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Investment and Other Uses of Cash Flow By the Oil Industry, 1992–2006

Prepared by Ernst & Young LLP
for the American Petroleum Institute

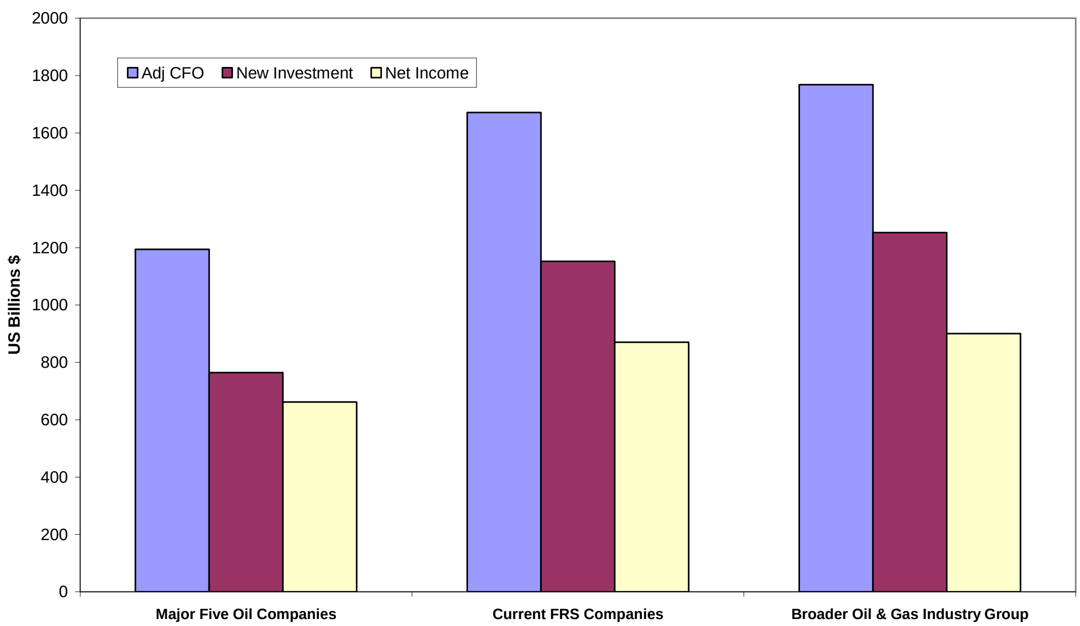
Executive Summary

Ernst & Young LLP was engaged by the American Petroleum Institute to prepare an analysis of the oil industry's historical investment trends and other uses of cash flow. This report updates the February 3, 2006 E&Y report for data through 2006.

With recent record oil and gas prices, cash flow from operations has increased, enabling oil companies to make investments in new production capacity, facilities, and technology. A historical perspective on the industry's investment trends plus the key considerations underlying the significant long-lived investments is important to understanding the current and future investment spending of the industry. This report summarizes available public information about the oil industry's investment since 1992.

The absolute amount of "new investment" is defined as capital expenditures on property, plant and equipment (PP&E), plus exploration expenses and research and development (R&D) expenditures. In the period 1992 through 2006, the five major oil companies (i.e., BP, Chevron, ConocoPhillips, Exxon Mobil, and Royal Dutch Shell) had $765 billion in new investment, compared to net income of $662 billion and cash flow from operations

Figure 1.
New Investment, Adjusted Cash Flow, and Net Income, 1992 through 2006

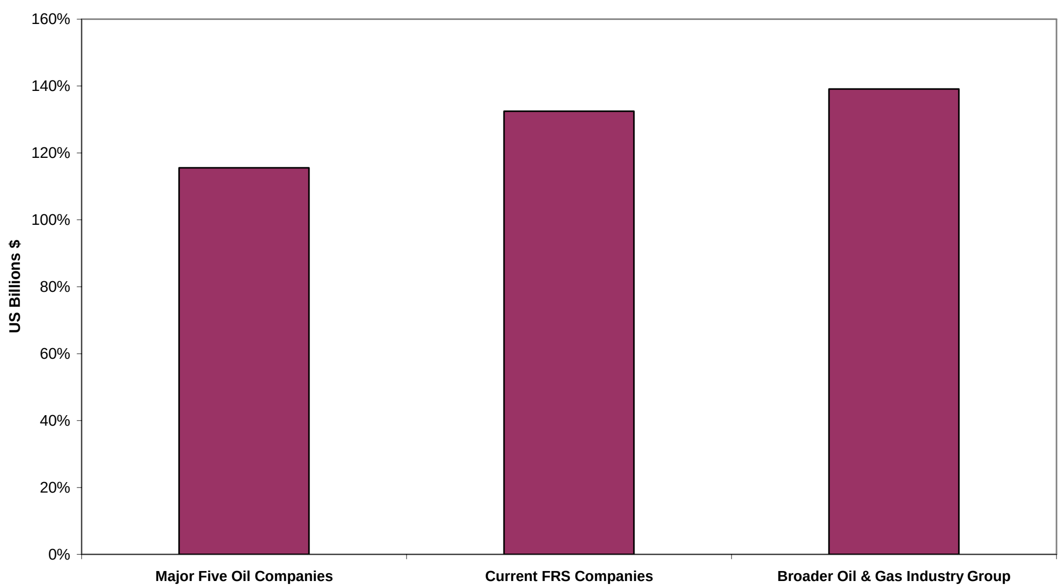


Source: John S. Herold, Inc

of $1.19 trillion. The 25 large oil and gas companies that currently report to the U.S. Department of Energy in the Financial Reporting System (FRS) had new investments of $1.15 trillion over the same period, as compared to net income of $870 billion and cash flows of $1.67 trillion. A broader grouping of the industry, which includes 57 of the largest U.S. oil and gas companies (i.e., the five biggest majors, along with the other major integrated companies, the large and medium-sized independent E&P companies, and the larger independent refiners and diversified natural gas companies), had new investments of $1.25 trillion over the same period, compared to net income of $900 billion and cash flows of $1.77 trillion. Investment by the five major oil companies accounted for 61 percent of the broader industry group's investment during this period.

