

8. Financial Performance: Low Profitability in U.S. Refining and Marketing

The profitability of U.S. refining and marketing has been volatile. In the past 10 years or so, the rate of return to the major petroleum companies' U.S. refining and marketing assets ranged from the most profitable of their lines of business to near zero. In the 1990s, the profitability of U.S. refining and marketing was frequently lower than that of U.S. industry generally. The following chapter reviews the factors underlying the volatility of U.S. refining and marketing profitability and the sources of depressed rates of return in the 1990s. The chapter concludes with an examination of refining profits in the context of the rises in gasoline and distillate prices in the first half of 1996.

An industry's standing in the capital markets largely depends on its profit prospects and the perceived risks associated with them. Nevertheless, analysis of past profit performance of an industry can yield insights as to fundamental sources of profitability and the consequent course of investment. The profitability of the U.S. refining industry over the past 10 years or so has been volatile and, in the 1990's, frequently lower than U.S. industry generally. In order to understand this volatility and to assess the prospects for this industry, this chapter reviews the sources of U.S. refining profitability.

The analysis utilizes information reported annually to the Energy Information Administration's (EIA's) Financial Reporting System (FRS) by the two dozen or so U.S.-based major energy-producing companies.⁹¹ The FRS contains financial data and associated measures of energy-related operations by line of business, including U.S. refining/marketing. Over the past ten years, the FRS companies accounted for 72 percent of U.S. refinery capacity. The FRS data are complemented by financial information drawn from annual reports for non-major domestic refiners.

Margins, Operating Costs, and Profitability

More often than not, petroleum industry profitability has been lower than the profitability of overall U.S. industry. Figure 102 shows the return on equity (net income as a percent of stockholders' equity), an often-used measure of corporate profitability, for petroleum companies and the Standard and Poor's (S&P) group of 400 of the largest U.S.

industrial corporations (excluding energy companies). The petroleum companies include the majors (as represented by the FRS companies), publicly-traded independent oil and gas producers, and publicly-traded refiners other than the majors. For most of the past 10 years, petroleum company profitability has not kept pace with that of other large industrial corporations. In 1995, independent refiners and oil and gas producers registered very poor financial performances. But the FRS majors registered an uptick in overall profitability, largely due to an upswing in chemical profits. Also, over the past 10 years, the FRS companies' U.S. refining and marketing profitability has been below the overall profitability of their other businesses, except for 1988 and 1989 (Figure 103). However, in the first six months of 1996, all segments of the petroleum industry made noticeable gains in profitability.

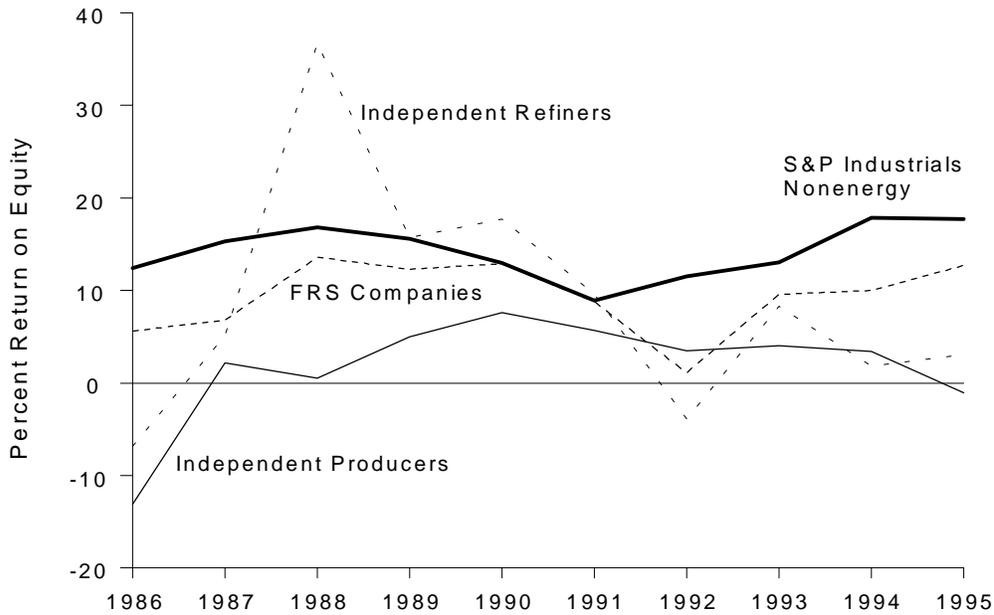
Income from refining operations primarily depends on the spread between refined product prices and raw material input prices (termed, the gross refining margin), operating costs, and volumes processed and sold. The gross refining margin is an important determinant of short-term refining profitability. For example, an examination of the gross refining margin reveals the sources of increased U.S. refining profits in the context of the gasoline price runup in the First Half of 1996 (see the section "Petroleum Price Rises Yield Profit Gains in First Half of 1996").

In the longer term, though, the relationship between refining profitability and the gross refining margin attenuates. For example, the correlation between the FRS companies' annual U.S. refining/marketing profitability and a somewhat broader definition of the gross refining margin⁹² is not significant by

⁹¹For a detailed description of the FRS and analyses of financial issues and trends among U.S. based major energy companies, see Energy Information Administration, *Performance Profiles of Major Energy Producers 1995*, DOE/EIA-0206 (Washington, DC, January 1997).

