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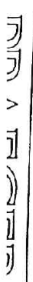


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# Norway and the European Community

## The Political Economy of Integration

Edited by  
Brent F. Nelsen



PRODUCTION AND DISTRIBUTION

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## NORWEGIAN PETROLEUM AND EUROPEAN INTEGRATION

*Ole Gunnar Austrvik*

Norway is producing oil and natural gas at a record pace. In 1991, Norway produced almost two billion barrels of oil per day (mb/d)<sup>1</sup> and twenty-five billion cubic meters (BCM) of gas for a total of 115 million tons of oil equivalent (mtoe), an all-time record. Production is expected to increase further in the 1990s, with oil production passing 2.3 mb/d and gas production reaching 50-60 BCM/year.

Norwegian oil and gas is growing in importance in international energy markets. Norway produced more oil in 1991 than Kuwait before the 1990 Iraqi invasion. With oil production declining in the former Soviet Union, Norway may soon be the largest energy exporter in Western Europe, and one of the largest in the world. Furthermore, energy attracts more world attention for Norway than any other issue besides military security.

The petroleum sector is also playing a more significant role in the Norwegian economy. Today it accounts for about 14 percent of gross domestic product and one-third of total export revenues, with its share of the economy due to increase as production, and possibly the price of oil, rises.<sup>2</sup> In addition, the offshore supplies industry plays an important economic, political, cultural, and social role in Norway's regions.

Norway's petroleum sector plays a vital part in Norwegian economic and foreign policy making. Two challenges in particular face Norwegian policy makers. The first is to derive sufficient long-term economic benefits from the petroleum sector. The second is to conduct a foreign policy that avoids entanglement in the frequent international conflicts that involve oil.

This chapter examines the role of oil and gas in Norway's domestic



economy and foreign policy. First, it looks at the development of the Norwegian petroleum sector since the 1960s. Second, it discusses how Norway has tackled the economic and political challenge of being an "oil nation" from a macroeconomic and foreign policy perspective. Third, it explores the place of Norwegian gas in a changing Europe. And finally, the chapter looks at how the EC's new single market may affect Norwegian policies toward these issues in the future.

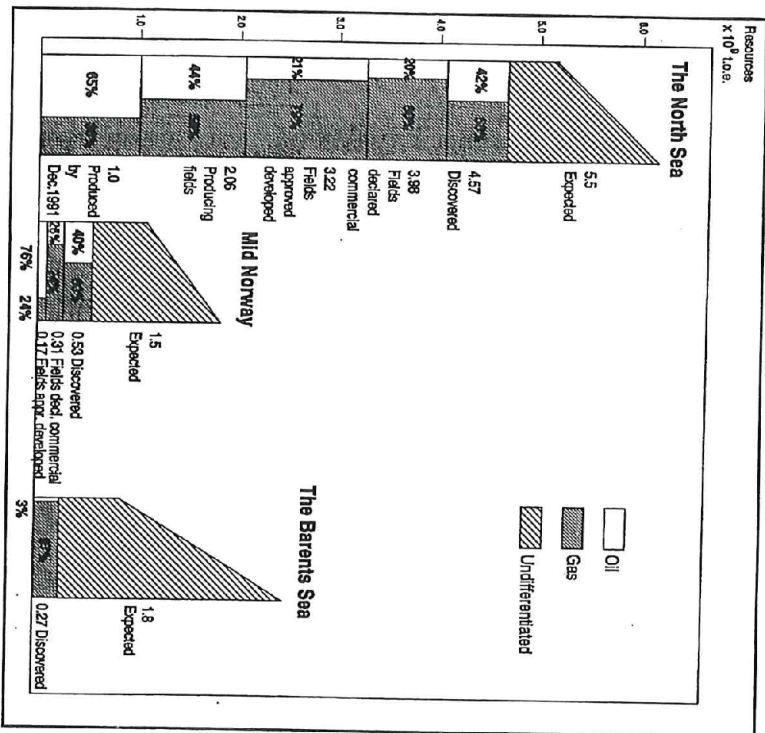
**EXPLORATION, DEVELOPMENT, AND PRODUCTION**

Applications for exploration on the Norwegian continental shelf were made as early as 1962 and 1963 by international oil companies. Drilling started in 1966 after Norwegian authorities established the necessary legal framework and conducted the first concession round. During the period 1966-71, international oil companies explored the southern parts of the continental shelf where Phillips Petroleum eventually discovered the giant Ekofisk field in December 1969 and proved the sector's significance for Norway (see figure 9.1).