Figure 2 shows the relationship between new investment and net income for the three groups of oil and gas companies during the past 15 years. Total new investment exceeded cumulative net income for the five major oil companies, the 25 companies currently included in the DOE's FRS system, and a broader industry grouping.

Figure 2.
New Investment as a Percent of Net Income,
1992 through 2006



Source: John S. Herold, Inc

New investment by the five major oil companies increased at a 33% rate in 2006 from the previous year. New investment exceeded $91 billion in 2006. Data for the 25 large companies that currently report on the FRS show new investments of $154 billion in 2006, and their investment spending growth rate during 2006 was 29%. A broader grouping of the industry made aggregate new investment in 2006 of $174 billion, with a 29% growth rate in investment during 2006.

High oil and gas prices in recent years increased oil and gas companies' cash flows from operations and net income, which facilitated record levels of investment spending. The extra cash flow has also been used to strengthen companies' balance sheet through debt repayment and share repurchases, as well as retained as increased cash balances that can be used for future investments. In 2006, oil and gas companies borrowed additional funds and reduced their cash balances to finance the record level of investment.

New investment exceeded net income every year between 1992 and 2003. Cash flows and net income increased faster than investment with the sharp rise in oil prices in 2003-5, causing the ratio of investment to net income to decline. However, net investment increased as a percentage of both cash flows and net income in 2006, compared to 2005.

The International Energy Agency estimates that through 2030 investments in oil and gas exploration and production, refining, transportation, and infrastructure, will require $8.2 trillion, averaging over $300 billion annually. Higher levels of projected investment are driven partially by higher cost of materials, equipment, and personnel.

Surveys of capital expenditures by the oil and gas industry saw spending growth in 2006 at their highest level in recent years, with projections for continued growth in 2007.

Sustained high world oil and gas prices are stimulating record levels of investment by the oil and gas industry, and if prices remain above $30 a barrel, continued investment in enhanced recovery, new exploration, unconventional oil (e.g., oil sands, heavy and/or shale oil), and alternative fuel technologies will accelerate further.

Investment and Other Uses of Cash Flow By the Oil Industry

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With recent record oil and gas prices, oil companies have increased cash flow from which to make investments in new production and capacity, facilities, and technology. A historical perspective on the industry's investment trends plus the key considerations underlying the significant long-lived risky investments is important to understanding the current and future investment spending of the industry. This report summarizes available public information about the oil industry's investment since 1992.

Key Considerations in the Oil Industry's Investment Decisions

The oil industry's investment decisions are based on economic considerations similar to other businesses' investment decisions. Risk and return to the investors are critical to choosing the type of investments made, whether they are investments in additional oil exploration, alternative non-oil energy investments, or non-energy investments. If the risk and return profile for major capital expenditures in the oil industry are not as attractive as other industries, then capital will flow more to those more attractive investment choices.

The oil industry is facing major challenges with its future investments necessary to meet the world's growing energy needs. The Organization for Economic Cooperation and Development's (OECD) International Energy Administration (IEA) forecasts that total energy investment will need to be as much as $20 trillion (in 2005 dollars) from 2005-2030 and that oil and gas investments will need to increase by more than $8.2 trillion.[1] As existing oil reserves become depleted, new exploration and development will need to replace existing oil reserves, plus add significant new oil reserves.

The increased demand for energy occurs at the same time that U.S. oil companies are facing significant constraints on their potential investment opportunities. Most of the new oil reserves will be discovered outside of the U.S., and often countries are putting restrictions or onerous licensing terms on U.S. investments. In addition, much of the oil and gas exploration that is available involves increasingly larger investments, with multi-year planning and multi-year construction before production can occur. The oil and gas industry faces significant geo-political risks, regulatory risks and environmental risks, in addition to the general economic and operational risks associated with oil exploration, development and production.

[1] International Energy Agency, World Energy Outlook 2006, p. 75.

Although the oil industry has overcome and expanded investment during the past thirty years in the face of these challenges and risks, it is important to review the history of the industry and its investments. Assumptions of future oil prices, short-term constraints on investment opportunities, and multi-year planning, permitting and construction affect recent uses of cash flow for investment. The earlier E&Y report described in more detail the four key drivers of investment spending: prospect availability, expected future oil prices, expected costs, and the efficiency of exploration and development efforts, as well as some of the short-term constraints.

Oil and Gas Industry Investments and Uses of Cash Flow

Oil and gas companies can use their available cash flow in a number of different ways. Cash flow is the difference between revenues and actual cash expenses, before capital expenditures or changes in financing. Companies can make investments, make acquisitions, repay debt, pay dividends, repurchase equity shares or increase their accumulated cash balance out of cash flow. To the extent that companies borrow additional funds, issue new equity shares or sell existing assets, those additional funds can also be used for investment, acquisitions, dividends, share repurchases or to increase cash balances.

