

Corporate Governance in the Major Oil & Gas Companies

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The world's growing dependence on fossil fuels must be addressed with urgency. The coordination of efforts among international leaders has already proven to be a challenging endeavor as evidenced most recently in Copenhagen. In order to initiate meaningful international policy measures to combat fossil fuel dependence and climate change, it is necessary for the United States to take decisive steps domestically to pave the way for progress globally.

The US, in particular, finds itself in a precarious position. While the complications of climate change and the environment in themselves justify comprehensive legislation, the US also must confront the issues of energy security and poor economic development. As the world's largest consumer of fossil fuels, over 50% of which is imported, the imperative to achieve energy independence cannot be understated. The US will only be increasingly vulnerable if solutions are not developed. At the same time, the nation's employment picture remains bleak as the economy appears to be experiencing a third “jobless recovery” in two decades. For the United States, the dependence on fossil fuels has endangered the environment, compromised its national security, and undermined sustainable economic development.

Despite the ongoing threat, some progress has been realized. In 2009, alternative energy sources constituted roughly 10% of all consumption. (EIA, 2010) President Obama has announced goals of doubling that figure by 2012. (Mouwad, 2009) Efforts have been increasing, although insufficient leadership and support from major oil companies has been heeding progress.

From a national perspective, the use of fossil fuels is a significant threat to the welfare of society. In the following sections, the major US integrated oil and gas companies, commonly referred to as the “super majors”, will be analyzed and discussed

with respect to the public policy challenges outlined to this point. The first step will be to better understand this industry and its historical development. Trends in management, investment, and employment, among others, will be identified and discussed. After understanding the industry's characteristics and features, as well as its governing principles, the focus will be on the consequences stemming from the way in which the super majors have conducted themselves. In particular, the opportunity costs will be understood in terms of investment, R&D, and employment. After identifying the shortcomings of these companies to adapt and respond to the nation's economic needs, the wisdom of maximizing shareholder value can be put into perspective.

Profile of the Integrated Oil and Gas Industry

The industry can be divided into three segments, the “upstream”, “midstream”, and “downstream”. The “upstream” consists of the exploration and production of oil and natural gas. This segment is dominated by the state-owned national oil companies (NOC) who comprised more than 52% of current production in 2007 but more importantly, possessed 88% of worldwide reserves that year. (IEA, 2009) The “midstream”, which involves the transportation and storage of products, and the “downstream” segment involving the refining and marketing of crude oil, both of which are dominated by the publicly owned companies (Standard & Poor's, 2010).

The oil market can only be understood as international in scope. While the focus of this paper is to be the international integrated oil and gas companies operating in the US, it is important to recognize the broader context of the market. To gain a clearer understanding of the various players in the oil market, it is helpful to make an initial distinction between NOC's and the publicly owned IOC's. While the IOC's operating

according to the principle of maximizing shareholder value, the NOC's, as an extension of a national government, often possess vast reserves and resources, but operate according to objectives defined by their government. Saudi Aramco and NIOC were the two largest NOC's in 2009 according to Petroleum Intelligence Weekly. Their objectives can vary from employing citizens, generating long-term revenue, or complementing domestic or foreign policy measures. Another form of state-ownership exists, which blends commercial interests with a national agenda. For example, Petrobras (Brazil) and Statoil (Norway) balance their country's concerns with their own commercial interests. (IEA, 2009)

In contrast to various existing forms of state-ownership, companies operating in the US exclusively seek to maximize shareholder value. Moving forward, the specific firms that will be analyzed are the firms based out of the US that are classified as “supermajors”. These companies are Exxon Mobil, Conoco Phillips, and Chevron. World-wide there are currently six companies designated as “supermajors”, meaning their market capitalization is greater than \$100 billion. These include Royal Dutch Shell (Netherlands,UK), BP (UK), and Total SA (France) in addition to the US companies already identified.

WORLD'S TOP 20 OIL COMPANIES—2009*

PIW*	RANK	COMPANY	STATE COUNTRY	OWNERSHIP (%)	RESERVES		OUTPUT		REFINERY CAPACITY (THOUS. B/D)	PRODUCT SALES (THOUS. B/D)
					LIQUIDS (MIL. BBL)	GAS (BCF)	LIQUIDS (THOUS. B/D)	GAS (MMcf/ DAY)		
	1.	Saudi Aramco	Saudi Arabia	100	264,100	267,300	10,846	7,561	2,374	3,148
	2.	NIOC	Iran	100	137,600	1,045,700	4,325	11,259	1,566	2,051
	3.	ExxonMobil	US	(public)	12,006	65,879	2,405	9,095	6,210	6,761
	4.	PDV	Venezuela	100	99,377	176,015	2,451	3,544	3,035	2,941
	5.	CNPC	China	100	21,957	94,403	2,779	6,405	2,825	1,699
	6.	BP	UK	(public)	10,353	45,208	2,401	8,334	2,678	5,698
	7.	Royal Dutch Shell	UK/Netherlands	(public)	4,440	43,339	1,771	8,569	3,678	6,568
	8.	ConocoPhillips	US	(public)	6,066	24,948	1,555	5,203	2,678	3,040
	9.	Chevron	US	(public)	7,350	23,075	1,676	5,125	2,139	3,429
	10.	Total	France	(public)	5,695	26,218	1,456	4,837	2,604	3,658
	11.	Pemex	Mexico	100	11,865	12,702	3,101	4,489	1,710	1,719
	12.	KPC	Kuwait	100	101,500	62,900	2,784	1,239	1,109	972
	13.	Sonatrach	Algeria	100	11,000	147,963	1,853	7,516	493	703
	14.	Gazprom	Russia	50	9,536	642,460	859	53,018	613	637
	15.	Petrobras	Brazil	32.2	9,155	12,215	1,978	2,530	2,111	2,715
	16.	Rosneft	Russia	75.2	17,694	27,687	2,121	1,194	1,078	938
	17.	Lukoil	Russia	(public)	11,566	23,402	1,537	1,499	1,002	1,560
	18.	Petronas	Malaysia	100	7,720	115,800	761	6,209	419	800
	19.	Adnoc	UAE	100	52,700	122,100	1,603	2,423	500	285
	20.	Eni	Italy	30	3,385	20,229	1,026	4,424	737	1,004

*Petroleum Intelligence Weekly's ranking as of December 2009, based on 2008 year-end operating results.