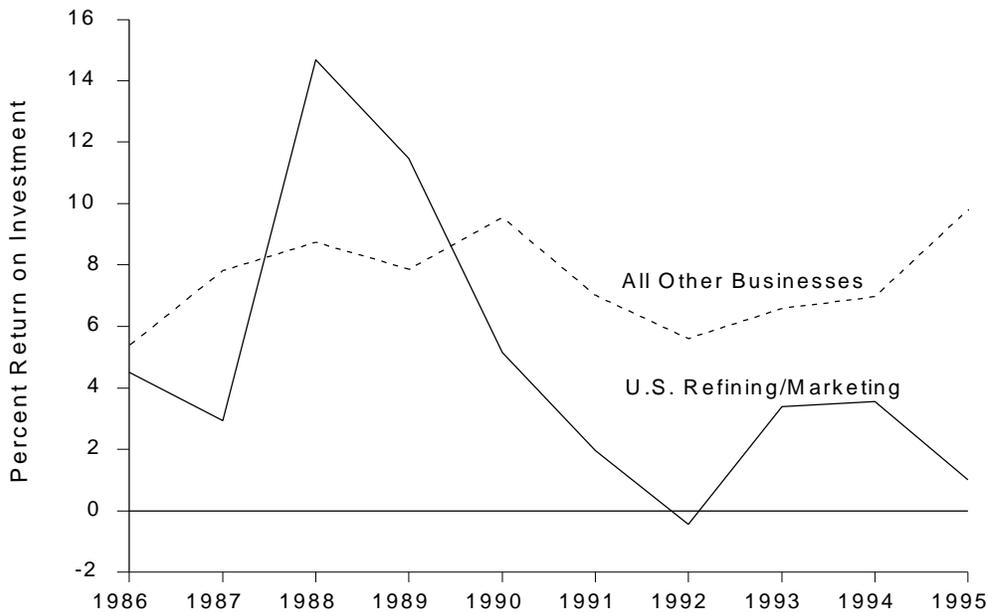
⁹²Return on investment was measured as contribution to net income/net investment in place. The FRS gross refined product margin consists of refined product revenues less raw material and product purchases divided by refined product sales volume.

Figure 102. Annual Return on Equity for Petroleum Companies and U.S. Industry



Return on Equity = Net income as a percent of shareholders equity.
 Source: Standard & Poor's Compustat and fourth quarter press releases.

Figure 103. FRS Companies' Return on Investment in U.S. Refining/Marketing and All Other Lines of Business



Return on Investment = Net income divided by net investment in place.
 Source: Energy Information Administration (EIA), Form EIA-28.

the usual statistical conventions.⁹³ The reason for this weak relationship is that the gross margin excludes operating costs such as refinery energy expense and maintenance of marketing networks. Operating costs may not typically vary much from quarter to quarter, but in a longer term context they are a key component of profit change. Of particular importance is the strong relationship between U.S. refining/marketing profitability and the net refining margin based on FRS data (i.e., the gross margin less out-of-pocket operating costs) (Figure 104).⁹⁴ Thus, examination of the components of the net refining margin should provide insights as to the level and volatility of U.S. refining profitability. Table 17 presents the components of the net refining margin and measures of U.S. demand for the FRS companies' refined products, and refinery utilization for the peak and trough years of refining profitability.

The profitability story in the 1980's is largely told by the dynamics of demand, capacity rationalization, and reductions in operating costs, as gross margins were fairly stable over the period. Following full deregulation of petroleum prices in 1981, refining profitability in the United States reached its lowest point in 1984. The U.S. refining industry was plagued by a falloff in demand and massive amounts of excess crude oil distillation capacity. The net margin on the FRS companies' U.S. refining and marketing operations was only 1 penny per barrel in 1984. However, the gross margin changed little from the previous peak profitability year of 1979. What did change was demand (down 19 percent), capacity utilization (down 9 percentage points), and operating costs (up \$1.80 (\$1995) per barrel). Moving to the peak profitability year of 1988, most of the factors that devastated the bottom line in 1984 turned around: demand was up 17 percent, capacity utilization noticeably improved, and operating costs declined by more than \$2 per barrel. Again, the gross margin changed little.

⁹³The regression of the FRS U.S. refining/marketing return on investment (ROI) on the FRS gross margin (constant dollars) for 1977 to 1995 yielded the following results:

$$\text{ROI} = -0.068 + 0.737 (\text{FRS Gross Margin}) \quad R^2 = 0.059.$$

The t-statistic for the coefficient of the FRS Gross Margin was 1.00, which is far below the conventional thresholds of statistical significance.

⁹⁴To demonstrate the relationship between refining returns and the net refining margin, a regression was run using FRS U.S. refining/marketing return on investment (ROI) against the FRS net refined product margin (constant dollars) for the years 1977 to 1994.

The regression results for 1977-1995 were:

$$\text{ROI} = -1.3 + 6.2 (\text{FRS Net Margin}) \quad R^2 = 0.852.$$

The regression produced a t-statistic of 9.90 for the independent variable, indicating that the probability of the above association between ROI and the FRS net margin occurring by chance is nearly nil.

The FRS companies' return on U.S. refining and marketing investment fell from its post-embargo peak in 1988 to zero in 1992. Demand for the FRS companies' refined products fell 7 percent over this period. Unlike the 1980's when gross margins held fairly steady, weak demand squeezed the spread between product prices and the prices of crude oil inputs. Overall operating costs also increased owing to a rise in marketing costs. The increase in marketing costs was widespread, with 16 of 18 FRS refiners reporting higher unit marketing costs between 1988 and 1992. The reasons for higher marketing costs are not altogether clear. Advertising outlays were up, reflecting a resurgence of growth in gasoline marketing in the wake of the oil price collapse of 1986. Also, the added costs of complying with leaking underground storage tank requirements were a contributing factor to higher marketing costs.

