# The Distribution of Ownership of U.S. Oil and Natural Gas Companies

**Robert J. Shapiro and Nam D. Pham**

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S O N E C O N

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## I. Introduction

The economic and social benefits of broad ownership of public corporations are well established. The first benefit is economic growth: investors usually seek the highest risk-adjusted returns available; and broad ownership constrains managers to invest in the factors that can help secure those returns, including new plants and equipment, trained and knowledgeable personnel, and research and development. The second benefit is economic efficiency: the economy's overall efficiency depends, in important part, on the capacity of financial institutions to allocate capital where it can be used most productively; and broad ownership provides the liquidity necessary to help ensure those productive allocations. The third major benefit is social progress: broad ownership of public corporations can ensure that large numbers of people benefit directly from the healthy investment returns created by an efficient and productive growing economy.

Given the range of important benefits associated with broad ownership of public companies, a public perception of concentrated ownership in companies and industries critical to a nation's economy should raise serious concerns, especially when the industry's prices and profits rise sharply. The U.S. oil and natural gas industry and its leading companies have experienced substantial increases in prices and profits over the past three years, raising questions for some members of Congress about who benefits from the higher profits. The price of oil rose from an average of $26.68 per-barrel in 2000 to $34.91 in 2004, $48.18 in 2005 and $58.41 per-barrel in 2006, for a 60 percent increase in two years and nearly 120 percent in six years.[2]

These steep increases followed more than a decade of falling real oil prices, and reflect principally a sharp and sustained rise in worldwide demand led by China, India and the United States. This collides with the impact on oil production of years of low investment by the state-owned oil companies which control 80 percent of all oil production, and the Saudi policy of constraining OPEC production quotas when Western oil inventories rise.[3] The higher prices unsurprisingly have produced strong returns for oil and natural gas companies, well ahead of the rest of the economy – but once again, following a long period in which low oil and natural gas prices produced industry returns that substantially lagged those of the rest of the economy. Figure 1 below tracks the daily returns of a leading Index of U.S. oil and natural gas companies (AMEX OIL), compared to the S&P 500 Index for the overall economy, from August 1983 to August 2007. The returns earned by oil and natural gas companies roughly tracked the returns of all companies in all other industries from 1983 to 1994, significantly underperformed the economy-wide average from 1994 to 2004, and then substantially out-performed that average

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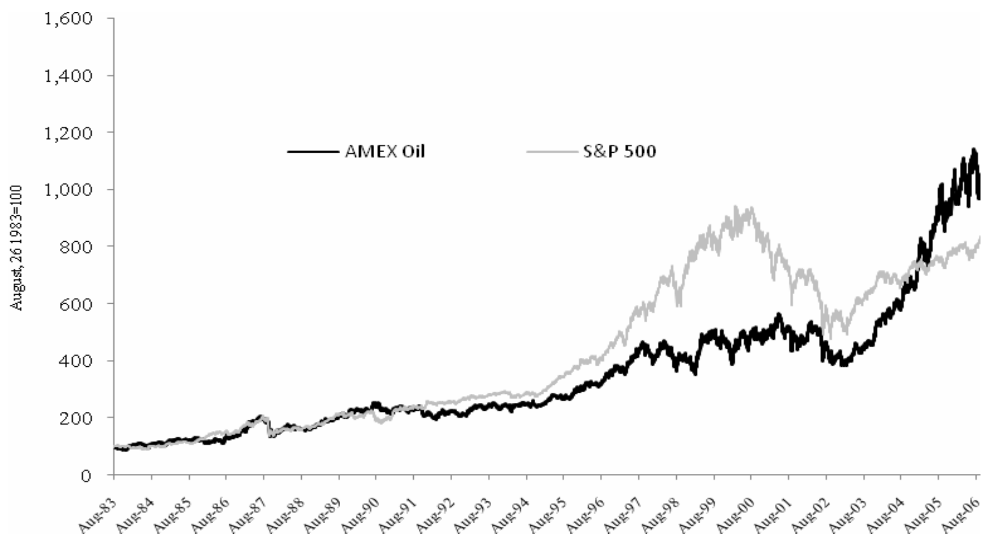
[1] This report was prepared with support from the American Petroleum Institute (API). All analysis and views expressed here are those solely of the authors.

[2] Energy Information Administration, "World and U.S. Crude Oil Prices," U.S. Department of Energy, http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm.

[3] See, for example, Robert J. Shapiro and Nam D. Pham, "The Economic Impact of a Windfall Profits Tax on Federal, State and Local Public Employee Pension Funds," February 2006, and "The Economic Impact of a Windfall Profits Tax on Savers and Shareholders," November 2005; www.sonecon.com.

from 2005 to the present. The data show, in short, that the oil and natural gas industry does not have a sustained record of abnormally high profits or returns.

