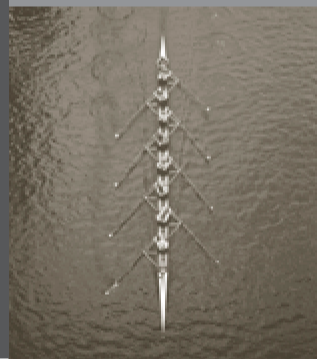
case 12

Eni SpA: Building an International Energy Major



February 15, 2003 marked the 50th anniversary of the founding of Eni SpA – Italy's largest company and the world's seventh biggest public petroleum company[1] – and the beginning of Vittorio Mincato's fifth full year as chief executive officer. Under Mincato's leadership, Eni had experienced a period of continuous transition and development based on a strategy of "growth of the core energy business." The results were impressive. Between 1998 and 2003, Eni's revenues and hydrocarbon production had both grown by more than half, operating income had more than doubled, and Eni's share price appreciation had been greater than any other oil major.

The first two months of 2003 saw no slackening of pace for Mincato. During January and February 2003, Eni finalized its acquisitions of Fortum Petroleum (a Norwegian oil and gas company) for 1.1 billion euros and the 56% of Italgas (an Italian gas distribution company) that it did not already own. In January, Eni also purchased a service station network in Spain and four Hungarian gas distribution companies. However, Mincato's main preoccupation was Eni's corporate plan for the next four years. On January 29, Mincato and his senior executives presented Eni's strategic plans to the investment community in London. During the next two weeks, the roadshow visited the financial centers of Europe and America.

Mincato envisaged the next four years building on the achievements of the previous four. The centerpiece of Eni's strategy for 2004–7 was continued upstream growth. During 1999–2002, Eni's oil and gas production had grown faster than most other majors. The target for the next four years was production growth of 5% per annum. Increased upstream output would be supported by downstream

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expansion – especially in the European gas market. As a result, Eni would build its position as one of the world's leading vertically integrated natural gas companies. At the same time, Eni would continue to reduce its investment in chemicals and other non-core businesses.

Mincato was well aware that Eni's position as one of the world's most profitable and fastest growing energy majors was vulnerable to the challenges of a complex and turbulent business environment. High energy prices were a major contributor to Eni's stellar financial performance. The price of oil remained vulnerable to increased supplies from Iran, Iraq, and the former Soviet Union, while massive investments in liquefied natural gas (LNG) threatened to depress European gas prices. Any major slowdown in the world economy would also undermine energy prices. Longer term, environmental issues clouded the outlook for fossil fuels. Relative to its peers, Eni lacked massive size and the international scope of the new "supermajors" – Exxon Mobil, BP-Amoco, Total-FinaElf, and ChevronTexaco – created during the merger wave of 1996–2001. Mincato was determined to avoid large-scale mergers and acquisitions: "We've always preferred to grow organically and in an orderly manner. That's our history," he told investment analysts in London.[2] If Eni was to continue to outperform its larger rivals, it would need to continue to hone a strategy that exploited its distinctive differences, and execute that strategy with enhanced effectiveness and efficiency.

Mattei and the Creation of Ente Nazionale Idrocarburi, 1926–62[3]

Eni traces its origins to 1926 when the Italian Prime Minister, Benito Mussolini, established Agip (Azienda Generali Italiana Petroli) as a state-owned oil refining company.[4] In 1945 Enrico Mattei, a former partisan, was appointed head of Agip and was instructed to dismantle this relic of fascist economic intervention. Contrary to instructions, Mattei renewed Agip's exploration efforts and, in 1948, discovered a substantial gas field in Northern Italy's Po Valley. In 1949, Mattei also took over the management of SNAM, the Italian gas distribution company. With the opportunity to create a national energy system based on the newly found gas reserves, pipelines were laid at a frantic rate. "Mattei built the pipelines first and negotiated afterwards . . . He simply ignored private and public rights and the law . . . Much of the work was done at night on the theory that by morning the work would be so far along that there would not be very much that anybody could do about it."[5] At San Donato, outside Milan, Mattei created Metanopoli, a small town comprising offices, gas plants, and employees' homes. On February 10, 1953, the government merged Agip, SNAM, and other state-owned energy activities to form Ente Nazionale Idrocarburi (Eni) with the task of "promoting and undertaking initiatives of national interest in the fields of hydrocarbons and natural gases." Mattei was appointed its first chairman and chief executive. In fact, Eni's 36 subsidiaries extended well beyond oil and gas to include engineering services, chemicals, soap, and real estate.

Under Mattei's leadership, Eni became committed to building an integrated, international oil and gas company that would ensure the independence of Italy's energy supplies and make a substantial contribution to Italy's post-war economic regeneration. Mattei soon established himself as a national hero: "He embodied great visions for post-war Italy – antifascism, the resurrection and rebuilding of the nation, and the emergence of the 'new man' who had made it himself, without the old boy network."[6] Mattei's daring and resourcefulness was especially evident in Eni's international growth. Post-war recovery was accompanied by a quest for new sources of oil – especially in the Middle East. Eni's problem was that most leading oil-producing countries had agreements with the existing oil majors: Standard Oil New Jersey (later Exxon), Mobil, Standard Oil of California (later Chevron), Texaco, Royal Dutch Shell, British Petroleum, and Gulf Oil. These "Seven Sisters" – as Mattei christened them – collaborated closely to tie-up oil supplies: the Arabian American Oil Company (Aramco) was jointly owned by Exxon, Chevron, Texaco, and Mobil; the Iranian Consortium involved all seven of the sisters together with Total of France.

The production agreement that Mattei signed with the Shah of Iran in 1957 marked the beginning of a fundamental shift of power from the oil majors to producer governments. It also established Eni as the *enfant terrible* of the international oil business. The Iranian agreement was revolutionary. It created a jointly owned exploration and production company headed by an Iranian chairman and with the proceeds shared between Eni and the Iranian National Oil Company. "This new approach opened the way to full control of energy resources for the producing countries and anticipated a trend that would become the basis of future agreements in the oil business."[7] The repercussions of the "Mattei formula" extended beyond the oil industry to international diplomacy. A 1957 US confidential progress report pointed to "the threat posed by Enrico Mattei to the political objectives of the United States." This "new deal" with producer countries allowed Eni to extend its upstream interests throughout North Africa. Between 1958 and 1960, Eni led the way in acquiring exploration and production rights in Libya, Egypt, Tunisia, and Algeria. Mattei continued to upset the status quo with deals to purchase crude oil from the Soviet Union. By the end of the 1950s, Italy had become the Soviet Union's biggest oil customer after China. Again, the deal was innovative and daring: Soviet oil was bartered for exports of synthetic rubber and other Italian products – in effect, Eni acquired Soviet oil at less than half of the prevailing world price.

Beyond Oil and Gas

Mattei's drive to build a corporate empire did not stop at hydrocarbons. By 1962, Eni was "engaged in industries as various as motels, highways, chemicals, soap, fertilizers, synthetic rubber, machinery, instruments, textiles, electrical generation and distribution, contract research, engineering and construction, publishing, nuclear power, steel pipe, cement, investment banking, and even education, to mention only a few."[8] This diversification resulted from Mattei's indefatigable deal making. As a state-owned enterprise dependent on political support, many of Mattei's acquisitions were politically motivated. For example, Eni's acquisition of Lanerossi, a wool textile company in Veneto, appears to have been motivated by Mattei's desire to influence a local Christian Democratic politician.[9]

Other business developments were designed to support Eni's oil and gas businesses. In 1955 Snamprogetti was created to design and construct chemical and petrochemical plants and pipeline transportation systems. Saipem was added, with operations focused on offshore construction, pipe laying and drilling. Pignone of Florence (later Nuovo Pignone) was acquired to produce equipment used in the oil and gas industry.

Eni after Mattei, 1962–1992

Adjustment, Rebalancing, and Political Intervention[10]

Mattei died in a mysterious plane crash on October 27, 1962. He was 56 years old. He left a sprawling corporate empire whose strategy had been Mattei's vision and opportunism, and whose integrating force had been Mattei's charisma and personal decision-making authority. At the time of his death, Mattei was president not just of Eni but also of its main operating companies – Agip Mineraria, Agip, Snam, Anic, Stanic, and Agip Nucleare.[11] Filling the void as Eni's new president was Marcello Boldrini, a 72-year-old professor of statistics with very little hands-on management experience. At the same time, Eni faced problems on multiple fronts. Despite Mattei's innovative deal making, the company remained tiny by international standards. It was also short of oil – in 1962 Eni was producing a mere 32,000 barrels per day of crude with only 18 active wells outside of Italy. Meanwhile, Eni was in a perilous financial situation. The profits generated by Eni's monopoly position in the Italian gas market were dissipated throughout the company's diverse business interests. Most serious was Eni's high level of debt. In 1960, the Italian Central Bank had forbidden Eni from issuing new debt.[12]

Financial weakness resulted in Eni becoming increasingly dependent on government. Increasing political control meant that Eni became an instrument of government economic, industrial, and employment policies. As a result, Eni continued to diversify into minerals and metals processing, chemicals, coal, and textile machinery – often to rescue failing companies. After 1975, the chairman of Eni lost direct control of the operating companies – their chief executives were appointed by government on the basis of political considerations. Nevertheless, during the 1960s and 1970s, Eni continued to expand its interests in oil and gas. Major initiatives included the purchase of natural gas from the Soviet Union (which involved Eni building a pipeline from the Austrian-Czechoslovak border to Italy), the Trans-Med Pipeline from Algeria and Tunisia to Italy, and the development of offshore projects in West Africa, Congo, and Angola.

