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Identifying and Coping with Balance Sheet Differences: A Comparative Analysis of U.S., Chinese, and French Oil and Gas Firms Using the "Statement of Financial Structure"

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ABSTRACT: In a globalized business world it is often necessary to compare companies across national boundaries. This comparison often includes an examination of financial statements. While the harmonization of accounting standards continues to progress, there still remain differences in how accounting information is reported between companies located in different countries, especially with regard to the format used to present the balance sheet. It is consequently important that students be able to both identify these differences, and have a method for coping with them. Using three oil and gas firms from three different countries (Exxon in the United States, Sinopec in China, and Total in France), this paper provides a setting for students to identify differences in balance sheet formats across countries. The paper then introduces a standardizing model—the Statement of Financial Structure—that enables students to cope with these differences. In working with this Statement, students develop their financial analysis skills. In particular, the concept of working capital is reinforced, as is the importance of understanding the local business environment in order to interpret the numbers and ratios within the proper context.

Keywords: international financial statement analysis; balance sheet format; oil and gas industry; USA; China; France.

INTRODUCTION

You have recently joined the independent equity research firm Lakewood & Associates, located in New York, where you have been assigned to analyze firms operating in the oil and gas industry. Due to the worldwide nature of the industry, the set of firms you analyze include firms both within and outside the United States. As part

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of a recent assignment, you have been asked to prepare an analysis for your firm comparing three major oil and gas firms located in different countries. The three firms are Exxon in the United States, Sinopec in China, and Total in France.[1] For these three firms, you have been asked to describe any differences that exist in the format of the firms' balance sheets, and to compare and comment upon the firms' financial structures. You have gathered some background information about the companies, as well as some relevant financial information.

Company Background

Exxon

Exxon Corporation was incorporated in the state of New Jersey in 1882. On November 30, 1999, Mobil Corporation became a wholly owned subsidiary of Exxon Corporation, and the enlarged entity changed its name to Exxon Mobil Corporation (Exxon). Headquartered in Irving, Texas, Exxon is principally traded on the NYSE. Based on Platts 2006 Top 250 Global Energy Companies rankings, Exxon is the world's largest integrated oil and gas company.[2] As of its most recent fiscal year-end, December 31, 2005, Exxon had proven oil and gas reserves of 22.4 billion barrels of oil equivalent (boe), and reported in its balance sheet total assets of $U.S.208.3 billion.

Exxon engages in the exploration, production, transportation, and sale of crude oil and natural gas. It also engages in the manufacture, transportation, and sale of petroleum products and petrochemicals, and participates in electric power generation. The company also manufactures and markets commodity petrochemicals, including olefins, aromatics, polyethylene and polypropylene plastics, and other specialty products. Exxon conducts business in almost 200 countries and territories around the globe.

Sinopec

China Petroleum & Chemical Corporation (Sinopec) was founded in 2000 and is headquartered in Beijing in the People's Republic of China. Sinopec's shares are listed in Hong Kong, New York, London, and Shanghai. Sinopec operates, through its subsidiaries, as an integrated oil and gas and chemical company in the People's Republic of China. As of December 31, 2005, the company had proven reserves of approximately 3.29 billion barrels of crude oil and 2,952 billion cubic feet of natural gas. On this date, according to its balance sheet, Sinopec had total assets of 537 billion renminbi.

Sinopec is China's largest producer and supplier of oil products (including gasoline, diesel, and jet fuel) and major petrochemical products (including petrochemical intermediates, synthetic resin, synthetic fiber monomers and polymers, synthetic fiber, and chemical fertilizer). It is also China's second largest crude oil producer. Sinopec has joint venture agreements with Mitsui Chemicals, Inc. and BP plc, and has formed a strategic alliance with McDonald's Corp. to open drive-thrus in the People's Republic of China.

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[1] The presentation of the three companies is adapted from information provided at the firm's websites: http://www.exxonmobil.com, http://www.sinopec.com and http://www.total.com, and from information at finance.yahoo.com.

[2] For comparative purposes, Royal Dutch Shell and BP are, respectively, second and third largest. (Source: http://www.platts.com/top250/index.xml).

Total

Total S.A. (Total) was incorporated in 1924 and is based in Courbevoie, France. It is listed on stock exchanges in France, the United States, and Belgium. Together with its subsidiaries, it operates as an integrated oil and gas company in more than 130 countries. As of December 31, 2005, it had proven crude oil and natural gas reserves of 11.1 billion barrels of oil equivalent, and its balance sheet reported total assets of €106.1 billion.