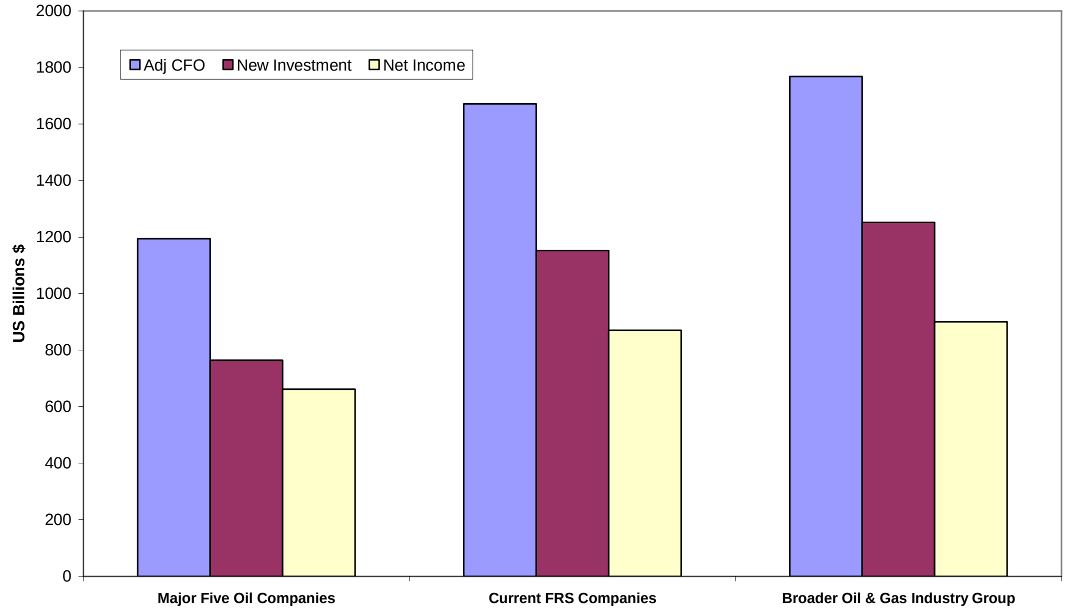
As described above, investment decisions are long-term in nature and are limited by short-term capacity constraints. By contrast, cash flow is more volatile, associated with changes in oil and gas prices. Companies often increase their cash balances during periods of rising oil and gas prices to have available funds to invest in future years.

It is worth noting two aspects of the financial data. First, net income is generally lower than cash flow due to the deduction for past and current tangible investments and depletion of oil reserves. Second, some investments, such as exploration expenses and research and development costs, are subtracted as out-of-pocket expenses in arriving at cash flow and net income. To look more broadly at investment, we have included spending on exploration and research and development in the measure of new investment. When we present investment as a percentage of cash flow, we include the exploration and R&D spending in both the numerator and denominator.

Comparison of Investment, Cash Flow and Net Income

The absolute amount of "new investment" is defined as capital expenditures on property, plant and equipment (PP&E), plus exploration expenses and research and development (R&D) expenditures. In the period 1992 through 2006, the five major oil companies (i.e., BP, Chevron, ConocoPhillips, Exxon Mobil, and Royal Dutch Shell) had $765 billion in new investment, compared to net income of $662 billion and cash flow from operations of $1.19 trillion, as shown in Figure 1.

Figure 1.
New Investment, Adjusted Cash Flow, and Net Income,
1992 through 2006



Source: John S. Herold, Inc

The 25 large oil and gas companies that currently report to the U.S. Department of Energy in the Financial Reporting System (FRS) had new investments of $1.15 trillion over the same period, as compared to net income of $870 billion and cash flows of $1.67 trillion. A broader grouping of the industry, which includes 57 of the largest U.S. oil and gas companies (i.e., the five biggest majors, along with the other major integrated companies, the large and medium-sized independent E&P companies, and the larger independent refiners and diversified natural gas companies), had new investments of $1.25 trillion over the same period, compared to net income of $900 billion and cash flows of $1.77 trillion. Investment by the five major oil companies accounted for 61 percent of the broader industry group's investment during this period.

Figure 2 shows the relationship between new investment and net income for the three groups of oil and gas companies during the past 15 years. Total new investment exceeded cumulative net income for the five major oil companies, the 25 companies currently included in the DOE's FRS system, and a broader industry grouping.