1983–1992: Reform and Crisis

In 1983, Franco Reviglio was appointed chairman of Eni and quickly concluded that Eni could not continue down its present path. Its 335 operating companies spanned much of Italy's industrial sector. By 1982, losses totaled 1,501 billion lire ($1.28 billion) and debt had risen to over 19,000 billion lire ($14 billion). Reviglio's priorities were to reestablish Eni on solid financial ground, distance itself from political power, and to refocus on oil and gas. Between 1982 and 1989, Eni made considerable progress in reducing costs, eliminating losses, restructuring debt, and creating a more coherent and manageable business portfolio. Several businesses in nuclear power, minerals, and textiles were sold and Eni's chemical division, EniChem, was merged with Montedison's chemical division to create Enimont. By the time the chairmanship of Eni had passed from Reviglio to Gabriele Cagliari in 1989, Eni reported net income of 1,544 billion lire ($1.2 billion) on sales of 37,189 lire ($27.1 billion), and long-term debt was down to 9,850 billion lire ($7.9 billion). Table 12.1 shows Eni's growth and profitability since 1980.

TABLE 12.1 Eni's sales, profits, employment, and production, 1980–2003

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Sales (US$m)	31,440	32,532	30,677	29,221	29,542	24,328	22,557	24,464	25,220	27,105	41,764	n.a.
Net income (US$m)	116	–232	–1,280	–922	–36	406	42	544	1,006	1,176	1,697	n.a.
Employees ('000s)	n.a.	n.a.	140	136	n.a.	129	130	119	116	136	131	n.a.
Oil and gas production ('000s boe/day)	320	322	307	335	371	371	384	443	490	538	590	n.a.

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003*
Sales (US$m)	38,659	33,595	30,670	35,335	37,973	34,323	33,177	31,225	46,000	43,607	51,379	52,400
Net income (US$m)	–768	154	1,977	2,704	2,930	2,980	2,891	3,019	5,671	7,333	4,816	5,585
Employees ('000s)	126	109	92	86	83	80	79	72	70	71	81	77
Oil and gas production ('000s boe/day)	860	901	941	982	984	1,021	1,038	1,064	1,187	1,369	1,472	1,562

*2003 sales and net income are in millions of euros.
n.a. = not available.

SOURCE: ENI ANNUAL REPORTS FOR VARIOUS YEARS.

Under Cagliari, Eni returned to an era of intense political interference, the result of which was to bring Eni to the verge of collapse. Between 1990 and 1992, Eni's capital investment and exploration expenditures were close to 150% of operating cash flow and long-term debt increased to 13,453 billion lire.

Meanwhile, the movement for far-reaching reforms of Italy's over-extended and inefficient public sector was gaining strength. Italy was facing increasing pressures from the European Commission and the new European Monetary Union to rein in public expenditures, reduce its public sector deficit, and free up industry from state intervention. In June 1992, a new government was formed under reformist Prime Minister Giuliano Amato. In July, the government announced the first steps in granting Eni greater autonomy: the Ministry for State Participation was dismantled, Eni and three other state-owned corporations were converted into joint-stock companies, and their relationships with the government were transferred to the Treasury.

The Bernabè Era: Privatization and Transformation, 1992–1998

The new legal structure had important governance implications for Eni. Henceforth, its board of directors was legally responsible to shareholders for the financial state of the company – even though the only shareholder was the Italian government. Top management responsibility was vested in a three-person board comprising Gabriele Cagliari as chairman, Giuseppe Ammassari as government representative, and Franco Bernabè as CEO. The 44-year-old Bernabè was a surprise choice – an economist who headed up Eni's planning department, he lacked line management experience. The significance of Bernabè's appointment was that he was a prominent advocate of privatization, having already drawn up plans for a privatized Eni.

As CEO, Bernabè moved quickly to position himself, rather than Chairman Cagliari, as the primary decision maker and center of executive power within Eni. In a directive to operating company presidents he announced that, henceforth, they would each report to him. He followed up with a series of visits to Eni's operating companies during which he met with managers, discussed their businesses, and laid out his ideas for Eni's future. Central to his thinking was the belief that Eni needed to be privatized as an integrated oil, gas, and chemical company – shorn of its various diversified businesses, but otherwise a vertically integrated upstream–downstream company similar to other international energy majors.[13]

During the fall of 1992, Bernabè launched his restructuring plan. Beginning with the sale of Nuovo Pignone (Eni's gas turbine business) to General Electric, several non-core businesses were sold and the proceeds used to reduce debt. Throughout the entire company, subsidiaries were pressured to cut costs, establish tighter capital expenditure discipline, and raise profit aspirations. However, in the early stages of Bernabè's restructuring, Eni was plunged into crisis.

In March 1993, Eni became caught up in the corruption scandal that had swept the country. Dozens of Eni executives became indicted on corruption charges, including Chairman Cagliari and the chief executives of several of Eni's main operating companies.[14] Between March 9 and 11, Cagliari and other top managers were arrested. The initial paralysis of Eni offered Bernabè the opportunity to clean house and restructure management. Later that March, Bernabè forced the resignation of the board and appointed a new, non-political board comprising technocrats and energy industry experts. In April, he demanded the resignation of all the board members of Eni's operating companies and embarked on a process of selection and reappointment. Within two months, 250 board members were substituted.[15]

Management changes paved the way for an intensified program of restructuring. Bernabè's corporate strategy was "to reduce Eni from being a loose conglomerate to concentrate on its core activity of energy."[16] In the troubled chemicals sector, five large plants were closed and capacity halved. During 1993, Bernabè's first whole year as chief executive, 73 Eni businesses were closed or sold worldwide, employment fell by 15,000, cost savings and asset sales amounted to 1.7 trillion lire, and net income went from a loss of 946 billion lire in 1992 to a 304 billion lire profit.[17] Commenting on Eni's financial recovery, Bernabè noted: "One of the reasons why we have been able to achieve better results is that we have been able to operate without political interference. We have been able to manage our business on commercial criteria."[18]

Eni's Initial Public Offering

Eni's initial public offering of 15% of its total equity on November 21, 1995 raised 3.3 billion euros for the Italian Treasury and on November 28 Eni shares commenced trading on the Milan, London, and New York stock exchanges. After more than 40 years of looking to political leaders in Rome for guidance, Eni's top management had to adjust to a new set of masters – the investment community in the world's financial capitals.

For Bernabè, the IPO marked a fundamental change in Eni's goals and responsibilities, but it was a starting point rather than an end in itself. "A government-owned, politically controlled monopoly could not be turned into a competitive global integrated oil company overnight," he observed.[19] Commitment to maximizing shareholder value provided the impetus for reconfiguring its portfolio of assets: "Eni's strategy is to focus on businesses and geographical areas where, through size, technology, or cost structure, it has a leading market position. To this end, Eni intends to implement dynamic management of its portfolio through acquisitions, joint ventures, and divestments. Eni also intends to outsource non-strategic activities."[20]

Capital investments became increasingly focused on upstream activities. In refining, marketing, and petrochemicals, costs were reduced and assets were sold. Organizationally, Bernabè combined centralization and decentralization. Subsidiary managers were given increased authority over human resource decisions and their authorization limits for capital expenditures were increased. At the same time, corporate planning systems were strengthened and financial discipline was increased. The merger of Agip into Eni in 1997 increased corporate control over Eni's most important subsidiary.

The results were striking. Between 1992 and 1998, Bernabè had halved Eni's debt, turned a loss into a substantial profit, and reduced the number of employees by some 46,000. However, 1998 was to be Bernabè's last year at Eni: his success at transforming Eni made him the obvious candidate to lead the turnaround of another newly privatized giant – Telecom Italia.

Eni under Mincato: From Restructuring to Growth

Vittorio Mincato brought a different background and a different style of management to Eni. Twelve years Bernabè's senior, Mincato had already spent 42 years at Eni. His career included both corporate and line management positions, including 15 years as chairman of EniChem where he cut chemical plants from over 40 to 20 and eliminated chronic losses. Mincato brought a powerful reputation and intimate knowledge of the Eni group to the chief executive suite, but little was known about the strategy or management style he would pursue.

Despite massive changes under Bernabè, the Eni that Mincato inherited faced sizable problems. During 1998, the world economy was hit by the financial contagion that had spread from south east Asia to Latin America and Russia, and oil prices fell to below $10 a barrel. At home, Eni's gas monopoly was threatened by EU initiatives to liberalize energy markets. Meanwhile, the petroleum arm's competitive landscape was being transformed by mergers – BP's acquisition of Amoco was followed by Exxon's merger with Mobil. Eni itself remained unsettled after the momentous internal changes of the previous five years. Mincato described Eni as strong but tired: "like an athlete at the end of an extremely long, grueling race."[21]

Developing a Corporate Strategy

In confronting Eni's external challenges, Mincato recognized that Eni "still lacked a clear and courageous vision of its future." This lack of strategic focus was reinforced by Eni's internal weaknesses. Despite Bernabè's efforts to establish control over Eni's operating companies, the group still retained the features of a holding company. During his first few months as chief executive, Mincato developed his thinking about Eni's future and throughout 1999 he shaped the group's strategic plan for 2000–3. The central theme of the strategy would be growth in Eni's core energy business. This would inevitably involve acquisition: "Our weakness is our size and our priority is to grow. The fastest way is through acquisition and we have ample financial means to do so."[22] Such growth would inevitably require further internationalization. In an interview with the *Financial Times*, Mincato spelled out the main thrusts of the strategy:

> *The first phase of the company's strategy is complete. It involved refocusing the group on its core oil, gas and related activities and the disposal of all diversified lines. "We are now entering phase two: this will involve concentrating on growth and further rationalization of the core businesses," he says.*
>
> *The main target of rationalization is the group's chemical activities. Mr. Mincato, in charge of chemical operations before becoming CEO, said Eni was too small a player in the chemical sector. It needed alliances and joint ventures "even with a minority stake" to reduce the weight of the loss-making chemical business on the invested capital.*
>
> *The next issue, he says, is to deal with the liberalization of Italy's domestic gas market. "The impact of liberalization should be marginal because we are planning to offset lower direct sales in Italy with increased volumes sold abroad." The group plans to sell gas to Croatia and Greece and is negotiating with other European countries.*
>
> *Mr. Mincato is also keen to develop the group's presence in the electricity market. "Our interest is based on the possibility of a gas company becoming integrated downstream into power generation to stabilize or increase sales and revenues in the short term," he says.*[23]

In Eni's annual report for 1999, Mincato explained Eni's strategy for 2000–3 in greater detail:

In 1999 the scenario in which Eni operates underwent deep changes . . . Two phenomena in particular affected the most important sectors of our core business: the consolidation of the oil industry globally and liberalization of the European and Italian gas markets. . . .

