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The Case of the Unidentified Energy Companies

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THE CASE OF THE UNIDENTIFIED ENERGY COMPANIES

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This case provides detailed financial information for 14 firms in the energy sector across different fields. The student is put in the position of a potential job candidate tasked with identifying the field in which a firm's major operations lie. The student's objective is to use existing knowledge of the energy sector or financial statements to differentiate between the firms by examining the financial statements and common financial ratios for each of the firms.

Jeremy Martin, an attorney at Mentours, Imbroglioni and Vory was facing his first major challenge as a new junior partner. The law firm was planning on expanding into preparing contracts for and advising clients in the energy sectors. Thus, they were seeking a number of external financial experts capable of consulting on the more intricate details of financial operations. Such a bold move meant the credibility and reputation of the law firm would be on the line and consequently, its ability to bill at market rates would be at risk. As a result, Jeremy had to ensure that any 'expert' identified by the firm really did know a lot about financial operations for an energy firm. The problem was that the energy sector comprises a variety of businesses ranging from mining to transportation to manufacturing and retailing.

Jeremy decided that the best way would be to identify any likely candidates and then have them perform a short test to verify their capabilities. After consulting with established experts in the field, Jeremy determined that qualified candidates ought to understand the essential structural differences between services, manufacturing/processing operations and direct sale to end consumers and businesses. Candidates should demonstrate their understanding of the concepts of value-additivity and market risk as measured by beta. In particular, potential consultants must have a strong grasp of how business cycles affect energy sector firms and must understand the fundamental differences between diversified versus stand-alone operations.

After some deliberation, Jeremy chose a sample of 14 firms in the energy sector (Exhibit 1), each of which had a distinct and specific business model. Jeremy assigned an intern to average the past five years of accounting information and to present the information in the form of a Balance Sheet (Exhibit 2), an Income Statement (Exhibit 3), and Selected Ratios (Exhibit 4) all without any other identifying characteristics.

Candidates for the position would then be asked to match the financial data with the brief description of the following firms. The candidates ought to provide guidance regarding their identification process.

Exhibit 1. Descriptions of the Major Operations of the 14 Energy Fields for Identification

Major Operations	Brief Description
Biofuel & Facilities Manager	Going public recently, this company utilizes emerging technology for the production and sales of advanced biofuels and renewable chemicals. In addition to biodiesel production and distribution, the company distributes feedstock from third parties and provides contractor services and consulting in facility management and operation for other biodiesel production facilities.
Coal Mine	This firm produces coal for the both power plants (thermal) and ferrous metal (metallurgical) manufacturers from twenty-two surface and underground mines located in seventeen U.S. states.
Deepwater Driller	With a small fleet of drill ships, the firm contracts on a day-rate basis with firms in the oil and natural gas industry for ultra-deep-water drilling services in the U.S. Gulf of Mexico, Brazil, and Nigeria. Each of the ships is the underlying collateral for a tranche of long-term debt.
Electrical Utility	This highly regulated firm provides electricity to over 5 million retail customers and wholesale providers across eleven states. The power generation comes from sources including coal-fired, natural gas and hydroelectric plants.
Gas Driller, Gatherer & Transporter	Operating nearly 7,700 producing wells and a large network of gathering and transportation pipelines, the firm develops natural gas and oil assets through exploration and acquisition. Their customers include utilities, mid-stream and industrial users.
Gas Retailer & Convenience Stores	Operating over 1,800 retail convenience store locations in the U.S. and Canada, this firm sells motor fuel both as a primary vendor to retail customers and uses their distribution network to provide fuel to small wholesale customers. To subsidize the low margins from fuel sales, the firm offers convenience merchandise, car wash facilities, video/game rentals, money orders and ATM access. The firm has franchisee agreements with large commercial chains to provide food offerings in their convenience store locations.
Government-owned Nuclear Power Utility	Operating facilities for generating electrical and thermal power, this state-controlled company manufactures nuclear fuel rods for generation facilities. The state owns 81% of shares, a publically traded closed-end fund owns 10% and other shareholders own 9% in shares that are closely held.
LED & RF Component Manufacturer	Using traditional as well as emerging lighting technology, this firm provides industrial lighting solutions for both public and private commercial applications. In addition to designing and manufacturing lighting systems, the firm manufactures the components that are used in the systems including power products, diodes, semiconductor field-effect transistors, and power modules used in computer servers, solar inverters, uninterruptible and industrial power supplies.