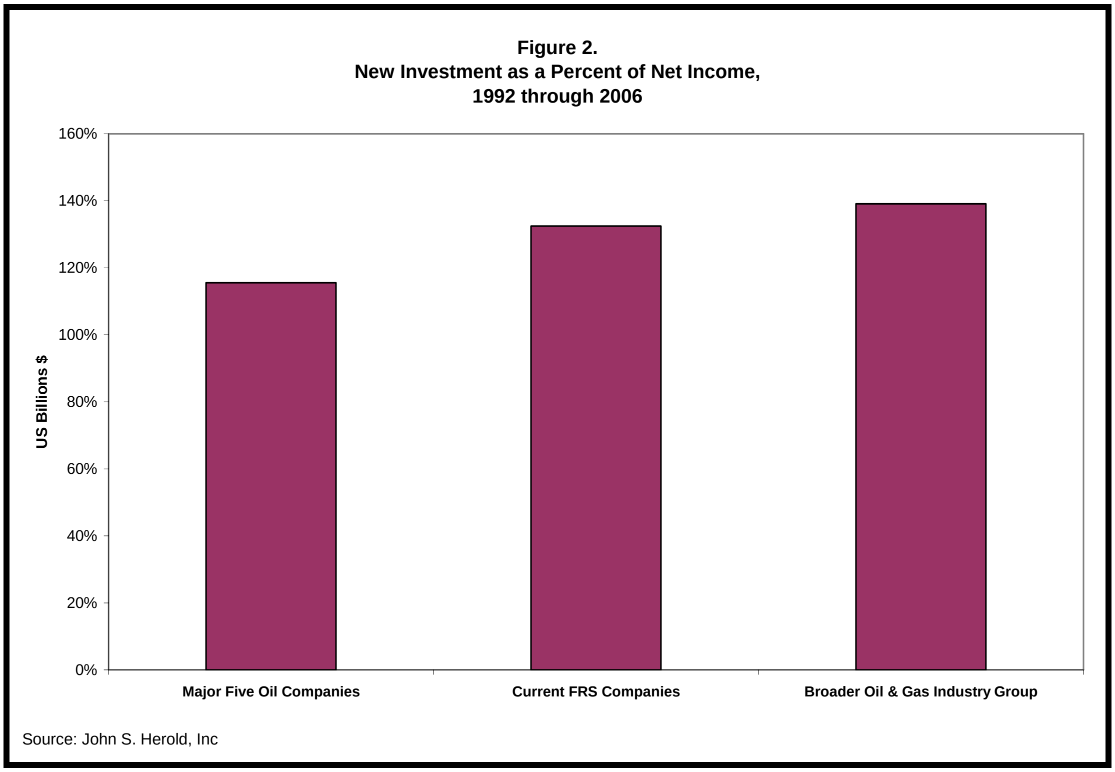


Table 1 shows the new investment as a share of net income for the three groups: five major oil companies, the 25 FRS companies, and the broader industry grouping. New investment exceeded net income every year between 1992 and 2003. Cash flows and net income increased faster than investment with the sharp rise in oil prices in 2003-5, causing the ratio of investment to net income to decline. However, net investment increased as a percentage of net income during 2006, compared to 2005. New investment for the broader industry grouping increased from 81% of net income in 2005 to 98% in 2006.

Table 1. New Investment Share of Net Income, 1992 - 2006
(Billions of US Dollars)

Five Major Oil Companies

Use of Cash Flow	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
New Investment	33.2	30.7	31.2	34.1	50.4	55.2	56.6	43.6	43.9	56.3	53.1	55.5	60.6	68.8	91.4
Net Income	13.6	14.8	15.4	17.7	33.1	35.1	15.9	23.5	53.1	47.5	27.3	56.5	79.8	108.7	119.9
Investment as % of Net Income	244%	207%	203%	193%	152%	157%	357%	186%	83%	119%	195%	98%	76%	63%	76%

25 Large Oil Companies in Current FRS Database

Use of Cash Flow	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
New Investment	41.9	39.0	40.5	46.5	64.5	74.9	76.1	65.2	67.2	91.7	83.2	88.3	99.6	119.8	154.1
Net Income	13.2	16.2	16.4	20.9	38.5	38.9	16.2	30.3	69.5	60.3	36.5	75.3	108.9	158.0	170.8
Investment as % of Net Income	317%	241%	247%	223%	167%	193%	470%	215%	97%	152%	228%	117%	92%	76%	90%

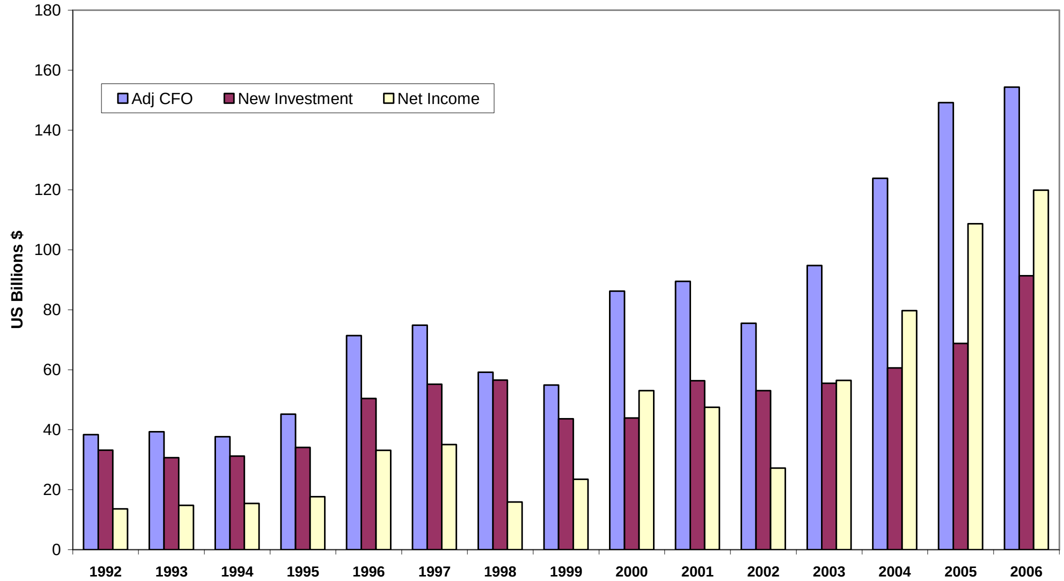
Broader Oil Industry Grouping

Use of Cash Flow	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
New Investment	43.3	41.8	42.6	49.0	68.0	79.3	81.6	68.5	72.4	100.0	90.3	96.8	110.5	134.7	173.8
Net Income	13.1	16.7	16.9	20.8	39.7	39.2	14.6	31.2	71.9	62.7	37.4	78.0	113.9	166.3	178.0
Investment as % of Net Income	329%	249%	252%	236%	171%	202%	559%	219%	101%	160%	241%	124%	97%	81%	98%

Source: John S. Herold, Inc. data, calculations by E&Y

Figure 3 shows the five major oil companies' cash flow, new investment, and net income from 1992 through 2006. New investment by the five major oil companies exceeded $91 billion in 2006, and the investment spending growth rate during 2006 was 33 percent from the previous year.

Figure 3.
New Investment, Adjusted Cash Flow, and Net Income
Big 5 Majors, 1992-2006



Source: John S. Herold, Inc

Figure 4 shows the cash flow, new investment and net income from 1992 through 2006 for 25 companies currently reporting in the DOE's FRS system. Data for the 25 large companies that currently report on the FRS show new investments of $154 billion in 2006, and their investment spending growth rate during 2006 was 29 percent.

