



Homework 2 Case

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FINANCIAL STATEMENT ANALYSIS I

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Company Comparison

Choosing Eastman Chemical as a third company for comparison to Dow and DuPont has some advantages and disadvantages. The primary advantage is that Eastman Chemical is an American company and thus its financial statements are directly comparable to Dow and DuPont. It also has a similar product mix with plastics, fibers and chemicals just like Dow and DuPont. On a global level, BASF, a German company, is more logical as it is the same size and has a better product mix for comparison. However, it is managed according to German GAAP. Although BASF provides reconciliation of its statements to US GAAP, it is still more difficult to compare because the differences are simply in a footnote. Additionally, some financial figures are presented in euros instead of dollars bringing up questions about exchange rates.

The biggest disadvantage of using Eastman Chemical is its size. Eastman Chemical is significantly smaller than Dow and DuPont. Dow and Dupont have \$26.6 billion and \$24 billion in sales, respectively, while Eastman Chemical has only \$5.26 billion. Second, Eastman Chemical does not have an agricultural unit while both Dow and DuPont have a unit that deals with bioengineering and seed production. These units can use a significantly different mix of capital and debt compared to chemical and plastic production. Therefore, it is slightly more difficult to compare Eastman Chemical because of this.

Furthermore, Eastman Chemical was incorporated only 8 years ago while Dow was incorporated 55 years ago and DuPont 87 years ago. Eastman Chemical was created as a division of Eastman Kodak and it was during this incorporation that they were spun off. While there may not be any material effects from such a recent incorporation, it should be noted for possible differences, as Dow and DuPont have been independent for some time. It should also be noted that Eastman Chemical might do a substantial amount of business with Eastman Kodak and therefore be somewhat dependent upon them. If this is true, it was not evident in the yearly report.

Ratio Analysis

Exhibit 1 includes the comparison analysis of the three firms against the industry based on profitability, solvency, asset efficiency, and liquidity.

Profitability

Although the industry suffered due to the overall decline in the economy, DuPont managed to improve its profit margins from 2000 to 2001. Both Eastman and Dow experienced a drop in profit margin, as earnings declined for the industry. Furthermore, Eastman and Dow had large declines in ROA, ROE from 2000 to 2001, which resulted in negative profit margin, ROE, and ROA. However, DuPont increased its ROA and ROE measurements as it went through a major restructuring of its lines of business and various cost-cutting measures.

In comparison to its industry for all profitability measurements, Dow and Eastman are below industry averages while DuPont is substantially higher, indicating DuPont is the industry financial leader.

Solvency

While the Chemical industry is highly leveraged, the industry average indicates a high interest coverage ratio, indicating this industry has little problem in covering its fixed payments. Eastman is the only firm of the three that has a debt/equity ratio close to industry average, .73 vs. .91, respectively. Dow and DuPont are very low-leveraged companies, providing most of its funding from equity.

Dow has a big concern with its leverage position as it has a low debt/equity ratio of .29 yet it has a low interest coverage ratio of 1.56, which shows its EBIT just covers its interest payments. Dow must look closer at its debt structure to possibly restructure its debt payments. As Dow's earnings have declined over the past several years, it could have a difficult time meeting its interest obligations.

Asset Efficiency

Each of these firms has been collecting receivables faster than industry average, which will put them in a better cash position. The industry average for receivables turnover is 4.92, while DuPont, Dow, and Eastman have 8.53, 6.56, 8.83, respectively.

DuPont and Eastman have been above industry average on inventory turnover, which leads to sales. Dow is not far behind the industry. From an asset management perspective, each firm is doing a good job managing its current assets to ultimately bring cash into its firms faster.

Liquidity

Each firm has improved its liquidity position over the past two years. In addition, each firm is above or near industry average for its current ratio and quick ratio, which looks at highly liquid current assets. DuPont has improved its cash position considerably as it has divested Conoco and sold off its pharmaceutical division. This sell-off shows in the working capital. DuPont has much higher working capital than the other two firms, although Dow and Eastman have improved its working capital from 2000 to 2001. Overall, DuPont and Eastman have concerns regarding its quick ratio, as it is below industry average and they may have difficulties meeting its short-term requirements.