BBL-barrels. BCF-billion cubic feet. B/D-Barrels per day. MMcf/D-Million cubic feet per day.

Source: *Petroleum Intelligence Weekly*.

(Source: S&P Industry Survey, 2010, p.8)

Exxon Mobil, Chevron, and Conoco Phillips are large, vertically-integrated companies. They are involved in all areas of the oil industry and their operations include petrochemicals and other petroleum products. Recently, amidst growing pressures to adapt and address alternative energy, each company has taken minor steps to diversify and expand their operations. This has been accomplished largely through acquisitions, with virtually no notable internal R&D involving non-hydrocarbon technologies.

(Mouwad, 2009) As political pressures mount, oil reserves become increasingly scarce, and stagnant economic growth lingers, the oil and gas companies remain reluctant to assume the risk and confront the uncertainty in order to address the economy's needs.

The oil and gas industry continues to defend itself by highlighting its economic

contribution to the US economy. Industry representatives boast that the industry supports over 9.2 million jobs and contributes over \$1 trillion to the national economy. (Dodge, 12/9/09) These claims identify the industry as a source of strength and future growth. The American Petroleum Institute (API) has released several publications in recent years that promote the industry as a source of job creation. With campaigns titled “Putting America to Work”, among others, the industry has sought to redefine public opinion.

Unfortunately, these efforts seem to represent merely rhetoric. For example, industry statistics provided by PricewaterhouseCoopers, on behalf of the American Petroleum Institute, suggest that the industry supports 9.2 million American jobs. This figure may be impressive but when the jobs being supported are identified specifically, it becomes clear that these claims are exaggerated. The occupations listed include librarians, day care providers, bookkeepers, bank tellers, pharmacists, among others. (API, 2009) While these are some of the bolder claims, it is important to recognize the industry’s efforts to appear to be furthering the interests of the American public.

Total Contribution of the Oil and Natural Gas Industry to the U.S. Economy, 2007

Total Impacts	Amount	Percent of U.S. Total
Employment*	9,237,381	5.2%
Labor Income** (\$ millions)	558,260	6.3%
Value Added (\$ millions)	1,037,060	7.5%

* Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

** Labor Income is defined as wages and salaries and benefits as well as proprietor’s income.

(Source: PricewaterhouseCoopers, 2009, p. 2)

The commitment to shareholder value, as a guiding principle, is to this day, the hallmark of corporate leadership across the US economy. But in the following sections, as the historical development of this industry is traced and the effects of this principle are

identified, it will be necessary to consider if another alternative may be more suitable for this particular sector. The nation's dependence on foreign oil, climate change, and the current economic conditions emphasize the urgent need for reform in the major oil and gas companies.

The Evolution of the Major Oil and Gas Companies

I. The Integrated Oil and Gas Industry in the 1970s

By 1970, the industry was dominated by the presence of American and European companies. The term "Seven Sisters" was coined by Enrico Mattei, the founder of an Italian energy company, to refer to the key industry players of that time. The seven companies being referenced were Exxon (Standard Oil of New Jersey), Chevron (Standard Oil of California), Texaco, Gulf Oil, Mobil, British Petroleum, and Royal Dutch/Shell Group. (Grant,2005) This dominance enjoyed by the "seven sisters" would begin to be threatened by the emergence of OPEC in 1960 and by the 1970's, the emergence of national oil companies fundamentally altered the industry's landscape. The major oil companies had a large portion of their assets nationalized after 1972 and as a result, a number of small national producers entered the market. (Grant,2005) These factors brought about considerable competition. From 1973-1987, the Seven Sister's share of world crude oil production fell from 29.3% to 7.1%. In addition, Their share of world refinery capacity fell from 25.5% to 17.0%. (Verleger,1991) The emergence of competitive pressures and external factors that did not exist prior to 1970, forced the major oil companies to reformulate their approach.

Prior to the 1970's, the major oil companies operated according to what could be considered an administrative planning model (Grant, 2005). The interdependence of their

activities made the centralization of strategic and operational control desirable as opposed to a traditional multi-divisional structure, in which the separation of strategic and operational planning existed. Therefore, the major oil companies were highly-centralized with the central office responsible for not only resource allocation and strategic planning, but also operational planning. The vertical integration and self-sufficiency of these firms enabled them to minimize risk and shield themselves from volatility. (Grant, 2005) The success of this organizational structure would not continue in the volatile environment of the 1970s. The centralized decision-making that had previously guided the Seven Sisters proved to be too slow and inefficient for the dynamic market structure developing.