The 1970s saw huge investment expenditures but only moderate income from the offshore sector. The first oil was shipped by boat from the Ekofisk platform in 1971, but Ekofisk did not really start its commercial life as the first major Norwegian field in production until the pipelines to Teesside, England (oil) and Emden, Germany (gas) came on stream in 1975 and 1977. In 1977, the Frigg gas field (61-percent Norwegian, 39-percent British) started supplying Britain through the twin pipeline to St. Fergus, Scotland, as well. The huge Statford field (85-percent Norwegian, 15-percent British), discovered in 1973, started oil production in 1979.<sup>3</sup> The smaller Murchison oil field and Valhall oil and gas field close to the Ekofisk area started production in 1980. Thus, by 1980 combined oil and gas production reached 50 mtoe, approximately half oil and half gas (see figure 9.2). Norway was not yet an internally significant producer, but the country had developed a domestically important economic sector by overcoming major technological challenges to deep-water petroleum development.

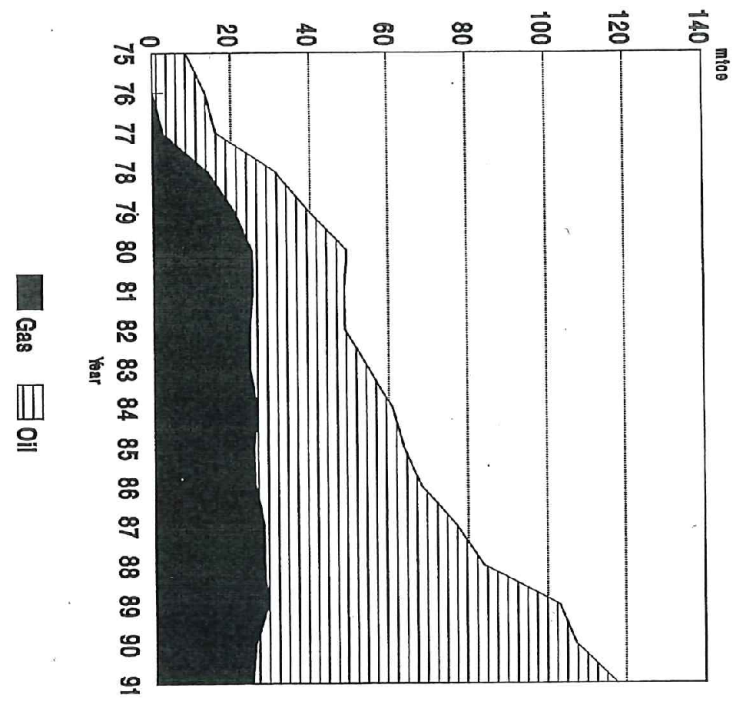
In the 1980s, oil production more than tripled, making Norway one of the largest producers and exporters in the world (see figures 9.3 and 9.4). Increased production from the Statford field accounted for much of the early growth, while oil from the nearby Gullfaks (1987) and Oseberg (1988) fields provided an end-of-decade boost. Further increases

Geographical Distribution of Norwegian Petroleum Resources



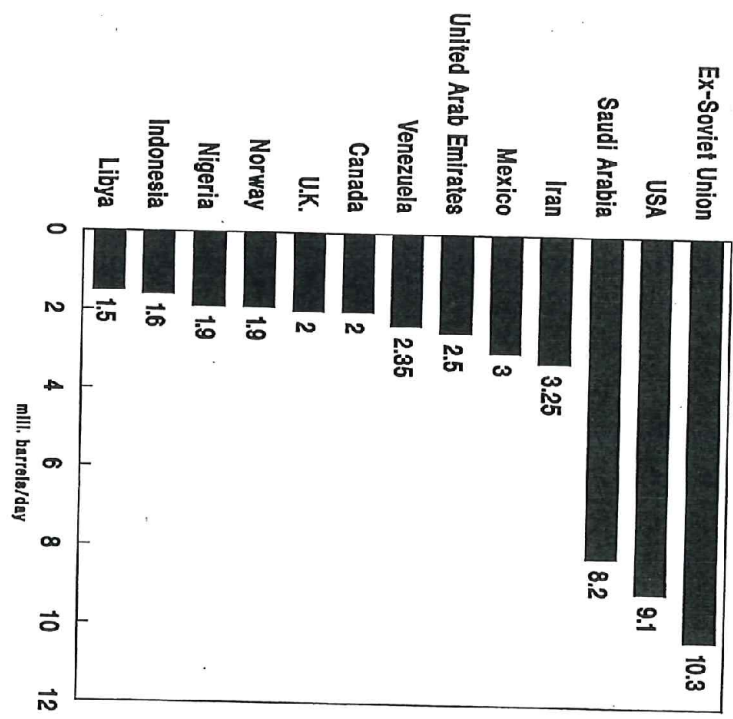
Source: OED, Fact Sheet 1992, 75.