DuPont Chart

In evaluating ROA for the three firms, the following chart depicts ROA using the du Pont analysis method:

2001 DuPont Analysis (ROA)			
	DuPont	Dow	Eastman
Net Income	\$ 3,962	\$ (845)	\$ (263)
Sales	\$ 24,726	\$ 27,805	\$ 5,384
Assets	\$ 40,319	\$ 35,515	\$ 6,086
ROA	9.83%	-2.38%	-4.33%

ROA is calculated as follows:

$$\text{ROA} = \frac{\text{Net Income} - (1-T)\text{Interest}}{\text{Net Sales}} * \frac{\text{Net Sales}}{\text{Assets}}$$

The analysis shows DuPont, while having a positive net income has been fairly good at managing its assets. As chemical prices fell and the economy stuck in a decline. Dow and Eastman each had negative ROA. As these firms evaluate its capital structure, its profitability measures will also change. As firms are highly leveraged, ROE will be higher as its earnings are spread out over a smaller amount of equity. Investors tend to like high ROE, although it does not give the full picture.

Unusual Items

One-time items are considered to be items that are not expected to appear in multiple sequential reporting periods. They are usually related to the management of a company rather than its day-to-day operations. One-time charges usually consist of impairment charges; merger costs, restructuring costs, gains/losses from the sale of an asset, or income from litigation. Since these items are not expected to be repeated, it does not always make sense to include these costs/income when performing an analysis on a company. While the information is not irrelevant, one-time items can distort historical trends relating to the performance of a company. For example, the sale of a capital asset can make net income appear to grow, or at least maintain recent levels, when it would otherwise have decreased. However, selling capital assets is not sustainable in the long-term as a method of making net income appear larger than it really is.

Exhibit 2 shows the one-time items taken by Dow, DuPont, and Eastman Kodak during the 1999, 2000, and 2001 financial years. As noted before, these items consist primarily of impairment costs, merger costs, restructuring costs, and gain/losses from the sale of assets. Exhibits 3 and 4 show the effect of including or excluding these one-time items on return on assets and profit margin for these three companies. It should be noted that Dow reported their one-time items in relation to EBIT, which is before tax considerations, while DuPont and Eastman Kodak reported one-time items in relation to net income, which is after tax considerations. Therefore, the effective tax rate

was applied to Dow's one-time gains to allow the data from all three companies to be directly comparable.

The effect of removing one-time items varies depending on the items. For instance, Dow and Eastman Chemical appear to become more profitable when their one-time items are excluded. This is because most of their one-time items are charges or losses reducing their net income. When excluding these items, it makes their profitability and return on assets go up. A clearer picture is developed on the operational profitability of these companies over time. The largest one time item for Dow was a merger expense for their merger with Union Carbide. The one time charge appears to make Dow look like its business is deteriorating. However, future earnings may be even stronger than before due to higher sales with greater costs savings as a result of the merger. Most of Eastman Chemical's one-time charges, on the other hand, are related to restructuring. The consistency of these charges raises the question of a greater struggle by management. If Eastman Chemical continues to have restructuring charges, then it may be a sign of ongoing competitive pressure and thus it would be better to consider charges as operating expenses.

DuPont has the opposite effect when removing their one-time items. In 1999 and 2001, DuPont sold significant portions of their business making their profitability and return on assets dramatically increase. By excluding these one-time items, DuPont's profitability is more inline with the industry. By including these one time items, it may appear that earnings will continually increase when the underlying sales will eventually decrease from the sale of business units, eventually decreasing earnings, too.

It is important to analyze companies by both including and excluding one-time items. The big picture may be missed if the effect of these items on financial statements is ignored. These two analyses provide two slightly different but equally valuable views of the company in question. One-time items can both hurt and help a company's earnings and without a proper analysis, the exact situation will be unknown.

