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FINANCIAL STATEMENT ANALYSIS— IDENTIFY THE INDUSTRY

Since opportunities and constraints tend to be different across industries, companies in different industries tend to make different investment, dividend, and financing decisions. Thus, firms in different industries exhibit different financial characteristics, and, hence, report different financial ratios. For example, “old economy” businesses with large amounts of tangible assets may have higher leverage ratios. 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 evaporate. On the other hand, companies within the same industry tend to exhibit similar financial characteristics, as measured by financial ratios. With some knowledge of the different operating, investing, and financing decisions across industries, financial ratios can be used to identify an industry (see Exhibit 1 for the definition of ratios used).

Balance sheets and income statements for the most recent three years are provided for 10 companies from 10 different industries. 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 most recent three years are also 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 10 companies are drawn from the following 10 different industries:

- Commercial airline
- Commercial banking (items fitted into the same categories as the non-financial firms)
- Computer software
- Integrated oil and gas
- IT service provider
- Liquor producer and distributor
- Mobile phone service provider
- Pharmaceutical preparations
- Retail grocery stores
- Semiconductor manufacturer

Assignment

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

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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

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

FINANCIAL LEVERAGE

Long-term Debt to Total Assets	=	$(\text{Convertible Debt} + \text{Long-term Debt} + \text{Non-current Capital Leases} + \text{Non-current Long-term Debt}) / \text{Total Assets}$
Long-term Debt to Stockholders' Equity	=	$(\text{Convertible Debt} + \text{Long-term Debt} + \text{Non-current Capital Leases} + \text{Non-current Long-term Debt}) / \text{Stockholders' Equity}$
Coverage Ratio	=	$(\text{Income Before Tax} + \text{Interest Expense}) / \text{Interest Expense}$

PROFITABILITY

Gross Margin Ratio	=	$\text{Gross Profit} / \text{Sales}$
Return on Sales	=	$\text{Net Income} / \text{Sales}$
Return on Assets (1)	=	$\text{Net Income} / \text{Total Assets}$
Return on Assets (2)	=	$(\text{Net Income} + \text{Interest Expense}) / \text{Total Assets}$
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-Size Income Statement (percentage; averaged over three years)	1	2	3	4	5	6	7	8	9	10
NET SALES	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
COST OF GOODS	79.32	11.11	36.62	49.78	52.77	43.81	23.20	17.03	68.43	58.46
GROSS PROFIT	20.68	88.89	63.38	50.22	47.23	56.19	76.80	82.97	31.57	41.54
R & D EXPENDITURES	0.00	0.00	0.00	0.32	0.00	14.61	20.01	17.18	0.00	0.00
SELL GEN & ADMIN EXP	19.38	20.17	39.91	25.13	14.54	16.01	35.77	33.02	15.56	57.69
INC BEF DEP & AMORT	1.30	68.72	23.47	24.77	32.69	25.58	21.03	32.77	16.01	(16.14)
DEPRECIATION & AMORT	0.00	1.18	0.00	3.11	4.50	0.00	0.00	0.00	4.26	16.72
NON-OPERATING INC	0.64	(19.23)	1.98	(5.09)	1.84	2.15	0.37	5.94	(1.61)	22.45
INTEREST EXPENSE	1.67	18.33	0.99	0.18	0.00	0.09	0.87	0.00	0.90	2.37
INCOME BEFORE TAX	0.27	29.98	24.47	16.39	30.04	27.64	20.52	38.71	9.24	(12.78)
PROV FOR INC TAXES	(0.09)	9.98	7.72	6.53	4.18	8.12	5.96	11.57	3.40	8.17
MINORITY INT (INC)	0.04	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.99
INVEST GAINS/LOSSES	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00
OTHER INCOME	0.10	0.00	0.00	0.00	(0.21)	0.00	0.00	0.00	0.00	0.00
NET INC BEF EX ITEMS	0.41	20.00	16.75	9.86	25.78	19.51	14.57	27.14	5.84	(21.94)
EX ITEMS & DISC OPS	0.35	0.00	(1.85)	0.00	0.21	0.00	(0.05)	0.00	0.00	(3.83)
NET INCOME	0.76	20.00	14.90	9.86	25.99	19.51	14.52	27.14	5.84	(25.78)