Petroleum Refiner	Operating a company-owned full coking medium-sour crude oil refinery and a medium complexity crude oil refinery, this company controls and operates pipelines; crude oil transports; crude oil gathering tank farms; and crude oil storage capacity.
Railroad	Founded in the 1880s, the firm operates a transcontinental railway carrying bulk commodities and merchandise freight. The company owns nearly 15,000 miles of track across Canada and the U.S.
Retail & Commercial Heating Fuel	As a distributor and service provider for of home heating oil and propane for residential and commercial customers in the U.S., the firm is a full-service provider for heating and air conditioning equipment. The fuel services are provided as a delivery-only service in a highly regulated industry with very inelastic customer demand.
Solar Products	This firm is a full-service provider focused on the emerging technology of solar modules for the conversion of sunlight into power. Not only does the firm design and manufacture solar cells, but also provides engineering support with regards to project development, construction, operations and maintenance.
Specialty Chemical & Biofuels	As an international seller and producer of diversified chemical products, biofuels, and bio-based specialty chemicals, this company synthesizes biodiesel and petro-diesel blends. Producing a high volume of products for U.S. use, the firm distributes products directly to end-users through trucks, rail, and barges. The firm also provides products used in the agricultural chemical, coatings, chemical intermediates, and specialty polymers industries.
Waste-to-Energy Provider	Targeting municipalities in North America, the company offers alternatives to traditional landfill waste storage by operating facilities that convert waste to energy. In addition to waste-to-energy services, they recover scrap metal from waste, house unrecoverable conventional waste in company-owned landfills, and operate energy transfer stations and renewable electricity generation facilities.

*Descriptions presented in Exhibit 1 are based on the company descriptions found in Yahoo Finance.

Exhibit 2. Common Size Balance Sheets for 14 Energy Firms

Financial information contained in the table is an aggregate percentage based on five years of filings taken from the U.S. Securities and Exchange Commission (EDGAR).

Panel A – Assets

	1	2	3	4	5	6	7
Current Assets							
Cash & Equivalents	3.13%	15.94%	6.18%	0.54%	7.15%	7.18%	10.47%
Short-term Investments	0.00%	3.35%	0.00%	0.67%	0.00%	0.00%	26.39%
Net Receivables	3.74%	11.18%	8.71%	3.26%	2.66%	5.89%	5.84%
Inventory	0.00%	6.16%	22.77%	0.00%	0.00%	0.00%	6.96%
Other Current Assets	2.71%	8.89%	2.96%	4.26%	2.51%	5.66%	3.03%
Total Current Assets	9.57%	45.53%	40.61%	8.73%	12.31%	18.73%	52.69%
Non-current Assets							
Long-term Investments	0.87%	4.51%	0.00%	0.00%	0.00%	1.71%	0.00%
Property, Plant & Equip	85.54%	26.72%	58.16%	71.33%	82.37%	55.18%	19.63%
Goodwill	1.23%	3.50%	0.00%	0.16%	0.00%	5.08%	18.04%
Intangible Assets	0.00%	0.00%	0.00%	0.00%	0.00%	1.24%	9.27%
Other Assets	2.78%	19.73%	0.64%	17.10%	5.32%	18.06%	0.36%
Deferred Long-term Charges	0.00%	0.00%	0.59%	2.69%	0.00%	0.00%	0.00%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Panel A (continued)

