabilities}$

ASSET MANAGEMENT

Days Receivable = $365 / (\text{Sales} / \text{Receivables})$
Day's Inventory = $365 / (\text{Cost of Sales} / \text{Inventory})$
Asset Turnover = $\text{Sales} / \text{Total Assets}$

FINANCIAL LEVERAGE

Debt to Total Assets = $(\text{Total Current Debt} + \text{Long-term Debt}) / \text{Total Assets}$
Debt to Stockholders' Equity = $(\text{Total Current Debt} + \text{Long-term Debt}) / \text{Stockholders' Equity}$
Coverage Ratio = $(\text{Operating Profit} + \text{Interest Expense}) / \text{Interest Expense}$

PROFITABILITY

Gross Margin Ratio = $\text{Gross Profit} / \text{Sales}$
Return on Sales = $\text{Net Income} / \text{Sales}$
Return on Assets = $\text{Net Income} / \text{Total Assets}$
Return on Equity = $\text{Net Income} / \text{Stockholders' Equity}$

DUPONT ANALYSIS

Return on Equity = $\text{Return on Sales} * \text{Asset Turnover} * \text{Leverage}$
= $(\text{Net Income} / \text{Sales}) \times (\text{Sales} / \text{Assets}) \times (\text{Assets} / \text{Stockholders' Equity})$

Exhibit 2. Common-Sized Income Statement (all items scaled by sales)

Company	1	2	3	4	5	6	7	8	9
Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Goods Sold	42.9%	30.3%	25.2%	15.6%	22.7%	77.3%	12.6%	73.6%	80.7%
Gross Profit	57.1%	69.7%	74.8%	84.4%	77.3%	22.7%	87.4%	26.4%	19.3%
Selling, General, & Administrative Exp.	27.1%	37.2%	33.1%	54.8%	38.0%	11.9%	38.1%	19.1%	3.8%
Operating Income before Depreciation	30.1%	32.5%	41.7%	29.6%	39.3%	10.7%	49.3%	7.3%	15.5%
Depreciation, Depletion & Amortization	14.3%	1.8%	13.5%	5.5%	4.3%	4.8%	3.1%	1.8%	3.9%
Operating Profit	15.7%	30.8%	28.1%	24.1%	35.0%	5.9%	46.2%	5.5%	11.6%
Interest Expense	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Non-Operating Income/Expense	1.0%	0.3%	1.1%	0.5%	1.0%	0.1%	-13.4%	0.5%	4.9%
Special Items	-2.2%	-0.1%	-0.3%	0.1%	-3.0%	-0.8%	-1.0%	0.0%	0.5%
Pretax Income	11.7%	30.0%	28.2%	23.8%	32.4%	4.3%	31.8%	5.4%	16.8%
Total Income Taxes	3.8%	9.4%	7.3%	5.1%	6.8%	1.7%	10.1%	1.7%	6.9%
Income Before Extraordinary Items & Non-controlling Interest	7.9%	20.5%	21.0%	18.8%	25.5%	2.6%	21.7%	3.7%	9.9%
Net Income	7.7%	20.5%	21.0%	18.8%	25.5%	2.6%	20.2%	3.5%	9.5%

Source: Standard & Poor's Capital IQ Net Advantage.

Exhibit 3. Common-Sized Balance Sheet (all items scaled by total assets)