Figure 9.2  
Norwegian Oil and Gas Production



Source: OED, *Fact Sheet*, various issues.

Figure 9.3  
Production of Crude Oil (incl. NGL)

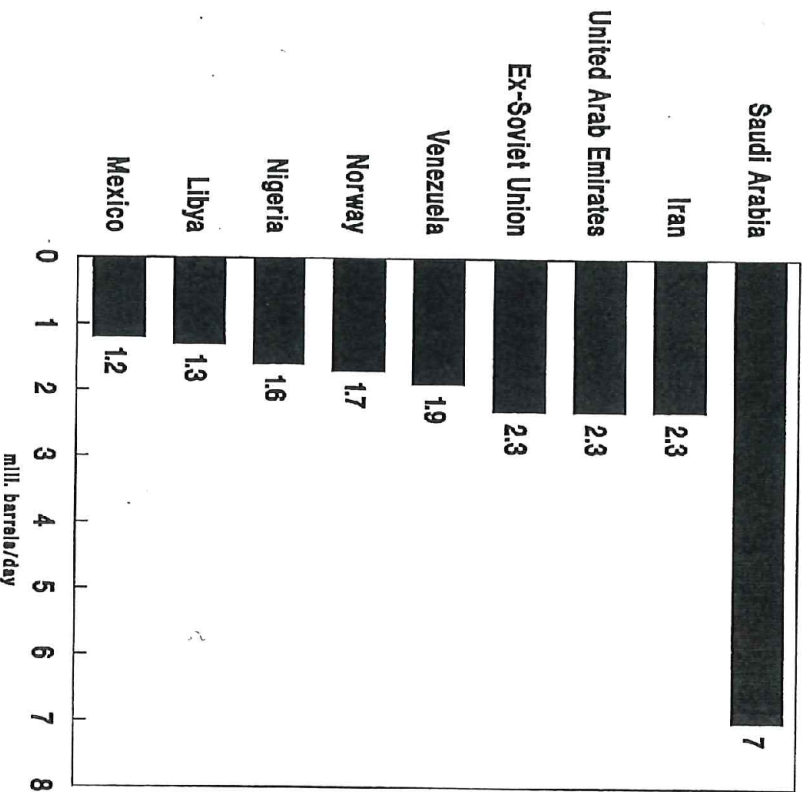


Source: OED, *Fact Sheet 1992*, 85.



Figure 9.4

Net Exports of Crude Oil (incl. NGL)



Source: OED, *Fact Sheet 1992*, 85.