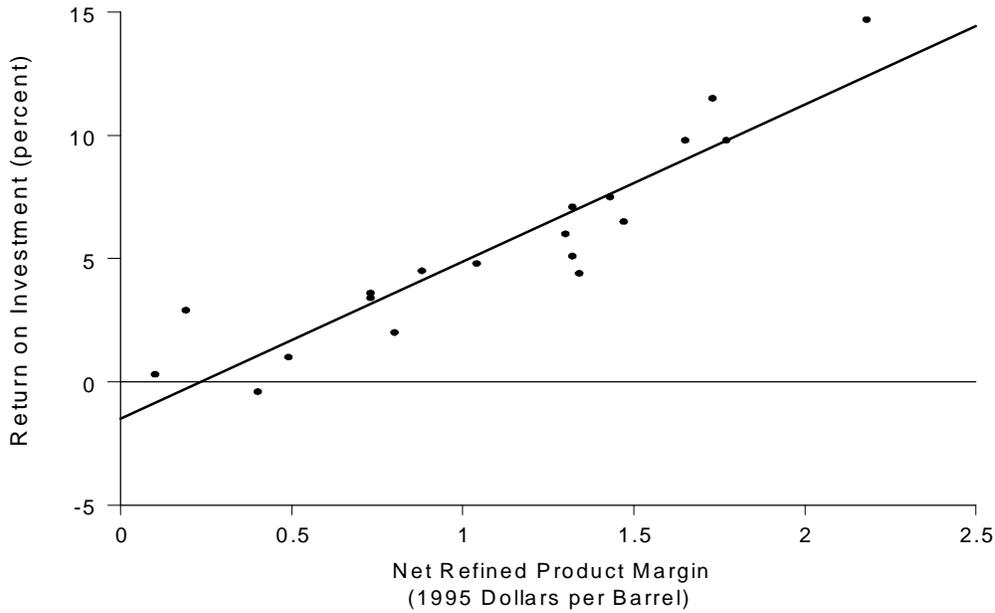
The profitability of the FRS companies' U.S. refining operations recovered slightly in 1993 and 1994, but remained low by historical standards (Figure 102). This recovery is remarkable since it occurred while the gross margin fell by nearly \$1.30 per barrel. Growth in demand of about 2 percent helped the bottom line but most of the improvement in earnings came from operating cost reductions, mainly marketing costs. Nearly all of the FRS refiners reported lower marketing costs between 1992 and 1994, citing restructuring and efficiencies gained through greater retail outlet productivity. Also, the FRS companies reduced their advertising outlays, at least for television. On the refining side, cost cutting by the companies and higher capacity utilization contributed to improved profits.

In 1995, increases in refined product prices did not match the rise in crude oil costs. The consequent squeeze on margins was in part due to the effects of unusually warm winter weather on first-quarter heating fuel demand and to complications arising from the introduction of reformulated gasolines. As a result, the FRS companies reported a 1.0-percent return on their U.S. refining/marketing investment base, the third poorest financial performance in nearly two decades. Despite jumps in distillate and gasoline prices in 1996, U.S. refining operations fared only slightly better in terms of financial performance than they did in 1995. For example, major petroleum companies that separately disclosed quarterly financial results for their U.S. refining and marketing operations reported that income from these operations in 1996 was 15 percent above the comparable total in 1995.⁹⁵

Examination of the FRS companies' U.S. refined product margins is thus seen to reveal the sources of volatility in

⁹⁵Based on fourth quarter 1996 press releases. Data for 1996 to update most of the figures and tables in this chapter were not available at the time this report went to press.

Figure 104. U.S. Refining/Marketing Return on Investment and Refined Product Margins for FRS Companies, 1977-1995



Source: Energy Information Administration (EIA), Form EIA-28.

Table 17. U.S. Refined Product Margins and Costs per Barrel Sold for FRS Companies, Selected Years, 1979 - 1995
(1995 Dollars per Barrel)

	1979	1984	1988	1992	1994	1995
Gross Margin ^a	8.21	8.37	8.52	7.39	6.11	5.53
less						
Marketing Costs	1.95	2.63	1.96	2.90	1.85	1.75
Energy Costs	2.04	2.78	1.33	1.21	0.98	0.82
Other Operating Expense	2.57	2.95	3.02	2.88	2.56	2.47
equals						
Net Refined Product Margin ^b	1.63	0.01	2.22	0.41	0.72	0.49
Refined Product Sales (mbd)	14,868	12,088	14,114	13,089	13,455	13,641
Refinery Capacity Utilization Rate (percent)	89	80	86	89	92	92

^aRefined product revenues less raw material and product purchases divided by refined product sales volumes.

^bCalculated from unrounded data.

Note: Years shown prior to 1994 are successive peak and trough years of U.S. refining/marketing profitability.

Source: Energy Information Administration (EIA), Form EIA-28.

rates of return to U.S. refining and marketing. The volatility of U.S. refining/marketing profitability over the past decade or so reflects a combination of swings both in the spread between refined product prices and crude oil input prices and in marketing costs, which, despite the massive restructuring of marketing networks, have shown a varying pattern over time with a tendency toward long-term decline only recently evident. Further, the low level of refining/marketing profitability in the 1990's is largely traceable to lower gross margins which were only partly offset by reductions in operating costs. However, there are other developments that have contributed importantly to the longer term course of U.S. refining/marketing profitability. These developments are not directly observable in the data on margins, but, instead, are best understood in the context of capital deployment.