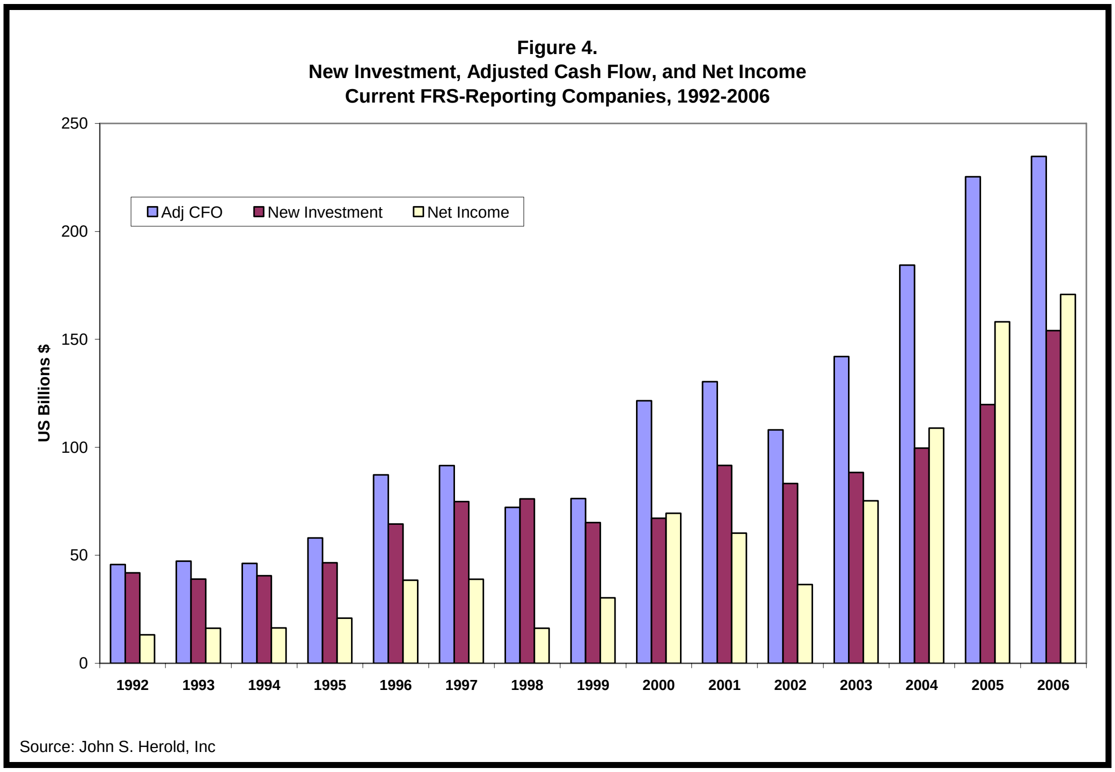
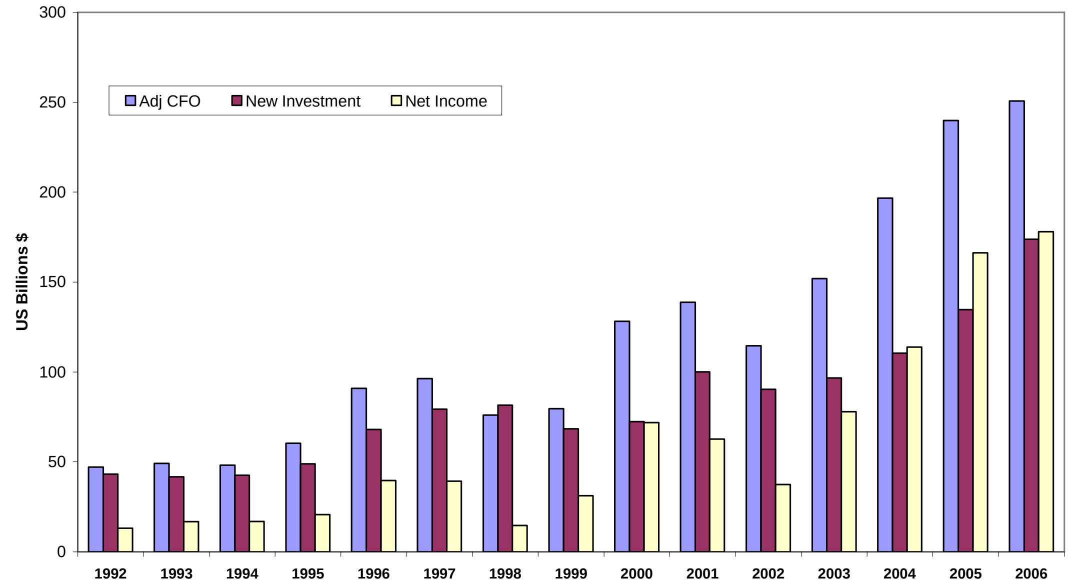


Figure 5 shows the cash flow, new investment and net income from 1992 through 2006 for the broader grouping of oil and gas companies. A broader grouping of the industry made aggregate new investment in 2006 of $174 billion, with a 29 percent growth rate in investment during 2006.

Figure 5.
New Investment, Adjusted Cash Flow, and Net Income
Broader Industry Sample, 1992-2006



Source: John S. Herold, Inc

Composition of Cash Flow

The composition of the sources and uses of the oil and gas industry's cash flow is available by company from the John S. Herold, Inc. database. Table 2 shows the uses of cash flow for the five major oil companies, the 25 large U.S. oil and gas companies that are currently in the DOE's FRS companies, and a broader measure of the oil and gas industry that includes an additional 32 large and medium-sized companies.