Source: Thomson Banker One-Analytics

Exhibit 3 Common-Size Balance Sheet (percentage; averaged over three years)

	1	2	3	4	5	6	7	8	9	10
CASH	6.01	2.66	10.47	14.27	35.47	15.42	15.99	3.10	11.87	2.90
MKTABLE SECURITIES	0.00	20.51	1.96	0.00	0.00	12.17	6.75	52.44	3.17	0.00
RECEIVABLES	10.16	45.93	12.61	13.13	19.77	6.64	11.26	9.92	1.93	3.60
INVENTORIES	11.78	16.49	20.12	4.74	0.00	6.94	9.07	1.09	1.20	0.28
RAW MATERIALS	(0.24)	0.00	11.13	0.73	0.00	0.97	0.59	0.31	1.20	0.00
WORK IN PROGRESS	12.02	0.00	3.88	0.00	0.00	3.54	5.90	0.00	0.00	0.00
FINISHED GOODS	0.00	0.00	5.10	4.01	0.00	2.44	2.58	0.78	0.00	0.28
NOTES RECEIVABLE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER CURRENT ASSETS	12.50	0.00	6.25	1.43	6.81	2.69	3.50	4.80	3.14	0.31
TOTAL CURRENT ASSETS	40.44	85.59	51.41	33.57	62.05	43.88	46.56	71.34	21.31	7.09
PROP. PLANT & EQUIP	37.33	0.64	33.72	119.29	21.80	90.48	55.18	8.75	99.65	11.64
ACCUMULATED DEP	0.00	0.00	15.99	66.32	0.00	55.62	21.95	5.37	26.90	0.00
NET PROP & EQUIP	37.33	0.64	17.73	52.97	21.80	34.85	33.23	3.38	72.75	11.64
INVEST & ADV TO SUBS	5.29	0.08	0.63	9.45	14.83	8.50	4.03	13.91	1.56	16.70
OTHER NON-CUR ASSETS	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
DEFERRED CHARGES	3.13	0.00	1.66	0.74	0.71	0.23	3.02	3.05	0.00	0.30
INTANGIBLES	12.98	4.66	20.87	0.00	0.61	9.41	0.53	5.20	0.16	61.39
DEPOSITS & OTH ASSET	0.54	9.03	7.70	3.27	0.00	3.13	12.62	3.11	4.21	2.83
TOTAL ASSETS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
NOTES PAYABLE	2.88	23.36	3.45	0.85	0.00	0.44	2.25	0.00	0.00	0.02
ACCOUNTS PAYABLE	15.26	50.78	3.38	11.68	0.09	4.45	3.13	2.98	4.06	1.93
CUR LONG TERM DEBT	4.57	0.68	3.51	0.26	0.00	0.04	1.79	0.00	2.07	1.79
CUR PORT CAP LEASES	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
ACCRUED EXPENSES	6.70	3.03	7.32	2.51	8.86	8.19	2.30	3.46	9.24	6.11
INCOME TAXES	0.01	0.00	1.79	4.04	5.44	3.40	4.46	2.93	1.98	0.00
OTHER CURRENT LIAB	5.34	0.00	0.70	2.85	12.55	1.26	11.73	14.61	5.06	0.93
TOTAL CURRENT LIAB	35.15	77.86	20.16	22.18	26.94	17.78	25.65	23.98	22.47	10.79
MORTGAGES	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.83	0.00
DEFERRED CHARGES/INC	1.33	0.00	5.18	11.86	0.00	1.26	1.87	2.22	15.45	3.41
CONVERTIBLE DEBT	1.31	0.00	0.00	0.00	0.00	4.37	0.00	0.00	0.00	0.00
LONG TERM DEBT	25.09	8.17	17.54	2.74	0.00	(1.16)	19.14	0.00	8.82	9.66
NON-CUR CAP LEASES	6.93	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.50	0.08
OTHER LONG TERM LIAB	6.83	5.26	6.17	8.79	0.00	0.74	7.39	5.52	2.07	1.42
TOTAL LIABILITIES	76.82	91.28	49.06	45.69	26.94	23.00	54.06	31.71	52.14	25.36
MINORITY INT (LIAB)	0.31	0.00	0.00	1.82	0.24	0.00	0.00	0.00	0.00	0.62
PREFERRED STOCK	2.28	0.08	0.00	0.00	1.07	0.00	0.00	0.00	0.00	0.43
COMMON STOCK NET	1.81	3.81	0.74	2.51	1.38	0.01	2.98	76.62	6.20	3.04
CAPITAL SURPLUS	63.20	0.00	1.37	0.00	12.93	13.94	14.11	0.00	4.70	86.45
RETAINED EARNINGS	(44.84)	5.31	54.55	78.79	57.19	62.90	43.22	(9.99)	33.37	(36.41)
TREASURY STOCK	0.00	0.00	5.60	28.07	0.00	0.00	0.43	0.00	1.17	3.56
OTHER EQUITIES	0.42	(0.48)	(0.11)	(0.74)	0.25	0.15	(13.94)	1.66	4.76	24.08
SHAREHOLDER EQUITY	22.87	8.72	50.94	52.49	72.82	77.00	45.94	68.29	47.86	74.02
TOT LIAB & NET WORTH	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Thomson Banker One-Analytics