The company operates in three segments: Upstream, Downstream, and Chemicals. The Upstream segment engages in exploration and production activities, as well as natural gas transportation and storage, liquefied natural gas and power, trading of liquefied petroleum gas, and coal operations. The Downstream segment involves refining and marketing of Total and Elf brand petroleum products, automotive and other fuels, and specialties such as LPG, aviation fuel, and lubricants. The marketing is done both through its own retail network and through other outlets. The Chemicals segment operates in petrochemicals, fertilizers, elastomer processing, vinyl products, industrial chemicals, and performance products. Its various products are used in the automobile, transportation, packaging, construction, sports and leisure, health and beauty care, water treatment, paper, electronics, and agriculture industries.

Financial Information[3]

- Exhibit 1 presents the consolidated balance sheets for Exxon for the fiscal years ended December 31, 2005, 2004 and 2003. The balance sheets were prepared in accordance with generally accepted accounting principles in the United States.
- Exhibit 2 presents the consolidated balance sheets for the fiscal years ended December 31, 2005, 2004, and 2003 for Sinopec. The balance sheets were prepared in accordance with International Financial Reporting Standards (IFRS).[4]
- Exhibit 3 presents the consolidated balance sheets for the fiscal years ended December 31, 2005, 2004, and 2003 for Total. The balance sheets were prepared in accordance with IFRS.

REQUIREMENTS

Assume the role of the oil and gas industry analyst for Lakewood & Associates. You are required to complete the following assignments:

(1) Review the Balance Sheets of Exxon, Sinopec, and Total as found in Exhibits 1 to 3. Identify any format differences and be prepared to discuss (or report on) your findings.
(2) Review the material in Exhibit 4. Prepare Simplified Balance Sheets and Statements of Financial Structure for Exxon, Sinopec, and Total.
(3) Review the material in Exhibit 5. Compare the financial structures of the three firms, and be prepared to discuss (or report on) your findings.

[3] Exxon's information is taken from its 2005 and 2004 10-K reports. The information for Sinopec and Total is taken from the companies' 2005 and 2004 annual reports. Presented at the bottom of the balance sheets is various information taken from the notes to the financial statements (''Notes and loans payable'' [Exxon], ''Short-term debts'' [Sinopec] and ''Current borrowings'' [Total]).

[4] In addition to the financial statements prepared in accordance with IFRS, Sinopec also prepares a set of financial statements in conformity with relevant regulations issued by the Ministry of Finance of the PRC. We chose to use the Sinopec balance sheet based on IFRS, since China GAAP is still very different from U.S. GAAP or IFRS, which may introduce a bias into the accounting numbers used in our comparison.

EXHIBIT 1
Exxon
Consolidated Balance Sheets
For the years ended December 31, 2005, 2004, and 2003
(Prepared using U.S. GAAP)

(millions of U.S. dollars)	2005	2004	2003
Assets			
Current assets			
Cash and cash equivalents	28,671	18,531	10,626
Cash and cash equivalents—restricted	4,604	4,604	—
Notes and accounts receivable, less estimated doubtful amounts	27,484	25,359	24,309
Inventories—Crude oil, products, and merchandise	7,852	8,136	7,665
Inventories—Materials and supplies	1,469	1,351	1,292
Prepaid taxes and expenses	3,262	2,396	2,068
Total current assets	73,342	60,377	45,960
Investments and advances	20,592	18,404	15,535
Property, plant, and equipment, at cost, less accumulated depreciation and depletion	107,010	108,639	104,965
Other assets, including intangibles, net	7,391	7,836	7,818
Total assets	208,335	195,256	174,278
Liabilities			
Current liabilities			
Notes and loans payable (*)	1,771	3,280	4,789
Accounts payable and accrued liabilities	36,120	31,763	28,445
Income taxes payable	8,416	7,938	5,152
Total current liabilities	46,307	42,981	38,386
Long-term debt	6,220	5,013	4,756
Annuity reserves	10,220	10,850	9,609
Accrued liabilities	6,434	6,279	5,283
Deferred income tax liabilities	20,878	21,092	20,118
Deferred credits and other long-term obligations	3,563	3,333	2,829
Equity of minority and preferred shareholders in affiliated companies	3,527	3,952	3,382
Total liabilities	97,149	93,500	84,363
Commitments and contingencies			
Shareholders' equity			
Benefit plan related balances	(1,266)	(1,014)	(634)
Common stock without par value (9,000 million shares authorized)	5,743	5,067	4,468
Earnings reinvested	163,335	134,390	115,956
Accumulated other non-owner changes in equity			
Cumulative foreign exchange translation adjustment	979	3,598	1,421
Minimum pension liability adjustment	(2,258)	(2,499)	(2,446)
Unrealized gains/(losses) on stock investments	—	428	511
Common stock held in treasury (1,886 million shares in 2005 and 1,618 million shares in 2004)	(55,347)	(38,214)	(29,361)
Total shareholders' equity	111,186	101,756	89,915
Total liabilities and shareholders' equity	208,335	195,256	174,278

(*continued on next page*)