During the 1970's, the rise in resource nationalism brought significant challenges for the majors. Majors found their assets seized in some regions as nations began to assert themselves. As a result, the major oil companies began seeking new reserves in different regions and became committed to diversification as a source of long-term growth and value. This diversification expanded upon their oil, gas, and petrochemical specialization. (Ollinger, 1994) Diversification programs explored alternative energy sources such as solar power, nuclear energy, non-conventional hydrocarbons, and coal. In some cases, companies attempted to develop internal technologies such as Shell's detergents business or electricity generation by Exxon and Texaco. Companies would seek to expand upon internally-developed technologies, in many instances, by acquiring other companies. Exxon produced an electric motor and attempted to develop it further by acquiring Reliance Electric. Exxon had acquired expertise in information systems through its exploration and production activities which lead them to enter into office systems and business equipment. (Weston, 2002) Several companies, such as Amoco, Atlantic Richfield, Exxon, BP, Shell, and Texaco established venture capital subsidiaries with the

intention of acquiring new, technology-based firms. (Grant, 2005) Overall, many of the industry's diversification efforts in the early 80s were unsuccessful and would be divested by the end of the decade.

II. The Restructuring of the 1980s

While increased competition, technological change, and various political forces reshaped the market during the 1970s, ultimately depressed oil prices became the most significant influence in the re-structuring activities of the 1980s. With industry profits directly correlated to the value of crude oil, the major oil companies were adversely affected by declining prices. Specifically, the precipitous drop in price during 1986 can be viewed as a triggering event for the wave of mergers that followed.

Major oil companies faced oil prices as low as \$9 per barrel and responded by striving for efficiency, flexibility, and responsiveness. Many initiatives were implemented to achieve their new focus. In combination with a drastic reduction in capacity and employment, many companies looked towards horizontal consolidation. Through horizontal mergers, companies sought to increase efficiencies and market presence. In addition, the diversification of risk enabled by many mergers enabled future E&P investments that would otherwise not be possible. (Weston, 2002) What accompanied this wave of merger activity was the transformation of the industry's traditional organizational model. This transformation found its inspiration in the ideology of maximizing shareholder value.

The majors responded to the pressures inflicted by price fluctuations by prioritizing profitability and efficiency. In order to survive in an environment where a barrel of oil is \$10, corporate strategies began drastically reducing capacity and

employment. From 1980-1992, employment at the 8 major oil companies declined 62.5% from 800,000 to 300,000. While from 1988-1992 the headquarters staff at 6 major oil companies declined from 3000 to 900. (Cibin and Grant, 1996) Cost-cutting measures were implemented at every opportunity. Cost structures were shifted from fixed to variable in order to remain flexible and dynamic. Non-core businesses, developed earlier in the decade, were divested regardless of their performance. The diversification that occurred in recent years was reversed entirely. Firms became interested only in areas where they possessed a competitive advantage. (Grant, 2005) The obsession with profitability encouraged a comprehensive reorientation of corporate strategy and changes in organizational structure that emphasized shareholder value.

Largest Oil Acquisitions in the 1980s

Year	Acquirer	Acquired	Purchase Price (\$ millions)
1984	Chevron Corp.	Gulf Corp.	13,205.5
1981	E.I. DuPont de Nemours & Co.	Conoco Inc.	8,039.8
1981	U.S. Steel Corp.	Marathon Oil Corp.	6,618.5
1984	Mobil Corp.	Superior Oil Co.	5,725.8
1981	Societe Nationale Elf Aquitaine-France	Texasgulf Inc.	4,293.7
1987	Amoco Corp.	Dome Petroleum Ltd.- Canada	4,180.0
1989	Exxon Corp.	Texaco Canada Inc.- Canada	4,149.6
1982	Occidental Petroleum Corp.	Cities Service Co.	4,115.6
1985	U.S. Steel Corp.	Texas Oil & Gas Corp.	4,094.4
1979	Shell Oil Co.	Belridge Oil Co.	3,653.0
1985	Occidental Petroleum Corp.	MidCon Corp.	3,085.6
		Total	61,161.5

(Source: Weston, 2002)

III. Under-investment in the 1990s

The evolution of the majors from cohesive, vertically-integrated, and highly-centralized organizations into decentralized, multi-divisional enterprises was encouraged and made possible by their commitment to efficiency, profitability, and the creation of shareholder value. This dramatic transition must be understood. The changes that were set into motion in the 1980s have had a significant impact on the economy and society as a whole. While the strategy of the majors, profitability, efficiency, and the creation of shareholder value, is straightforward, the more important element to identify is how this strategy has influenced the organizational structure of these companies.

In contrast to the traditional administrative planning model, and the later attempts to achieve growth through diversification, the major oil companies that emerged from the 1980s preferred seeking out competitive advantages. While the majors remained vertically-integrated, with operations across all the segments of the industry, the need for coordination and communication across divisions has diminished with the evolution of markets for oil and oil products. (Grant, 2005) Each division was no longer required to conduct business exclusively with one another. Rather, divisions were encouraged to meet their performance targets through whichever mechanism was most effective. As a result, corporate planning was replaced by decentralized decision-making at the divisional level. (Grant, 2005) In essence, each division resembled an individual business enterprise.

Another wave of merger activity would ensue in the late 1990s. As was the case at the onset of mergers in the 1980s, substantial price depreciation preceded M&A activity. Following the East Asian financial crisis of 1997-98, oil prices dropped as low as \$10 per barrel, which in combination with the merger between BP and Amoco, created an

imperative for the rival majors to increase efficiency and competitiveness. (Weston, 2002) From 1998-2001, 9 major horizontal mergers occurred. This period brought forward the “supermajors”. The largest of the mergers was between Exxon and Mobil on 12/1/1998.

