

**Who Owns America's Oil and Natural Gas Companies:
A 2014 Update**

Robert J. Shapiro and Nam D. Pham

October 2014

SONECON 

Who Owns America's Oil and Natural Gas Companies: A 2014 Update

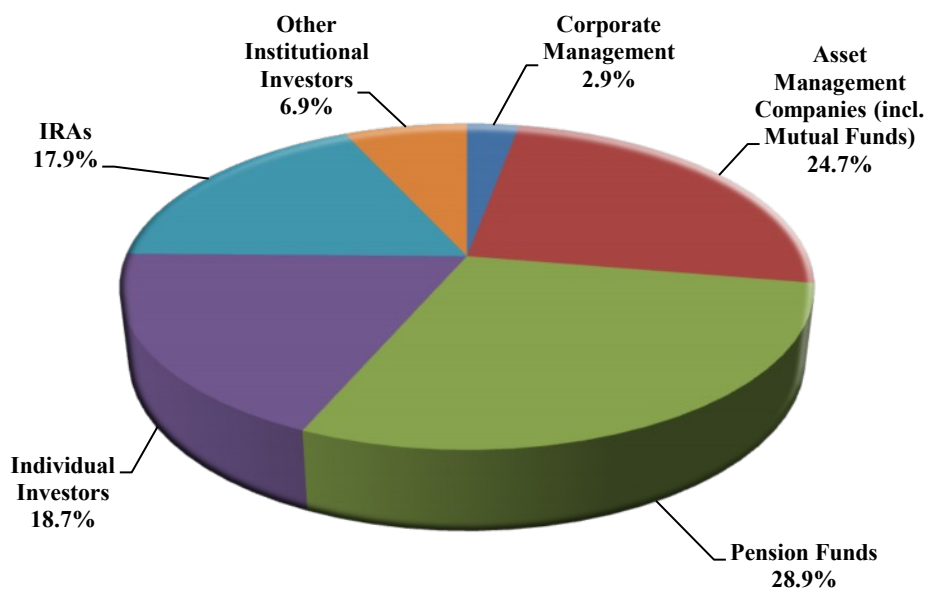
Robert J. Shapiro and Nam D. Pham¹

Executive Summary

The broad ownership of America's public corporations, as researchers have found, yields substantial economic and social benefits. It encourages companies to focus on investments that can secure strong returns, including new plant and equipment, research and development (R&D), and employment and training of highly-qualified personnel. Broad corporate ownership also generates capital that companies need to increase their efficiency and innovative capacities. Most important, the broad ownership of U.S. corporations promotes social progress by enabling large numbers of Americans to benefit from the returns generated by efficient, productive and innovative enterprises.

This study examines the distribution of ownership of one of our key industries, U.S. oil and natural gas companies. The data show (Figure 1, below) that the ownership of companies in the oil and natural gas industry is very broad-based, including large holdings in the retirement plans of ordinary investors.

Figure 1. Ownership of U.S. Oil and Natural Gas Companies, by Categories, 2014



- In 2014, individual investors who are not company executives or directors – “insiders” -- own 65.5 percent (46.8% + 18.7%) of the shares of U.S.-based, publicly traded oil and natural gas companies, measured by the value of all shares. Most of those shares are held in pension plans and retirement accounts.

¹ This research for this study was supported by the American Petroleum Institute (API). All of the analysis and all views expressed in the study are solely those of the authors.

- Public and private pension plans (28.9%), 401(k)s and IRAs (17.9%) hold 46.8 percent of the value of all oil and natural gas company shares.
- Individual investors who are not industry executives or directors own and manage an additional 18.7 percent of the shares outside pension plans and retirement accounts.
- Asset management companies hold and manage 24.7 percent of the shares on behalf of institutional and individual investors.
- Institutional investors – banks, insurance companies, foundations, endowments – directly own and manage another 6.9 percent of those shares.
- Oil and natural gas industry executives hold the remaining 2.9 percent of those shares, including just one-half of one percent of the shares of integrated oil and natural gas companies.

These data, along with previous analyses which we conducted,² show that middle-class households dominate the ownership of U.S. publicly-held oil and natural gas companies. As noted above, by owning oil and natural gas company stock, these middle-class households benefit from the industry's strong returns. From 2005 to 2011, the leading oil and natural gas industry index outperformed the Dow Jones Index; and since 2011, oil and natural gas industry returns have generally tracked or modestly outpaced the overall market. This consistent performance has benefited the industry's broad-based investors.

- *Mutual Funds:* Some 34.0 percent of the value of oil and natural gas company shares are owned through IRAs and pension plans (including 401(k)s) and held in the tax-deferred mutual funds of asset management companies (26.5 percent through public and private pension funds and 7.5 percent in IRAs). In addition, 24.7 percent of oil and natural gas shares are held by asset management firms, including those in their non-tax deferred mutual funds. Some 56.7 million American households currently invest in mutual funds, with a median household income of \$80,000 in 2013.
- *IRAs:* 17.9 percent of all oil and natural gas company shares, by value, are owned through IRAs, either managed directly or through asset management companies: 46.1 million American households own IRAs, and 63 percent of those households had incomes of \$100,000 or less in 2013.
- *Pension Plans:* 28.9 percent of oil and natural gas company shares, by value, are owned by public and private pension plans, including 401(k)s. These plans manage the retirement assets of 60.7 million households through 145 million accounts, with an average value of less than \$55,000.

² Shapiro and Pham, 2011, Shapiro and Pham, 2006; and Shapiro and Pham, 2005.

I. Introduction

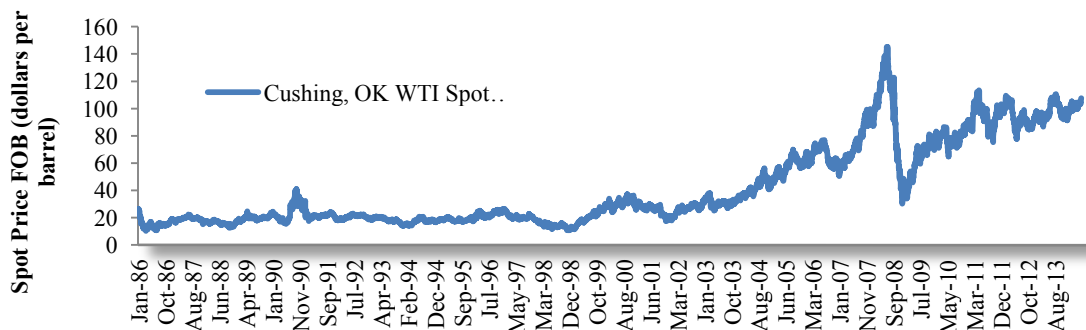
The broad ownership of America's large corporations plays an important role in the efficient operations of equity markets and the overall economy. Every day, millions of investors seek out the highest, risk-adjusted returns available by buying and selling shares based on their performance; and this broad accountability drives companies to focus on investments that provide strong returns, including new plant and equipment, R&D, and employing and training qualified workers and managers. As noted earlier, this broad ownership also generates capital that companies need to enhance their efficiency and innovative capacities. Finally, broad ownership promotes social progress by enabling millions of Americans to benefit from the returns generated by efficient, productive and innovative companies.

This study analyzes the distribution of ownership of one of the key industries of the American economy, the oil and natural gas industry. As we will see, the ownership of these companies is dominated not by their executives, but by ordinary investors, especially through their retirement plans.