EXHIBIT 1 (continued)

(millions of U.S. dollars)	2005	2004	2003
*Bank loans	790	839	972
*Commercial paper	291	1,491	1,579
*Long-term debt due within one year	515	608	1,903
*Other	175	342	335

EXHIBIT 2
Sinopec
Consolidated Balance Sheets
For the years ended December 31, 2005, 2004, and 2003
(Prepared using IFRS)

(millions of renminbi)	2005	2004	2003
Noncurrent assets			
Property, plant, and equipment	314,573	284,123	270,731
Construction in progress	48,267	46,185	29,354
Investments	2,926	2,538	2,709
Interest in associates	9,217	10,222	8,121
Deferred tax assets	6,072	4,558	3,067
Lease prepayments	1,908	750	810
Long-term prepayments and other assets	9,067	5,947	2,353
Total noncurrent assets	**392,030**	**354,323**	**317,145**
Current assets			
Cash and cash equivalents	13,745	16,381	16,263
Time deposits with financial institutions	1,002	1,899	2,184
Trade accounts receivable	14,532	9,756	9,479
Bills receivable	7,143	7,812	6,283
Inventories	89,474	64,329	47,916
Prepaid expenses and other current assets	19,395	20,094	20,914
Total current assets	**145,291**	**120,271**	**103,039**
Current liabilities			
Short-term debts (*)	40,411	32,307	29,181
Loans from Sinopec Group Company and fellow subsidiaries	832	8,714	4,865
Trade accounts payable	52,967	23,792	23,319
Bills payable	23,243	30,797	24,267
Accrued expenses and other payables	48,167	45,276	43,561
Income tax payable	5,029	5,391	4,079
Total current liabilities	**170,649**	**146,277**	**129,272**
Net current liabilities	**(25,358)**	**(26,006)**	**(26,233)**
Total assets less current liabilities	**366,672**	**328,317**	**290,912**
Noncurrent liabilities			
Long-term debts	67,059	60,822	48,257
Loans from Sinopec Group Company and fellow subsidiaries	39,933	36,765	39,039
Deferred tax liabilities	5,902	5,636	4,599
Other liabilities	782	1,008	1,451
Total noncurrent liabilities	**113,676**	**104,231**	**93,346**
	252,996	**224,086**	**197,566**

(*continued on next page*)

EXHIBIT 2 (continued)

(millions of renminbi)	2005	2004	2003
Equity			
Share capital	86,702	86,702	86,702
Reserves	136,854	106,338	84,813
Total equity attributable to equity shareholders of the Company	**223,556**	**193,040**	**171,515**
Minority interests	**29,440**	**31,046**	**26,051**
Total equity	**252,996**	**224,086**	**197,566**
*Short-term loans	15,392	20,009	19,990
*Current potion of long-term loans	25,019	12,298	9,191

EXHIBIT 3
Total
Consolidated Balance Sheets
For the years ended December 31, 2005, 2004, and 2003
(Prepared using IFRS)

(millions of euros)	2005	2004	2003
ASSETS			
Noncurrent assets			
Intangible assets, net	4,384	3,176	2,017
Property, plant, and equipment, net	40,568	34,906	36,286
Equity affiliates: investments and loans	12,652	10,680	7,833
Other investments	1,516	1,198	1,162
Hedging instruments of noncurrent financial debt	477	1,516	—
Other noncurrent assets	2,794	2,351	3,152
Total noncurrent assets	62,391	53,827	50,450
Current assets			
Inventories, net	12,690	9,264	6,137
Accounts receivable, net	19,612	14,025	12,357
Prepaid expenses and other current assets	6,799	5,314	4,779
Current financial instruments	334	477	—
Short-term investments	—	—	1,404
Cash and cash equivalents	4,318	3,860	4,836
Total current assets	43,753	32,940	29,513
Total assets	106,144	86,767	79,963
LIABILITIES & SHAREHOLDERS' EQUITY			
Shareholders' equity			
Common shares	6,151	6,350	6,491
Paid-in surplus and retained earnings	37,504	31,717	30,408
Cumulative translation adjustment	1,421	(1,429)	(3,268)
Treasury shares	(4,431)	(5,030)	(3,225)
Total shareholder's equity—Group share	40,645	31,608	30,406
Minority interests and subsidiaries' redeemable preferred shares	838	810	1,060
Total shareholders' equity	41,483	32,418	31,466

(*continued on next page*)

EXHIBIT 3 (continued)