The four-year plan approved at the end of 1999 derives from a new strategic vision that features, on one side, an aggressive growth option in upstream activities and, on the other, a customer-oriented approach in the energy markets.

For the upstream sector we devised a plan calling for 50% growth in hydrocarbon production by 2003. Such an objective will be made up of two components. The first is represented by ordinary growth . . . the second component of growth is related to mergers and/or acquisitions . . .

In the natural gas sector, Eni has been active at three levels. First, it followed an internationalization strategy in downstream activities with the aim of selling at least 10 billion cubic meters of natural gas per year by 2003 in foreign growth markets . . . Second, with the creation of EniPower, Eni started to restructure its activities in the electricity sector, an area which represents a necessary step to strengthen its position in the gas chain, in view of the fact that most of the growth in demand for natural gas in Europe will come from the expansion of combined cycle electricity production.

To support the opening up of the natural gas market in Italy, we started to restructure our activities at Snam, separating . . . transport activities from supply and sale.

The scope of the changes affecting our industry will require on our part the achievement of strong efficiency improvements. For this reason, plans to cut costs have been revised, raising to 1 billion euro (an increase of 250 million euro) the amount of savings that Eni plans to achieve through cost cutting by 2003 . . . While costs will be cut across all sectors, strong measures will be taken in the Petrochemical sector – whose weight in terms of net capital will decline to 7% by 2003.[24]

Upstream Strategy

Mincato's boldest moves were in the upstream business. Once Eni had committed itself to a 50% increase in hydrocarbon output, acquisition became essential. Yet, Mincato was resolutely opposed to Eni participating in the wave of mega-mergers that was reshaping the global oil and gas industry. He saw large-scale mergers being driven by expectations of synergies and economies of scale that were seldom realized: "Eni carefully analyzed the history of major mergers of the last 30 years and was able to see that, in 80% of cases, these destroyed value, especially when they involved cultural problems."[25] Mincato also recognized Eni's limited experience in integrating acquired companies: Eni must be capable of "digesting" any acquisitions it made.[26] Furthermore, Eni's stock market valuation was relatively low compared with its peers; to avoid dilution, Eni's preferred medium of exchange was cash.

In May 2000, Eni made its first ever takeover bid for a listed company. It acquired British Borneo, a London-listed exploration and production company, for 1.3 billion euro (including debt). This was followed in December 2000 with the acquisition of another British-based upstream company, LASMO, for 4.1 billion euro (including

TABLE 12.2 Eni oil and gas production by area, 1997–2003 (thousands of barrels of oil equivalent per day)

	Italy	North Sea	North Africa	West Africa	Rest of World	World
Production						
2003	300	345	351	260	306	1,562
2002	316	308	354	238	256	1,472
2001	308	288	317	233	223	1,369
2000	333	168	306	225	155	1,187
1999	358	154	269	206	77	1,064
1998	394	156	236	196	56	1,038
1997	404	155	229	180	54	1,021
Reserves						
2003	996	912	2,024	1,324	2,016	7,272

debt). Mincato viewed these acquisitions as milestones for Eni: "We had never before bought foreign companies and the result has already helped internationalize our own internal culture."[27]

Eni also expanded its own exploration. In Kazakhstan, Eni took over the operatorship of the newly discovered Kashagan oilfield in the North Caspian Sea – the largest oil discovery of the past 30 years. Other major additions included reserves in Iran (South Pars and Baklal fields), in West Africa (notably Angola and Nigeria), in North Africa (mainly Libya and Algeria), and in the North Sea. By the end of 2002, Eni had already achieved its 2003 production targets. (Table 12.2 shows Eni's growth of production during 1997–2003.)

Eni also refocused its upstream portfolio. To exploit economies in infrastructure, Eni concentrated its exploration and production activities on a smaller number of countries, and to gain more effective control over its upstream investment it increasingly sought to be the operator of the oil and gas ventures in which it participated.

Vertical Integration in Natural Gas

If upstream (exploration and production) was to be the primary source of Eni's profit growth, natural gas was where the greatest opportunities lay. World demand for natural gas was expected to grow at twice the rate of that for oil. Moreover, Eni had the downstream market position essential for adding value to gas reserves. During 1999–2000, Eni embarked on two massive natural gas projects. The biggest and most ambitious, the Blue Stream project, involved a joint venture between Eni and the Russian gas giant, Gazprom, to invest over 2 billion euros in building a gas pipeline from Russia to Turkey that would pass under the Black Sea. Widely derided as "Blue Drearn" for its technical and environmental complexities, by the end of 2002, Saipem had completed the two-line pipeline. The second major project was the Greenstream pipeline from Libya to Italy.

At the same time that Eni was investing heavily in natural gas reserves and long-distance pipelines, its downstream domestic business was under threat. In May 2000, the Italian government implemented the European directive on competition in natural gas. Eni's share of the Italian gas market was limited to 75% of primary transportation and 50% of the final market. In addition, primary transportation of natural gas and its marketing and local distribution had to be undertaken by separate companies. Eni's response was, first, to restructure its downstream gas company (Snam) and, second, to explore growth opportunities in other European gas markets.

Snam was split into two businesses. Its primary gas transmission network was vested in a new company, Snam Rete Gas, 40% of which was offered in an IPO in November 2001. Its marketing and supply business was merged into Eni to form the main component of Eni's Gas and Power division. The legislative decree of May 2000 also required the separation of gas storage from gas production and marketing. Hence, Eni's gas storage system in Italy was vested in a new regulated company, Stoccaggi Gas Italia, which was wholly owned by Eni. The new competitive structure of the Italian gas market also gave Eni the opportunity to sell natural gas to the new domestic competitors. In 2001 Eni signed seven multiyear contracts involving total sales of 15 million cubic meters each year. Eni also established EniPower SpA to develop combined-cycle power generation plants. Electricity production offered Eni a new market for its natural gas that did not count as part of Eni's share of the Italian gas market for regulatory purposes.

Outside of Italy, Eni acquired several gas distribution companies including major stakes in Spain's Union Fenosa Gas (50%), GVS in Germany (50%), and Galp Energia in Portugal (33%). Eni also entered the downstream gas markets of Hungary, Greece, and Croatia. In addition, the Blue Stream project would involve gas sales to Turkey of 8 billion cubic meters each year.

Figure 12.1 shows the vertical integrated structure of Eni's natural gas and its oil businesses while appendix 2 shows operating data over the period, including Eni's gas and power activities.

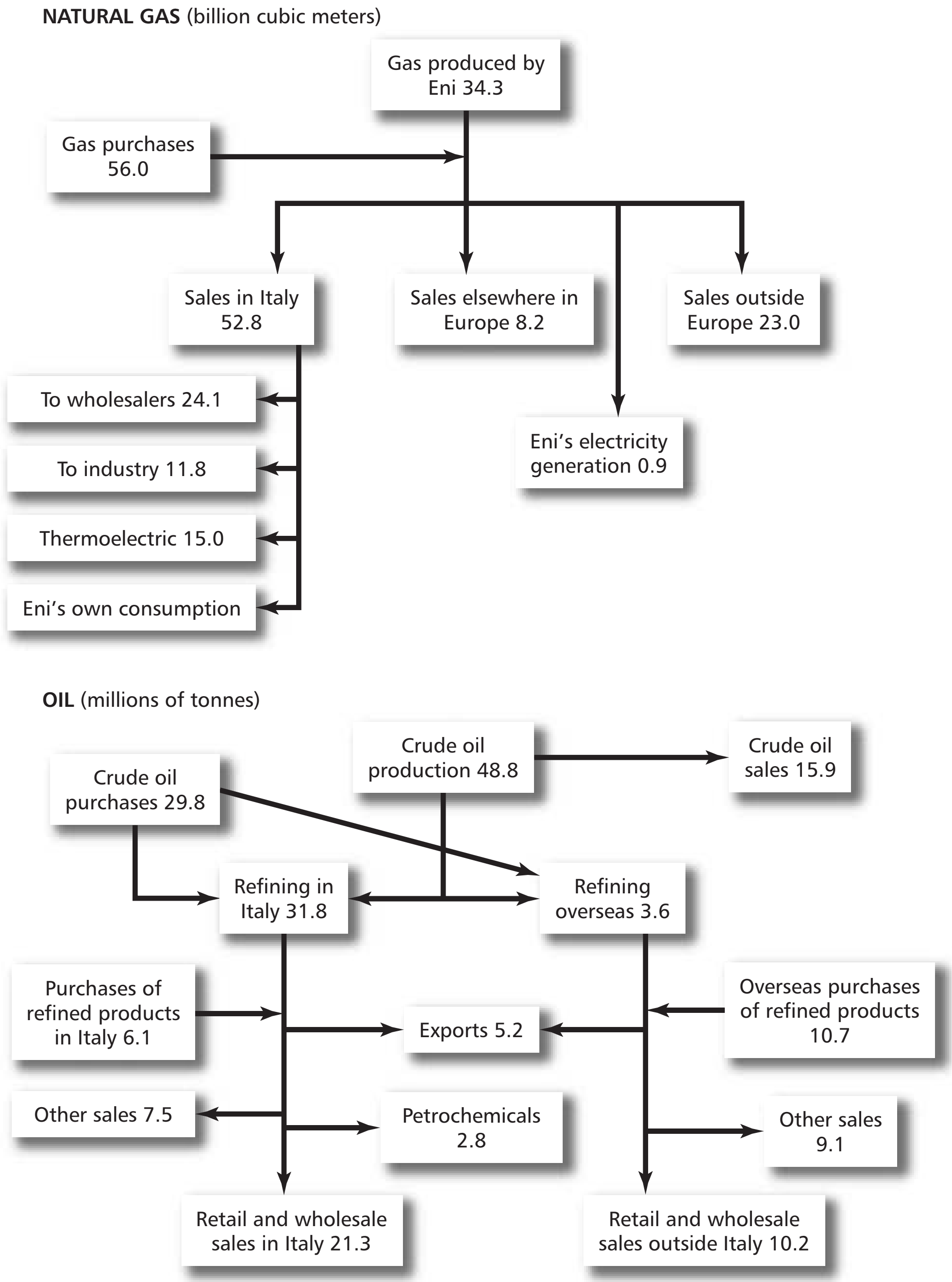
Refining and Marketing Strategy

Downstream, Eni pursued rationalization and cost reduction in both refining and distribution. Under Mincato's leadership refining capacity was reduced, and in 2002 Eni sold an equity stake in its refinery complex in Sicily. At the retail level, 1,900 service stations were closed between 1999 and 2001. Outside of Italy, Eni pursued selective expansion, acquiring service stations in France, Spain, Czech Republic, and Brazil while withdrawing from countries where Eni possessed neither the market share nor the supply infrastructure to permit profitability. Appendix 2 shows Eni's refining and marketing output and sales.