- In 2014, individual investors who are not company executives or directors own 65.5 percent of the shares of U.S.-based, publicly traded oil and natural gas companies, measured by the value of those shares. Most of those shares are held in pension plans and retirement accounts.
 - Public and private pension plans, 401(k)s and IRAs hold 46.8 percent of all oil and natural gas company shares.
 - Individual investors who are not industry executives or directors own and manage an additional 18.7 percent of the shares outside pension plans and retirement accounts.
- Institutional investors – banks, insurance companies, foundations, endowments – directly own and manage another 6.9 percent of those shares.
- Asset management companies hold and manage 24.7 percent of the shares on behalf of institutional and individual investors.
- The oil and natural gas industry's executives hold the remaining 2.9 percent of those shares, including just one-half of one percent of the shares of integrated oil and natural gas companies.

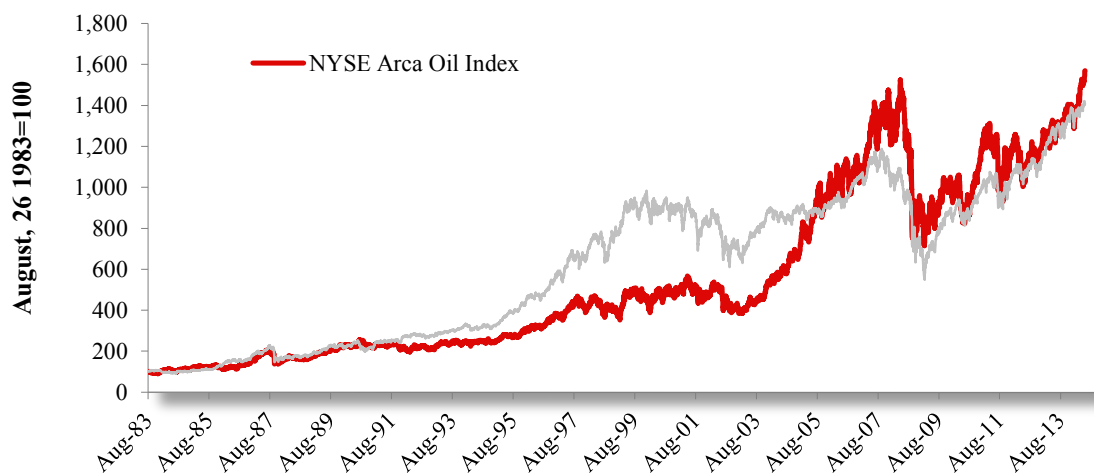
The direct economic benefits of this broad ownership have increased since 2009, when oil prices began to rise, because higher revenues from selling oil and natural gas help to raise the returns of oil and natural gas companies. As the financial crisis worsened in the United States and much of the world from July 2008 to December 2008, oil prices plunged from a record high of \$140 per-barrel to a low of \$33 per-barrel. Since January 2009, oil prices have recovered and closed at more than \$107 per-barrel in June 2014. (See Figure 2, below)

Figure 2: Oil Prices, January 1986 – June 2014 (current dollars)³



These strong prices followed many years of low prices and relatively low returns for the oil and natural gas industry. Figure 3, below, tracks the daily returns of the major index of oil and natural gas companies, the NYSE Arca Oil Index, and the returns of the overall market as measured by the Dow Jones Index, from August 1983 to June 2014. It shows that the returns of oil and natural gas companies generally tracked the overall market from 1983 to 1991, followed by a long period in which the oil and natural gas index underperformed the economy-wide averages (1991 to 2004). From 2005 to 2011, the Arca Oil index outperformed the Dow Jones Index, and since then, the returns on oil stocks have generally tracked or modestly outpaced the overall market.

Figure 3: Returns for the U.S. Oil Sector Compared to the Overall Economy: NYSE Arca Oil Index and Dow Jones Index, August 1983 – June 2014⁴



The question is, who benefits from the strong performance of oil and natural gas companies by owning their shares? We use data for the first quarter of 2014 covering institutional and individual holdings of these shares, including insider holdings by company executives and directors, and compare these findings with our 2011 study of the ownership of the industry.⁵

³ Energy Information Administration, 2014. Cushing, OK WTI Spot Price FOB.

⁴ The NYSE Arca Oil Index (XOI) is a price-weighted index that tracks the oil industry through changes in the prices of a cross section of public companies involved in exploring for, producing and developing petroleum.

⁵ Shapiro and Pham, 2011.

II. Data Sources and Procedures

In order to analyze who owns U.S. oil and natural gas companies, we disaggregated the industry into its three major segments and analyzed the distribution of ownership in each segment: 1) integrated oil and natural gas companies engaged in exploration, production, refining and transportation; 2) non-integrated (also referred as “operations”) oil and natural gas companies engaged in exploration, refining, and storage and transportation of refined products; and 3) oil and natural gas services companies engaged in manufacturing drilling rigs and equipment and providing industry services such as drilling, evaluation and completion of wells.

This analysis is based on ownership data provided to the SEC by all publicly-traded companies. First, we organized this extensive dataset on the industry’s shareholders into three broad groups: corporate insiders (executives and directors); institutional investors; and individual investors who trade for their own accounts and are not part of a company’s management. An insider shareholder is an individual directly linked to a company as an owner, director or officer required to report any purchases or sales of shares in the company to the SEC (using Form 4).⁶ As we will see, those corporate insiders hold very small shares of these companies. By contrast, the largest holders as reported to the SEC are institutional investors. These are businesses that buy and sell securities for both the accounts of other organizations or persons, as well as for their own accounts, and which hold total investments of at least \$100 million. Institutional investors include professional asset managers, which the SEC further distinguishes on the basis of whether or not they also operate mutual funds. Institutional investors that do not operate mutual funds include hedge funds, private equity funds, public and private pension funds, insurance companies, endowment and foundations, banks and other financial institutions. The SEC data also distinguish among institutional investors by whether or not they directly manage their own assets, including oil and gas company shares. This category includes some pension plans, although most pension fund shares are held and managed by other institutional investors. Therefore, the oil and gas company assets held by pension funds are divided between two classes of institutional investors – the plans themselves, and other asset management companies. Similarly, the oil and natural gas shares held in IRAs and other individual retirement plans are divided between institutional investors and individual investors, when the investor directs his or her own IRA and also is not an executive or director of an oil and natural gas company.

This analysis draws on SEC data issued in May 2014 on the ownership holdings of 201 publicly-traded oil and natural gas companies traded on one of three major U.S. exchanges (New York Stock Exchange, NASDAQ, and American Stock Exchange).⁷ These 201 companies include 12 U.S.-based integrated oil and natural gas companies, 129 U.S.-based non-integrated oil and natural gas operations companies, and 60 U.S.-based oil and natural gas services companies. Foreign-based companies are not required to report the holdings of their corporate officers and directors, and therefore are not included in this analysis. We also excluded 34 domestic oil and gas companies that did not provide the SEC with complete ownership information. The number of U.S.-based, publicly-traded oil and natural gas companies that filed complete information with the SEC has increased substantially since 2011, when we last examined these issues. Our previous analysis covered 173 companies, including 14 U.S.-based

⁶ NASDAQ, 2011.