(millions of euros)	2005	2004	2003
Noncurrent liabilities			
Deferred income taxes	6,976	6,402	5,443
Employee benefits	3,413	3,607	3,818
Other noncurrent liabilities	7,051	6,274	6,344
Total noncurrent liabilities	17,440	16,283	15,605
Noncurrent financial debt	13,793	11,289	9,783
Current liabilities			
Accounts payable	16,406	11,672	10,304
Other creditors and accrued liabilities	13,069	11,148	8,970
Current borrowings (*)	3,920	3,614	3,835
Current financial instruments	33	343	—
Total current liabilities	33,428	26,777	23,109
Total liabilities and shareholders' equity	106,144	86,767	79,963
* Current financial debt and bank overdrafts	2,928	1,385	2,178
* Current portion of noncurrent financial debt	992	2,229	1,657

EXHIBIT 4
Simplified Balance Sheet and Statement of Financial Structure

Overview

In undertaking a comparison of firms' financial structures, the information reported in the firms' balance sheets is used. However, in situations where the balance sheets are prepared using different balance sheet formats—for example, firms from different countries using different accounting practices—it is first necessary to place the information on a common basis. This process is illustrated below with the introduction of first, the Simplified Balance Sheet, and second, the Statement of Financial Structure.

The Simplified Balance Sheet

The first step in achieving a common basis for different firms' financial information is the preparation of a Simplified Balance Sheet (SBS). In the SBS, shown in the template below, the assets side of the original balance sheet is subdivided into three parts, whereas the liabilities and equity part of the balance sheet is split into four subcategories. For example, and as shown in the template, the three parts of the asset section are divided into cash (or positive cash) (PC), current assets (excluding cash) (CA), and noncurrent assets (NCA). It should be noted that in preparing the SBS, the ordering of the items should be adapted to conform to the ordering used by the company in its balance sheet. For sake of simplicity, we display in the template below only one order—by decreasing liquidity. If the balance sheet is presented by increasing order of liquidity, then the order in the template must be reversed.

(*continued on next page*)

EXHIBIT 4 (continued)

Template for the Preparation of a Simplified Balance Sheet

Company X	**(Currency unit)**		
	2005	**2004**	**2003**
Cash (positive cash) (PC) Current assets (excluding cash) (CA) Noncurrent assets (NCA)			
Total assets			
Short-term bank loans and bank overdrafts (negative cash) (NegC) Current liabilities (excluding short-term bank loans and bank overdrafts) (CL) Long-term (financial) liabilities (LTL) Stockholders' equity (E)			
Total stockholders' equity, provisions, and liabilities			

The Statement of Financial Structure

In the second step, a Statement of Financial Structure (SFS) is prepared. This is done through linking each subpart of the asset section to a corresponding subpart of the liabilities and equity section. The SFS, once complete, will result in three primary measures that will enable you to comment in a relevant manner on the firms' financial structures. These three primary measures, which are discussed in detail in Exhibit 5, are:

#1 Working capital: calculated as Stockholders' equity + Long-term liabilities – Noncurrent assets[5]
#2 Working capital need: calculated as Current assets (excluding Cash) – Current liabilities (excluding Negative cash)[6]
#3 Net cash: calculated as Cash (or Positive cash) – Negative cash.

The following template illustrates this process. Note the control feature in the last line of the template.[7]

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[5] We explain in Exhibit 5 that there is another way to compute the working capital: Total current assets (including Cash) minus Total current liabilities (including Negative Cash). This second method is not used in the SFS.
[6] The Working capital need can be also computed as Working capital minus Net cash.
[7] This control arises from the ''balance sheet equation'': Assets = Liabilities + Stockholders' equity.

EXHIBIT 4 (continued)

Template for the Preparation of a Statement of Financial Structure

		(Currency unit)		
	Company X	**2005**	**2004**	**2003**
+	Stockholders' equity (E)			
+	Long-term (financial) liabilities (LTL)			
−	Net noncurrent assets, i.e., net of accumulated depreciation (NCA)			
=	**Working capital (WC)**			
+	Current assets (excluding cash) (CA)			
−	Current liabilities (excluding short-term bank loans and bank overdrafts) (CL)			
=	**Working capital need (Financing need arising from the operating cycle) (WCN)**			
+	Positive cash (i.e., cash and cash equivalents and marketable securities) (PC)			
−	Short-term bank loans and bank overdrafts (NegC)			
=	**Net cash (NC)**			
	Control: Working capital (WC) less Working capital need (WCN) = Net cash (NC)			

EXHIBIT 5
Concepts of Working Capital (WC), Working Capital Need (WCN), and Net Cash (NC)

This exhibit contains a discussion of the three main concepts within the statement of financial structure. It also presents and discusses six different financial structures containing different mixes of these three concepts.

Working Capital

In North America, the concept of *working capital* forms an important building block in financial statement analysis, with the firm's working capital calculated as total current assets (including cash) less total current liabilities.[8] However, given the equality of the balance sheet,[9] an alternate means for arriving at working capital—and the one inherent in the SFS—is stockholders' equity *plus* long-term liabilities *minus* noncurrent assets. Both these approaches result in the same nominal amount but communicate a different message.