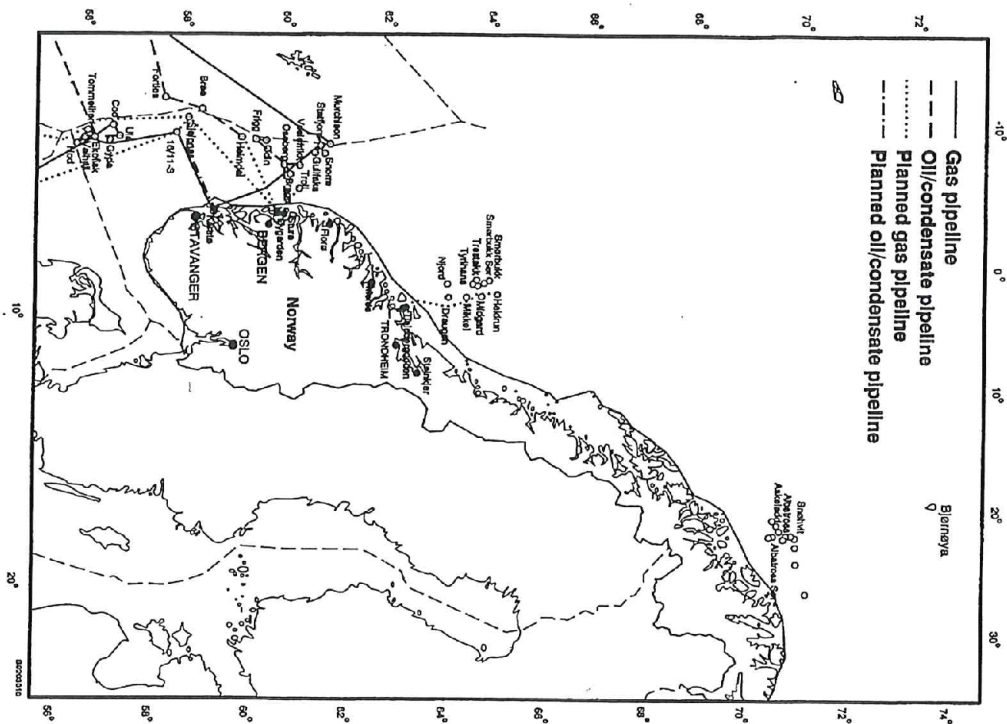
in the 1990s will come from the startup of Heidrun, Draugen, and a number of other smaller fields, as well as additional Gullfaks and Oseberg production.

Gas production, on the other hand, has remained at approximately the level reached in 1980. The Sleipner and giant Troll fields are expected to increase production dramatically when they begin producing in 1993 and 1996, respectively. This gas will flow to the European continent through the new Zeepipe (to Zeebrugge, Belgium) and Europipe (to Emden, Germany) pipelines. Norway is under contract to supply 40-45 BCM from these fields to replace gas from many of the older fields being phased out under field depletion contracts. Pipeline capacity, however, will stand at 60-70 BCM making it possible for Norwegian gas exports to pass 50 BCM within a decade and raising the country's annual oil and gas production to 150-200 mtoe. While oil accounted for all the increase in petroleum production in the 1980s, increases will to a larger extent come from growth in natural gas production in the 1990s (see figure 9.2).

Petroleum production has, until now, taken place in the North Sea south of the 62d parallel but will soon move north. Development has already expanded north to Haltenbanken (off mid-Norway) where the Draugen and Heidrun fields are located (see figure 9.5). A planned methanol factory at Tjeldbergodden will become the first domestic natural gas user by taking associated gas from these fields. Farther north, oil companies have proven large gas reserves in the Barents Sea. Long distances to markets (2000 km to the Continent), environmental concerns, production costs, and market prices indicate that production may not start there for a decade or two. This gas, if and when produced, will most likely be transported by tanker as liquified natural gas, thus opening up the possibility of gaining new customers in southern Europe and the United States. For oil, however, transportation costs are lower, so northern production may commence more quickly if large recoverable reserves are found.

The area farthest north and east in the Barents Sea, which shares a border with Russia, has not been fully explored. Geologists expect it to contain significant amounts of petroleum, in part because the Russians have already found proven reserves of both oil and gas to the east in the Barents Sea. A dispute between Norway and the former Soviet Union has precluded exploration in this area. The disputed area is larger than

The Norwegian Continental Shelf



the entire Norwegian sector south of the 62d parallel.<sup>4</sup> Norway bases its claims on a midline principle, while the former Soviet Union based its claims on a sectorial principle. Fisheries, the territory's tremendous potential as a petroleum province, and its military sensitivity make the border issue especially difficult. In addition, the huge military complex on the Kola peninsula and the narrow channels to the Atlantic Ocean for Russian warships and submarines present a unique security problem for offshore developers. Plans have been made to proceed with the negotiations between Norway and the new Russian leaders. The Yeltsin government's attitude towards the dispute with Japan over the Antilles may, however, indicate that the controversy with Norway in the Barents Sea may not be easier solved than before. The issue may still take much time to settle.