Rationalization in Chemicals

Under Mincato's leadership, Eni continued its strategy of reducing capital employed in petrochemicals. Eni's return on its chemicals investments was dismal and, given EniChem's limited presence outside Italy, it would always be at a competitive disadvantage to global players such as Exxon Mobil, Shell, BP, Dow, and Du Pont. In 2001, Eni agreed to sell its polyurethane business to Dow Chemical and it consolidated its olefins, aromatics, styrene, and elastomer production within a separate company, Polimeri Europa, in preparation for its sale.

FIGURE 12.1 Eni's vertical chains in oil and gas



SOURCE: ENI FACT BOOK, 2003.

Internal Change

Some of Mincato's most important initiatives related to Eni's organization and management systems. While Bernabè had won the battle for Eni to be privatized as a single corporation and had initiated the merging of Agip into Eni, most of its principal businesses – Agip Petroli, Snam, Saipem, and Snamprogetti – were separate joint stock companies with their own boards of directors and a history of independence from corporate control. Between 2000 and 2003, Mincato transformed Eni from a holding company into a multidivisional corporation with the main operating companies reorganized into three divisions: exploration and production, gas and power, and refining and marketing. Appendix 3 describes Eni's main businesses.

Mincato recognized that reorganizing Eni as a single corporation would not cause Eni to act as a unified company. Hence, during 2000–3, Mincato introduced several initiatives to give Eni a clearer sense of identity and build a common culture. In May 2000, Eni announced major changes to its human resource policies. The "RES Program," introduced in June, 2001 inaugurated a new emphasis on human resources and their development:

> *By means of the RES Program, Eni sets out to "capture" those who work in the group . . . trying to understand their abilities, their ambitions, how they can contribute to the success of the company, now and in the future. The approach is radically new: the policy of human resources management and development is centered on the person. Group employees will be considered not just as a collective entity (staff), but as individuals, each with his own merits and his own potential. This outlook means redefining methodologies, changing the model.*[28]

The new HR policies included:

- Renewal of human resources through increased emphasis on professional and managerial development.
- Cost reduction through streamlining staff structures and developing greater flexibility in human resources management.
- Focusing Eni Corporation on its core functions of coordination and control and decentralizing human resource management and development.
- Internationalizing Eni's human resources.
- Establishing Eni Corporate University as a service company to provide human resource development.

In addition to increased internal dynamism, Eni also needed greater external recognition and clearer external identity – especially among international investors and host governments. In February, 2001 Mincato delivered a speech entitled "Eni's Way" in Houston Texas. The speech emphasized the role of technology and originality in Eni's development of new projects and its pursuit of new markets and reserves. During 2002, the term "Eni's Way" was adopted as the company's tag-line in a major campaign of corporate advertising. The meaning of "Eni's Way" remains vague, but the imagery used in the advertising suggested a commitment to technology, ethical and environmental responsibility, and a frontier spirit.

The Energy Sector in 2002

Since the first oil shock of the 1970s, the oil and gas industry had been transformed by the emergence of new competitors (especially the national oil companies), the development of international markets for trading oil and gas, the growing power of producer countries, the opening of more countries to inward direct investment, and the advent of new technologies. At the beginning of the 21st century, these forces of change continued to be sources of turbulence and unpredictability.

Industry Consolidation

Between 1998 and 2002, a wave of mergers and acquisitions resulted in the emergence of an elite group of "supermajors," comprising Exxon Mobil, BP, Royal Dutch Shell, ChevronTexaco, and TotalFinaElf (see table 12.3).

The stock markets responded favorably to most of these mergers and acquisitions – however, the extent to which they would generate real economic benefits was unclear. The primary motivation appeared to be the desire for growth – a particularly powerful motive when revenues and profits were depressed by low oil prices.[29] Once the merger wave began, it was sustained by companies' fear of being relegated to

TABLE 12.3 Major mergers and acquisitions in the oil and gas industry*

Leading oil and gas companies, 1995	Revenues in 1995 ($ bn)	Date merged	Leading oil and gas companies, 2002	Revenues in 2002 ($ bn)
Exxon	123.92		Exxon Mobil Corp.	182.47
Mobil	75.37	1999		
Royal Dutch Shell Group	109.87		Royal Dutch Shell Group	179.43
Enterprise Oil	1.18	2002		
British Petroleum	56.00		BP Amoco	178.72
Amoco	28.34	1998		
Arco	15.82	2000		
Chevron	31.32	2001	ChevronTexaco	92.04
Texaco	35.55	2001		
Total	27.70		TotalFinaElf	96.94
PetroFina	n.a.	1999		
Elf Aquitaine	n.a.	2000		
Conoco	14.70		ConocoPhillips	58.38
Phillips Petroleum	13.37	2002		
Tosco	n.a.	2001		
Eni	35.92		Eni	46.33
Repsol	20.96		Repsol YPF	34.50
YPF	4.97	1999		

*Only includes acquisitions of companies with revenues exceeding $1 billion.

TABLE 12.4 The majors' return on assets by business segment

	Exploration and production		Refining and marketing		Gas and power		Chemicals		Corporate and other	
	ROA 2000–2002	Share of total assets 2002	ROA 2000–2002	Share of total assets 2002	ROA 2000–2002	Share of total assets 2002	ROA 2000–2002	Share of total assets 2002	ROA 2000–2002	Share of total assets 2002
Exxon Mobil+	26.6%	48.8%	11.1%*	29.5%	n.a.	n.a.	5.8%	15.4%	(2.2%)	5.5%
Royal Dutch Shell	33.3%	36.1%	6.5%	37.8%	4.5%	12.1%	3.4%	11.6%	(5.0%)	3.3%
BP	19.8%	56.9%	10.7%	28.4%	32.2%	2.4%	1.8%	11.6%	(47.5%)	0.1%
ChevronTexaco	18.5%	66.6%	1.6%	28.6%	n.a.	n.a.	0.0%	1.7%	(146.8%)	3.3%
Eni	35.1%	58.9%	23.0%	9.2%	48.6%	21.3%	(15.4%)	4.9%	3.8%	0.4%
Total	25.0%	54.0%	16.3%	19.1%	n.a.	n.a.	7.3%	15.9%	16.4%	9.8%
Repsol	14.4%	41.0%	7.3%	32.3%	11.0%	6.8%	2.2%	7.4%	(1.8%)	12.5%

Notes: ROA is measured as segment operating earnings as a percentage of identifiable segment assets. Profit rates for Exxon Mobil and BP are return on capital employed (in the case of BP, profit is measured on a replacement cost basis). ChevronTexaco's return is net income as a percentage of net fixed capital. Eni's returns are operating income as a percentage of net fixed assets.

n.a. = not available.

*Includes gas and power.

SOURCE: COMPANIES' ANNUAL REPORTS.

"second division" status within the industry. The positive stock market reaction to the mergers was surprising given "study after study across [other] industries shows that only a small minority of mergers achieve measurable gains, such as higher productivity, profits, or share prices over the long term." An important motive was spreading risks through maintaining a portfolio of major upstream projects: "Only well-capitalized firms that are big enough to afford the time, money, and risk required to play in this poker game can hope to thrive. Because the stakes are so high, finding that 'elephant' of an oilfield has become the industry's obsession."[30]

Evidence of significant economies of scale associated with being a "supermajor" rather than a "major" is hard to find. Downstream there are substantial cost and market power advantages associated with market share in individual national and regional markets, but few scale economies at the global level. Upstream, size increases bargaining power, especially in dealing with host governments, but the main scale economies relate mainly to the utilization of infrastructure, which is specific to particular regions and hydrocarbon basins. The principal advantages of size in exploration and production may relate mainly to risk and learning. The huge costs and risks of developing oil and gas fields mean that there are risk spreading advantages from holding a large portfolio of projects. In terms of learning, the more projects of a similar type that a company undertakes (e.g. deep sea drilling in the North Sea, Gulf of Mexico, and offshore West Africa), the greater the scope for learning, innovation, and sharing of best practices.

The Economics of Exploration and Production

Upstream provides the primary source of profit for the energy industry. Indeed, the primary rationale for vertical integration was the companies' desire for secure market outlets for their production. In oil, such vertical integration is no longer essential – the development of international spot and futures markets for crude oil has all but eliminated the need for vertical integration. In the natural gas industry, however, difficulties in transporting natural gas (it requires either pipelines or expensive liquefaction facilities) mean that deriving value from gas reserves depends critically upon the availability of a nearby market or transportation infrastructure.