**Figure 1: Returns for the U.S. Oil Sector Compared to the Overall Economy: Daily Returns for the AMEX Oil Index and S&P 500 Index, August 1983-August 2007**[4]




It is also sometimes suggested that Congress should treat oil and natural gas industry profits differently from those of other industries, because the ownership of these companies is allegedly dominated by the holdings of company executives and other insiders. We have investigated this claim, and the data show clearly that the oil and natural gas industry is very broadly owned, with only very small portions held by company insiders.

- Across the oil and natural gas industry, 1.5 percent of the total outstanding shares of its public companies are owned by the officers and board members of those companies ("insiders"), compared to 29 percent owned by individual investors who manage their own holdings and who are not insiders, 42.7 percent owned or held by mutual funds and other asset management companies that have mutual funds, 18.1 percent owned or held by asset management companies that do not have mutual funds, and the remaining 8.7 percent owned or held and directly managed by pension funds, insurance companies, endowments and foundations, banks and other financial institutions.

- The data show that this general pattern also holds across the three main oil and natural gas sub-industries:

[4] The Amex Oil Index (XOI) is a price-weighted index that measures the performance of the oil industry through changes in the prices of a cross section of widely-held corporations involved in the exploration, production, and development of petroleum; http://www.amex.com.

- Insiders own 0.7 percent of the shares of integrated oil and natural gas companies – compared to 37.2 percent owned by individual investors who manage their own holdings, 53.2 percent owned or held by asset management firms, and 8.9 percent owned or managed by other institutions.

- Insiders own 3.2 percent of the shares of oil and natural gas operations companies – compared to 15.4 percent owned by individual investors who manage their own holdings, 73.6 percent owned or held by asset management firms, and 7.8 percent owned or managed by other institutions.

- Insiders own 2.5 percent of the shares of oil and natural gas service companies – compared to 15.4 percent owned by individual investors who manage their own holdings, 72.6 percent owned or held by asset management firms, and 9.5 percent owned or managed by other institutions.

- Insider ownership is smaller still in the industry's larger firms: three-to-five companies account for more than half of each sub-industry's total market value; and in all three sub-industries, insiders own a significantly smaller share of the large companies than of the sub-industry as a whole.

- These data, along with previous analyses that we conducted,[5] further suggest that ownership of oil and natural gas company shares is broadly middle-class.

  - 42.7 percent are owned or held by mutual funds and other asset management companies that have mutual funds. Mutual funds manage accounts for 55 million U.S. households with a median income of $68,700[6], and the owners of mutual funds include 16 percent of households with incomes of $25,000 or less, as well as 83 percent of households with incomes of $100,000 or more.

  - Earlier analysis found that an estimated 27 percent of oil and natural gas company shares are held in private and public pension funds, and these funds manage assets, directly or indirectly, on behalf of 129 million pension-fund participants whose accounts have an average value of $62,280. For example, some 28 million public pension accounts in over 2,650 public employee pension funds represent the major retirement security for current and already-retired soldiers, teachers, police and fire personnel, social workers and office workers employed at every level of government. In 2004, these funds held approximately $64 billion in shares of U.S. oil and natural gas companies.[7]

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[5] Shapiro and Pham, "The Economic Impact of a Windfall Profits Tax on Federal, State and Local Public Employee Pension Funds," *op. cit*, and "The Economic Impact of a Windfall Profits Tax on Savers and Shareholders," *op. cit*.
[6] Investment Company Institute, http://www.ici.org/funds/abt/ppr_07_ret_role_of_funds.pdf.
[7] Shapiro and Pham, "The Economic Impact of a Windfall Profits Tax on Savers and Shareholders," *op. cit*.

- An estimated 14 percent of oil and natural gas company shares are held in IRA-type retirement accounts with an average value of $22,465, owned by 45 million Americans.[8]

## II. Data Procedure and Analysis

We analyzed the ownership of the oil and natural gas industry as a whole. We also analyzed ownership in the three major sub-industries: 1) integrated oil and natural gas companies engaged in exploration, production, refining and transportation; 2) oil and natural gas operations companies engaged in exploration, storage and transportation of refined products; and 3) oil and natural gas service companies engaged in manufacturing drilling rigs and equipment and providing services such as drilling, evaluation and completion of wells.

The analysis is based on ownership data provided by publicly-traded companies to the Securities and Exchange Commission (SEC). We organized the data on reported shareholders into three groups: corporate insiders, institutional investors, and individual investors who trade for their accounts and are not insiders. An insider shareholder is an individual directly linked to the company as an owner, director or officer, and is required to report any purchases or sales of shares in their company to the SEC (Form 4).[9] Institutional investors are businesses that buy and sell securities for their own accounts or the accounts of other organizations or persons, with investment discretion over at least $100 million. These institutions include professional asset managers, including those that operate mutual funds as well as others such as hedge funds and private equity funds. These institutional investors also include public and private pension funds, insurance companies, endowment and foundations, banks and other financial institutions. In the SEC filings on ownership, the holdings reported for this last group of institutional investors cover those which they manage directly, while those assets managed by others are reported as holdings of those management institutions.