Investment and Capital Intensity in U.S. Refining and Marketing

The capital intensity of a process generally refers to the amount of capital used to produce a unit of output from the process. Profitability and capital intensity are closely related. Simply put, if a process becomes more capital intensive, then unless there is an increase in profit per unit of output, profitability will decline.

In the 1990's, U.S. refining was hit by lower gross margins following the peak years of 1988 and 1989. Also, over the same period, the capital intensity⁹⁶ of U.S. refining increased by 50 percent or so after remaining nearly unchanged for several years (Figure 105). Together, these developments underlie the generally low rates of return to U.S. refining and marketing in the 1990's. Examination of investment patterns in U.S. refining proves useful for understanding why capital intensity rose in some periods and was unchanged in other periods.

The past 20 years saw several distinct phases of capital deployment in U.S. refining. Investment patterns during this span had the effect of increasing the capital intensity of these operations. Beginning in the late 1970's and continuing through the early 1980's, the FRS companies led U.S. refiners in making investments to upgrade their capability to utilize heavier, more sulfurous crude oils. The companies premised these investments on expectations that the composition of world supplies would shift toward lower quality, lower priced crude oils. Led by the FRS companies,

many U.S. refiners invested in specialized plant and equipment in order to profit from the expected growth in the wedge in prices favoring lower quality crudes. Also, market adjustments made in the context of the crude oil price escalations of the 1974-1981 period signaled a shift in the composition of petroleum demand toward gasoline and distillates and away from heavier products. Domestic refiners, again led by the FRS companies, added light product capacity to accommodate this shift.

Increased environmental standards further heightened the capital intensity of U.S. refining during this period. Implementation of major Federal environmental quality legislation in the 1970's confronted refiners with stringent standards for airborne emissions and effluents discharged into waterways. Compliance resulted in added capital expenditures for U.S. refiners (Figure 106). Upgrading and environmental quality measures led to a surge in capital expenditures for U.S. refining over the 1978 through 1983 time span with an attendant rise in capital intensity.

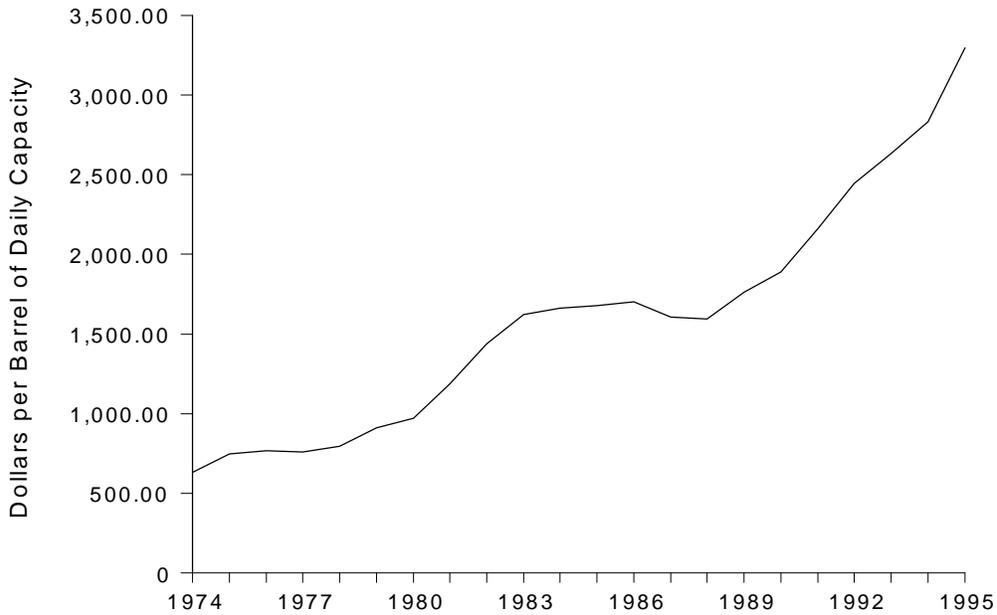
Responses by energy consumers to oil price escalations, together with the deregulation of U.S. petroleum prices in early 1981, made much of U.S. refining capacity uneconomic. While petroleum price regulations were in force, U.S. refining operations yielded moderate rates of return. However, starting in 1981, profitability declined sharply. Narrowing of the price differential between high and low quality crudes during the first half of the 1980's further eroded rates of return. Investments for upgrading refinery input capabilities were premised on a widening of this differential. Therefore, a narrowing tended to impair rates of return.

By 1986, U.S. refiners had shut down or otherwise disposed of plant and equipment representing over 3 million barrels a day of refining capacity. The FRS companies accounted for 75 percent of this reduction. Investment fell off in part because upgrading projects were completed, in part because refiners massively consolidated capacity, and in part because the capital markets were repelled by the poor returns to refining investments. The winding down of pollution abatement expenditures and redeployment of assets gained in the mega-mergers among the FRS companies in the 1981 through 1984 time period also contributed to a falloff in U.S. refining investments. All of these developments flattened the growth in capital intensity.

Capital intensity remained level through most of the 1980's. During this period, net refining margins improved, as did petroleum product demand, leading to increased profitability for U.S. refining and marketing. A widening of the price spread between crude oil qualities also contributed to higher earnings (see Figure 91 in Chapter 7).