The former approach, in which working capital is calculated by deducting current (short-term) financing from current assets, highlights the capacity of the company to cover its short-term liabilities with its available cash, receivables, and inventories, and without needing to liquidate long-term (noncurrent) assets. This approach, shown as approach (a) in Figure 1, emphasizes the ability of the firm to survive if it were to lose all short-term financial support.

In contrast, the ''long-term financing minus noncurrent assets'' approach, shown as approach (b) in Figure 1, emphasizes the extent to which the long-term assets of the company are covered by its long-term capital. When the working capital is positive, it shows how much long-term capital is available to finance the firm's operating cycle. The availability of this long-term financing reduces the firm's vulnerability, if by some event, short-term financing were totally removed. This measure of working capital consequently helps signal the probability the business would still be viable in these (extreme) circumstances.

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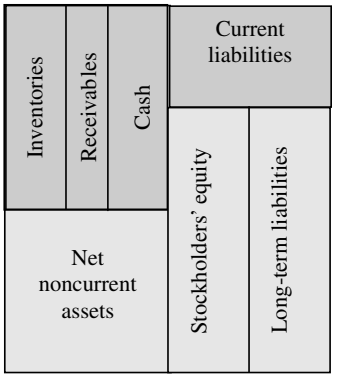
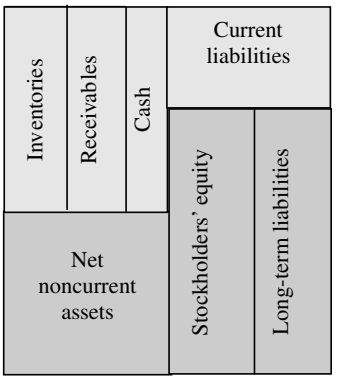
[8] See Wild et al. (2001, 693).
[9] Assets = Liabilities + Stockholders' equity.

EXHIBIT 5 (continued)

FIGURE 1
Two Approaches to Working Capital



The (a) approach: Working capital = Cash + receivables + inventories – current liabilities. Note the emphasis is on the dark shaded boxes.



The (b) approach: Working capital = Equity + long-term liabilities – noncurrent assets. Note the emphasis is on the dark shaded boxes.

Source: Adapted from Stolowy and Lebas (2006).

It should be noted, however, that the appropriate level of working capital for any firm tends to be firm-specific, and is a function of such things as the nature of the firm's business, its opportunities and threats, its relationships with suppliers and customers, the specific business processes of the firm, and the speed and variance of the operating cycle. Further, the existence of very large retail and distribution enterprises and the development of ''new economy'' (service- and information technology-based) enterprises have made the existence of a negative working capital situation acceptable in a growing economy. The Appendix provides a simple illustration showing how a firm's working capital—being an amount of 210—can be determined in the two different ways discussed above.

Working Capital Need

Following approach (b) in Figure 1, we now use the remaining part of the balance sheet to determine the two other working capital concepts: *working capital need* (sometimes called *operating working capital*) and *net cash*. In a simplified definition, working capital need includes inventories and receivables less payables. However, in the SFS, the concept of working capital need focuses on the financing implications—being either needs or sources—arising from the firm's regular operating cycle.[10] Where working capital need is positive (excess of current assets [excluding cash] over current liabilities [excluding negative cash]), it implies that the operating cycle generates a financing need. This is usually the case for most manufacturing firms, since generally speaking, a company is in a value-added chain where the payables reflect mostly the beginning of this chain, while the inventories and receivables represent its end. In contrast, where working capital need is negative, it means that the operating cycle generates a ''financing source'': the amount of current liabilities (mostly payables) is higher than the amount of current assets (mostly inventories and receivables). The Appendix shows the working capital need to be 195.

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[10] The operating cycle in a manufacturing company, which we can take as an example, is the cycle that relates the following elements: purchases, transformation, and sales. These transactions have an impact on the following accounts: inventories, receivables and payables, which, in turn, will modify the cash account.

EXHIBIT 5 (continued)