Value Changes in the 9 Major Oil Industry Mergers, 1998-2001 (Weston, 2002)

Date	Acquirer	Acquired	Value Change (-10,+10) (\$ billions)		
			Target	Acquirer	Combined
8/11/1998	BP	Amoco	10.6	1.9	12.5
12/1/1998	Total	Petrofina	2.5	(4.7)	(2.2)
12/1/1998	Exxon	Mobil	11.7	5.4	17.1
4/1/1999	BP	Arco	4.7	7.9	12.6
7/5/1999	TotalFina	Elf Acquitaine	5.9	(3.2)	2.7
10/16/2000	Chevron	Texaco	3.8	(1.1)	2.7
2/4/2001	Phillips	Tosco	1.2	(0.2)	1.0
5/29/2001	Conoco	Gulf Canada	1.1	(0.3)	0.7
11/18/2001	Phillips	Conoco	2.3	2.1	4.5
		Totals	43.8	7.8	51.6

The value changes are calculated from 10 days before the announcement date to 10 days after. The measurement of the value changes adjust for market changes using the Dow Jones Major World Oil Companies Index (DJWDOIL).

Prior to the 1970's, the oil and gas industry was identifiable by the dominance of the Seven Sisters. Five of these firms were based out of the US. Each of them operated according to an administrative planning model characterized by centralized, forecast-driven systems of corporate planning. Into the early 1980s, the majors were the beneficiaries of high oil prices. These revenues were implemented into a growth model reliant on diversification into other lines of business. Although by the mid-80s, the majors began divesting non-core lines of businesses, abandoning their diversified structure in favor of vertical specialization. The period of “de-integration”, as referred to by Grant (2005), was accompanied by the rise of a powerful “free market” ideology,

inspired largely by the work of Michael Jensen and William Meckling (1976), that began to be reflected by the corporate agendas of the oil majors.

Under the ideological banner of shareholder value, the corporate goals of the majors were redefined. In the 1970s, the emphasis was on growth and various operational goals such as replacing reserves, geographic expansion, and technological progress. (Grant, 2005) By the 1980s, profitability and shareholder value achieved exclusivity. As mentioned already, the reorientation of corporate goals from a variety of strategic and operational goals towards an emphasis on profitability and shareholder value served as the catalyst for the restructuring activities of the 1980s. The emergence of this corporate ideology is evidenced by countless statements and press releases espousing the firm's commitment to their shareholders. For example, Mobil (1987) stated “our primary goal is to improve both the short-term and the long-term value of your investment”. In a similar fashion Chevron (1989) made clear that “the company gives the highest priority to improving financial results and the return on its stockholders’ investment”. (Grant, 2005 p.307)

What resulted was the emergence of a multi-divisional organizational structure with operational and strategic autonomy. Each division became increasingly financially accountable. Specific performance targets were set for divisional managers and incentive structures were established that reinforced profitability and efficiency. These organizational features achieved a model that was extremely flexible and responsive to the unpredictable oil market. (Grant, 2003)

IV. Recent Trends in the Major Oil and Gas Companies

The past decade has been extremely profitable for the major oil companies as oil prices rose dramatically from 2003-08. Although during this period there have been a number of important developments. There has even been the declaration by the Financial Times of a new “Seven Sisters”, referring to the 7 state-owned oil companies that now wield their dominant influence in world oil and gas markets. This group is lead by world's oil giant, Saudi Aramco, and includes Russia's Gazprom, China National Petroleum Company, Venezuela's Pdvsa, the National Iranian Oil Company, Brazil's Petrobras, and Malaysia's Petronas. (The Financial Times, 3/11/2007)

Most importantly, the growth of competition from the NOCs and their dominance in the upstream sector has forced the majors to become increasingly aggressive in upstream projects. This trend will only continue to intensify. According to 2009 estimates by PFC Energy, IOC's have full or partial access to only 13% of the world's oil and gas reserves, compared to 19% a decade ago and 85% in 1970. The majors therefore must seek out opportunities and partnerships with national governments in order to access these guarded oil reserves. (Standard & Poor's, 2010)

The majors have also responded by exploring frontier regions and unconventional oil and gas investments. In recent years, the focus has shifted towards expanding natural gas production as many expect it to replace coal for US Power generation. Coal supplies roughly 45% of power generation while natural gas accounts for 23% according to December 2009 figures from the EIA. (Gelsi, 03/26/2010) Chevron, for example, currently has several natural gas projects in Australia. (Wall Street Journal, 03/26/2010) While Exxon Mobil's pending acquisition of XTO Energy Inc. has been the most significant development in the unconventional natural gas market to date. This move

encourages further activity as expectations are that there will be an increasing shift from coal to natural gas for electricity generation. (Gelsi, 03/26/2010)

Overall, Exxon Mobil and Chevron have no plans to reduce capital expenditures in their upstream divisions. Exxon Mobil plans to increase its investment expenditures by 3% in 2010 to \$28 billion and expect to average expenditures between \$25 and \$30 billion per year through 2014. (Wall Street Journal, 03/11/2010) The scarcity and uncertainty of future E&P opportunities has resulted in the adoption of aggressive strategies to overcome the competitive landscape. As Chevron and Exxon Mobil have begun investing heavily during the downturn, ConocoPhillips has committed to sweeping asset divestments and cost-reduction schemes with an emphasis towards shareholder value and becoming lean. (Wall Street Journal, 03/24/2010) In each of these three companies, the focus continues to be efficiency and shareholder value, although the circumstances differ.