The composition of uses of cash flow has fluctuated over the past 15 years. Table 3 shows the composition of spending from cash flow for the three groups: five major oil companies, the 25 FRS companies, and the broader industry grouping. In both 2004 and 2005, the companies in the broader industry grouping spent 56% of their cash flow on PP&E, exploration, and R&D. Companies strengthened their balance sheets with an increase in accumulated cash investments and repayment of outstanding debt. Dividends and share repurchases increased.

In calendar year 2006, investment by the broader industry group increased 29% from 2005. Investment as a percent of cash flow increased from 56% to 69% between 2005 and 2006. In 2006, companies reduced their cash buildup while increasing borrowing to finance the increase in investment and share repurchases.

Table 2. Historical Uses of Cash Flow by Oil Companies, 1992 - 2006
(Billions of US Dollars)

Five Major Oil Companies

Use of Cash Flow	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PP&E	28.6	26.6	27.4	30.4	44.2	48.1	48.6	37.5	38.4	50.5	47.6	49.5	53.8	62.3	82.9
Exploration	3.7	3.3	3.2	3.0	5.2	5.3	6.0	4.7	4.1	4.3	3.8	4.2	5.0	4.3	6.0
R&D	0.9	0.8	0.7	0.8	1.1	1.8	2.0	1.4	1.4	1.6	1.7	1.8	1.9	2.1	2.5
New Investment Subtotal	*33.2*	*30.7*	*31.2*	*34.1*	*50.4*	*55.2*	*56.6*	*43.6*	*43.9*	*56.3*	*53.1*	*55.5*	*60.6*	*68.8*	*91.4*
Debt Repayment or Borrowing (-)	-1.8	2.0	0.1	4.3	3.1	1.3	-5.8	-3.3	9.8	0.5	-4.9	14.8	10.4	10.5	-13.6
Stock Repurchases	-0.2	0.3	0.9	0.5	0.4	4.2	1.1	0.0	5.1	11.1	6.7	7.2	17.9	37.8	56.8
Dividends Payout	11.4	11.3	11.9	12.7	16.1	17.3	18.1	20.1	20.3	20.6	21.2	23.3	25.7	32.0	31.0
Cash Buildup	-0.5	0.0	0.1	0.0	5.8	-3.3	-6.3	2.3	13.5	-1.0	-1.9	5.7	19.7	15.8	-13.3
Other	-3.6	-4.9	-6.4	-6.5	-4.4	0.2	-4.5	-7.9	-6.4	2.0	1.4	-11.7	-10.4	-15.8	2.0
Total Cash Flow	38.4	39.3	37.7	45.2	71.4	74.9	59.2	55.0	86.3	89.5	75.6	94.8	123.9	149.2	154.3

25 Large Oil Companies in Current FRS Database

Use of Cash Flow	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PP&E	36.1	33.9	35.4	41.5	56.7	66.0	65.9	57.5	59.4	83.3	75.2	79.7	89.9	110.0	142.5
Exploration	4.7	4.2	4.2	4.0	6.4	6.8	7.9	6.2	5.7	6.1	5.6	6.0	7.0	6.7	8.3
R&D	1.1	1.0	0.9	1.0	1.3	2.0	2.2	1.5	2.1	2.2	2.4	2.6	2.8	3.1	3.3
New Investment Subtotal	*41.9*	*39.0*	*40.5*	*46.5*	*64.5*	*74.9*	*76.1*	*65.2*	*67.2*	*91.7*	*83.2*	*88.3*	*99.6*	*119.8*	*154.1*
Debt Repayment or Borrowing (-)	-2.0	0.1	-0.9	6.3	3.3	-1.5	-19.7	-6.8	15.7	-12.7	-10.3	17.9	17.0	11.1	-40.4
Stock Repurchases	-1.8	-1.1	0.4	0.4	0.0	4.6	0.0	-4.4	6.3	14.8	5.5	8.7	20.3	46.9	64.1
Dividends Payout	12.7	12.1	13.1	14.4	18.0	19.6	20.7	24.3	24.7	26.0	26.4	29.3	34.3	40.6	40.6
Cash Buildup	-0.1	2.1	-0.3	1.2	6.5	-6.5	-6.3	4.5	14.8	-2.0	0.9	9.0	22.6	20.2	-16.9
Other	-4.9	-5.0	-6.6	-10.8	-5.0	0.5	1.4	-6.5	-7.1	12.6	2.4	-11.2	-9.5	-13.3	33.3
Total Cash Flow	45.8	47.3	46.3	58.0	87.2	91.6	72.2	76.3	121.6	130.3	108.1	142.1	184.3	225.2	234.7

Broader Oil Industry Grouping

Use of Cash Flow	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PP&E	37.4	36.5	37.3	43.8	60.0	70.1	71.0	60.5	64.2	91.0	81.8	87.5	99.8	123.8	161.1
Exploration	4.8	4.3	4.4	4.2	6.6	7.2	8.3	6.5	6.1	6.8	6.2	6.7	8.0	7.8	9.4
R&D	1.1	1.0	0.9	1.0	1.3	2.1	2.2	1.5	2.1	2.2	2.4	2.6	2.8	3.1	3.4
New Investment Subtotal	*43.3*	*41.8*	*42.6*	*49.0*	*68.0*	*79.3*	*81.6*	*68.5*	*72.4*	*100.0*	*90.3*	*96.8*	*110.5*	*134.7*	*173.8*
Debt Repayment or Borrowing (-)	-2.0	-0.4	-1.2	5.7	2.3	-1.8	-22.4	-5.4	15.8	-14.3	-11.5	18.5	16.7	10.5	-43.2
Stock Repurchases	-1.9	-1.8	0.4	0.1	-0.5	4.1	0.4	-5.4	6.2	14.6	5.1	8.1	19.1	45.9	65.5
Dividends Payout	12.8	12.3	13.3	14.6	18.3	20.3	21.0	24.5	25.2	26.6	26.7	30.0	35.0	40.9	41.0
Cash Buildup	0.2	2.0	-0.6	1.2	6.8	-6.4	-6.6	4.8	14.7	-1.8	0.7	9.6	23.1	21.7	-16.8
Other	-5.3	-4.8	-6.2	-10.3	-4.0	0.8	2.2	-7.4	-6.3	13.6	3.2	-11.1	-7.7	-13.9	30.4
Total Cash Flow	47.1	49.1	48.2	60.3	90.9	96.4	76.1	79.6	128.1	138.8	114.6	151.9	196.7	239.8	250.7