Net Cash

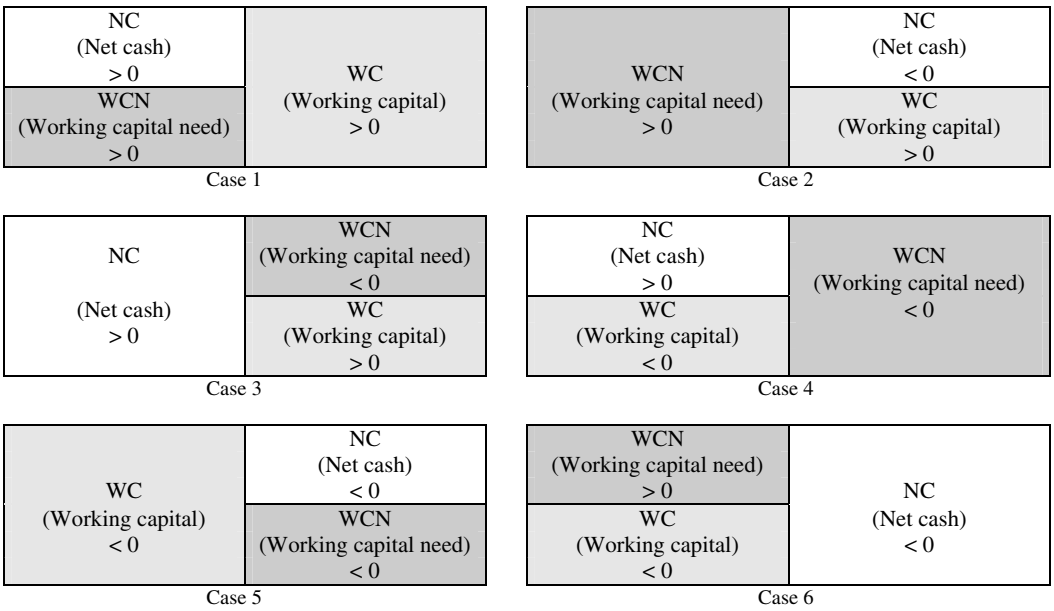
In the SFS, net cash simply refers to the firm's totally liquid assets. In the Appendix, this is an amount of 15.

Different Scenarios of Financial Structures

Presented next are six different types of financial structures showing different combinations of working capital, working capital need, and net cash.[11] These scenarios can help you understand the relationship among the three concepts and can be used to analyze the three oil and gas firms. These six structures are shown in Figure 2.

- Case 1: The working capital need is positive: the operating cycle generates a financing need (the inventories and receivables are higher than payables). How is this ''financing need'' financed? It is financed with the positive working capital, which represents an excess of long-term capital over noncurrent assets. The working capital is so high that it even creates a positive net cash. This situation is rather comfortable: the financing need arising from operating cycle is funded by long-term (and we assume stable) capital. In summary, case 1 represents a traditional financial structure for a manufacturing firm with positive net cash.
- Case 2: This scenario is a variation of case 1. The operating cycle also generates a financing need (positive working capital need), which is financed by the working capital. However, the working capital is not sufficient to cover the working capital need. The firm needs to borrow from the banks in short-term, which creates a negative net cash (excess of short-term bank loans and bank overdrafts). In summary, case 2 displays a financial structure for a manufacturing business with negative net cash.

FIGURE 2
Different Types of Financial Structures of WC/WCN/NC



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[11] Each of the three concepts can be either positive or negative.

EXHIBIT 5 (continued)

- Case 3: This scenario is very different from the previous two. The operating cycle does not generate a financing need but, conversely, creates a financing source. (The working capital need is negative because the payables are higher than the sum of inventories and receivables.) This situation is very common in the distribution industry. In this case, a positive working capital (excess of long-term funding) is not really necessary. However, if the working capital is positive, then the accumulation with the negative working capital need (financing source generated by the operating cycle) creates a positive net cash. In summary, case 3 represents a traditional financial structure for a retail or distribution enterprise for which the working capital need is a source of financing arising from the operating cycle.
- Case 4: This scenario is a variation of case 3. However, the firm takes advantage of the financing source generated by the operating cycle and has a negative working capital. This means that the noncurrent assets are higher than long-term funding. In other words, the firm finances the long-term investments (negative working capital) with short-term funding (payables). The working capital need is so high (and negative) that the resulting net cash is positive. In summary, case 4 displays a financial structure for a retail or distribution enterprise for which the working capital need is a financing source arising from the operating cycle, and working capital is negative, indicating an excess of investment in noncurrent assets.
- Case 5: Both this scenario and the next one represent uncommon structures seldom found in practice. The firm has a high negative working capital: the noncurrent assets are much higher than long-term funding. This working capital, being negative, represents a financing need arising from the ''investment cycle.'' It is financed with the negative working need (which, as in cases 3 and 4, represents a financing source generated by the operating cycle) and by the negative net cash (excess of short-term bank loans and bank overdrafts). This financial structure is considered rather dangerous, because long-term investments are funded with sources that could suddenly decrease or disappear. In summary, case 5 presents an atypical and risky structure: the negative cash and the financing source arising from the operating cycle actually finance part of the noncurrent assets.
- Case 6: This scenario also represents both an extreme and uncommon structure. The firm experiences a positive working capital need (the operating cycle generates a financing need) and a negative working capital (the ''investment cycle'' also generates a financing need, because noncurrent assets are not fully funded by long-term capital). Consequently, everything is financed by the negative net cash (i.e., short-term bank loans and bank overdrafts). This situation is the most dangerous because, if the banker decides to cut funding, then the firm is not far from bankruptcy. In summary, case 6 presents an atypical and even riskier structure: the negative cash finances both part of the noncurrent assets and the financing need arising from the operating cycle.