As of July 2007, 138 oil and natural gas companies submitted ownership data in filings with the SEC.[10] These 138 companies include 12 U.S. and 15 foreign-based integrated oil and natural gas companies, 74 U.S. operations companies, and 37 U.S. service companies. Foreign-based companies, however, are not required to report holdings by their insiders. In addition to SEC data, we consulted the commercial WorldScope database for additional data on insider holdings.[11] We disaggregated the data on institutional investors, as reported, into asset management firms that offer mutual funds, such as Fidelity, Putnam or Citigroup (368 companies); asset management firms that do not have mutual funds, such as hedge funds, private equity funds, and trust and other institutions that also manage assets for public and private pension funds, institutions and private investors (1,206 companies); and those institutions that manage their own assets, including the self-managed assets of public pension funds (30 funds), private pension funds (23 funds), banks (132 institutions), endowments and foundations (16

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[8] Shapiro and Pham, "The Economic Impact of a Windfall Profits Tax on Federal, State and Local Public Employee Pension Funds," *op.cit.*

[9] http://www.holdings.nasdaq.com/asp/help/FAQ.asp.

[10] For more detailed descriptions of these ownership categories, see explanations for SEC Form 4 and Form 13f, http://www.sec.gov/answers/form13f.htm.

[11] See http://holdings.nasdaq.com/asp/help/FAQ.asp.

entities), insurance companies (44 companies) and other financial institutions (152 institutions). The last category is individual investors who are not insiders and manage their own assets; their oil and natural gas holdings are derived by netting insider and institutional holdings from total shares.

Table 1 presents the basic distribution of ownership of U.S. oil and natural gas companies. Corporate insiders hold 1.5 percent of the industry's total shares, compared to 29 percent held by individual investors who trade for themselves and are not insiders, and 69.5 percent held by institutional shareholders, predominantly asset managers who own or hold nearly 61 percent of the industry's shares. Across the three major sub-industries, integrated oil and natural gas companies have the smallest portion held by insiders (0.7 percent) and the largest owned by individual investors trading for themselves (37.2 percent), while the operations and the services sub-industries have the largest portions held by institutional investors (81.4 percent and 82.2 percent), especially asset management firms (73.6 percent and 72.6 percent).

**Table 1: Ownership of Oil and Natural Gas Industry and Sub-Industries, 2007**
**(Percentage of Outstanding Shares, Weighted by Market Capitalization)** [12]

| | Oil & Gas Industry | Integrated Sub-industry | Operations Sub-industry | Services Sub-industry |
|---|---|---|---|---|
| **Corporate Insiders** | **1.5%** | **0.7%** | **3.2%** | **2.5%** |
| **Institutional Investors** | **69.5%** | **62.1%** | **81.4%** | **82.2%** |
| ***Asset Management Firms*** | 60.8 | 53.2 | 73.6 | 72.6 |
| *With mutual funds* | 42.7 | 39.2 | 48.0 | 49.0 |
| *Without mutual funds* | 18.1 | 14.0 | 25.6 | 23.6 |
| ***Pension Funds*** | 3.9 | 4.1 | 3.9 | 3.3 |
| *Public* | 3.3 | 3.5 | 3.2 | 2.7 |
| *Private* | 0.6 | 0.6 | 0.7 | 0.6 |
| ***Insurance*** | 0.9 | 1.0 | 0.7 | 0.6 |
| ***Endowments/Foundations*** | 0.1 | 0.1 | 0.0 | 0.2 |
| ***Banks*** | 3.2 | 3.4 | 2.3 | 3.5 |
| ***Other Financial Institutions*** | 0.6 | 0.3 | 0.8 | 1.9 |
| **Individual Investors** | **29.0%** | **37.2%** | **15.4%** | **15.4%** |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

Once again, it is noteworthy that asset management companies hold and manage oil and natural gas shares for many of the other classes of owners examined here. For example, the reported shares of oil industry stock owned by pension funds and directly managed by them, 3.9 percent, is a small fraction of their total holdings of oil and natural gas shares. In a previous study, we found that pension funds own about 27 percent of all oil and natural gas industry shares – 15 percent owned by private pension funds, and 12 percent owned by public employee

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[12] These ownership shares are not simple averages but weighted within each sub-industry for each company's market capitalization, which ranges from a low of $5 million (United Heritage, an operations firm) to a high of $475 billion (Exxon-Mobil, the largest integrated oil and natural gas company).

pension funds.[13] The difference of more than 23 percent of industry shares (15 percent + 12 percent = 27 percent – 3.9 percent) represents pension fund holdings managed by others, including mutual funds, private equity funds, and other asset managers. Counting all those sources, for example, the New York State Teachers Retirement System reported that 6.6 percent of its domestic equity holdings were in energy companies in 2004, including $1.5 billion in Exxon and $500 million in Chevron.