But this focus on shareholder value has brought with it another set of challenges. After years of undervaluing and discarding employees at will, the average oil company employee is nearly 50 years old and within the next decade, more than half of the employee base will retire. This leaves an enormous gap in skilled workers. Over the past few decades in the United States alone, the restructuring of the 1980s and under-investment of the 1990s has caused roughly 1.1 million jobs to disappear. (PFC Energy, 07/2009) The perception of the industry as unstable and unpopular has helped to create a “lost generation” of skilled workers. While some firms, such as Exxon Mobil and BP, are taking steps to address the issue, others such as ConocoPhillips, have continued to cut costs during this recent downturn with a planned 4% reduction in its workforce. (Hays, 01/19/2009)

The increasing political pressure surrounding climate change and rising oil prices have urged the majors to consider alternative energy investments and further R&D. Unfortunately, this pressure has not resonated with the big oil firms in the US as many have hoped. Exxon Mobil has been conservative, searching for only the most viable and profitable developments. Aside from their sole biofuels project, an alliance with Synthetic Genomics in 2009, a leader in next-generation biofuels, and the recent push for natural gas with the acquisition of XTO Energy Inc., the company remains committed to oil. This has sparked criticism and outrage from the public on many instances. Even the Rockefeller family, who are significant shareholders in the firm, have begun to urge the firm to invest more in alternative energy. (US News & World Report, 4/1/2010 p 39) Exxon Mobil's reaction has consistently defended its strategy on grounds of profitability, citing the uncertain and primitive state of emerging technologies as insufficiently profitable.

ConocoPhillips has only been involved minimally in initiatives to increase fuel efficiency, develop carbon sequestration, promote water sustainability, and research next-generation biofuels. In next-generation biofuels, Chevron established an 8-year, \$22.5 million research program at Iowa State University in 2007 and was also a founding member of the Colorado Center for Biorefining and Biofuels in March 2007. (www.chevron.com)

Chevron has been more open to alternative energy than its US peers. Since 2000, its subsidiary Chevron Energy Solutions has been involved in projects promoting energy efficiency and alternative energy technologies. These projects include several solar panel installations in California. Chevron Technology Ventures, seeks to implement new technologies into Chevron's core businesses. The R&D expenses were \$835 million in

2008, \$562 million in 2007, and \$468 in 2006. (10-K Report, 2009)

In contrast to the US-based “supermajors”, in 1997, Royal Dutch Shell and BP, accepted that there was a climate change problem. (US News & World Report, 4/1/2010 p 39) Shell Renewables was launched in 1997 and has focused on wind, solar, and photovoltaics, as well as venturing into biofuels, geothermal, and hydrogen technologies. BP Alternative Energy has approached climate change in a similar fashion. Also, BP has changed its name from British Petroleum to Beyond Petroleum. Still, these efforts have commanded an insignificant amount of resources and many critics claim these companies are simply “greenwashing”, or in other words, exaggerating their commitment to the environment in order to improve their image. (Baker, 02/09/2007)

Despite the rhetoric, the Federal government remains the single largest investor in alternative energy technologies. The Obama administration plans to spend \$150 billion over the next decade. While in the past 15 years, the top five oil companies have spent roughly \$5 billion to develop sources of renewable energy. This only accounts for only 10% of the roughly \$50 billion that venture capital funds and other corporate investors have contributed. (Mouwad, 04/07/2009) The major oil companies do not appear to have accepted the notion that they have a responsibility in addressing alternative energy solutions. From a shareholder value perspective, alternative energy remains an incredibly high-risk investment that does not offer a suitable prospect of return.

A Critique of the American Corporate Ideology

1. The Ideology

The strategic planning and resource allocation of the major oil companies in the US has been consistent with their stated corporate objective of maximizing shareholder

value. If one accepts this objective, these firms have been managed adequately. Given the financial performance of the major oil companies historically, it is not reasonable to suggest that within the parameters of their stated objective, these firms have been a mismanaged. This is far from an endorsement of value-based management. Instead, it is necessary to explore the contribution to the overall welfare of society that has accompanied the successful implementation of value-driven strategic management. The imperative to examine the impact of social welfare coincides with the theoretical justification of value-maximization discussed by Jensen (2001, p.13).

“Two hundred years' worth of work in economics and finance indicate that social welfare is maximized when all firms in an economy attempt to maximize their own total firm value.”

With this premise as the foundation for the corporate objective of value-maximization, it is not feasible to suggest that this set of circumstances applies to the oil and gas industry, or any industry for that matter. It seems arbitrary to even argue against a concept so detached from reality. But the tenet of shareholder value continues to dominate the American corporate ideology. A revised theory of value maximization has emerged since the work of Jensen and Meckling (1976). Jensen's “enlightened stakeholder theory” (2001), which promotes long-term value creation rather than simply value creation. Jensen argues that managers must be given a single objective due to the fact that it is impossible to maximize performance across multiple objectives. In addition, Jensen contends that there must be some way of measuring management's performance. For this reason, the stakeholder theory does not provide a clear directive for managers and as a result, there is no way of holding them accountable. (Jensen, 2001) Jensen's argument against stakeholder theory can just as easily apply to his “enlightened stakeholder theory”. Since Jensen suggests that managers seek to maximize firm value

over the long-term, it must be noted that the “long-term” is a vague and indefinite objective. Without clarifying a specific time frame, managers find themselves without a clear directive and unaccountable just as is the case with stakeholder theory.

Contrary to Jensen's logic, a firm can contribute value to society in a variety of different ways. Value does not necessarily need to be consistent with profitability. In fact, industries benefit society through the goods and services they produce and also by serving a functional purpose. For example, the energy sector enables society to function by meeting its energy demands. This function is of far greater significance than the tax revenues that are generated by the industry. So it is reasonable to suggest that firms in the energy sector be managed according to their functional role.

The consequences that have resulted from the majors' emphasis on firm value are evidenced by the enormous misallocation of resources and lack of innovative enterprise within these firms since the 1980s. By outlining these two aspects of the major oil companies presence in the economy, there will be further evidence to suggest that the strategic management in these firms has been fundamentally flawed.