On the regional level, the counties around the "oil towns" of Stavanger (Rogaland), Oslo (Oslo/Akershus), and Bergen (Hordaland) have become increasingly important. Despite the fact that activities on the shelf have moved north over time, employment has been more concentrated. In the period 1981-89, the three counties increased employment in the petroleum sector by a total of sixteen thousand people, while the rest of Norway reduced employment by six thousand five hundred people, secondary and derived activity included.<sup>5</sup> The most concentrated activity is in Rogaland, covering some 50 percent of overall employment in the sector.

**PETROLEUM AND NORWEGIAN MACROECONOMICS**

The Norwegian government made it clear from the beginning that it would play a strong role in the development of the petroleum sector. The nationalization of multinational companies in Arab countries before and during the first oil shock in 1973-74 made significant state participation politically acceptable in the 1970s. The important objective was that as much of the economic rent from the petroleum sector as possible was to stay in Norway to benefit "all Norwegians." This was possible because the government had the property rights to the resources. Furthermore, oil companies operating on the continental shelf were to prefer Norwegian offshore suppliers if otherwise competitive with foreign companies. To meet these objectives, the government also gave support to some larger industrial projects. In addition, the Storting created Statoil in 1972, a 100-percent state-owned oil company, that



Norwegian authorities decided should have at least 50-percent ownership in new licenses. The Storting also established the Norwegian Petroleum Directorate (1972) and the Ministry of Petroleum and Energy (1978), and devised a special tax system for the petroleum sector (1975).

When world economic growth declined after the first oil shock, the petroleum sector allowed the Norwegian government to pursue an economic policy designed to counteract the downward trend, then expected to be temporary. In 1975 to 1977-78, the Kleppe packages (named after the secretary of the treasury) maintained domestic demand and subsidized traditional industries by borrowing abroad in the (accurate) anticipation of high future oil revenues. These expansive budgets, together with high investments in the petroleum sector, raised domestic prices and made it difficult for all industries to compete. The program kept alive traditional and what later turned out to be less-competitive industries by drawing resources from the rest of the economy. Even though Norwegian economists were well aware of problems like the "Dutch disease," many mistakes made by other countries with (expected) windfall petroleum profits (like the Netherlands and Venezuela) were repeated.

The tripling of oil prices in 1979-80, higher production volumes, a strong dollar, and a taxation system that funnelled much of the economic rent to the government resulted in an "oil bonanza" in Norway. After a few years of contractive budgets following the Kleppe packages, public spending expanded again after the second oil shock while world economic growth levelled out. Domestic prices rose and the Norwegian kroner appreciated as a result of the oil-fueled trade surpluses. Once again, many industries competing with foreign firms domestically or internationally were priced out of their markets. Norway became even more dependent than under Kleppe on high (and volatile) oil revenues. In the period 1977-84 as many as six devaluations (varying between 2 and 8 percent) of the Norwegian kroner were made to mitigate the problem. But the *structure* of the economy did not, to a large extent, adapt to the new international environment.

The seriousness of Norway's economic situation was made politically clear when oil prices dropped in 1986. A trade surplus of NOK 30 billion in 1985 became a deficit of NOK 20 billion in 1986 by the change in price of this single commodity. The petroleum sector's share of gross domestic product fell from almost 20 percent to less than 10 percent (see table 9.1). The liberal coalition government of Kåre Willoch, in power during the bonanza years, had to give the reigns of government back to

the Labor party and Gro Harlem Brundtland after failing to pass an excise tax on gasoline through the Storting. The Brundtland government devalued the Norwegian kroner by 12 percent and started to cut public spending.<sup>6</sup> The second half of the 1980s was characterized by low oil prices, an unstable parliamentary situation, a gradual lowering of inflation, higher unemployment rates (by Norwegian standards), and high interest rates that protected the currency against devaluation, but also lowered investment. These elements combined to restrain growth in the Norwegian nonoil economy.

In the early 1990s, Norwegian oil revenues started to increase again, mostly due to higher production volumes. Budgets have become more expansive, but people have to a large extent used higher wages to pay back loans from the "happy" 1980s instead of increasing domestic demand. Economic activity is still relatively low, while unemployment is at the highest level since the Second World War (8 percent of the total employment force in 1992). The petroleum sector itself is too small to reduce unemployment significantly, since it is characterized by *low labor* and *high capital intensity*. Primary employment in the sector represents less than 1 percent of overall Norwegian employment (see table 9.1), and only 2-3 percent if secondary and derived activities are included. Furthermore, much of this labor requires special skills and higher education. Many foreigners are still employed (and needed) in the sector, even though the number of foreigners has declined as competence has increased in Norway.