⁷ For more detailed descriptions of these ownership categories, see explanations for SEC Form 4 and Form 13f, U.S. Securities and Exchange Commission.

integrated oil and natural gas firms, 103 U.S.-based non-integrated companies, and 56 U.S.-based service enterprises.⁸ There also have been changes in the industry-segment classifications for a few integrated and non-integrated companies.

The largest challenge in analyzing the ownership of the oil and natural gas industry involves the holdings of institutional investors. To penetrate those holdings and establish on whose behalf those assets are managed, we obtained the records of institutional holdings for the first quarter of 2014 provided by the SEC's Edgar Online system and the NASDAQ's databases for publicly-traded oil and natural gas companies traded on the three major U.S. exchanges. Next, we classified these data into three groups. The first group consists of 790 asset management firms that offer mutual funds, such as Fidelity, Putnam, and Citigroup. The second group is comprised of 2,910 asset management firms without mutual funds, which also manage assets for public and private pension funds, individual investors, and other institutions such as hedge funds and private equity funds. Finally, the third group consists of 702 institutional investors that manage only their own assets, including the self-managed assets of 43 public pension funds, 31 private pension funds, 200 banks, 23 endowments and foundations, 69 insurance companies, and 336 other financial institutions.

All told, the number of institutional investors holding shares in U.S. oil and natural gas companies increased by more than 30 percent in recent years, from 3,378 institutions covered in our last report in October 2011 to 4,402 institutions covered in this analysis. In order to establish precisely the corporate-insider holdings of these oil and natural gas companies, we also consulted the SEC's Edgar Online database and the commercial databases of Thomson Reuters and Vickers Stock Research Corporation. Finally, we calculated the holdings of individual investors who manage their own assets and are not corporate insiders by netting out the holdings of all institutions and corporate insiders from total holdings.

Summary of Ownership

Table 1, below, presents the basic analysis of who owned the U.S. oil and natural gas industry in the first quarter of 2014. Institutional investors held 68.0 percent of the total value of the shares in those companies;⁹ and asset management companies held 86.0 percent of those shares, or 58.7 percent of all industry shares, with many of the shares held in the accounts of individuals. The remaining 9.3 percent of oil and gas company shares held by institutional investors are owned and managed directly by pension plans and financial institutions. Nearly all of the rest of the industry's shares – 29.1 percent – are held by individual investors who are not corporate officers or directors in the industry. Finally, those officers and directors – company insiders -- own 2.9 percent of the industry's shares.

As noted earlier, some significant differences in ownership are apparent across the three major industry segments. Integrated oil and natural gas companies have the smallest portion of insider ownership at 0.5 percent and the largest portion owned by other individual investors at 39.9 percent. By contrast, the non-integrated and services segments have larger portions of their

⁸ Shapiro and Pham, 2011.

⁹ Many institutional investors are managing accounts for individuals in the form of mutual funds, IRAs, 401(k)s and other private and public pension funds.

shares held by institutional investors, 76.4 percent and 70.1 percent respectively, compared to 59.6 percent owned or managed by institutional investors in the integrated segment.

Table 1: Ownership in the Oil and Natural Gas Industry and Its Major Segments, 2014
(Percentage of Outstanding Shares; weighted by market capitalization)¹⁰

	Oil & Gas Industry	Integrated Segment	Non-integrated Segment	Services Segment
Corporate Executives & Directors	2.9%	0.5%	5.5%	3.0%
Institutional Investors	68.0%	59.6%	76.4%	70.1%
<i>Asset Management Firms</i>	58.7%	49.1%	67.6%	63.2%
<i>With mutual funds</i>	33.7%	28.8%	38.5%	35.3%
<i>Without mutual funds</i>	25.0%	20.3%	29.1%	27.9%
Pension Funds	2.4%	2.7%	2.4%	2.0%
<i>Public</i>	2.1%	2.3%	2.1%	1.8%
<i>Private</i>	0.3%	0.4%	0.3%	0.2%
Insurance	1.2%	1.5%	1.0%	0.6%
Endowments/Foundations	0.1%	0.1%	0.0%	0.1%
Banks	4.1%	5.0%	3.6%	2.6%
Other Financial Institutions	1.5%	1.2%	1.8%	1.6%
Individual Investors	29.1%	39.9%	18.1%	26.9%
Total	100.0%	100.0%	100.0%	100.0%

Despite modest changes, the broad outlines of industry ownership have not changed appreciably since our 2011 analysis. Overall, institutional holdings account for more than two-thirds of the market value of all shares in publicly-traded U.S. oil and natural gas companies, while corporate officers and directors own less than 3 percent of the shares. Compared to 2011, the ownership share of those corporate insiders fell in all three market segments (integrated, non-integrated, and services segments). By contrast, institutional investors increased their holdings, both for their own accounts and in the accounts they manage for others, to 68.0 percent of the market value of the industry's publicly-traded companies. Across all three segments, the share of the industry owned by individuals who are not executives or directors of oil and natural gas companies declined from 31.2 percent in 2011 to 29.1 percent in 2014.

The categories of industry ownership as reported by the SEC, especially the holdings of institutional asset managers, do not fully convey the broad nature of this ownership. As noted earlier, asset management companies hold and manage oil and natural gas company shares for many types of owners. For example, the 2.4 percent of oil and natural gas company stock owned and managed directly by pension funds in 2014 represent only a small fraction of those plans' total holdings of industry shares. Public and private pension funds also hold oil and natural gas stocks managed by third-party asset management companies. We calculate that private pension funds, including 401(k)s, hold 16.9 percent of all shares of domestic oil and natural gas companies, by value; and public pension funds hold another 12.0 percent of those shares. Therefore, public and private pension funds and retirement plans directly and indirectly own 28.9

¹⁰ 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 \$4.5 million (New Concept Energy, Inc., an operations firm) to a high of \$431 billion (Exxon-Mobil, the largest integrated oil and natural gas company).

percent of all domestic oil and natural gas shares. In addition, we estimate that individual IRA accounts hold another 17.9 percent of the industry's shares.

We derived these estimates as follows. Private and public pension funds and IRAs currently hold \$23.0 trillion in assets, a 49.6 percent increase from \$15.4 trillion in 2011.¹¹ Based on data from the Federal Reserve System's Flow of Funds and the Investment Company Institute (ICI), we estimate that pension funds and IRAs hold, directly and indirectly, nearly \$10 trillion in equities. The total market capitalization of U.S. publicly-traded oil and natural gas companies was more than \$1.94 trillion in mid-2014, or 9.1 percent of the total \$21.28 trillion capitalization of all U.S. equity markets. Assuming that the equity holdings of U.S. pension plans and IRAs are distributed across industries in the same proportions as all equities, 9.1 percent of pension plan and IRA equities are held in oil and natural gas companies. Therefore, pension plans and IRAs hold \$909 billion in oil and natural gas company stock or 46.8 percent of the total value of those companies. (See Table 2, below)

We further disaggregated the equities held by pension plans and IRAs. Public and private pension funds, including 401(k)s, and IRAs together hold \$9.96 trillion in equities. Of these total holdings, private pension funds hold 36.0 percent or \$3.59 trillion, public pension funds hold 25.7 percent or \$2.56 trillion, and IRAs hold 38.3 percent or \$3.82 trillion. Therefore, we calculate that private pension plans hold \$327 billion in oil and natural gas company shares, or 16.9 percent of the industry's total ownership. Public pension plans hold an estimated \$234 billion of these shares, or 12.0 percent of the oil and natural gas industry. Finally, IRAs hold an estimated \$348 billion in oil and natural gas company shares or 17.9 percent of the industry.