Exhibit 4 Selected Financial Ratios (averaged over three years)	1	2	3	4	5	6	7	8	9	10
LIQUIDITY RATIOS										
Cash & Market Sec to Total Assets	0.06	0.23	0.12	0.14	0.35	0.28	0.23	0.56	0.15	0.03
Acid Test Ratio	0.47	0.89	1.25	1.24	2.13	1.94	1.33	3.01	0.76	0.61
Current Ratio	1.15	1.10	2.61	1.51	2.40	2.48	1.83	3.26	0.95	0.67
ASSET MANAGEMENT										
Day's Receivable	16.66	2,540.75	59.22	29.54	71.39	32.25	66.25	67.01	11.99	62.12
Day's Inventory	24.18	#DIV/0!	260.56	21.55	#DIV/0!	76.73	230.14	40.77	10.79	8.37
Asset Turnover	2.24	0.07	0.78	1.63	1.01	0.75	0.62	0.53	0.59	0.21
FINANCIAL LEVERAGE										
Long-term Debt to Total Assets	0.38	0.09	0.21	0.03	0.00	0.03	0.21	0.00	0.11	0.12
Long-term Debt to Stockholders' Equity	1.71	1.01	0.43	0.06	0.00	0.04	0.46	0.00	0.24	0.16
Coverage Ratio	0.76	4.05	23.92	134.15	#DIV/0!	358.14	35.70	#DIV/0!	18.15	(6.49)
PROFITABILITY										
Gross Margin Ratio	0.21	0.89	0.63	0.50	0.47	0.56	0.77	0.83	0.32	0.42
Return on Sales	0.01	0.20	0.15	0.10	0.26	0.20	0.15	0.27	0.06	(0.26)
Return on Assets (1)	0.02	0.01	0.11	0.16	0.26	0.15	0.09	0.15	0.03	(0.06)
Return on Assets (2)	0.05	0.03	0.12	0.16	0.26	0.15	0.10	0.15	0.04	(0.06)
Return on Equity	0.07	0.15	0.22	0.31	0.36	0.19	0.20	0.23	0.07	(0.09)
DUPONT ANALYSIS										
Return on Equity =	0.07	0.15	0.22	0.31	0.36	0.19	0.20	0.23	0.07	(0.09)
Return on Sales	0.01	0.20	0.15	0.10	0.26	0.20	0.15	0.27	0.06	(0.26)
* Asset Turnover	2.24	0.07	0.78	1.63	1.01	0.75	0.62	0.53	0.59	0.21
* Leverage	4.43	11.53	1.98	1.91	1.38	1.30	2.18	1.49	2.09	1.36

Source: Thomson Banker One-Analytics