German Accounting vs. US GAAP

GAAP in other countries can vary substantially from US GAAP. Therefore, non-US companies who wish to trade on US exchanges must reconcile their financial statements to US GAAP to ensure their financial statements are easily compared to those of US companies. Some examples of these differences as noted in BASF's 2001 annual report are as follows:

1. **Capitalizing Interest** – German GAAP does not allow interest for capital projects to be capitalized while US GAAP requires it.
2. **Capitalization of Internally Developed Software** – German GAAP does not allow capitalization while US GAAP allows it.
3. **Valuation of Pension Funds** – German GAAP does not allow prepaid pension asset to be included while US GAAP does.
4. **Derivatives** – German GAAP requires losses be written down on derivative contracts but defer gains. US GAAP marks these contracts to market.
5. **Exchange Rates** – German GAAP values contracts with foreign currencies at the exchange rate when the transaction was started. US GAAP uses the end-of-year currency rates every year.
6. **Securities** – German GAAP values securities available for sale at lower of cost or market while US GAAP records a gain or impairment.
7. **Equity Method** – German GAAP does not use the equity method.
8. **Other Adjustments** – German GAAP accrues expenses put off until 1Q of next year while US GAAP expenses these items as they are incurred.
9. **Deferred Taxes** – In Germany, if earnings, which are made during a year when the company has a high tax rate, are paid out in a year when that company has a lower tax rate, a tax credit is available. German GAAP allows the tax credit to be taken when the dividends are announced while US GAAP takes them when they are paid.

10. **Majority Owned Subsidiaries** – German GAAP does not always consolidate controlled subsidiaries if their effect is not material while US GAAP consolidates all controlled subsidiaries.

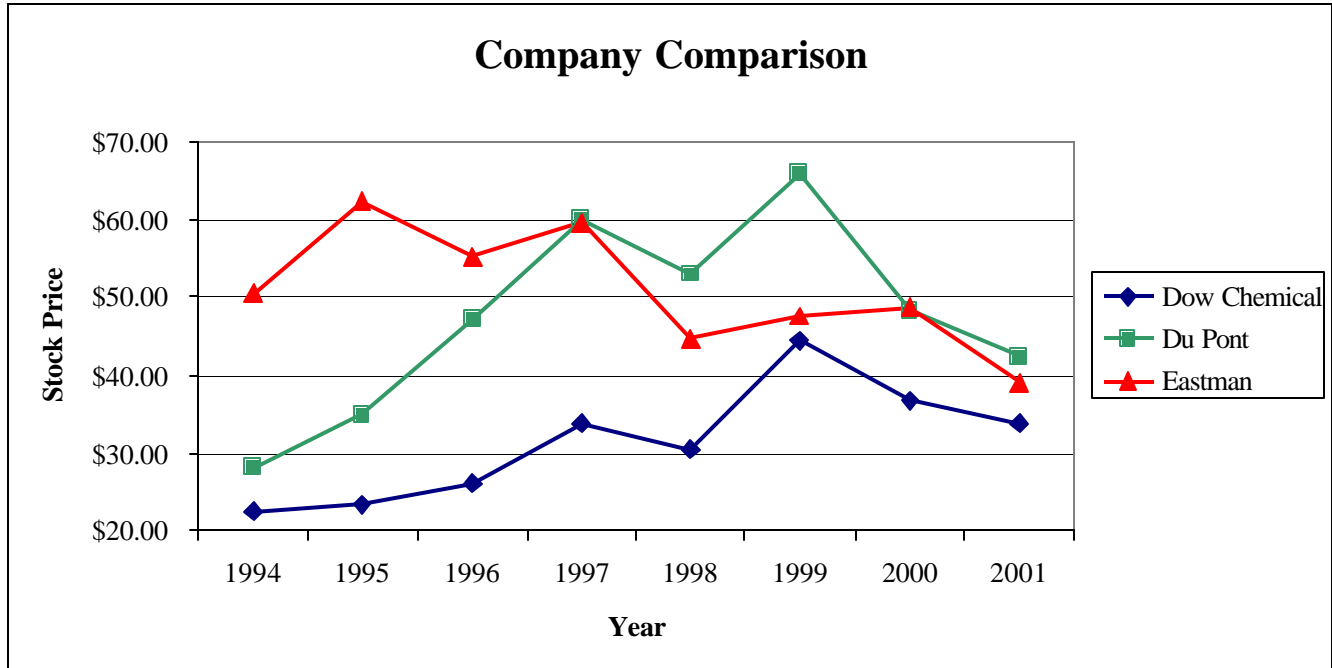
These differences show up on the income statement and balance sheet. If one were to use non-US GAAP to perform a ratio analysis on a foreign company, the results would differ substantially. For instance, in US GAAP, a company must capitalize interest on a capital project before that project is completed. German GAAP expenses this interest. German GAAP has the effect of immediately lowering net income while US GAAP creates an asset and gradually lowers net income in the future. Debt-equity and return on equity analysis will be affected because the value of common equity will fluctuate depending on whether capitalized interest is treated as an asset or not. If interest is capitalized, common equity will increase as assets are capitalized. In turn, debt-equity and return on equity ratios will appear larger under German GAAP than US GAAP.