The superior profitability of upstream activities over refining and marketing and chemicals is evident in the sectoral financial performance of the majors (see table 12.4). Although upstream activities accounted for only one-fifth of revenues for large oil firms, they contributed over two-thirds of overall profits in 2002. The reasons for the disparity between upstream and downstream profit rates are not immediately obvious. Oil and gas are commodities supplied by many competing companies and in a global industry where production capacity typically exceeds demand. For most primary raw materials, including metal ores, coal, building materials, or agricultural products, these conditions typically result in miserable rates of profit. The world oil market differs in the existence of an effective cartel. Although the Organization of Petroleum Exporting Countries (OPEC) accounted for only 46% of world oil production in 2001, OPEC's commitment to maintaining price stability through production quotas for its individual member countries has had an important influence on oil prices since the early 1970s. When OPEC's discipline over its members' oil production disintegrates, prices drop – sometimes catastrophically. In the summer of 1986 and at the end of 1998, crude oil prices fell below $10 a barrel. Since summer 1999, OPEC discipline together with disruptions to supplies in several key production

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TABLE 12.5 Finding and development costs by company, 1998–2002

	$/barrel of oil equivalent
TotalFinaElf	4.20
BP	4.20
Exxon Mobil	4.40
Repsol YPF	4.50
ChevronTexaco	4.80
Royal Dutch/Shell	5.60
Eni	6.30
Occidental	6.70
Burlington	6.90
ConocoPhillips	7.20
Unocal	8.70
Anadarko	9.60

SOURCE: ENI, "UPSTREAM PERFORMANCE: ENI VERSUS BENCHMARK GROUP", 2003.

TABLE 12.6 US energy companies finding costs by region, 1993–2000 (dollars/barrel of oil equivalent)

	US onshore	US offshore	Canada	OECD Europe	Africa	Middle East	Other, Eastern Hemisphere	Other, Western Hemisphere	World-wide
1993–1995	4.53	4.58	6.35	5.25	3.32	3.23	5.51	2.66	4.65
1998–2000	5.21	10.52	7.18	7.85	2.93	5.92	7.88	4.59	6.14
2001–2003	9.16	10.24	12.26	9.86	5.79	6.22	4.05	3.98	7.35

SOURCE: ENERGY INFORMATION AGENCY, US DEPARTMENT OF ENERGY.

areas has resulted in crude oil prices remaining, almost continuously, above $20 a barrel.

So long as crude oil prices remain at or above the mid-teens, most of the majors earn comfortable upstream profits. However, the extent of each company's profitability depends critically upon its costs. These vary between the companies (see table 12.5) and across geographical locations (see table 12.6). Eni's above average finding costs were primarily a result of the high cost of upstream activities in Italy.

Finding and development cost per barrel is the outcome of a chain of activities. Exploration begins with acquiring the legal rights to begin prospecting for reserves (typically allocated through a competitive bidding process). Geological and seismic analysis is then used to identify any "traps" (reservoirs of underground hydrocarbons). Drilling exploratory wells is extremely costly: hence, companies have invested heavily in new technologies to help identify potentially profitable traps prior to any drilling. However, until exploratory drilling confirms the presence of hydrocarbons, all prior analysis is scientifically informed guesswork. The main investment costs are incurred in bringing proven oil reserves into production through the construction and operation of drilling rigs, storage and loading facilities, and other infrastructure. As exploration has been forced into increasingly inhospitable locations – offshore locations in particular – the capital costs of exploration and production (E&P) have increased substantially. For natural gas fields, development costs are especially great due to the need for either pipelines or liquefaction plants. Yet, despite the industry's move to offshore locations, new technologies – 3D seismic analysis, directional drilling, lightweight platforms, semi-submersibles, enhanced recovery, reservoir modeling, to mention but a few – resulted in declining reserve replacement costs during the 1980s and 1990s.

New technology has not been the only source of upstream cost reduction in E&P. The oil and gas companies have outsourced more and more of their exploration and production activities. Drilling, seismic surveys, rig design, platform construction, and oilfield maintenance are increasingly undertaken by oilfield service companies. As these companies have developed proprietary technologies, deepened their experience, and grown through mergers and acquisitions, so sector leaders such as Schlumberger, Baker Hughes, Halliburton, Diamond Offshore Drilling, Weatherford International, and Saipem have emerged as powerful players within the international petroleum industry. Increasingly they have emerged as risk-bearing partners with the oil and gas majors.

The political changes of the 1990s greatly expanded upstream opportunities for the petroleum majors. The collapse of the Soviet Union and the global trend to economic liberalization offered access to oil and gas reserves previously reserved for national oil companies. During the 1990s, China and the former Soviet Union were the main targets of attention. The immense, undeveloped, oil and gas reserves of the Caspian Sea have been especially attractive to western oil companies. Among the leading OPEC members, Saudi Arabia, Venezuela, and Iran have each opened their doors to investment. In May 2001 Saudi Arabia welcomed eight major petroleum companies led by Exxon Mobil to build a $25 billion natural gas infrastructure in an effort to free up more oil for export. Venezuela recently auctioned 35-year leases to explore, pump, and sell natural gas.

Over time, major discoveries create new oil producing nations (Norway, Angola, and Colombia) while other countries gradually exhaust their reserves (USA, UK). In the future, the league table of leading producers will shift substantially. While Saudi Arabia, Iraq, Iran, Azerbaijan, Kazakhstan, and Venezuela have over 60 years of reserves at current rates of production, USA, Canada, Norway, UK, and Indonesia have 10 or less (see table 12.7).

The attractive rates of return earned in the upstream sector have meant that capital investment by the integrated majors has become increasingly focused on E&P. During 1998–2001, the leading majors invested between three and four times as much upstream as downstream (see table 12.8).

Refining and Marketing

In oil, downstream businesses include refining and the wholesale and retail marketing and distribution of refined oil products. The most important refined product is gasoline; other important products include diesel fuel, aviation fuel, heating oil, liquefied petroleum gas (LPG), bitumen, and petrochemical feedstocks (e.g, naphtha). For almost all the majors, profitability of downstream activities has been dismal. Table 12.9 compares upstream and downstream profitability for US petroleum companies (see table 12.4 for the sectoral profitability of the individual majors). In both North America and Europe, the downstream sector has been subject to intense competitive pressure. Low demand growth (due mainly to increased energy efficiency and competition from natural gas), combined with heavy investment in catalytic cracking,

TABLE 12.7 Oil and gas production and reserves by country, 1991 and 2001

	Oil production (thousands of barrels/day)		Gas production (billions of cubic meters)		Oil reserves (billions of barrels)	Gas reserves (trillions cu. meters)
	2001	1991	2001	1991	2001	2001
Saudi Arabia	8,768	8,820	54	35	261.8	6.2
USA	7,717	9,076	555	510	30.4	5.0
Russia	7,056	9,326	542	600	48.6	47.6
Iran	3,688	3,500	61	26	89.7	23.0
Mexico	3,560	3,126	35	28	26.9	0.8
Venezuela	3,418	2,501	29	22	77.7	4.2
Norway	3,414	1,923	58	27	9.4	1.3
China	3,308	2,828	30	15	24.0	1.4
Canada	2,763	1,980	172	105	6.6	1.7
UK	2,503	1,919	106	51	4.9	0.7
UAE	2,422	2,639	41	24	97.8	6.0
Iraq	2,414	279	–	–	112.5	3.1
Kuwait	2,142	185	10	1	96.5	1.5
Nigeria	2,103	1,890	13	4	24.0	3.5
Algeria	1,563	1,351	78	53	9.2	4.5

SOURCE: BP STATISTICAL REVIEW OF WORLD ENERGY, 2001.

TABLE 12.8 Capital investment by business sector among the majors, 1998–2002

	Av. annual capital expenditure ($, million)	Upstream (%)	Downstream (%)	Chemicals (%)	Other (%)
Exxon Mobil	13,255	66.1	19.8	11.5	1.4
Royal Dutch/Shell	15,690	62.1	25.0	8.8	3.5
BP	19,711	50.6	25.1	10.7	14.6*
TotalFinaElf	9,071	66.4	13.5	16.8	3.3
ChevronTexaco	11,645	66.5	15.5	2.9	15.2
Eni	7,179	63.1	25.3	5.0	6.5

* "Other" includes acquisition expenditures.

SOURCE: COMPANY ANNUAL REPORTS.

and increased investment in refineries by the national oil companies, has resulted in serious excess capacity in refining. At the marketing level, the chief problem has been an excessive number of retail outlets. While the majors have sought to consolidate their market position through asset exchanges, joint ventures, and outright mergers, their attempts to reduce price competition in downstream markets have been thwarted by exit barriers and new entry. Downstream markets in Europe were

TABLE 12.9 Return on investment by line of business for US petroleum companies, 1980–99

	1980–4	1985–9	1990–4	1995–9	2000–3
US oil and gas production	15.4%	4.0%	5.8%	10.1%	14.4%
US refining and marketing	5.1%	8.0%	2.7%	5.7%	7.9%
Foreign oil and gas production	19.3%	12.2%	9.1%	12.4%	12.9%
Foreign refining and marketing	10.4%	6.8%	10.1%	7.0%	6.2%
Coal	5.5%	4.7%	2.9%	6.1%	3.7%

Note: Return on investment is measured as net income as a percentage of invested capital.

SOURCE: ENERGY INFORMATION ADMINISTRATION, US DEPARTMENT OF ENERGY.

particularly depressed – demand had been stagnant for five years while excess capacity has remained stubbornly high. European refining margins fell below $2 a barrel in 2001, and continued to fall during 2002.

As refining capacity grew in the Middle East, European downstream markets came under increasing competitive pressure. At the retail level, the entry of supermarket chains into retail gasoline distribution was a key problem for the petroleum majors in several European countries (France and the UK especially). The majors responded by diversifying their retail activities. Increasingly, service stations have added restaurants and convenience stores to their dispensing of gasoline.

Downstream Gas and Power

Among the petroleum majors, Eni was unusual in being established on natural gas rather than oil. For most of the majors, oil had been their dominant interest and, as a result, few had pursued the same strategy of vertical integration in gas that they had in oil. As the result, in most countries the gas chain was more fragmented than the oil chain, with exploration and production undertaken by the petroleum companies, and distribution traditionally undertaken by state-owned or state-regulated utilities. As demand for natural gas increased during, the 1980s and 1990s, the petroleum majors reoriented their upstream activities towards gas. However, gas reserves were valueless unless they could be brought to market. Hence all the majors developed interests in the transportation and downstream distribution of gas. Regulation of downstream gas markets and privatization of publicly owned gas utilities created the opportunities that the petroleum majors needed to increase their presence in gas marketing and distribution. Similar deregulation in electricity generation and marketing produced further opportunities for the majors – not only could they enter the electricity business directly, they could also seek to supply natural gas to independent power producers.