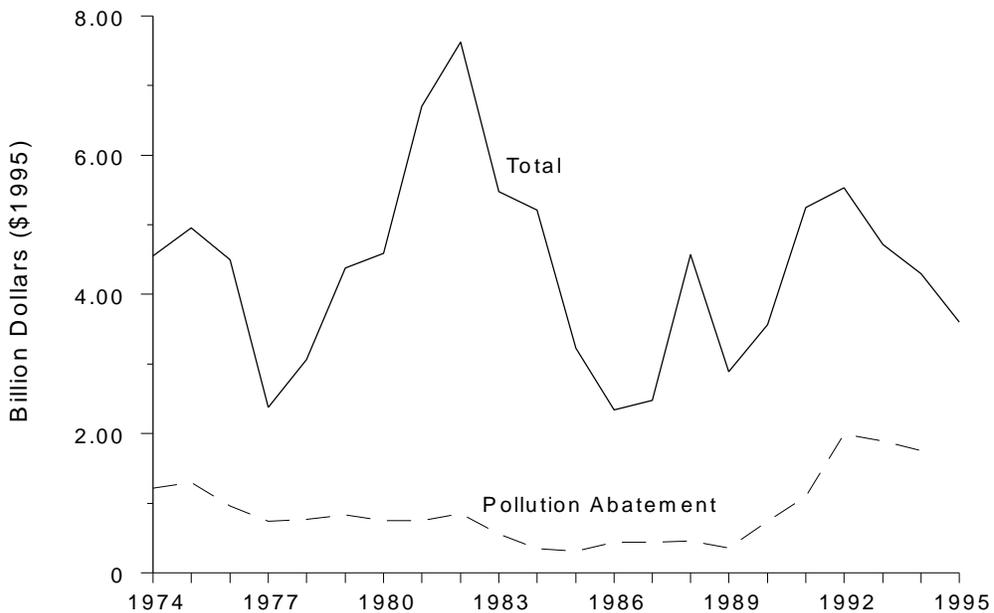
⁹⁶The capital intensity is represented by the ratio of net property, plant, and equipment (PP&E) to barrels per day of crude oil distillation capacity. PP&E is the book value of fixed assets carried on company balance sheets.

Figure 105. Net PP&E per Unit of U.S. Refinery Capacity for FRS Companies



Source: Energy Information Administration (EIA), Form EIA-28.

Figure 106. U.S. Refining Capital Expenditures for FRS Companies



Note: Excludes effects of intra-FRS mergers in 1982 and 1984.

Source: Energy Information Administration (EIA), Form EIA-28. U.S. Department of Commerce, Bureau of the Census, *Pollution Abatement Costs and Expenditures* (various issues) (Washington, DC).

The buoyant rates of return in U.S. refining during the latter half of the 1980's were short lived. In the 1990's, lower margins, due in part to the narrowing of the crude oil price-quality differential, eroded U.S. refining and marketing profits. The adverse effects on profitability were exacerbated by a renewed rise in capital intensity beginning in 1990. Refinery upgrading, in part undertaken to satisfy mandates for reformulated fuels, was the major source of this most recent upswing in capital intensity. Expenditures for pollution abatement played a key role as well.

Growth in motor fuel demand, spurred by the low level of petroleum prices following the oil price collapse in 1986, encouraged investment in light-product capability. The earlier shift in the price-quality spread favoring the use of heavier crude oils encouraged investments in processing capabilities. What differed in the 1990's from the earlier surge in U.S. refining investment was the role of environmentally-related capital expenditures. Starting in the mid-1970's, refiners' environmentally-related capital expenditures trended downwards as the requirements of the Clean Water Act and Clean Air Act were met. By the mid-1980's, environmentally-related outlays were less than 10 percent of overall capital expenditures of U.S. refiners.

In 1990, the Clean Air Act Amendments were enacted by Congress and signed into law. This legislation presented U.S. refiners with added requirements for motor fuels to be met by the end of the decade, including the production of oxygenated gasolines by late 1992, lower sulfur diesel fuels by late 1993, and reformulated gasoline by January 1, 1995. To comply with these measures, FRS refiners stepped up their capital expenditures for the necessary facilities. Environmentally-related capital expenditures quadrupled, accounting for nearly 40 percent of U.S. refining capital expenditures by 1994. The additional capital expenditures raised the capital intensity of U.S. refining.

Examination of the path of capital intensity thus completes the story of U.S. refining profitability over the past 20 years or so (see box, p. 148). For the 1990's in particular, capital intensity grew but refining margins diminished while growth in refined product demand was nearly flat. As a result, the returns to investment in U.S. refining have been low, compared with the rest of U.S. industry.

Petroleum Price Rises Yield Profit Gains in First Half of 1996

Higher petroleum prices in the first half of 1996, particularly gasoline prices, raised concerns about the profits of petroleum companies. In fact, profits from U.S. refining and marketing operations were up sharply. In the first quarter of

1996 (Q196), major integrated refiners (the "majors") reported income from their U.S. refining operations of \$223 million (Table 18), which was a turnaround from losses in the first quarter of 1995 (Q195) their worst first-quarter performance in the past 10 years (Figure 107).⁹⁷ Similarly, smaller, non-integrated refiners (the "independent refiners") made a substantial recovery from a very poor first quarter the year before. The majors registered a \$0.5 billion gain in their U.S. refining profits in the second quarter of 1996 (Q296) while the independent refiners' net income was up 55 percent. For the first half of 1996, both groups of companies more than doubled their earnings compared with the very poor results in the first half of 1995.