Table 2: Pension Funds and Retirement Account Holdings of U.S. Oil and Natural Gas Public Companies, 2014 (\$ billions)¹²

	Total Pension and Retirement Plan Assets	Pension and Retirement Plan Equity Holdings	Holdings in Oil and Natural Gas Equities	Share of All Oil and Natural Gas Stock
Private Pension Funds	\$8,064	\$3,587 (36.0%)	\$327	16.9%
Public Pension Funds	\$8,452	\$2,559 (25.7%)	\$234	12.0%
IRA's	\$6,521	\$3,815 (38.3%)	\$348	17.9%
Total	\$23,037	\$9,961 (100.0%)	\$909	46.8%

The ICI reports that 45 percent of all IRA assets at the end of 2013 were held in mutual funds. The ICI also reports that 58.5 percent of the assets held in IRA accounts were invested in equities or equity funds.¹³ Based on these data, we estimate that IRA-account owners hold approximately 7.5 percent of all U.S. oil and natural gas company shares through mutual funds and directly manage another 10.4 percent of the industry's shares.

¹¹ In its 2014 Flow of Funds Accounts, the Board of Governors of the Federal Reserve System revised upward total assets of public and private retirement funds to include unfunded defined benefit pension entitlements.

¹² Board of Governors of the Federal Reserve System, 2014. Investment Company Institute, 2014-A; Investment Company Institute, 2014; Standard & Poor's Indices.

¹³ Investment Company Institute, 2014, *op. cit.*

To summarize, private and public pension funds hold approximately 28.9 percent of all U.S. oil and natural gas stock, by value, including 2.4 percent held directly and 26.5 percent through asset managers, including mutual funds. IRA account holders own another 17.9 percent of oil and natural gas company shares, including 10.4 percent held directly and 7.5 percent through mutual funds. All told, individual investors who manage their own investments own 29.1 percent of the publicly-traded U.S. oil and natural gas industry, including through IRAs (18.7 percent held in their investment accounts and 10.4 percent held in IRAs); IRA account holders own an additional 7.5 percent of the industry managed by mutual funds; public pension plans own another 12.0 percent of oil and natural gas shares; and private pension plans own another 16.9 percent of the industry. Therefore, individuals who are not industry executives and directors own a total of 65.5 percent of the U.S. oil and natural gas industry in 2014, as compared to 70.0 percent of the industry in 2011.¹⁴ Of the remaining 34.5 percent of oil and natural gas shares, institutions hold 31.6 percent in 2014, as compared to 27.2 percent in 2011; and industry executives and directors hold the remaining 2.9 percent, compared to 2.8 percent in 2011.

- The total market value of publicly-traded oil and natural gas companies increased dramatically in recent years, from \$1.37 trillion in 2011 to \$1.94 trillion in 2014, or by 41.6 percent. These large gains reflect the strong performance of oil and gas stocks, along with overall equity markets since 2010. They also reflect the increase in publicly-traded oil and gas companies, from 173 firms in 2011 to 201 companies in 2014.
- The share of oil and natural gas company stock held by insiders -- the executives and directors of those companies -- remained small and virtually unchanged, at 2.9 percent in 2014, measured by their value, compared to 2.8 percent in 2011.
- As noted earlier, individuals who were not oil and natural gas company insiders own 65.5 percent of the industry's stocks in 2014, by value: 18.7 percent of the shares are held directly by individuals in non-retirement investment accounts; 17.9 percent are held directly by individuals in self-managed IRAs through mutual funds (7.5 percent) and other funds (10.4 percent); and 28.9 percent are owned by individuals through public and private pension plans, including 401(k)s, and through mutual funds (2.4 percent held directly and 26.5 percent held through asset management companies). Institutions hold 31.6 percent of those shares --24.7 percent through asset management companies and 6.9 percent directly -- and insiders own the remaining 2.9 percent. In 2011, individuals owned 70.0 percent of the oil and natural gas industry, institutions owned 27.2 percent, and insiders owned 2.8 percent.
- Individual investors who manage their own accounts and IRAs, therefore, held 29.1 percent of all oil and natural gas company shares in 2014, compared to 31.2 percent in 2011. The holdings of individual investors are calculated by subtracting the holdings of institutional investors and insiders from all outstanding shares. Oil and natural gas shares held in IRA accounts managed by individual investors accounted for 10.4 percent of all shares, by value, compared to 10.1 percent in 2011. Consequently, individual investors held 18.7 percent of oil and natural gas company shares in non-IRAs accounts in 2014, compared to 21.3 percent in 2011.

¹⁴ These individuals, while overwhelmingly American, also include foreign investors who hold oil industry shares through U.S. brokerages or asset managers.

- Institutional holdings of U.S. oil and natural gas stock, managed on behalf of individuals or other institutions, totaled 68.0 percent of the shares, by value, in 2014, compared to 66.0 percent in 2014. Institutional holdings in 2014 include 28.9 percent of industry shares held by public and private pension plans, including 401(k)s, directly or in mutual funds; 24.7 percent of shares held by asset management companies; 6.9 percent of all shares held by other institutional investors, including insurance companies, endowments, foundations and banks; and 7.5 percent of shares held in mutual funds for IRAs.
 - As noted earlier, public and private pension funds, including 401(k)s, directly and indirectly held 28.9 percent of oil and natural gas company stock in 2014, compared to 31.2 percent in 2011. In 2014, pension plans and 401(k)s directly held 2.4 percent of those shares and indirectly held 26.5 percent through mutual funds.
 - Asset management firms – with and without mutual funds – held 58.7 percent of all oil and natural gas stock in 2014, by value. The mutual fund holdings of pension plans account for 26.5 percent of the total value of oil and natural gas shares, and IRAs account for another 7.5 percent of that value. Asset management companies, therefore, hold another 24.7 percent of industry share values, apart from pension and IRA accounts. The distribution of ownership is depicted in Figure 1 and Table 1, above.

This overall pattern -- small insider ownership and large holdings by individual investors and retirement funds and accounts – is evident in each of the three main segments of the oil and natural gas industry:

- Corporate executives and directors own 0.5 percent, by value, of the stock of all publicly-traded integrated oil and natural gas companies – compared to 39.9 percent owned by other individuals who manage their own holdings, 49.1 percent owned or held by asset management companies, 2.7 percent owned and managed by public and private pension plans, and 7.8 percent held or managed by other institutions.
- Corporate executives and directors own 5.5 percent of the shares of publicly-traded non-integrated oil and natural gas companies -- “operations” companies – as compared to 18.1 percent owned by other individual who manage their own holdings, 67.6 percent held or owned by asset management companies, 2.4 percent owned and managed directly by public and private pension plans, and 6.4 percent held or managed by other institutions.
- Similarly, corporate insiders own 3.0 percent of the shares of publicly-traded oil and natural gas services companies -- compared to 26.9 percent owned by other individuals who manage their own holdings, 63.2 percent owned or held by asset management companies, 2.0 percent owned and managed directly by public and private pension plans, and 4.9 percent held or managed by other institutions.

Moreover, corporate executives and directors of the largest oil and natural gas companies hold even smaller shares of their companies.