Although downstream gas and power offered growth opportunities for the petroleum majors, these activities typically did not offer rates of return comparable with their upstream businesses. The newly liberalized gas and electricity markets attracted entrants from a number of different sectors and were fiercely competitive. Moreover, the oil majors were relative newcomers to these markets compared with the traditional utilities. Fierce competition coupled with overinvestment could decimate profitability. During 2002, wholesale prices for electricity plunged in the US and UK, forcing a number of power producers into acute financial difficulty.

Chemicals

The petrochemical sector displayed many of the same structural features as oil refining: capital-intensive processes producing commodity products, many competitors, and a continual tendency for excess capacity (much of it resulting from investments in the Far East and in the oil-producing countries) to drive down prices and margins. In their approach to chemicals, the petroleum majors fell into two groups. Some, like Eni, viewed chemicals as a fundamentally unattractive industry and believed that chemical plants were better run by chemical companies. Others (including Exxon, Shell, and Total) viewed chemicals as part of their core business and considered that vertical integration between refining and petrochemicals offered them a cost advantage.

During the 1990s, all the majors repositioned and restructured their chemical businesses. The two trends were: first, withdrawal from fertilizers, agricultural chemicals, and many specialty chemicals in order to concentrate on bulk petrochemicals; second, within bulk petrochemicals, the companies engaged in a series of asset swaps and joint ventures in order to build positions of leadership within specific product categories. Such leadership was founded on two types of advantage: economies of scale and technological advantages through product or process innovations. By 2002, even the companies with the heaviest commitments to petrochemicals (Exxon, Shell, BP, and TotalFinaElf) were reducing their investments in chemicals as sluggish demand and continued new investment by Asian and Middle Eastern producers depressed profitability.

Eni in 2003

2003 was another year of sustained progress: operating income and net income were higher than 2002 and Eni comfortably exceeded its targets for oil and gas production and cost cutting.

Mincato was content that Eni had realized most of the goals that he had envisaged on becoming chief executive at the end of 1998. Eni was independent and financially and operationally robust. Its strong stock market performance would make it a difficult acquisition target, even without the protection of the Italian government's "golden share." Most important, Eni had a well-defined strategy and a clear identity as a company. Shorn of its various diversified businesses, Eni was purely an energy company. Within the industry, Eni had established a unique strategic position that fitted both its heritage and its capabilities. Through heavy capital investment in exploration and production and a series of acquisitions, Eni had greatly expanded its upstream position. Through its ambitious pipeline schemes and entry into the gas markets of Portugal, Spain, and Germany, Eni had built on its dominant position in the Italian gas market to create one of the world's biggest vertically integrated natural gas businesses. By resisting the trend towards outsourcing engineering and oilfield service requirements, Eni had built a powerful set of technical capabilities.

Yet, for all Eni's solid achievement and increasing respect from both its energy industry peers and investment analysts, Mincato believed that the next four years would be critical for Eni. After spending its first half century playing catch up with leading oil majors, Eni had emerged as one of the most profitable and rapidly growing of the world's leading energy companies. (Table 12.4 shows financial performance of the leading majors.) However, increasing profits and creating value for shareholders was likely to be more difficult in the future than in the past. By 2003, Eni had divested most of its non-core businesses and eliminated most of the inefficiencies that it had inherited from its state-owned past. Increasing profits in the future would require pursuing profitable growth opportunities, more effective exploitation of existing competitive advantage, and building new sources of competitive advantage.

In many respects, Eni was well positioned with regard to the principal trends affecting the world's energy sector. Eni's traditional strength in gas had given it a vertically integrated presence that no other petroleum company could match. Italy's geographical position in terms of its proximity both to the huge gas reserves of North Africa, and to the markets of Europe, offered Eni a unique opportunity to link the two – particularly with its in-house engineering and construction capabilities.

But fulfilling Eni's potential would require developing the responsiveness and coordination that it needed to combine technology, physical assets, expertise, and human ingenuity to exploit the opportunities constantly emerging in the world's fast-changing energy markets. At the forefront of Mincato's mind were the internal challenges that Eni would have to overcome in order to successfully execute its strategy. Although major changes had taken place in organization (notably the creation of a divisionalized structure) and human resource management, further internal change was essential. The most obvious challenge was that of internationalization. Although Eni was internationally diversified upstream and in engineering and services, downstream – both in oil products and gas – Eni was heavily dependent on the Italian market. Overall, Italy accounted for almost half of Eni's sales and assets (see table 12.10). Internationalization was not just about increasing investment outside of Italy. The greatest challenges lay in internationalizing Eni's culture and personnel – including senior management ranks, where non-Italians and extensive overseas management experience were both scarce.

The second internal challenge was that of integration. Eni's large downstream gas business offered a market for its upstream gas production and its internal engineering and construction capabilities provided the means to link the two. Eni's ability to pursue vertical integration in gas represented a significant source of competitive advantage for the company. However, to realize this potential required effective collaboration between Eni's different divisions and subsidiaries. Although Mincato had created a more integrated divisional corporation, effective coordination required Eni's independently minded businesses breaking down organizational barriers and sharing information, know-how, and opportunities.

Other challenges were likely to emerge from the external environment. The most troubling of these was whether Eni could find sufficient investment opportunities to achieve its growth targets without undermining its profitability. Eni had achieved its growth by a combination of organic growth and selective acquisitions. Organic growth was inevitably incremental – the key to maintaining upstream profitability was to develop new E&P activities in locations where Eni had an existing infrastructure. More rapid growth could be achieved through acquisition, but here Mincato was aware that reckless acquisition would cause earnings dilution.

The second external challenge related to the investment community's apparent lack of appreciation for Eni's solid operational and financial performance. Mincato and Chief Financial Officer Marco Mangiagalli had cultivated sound relationships with shareholders and investment analysts. Yet, they were continually dismayed by the stock market's lack of appreciation for Eni's investment qualities. Eni's valuation ratios remained considerably lower than those of its peers in the international petroleum industry (see table 12.11). Weakness in Eni's market valuation constrained

TABLE 12.10 Eni's sales and assets by geographic area ($, millions)

Revenues by area	1995	1996	1997	1998	1999	2000	2001	2002	2003
Italy	16,194.3	15,368.9	17,514.5	16,196.4	17,631.7	29,419.9	30,793.5	24,952.3	28,858
Other European Union	8,516.4	8,368.1	10,066.0	9,221.5	11,429.2	22,461.0	24,197.5	25,296.2	11,315
Other Europe	5,085.8	4,552.2	5,248.0	4,552.5	5,381.4	10,449.1	12,680.8	13,801.0	4,634
Africa	696.4	800.0	1,026.4	1,040.4	1,402.1	2,254.3	2,433.0	2,598.3	6,627
Americas	1,693.9	1,804.8	2,052.8	2,181.2	2,950.3	6,530.3	6,885.0	5,575.1	3,145
Asia	979.8	1,117.1	1,722.1	1,431.4	1,682.3	3,202.4	2,175.2	3,307.1	3,674
Assets by area	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Italy	41,994.0	43,713.0	34,750.1	19,383.0	20,767.6	26,573.6	26,242.2	25,714.6	34,459
Other European Union	14,036.0	15,592.5	14,609.9	10,422.4	14,359.0	20,688.3	30,626.1	29,729.5	8,427
Other Europe	7,573.0	8,901.3	6,754.1	4,231.4	5,256.8	7,606.1	11,458.7	11,187.0	5,045
Africa	5,755.0	5,985.5	6,017.0	4,209.9	5,777.9	7,198.1	9,657.4	9,564.9	13,238
Americas	708.0	705.7	1,838.9	1,034.1	2,170.6	4,176.4	5,080.4	3,598.6	3,680
Asia	–	–	–	930.9	1,149.0	1,699.1	4,417.4	4,597.9	6,048

SOURCE: ENI ANNUAL REPORTS.

TABLE 12.11 Valuation multiples for petroleum majors (9 May 2003)

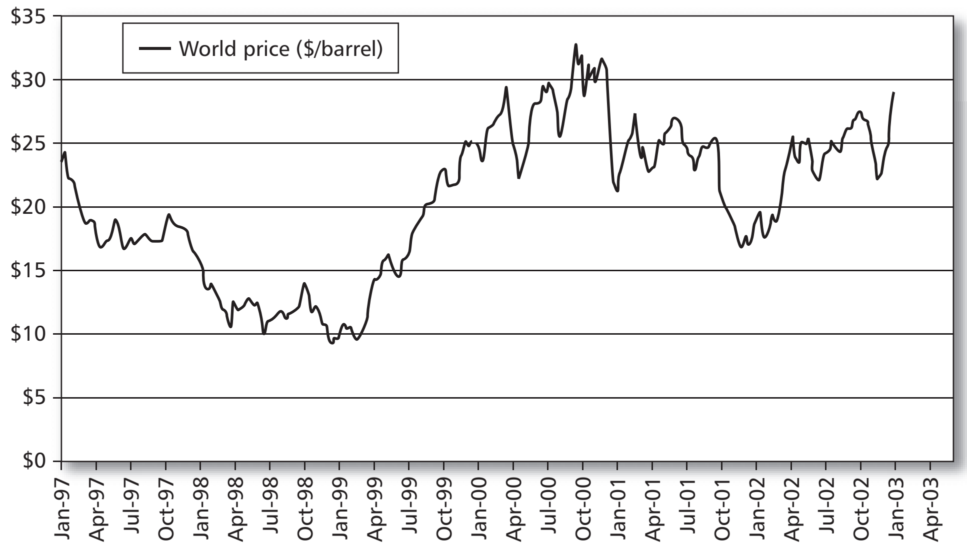
	Price/earnings ratio	Price/book ratio	Price/sales ratio	Price/cash flow
Exxon Mobil Corp.	15.04	3.17	1.15	11.94
British Petroleum plc	15.08	2.13	0.72	8.58
ChevronTexaco Corp.	28.29	2.28	0.70	11.30
TotalFinaElf S.A.	17.25	2.94	1.02	n.a.
Royal Dutch Petroleum Co.	12.04	2.22	0.65	9.59
Eni SpA	9.55	2.45	1.34	n.a.
Repsol YPF, S.A.	31.40	1.51	0.53	5.40
ConocoPhillips	30.58	1.17	0.50	17.53
Industry average	15.13	2.37	0.94	7.70

SOURCE: HOOVER'S ONLINE.