Depending on the particular company, the other differences will have similar effects, though some will have the opposite effect. For instance, US GAAP requires tax credits be deferred until they are realized where as German GAAP allows some tax credits to be taken when a decision is made rather than when the actual tax credit is realized. This difference will cause assets to smaller under US GAAP as compared to German GAAP thereby making common equity smaller. Compared to the previous example, the opposite effect is noted as debt-equity and return on equity ratios will appear larger under US GAAP than German GAAP.

These differences affect items other than common equity. Since assets can be affected, various asset based ratios such as return on assets, current assets, and asset turnover calculations will be distorted, too. In addition, since some items are treated as assets under one GAAP and expenses under another GAAP, net income can be affected. This can distort net income based ratios such as interest coverage and profitability ratios.

Market Performance

In evaluating these firms from an accounting perspective, we should be able to correlate each firm's books with its stock performance. The following chart will be used in the analysis:



DuPont

As DuPont restructured its business to be more effective and improved its profitability measures from 2000 to 2001, the stock price should reflect the improved efficiency. The restructuring and sales of assets improved its overall cash position. However its management of assets has declined. Overall, DuPont seems to be improving its financial strength, yet its stock has declined in value and has been somewhat volatile. Part of the decline could be attributed the decline and sell off in the marketplace, as each firm experience a decline; however, its price-to-book and its price-to-sales have been declining.

DuPont Price Ratio Analysis				
	2001	2000	1999	1998
Price to Book	3.00	3.84	5.45	4.36
Price to Sales	1.78	1.78	2.65	2.42

Dow

As Dow's earnings were negative, and there may be some concerns with its leverage and ability to meet short-term obligations, the fundamentals put this company in a potential bad situation. Furthermore, with many potential lawsuits, analysts should be bearish on this stock. However, this is not the case. The market performance of Dow, as shown in the exhibit above has been improving over 5 years, with a decline over the past two years. Dow's price ratios have been erratic over the past four years, as shown below:

Dow Price Ratio Analysis				
	2001	2000	1999	1998
Price to Book	3.06	2.78	3.58	2.70
Price to Sales	1.10	1.11	1.55	1.10

Eastman

Eastman has also struggled in the market, as prices and the economy have pushed most companies down over the past two years. Similar to Dow, Eastman has returned negative earnings, which should drive down the stock price, as it reflects all information. The following chart reflects the price analysis for Eastman based on price-to-book and price-to sales. Each has declined over the four-year period, which is consistent with the stock price and overall financial strength of Eastman.

Eastman Price Ratio Analysis				
	2001	2000	1999	1998
Price to Book	2.18	2.06	2.12	1.83
Price to Sales	0.56	0.71	0.72	0.79