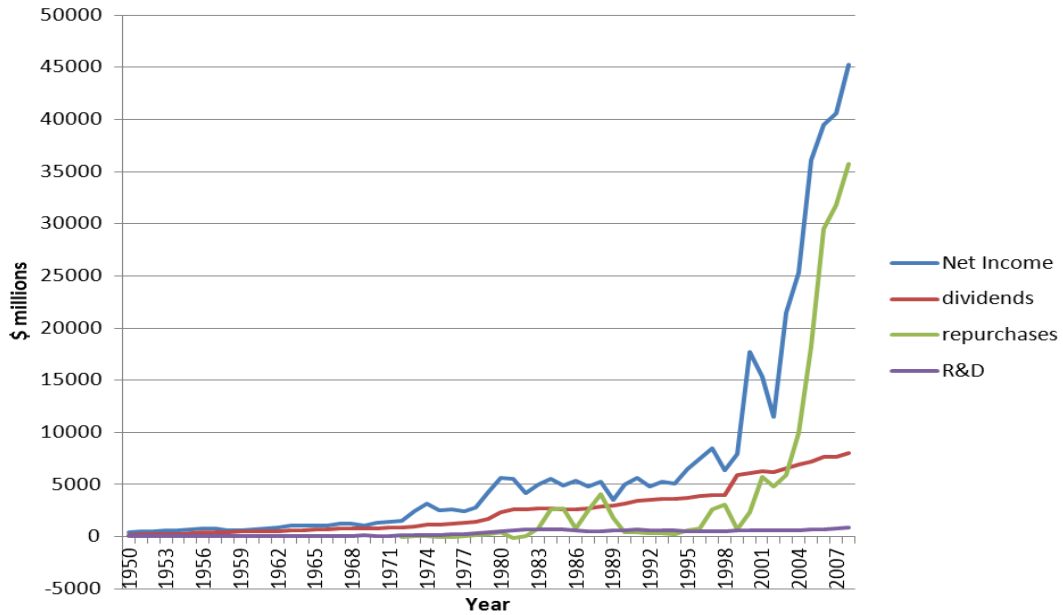
II. The Misallocation of Resources

The preoccupation with profitability that began to characterize American corporate culture in the 1980s has been a source of instability and inequity throughout the US economy. In particular, the negative social and environmental consequences that have resulted from the integrated oil and gas industry are extensive. These consequences are evidenced by the industry's employment trends and catastrophic misallocation of resources. In terms of research and development into alternative energy technologies, there have been virtually no proactive steps taken by the majors. The failure of the

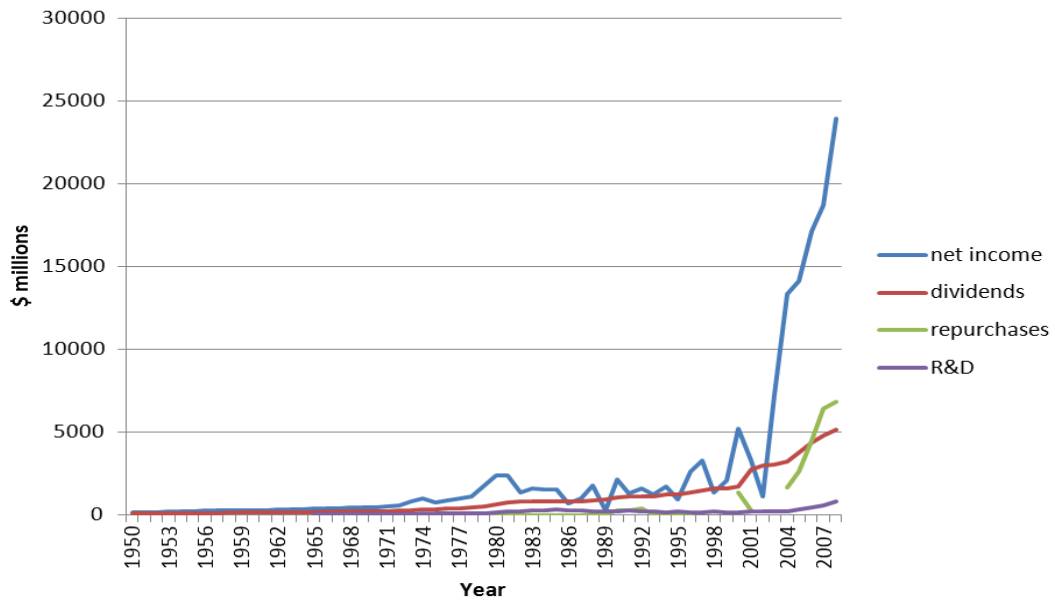
integrated oil and gas companies to provide adequate solutions to address domestic energy and employment needs leaves the US in a precarious position. The resulting crisis for the US is evident in the issues of energy security, climate change, and economic development. In order to comprehend the significance of these impacts, the corporate allocation of resources of the industry participants will be outlined. The effects on employment, R&D, and overall economic contributions can then be evaluated.