CASE LEARNING OBJECTIVES, IMPLEMENTATION GUIDANCE, AND EVIDENCE OF EFFICACY

Case Learning Objectives

Overview

At times in the business world, especially in a globalized world, it is often necessary to compare companies across national boundaries. For example, in analyzing the oil and gas industry, a necessary comparison may encompass firms headquartered in different countries. Such comparisons will often use accounting information, for example, to compare firm's financial structures. While the harmonization of accounting continues to take place throughout the world,[12] there still remain differences in how accounting information is reported between companies in different countries; this is especially the case with regard to the format (or layout) used in presenting the balance sheet. Consequently, it is important that students be able to both identify such differences, and have a method for coping with them.

Using three oil and gas companies located in three different countries (and continents), this case provides a setting for students to develop their ability to identify and cope with accounting differences. It also provides an opportunity for students to develop their financial analysis skills. As part of coping with the differences, students are introduced to two templates: the Simplified Balance Sheet, and the Statement of Financial Structure. In using these templates, students are also required to work through various concepts of working capital including working capital need (sometimes called ''operating working capital'') and net cash.[13] In working with these templates and working capital concepts, students should recognize that they can be applied irrespective of the firm's balance sheet format (e.g., single or multiple step; decreasing or increasing liquidity).[14]

Teaching Objectives

There are two primary teaching objectives in this case. The first objective is to illustrate some different formats that balance sheets can take on, depending on the firm's location in the world. Although the differences illustrated in the case are focused at the level of presentation (as opposed to measurement), our teaching experience indicates that such differences can become a psychological obstacle when students (and managers) are not well prepared to confront them. The three oil companies chosen in our case illustrate the three major variations of balance sheet presentation in the world: single-step and decreasing, single-step and increasing, and multiple-step. It is instructive to note that our scenario retains its relevance after the adoption in 2005 of International Financial Reporting Standards (IFRS) by listed European Union (and also Hong Kong, Australian, and Russian) companies, at least for their consolidated financial statements.[15] This is because the relevant balance sheet presentation standard (IAS No. 1) (IASB 2003), even in its revised version, does not prescribe a specific balance sheet format (e.g., single-step versus multiple-step; decreasing versus increasing liquidity). This occurs in our case when Sinopec and Total, which both use IFRS, have different balance sheet formats.

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[12] For example, the U.S. accounting standard-setter (FASB) has numerous joint ''convergence'' projects underway with the International Accounting Standards Board (IASB). Refer to: http://www.fasb.org/intl/convergence_iasb.shtml.

[13] For more information on these concepts, refer to Kothari and Barone (2006, 285–288), Stolowy and Lebas (2006, 551–556), and Walton and Aerts (2006, 221–225).

[14] For more information on the format of the balance sheet, refer to Sutton (2004, 125), Kothari and Barone (2006, 51–60), Stolowy and Lebas (2006, 88–93) and Walton and Aerts (2006, 66).

[15] It is up to member states to decide whether IFRS can or must be used in individual companies' financial statements.

The second objective is to provide a coping mechanism that students can use when confronted with international accounting differences. This mechanism—being the Simplified Balance Sheet (SBS) and Statement of Financial Structure (SFS)—allows the students to more appropriately compare and comment upon the financial structures of the firms located in different countries. In meeting this second objective, students will also enhance their financial analysis skills. Note that while the SFS provides some useful insights into the financial structure of the firm, we recognize that it cannot cover all relevant parts of a balance sheet analysis. Instructors may therefore wish to complement the SFS analysis with some ratio analysis (for example, leveraging ratios).

Learning Outcomes

Upon completion of the case, students should be able to:

1. Recognize the major differences that can exist in balance sheet formats:
   a. single step versus multiple step;
   b. decreasing versus increasing liquidity and maturity.
2. Prepare Simplified Balance Sheets and Statements of Financial Structure as a means of coping with these balance sheet differences.
3. Better understand various concepts of working capital.
4. Engage in a relevant comparative analysis of the financial structure of firms located in different countries.

Implementation Guidance and Evidence of Efficacy

We have used this case with both M.B.A. students (198) and Executive M.B.A. (E.M.B.A.) students (300). Based on the in-class discussion the case elicited, and on the strength of the students' written reports, we are confident that the teaching objectives can be achieved. The case has been implemented in both stand-alone financial analysis courses, as well as in an introductory accounting course where the topic of the classroom session was ''financial analysis.''

Based on our previous experience, there are two alternative ways to use the case in class. The first alternative, which requires 90 minutes, provides the richer learning experience, because students must complete the necessary templates for each of the three firms. The second alternative, which requires 60 minutes, can still provide a good understanding of how one can cope with accounting differences when performing a comparative (cross-country) financial analysis.