Distillate Prices Lift Refining Margins

Based on price and demand patterns, gasoline market developments had a small role in the turnaround in refining profits between Q195 and Q196. Gasoline prices rises were important in the surge in second-quarter profits, but increases in distillate prices contributed more heavily.

The spread between product prices received by refiners and the cost of raw material inputs for their refineries (termed, the gross refining margin) is an important determinant of refining profits, in the short term. For example, there is a strong positive relationship between second-quarter U.S. refining/marketing income and the second-quarter gross refining margin.⁹⁸ Although the gross refining margin in Q196 was low in comparison with the general level of margins in the 1990's, it was well above the first-quarter

⁹⁷Quarterly financial results are available for a consistent group of 13 specialized refiner/marketers and 13 major integrated petroleum companies that separately report data for their U.S. refining/marketing line of business. Integrated major petroleum companies include Amoco, Atlantic Richfield, Chevron, Exxon, Mobil, Murphy Oil, Pennzoil, Phillips, Shell Oil, Sun, Texaco, Unocal, and USX (Marathon). Independent refiners include Ashland, Clark USA, Crown Central Petroleum, Diamond Shamrock, Louisiana Land & Exploration, Mapco, Quaker State, Tesoro Petroleum, Tosco, Total Petroleum, Ultramar, Valero Energy, and Witco. Beginning in the fourth quarter of 1996, due to a merger, Ultramar-Diamond Shamrock replaced the two formerly separate companies.

⁹⁸For the majors, the regression of second-quarter U.S. refining/marketing income per company (Y) on the second-quarter gross refining margin (X) and a dummy variable which is equal to one for 1991-1995 and zero otherwise (DUM), for the years 1987-1995, yielded

$$Y = -35.17 - 34.57 \text{ DUM} + 14.37X \text{ with } R^2 = 0.769 \text{ and a t-value of } 3.54 \text{ for the X-coefficient.}$$

For the independent refiners' second-quarter net income per company (Y), the regression analysis yielded

$$Y = -9.38 - 5.41 \text{ DUM} + 3.73X \text{ with } R^2 = 0.942 \text{ and a t-value of } 9.07 \text{ for the X-coefficient.}$$

Perspectives on Petroleum Profitability

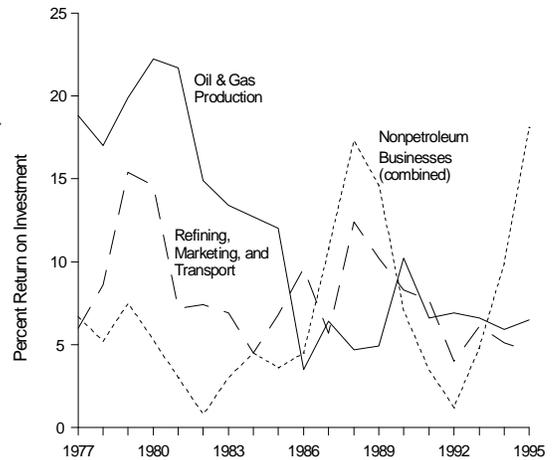
Over the past 20 years or so, downstream petroleum operations have rarely been the most profitable of the majors' lines of business. The figure to the right shows annual returns on investment for the FRS companies' worldwide oil and gas production operations, downstream petroleum (refining, marketing, and transport) operations, and the aggregate of their operations outside petroleum and natural gas (the share of these latter operations accounted for by chemicals, based on value of assets, ranged from 29 percent in 1984 to 59 percent in 1992). Three periods are distinguishable from the figure to the right.

The period of high oil prices. From 1974 through early 1981, oil prices sporadically escalated. Dollar-denominated crude oil prices peaked in the first quarter of 1981 at close to \$40 per barrel, a tenfold rise from 1973's oil prices. Accordingly, the rate of return to oil and gas investments rose sharply and was, by far, the majors' most profitable line of activity as well as the source of the major share of net income (figure below, right), even as oil prices gradually declined from 1981 through 1985. Downstream profitability also rose sharply in the late 1970's, in significant part reflecting the rising value of petroleum inventories, but never came close to upstream rates of return. Downstream profits plunged after peaking in 1980. Thereafter, refiners both in the United States and abroad shutdown or otherwise divested massive amounts of refining capacity which had become uneconomic. The declining returns to downstream operations in the early 1980's reflected the financial difficulties of that period.

The 1986 oil price collapse and aftermath. Oil prices collapsed in early 1986, and, by mid-year, fell to levels not seen since 1974. On an inflation-adjusted basis, oil prices for the remainder of the 1980's were generally below the levels of the 1974-1985 period. Upstream profitability plunged in 1986 and remained well below levels realized earlier during the period of high oil prices. Downstream profitability, by contrast, rose steeply in the late 1980's. Lower oil prices led to increased demand for petroleum products. Refiners, overall, completed their retrenchments at just about the time that oil prices collapsed. Both developments favored an upswing in downstream profitability, as did lower crude oil input prices. Lower feedstock costs, stemming from low oil prices, also contributed to a surge in chemical profits. The sharp rise in the profitability of nonpetroleum businesses was largely a reflection of developments in the majors' chemical operations.