	8	9	10	11	12	13	14
Current Assets							
Cash & Equivalents	5.11%	0.01%	10.88%	12.30%	11.51%	22.45%	4.07%
Short-term Investments	3.10%	1.15%	0.00%	0.59%	0.00%	16.25%	2.89%
Net Receivables	3.89%	2.23%	7.11%	14.88%	8.09%	8.52%	2.23%
Inventory	3.81%	0.30%	10.33%	10.16%	9.38%	11.78%	5.28%
Other Current Assets	2.14%	4.08%	0.74%	7.95%	3.44%	2.87%	4.42%
Total Current Assets	16.18%	7.08%	29.07%	45.88%	32.43%	61.87%	17.73%
Non-current Assets							
Long-term Investments	2.45%	2.63%	0.00%	0.00%	1.00%	0.00%	5.96%
Property, Plant & Equip	73.71%	88.65%	64.49%	8.30%	48.24%	37.40%	75.62%
Goodwill	2.80%	0.00%	2.23%	31.86%	15.52%	0.00%	0.00%
Intangible Assets	0.00%	0.00%	0.00%	11.15%	1.06%	0.03%	0.69%
Other Assets	4.86%	1.64%	4.21%	2.80%	1.76%	0.72%	0.00%
Deferred Long-term Charges	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Panel B – Liabilities and Equity

	1	2	3	4	5	6	7
Current Liabilities							
Accounts Payable	7.47%	3.54%	16.34%	2.20%	0.72%	0.57%	3.94%
Short-term Debt	1.64%	0.83%	0.05%	3.28%	3.00%	2.52%	0.00%
Other Current Liabilities	0.00%	12.56%	4.04%	6.52%	2.82%	8.58%	2.76%
Total Current Liabilities	9.11%	16.93%	20.42%	11.99%	6.54%	11.67%	6.70%
Non-current Liabilities							
Long-term Debt	30.10%	6.13%	29.52%	30.08%	38.24%	34.99%	0.00%
Other Liabilities	25.09%	10.14%	0.14%	30.09%	2.16%	28.75%	1.60%
Deferred Long-term Charges	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Minority Interest	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Negative Goodwill	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Liabilities	64.29%	33.21%	50.08%	72.17%	46.93%	75.41%	8.29%
Shareholders' Equity							
Stock Options & Warrants	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Redeemable Preferred Stock	0.00%	0.00%	0.00%	0.12%	0.00%	0.00%	0.00%
Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Common stock	13.30%	0.00%	32.37%	6.25%	0.04%	0.34%	0.01%
Additional paid-in capital	0.29%	38.17%	0.00%	11.41%	52.99%	18.44%	66.56%
Retained earnings	36.81%	28.82%	0.00%	10.77%	0.90%	5.40%	24.74%
Treasury stock	0.00%	0.00%	0.00%	0.00%	0.00%	-0.03%	0.00%
Other stockholders' equity	0.00%	0.02%	28.34%	0.00%	0.00%	0.36%	0.00%
AOIC (loss)	-14.70%	-0.21%	0.00%	-0.64%	-0.85%	0.08%	0.41%
Total Shareholders' Equity	35.71%	66.79%	49.92%	27.83%	53.07%	24.59%	91.71%
Total Liabilities & Shareholders' Equity	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Panel B (continued)

	8	9	10	11	12	13	14
Current Liabilities							
Accounts Payable	2.85%	4.25%	11.08%	3.09%	5.91%	4.81%	1.22%
Short-term Debt	1.76%	1.82%	0.92%	0.00%	3.23%	0.00%	1.83%
Other Current Liabilities	3.72%	1.15%	5.13%	31.89%	3.39%	5.37%	3.81%
Total Current Liabilities	8.34%	7.21%	17.13%	34.99%	12.53%	10.18%	6.86%
Non-current Liabilities							
Long-term Debt	43.78%	37.89%	25.03%	18.31%	10.52%	0.00%	19.50%
Other Liabilities	14.31%	16.67%	10.83%	2.60%	9.14%	6.23%	0.92%
Deferred Long-term Charges	0.00%	0.00%	0.00%	2.09%	0.00%	7.93%	0.73%
Minority Interest	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Negative Goodwill	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Liabilities	66.43%	61.77%	52.99%	57.56%	32.19%	24.33%	28.02%
Shareholders' Equity							
Stock Options & Warrants	0.00%	0.00%	0.00%	0.00%	0.59%	0.00%	0.00%
Redeemable Preferred Stock	0.00%	0.00%	0.00%	0.00%	22.10%	0.00%	0.00%
Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Common stock	0.02%	0.03%	0.02%	46.49%	0.00%	0.00%	24.99%
Additional paid-in capital	32.20%	30.33%	10.06%	0.00%	35.47%	68.32%	0.07%
Retained earnings	1.99%	6.93%	4.31%	0.00%	9.39%	6.64%	16.94%
Treasury stock	-0.69%	-0.10%	0.00%	0.00%	-0.54%	0.00%	0.00%
Other stockholders' equity	0.10%		54.52%	0.00%	1.47%	0.00%	30.00%
AOIC (loss)	-0.03%	1.04%	7.51%	-4.05%	0.00%	0.71%	0.00%
Total Shareholders' Equity	33.57%	38.23%	47.01%	42.44%	67.81%	75.67%	71.98%
Total Liabilities & Shareholders' Equity	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Exhibit 3. Common-Size Income Statements