Most politicians wish to avoid repeating the economic policy mistakes of 1975-85, but no government has implemented a plan to transform (potential) windfall profits in the petroleum sector into internationally competitive nonoil industries (competitive with EC countries and the new fast-growing economies in Asia) or overseas investments that could stabilize offshore revenues (following the Kuwait model). These are typical economic policy problems for oil and gas producers that to a large extent have remained unsolved in Norway, as well as elsewhere. The Norwegian government, however, faces a favorable financial situation with respect to future petroleum revenues. Norway's petroleum asset was calculated at NOK 710 billion (1992 value) in 1992, of which the government share represented NOK 580 billion (1992 value).<sup>7</sup> Nevertheless, the value of this asset depends largely on the *volatile* price of crude oil. A collapse of the oil market could turn this positive part of the economic picture to another negative one.



## NORWEGIAN ENERGY AND FOREIGN POLICY

Norwegian international petroleum policy is formulated at the intersection of national economic considerations, petroleum resource assessments, offshore project economics, and regional and foreign policy goals. From both a revenue and cost perspective, Norway desires a reasonably high price for oil, or the highest possible value for the petroleum asset. At the same time, Norway is historically, culturally, economically, and politically part of the oil-consuming Western world.

The West's desire for security of supply corresponds with Norway's interest in stable customers. Stability and predictability are considerations most consuming and producing countries have in common and, therefore, do not usually possess any large potential for controversy. But the Western world, in direct contrast with Norwegian interests, is best served by high and stable production at reasonably low prices. Norway, of course, is not well served by prices so high that its Western trading partners suffer serious economic decline. Similarly, prices that are too low may damage consuming countries' interests as high-cost production outside the Middle East will be reduced and, thus, increase the West's dependency on politically volatile Middle Eastern sources. Norway's associated membership in the International Energy Agency (IEA) is an expression of these diverging interests with the other Western countries.

Norway will attract attention from countries dependent on oil and energy market developments, whether in the Organization of Petroleum Exporting Countries (OPEC) or the IEA. The IEA will naturally emphasize to Norway the need for secure supplies and moderate prices in a tight market where prices are rising. In a weak market, other oil-producing countries will probably place pressure on Norway to limit supply to support prices, like they did during the OPEC-Norway "dispute" in 1985-86.<sup>8</sup> Thus, in any state of the market, Norway is likely to feel pressure from countries with diverging economic interests.

Up to May 1986, official Norwegian international oil policy followed what was called a "purely commercial line"—that is, Norwegian officials were not willing to admit that foreign policy considerations affected oil policy. Norway was in a good position as a "free rider" in the oil market; production could increase while the country benefited from OPEC production reductions. In this fashion, Norway could maintain that petroleum policy was formed solely on commercial grounds.

Contrary to the official Norwegian position, other countries were affecting Norwegian oil policies by the beginning of the 1980s. The sale

Table 9.1

Oil and Gas Sector's Share of the Norwegian Economy  
(percent)

	1972	1975	1978	1980	1982	1984	1986	1988	1990
Gross Domestic Product	0.2	2.9	6.4	15.1	16.0	19.0	11.0	8.7	12.3
Gross Capital formation	4.5	15.1	13.1	9.2	12.6	29.4	24.8	19.5	12.4
Total Exports	0.5	6.7	15.6	30.7	32.4	36.6	27.3	22.7	30.4
Total Employment	<0.1	0.2	0.3	0.4	0.4	0.5	0.7	0.8	0.7

Source: Central Bureau of Statistics, Norway.



of oil to Israel in 1982, the British rejection of the Slepner Agreement (a gas contract) in 1984, and the "oil-option policy" (favoring oil over gas production), which was inspired by Norway's inability to sell high-priced gas on the Continent, were all influenced by political and strategic thinking. As the decade wore on, it became gradually more difficult to follow a "pure commercial line," in part, because OPEC considered Norway and other non-OPEC producers important players in the oil market. During the last two months of 1986, the Norwegian government, in a gesture of support for OPEC, withdrew 80,000 barrels/day (b/d) from the market. In January 1987, it decided to reduce production by 7.5 percent *in relation to production capacity*. In 1990, the government dropped this restriction as the oil market gradually tightened. Norwegian authorities officially called the production restrictions unilateral, but in reality—since they were made conditional on certain policies pursued by OPEC—they were the manifestation of Norway's bilateral relationship with the organization.