Alternative 1

After an overview by the instructor of the relevant concepts and case materials, the students will complete all three parts of the requirements in class. This requires the instructor to provide the students with blank templates for both the Simplified Balance Sheet and the Statement of Financial Structure. As noted above, this alternative requires one 90-minute session.

First variation on Alternative 1. If the instructor wishes to also receive a formal written report, then students should be allowed some extra time after the session to finalize this report.

Second variation on Alternative 1. The instructor gives an overview of the relevant concepts and case materials at the end of one class session (30 minutes are required). The students are then asked to prepare the Simplified Balance Sheets and Statements of Financial Structure (and possibly a report) for the following session. During this second class

session, the students present their results (including the technical aspects of the preparation of the Balance Sheets and Financial Structures) and discuss the case (60 minutes are required).

Alternative 2

The students complete parts (1) and (3) of the requirements. The difference to Alternative 1 is that the students receive already completed Simplified Balance Sheets and Statements of Financial Structure for the three firms. As noted, this alternative requires one 60-minute session.

First variation on Alternative 2. If the instructor wishes to receive a report, then students should be allowed some extra time after the session to finalize this report.

Second variation on Alternative 2. The instructor gives an overview of the relevant concepts and case materials at the end of one session (30 minutes are required), and also gives the students the completed balance sheets and financial structures. The students must then analyze the completed materials (and possibly write a report) for the following session. During this second session, the students present their results and discuss the case (30 minutes are required).

We have had our students complete the case working in groups of five. In preparing the Simplified Balance Sheets and Statements of Financial Structure, we have identified the following common failings:

1. Some students hesitated or failed to include in positive cash: ''Cash and cash equivalents—restricted'' (Exxon), ''Time deposits with financial institutions'' (Sinopec), and ''Short-term investments'' (Total).
2. Some students incorrectly included the current portion of noncurrent debt in negative cash. This information was included at the bottom of the balance sheets, and included for Exxon the ''Long-term debt due within one year,'' for Sinopec the ''Current portion of long-term loans,'' and for Total the ''Current portion of noncurrent financial debt.''
3. Some students had difficulty understanding the meaning of ''Current financial instruments,'' both on the current assets and current liabilities sides of Total's balance sheet. Hence, these items tended to be misclassified into positive/negative cash.

ANNUAL REPORTS

The annual reports of the three studied companies can be found at the following web addresses:

Exxon: http://ir.exxonmobil.com/phoenix.zhtml?c=115024&p=irol-reportsAnnual
Sinopec: http://english.sinopec.com/en-ir/en-companyreport/index.shtml
Total: http://www.total.com/en/finance/fi_publications/

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APPENDIX
COMPUTATION OF WORKING CAPITAL—WORKING CAPITAL NEED AND NET CASH

Panel A: Balance Sheet (using North American presentation)

Assets		**Liabilities and Stockholders' Equity**	
Cash	40	Short-term liabilities (1)	90
Accounts receivable	100	Long-term liabilities	110
Inventories	160		
Land and equipment	220	Stockholders' equity	320
Total	520	Total	520
		(1) Including bank overdrafts	25

Panel B: Determination of the Three Concepts

+	Cash	40	
+	Accounts receivable	100	
+	Inventories	160	
=	Total current assets	300	
−	Total short-term liabilities	−90	
=	**Working capital**	**210**	**Method a**
+	Stockholders' equity	320	
+	Long-term liabilities	110	
=	Long-term funding	430	
−	Land and equipment	−220	
=	**Working capital**	**210**	**Method b**
+	Accounts receivable	100	
+	Inventories	160	
=	Current assets (excluding cash)	260	
−	Short-term liabilities (excluding bank overdrafts)	−65	
=	**Working capital need**	**195**	
+	Cash	40	
−	Negative cash	−25	
=	**Net cash**	**15**	
	Control		
+	Working capital	210	
−	Working capital need	−195	
=	Net cash	15	

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International Accounting Standards Board (IASB). 2003. *Presentation of Financial Statements (Revised).* International Accounting Standard (IAS) No. 1. London, U.K.: IASB.

Kothari, J., and E. Barone. 2006. *Financial Accounting—An International Approach.* Harlow, U.K.: Pearson.

Stolowy, H., and M. Lebas. 2006. *Financial Accounting and Reporting: A Global Perspective.* 2nd edition. London, U.K.: Thomson.

Sutton, T. 2004. *Corporate Financial Accounting and Reporting.* 2nd edition. Harlow, U.K.: Pearson.

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Wild, J., L. A. Bernstein, and K. R. Subramanyam. 2001. *Financial Statement Analysis.* 7th edition. New York, NY: McGraw-Hill.