We also found in a previous study that 14 percent of industry shares are held in IRA and other IRA-type personal retirement accounts. Oil shares held in IRAs that are managed directly by the investor appear in this analysis as part of the holdings of individual investors; and we estimate that they comprise about 6 percent of all outstanding oil industry shares, or nearly one-fifth of the total oil shares held by individual investors. Similarly, oil shares held in IRAs that are managed by institutions appear in this analysis as part of the holdings of asset management companies; and we estimate that they comprise about 8 percent of all outstanding oil company shares, or a little less than one-eighth of the total oil shares held by asset management companies.

These issues do not affect the portion of industry shares held by insiders: the 1.5 percent of the oil industry's outstanding shares reported to be owned by insiders includes the shares they own and manage directly as well as any shares they own which are managed by institutions.

## III. The Different Classes of Owners

Economic researchers have found that the ownership composition of a company or industry affects its performance. For example, some analysts have found that large insider ownership can create an "entrenchment effect," in which insiders promote their personal interest through corporate stock purchases and transactions,[14] while other economists argue that increased insider holdings can better align management's interests with those of other shareholders and improve a company's financial performance.[15] The very small ownership shares of insiders in the oil and natural gas industry, however, suggest that any positive or negative effects associated with large insider ownership has had little, if any, impact on the performance or prices of the oil and natural gas industry.

Oil and natural gas companies clearly have very broad-based public ownership, a quality broadly associated with the potential for higher growth and returns.[16] Economic research has found, for example, that companies with broad ownership have greater access to financing, which enables firms to expand their operations and geographical scope. Moreover, larger size and a more diversified market can produce economies of scale and greater bargaining power with

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[13] Shapiro and Pham, "The Economic Impact of a Windfall Profits Tax Savers and Shareholders," *op.cit.*

[14] Chakravarty, Sugato and John J. McConnell, "Does Insider Trading Really Move Stock Prices?" *The Journal of Financial and Quantitative Analysis*. Vol. 34, No. 2, 1999, pp. 191-209.

[15] Hotchkiss, Edith S. and Deon Strickland, "Does Shareholder Composition Matter? Evidence from the Market Reaction to Corporate Earnings Announcements," *The Journal of Finance*, Vol.58, No. 4, 2003,.pp. 1469-1498.

[16] Pagano, Marco and Alisa Roell, "The Choice of Stock Ownership Structure: Agency Costs, Monitoring and the Decision to Go Public," *Quarterly Journal of Economics*, Vol.113, No. 1, 1998, pp. 187-225.

suppliers and buyers which will raise financial returns.[17] Other studies have found that the impact of broad ownership on a company's growth and diversification enhances its ability to attract personnel with specialized knowledge and skills.[18] Most important, broad public ownership can lower a company's cost of capital, which in turn promotes investment and growth;[19] and as a company's ownership broadens, larger numbers of stockholders demand more information, compelling managers to improve the firm's efficiency and strategy.[20]

Among owners, institutional owners have received the most attention from researchers, because they hold an estimated 60 percent of shares in U.S. companies.[21] The enormous financial resources and economic reach of institutional investors are evident in their sheer assets, average size and the numbers of entities and accounts.

**Table 2: U.S. Institutional Investors: Assets, Entities and Accounts, 2006**[22]

| | Assets (billion) | Number of Entities | Average Size (million) | Number of Accounts | Assets per Account |
|---|---|---|---|---|---|
| **Mutual Funds** | $10,414 | 8,120 | $1,282.5 | 289,977,000 | $35,912 |
| **Non-Mutual Fund Managers** | $5,065 | 27,052 | $187.2 | -- | -- |
| **Public Pension Funds** | $4,138 | 2,656 | $1,558.0 | 18,012,000 | $229,735 |
| **Private Pension Funds** | $5,581 | 683,070 | $8.2 | 101,794,000 | $54,827 |
| **Insurance** | $6,137 | 6,975 | $879.9 | -- | -- |
| **Endowments/Foundations** | $891 | 71,095 | $12.5 | -- | -- |
| **Banks and Savings Institutions** | $22,811 | 8,650 | $2,637.1 | -- | -- |

As noted earlier, the assets of various kinds of institutional investors are not purely mutually exclusive. According to the Investment Company Institute, for example, 13 percent of the reported holdings of mutual funds represent assets managed by those funds for public and private pension funds, endowments and foundations.[23] It is likely that an even larger share of the assets of non-mutual fund management companies are the holdings of banks and other financial institutions, pension funds, hedge funds, endowments and foundations.[24] Moreover, as described

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[17] Mascarenhas, Briance, "Domains of State-Owned, Privately Held, and Publicly Traded Firms in International Competition," *Administrative Science Quarterly,* Vol. 34, No. 4, 1989, pp. 582-597.