- Among the three largest, integrated oil and natural gas companies, which account for 59 percent of the segment's total market value, executives and directors own just 0.3 percent of their companies.
- Similarly, executives and directors of the five large non-integrated, operations companies, which account for 36 percent of the segment's market capitalization, hold just 0.7 percent of the value of their companies' outstanding shares.
- Finally, executives and directors of the five large services companies that account for 44 percent of that segment's total market capitalization own 0.6 percent of their outstanding shares.

These data, along with previous analyses which we conducted,¹⁵ show that middle-class households dominate the ownership of U.S. publicly-held oil and natural gas companies. As noted earlier,

- *Mutual Funds:* About 34.0 percent of oil and natural gas company shares, by value, are owned through IRAs and pension plans (including 401(k)s) and held in the tax-deferred mutual funds of asset management companies (26.5 percent through public and private pension funds and 7.5 percent in IRAs). In addition, 24.7 percent of oil and natural gas shares are held by asset management firms including those in their non-tax deferred mutual funds. Some 56.7 million American households currently invest in mutual funds, with median income of \$80,000 in 2013.
- *IRAs:* 17.9 percent of all oil and natural gas company shares, by value, are owned through IRAs, either managed directly or through asset management companies: These IRAs are owned by 46.1 million households, and 63 percent of those households had incomes of \$100,000 or less in 2013.
- *Pension Plans:* 28.9 percent of oil and natural gas company shares, by value, are owned by public and private pension plans, including 401(k)s. These plans manage the retirement assets of 60.7 million households through 145 million accounts, with an average value of less than \$55,000.

III. The Classes of Owners of the Oil and Natural Gas Industry

U.S. oil and natural gas companies clearly have very broad-based public ownership, a characteristic generally associated with the potential for strong growth and returns.¹⁶ Economists generally agree, for example, that companies with broad ownership have greater access to financing, which enables firms to expand their operations and geographical scope. Other studies have found that broad ownership enhances a company's ability to attract talented managers and other employees with specialized knowledge and skills.¹⁷ Furthermore, as a company's

¹⁵ Shapiro and Pham, 2011, Shapiro and Pham, 2006; and Shapiro and Pham, 2005.

¹⁶ Pagano and Roell, 1998.

¹⁷ *Ibid.*

ownership broadens, stockholders demand more information, which in turn compels managers to improve a firm's efficiency and strategy.¹⁸ Most important economically, broad public ownership can lower a firm's cost of capital, which in turn promotes investment and growth.¹⁹

Economic researchers have found that high levels of insider ownership in a company or industry also may affect its performance, although they disagree about the nature and strength of those effects. Some analysts argue that increased holdings by corporate executives and directors can better align the management's interests with those of outside shareholders and thereby improve a company's financial performance.²⁰ Other researchers counter that large insider ownership can create "entrenchment effects," in which executives and directors promote their personal interests through stock purchases and other transactions.²¹ In the case of the oil and natural gas industry, the very small ownership by insiders suggests that any positive or negative effects have little if any impact on the performance or shares prices of the companies.

Among owners, institutions receive the most attention from economists, because they manage or hold an estimated two-thirds of all shares in U.S. companies.²² The enormous financial resources and economic reach of institutional investors are evident in their assets, their size, and the numbers of entities and accounts. Both individually and as a group, institutional investors in recent years have become more assertive about reviewing the management performance and strategic decisions of the companies in which they invest, consistent with their responsibilities and incentives to secure the highest returns for their clients.²³ Some institutional investors also collaborate through organizations such as the Council of Institutional Investors in pooling their holdings for proxy votes, shareholder resolutions and litigation, and exerting pressure on regulatory bodies to press for changes in under-performing firms and discourage corporate managements from self-dealing.²⁴

The ownership of U.S. publicly-traded oil and natural gas companies can be portrayed in a variety of ways, including approaches that provide insight into the income distribution of their owners. While most institutional investors do not release information on the characteristics of those whose assets they manage, the data clearly show that these institutional investment entities hold a large share of U.S. oil and natural gas companies on behalf of middle-class Americans. For example, some 22 percent of the shares in these companies are held through mutual funds, and the typical owners of mutual fund shares are middle-class households. In 2013, 56.7 million households, or 46.3 percent of all American households, owned mutual funds, including 6 percent of U.S. households with annual incomes below \$25,000.²⁵ The median annual income of all mutual funds owners in 2013 was \$80,000.

As noted above, we also found that 17.9 percent of oil and natural gas industry shares are held in individual retirement accounts (IRAs). In 2013, 46.1 million households, or 37.6 percent

¹⁸ Belkaoui and Pavlik, 1992.

¹⁹ Lowry and Schent, 2002.

²⁰ Hotchkiss and Strickland, 2003.

²¹ Chakravarty and McConnell, 1999.

²² Parthiban, Kochhar, and Levitas, 1998.

²³ Parthiban, Hitt, and Gimeno, 2001.

²⁴ Council of Institutional Investors.

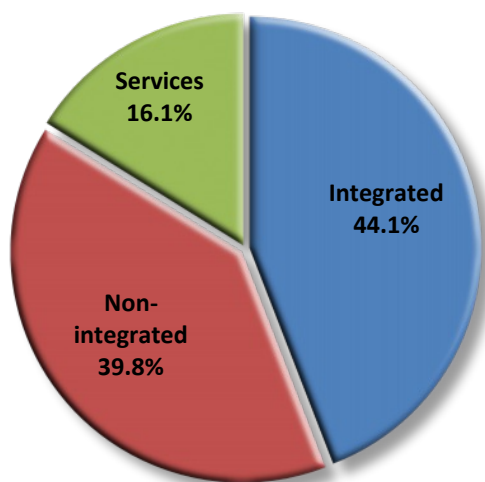
²⁵ Investment Company Institute, 2014, *op. cit.* Mutual fund owners also include 38 percent of households with annual incomes of \$100,000 or more.

of all U.S. households, owned one or more IRAs. According to the most recent ICI data, the median income of IRA-owning households is also \$80,000, including 9 percent of households with incomes of less than \$25,000 and 63 percent of households with incomes of less than \$100,000.²⁶ We also found that private and public pension funds, including 401(k)s that are mostly managed by asset management companies, hold nearly 29 percent of U.S. oil and natural gas company shares. While data on the incomes of the members and claimants of those pension plans are not available, the plans comprise some 145 million accounts for 60.7 million American households, or 52.7 percent of all households.²⁷ According to recent Federal Reserve data, private and public pension funds held more than \$16.5 trillion in total assets in early 2014, compared to \$14.4 trillion in 2011.²⁸

IV. The Distribution of Ownership by Industry Segments

Among the three segments of the oil and natural gas industry, integrated oil and natural gas companies represent the largest share of the industry's total market capitalization, followed by non-integrated operations companies and then services companies. In 2014, the integrated companies accounted for 44.1 percent of the industry's total market value of nearly \$1.94 trillion, compared to the non-integrated operations companies which accounted for 39.8 percent of that total, and services-related companies which accounted for the remaining 16.1 percent. (Figure 4, below) These data are significant in assessing the ownership role of industry executives and directors, because such corporate insiders hold much smaller ownership shares of integrated companies (0.5 percent) than of the non-integrated companies (5.5 percent) and the services companies (3.0 percent).

**Figure 4: Oil and Natural Gas Segments' Share of the Industry
By Market Capitalization, 2014²⁹**



²⁶ Investment Company Institute, 2014, *op. cit.*; and Investment Company Institute, 2014-A.