Eni's ability to make acquisitions and put pressure on management to reallocate cash flows from capital investment to share repurchases.

The third external challenge was the uncertain outlook for the upstream sector. During recent years, upstream had accounted for the majority of Eni's operating profit and the attractiveness of the upstream had resulted in E&P accounting for an ever-growing proportion of Eni's capital expenditure. However, upstream returns were volatile; they depended critically upon the price of crude oil. When crude oil prices were low, as in 1998 and during the first half of 2002 (see figure 12.2), Eni's upstream profitability declined sharply. Could Eni continue to rely on the upstream sector as the fount of its profitability? If OPEC discipline was to break down, if major expansion occurred in production from the former Soviet Union, or if Iraq returned as a major supplier to the world market, then the current balance between supply and demand

FIGURE 12.2 Average world spot price of crude oil, 1997–2003



might tilt drastically towards excess supply. In a low oil price environment, Eni would be unfavorably positioned – not just in relation to some of the other majors, but also to some of the national oil companies with their massive reserves and low production costs.

Appendix 1

TABLE 12.A1 Eni SpA: selected financial data, 1997–2003

Income statement In millions of US$	1997	1998	1999	2000	2001	2002	2003
Revenue	34,323	33,177	31,225	45,854	44,368	51,379	59,322
Cost of goods sold	21,854	21,730	20,247	29,518	28,330	33,440	39,132
Gross profit	12,469	11,447	10,978	16,336	16,038	17,939	20,190
Gross profit margin	36.3%	34.5%	35.2%	35.6%	36.1%	34.9%	34.0%
SG&A expense	3,339	3,415	2,801	2,615	2,538	3,253	3,584
Depreciation and amortization	3,955	4,423	3,617	3,608	4,247	5,771	5,831
Operating income	5,175	3,609	4,560	10,113	9,253	8,915	10,774
Operating margin	15.1%	10.9%	14.6%	22.1%	20.9%	17.4%	18.2%
Nonoperating income	739	1,634	1,561	91	1,635	45	19
Nonoperating expenses	250	48	502	481	423	206	7
Income before taxes	5,447	4,589	5,087	9,723	10,465	8,664	10,580
Income taxes	2,467	1,698	2,068	4,070	3,142	3,279	3,669
Net income after taxes	2,980	2,891	3,019	5,653	7,324	4,816	6,323
Net profit margin	8.4%	8.2%	9.2%	11.9%	15.6%	9.6%	0.0%
ROACE	12.2%	10.7%	12.5%	21.5%	23.9%	13.7%	15.6%
Balance sheet	**Dec 97**	**Dec 98**	**Dec 99**	**Dec 00**	**Dec 01**	**Dec 02**	**Dec 03**
Cash	1,736	912	1,220	1,168	1,162	3,423	4,113
Net receivables	11,067	10,733	10,838	12,566	12,219	14,186	17,043
Inventories	2,878	2,859	2,644	2,929	2,504	3,355	4,031
Other current assets	3,165	1,941	2,316	2,070	1,620	1,868	2,244
Total current assets	18,846	16,445	17,019	18,733	17,505	22,832	27,431
Net fixed assets	22,593	24,434	23,236	25,157	29,653	35,327	42,443
Other noncurrent assets	7,441	7,512	6,265	9,024	8,684	10,840	13,024
Total assets	48,880	48,391	46,520	52,914	55,842	69,000	82,898
Accounts payable	3,824	4,110	4,171	4,550	4,427	5,806	6,975
Short-term debt	8,673	5,793	4,797	5,015	4,656	8,273	9,939
Other current liabilities	6,413	6,294	6,292	9,440	7,341	8,560	10,285
Total current liabilities	18,910	16,197	15,260	19,005	16,424	22,639	27,199
Long-term debt	5,853	5,288	4,821	4,803	5,415	6,868	8,251
Other noncurrent liabilities	4,443	4,835	4,768	6,506	8,021	9,766	11,734
Total liabilities	32,107	29,478	27,993	30,314	29,860	39,274	43,783
Minority interest	809	1,107	1,117	1,570	1,519	2,196	2,638
Total shareholders' equity	16,773	18,913	18,527	22,600	25,982	27,530	35,714
Cash flow statement	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Net operating cash flow	7,135	8,035	8,306	9,935	7,251	11,091	12,257

Appendix 2

TABLE 12.A2 Eni's operating performance, 1993–2003

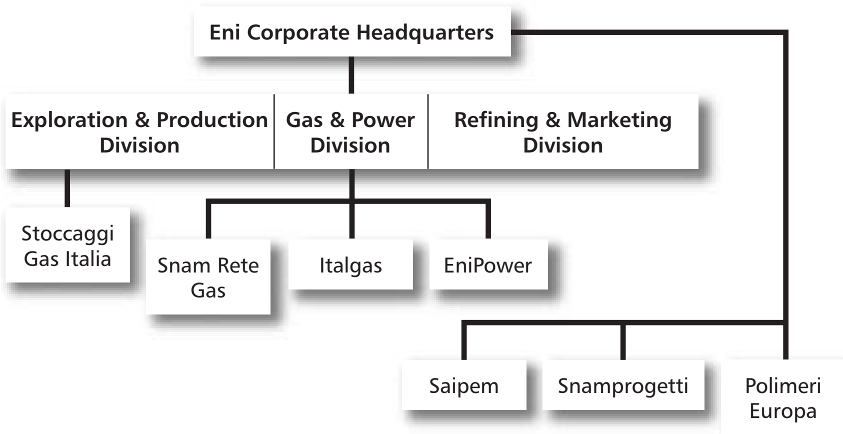
	Units	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Exploration and production												
Hydrocarbon production	boe/d ($\times 10^3$)	901	941	982	984	1.021	1.038	1.064	1.187	1.369	1.472	1.562
Hydrocarbon reserves	boe ($\times 10^6$)	4.175	4.224	4.318	4.675	5.073	5.255	5.534	6.008	6.929	7.030	7.272
Reserve life index	years	12.8	12.4	11.9	13.1	13.6	13.4	14.0	14.0	13.7	13.2	12.7
Gas and power												
Primary distribution natural gas sales in Italy	cm ($\times 10^9$)	48.65	47.43	52.55	53.23	53.10	55.64	60.19	59.92	58.89	52.56	52.80
Primary distribution natural gas sales in Europe destined to Italy	cm ($\times 10^9$)					0.04	0.05	0.05	1.30	3.10	7.70	9.30
Sales of natural gas in secondary distribution outside Italy	cm ($\times 10^9$)				2.80	2.79	2.73	2.67	3.48	3.91	3.79	4.44
Natural gas volumes transported on behalf of third parties	cm ($\times 10^9$)	4.93	5.34	6.01	6.64	8.07	9.97	11.29	14.70	16.76		
Electricity production sold	GWh								4,766	4,987	5,004	5,550
Refining and marketing												
Production available from processing	ton ($\times 10^6$)	33.7	40.5	38.1	37.8	36.4	40.1	38.3	38.9	37.8	35.6	33.5
Refining capacity utilization rate of owned refineries	%	90	89	86	87	94	103	96	99	97	99	100
Sales	ton ($\times 10^6$)	53.1	52.3	51.9	51.4	51.6	54.2	51.8	53.5	53.2	52.0	49.9
Service stations	units	13,705	13,699	13,574	13,150	12,756	12,984	12,489	12,085	11,707	10,762	10,647
Average throughput per service station	l/year ($\times 10^6$)	1.399	1.402	1.431	1.448	1.463	1.512	1.543	1.555	1.621	1.674	1.771
Oilfield services and engineering												
Orders acquired	mil euro	1,586	2,710	2,616	2,937	3,849	3,242	2,588	4,709	3,716	7,852	5,876
Orders backlog at 12/31	mil euro	2,598	3,471	4,035	4,350	5,163	4,931	4,438	6,638	6,937	10,065	9,405
Employees	units	108,556	91,544	86,422	83,424	80,178	78,906	72,023	69,969	72,405	80,655	76,521

SOURCE: ENI FACT BOOKS.

Appendix 3
Eni's Business Operations, 2003

Eni is an integrated energy company operating in the oil, natural gas, electricity generation, petrochemicals, engineering, and oilfield services through its divisions or affiliated companies. Figure 12.A3.1 shows the divisional structure.

FIGURE 12.A3.1 Eni's organizational structure



Exploration and Production

Eni operates in exploration and production of oil and natural gas in Italy, North Africa, West Africa, the North Sea and the Gulf of Mexico. It also operates in areas with great development potential such as Latin America, Australia, the Middle and Far East and the Caspian Sea.

Eni intends to maintain a strong production growth in the near future leveraging on internal development and targeting over 1.8 million boe/day in 2006 (a yearly average increase of approximately 6%). Eni's proved reserves reached over 7 billion boe in 2003.

Eni is pursuing a program for the rationalization of its portfolio of assets aimed at concentrating its activities in areas with significant growth potential where Eni is operator: in 2002 Eni sold 16 interests in fields in the North Sea, Italy, and Qatar, as well as exploration permits and other assets; Eni also acquired interests in operated or partially held assets in Kazakhstan, the United Kingdom, Norway, and Australia.

The importance of the Kashagan oil field discovery in the Kazakh offshore of the Caspian Sea was confirmed by the appraisal activities performed and still underway in the area. The field's recoverable reserves, calculated according to the most recent estimates as 7–9 billion barrels, reaching 13 billion by employing the gas reinjection techniques, make Kashagan the most relevant discovery of the past 30 years.