[18] *Ibid.*

[19] Lowry, Michelle and G. William Schent, "IPO Markey Cycles: Bubbles or Sequential Learning?" *The Journal of Finance,* Vol. 57, No. 3, June 2002, pp. 1171-1200.

[20] Belkaoui, Ahmed and Ellen Pavlik, "The Effects of Ownership Structure and Diversification Strategy on Performance," M*anagerial and Decision Economics*, Vol. 13, No. 4, 1992, pp. 343-352.

[21] Parthiban, David and Rahul Kochhar, Edward Levitas, "The Effect of Institutional Investors on the Level and Mix of CEO Compensation," *The Academy of Management Journal*. Vol. 41, No. 2, 1998.

[22] www.ici.org/stats/mf/107fb_datasec_6.pdf, www.ici.org/stats/mf/107fb_datasec_6.pdf, www.federalreserve.gov/releases/z1/Current/z1.pd, www2.fdic.gov/qbp/2007mar/qbp.pdf, www.pionline.com/apps/pbcs.dll/article?, www.census.gov/govs/www/retire05view.html, www.dol.gov/ebsa/pdf/privatepensionplanbulletinhistoricaltables.pdf, www2.fdic.gov/qbp/2007mar/qbp.pdf.

[23] www.ici.org/stats/mf/107fb_datasec_6.pdf.

[24] For example, the Private Equity Council estimates that pension funds account for 40 percent of the $1.5 trillion invested in private equity funds, which are a component of the non-mutual fund asset manager class. www.privateequitycouncil.org/wordpress/wp-content/uploads/pec_primer_layout_final.pdf.

above, we estimate that approximately 23 percent of the oil and natural gas shares owned by pension funds are managed by outside asset management institutions.

Both individually and as a group, institutional investors have become more aggressive in recent years about reviewing the management performance and strategic decisions of the companies in which they invest, which is consistent with their responsibilities and incentives to secure the highest returns for their clients.[25] Some institutional investors also collaborate through organizations such as the Council of Institutional Investors, pooling their holdings for proxy votes and shareholder resolutions, as well as litigation, and exerting pressure on regulatory bodies to press for changes in under-performing firms and prevent insiders from self-dealing.[26]

While most institutional investors do not release information on the characteristics of those they represent, the data clearly suggest that these institutional investment entities hold and manage a large share of U.S. oil and natural gas companies on behalf of largely middle-class investors. Though 1.5 percent of oil and natural gas company shares are held by high-income corporate directors and officers, almost 43 percent of industry shares are held in mutual funds; and the typical owner of mutual fund shares is a middle-class household. Currently, some 94 million Americans in 55 million households with a median income of $68,700 invest in mutual fund shares, including 16 percent of U.S. households with incomes below $25,000 as well as 83 percent of households with incomes of $100,000 or more.[27] While no data exists on the precise percentage of mutual fund investors who hold oil and natural gas shares through those funds, including pension participants, it is very likely that the tens of millions of households whose mutual fund portfolios include oil and natural gas shares closely resemble the average, middle-income mutual fund holder. Similarly, 37 percent of American households have IRA and other personal retirement accounts, usually managed by institutional investors. Research has found that 14 percent of oil and natural gas industry shares are held in those accounts;[28] and though no definitive data exists on the average income of IRA account owners, the $22,465 average value of their retirement accounts suggests that the vast majority are also owned by middle-class households.

## IV. The Distribution of Ownership by Sub-Industries

Integrated oil and natural gas companies account for more than 62 percent of the overall industry's total market value of $1.5 trillion, compared to operations companies that account for about 24 percent of that total and services companies that account for less than 14 percent.[29]

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[25] Parthiban *et. al.,op. cit.;* also Parthiban, David and Michael A. Hitt, Javier Gimeno, "Influence of Activism by Institutional Investors on R&D,*" The Academy of Management Journal*, Vol. 40, No. 1, 2001.

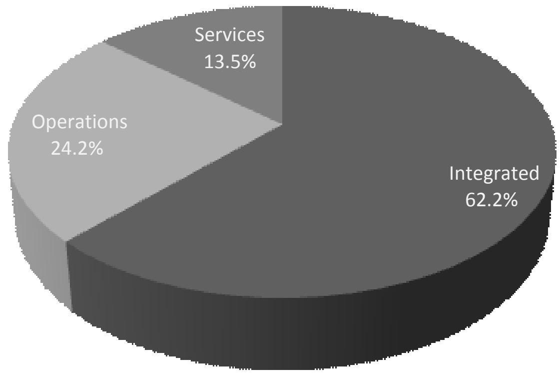
[26] Council of Institutional Investors. www.cii.org/about/retrospective.htm.

[27] Investment Company Institute. http://www.ici.org/funds/abt/ppr_07_ret_role_of_funds.pdf.