²⁷ Copeland, 2011; U.S. Census Bureau, <http://quickfacts.census.gov/qfd/states/00000.html>.

²⁸ Include unfunded defined benefit pension entitlements. Board of Governors of the Federal Reserve System. 2014. Financial Accounts of the United States. Federal Reserve Statistical Release. Release Date: June 5, 2014. Web.

²⁹ Our dataset contains of 12 domestic integrated oil and natural gas companies, 129 domestic operations non-integrated companies, and 60 domestic services companies; Edgar-online and NASDAQ databases.

Who Owns Integrated Oil and Natural Gas Companies

There are 12 publicly-traded, U.S.-based, publicly-traded integrated oil and natural gas companies. Our analysis of data on these companies from the SEC, NASDAQ, Thomson Reuters and the Vickers Stock Research Corporation found that their executives and directors hold 0.5 percent of their outstanding shares, by value. (Table 3, below) This analysis further found significant differences in insider holdings based on firm size. The three largest companies account for 59 percent of the segment's total market capitalization; and their executives and directors own 0.3 percent of their companies, compared to insider ownership averaging 1.5 percent for the nine, much smaller companies in this industry segment. As we will see, this pattern is also evident in the other two industry segments. Furthermore, individual investors who are not senior executives or directors hold 42.7 percent of the outstanding shares, by value, of the three large integrated companies, compared to 21.9 percent share for the nine smaller integrated firms. Finally, institutions hold 57.0 percent of the outstanding shares, by value, of the three large integrated oil and natural gas companies, compared to 76.6 percent of the nine smaller integrated companies. As noted earlier, pension plans and IRA investors, directly or indirectly, own large shares of all of these companies.

The share of the three major integrated oil and natural gas companies owned by corporate executives and directors, at 0.3 percent of the market value of their outstanding shares in 2014, is mid-way between their 0.1 percent share in 2011 and 0.5 percent share in 2007. However, the 1.5 percent insider holdings for the remaining nine integrated oil and gas companies, covering less than 41 percent of the total segment's market capitalization, is much less than the 6.7 percent share in 2011. Individual investors' ownership of the nine smaller integrated companies increased slightly from 20.9 percent of their outstanding shares in 2011 to 21.9 percent in 2014, compared to 42.7 percent for the three large integrated companies in 2014 and 43.4 percent in 2011. Correspondingly, the holdings by institutional investors in both the larger and smaller integrated companies increased in 2014, compared to 2011. (Table 3)

**Table 3: Distribution of Ownership of the 12 U.S.-Based, Publicly-Traded, Integrated Oil and Natural Gas Companies, First Quarter 2014
(Percentage of Outstanding Shares, Weighted by Market Capitalization)**

	All Integrated Oil and Gas Companies	Three Major Companies	Nine Smaller Companies
Corporate Management	0.5%	0.3%	1.5%
Institutional Investors	59.6%	57.0%	76.6%
<i>Asset Management Firms</i>	49.1%	46.4	66.9
<i>With mutual funds</i>	28.8%	27.1	39.9
<i>Without mutual funds</i>	20.3%	19.3	27.0
Pension Funds	2.7%	2.7	2.8
<i>Public</i>	2.3%	2.3	2.5
<i>Private</i>	0.4%	0.4	0.3
Insurance	1.5%	1.5	1.7
Endowments/Foundations	0.1%	0.1	0.0
Banks	5.0%	5.2	3.8
Other Financial Institutions	1.2%	1.2	1.6
Individual Investors	39.9%	42.7%	21.9%
Total	100.0%	100.0%	100.0 %

Who Owns Non-integrated Oil and Natural Gas Operations Companies

Our analysis of the ownership data for the non-integrated, operations segment of the oil and natural gas industry covers 129 domestic publicly-traded companies in 2014. (Table 4, below) Across these 129 operations companies, we found that holdings by insiders declined in recent years, from 5.9 percent of the shares of those companies in 2011 to 5.5 percent in 2014. The five largest non-integrated companies accounted for nearly 36 percent of the segment's total \$772 billion market capitalization in May 2014. As with the large integrated oil and natural gas companies, ownership of those five large non-integrated or operations companies by their executives and directors was much lower, averaging 0.7 percent of the value of their outstanding shares in 2014, compared to 8.2 percent insider ownership of the 124 smaller non-integrated companies in this industry segment.

Institutional ownership of companies in the non-integrated operations segment increased little in recent years, from 75.7 percent of outstanding shares, by value, in 2011 to 76.4 percent in the first quarter of 2014. This institutional ownership share is greater among the five large non-integrated companies, averaging 81.3 percent of outstanding shares, than the 73.6 percent share for the 124 smaller companies. Institutional ownership is also higher among all non-integrated oil and natural gas companies than among the integrated companies, which averaged 59.6 percent. Asset management firms that operate mutual funds, which hold most of the shares owned by pension plans and IRA account holders, account for most of the institutional ownership in this industry segment: These firms hold 70.5 percent of the outstanding shares of the five large non-integrated companies and 66.0 percent of the shares of the 124 smaller companies. Finally, individual investors who are not executives or directors of firms in this segment own 17.9 percent of the outstanding shares of the five large companies, down slightly from 18.5 percent in 2011, and 18.1 percent of the 124 smaller companies, down from 20.8 percent in 2011. (Table 4, below)

Table 4. Distribution of Ownership of 129 U.S.-Based, Publicly-Traded Non-integrated Oil and Natural Gas Operations Companies, First Quarter 2014 (Percentage of Outstanding Shares, Weighted by Market Capitalization)

	All Operations Companies	Five Major Companies	124 Smaller Companies
Corporate Management	5.5%	0.7%	8.2%
Institutions	76.4%	81.3%	73.6%
<i>Asset Management Firms</i>	67.6%	70.5	66.0
<i>With mutual funds</i>	38.5%	43.9	35.5
<i>Without mutual funds</i>	29.1%	26.6	30.5
Pension Funds	2.4%	2.7	2.1
<i>Public</i>	2.1%	2.4	1.9
<i>Private</i>	0.3%	0.3	0.2
Insurance	1.0%	1.4	0.7
Endowments/Foundations	0.0%	0.1	0.0
Banks	3.6%	4.9	2.9
Other Financial Institutions	1.8%	1.7	1.9
Individual Investors	18.1%	17.9%	18.1%
Total	100.0%	100.0%	100.0%

Who Owns Oil and Natural Gas Services Companies

Finally, our analysis of the services segment of the oil and natural gas industry covers 60 publicly-traded companies with a combined market capitalization of \$313.5 billion in the first quarter of 2014. The executives and directors of those 60 companies hold 3.0 percent of their outstanding shares, down from 4.1 percent in 2011. (Table 5, below) Much as we found in the other two segments of the oil and natural gas industry, five companies in this segment account for 44 percent of its total market capitalization. Once again, the ownership stake of executives and directors is much smaller among the five large companies in this segment, averaging 0.6 percent of their outstanding shares, than among the 55 smaller services companies, which averaged 4.9 percent insider ownership.