The natural gas market in Europe, for several reasons, tends to be even more politicized than the global oil market, even though gas prices have been (indirectly) linked to the price of oil. First, European gas has crossed important political, cultural, and economic borders for several decades. The main exporters are non-EC members Russia, Algeria, and Norway and the Netherlands, an EC member. Consumption takes place largely within the EC. Central and Eastern Europe has until now been supplied only from Russia, illustrating their economic and political dependency on the former Soviet Union since the Second World War. Second, gas trade rigidly links producers and consumers to each other through expensive pipelines. Trading countries are highly interdependent because large economies of scale in production and transmission make feasible long-term contracts involving enormous volumes of gas and huge sums of money (both in construction work and gas contracts). Third, gas trade involves security policy, as illustrated by the United States' 1982 embargo on equipment for a new Soviet pipeline.<sup>9</sup> Finally, success in the European gas market, more than in most other markets, requires an ability to utilize existing political ties and rules of trade to one's advantage and establish new political alliances and trading rules when necessary. Even a marginal change in business terms will soon affect the distribution of great sums of money between contracting parties.

Norwegian governments have long attempted to make gas trade (like oil trade) "nonpolitical." In 1986, however, the French government,

before it would sign a contract for Troll gas, required Norway to agree to a series of measures unrelated to the gas trade that would increase economic, political, industrial, cultural, and scientific cooperation between the two countries. After a period of intense diplomacy, Norway accepted some of France's requirements. Thus, after Norway supported OPEC's efforts to stabilize the oil market and signed the Troll deal with France, both in 1986, Norwegian authorities declared that Norwegian petroleum policies were influenced by foreign policy considerations, not just commercial principles.

#### NORWEGIAN PETROLEUM IN A CHANGING EUROPE

The process of economic and political change, both in the EC and in the East-West context, is affecting the field of energy. Growing economies, increased environmental concerns, a desire to reduce dependency on Middle East oil, and the need for new gas sources to balance increased gas imports from Siberia indicate a need for more Norwegian natural gas. Since Norway, unlike its European neighbors, is a major energy exporter (and likely to be one longer than any other European exporter, except Russia), its participation in the making of future EC energy policy may prove to be vitally important to Norwegian energy interests, regardless of Norway's formal relationship with the Community.

The changes in Europe may carry less significance for Norwegian oil than for natural gas. Oil is an internationally traded commodity that is transported around the globe and sold to anybody (barring political obstacles) at world market prices. Economic and political processes in Europe will generally have less influence on the price of oil than, for instance, the situation in the Middle East, the oil policy of the United States, and the global demand for oil. Nevertheless, in tight market situations and periods of international instability, Norwegian oil contributes to reducing the possibility of another oil shock and may noticeably influence prices. Thus, under certain circumstances, Norwegian oil does play a role in the security of supplies for importing European countries. In this role, Norway is perhaps more important for consuming countries and the EC than the EC is for Norway.

The future structure of the market for natural gas, with its expensive infrastructure and strong, long-term interdependence between buyer and seller, will be extremely important for the development of Norwegian gas



export revenues. Today, the European Community purchases 100 percent of Norwegian gas exports, and Norwegian gas represents 20 percent of Western European gas imports (see table 9.2). Access to pipelines, pipeline tariffs, market prices, the availability of gas to end-users, and EC fiscal policies all affect Norwegian gas sales.

When considering the gas market, the EC Commission has focused on the concentration of power over the export, import, and transmission of natural gas. It considers the market to be dominated by monopolies:

The biggest barriers to the free movement of gas in Europe are government control of natural gas imports and exports and undertakings holding a monopoly or dominant position enabling them to block movements of natural gas.<sup>10</sup>

Regarding the transmission lines, the Commission stresses that:

Transport of gas in the Member States is characterized by the existence of statutory or de facto monopolies in the market place. Only in West Germany are there a number of actors but even here there is only one dominant transport enterprise. . . . The presence of dominant or monopoly transmission undertakings in each Member State gives rise to segmentation of the Community market; these undertakings can restrict the through transport of gas and even, when no specific legislation exists, can block the import and export of gas.<sup>11</sup>