Note: R&D expenses are not required to be reported on quarterly financial statements.
Source: John S. Herold, Inc. data, calculations by E&Y

Table 3. Composition of Uses of Cash Flow by Oil Companies, 1992 - 2006
(Percent of Adjusted Cash Flow)

Five Major Oil Companies

Use of Cash Flow	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PP&E	74%	68%	73%	67%	62%	64%	82%	68%	45%	56%	63%	52%	43%	42%	54%
Exploration	10%	8%	8%	7%	7%	7%	10%	9%	5%	5%	5%	4%	4%	3%	4%
R&D	2%	2%	2%	2%	1%	2%	3%	3%	2%	2%	2%	2%	2%	1%	2%
New Investment Subtotal	*86%*	*78%*	*83%*	*75%*	*71%*	*74%*	*96%*	*79%*	*51%*	*63%*	*70%*	*59%*	*49%*	*46%*	*59%*
Debt Repayment or Borrowing (-)	-5%	5%	0%	10%	4%	2%	-10%	-6%	11%	1%	-7%	16%	8%	7%	-9%
Stock Repurchases	-1%	1%	2%	1%	1%	6%	2%	0%	6%	12%	9%	8%	14%	25%	37%
Dividends Payout	30%	29%	32%	28%	23%	23%	31%	37%	24%	23%	28%	25%	21%	21%	20%
Cash Buildup	-1%	0%	0%	0%	8%	-4%	-11%	4%	16%	-1%	-2%	6%	16%	11%	-9%
Other	-10%	-12%	-17%	-14%	-6%	0%	-8%	-14%	-7%	2%	2%	-12%	-8%	-11%	1%
Total Cash Flow	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

25 Large Oil Companies in Current FRS Database

Use of Cash Flow	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PP&E	79%	72%	77%	71%	65%	72%	91%	75%	49%	64%	70%	56%	49%	49%	61%
Exploration	10%	9%	9%	7%	7%	7%	11%	8%	5%	5%	5%	4%	4%	3%	4%
R&D	2%	2%	2%	2%	1%	2%	3%	2%	2%	2%	2%	2%	2%	1%	1%
New Investment Subtotal	*91%*	*83%*	*88%*	*80%*	*74%*	*82%*	*105%*	*85%*	*55%*	*70%*	*77%*	*62%*	*54%*	*53%*	*66%*
Debt Repayment or Borrowing (-)	-4%	0%	-2%	11%	4%	-2%	-27%	-9%	13%	-10%	-10%	13%	9%	5%	-17%
Stock Repurchases	-4%	-2%	1%	1%	0%	5%	0%	-6%	5%	11%	5%	6%	11%	21%	27%
Dividends Payout	28%	26%	28%	25%	21%	21%	29%	32%	20%	20%	24%	21%	19%	18%	17%
Cash Buildup	0%	5%	-1%	2%	7%	-7%	-9%	6%	12%	-1%	1%	6%	12%	9%	-7%
Other	-11%	-11%	-14%	-19%	-6%	1%	2%	-8%	-6%	10%	2%	-8%	-5%	-6%	14%
Total Cash Flow	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Broader Oil Industry Grouping

Use of Cash Flow	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
PP&E	79%	74%	77%	73%	66%	73%	93%	76%	50%	66%	71%	58%	51%	52%	64%
Exploration	10%	9%	9%	7%	7%	7%	11%	8%	5%	5%	5%	4%	4%	3%	4%
R&D	2%	2%	2%	2%	1%	2%	3%	2%	2%	2%	2%	2%	1%	1%	1%
New Investment Subtotal	*92%*	*85%*	*88%*	*81%*	*75%*	*82%*	*107%*	*86%*	*57%*	*72%*	*79%*	*64%*	*56%*	*56%*	*69%*
Debt Repayment or Borrowing (-)	-4%	-1%	-3%	9%	3%	-2%	-29%	-7%	12%	-10%	-10%	12%	8%	4%	-17%
Stock Repurchases	-4%	-4%	1%	0%	-1%	4%	1%	-7%	5%	11%	4%	5%	10%	19%	26%
Dividends Payout	27%	25%	27%	24%	20%	21%	28%	31%	20%	19%	23%	20%	18%	17%	16%
Cash Buildup	0%	4%	-1%	2%	7%	-7%	-9%	6%	11%	-1%	1%	6%	12%	9%	-7%
Other	-11%	-10%	-13%	-17%	-4%	1%	3%	-9%	-5%	10%	3%	-7%	-4%	-6%	12%
Total Cash Flow	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: R&D expenses are not required to be reported on quarterly financial statements.
Source: John S. Herold, Inc. data, calculations by E&Y

Future Investment Prospects

Long-Term Prospects

The record levels of oil and gas investments in 2004 through 2006 are consistent with and partially a result of the increased energy demand and increased investment needs forecast by the International Energy Agency. The IEA's World Energy Investment Outlook forecast increased energy demands from both developed and developing countries will necessitate over $20 trillion (in 2005 dollars) from 2005-2030. Oil investment is forecast at $4.3 trillion with over two thirds of the investment in non-OECD countries. Upstream investment (exploration and production) accounts for 73% of total oil investment, three quarters of which will be needed to maintain existing capacity. Investment in gas production is forecast at $3.9 trillion over the same period.[2]

Companies will require financing, strong balance sheets, access to new oil and gas reserves, reduced uncertainties, and attractive price, tax and cost environments to meet these large future energy investment needs.