ASSETS	1	2	3	4	5	6	7	8	9
Cash & Short-Term Investments	1.4%	8.7%	21.4%	17.4%	51.9%	16.6%	10.4%	3.6%	2.8%
Net Receivables	4.8%	14.2%	4.7%	11.8%	12.2%	1.9%	55.1%	3.2%	10.6%
Inventories	0.4%	21.6%	5.3%	7.6%	1.3%	2.4%	3.0%	21.5%	4.5%
Prepaid Expenses	0.4%	3.7%	0.0%	#VALUE!	0.0%	#VALUE!	0.0%	#VALUE!	0.0%
Other Current Assets	1.4%	3.0%	4.8%	2.3%	3.8%	2.5%	#VALUE!	1.0%	1.6%
Total Current Assets	8.4%	51.2%	36.1%	39.1%	69.2%	23.3%	68.5%	29.3%	19.5%
Gross Plant, Property & Equipment	98.2%	25.7%	79.8%	43.7%	15.9%	104.8%	#VALUE!	85.0%	122.3%
Accumulated Depreciation	-58.3%	-13.5%	-46.3%	-21.0%	-8.8%	-36.5%	#VALUE!	-27.3%	-54.6%
Net Plant, Property & Equipment	40.0%	12.2%	33.5%	22.7%	7.1%	68.3%	0.8%	57.7%	67.7%
Investments at Equity	1.5%	#VALUE!	1.5%	#VALUE!	#VALUE!	0.0%	0.7%	#VALUE!	8.4%
Other Investments	#VALUE!	#VALUE!	7.8%	17.3%	8.0%	0.3%	22.2%	0.0%	2.0%
Intangibles	47.6%	34.7%	19.2%	13.8%	14.0%	6.0%	3.3%	10.1%	#VALUE!
Deferred Charges	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	#VALUE!	#VALUE!	0.0%
Other Assets	2.6%	1.9%	1.9%	7.0%	1.6%	2.1%	#VALUE!	2.9%	2.4%
TOTAL ASSETS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
LIABILITIES	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accounts Payable	3.9%	3.5%	3.7%	3.3%	3.7%	5.3%	70.4%	18.7%	11.6%
Notes Payable & Other ST Borrowings	0.0%	0.1%	0.3%	0.0%	0.4%	0.0%	3.8%	3.1%	2.1%
Current Portion of LT Debt	1.5%	0.0%	0.0%	2.5%	1.0%	2.8%	1.1%	2.1%	0.5%
Total Current Debt	1.5%	0.2%	0.3%	2.5%	1.4%	2.8%	4.9%	5.1%	2.7%
Income Taxes Payable	0.5%	0.8%	0.0%	0.6%	0.5%	0.5%	#VALUE!	0.7%	3.0%
Accrued Expenses	3.5%	8.2%	9.2%	#VALUE!	3.0%	5.4%	#VALUE!	8.9%	#VALUE!
Other Current Liabilities	2.5%	0.1%	2.4%	19.0%	18.0%	12.5%	#VALUE!	0.4%	3.9%
Total Current Current Liabilities	6.0%	8.4%	11.6%	19.0%	20.9%	18.0%	#VALUE!	9.3%	3.9%
Total Current Liabilities	11.9%	12.8%	15.6%	25.4%	26.6%	26.5%	75.3%	33.8%	21.1%
Long Term Debt	24.0%	22.1%	13.3%	14.7%	9.9%	14.7%	8.4%	22.2%	2.4%
Deferred Taxes & Investment Tax Credit	11.0%	4.0%	4.2%	#VALUE!	1.4%	15.0%	0.4%	2.3%	11.3%
Other Liabilities	17.7%	9.8%	4.2%	15.5%	8.0%	6.0%	5.3%	1.6%	14.5%
TOTAL LIABILITIES	64.6%	48.7%	37.2%	55.6%	45.9%	62.1%	88.9%	59.9%	49.3%
Redeemable Non-controlling Interest	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%
EQUITY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Preferred Stock - Redeemable	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Preferred Stock - Nonredeemable	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%
Total Preferred Stock	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	0.9%	#VALUE!	#VALUE!
Common Stock	2.4%	0.8%	0.0%	2.1%	0.0%	4.3%	0.6%	0.2%	2.9%
Capital Surplus	33.3%	1.8%	23.4%	14.4%	47.0%	6.5%	4.1%	1.6%	0.0%
Retained Earnings	11.6%	69.9%	39.3%	37.0%	7.0%	30.7%	5.7%	35.5%	103.9%
Less: Treasury Stock	-12.1%	-21.2%	#VALUE!	-9.1%	#VALUE!	-3.8%	-0.4%	#VALUE!	-58.0%
Common Equity	35.2%	51.3%	62.8%	44.4%	54.1%	37.9%	10.1%	37.2%	48.8%
Shareholders Equity—Parent	35.2%	51.3%	62.8%	44.4%	54.1%	37.9%	11.0%	37.2%	48.8%
Nonredeemable Non-controlling Interest	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	2.5%	1.8%
STOCKHOLDERS EQUITY TOTAL	35.4%	51.3%	62.8%	44.4%	54.1%	37.9%	11.1%	39.7%	50.7%
TOTAL LIABILITIES & EQUITY	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Exhibit 4. Selected Financial Ratios (three-year average of values for 2011-2013)

Company	1	2	3	4	5	6	7	8	9
<i>LIQUIDITY RATIOS</i>									
Cash & Market Sec to Total Assets	0.01	0.09	0.21	0.17	0.52	0.17	0.10	0.04	0.03
Acid Test Ratio	0.52	1.80	1.67	1.15	2.41	0.70	0.87	0.20	0.63
Current Ratio	0.71	4.02	2.32	1.54	2.61	0.88	0.91	0.87	0.92
<i>ASSET MANAGEMENT</i>									
Day's Receivable	37.35	67.77	26.01	63.34	80.88	7.57	3,208.07	5.10	31.30
Day's Inventory	7.52	341.92	117.78	264.40	37.57	12.50	1,342.81	46.27	16.66
Asset Turnover	0.47	0.77	0.65	0.68	0.55	0.90	0.06	2.31	1.23
<i>FINANCIAL LEVERAGE</i>									
Long-term Debt to Total Assets	0.26	0.22	0.14	0.17	0.11	0.17	0.13	0.27	0.05
Long-term Debt to Stockholders' Equity	0.04	0.00	0.01	0.06	0.03	0.07	0.44	0.13	0.05
Coverage Ratio	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
<i>PROFITABILITY</i>									
Gross Margin Ratio	0.57	0.70	0.75	0.84	0.77	0.23	0.87	0.26	0.19
Return on Sales	0.08	0.21	0.21	0.19	0.26	0.03	0.20	0.04	0.09
Return on Assets	0.04	0.16	0.14	0.13	0.14	0.02	0.01	0.08	0.12
Return on Equity	0.11	0.31	0.22	0.29	0.26	0.06	0.11	0.20	0.23
<i>DUPONT ANALYSIS</i>									
Return on Equity =	0.11	0.31	0.22	0.29	0.26	0.06	0.11	0.20	0.23
Return on Sales	0.08	0.21	0.21	0.19	0.26	0.03	0.20	0.04	0.09
* Asset Turnover	0.47	0.77	0.65	0.68	0.55	0.90	0.06	2.31	1.23
* Leverage	2.84	1.98	1.59	2.27	1.85	2.64	9.05	2.52	1.98

Source: Standard & Poor's Capital IQ Net Advantage.