E&P Strategies
Keep strong production growth rates Rationalize and optimize asset portfolio Select exploration areas Intensify actions for efficiency improvement

Gas and Power

Gas Eni operates in natural gas supply, transmission, distribution, and sale. In 2002, sales of natural gas totaled 52.6 billion cubic meters in Italy, 8.2 billion cubic meters in Europe, and 3.8 billion cubic meters in secondary distribution outside Italy.

With the purchase in joint venture with German company EnBW of 97.81% of GVS, one of the largest regional operators in natural gas in Germany (where it transports and sells approximately 7 billion cubic meters of gas per year), Eni enters a large natural gas market and consolidates its European leadership in gas and power.

The agreement underway for the purchase of a 50% interest in Spanish natural gas company Unión Fenosa Gas, with an investment of euro 440 million, is an important step in Eni's strategy of international expansion of gas activities. . . .

Within its program of development of electricity generation capacity at Eni's industrial sites, work started for the construction of a new combined-cycle power plant at Ferrera Erbognone (Pavia) . . . and for the upgrade of the Ravenna power plant.

Gas and Power Strategies

Develop natural gas sales in Europe
Maintain market shares in Italy at the levels set by new laws leveraging on the gas power
Implement significant marketing actions
Obtain a significant competitive positioning in electricity generation by building new power stations

Refining and Marketing

Eni operates in the refining and sale of refined products mainly in Italy, Europe, and Latin America. In distribution, with its Agip and IP brands, Eni is market leader in Italy. In 2002, Eni's sales of refined products amounted to 52 million tonnes, of which 33 million tonnes was in Italy.

Eni is implementing a rebalancing of its retail distribution activities in Italy and outside Italy and will continue the upgrading of its network in Italy by selling and closing marginal service stations and developing the stronger part of its network (service stations with high throughput and high non-oil potential) and its non-oil retail activities. Eni's objective is to reach European standards in terms of average throughput, services to customers, and automation. Outside Italy, Eni intends to strengthen its position in selected areas in Europe where it can obtain logistical and operating synergies and exploit its well-known brand name. Eni also intends to increase the flexibility of its refining system [and] will intensify its efforts for efficiency improvements. . . .

Refining and Marketing Strategies

Continue the upgrading of the Italian distribution network and develop in selected areas outside
Increase refining complexity
Intensify actions for efficiency improvement

Oilfield Services and Engineering

Eni operates in oilfield services and engineering through Saipem and Snamprogetti. Saipem, a company listed on the Italian Stock Exchange (Eni's interest 43%), operates in oilfield services and is a world leader in the laying of underwater pipelines and the installation of offshore platforms, thanks to exclusive state-of-the-art technology and a world-class fleet of vessels, which has been upgraded with an investment plan amounting to over 1 billion euros, started in 1997. In the engineering and contracting area, Snamprogetti is one of the major international operators in the area of plants for hydrocarbon production, refining complexes, terminals for natural gas treatment, fertilizer and petrochemical plants, power stations, pipeline transport systems and infrastructure.

Major Projects

1 *Deep water*. Thanks to the experience gained in different areas of the world and the competence of its personnel, Eni has developed innovative technologies and methods for all phases of the activity: from exploration to drilling and production. Eni operates in several exploration projects in deep waters (more than 450 meters) and ultra-deep waters (more than 1,500 meters), including offshore Nigeria, Angola, Congo, and Gabon. Ultra-deep water offshore activities are also underway in the Gulf of Mexico and off the coast of Brazil.
2 *Transmed*. This 2,200 km gasline links Italy to one of the world's biggest natural gas reservoirs, located in the Algerian desert. Construction of the first pipeline was completed in 1983. In 1997, a second pipeline was laid.
3 *Blue Stream*. The Blue Stream is undoubtedly one of the most challenging projects of its type ever attempted because of the difficulties in terms of design, construction, organization, and logistics. The 1,250 km gasline links the gas distribution network of the Krasnodar region in southern Russia to the central Turkish grid at Ankara. Supplies of natural gas will start in 2003 and continue up to 2025, peaking at 16 billion cubic meters a year.
4 *Karachaganak project*. Eni works with British Gas to produce oil, gas, and condensates in Karachaganak field in the northwestern region of Kazakhstan. The project involves over 70 wells, collection and distribution networks, and constructing pipelines to connect Caspian Pipeline Consortium. Eni's production share will peak at around 72,000 barrels per day in 2009.

Source: "Eni SpA: Operations and Strategies" (www.eni.it).

Appendix 4

TABLE 12.A3 The world's top 20 petroleum companies, 2000

	PIW Index*	Company	Ownership	Reserves Liquids (mil. BBL)	Reserves Gas (BFC)	Output Liquids (mil. BBL)	Output Gas (BFC)	Refinery capacity (thous. B/D)	Product sales (thous. B/D)
1.	100.0	Saudi Aramco	State	259,200	213,300	8,044	3,302	1,992	2,650
2.	98.8	Exxon Mobil	Public	11,260	56,796	2,444	11,378	6,400	8,887
2.	98.8	PDVSA	State	76,852	146,719	2,950	4,000	3,096	2,500
4.	98.0	NIOC	State	87,993	816,882	3,620	5,144	1,534	1,342
5.	97.4	Royal Dutch/Shell	Public	9,775	58,541	2,268	8,218	3,212	6,795
6.	92.1	British Petroleum	Public	7,572	35,526	2,061	6,067	2,801	5,002
7.	91.8	Pemex	State	28,400	30,005	3,343	4,791	1,528	1,650
8.	85.4	Pertamina	State	7,860	118,702	973	6,300	1,050	1,190
9.	84.5	TotalFinaElf	Public	6,869	13,385	1,468	3,175	2,586	3,168
10.	81.6	KPC	State	96,500	52,700	2,025	936	1,075	1,165
11.	80.2	Sonatrach	State	8,830	136,303	1,480	7,587	485	750
12.	79.9	PetroChina	State**	10,999	24,603	2,124	674	2,066	1,367
13.	77.8	Petrobras	State	8,100	10,663	1,191	1,235	1,953	1,818
14.	77.0	Chevron	Public	4,784	9,056	1,127	2,513	1,524	2,384
15.	73.2	Texaco	Public	3,480	8,108	885	1,999	1,417	3,221
16.	70.3	Adnoc	State	50,710	196,100	1,240	3,185	234	455
17.	67.1	Eni	Public	3,137	13,665	666	2,342	824	940
18.	63.0	Repsol YFP	Public	2,150	14,310	451	1,298	1,206	920
19.	62.7	INOC	State	112,500	109,800	2,528	320	348	520
20.	59.5	Libya INOC	State	23,600	46,243	1,211	600	380	400
20.	59.5	Petronas	State	2,952	64,469	636	5,097	290	425
		Totals		823,523	2,175,876	42,735	80,161	36,001	47,549

* Petroleum Intelligence Weekly's ranking based on reserves, output, capacity and sales: ** IPO or ADR listed on NYSE April 2000; 89% of shares held by state-owned parent company; BBL = barrels; BCF = billion cubic feet: B/D = barrels per day.

SOURCE: STANDARD AND POORS, OIL AND GAS: PRODUCTION AND MARKETING INDUSTRY SURVEY

Notes

1 After Exxon Mobil, Royal Dutch/Shell, BP, TotalFinaElf, and ChevronTexaco.
2 Fred Kapner, "Chief keeps it 'orderly' at Eni," FT.com, 30 January 2003.
3 We refer throughout the case to "Eni." For most of its history as a state-owned enterprise, the company's full name was Ente Nazionale Idrocarburi, but was known by its acronym, ENI. On becoming a joint stock company, its name was changed to ENI SpA. Under Mr Mincato's leadership the acronym ENI was replaced by the simple word Eni.
4 In common with other European governments, Italy recognized the growing strategic importance of oil and wished to avoid dependence on foreign-owned multinationals for its fuel supplies. The British government had purchased a controlling interest in BP in 1914 and France had established the Compagnie Française des Pétroles (Total) in 1924.
5 Dow Votaw, *The Six-Legged Dog: Mattei and ENI – A Study in Power*, University of California Press, Berkeley, CA, 1964, p. 15.
6 Daniel Yergin, *The Prize*, Simon & Schuster, New York, 1992, p. 502.
7 www.Eni.it/english/panorama/storia/storia.html.
8 Ibid., p. 23.
9 Ibid., p. 23.
10 Section sourced from "L'Eni di Fronte a un Bivio," Eni SpA, 2002.
11 Dow Votaw, *The Six-Legged Dog*, p. 71.
12 "L'Eni di Fronte a un Bivio," Eni SpA, 2002, p. 5.
13 *Franco Bernabè at Eni*, Harvard Business School Case No. 9-498-034, April 7, 1998.
14 Chairman Gabriele Cagliari later committed suicide in prison.
15 "L'Eni di Fronte a un Bivio," Eni SpA, 2002, p. 11.
16 "Eni savors the taste of freedom," *Financial Times*, June 9, 1994.
17 Securities and Exchange Commission, ENI SpA, Form 20-F, 1996.
18 "Eni savors the taste of freedom," *Financial Times*, June 9, 1994.
19 *Franco Bernabè at Eni*, Harvard Business School Case 9-498-034, April 7, 1998.
20 Securities and Exchange Commission, ENI SpA, Form 20-F, 1996, p. 3.
21 Ibid, p. 1.
22 "Interview Vittorio Mincato," *Financial Times*, October 12, 1999.
23 Ibid.
24 "Letter to shareholders," Eni Annual Report 1999, pp. 4–5.
25 "L'Eni di Fronte a un Bivio," Eni SpA, 2002, p. 14.
26 "The important thing is that the target company should be rightly sized to be integrated easily," observed Mincato ("Eni, Thinking Big," *Petroleum Economist*, February 11, 2002).
27 "A quiet baritone on Italy's oil and gas stage: Vittorio Mincato," *Financial Times*, May 28, 2001.
28 Interview with Vittorio Mincato, *ECOS*, Vol. 30, No. 6, 2001, p. 12.
29 In December 1998, crude prices fell below $10 per barrel.
30 Interview with Vittorio Mincato, *ECOS*, Vol. 30, No. 6, 2001, p. 12.