Short-Term Prospects

Several investment banks annually survey the oil and gas industry about their exploration and production (E&P) spending plans for the coming year, with one report estimating an increase in global E&P spending by 9% in 2007. Though this growth rate estimate is lower than the prior year, last year's actual investment spending exceeded the earlier estimate, as companies tend towards conservative spending forecasts.[3]

The surveys report a continued increase in the underlying oil price forecast used by companies in making their investment spending plans. Average oil price estimates underlying the investment spending forecast have increased during the last three years. Expected oil prices rose from $50/bbl for the 2006 investment spending forecast to $57/bbl for the 2007 investment spending forecast.[4] The direction of commodity prices remains a significant factor in determining 2007 spending, along with cash flow and prospect availability. Spending plans continue to depend heavily on capacity constraints, as oil and gas companies remain very sensitive to increases in drilling costs.

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[2] IEA, 2006, p. 75.
[3] Lehman Brothers, The Original E&P Spending Survey, December 13, 2006., p. 3.
[4] Lehman, p. 21.

Appendix: Description of Data Sources and Data

The data presented in this study come from three sources: the John S. Herold database, collected from individual company consolidated financial statements, and the U.S. Department of Energy's Financial Reporting System database for aggregated data from 25-30 of the largest oil and gas companies.

Data Sources

John S. Herold database – Founded in 1948, John S. Herold, Inc. is an independent research firm that specializes in the analysis of companies, transactions, and trends in the global energy industry. The Herold *Financial Database* provides comprehensive and dependable online financial and operating data and statistics on approximately 400 publicly-traded energy companies since 1992.

U.S. Department of Energy, Financial Reporting System (FRS) database includes aggregated data for approximately 25-30 of the largest U.S. oil and gas companies from 1977 through 2003.   The FRS database was revised in 1986, so the absolute level of the data is not exactly comparable across the years. The structure of the data, such as the composition of cash flow and the sources and uses of cash, however, appear to be consistent across the entire time period. The current companies in the FRS database are listed in Appendix Table 1.

Data Description

"New investment" includes expenditures on property, plant and equipment, plus exploration expenses, and research and development expenses. R&D expenses are not required to be separately stated on quarterly financial statements so are not included in the quarterly data, but are included in the annual data.

Some analyses of new investment include spending on mergers and acquisitions. M&A is an important source of acquiring new oil and gas reserves for individual companies. This analysis does not include the spending on M&A in order to provide a conservative estimate of the net increase to the global capacity of oil and gas production. The available databases may result in inclusion of the spending to acquire oil reserves by one company without an offsetting decrease in the oil reserves by the acquired company if M&A spending were included. It is possible that this could result in an understatement of the net addition to global capacity of certain groups of oil companies.

Exploration expenses and research and development expenses are treated as expenses deducted before arriving at net cash flow. When comparisons are made of new investment that include exploration, research and development expenses, those expenses are added to both the numerator and the denominator to ensure consistency.

Appendix Table 1. Companies Included in Analysis

- * Anadarko Petroleum Corp.
- * Apache Corp.
- Ashland Inc.
- Belden & Blake Corp.
- Berry Petroleum Co.
- ** BP plc
- * Burlington Res. (Acq. by Conoco)
- Cabot Oil & Gas Corp.
- Chaparral Energy, Inc.
- * Chesapeake Energy Corp.
- ** Chevron Corp.
- Cimarex Energy Co. (Spun-off by HP)
- Citgo Petroleum Corp. [1]
- Comstock Resources Inc.
- ** ConocoPhillips
- ** ConocoPhillips (historical pooled basis)
- CONSOL Energy Inc.
- Continental Resources, Inc.
- Denbury Resources, Inc.
- * Devon Energy Corp.
- * Dominion Resources, Inc.
- Encore Acquisition Co.
- Energy Partners, Ltd.
- * EOG Resources, Inc.
- * Equitable Resources Inc.
- ** Exxon Mobil Corp.
- Forest Oil Corp.
- Giant Industries
- Hess Corp. (f.k.a. Amerada Hess)
- Houston Exploration Co.
- * Kerr-McGee (Acq. by Anadarko)
- * Lyondell Chemical Co.
- * Marathon Oil Corp.
- Murphy Oil Corp.
- Newfield Exploration Co.
- Noble Energy, Inc.
- * Occidental Petroleum Co.
- Pioneer Natural Resources Co.
- Plains Exploration & Production Co.
- Pogo Producing Co.
- Quicksilver Resources, Inc.
- Range Resources Corp.
- Rosetta Resources Inc.
- ** Royal Dutch Shell plc
- Southwestern Energy Co.
- St. Mary Land & Exploration Co.
- Stone Energy Corp.
- * Sunoco, Inc.
- Swift Energy Co.
- * Tesoro Petroleum Corp.
- * Total S.A.
- Ultra Petroleum Corp.
- * Valero Energy Corp.
- Vintage Petroleum (Acq. by OXY)
- Whiting Petroleum Holdings, Inc.
- * Williams Companies Inc. (The)
- * XTO Energy Inc.

Note:

* Financial Reporting System (FRS) respondent

** Major Five Company and FRS respondent