Financial information contained in the table is an aggregate percentage based on five years of filings taken from the U.S. Securities and Exchange Commission (EDGAR).

	1	2	3	4	5	6	7
Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Revenue	39.90%	65.06%	83.44%	27.42%	48.37%	59.33%	60.38%
Gross Profit	60.10%	34.94%	16.56%	72.58%	51.63%	40.67%	39.62%
Operating Expenses							
Research & Development	0.00%	4.12%	0.00%	0.00%	0.00%	0.00%	11.19%
Selling General & Admin	0.00%	11.07%	0.99%	0.00%	10.12%	5.88%	15.81%
Compensation & Benefits	26.86%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Depreciation and Amortization	9.72%	0.00%	1.34%	11.48%	19.93%	12.48%	1.85%
Non recurring expenses	0.08%	4.38%	0.00%	0.00%	-4.37%	0.00%	0.00%
Other expenses	3.42%	3.35%	4.77%	42.38%	0.00%	8.92%	0.26%
Operating Income or Loss	20.02%	12.01%	9.46%	18.72%	24.49%	13.38%	10.52%
Other Income or Loss	0.03%	0.45%	-0.99%	1.58%	-0.25%	-2.14%	0.83%
EBIT	20.05%	12.46%	8.47%	20.30%	24.24%	11.24%	11.34%
Interest Expense	5.04%	0.15%	0.80%	6.54%	17.06%	4.59%	0.00%
Income before tax	15.01%	12.31%	7.67%	13.75%	7.18%	6.65%	11.34%
Tax Expense (Credit)	3.15%	1.50%	0.00%	4.53%	3.27%	2.19%	2.18%
Minority interest earnings	0.00%	0.00%	0.00%	0.20%	0.00%	0.33%	0.00%
Net Income from Continuing Ops	11.86%	10.81%	7.67%	9.42%	3.91%	4.79%	9.16%

Common-Size Income Statements (continued)

	8	9	10	11	12	13	14
Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Revenue	80.75%	30.01%	91.33%	66.93%	87.80%	80.63%	22.58%
Gross Profit	19.25%	69.99%	8.67%	33.07%	12.20%	19.37%	77.42%
Operating Expenses							
Research & Development	0.00%	0.00%	0.00%	0.00%	0.00%	1.19%	0.00%
Selling General & Admin	3.67%	13.79%	0.51%	1.27%	4.63%	0.00%	0.00%
Compensation & Benefits	0.00%	2.00%	0.00%	0.00%	0.00%	1.24%	16.40%
Depreciation and Amortization	12.21%	28.81%	0.89%	1.11%	0.00%	0.00%	24.76%
Non recurring expenses	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other expenses	7.20%	7.77%	5.02%	26.63%	0.27%	0.85%	37.66%
Operating Income or Loss	-3.83%	17.62%	2.25%	4.06%	7.40%	16.09%	13.46%
Other Income or Loss	-0.60%	0.00%	0.02%	-0.06%	0.26%	1.31%	14.47%
EBIT	-4.44%	17.62%	2.27%	4.00%	7.66%	17.40%	27.93%
Interest Expense	7.17%	10.07%	0.07%	0.94%	0.61%	0.02%	18.49%
Income before tax	-11.60%	7.55%	2.19%	3.06%	7.05%	17.38%	9.44%
Tax Expense (Credit)	-4.34%	2.82%	0.74%	1.25%	1.39%	5.37%	2.23%
Minority interest earnings	0.00%	0.00%	0.00%	0.00%	-0.04%	0.00%	0.00%
Net Income from Continuing Ops	-7.27%	4.73%	1.46%	1.81%	5.62%	12.02%	7.21%