Exhibit 1-Ratio Comparisons

	Du Pont		Dow Chemical		Eastman		Industry
	2001	2000	2001	2000	2001	2000	2001
Profitability							
Profit Margin	17.55	8.19	(1.38)	5.67	(3.32)	5.83	11.66
Return on Assets	10.86	5.75	(1.08)	5.45	(2.83)	4.71	7.21
Return on Equity	31.74	17.93	(3.53)	16.61	(11.22)	16.97	21.38
Return on Capital	20.16	12.08	0.48	11.69	(2.55)	10.35	n/m
Solvency							
Debt/Equity	0.16	0.20	0.36	0.29	0.73	0.54	0.91
LT D/E	0.38		0.93		1.56		0.71
Interest Coverage	2.94	4.18	1.59	3.49	2.29	4.02	10.86
Asset Efficiency							
Inventory Turnover	5.46	6.90	4.07	4.04	7.26	7.94	4.54
Receivables Turnover	8.53	9.40	6.56	6.94	8.83	8.66	4.92
Net Fixed Assets Turnover	2.04	2.66	1.80	1.95	1.43	1.34	n/m
Liquidity							
Current Ratio	1.83	1.26	1.27	1.11	1.52	1.21	1.56
Quick Ratio	1.20		0.60		0.80		0.97
Working Capital(Millions \$)	\$ 6,734	\$ 2,401	\$ 2,183	\$ 1,150	\$ 500	\$ 265	n/m

Source: www.multinvestor.com, www.quicken.com, Bloomberg Financial Analysis

Exhibit 2—Pre-Tax Converted To After-Tax

Dow Chemical

2001 – Effective Tax Rate – 37.2%

-\$1500 M	Merger Expenses For Union Carbide
-\$69 M	IP R&D Rohm and Haas
-\$11 M	Reinsurance Loss on WTC
-\$11 M	Restructuring Charge of Dow Corning
+\$266 M	Sale of Slumberger Stock
-\$1325 M	Before Tax Total
-\$832 M	After Tax
+\$32 M	<u>After Tax Accounting Effect</u>
-\$800 M	Total

2000 – Effective Tax Rate – 32.4%

+\$98 M	Sale of Cochan Pipeline
-\$6 M	IP R&D Flexible Products
-\$81 M	Loss on Sale of Assets For Regulation Qualification For Union Carbide Merger
-\$31 M	Loss of Contacts With UOC From Restructuring
-\$20 M	<u>Before Tax Total</u>
-\$13.5 M	Total

1999 – Effective Tax Rate – 33.7%

-\$6 M	IP R&D Angus Chemical
-\$94 M	Restructure Dow AgroSciences
+\$50 M	Licensing Litigation
-\$50 M	Before Tax Total
-\$33.2 M	After Tax
-\$20M	<u>After Tax Accounting Effect</u>
-\$53.2 M	Total

DuPont

2001

+\$3866 M	Sale of Pharmaceuticals
<u>-\$789 M</u>	<u>Restructuring</u>
+\$3077 M	Total

2000

<u>-\$564 M</u>	<u>Purchase Accounting For Pioneer and WebMD Impairment</u>
-\$564 M	Total

1999

-\$2624 M	Write off For IP R&D For Pioneer, impairment of assets, and gain from WebMD
<u>+\$7471 M</u>	<u>Sale of Conoco</u>
+\$4847 M	Total

Eastman Chemical

2001 – Effective Tax Rate – 39.9%

- \$396 M	Asset Impairment and Restructuring
- \$70 M	Other
<u>- \$466 M</u>	<u>Before Tax Total</u>
- \$280 M	Total

2000 – Effective Tax Rate – 33.0%

- \$13 M	Asset Impairment and Restructuring
- \$18 M	Other
<u>- \$31 M</u>	<u>Before Tax Total</u>
- \$20.8 M	Total

1999 – Effective Tax Rate – 33.3%

- \$52 M	Asset Impairment and Restructuring
- \$57 M	Other
<u>- \$109 M</u>	<u>Before Tax Total</u>
- \$72.7 M	Total

Exhibit 3—Return on Assets

	ROA			ROA without One-Time Items		
	2001	2000	1999	2001	2000	1999
Dow Chemical	-1.08%	5.45%	5.40%	1.16%	5.49%	5.61%
DuPont	10.88%	5.77%	19.39%	3.17%	7.18%	7.17%
Eastman	-2.83%	4.71%	0.79%	1.60%	5.04%	1.98%

Exhibit 4—Profit Margin

	Profit Margin			PM without One-Time Items		
	2001	2000	1999	2001	2000	1999
Dow Chemical	-1.38%	5.67%	6.66%	1.49%	5.72%	6.92%
DuPont	17.55%	8.19%	28.57%	5.10%	10.18%	10.56%
Eastman	-3.32%	5.73%	1.05%	1.88%	6.12%	2.63%