[28] Shapiro and Pham, "The Economic Impact of a Windfall Profits Tax Savers and Shareholders," *op.cit.*

[29] As of July 2007, the Edgar database contained 40 integrated oil and natural gas companies (22 domestic and 18 foreign), 354 operations companies (300 domestic and 54 foreign) and 134 service companies (115 domestic and 19 foreign).

**Figure 2: Oil and Natural Gas Sub-Industries' Share of the Industry By Market Capitalization, 2007**




***Ownership in the Integrated Oil and Natural Gas Sub-Industry***

Our analysis collected SEC data on 27 integrated oil and natural gas companies, including 12 U.S. based firms and 15 foreign-based firms. The 15 foreign-based firms in our database do not disclose holdings by insiders or other individual investors, and therefore this analysis of ownership in this sub-industry covers the 12 U.S.-based firms.

This sub-industry is highly concentrated, with three companies (Exxon-Mobil, Chevron and ConocoPhillips) accounting for more than 92 percent of its total market capitalization. These three, large integrated companies have an average market value of $261 billion or nearly 35 times the $7.5 billion average market value of the other nine companies. Our analysis found some differences in the ownership structure of the firms in the two groups. Insiders hold a much smaller ownership share of the very large companies than of the other companies in the sub-industry (0.5 percent compared to 3.9 percent), a general pattern repeated in the other two sub-industries. In addition, individual investors who are not insiders hold greater stakes in the very large integrated companies than in the smaller integrated firms (39.1 percent compared to 15.0 percent), while institutions hold substantially larger ownership shares of the smaller companies than of the big three (81.1 percent compared to 60.4 percent). In particular, asset management firms with mutual funds hold a substantially larger share of the outstanding stock of the smaller integrated oil and natural gas companies than of the big three integrated companies (57.5 percent compared to 37.6 percent).

**Table 3: Distribution of Ownership of Integrated Oil and Natural Gas Companies, 12 U.S.-Based Companies, 2007 (Percentage of Outstanding Shares, Weighted for Market Cap)**

| | All Integrated Oil and Gas | Top Three Companies | Other Companies |
|---|---|---|---|
| **Corporate Insiders** | **0.7%** | **0.5%** | **3.9%** |
| **Institutional Investors** | **62.1** | **60.4** | **81.1** |
| ***Asset Management Firms*** | 53.2 | 51.4 | 74.0 |
| *With mutual funds* | 39.2 | 37.6 | 57.5 |
| *Without mutual funds* | 14.0 | 13.8 | 16.5 |
| ***Pension Funds*** | 4.1 | 4.1 | 4.0 |
| *Public* | 3.5 | 3.5 | 3.4 |
| *Private* | 0.6 | 0.6 | 0.6 |
| ***Insurance*** | 1.0 | 1.0 | 0.6 |
| ***Endowments/Foundations*** | 0.1 | 0.1 | 0.0 |
| ***Banks*** | 3.4 | 3.5 | 2.1 |
| ***Other Financial Institutions*** | 0.3 | 0.3 | 0.4 |
| **Individual Investors** | **37.2** | **39.1** | **15.0** |
| **Total** | **100.0%** | **100.0%** | **100.0 %** |

***Ownership in the Oil and Natural Gas Operations Sub-Industry***

Our analysis collected SEC data for 74 operations companies in the oil and natural gas industry. This analysis excluded a small fraction of foreign-based companies which once again do not provide data on insider and other private investor holdings.[30] Overall, the operations sub-industry has significantly greater institutional ownership than the sub-industry of integrated companies (81.4 percent, compared to 62.1 percent). Like the integrated sub-industry, the operations sub-industry is also concentrated: five companies – Occidental Petroleum, Valero Energy, Devon Energy, Apache and Anadarko Petroleum – account for roughly 55 percent of the sub-industry's total $331.5 billion market capitalization. As with integrated oil and natural gas companies, insiders hold a smaller ownership share of the larger operations companies than of smaller companies in the sub-industry (1.5 percent, compared to 5.2 percent). In this case, institutional investors also hold a larger share of the very large operations companies than of the smaller ones (84.5 percent, compared to 77.8 percent), especially the asset management firms that operate mutual funds (53.2 percent, compared to 41.9 percent). In addition, personal investors who are not insiders hold somewhat larger stakes in the smaller operations companies than in the big five companies in the sub-industry (17.0 percent, compared to 14.0 percent).

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[30] As of July 2007, there were 54 foreign-based out of 354 operations oil and natural gas companies traded on U.S. exchanges.