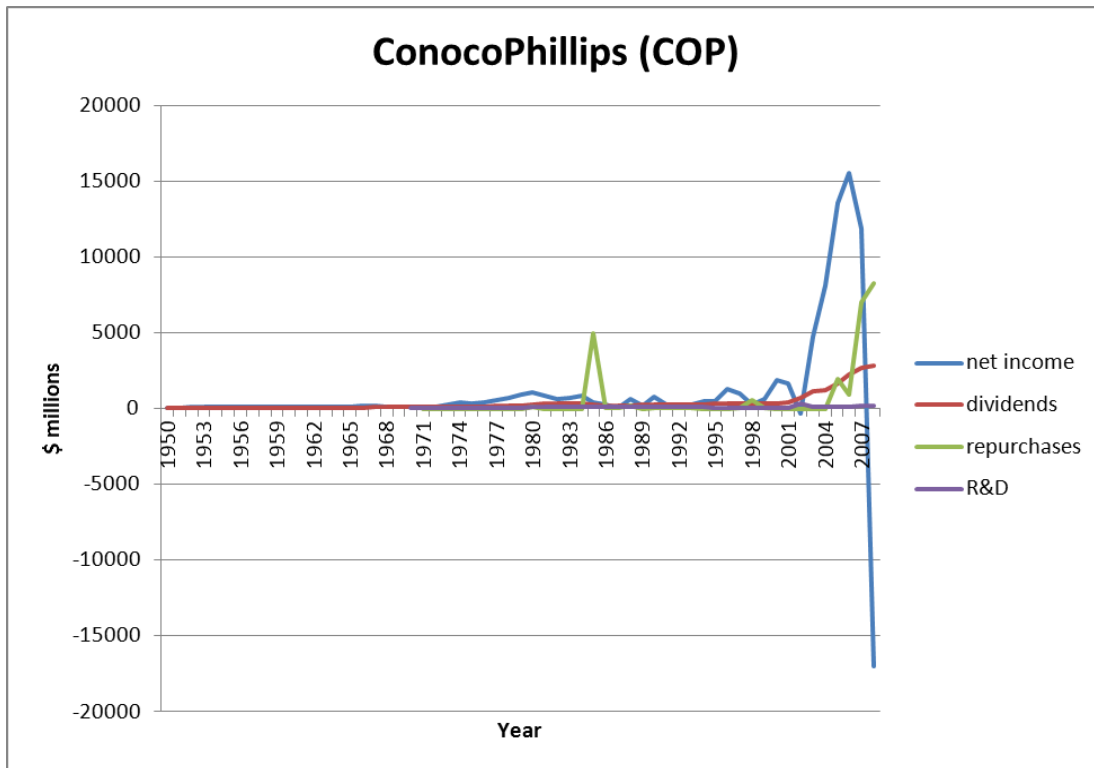
The commitment to the creation of shareholder value resulted in a destructive misallocation of resources. The dispersion of cash to shareholders through stock repurchases became prevalent among the major oil companies in the 1980s. Over the past decade, the amount of cash distributed to shareholders in the form of stock repurchases has increased dramatically. The five major oil companies spent \$198.4 billion repurchasing their own stock from 2000-2008. In addition, \$205.8 billion was paid out in dividends over the same period. Meanwhile, R&D expenditures totaled \$16.1 billion. (EIA, 2009) This represents a considerable opportunity cost when the failure to develop alternative energy technologies is identified.

Exxon Mobil (XOM)



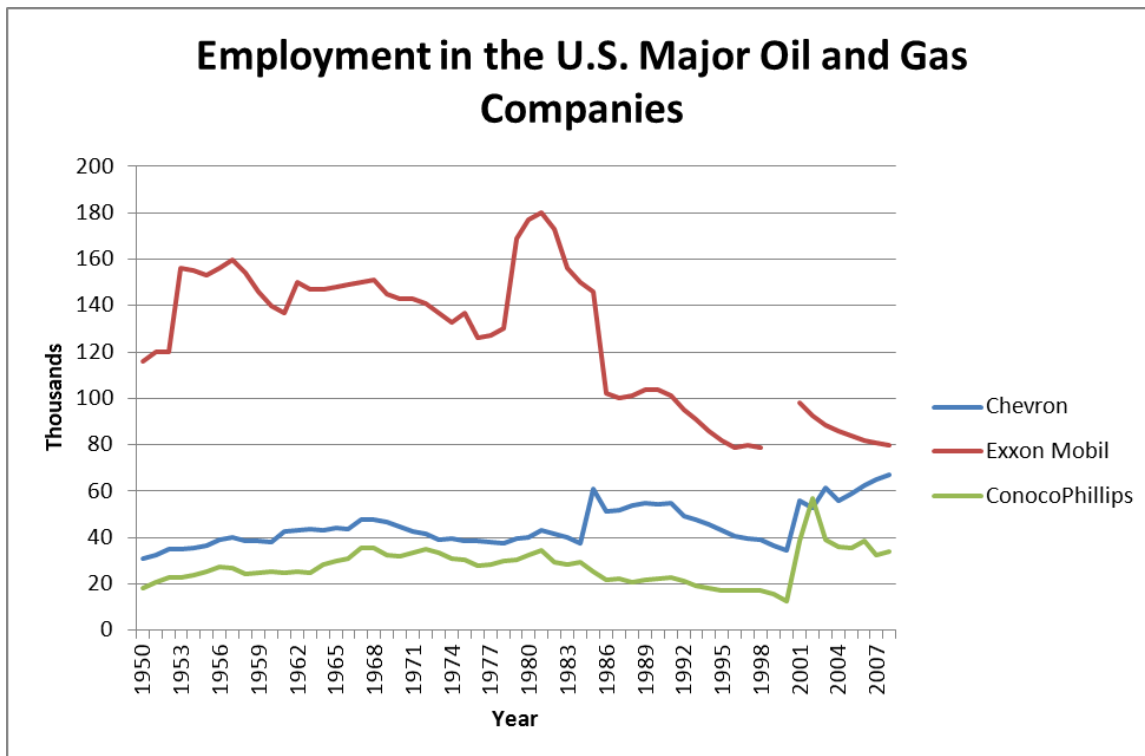
Chevron (CVX)





(Source: Compustat Data)

Not only has the squandering of billions of dollars been of great consequence to the economy but the employment practices of the industry's giants have demonstrated the failures of value-based management. Throughout the past few decades, massive layoffs and cutbacks during cyclical swings have resulted in the disappearance of roughly 1.1 million jobs in the United States. (PFC Energy, 2009, p.23) The chronic undervaluation of the industry's workforce has turned prospective students and skilled-labor away from the oil majors. As a result, a severe skilled-labor shortage has developed. The current conditions have even been characterized as a “war for talent”. (PFC Energy, 7/2009) Now as the nation's energy needs are increasingly difficult to meet, the majors have inadequate human resources available.