Institutional investors hold 70.1 percent of the shares of all oil and natural gas services companies, less than their 76.4 percent share of non-integrated companies and considerably more than their 59.6 percent share of the integrated segment. The institutional holdings of the stock of the oil and natural gas services companies in 2014 are also less than in 2011, when they represented 73.2 percent of their outstanding shares. The current institutional holdings in this industry segment, however, are greater among its five largest companies, at 76.8 percent of their outstanding shares, than among the 55 smaller service corporations at 64.8 percent. Finally, individual investors who are not executives or directors of these services companies increased their ownership stakes, from 22.7 percent of their outstanding shares, by value, in 2011 to 26.9 percent in 2014. These individual investors currently own 22.6 percent of the shares of the five major services companies and 30.3 percent of the shares of the 55 smaller companies in this segment.

Table 5: Distribution of Ownership of 60 U.S.-Based, Publicly Traded Oil and Natural Gas Services Companies, First Quarter 2014 (Percentage of Outstanding Shares, Weighted by Market Capitalization)

	All Service Companies	Five Major Companies	55 Smaller Companies
Corporate Management	3.0%	0.6%	4.9%
Institutions	70.1%	76.8%	64.8%
<i>Asset Management Firms</i>	63.2%	68.9	58.8
<i>With mutual funds</i>	35.3%	39.3	32.2
<i>Without mutual funds</i>	27.9%	29.6	26.6
Pension Funds	2.0%	2.5	1.6
<i>Public</i>	1.8%	2.3	1.4
<i>Private</i>	0.2%	0.2	0.2
Insurance	0.6%	0.9	0.5
Endowments/Foundations	0.1%	0.0	0.1
Banks	2.6%	3.3	2.0
Other Financial Institutions	1.6%	1.2	1.8
Individual Investors	26.9%	22.6%	30.3%
Total	100.0%	100.0%	100.0%

V. Conclusion

This study of who owns U.S. publicly-traded oil and natural gas companies has found that the executives, officers and directors of those companies have very small holdings in the companies they manage, both in the industry as a whole and in all three of its major segments. Further, insider ownership falls to even smaller proportions in the handful of large companies that dominate each of the three industry segments.

Institutional investors holds about two-thirds of oil and natural gas company shares, especially asset management companies which hold and manage those shares on behalf of middle-class households with IRA or 401(k) accounts or who are members or claimants of public or private pension plans. All told, these middle-class households, along with other individuals who manage their own investments, own 68 percent of the outstanding shares of all U.S.-based, publicly-traded oil and natural gas companies.

Appendix

Oil and Natural Gas Companies by Industry Segment (Arranged Alphabetically)³⁰

Integrated Oil and Natural Gas Companies

American Midstream Partners, LP
BreitBurn Energy Partners, L.P.
CAMAC Energy Inc.
Chevron Corporation
Exxon Mobil Corporation
Marathon Oil Corporation
Northern Tier Energy LP
Occidental Petroleum Corporation
Phillips 66
Pioneer Natural Resources Company
PostRock Energy Corporation
Questar Corporation

Non-Integrated Oil and Natural Gas Companies

Abraxas Petroleum Corporation
Access Midstream Partners, L.P.
Adams Resources & Energy, Inc.
Alon USA Partners, LP
American Eagle Energy Corporation.
AmeriGas Partners, L.P.
Anadarko Petroleum Corporation
Apache Corporation
Apco Oil and Gas International Inc.
Atlas Energy, L.P.
Atlas Resource Partners, L.P.
Barnwell Industries, Inc.
BPZ Resources, Inc
Cabot Oil & Gas Corporation
Callon Petroleum Company
Calumet Specialty Products Partners, L.P.
Cheniere Energy, Inc.
Chesapeake Energy Corporation
Cimarex Energy Co
CKX Lands, Inc.
Clayton Williams Energy, Inc.
Clean Energy Fuels Corp.

³⁰ Companies are classified based on the SEC EDGAR database.

Concho Resources Inc.
ConocoPhillips
Constellation Energy Partners, LLC
Contango Oil & Gas Company
Continental Resources, Inc.
Crestwood Equity Partners LP
CVR Energy Inc.
Delek US Holdings, Inc.
Denbury Resources Inc.
Devon Energy Corporation
Dorchester Minerals, L.P.
Eagle Rock Energy Partners, L.P.
Earthstone Energy, Inc.
Emerald Oil, Inc.
Endeavor International Corporation
Energen Corporation
EOG Resources, Inc.
EQT Corporation
Equal Energy Ltd.
Escalera Resources Co.
EV Energy Partners, L.P.
Evolution Petroleum Corporation, Inc.
EXCO Resources NL
Ferrellgas Partners, L.P.
FieldPoint Petroleum Corporation
Forest Oil Corporation
FX Energy, Inc.
Gastar Exploration Inc.
Global Partners LP
Halcon Resources Corporation
Harvest Natural Resources Inc
Hess Corporation
HollyFrontier Corporation
Houston American Energy Corporation
HyperDynamics Corporation
Isramco, Inc.
Kodiak Oil & Gas Corp.
Legacy Reserves LP
Lehigh Gas Partners LP
Lilis Energy, Inc.
Linn Co, LLC
Linn Energy, LLC
LRR Energy, L.P.
Lucas Energy, Inc.
Magellan Petroleum Corporation
Magnum Hunter Resources Corporation
Marathon Petroleum Corporation
Martin Midstream Partners L.P.

Matador Resources Company
Memorial Production Partners LP
Mexco Energy Corporation
Mid-Con Energy Partners, LP
Midstates Petroleum Company, Inc.
Miller Energy Resources, Inc.
Murphy Oil Corporation
New Concept Energy, Inc
New Source Energy Partners L.P.
Newfield Exploration Company
NGL Energy Partners L.P.
Noble Energy Inc.
Northern Oil and Gas, Inc.
Oasis Petroleum Inc.
Panhandle Royalty Company
PBF Energy Inc.
Petroquest Energy Inc
PrimeEnergy Corporation
Pyramid Oil Co
QEP Resources, Inc.
QR Energy, LP
Quicksilver Resources Inc.
Range Resources Corporation
Resolute Energy Corporation
Rose Rock Midstream, L.P.
Sanchez Energy Corporation
Sandridge Energy Inc.
Saratoga Resources Inc
SM Energy Company
Solazyme, Inc.
Southwestern Energy Company
Sprague Resources LP
Star Gas Partners, L.P.
Stone Energy Corporation
Suburban Propane Partners, L.P.
Susser Petroleum Partners LP
Synergy Resources Corporation
Synthesis Energy Systems, Inc.
Targa Resources Partners LP
Tengasco, Inc.
Tesoro Corporation
Tesoro Logistics LP
Torchlight Energy Resources, Inc.
Transatlantic Petroleum Ltd
Triangle Petroleum Corporation
Ultra Petroleum Corp.
Vaalco Energy Inc
Valero Energy Corporation

Vanguard Natural Resources LLC
Vertex Energy, Inc
W&T Offshore, Inc.
Warren Resources, Inc.
Western Refining, Inc.
Whiting Petroleum Corporation
Williams Companies, Inc. (The)
World Fuel Services Corporation
WPX Energy, Inc.
ZaZa Energy Corporation
Zion Oil & Gas Inc