**Table 4: Distribution of Ownership of Operations Oil and Natural Gas Companies, 74 U.S.-Based Companies, 2007 (Percentage of Outstanding Shares, Weighted for Market Cap)**

| | All Operations Companies | Top Five Companies | Other Companies |
|---|---|---|---|
| **Corporate Insiders** | **3.2%** | **1.5%** | **5.2%** |
| **Institutions** | **81.4** | **84.5** | **77.8** |
| ***Asset Management Firms*** | 73.6 | 76.2 | 70.7 |
| *With mutual funds* | 48.0 | 53.2 | 41.9 |
| *Without mutual funds* | 25.6 | 23.0 | 28.8 |
| ***Pension Funds*** | 3.9 | 4.3 | 3.4 |
| *Public* | 3.2 | 3.5 | 2.9 |
| *Private* | 0.7 | 0.8 | 0.5 |
| ***Insurance*** | 0.7 | 0.9 | 0.5 |
| ***Endowments/Foundations*** | 0.0 | 0.0 | 0.0 |
| ***Banks*** | 2.3 | 2.3 | 2.3 |
| ***Other Financial Institutions*** | 0.8 | 0.7 | 0.8 |
| **Individual Investors** | **15.4** | **14.0** | **17.0** |
| **Total** | **100.0%** | **100.0%** | **100.0%** |

***Ownership in the Oil and Natural Gas Service Sub-Industry***

Table 5 below presents the distribution of ownership for 37 domestic service oil and natural gas companies. Once again, we excluded a small number of foreign-based companies listed on U.S. exchanges, because ownership data for corporate insiders and other private individual investors are not available.[31] Overall, company insiders own a very small, 2.5 percent share of the sub-industry, as is also the case in the other two sub-industries. Furthermore, overall, institutional investors own a larger share of oil and natural gas service companies than of the sub-industry of integrated companies (82.2 percent, compared to 62.1 percent). Like the other two sub-industries, the oil and natural gas service sub-industry is also concentrated: five companies – Halliburton, Transocean, Weatherford, Noble and Nabos Industry – account for more than 61 percent of the sub-industry's total market capitalization of $185.1 billion. As with the other two sub-industries, company insiders hold a substantially smaller ownership share of the five largest services companies than of others in the services sub-industry (1.4 percent, compared to 4.1 percent). There are no other significant differences in the ownership shares of institutions or personal investors between the five large companies that dominate the sub-industry and its smaller public companies.

[31] As of July 2007, there were 19 foreign-based out of 134 services oil and natural gas companies traded on U.S. exchanges.

**Table 5: Distribution of Ownership of Oil and Natural Gas Services Companies, 37 U.S.-Based Companies, 2007 (Percentage of Outstanding Shares, Weighted for Market Cap)**

| | All Operations Companies | Top Five Companies | Other Companies |
|---|---|---|---|
| **Corporate Insiders** | **2.5%** | **1.4%** | **4.1%** |
| **Institutions** | **82.2** | **81.9** | **82.6** |
| ***Asset Management Firms*** | 72.6 | 73.3 | 71.4 |
| *With mutual funds* | 49.0 | 50.1 | 47.2 |
| *Without mutual funds* | 23.6 | 23.2 | 24.2 |
| ***Pension Funds*** | 3.3 | 2.8 | 3.9 |
| *Public* | 2.7 | 2.4 | 3.1 |
| *Private* | 0.6 | 0.4 | 0.8 |
| ***Insurance*** | 0.6 | 0.6 | 0.6 |
| ***Endowments/Foundations*** | 0.2 | 0.1 | 0.3 |
| ***Banks*** | 3.5 | 4.5 | 2.0 |
| ***Other Financial Institutions*** | 1.9 | 0.7 | 4.4 |
| **Individual Investors** | **15.4** | **16.7** | **13.3** |
| **Total** | **100.0%** | **100.0%** | **100.0%** |

## V. Conclusion

Our analysis of SEC data on the ownership of U.S. oil and natural gas companies demonstrates that company insiders – corporate officers, senior executives and board members – have very small holdings in the companies they manage. Nearly 70 percent of the shares of these companies are held by institutional investors, especially asset management companies, and predominantly on behalf middle-class American households who own shares through mutual funds, pension funds and retirement accounts. Individual investors who manage their own portfolios and are not company insiders account for almost 30 percent of all industry ownership, which again includes significant numbers of middle-class households holding IRA and other personal retirement accounts. This basic pattern of ownership holds across all three major sub-industries, with one caveat: in the service and operations sub-industries, compared to both the overall industry and the integrated oil and natural gas sub-industry, the ownership share of personal investors is smaller and the ownership share held by asset management firms is larger. In all three sub-sectors, company insiders hold very small portion of their companies; and in all three sub-industries, insider ownership is much smaller still for the three-to-five companies that dominate the sub-industry's total market capitalization.

Further, we find that while the oil and natural gas industry has recorded very strong profits for the last three years, this recent record follows more than a decade in which real oil and natural gas prices declined and the industry's profits and returns lagged those of the rest of the economy. In both periods, concerns that company insiders capture a substantial share of those profits are unfounded. The data strongly suggest that most of those profits go to the industry's majority shareholders, who are middle-class U.S. households with mutual fund investments, pension accounts, other personal retirement accounts, and small personal portfolios.