(Source: Compustat Data)

The interests of the major oil companies are at odds with those of the nation. These firms command extensive resources and wealth which has consistently been distributed to shareholders rather than invested into the economy. Now as the US economy struggles with high unemployment, dependence on foreign oil, and an inability to address climate change, the major oil companies have continued to only exacerbate the problem.

III. The Lack of Innovative Enterprise

The commitment to the creation of shareholder value does not promote economic growth and development. Either the inability or the unwillingness to promote innovation

in the alternative energy technologies is directly correlated to the industry's commitment to profitability and efficiency. As Lazonick (2010) outlines, innovation is a social process that is cumulative, collective, and uncertain. Given these considerations, it is not sensible for a major oil company to dedicate resources towards technologies independently. For any significant progress to be made, the efforts of each firm must share a similar focus and direction. Although, given the enormous uncertainty of alternative energy technology, the oil and gas majors have been much better served by further fossil fuel production. Without an imperative to confront uncertainty, innovation has remained stagnant. The evolution of the oil and gas majors demonstrates the fact that innovation is not spontaneous. Without the necessary social conditions to foster innovative enterprise, it is highly unlikely that innovation will occur.

Lazonick (2010) identifies three requirements for innovative enterprise, strategy, organization, and finance. By identifying the nature of strategy, organization, and finance within the major oil and gas companies, it is possible to understand the fundamental flaws that inhibit innovation and growth in the industry.

The oil and gas markets are extremely volatile and unpredictable. The cyclical trends that persist in the industry present market and competitive uncertainties for firms. Over time, industry participants have adapted to this environment by developing a flexible, responsive, and efficient corporate model. The model has largely been successful in achieving the desired objectives but the organizational features that foster flexibility and efficiency are not consistent with long-term strategic planning. Without a long-term focus, confronting strategic uncertainty, especially technological uncertainty, is not possible. Even if managers recognize the need for long-term planning, the enormous investment risk and uncertainty involved with developing alternative energy technologies

is not generally compatible with shareholder concerns. While certain circumstances may permit investment and R&D into innovative technologies as is the case in the majors currently, these reluctant and cautious projects do not command the resources and attention necessary.

The inability to confront strategic uncertainty becomes the primary hurdle in obtaining the financial commitment required for promoting innovative enterprise. The major oil companies stress the importance of financial indicators and measures of performance. Firm value largely derives from the interpretation of financial ratios such as return on equity and earnings per share. The focus on various financial ratios and indicators discourages activity that does not improve financial measures. Since high-risk investments do not complement shareholder value in ways that share repurchases or traditional upstream projects do, investment decisions allocate resources in the interest of shareholder and often at the expense of other stakeholders. As Jensen used this context to support his theory of free-cash flow, it was accepted that managers should “disgorge the cash rather than investing it at below the cost of capital or wasting it on organization inefficiencies”. (1986, p.2) The problem with the depiction of cash flow as “free” is that it does not consider, for example, the environmental cost that accompanies the generation of cash flow for a business enterprise. In particular, the depletion of fossil fuel resources is not recognized as a cost in Jensen’s theory.

The uncertain environment of the integrated oil and gas industry discourages the strategic planning and financial commitment necessary for the development of innovative enterprise. Both strategy and finance are of importance but the organizational model of a firm is what determines its innovative capabilities. (Lazonick, 2010) As detailed previously, the major oil and gas companies are vertically-integrated, multi-divisional

firms. The separation of each division into individual business enterprises with performance targets and financial accountability promote efficiency and flexibility at the expense of any long-term strategic planning. As Lazonick recognizes innovation as a social process that is cumulative, uncertain, and collective, it is clear that the presence of autonomous business divisions does not coincide with innovation.

Conclusion

The alleged virtues of “shareholder value” are not present in the integrated oil and gas industry. The premise that maximizing firm value will benefit society is contradicted by the empirical evidence outlined here. The United States must confront its dependence of foreign oil, struggling economic development, and climate change. Despite the urgent needs of society, the major oil and gas companies, through their dedication to shareholder value, have benefited their shareholders at the expense of society. Rather than addressing energy independence, the environment, and job-creation, billions of dollars have instead lined the pockets of shareholders. This phenomenon is not the result of isolated behavior by corporate managers. It is the result of a fundamentally flawed corporate governance model founded upon value-maximization.

It is becoming increasingly evident that the energy sector and the national energy policy must complement each other in order for either side to benefit in the long-run. Sensible corporate governance reform must balance the nation's interests with commercial interests. In order to achieve this balance, value-maximization can no longer be the primary corporate objective for the major oil firms controlling such a vast amount of wealth and resources. The problem then arises as to how can the major oil and gas companies be managed, if not according to firm value, in a manner that is consistent with

the national energy policy? Does the traditional “stakeholder theory” provide an appropriate solution?

Corporate governance reform presents a complex challenge. The detail and attention necessary to address this issue is beyond the scope of this paper but future research into this area will need to recognize the functional role of a corporation in the economy. In other words, it is the functional purpose that a firm offers that contributes the greatest value to society. For instance, the oil and gas industry helps meet the nation’s energy demands. This fundamental role that the industry fulfills allows for society to function. It is of far greater importance than the tax revenues that are generated but the current corporate governance models in the US operate as if tax revenues were the only factor.

Re-characterizing the nature of management’s responsibilities with respect to the functional purpose of a corporate organization can offer the innovative and dynamic business enterprises necessary for progress to be realized in terms of energy independence, economic development and climate change.

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