Oil and Natural Gas Services Companies

Atlas Pipeline Partners, L.P.
Atwood Oceanics, Inc.
Baker Hughes Incorporated
Basic Energy Services, Inc.
Blueknight Energy Partners L.P., L.L.C.
Bolt Technology Corporation
Buckeye Partners L.P.
Cameron International Corporation
Compressco Partners, L.P.
Dawson Geophysical Company
Delek Logistics Partners, L.P.
Dril-Quip, Inc.
Enbridge Energy Management LLC
Enbridge Energy, L.P.
EnLink Midstream Partners, LP
EnLink Midstream, LLC
ENSERVCO Corporation
Exterran Partners, L.P.
Flotek Industries, Inc.
FMC Technologies, Inc.
Forum Energy Technologies, Inc.
Genesis Energy, L.P.
Halliburton Company
Helix Energy Solutions Group, Inc.
Helmerich & Payne, Inc.
Hercules Offshore, Inc.
Holly Energy Partners, L.P.
Ion Geophysical Corporation
Key Energy Services, Inc.
Kinder Morgan Management, LLC
Magellan Midstream Partners L.P.
Matrix Service Company
Mitcham Industries, Inc.
MPLX LP

Natural Gas Services Group, Inc.
Nustar Energy L.P.
Nustar GP Holdings, LLC
Oceaneering International, Inc.
Oiltanking Partners, L.P.
Parker Drilling Company
Patterson-UTI Energy, Inc.
Pedecco Corp.
PHI, Inc.
Pioneer Energy Services Corp.
Plains All American Pipeline, L.P.
Regency Energy Partners LP
Rowan Companies plc
Royale Energy, Inc.
RPC, Inc.
Southcross Energy Partners, L.P.
Sunoco Logistics Partners LP
Superior Energy Services, Inc.
Tesco Corporation
Tetra Technologies, Inc.
Tidewater Inc.
Transmontaigne Partners L.P.
Unit Corporation
USA Compression Partners, LP
Vantage Drilling Company
Willbros Group, Inc.

References

- Belkaoui, Ahmed and Ellen Pavlik. 1992. "The Effects of Ownership Structure and Diversification Strategy on Performance." *Managerial and Decision Economics*.
- Board of Governors of the Federal Reserve System. 2014. "Flow of Funds Accounts of the United States." June 5, 2014.
- Chakravarty, Sugato and John J. McConnell. 1999. "Does Insider Trading Really Move Stock Prices?" *The Journal of Financial and Quantitative Analysis*.
- Copeland, Craig. 2011. "Employment-Based Retirement Plan Participation: Geographic Differences and Trends, 2010." Employee Benefit Research Institute. No. 353.
- Council of Institutional Investors. "Mutual Fund Assets By Type of Retirement Plan."
- Edgar-Online Database, <http://www.edgar-online.com>.
- Energy Information Administration, 2011. "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.
- Hotchkiss, Edith S. and Strickland, Deon. 2003. "Does Shareholder Composition Matter? Evidence from the Market Reaction to Corporate Earnings Announcements," *The Journal of Finance*.
- Investment Company Institute. 2014. Fact Book.
- _____. 2014-A. The IRA Investor Profile Traditional IRA Investors' Activities 2007-2012.
- Lowry, Michelle and William G. Schent. 2002. "IPO Market Cycles: Bubbles or Sequential Learning?" *The Journal of Finance*.
- Mascarenhas, Briance. 1989. "Domains of State-Owned, Privately Held, and Publicly Traded Firms in International Competition." *Administrative Science Quarterly*.
- NASDAQ. 2014. Web.
- Pagano, Marco and Alisa Roell. 1998. "The Choice of Stock Ownership Structure: Agency Costs, Monitoring and the Decision to Go Public." *Quarterly Journal of Economics*.
- Parthiban, David, Rahul Kochhar, and Edward Levitas. 1998. "The Effect of Institutional Investors on the Level and Mix of CEO Compensation." *The Academy of Management Journal*.
- Parthiban, David, Michael Hitt, and Javier Gimeno. 2001. "Influence of Activism by Institutional Investors on R&D." *The Academy of Management Journal*.
- Shapiro, Robert J. and Nam D. Pham. 2011. "Who Owns America's Oil and Gas Companies." www.sonecon.com.

_____. 2007. “The Distribution of Ownership of U.S. Oil and Natural Gas Companies.” www.sonecon.com.

_____. 2006. “The Economic Impact of a Windfall Profits Tax on Federal, State and Local Public Employee Pension Funds.” www.sonecon.com.

_____. 2005. “The Economic Impact of a Windfall Profits Tax on Savers and Shareholders.” www.sonecon.com.

Standard & Poor’s Indices.

U.S. Census Bureau. Web.

U.S. Department of Labor. Web.

U.S. Securities and Exchange Commission. “Form 13F—Reports Filed by Institutional Investment Managers.” <http://www.sec.gov/answers/form13f.htm>.

About the Authors

Robert J. Shapiro is the chairman and chief executive of Sonecon, LLC, a private firm that provides economic and security-related advice and analysis to senior officials of the U.S. and foreign governments and senior executives of American businesses and non-profit organizations. Dr. Shapiro has advised, among others, President Bill Clinton, Vice President Al Gore, Jr., British Prime Minister Tony Blair, Treasury Secretaries Timothy Geithner and Robert Rubin, British Foreign Secretary David Miliband, and many U.S. Senators and Representatives. He also has advised senior executives of many global companies, including AT&T, Exxon-Mobil, Amgen, Gilead Science, Google, Elliot Management, and Fugitsu, as well as non-profit organizations such as PhRMA and the Center for American Progress. Dr. Shapiro also is a Senior Fellow of the Georgetown University McDonough School of Business, an adviser to the International Monetary Fund, co-chair of American Task Force Argentina, director of the Globalization Initiative at NDN, and chair of the U.S. Climate Task Force. Before establishing Sonecon, he was the Under Secretary of Commerce for Economic Affairs, in which position he directed economic policy at the Commerce Department and oversaw the Bureau of Economic Analysis and Census Bureau. Prior to that position, he was co-founder and Vice President of the Progressive Policy Institute, Associate Editor of *U.S. News & World Report*, and Legislative Director for Senator Daniel Patrick Moynihan. Dr. Shapiro also served as the principal economic advisor to Bill Clinton in his 1991-1992 campaign, and as economic advisor in the campaigns of Barack Obama, John Kerry and Al Gore. He has been a Fellow of Harvard University, the Brookings Institution, and the National Bureau of Economic Research; and he holds a Ph.D. and M.A. from Harvard University, a M.Sc. from the London School of Economics and Political Science, and an A.B. from the University of Chicago.

Nam D. Pham is the managing partner of ndp | analytics, an economics consulting firm that specializes in assessing complex issues in finance, industrial organization and international trade. Clients of ndp | analytics include U.S. and foreign corporations, financial institutions, trade associations, and multi-national organizations. Prior to founding ndp | analytics in 2000, Dr. Pham was Vice President at Scudder Kemper Investments in Boston, where he was responsible for research, asset allocations and currency hedges for Scudder's global and international bond funds. Before that, he was Chief Economist of the Asia Region for Standard & Poor's DRI in Boston. Dr. Pham's has more than twenty years of experience in multinational organizations and government agencies in Washington D.C. This tenure includes posts as an economist at the World Bank and consultant to the Department of Commerce and the Federal Trade Commission. In addition, Dr. Pham is an adjunct professor at the George Washington University, where he teaches undergraduate and graduate courses in monetary economics, international trade and finance, macroeconomics and microeconomics. Dr. Pham earned a Ph.D. in economics from the George Washington University with concentrations in international trade and finance, economic development and applied microeconomics, a M.A. from Georgetown University and a B.A. from the University of Maryland.