## Appendix

## Oil and Natural Gas Companies, By Sub-Industry and Ranked by Market Capitalization

### Integrated Oil and Natural Gas Companies

***Domestic:***
Exxon Mobil Corp (XOM)
Chevron Corp (CVX)
ConocoPhillips (COP)
Marathon Oil Corp (MRO)
Hess Corp (HES)
Atlas Energy Resources, LLC (ATN)
Calumet Specialty Products Partners, L.P. (CLMT)
Breitburn Energy Partners L.P. (BBEP)
Petroleum Development Corp (PETD)
Legacy Reserves LP (LGCY)
Gastar Exploration Ltd. (GST)
Westside Energy Corp (WHT)
***Foreign:***
BP PLC (BP)
Total SA (TOT)
ENI Spa (E)
Royal Dutch Shell PLC (RYDAF)
Brazilian Petroleum Corp (PBR)
Statoil ASA (STO)
Repsol YPF SA (REP)
Imperial Oil Ltd. (IMO)
Suncor Energy Inc (SU)
Petrochina Co Ltd (PTR)
Petro Canada (PCZ)
China Petroleum & Chemical Corp (SNP)
Canetic Resources Trust (CNE)
Petrobas Energia Participaciones SA (PZE)
Jed Oil Inc. (JDO)

**Oil and Natural Gas Operations Companies**

Occidental Petroleum Corp/DE
Valero Energy Corp/TX
Devon Energy Corp/DE
Apache Corp
Anadarko Petroleum Corp
XTO Energy Inc
Chesapeake Energy Corp
Murphy Oil Corp/DE
Noble Energy Inc
Sunoco Inc
Questar Corp
Tesoro Corp
Pioneer Natural Resources Co
Range Resources Corp
Frontier Oil Corp
CNX Gas Corp
Holly Corp
Plains Exploration & Production
Unit Corp
Cimarex Energy Co
St Maryland & Exploration Co
Inergy
Whiting Petroleum Corp
Berry Petroleum Co
Penn Virginia Corp
Delek US Holdings, Inc
World Fuel Services Corp
Bois Arc Energy Inc
Rosetta Resources Inc
Arena Resources Inc
Parallel Petroleum Corp
Gulfport Energy Corp
Markwest Hydrocarbon Inc
Contango Oil & Gas Co
Harvest Natural Resources Inc
McMoran Exploration Co
BPZ Energy
GeoGlobal Resources Inc
Toreador Resources Corp

American Oil & Gas Inc
Callon Petroleum Co
Vaalco Energy Inc
Brigham Exploration Co
Meridian Resource Corp
BMB Munai Inc
Gasco Energy Inc
Aurora Oil & Gas Corp
Abraxas Petroleum Corp
Cano Petroleum Inc
Prime Energy Corp
Endeavour International Corp
Syntroleum Corp
Barwell Industries Inc
Arabian American Development
Adams Resources & Energy, Inc
Credo Petroleum Corp
Double Eagle Petroleum
GeoreSources Inc
Teton Energy Corp
Evolution Petroleum Corp
BPI Energy Holdings, Inc.
Torrent Energy Corp
Tengasco Inc
Blue Dolphin Energy Co
Royale Energy
American Energy Group Ltd
Fieldpoint Petroleum Corp
Daleco Resources Corp
Galaxy Energy Corp
Pyramid Oil Co
Trans Energy Inc
Penn Octane Corp
Mexco Energy Corp
United Heritage Corp

**Oil and Natural Gas Services Companies:**

Halliburton Co (HAL)
Transocean Inc (RIG)
Weatherford International Ltd (WFT)
Noble Corp (NE)
Nabors Industries Ltd (NBR)
Ensco International Inc (ESV)
BJ Services Co (BJS)
Cameron International Corp (CAM)
Grant Prideco Inc (GRP)
Tidewater Inc (TDW)
Rowan Companies Inc (RDC)
Patterson Uti Energy Inc (PTEN)
Helmerich & Payne Inc (HP)
Helix Energy Solutions Group Inc (HLX)
Superior Energy Services Inc (SPN)
Oceaneering International Inc (OII)
Atwood Oceanics Inc (ATW)
Complete Production Services Inc (CPX)
Grey Wolf Inc (GW)
Parker Drilling Co (PKD)
Gulfmark Offshore Inc (GMRK)
Allis Chalmers Energy Inc (ALY)
Pioneer Drilling Co (PDC)
Newpark Resources Inc (NR)
Horizon Offshore Inc (HOFF)
Dawson Geophysical Co (DWSN)
FX Energy Inc (FXEN)
Englobal Corp (ENG)
Bolt Technology Corp (BTJ)
Metretek Technologies Inc (MEK)
Natural Gas Services Group Inc (NGS)
Omni Energy Services Corp (OMNI)
Tgc Industries Inc (TGE)
Hyperdynamics Corp (HDY)
Particle Drilling Technologies Inc (PDRT)
Infinity Energy Resources Inc (IFNY)
Environmental Energy Services Inc (EESV)

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