The 1990's. Crude oil prices rose sharply in the last two quarters of 1990, largely due to the effects of Iraq's invasion of Kuwait. After the expulsion of Iraqi troops in early 1991, oil prices have tended to vary in the same range prevailing in the late 1980's (on an inflation-adjusted basis). Upstream operations benefitted from the war-induced oil price spike in 1990 but then declined. Although upstream profitability in the 1990's has not come close to pre-collapse levels, it is clearly higher than the levels of 1986-1989. Cost-cutting in the 1990's has helped raise the returns to oil and gas production. Downstream operations have also been a focus of cost-cutting in the 1990's, but, despite these efforts, downstream profitability has trended downwards. The increased share of businesses outside petroleum and natural gas in recent years (see figure to right) was largely due to a surge in chemical earnings.

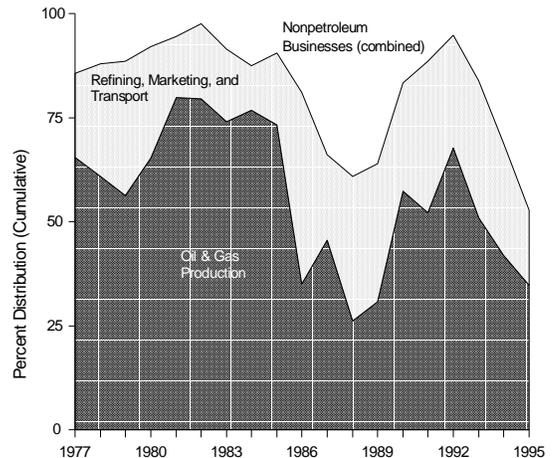
Return on Investment by Lines of Business for FRS Companies



Note: Return on investment = net income contribution divided by net investment in place.

Source: Energy Information Administration (EIA), Form EIA-28.

Shares of Allocated Income by Lines of Business for FRS Companies



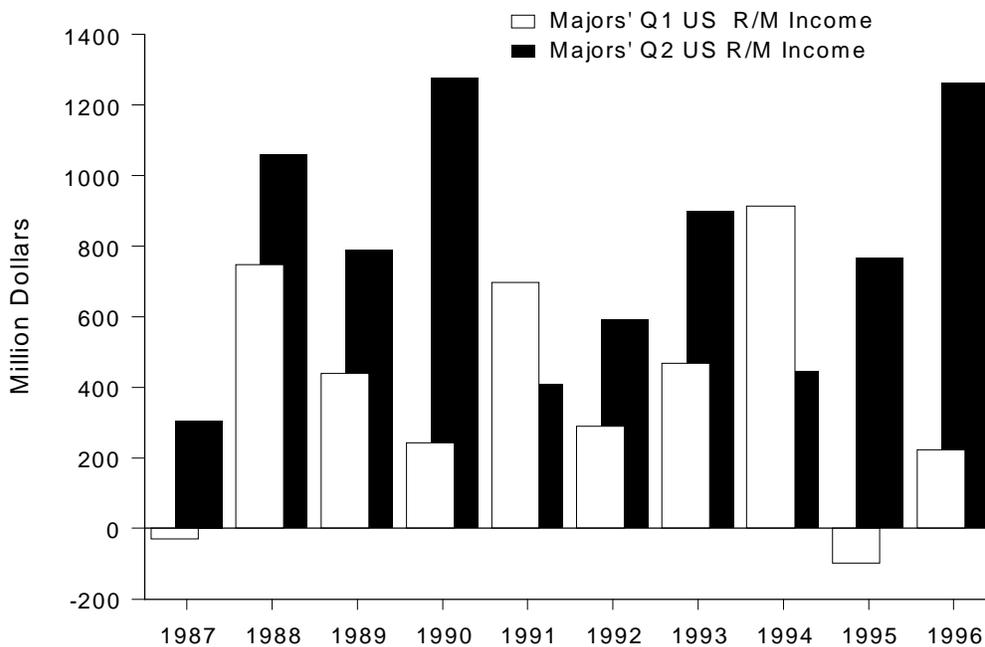
Source: Energy Information Administration (EIA), Form EIA-28.

Table 18. Quarterly Income in U.S. Refining and Marketing
(Million Dollars)

	1995	1996	Percent Change
U.S. Refining/Marketing Income for the Majors (13 Companies)			
First Quarter	-100	223	NM
Second Quarter	765	1,261	64.8
Net Income for Independent Refiners (13 Companies)			
First Quarter	4	121	3,025.0
Second Quarter	184	286	55.4

NM = Not meaningful.
Source: Company 1996 reports to shareholders.

Figure 107. Majors' First and Second Quarter U.S. Refining/Marketing Net Income



Source: Companies' quarterly reports to shareholders.

margin of the year before (Table 19). In Q195, the refining margin fell to a 6-year low, squeezed by a combination of a slight rise in crude oil input costs and downward pressures on gasoline and distillate prices. The modest recovery in the overall refining margin largely reflected the effects of an especially cold winter in 1995-1996, particularly in March. Distillate prices were up 17 percent and the price of propane rose 22 percent between Q195 and Q196. In contrast, gasoline prices were up 6 percent, just matching the rise in crude oil input prices.

Demand growth also favored higher refining profits in Q196 relative to Q195. The quantity of total refined products supplied was up 4 percent over this period, mainly reflecting the greater demand for space heating fuels. Improved economic conditions also contributed to overall petroleum demand, with real GDP growing 2 percent between Q195 and Q196. The total amount of distillate fuel oil and propane supplied was up 5 percent. Residual fuel oil volumes were up 7 percent, fed by electric utility demand. However, growth in gasoline demand was nearly flat.