Exhibit 4. Selected Financial Ratios

The following are common ratios used in financial analysis. All of the ratios are based on data taken from annual reports accessed from the Securities and Exchange Commission (EDGAR). The Market D/E is as of the fourth quarter of 2014.

	1	2	3	4	5	6	7
Inventory Turnover	-	5.55	11.28	-	-	-	3.81
FA Turnover	0.42	1.97	5.29	0.39	0.12	0.62	2.24
TA Turnover	0.36	0.53	3.08	0.28	0.10	0.34	0.44
Debt ratio	31.7%	7.0%	29.6%	33.4%	44.7%	37.5%	0.0%
Market D/E	0.16	0.05	0.23	0.67	3.13	0.76	0
TIE	3.98	83.00	10.61	3.10	1.42	2.45	-
ROE	0.12	0.09	0.47	0.09	0.01	0.07	0.04
ROA	0.04	0.06	0.24	0.03	0.00	0.02	0.04
Operating Margin	20.1%	12.5%	8.5%	20.3%	24.2%	11.2%	11.3%
Current Ratio	1.05	2.69	1.99	0.73	1.94	1.60	7.87
Quick Ratio	0.85	2.15	1.44	0.61	1.36	1.14	6.01
Profit Margin	0.12	0.11	0.08	0.09	0.04	0.05	0.09
BEP	0.07	0.07	0.26	0.06	0.02	0.04	0.05
DSO	38.15	77.55	10.32	42.50	106.03	62.44	48.60
D(Inv)O	-	65.71	32.36	-	-	-	95.81
D(AP)O	-	37.71	23.21	104.36	57.96	10.19	54.23
Cash cycle (days)	-	105.55	19.47	(61.87)	48.07	52.25	90.17
3-year Beta	0.78	3.15	0.56	0.52	1.64	0.38	2.32
P/E	33.46	16.91	7.96	15.90	7.95	39.62	37.06

Selected Financial Ratios (continued)

	8	9	10	11	12	13	14
Inventory Turnover	8.94	20.74	56.61	16.63	15.05	5.98	0.67
FA Turnover	0.57	0.23	9.93	30.42	3.33	2.33	0.21
TA Turnover	0.42	0.21	9.61	2.53	1.61	0.87	0.16
Debt ratio	45.5%	39.7%	38.9%	18.3%	13.8%	0.0%	21.3%
Market D/E	13.66	0.34	0.39	0.38	0.67	0	0.10
TIE	(0.62)	1.75	30.31	4.25	12.53	788.59	1.51
ROE	(0.09)	0.03	0.30	0.11	0.13	0.14	0.02
ROA	(0.03)	0.01	0.14	0.05	0.09	0.10	0.01
Operating Margin	-4.4%	17.6%	2.3%	4.0%	7.7%	17.4%	27.9%
Current Ratio	1.94	0.98	1.70	1.31	2.59	6.08	2.58
Quick Ratio	1.45	0.86	0.99	1.04	1.87	4.63	2.04
Profit Margin	(0.07)	0.05	0.01	0.02	0.06	0.12	0.07
BEP	(0.02)	0.04	0.22	0.10	0.12	0.15	0.04
DSO	33.65	39.64	4.05	21.50	18.37	35.63	52.05
D(Inv)O	40.82	17.60	6.45	21.94	24.25	61.07	545.45
D(AP)O	30.57	251.67	6.91	6.68	15.27	24.94	126.10
Cash cycle (days)	43.90	(194.43)	3.59	36.76	27.35	71.77	471.40
3-year Beta	1.69	1.11	1.60	0.19	2.50	0.36	N/A
P/E	-	23.54	23.08	7.70	7.74	10.41	N/A