Table 19. Refined Product Resale Prices, Margins, and Products Supplied, First and Second Quarters, 1995 and 1996

	Q195	Q196	Q295	Q296
Resale Prices (Dollars per Barrel)				
Motor Gasoline	25.24	26.72	28.92	31.82
Distillate	21.14	24.83	22.42	27.07
Kerojet and Kerosene	22.09	25.65	22.43	26.23
Propane	14.63	17.78	13.82	15.46
Other Products	15.97	18.55	17.48	18.68
Composite Product Price	22.75	25.16	26.12	29.27
Composite Refiner Acquisition Cost of Crude Oil ..	16.99	18.47	18.24	20.45
Gross Refining Margin	5.76	6.69	7.88	8.82
Products Supplied (Thousand Barrels per Day)				
Motor Gasoline	7,477	7,511	7,921	7,985
Distillate	3,463	3,616	3,089	3,231
Jet Fuel	1,513	1,605	1,425	1,505
Propane and Other Products	5,187	5,560	5,084	5,193
Total Products Supplied	17,640	18,292	17,519	17,914
Retailer Margin (Dollars per Barrel)				
Motor Gasoline	5.68	5.09	5.34	6.14
Diesel Fuel	1.09	1.00	0.98	1.07

Sources: Energy Information Administration (EIA), *Petroleum Marketing Monthly*, August 1996, DOE/EIA-0380(96/08) (Washington, DC, August 1996) and *Petroleum Supply Monthly*, August 1996, DOE/EIA-0109(96/08) (Washington, DC, August 1996).

In the second quarter, the rise in gasoline prices outpaced the rise in crude oil prices compared with Q295, \$2.91 per barrel vs. \$2.21. However, overall distillate product prices registered a steeper rise of \$4.65 per barrel over the same period. Similarly, while motor gasoline demand rose nearly 1 percent, distillate demand was up nearly 5 percent, reflecting strong demand for diesel and replenishment of inventories.

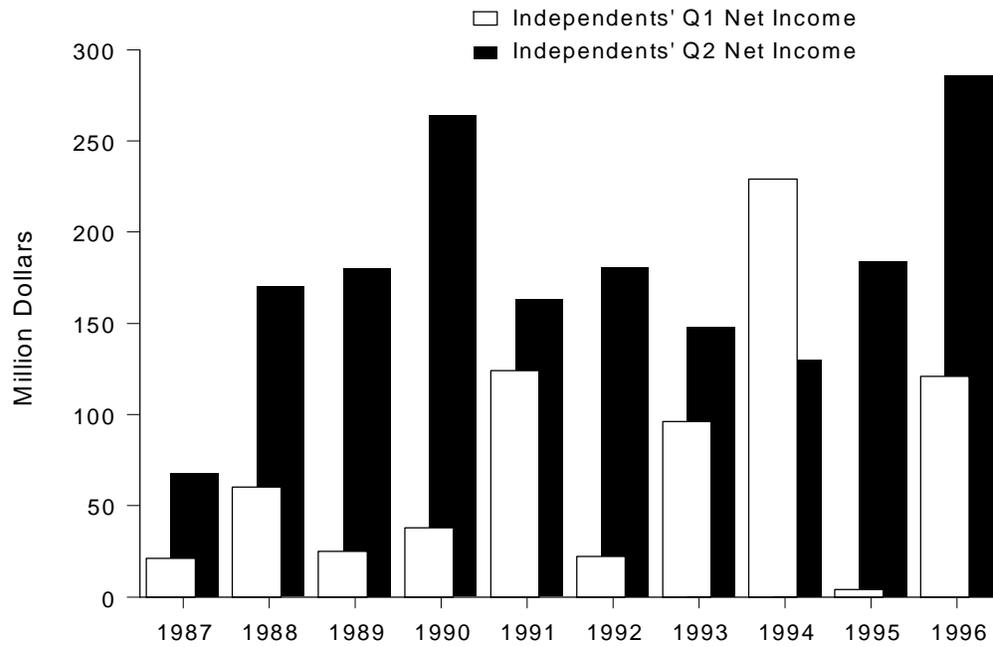
Second-quarter U.S. Refining Profits Reach a 10-Year Peak in 1996

Public concerns about U.S. refinery profits were probably most intensely focused on the second quarter of 1996, since the rise in gasoline prices began late in the first quarter and continued into the second quarter. The majors' second-quarter financial results for their U.S. refining/marketing operations were at a 10-year peak, surpassing the previous peak in 1990, when crude oil gluts preceding the Iraqi

invasion of Kuwait yielded record refining margins (Figure 107). The independent refiners recent second-quarter financial results also surpassed those of 1990 (Figure 108).

It is probably worthwhile to note that second-quarter profits in 1996 exceeded expectations based on the estimated relationships between profits and the gross refining margin noted above. Based on these relationships, the actual value of Q296 refining/marketing profits were 1.7 times the predicted value for the majors and 1.3 times the predicted value for the independents. One source of higher profits in this quarter not accounted for by the above relationships appeared to be a wider spread between wholesale prices paid and retail prices charged for gasoline by retailers. The retailer margin in Q296 was up 2 cents a gallon (15 percent) from the previous year (Table 19). Since most of the refiners that reported second-quarter financial results have gasoline marketing networks, an increased spread in the retailer margin would contribute to improved bottom-line results.

Figure 108. Independent Refiners' First and Second Quarter Net Income



Source: Companies' quarterly reports to shareholders.