On the basis of this description of the situation, the Commission has been considering the introduction of a "Third Party Access," or in American usage, an "open access" system for pipeline transportation of natural gas. Such a system would give access to everyone wanting to use it. The pipelines would charge a tariff covering their expenses and normal profits, but they would not be allowed to charge tariffs that include economic profit (profit exceeding normal profit). The Commission has assumed that a larger, cheaper, and more flexible gas network could increase the attraction of natural gas for consumers. Furthermore, security of supply can be increased, consumption expanded, and efficiency promoted, by removing what it calls "bottlenecks" in the system.

If an industry is not structured to operate competitively, some sort of state intervention is normally needed to reduce the social losses incurred by the monopolistic and/or monopsonistic behavior of the companies involved. Such behavior does not usually lead to the most cost-effective way of producing a commodity or service since large gaps are often left between price and cost. Both seller and buyer of the pipeline service, as

well as the pipeline itself, wish to capture the net benefit, thus each may have a different view of how the market should be organized, which again may differ from society's view. The regulatory complexity, as experienced in the United States, and the conflict of interests explain why regulating pipelines is always a complex and controversial economic and political issue.

In Europe today, gas exporters sell their gas to the major pipelines. The pipelines transport the gas and sell it in the end-user markets. Many of the pipeline companies are organized in purchasing consortiums, but the suppliers (e.g., Norway, Russia, and Algeria) do not cooperate. Some competition among suppliers and distributors, and its absence among pipelines, may have caused exporters to ask lower prices, importers to pay higher prices, and pipeline companies to receive higher profits than might otherwise have been the case. Since pipelines tend to be natural monopolies for technical and economic reasons, their cooperation makes for a very concentrated market structure, underlining the strong position of the transmission lines in Europe.

Under an open access regime, the exporters will sell their gas at point B (see figure 9.6) rather than at point A. But, will the old monopoly structure then be replaced by a new one consisting of producers and importing firms?<sup>12</sup> And what about prices at different stages in the market?

It seems unlikely under an open access regime that (oligopolistic) producers could manage to charge customers higher prices than (monopolistic) transmission lines do today. Whether the prices to end-users (in this context: distribution companies, power plants, and large industrial users) remain the same or decrease, will, to a large extent, depend on the positions of importers and exporters in the market. The stronger the position, the higher the potential for increased economic rent. Both parties wish to redistribute the possible economic profit of the pipelines to themselves. Therefore, it is logical for the Commission to consider regulating producers' and importers' monopolies.

As long as EC countries are mostly importers of gas, and the most important exporting countries are non-EC members, the regulation of a producers' oligopoly may prove difficult (although this may change somewhat if Norway becomes an EC member). Therefore, from the consuming countries' point of view, some sort of monopsony (or oligopsony) power should be maintained to balance possible producer market power. With a market structure like the one in Western Europe, the change *may* be marginal for many actors and it *may* lead to new in-

Table 9.2  
Natural Gas Trade in Europe, 1978-89  
(billion cubic meters)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<i>Exporter:</i>													
USSR/Russia	19.7	21.3	23.7	26.3	25.7	24.3	29.2	30.3	36.5	39.9	44.3	50.6	58.0
Netherlands	50.0	55.6	56.9	51.7	40.8	42.6	41.0	41.7	34.2	33.4	28.9	33.9	35.6
Norway	13.8	20.0	25.8	26.0	25.0	25.0	28.0	25.7	25.9	28.1	28.3	28.7	25.8
Algeria	4.1	4.5	4.2	6.1	8.3	14.2	17.4	20.2	20.0	24.8	24.9	26.7	27.6
Libya	3.5	3.1	2.0	0.8	0.8	1.1	1.0	0.9	0.9	0.8	1.1	1.5	1.3
Denmark	--	--	--	--	--	--	0.2	0.4	0.6	0.8	0.8	1.0	1.0
W. Germany	0.3	0.4	1.4	1.4	1.6	1.3	1.0	1.0	1.1	1.2	1.2	1.2	1.2
<b>W. European Imports*</b>	<b>91.4</b>	<b>104.9</b>	<b>114.0</b>	<b>112.3</b>	<b>102.2</b>	<b>103.5</b>	<b>112.8</b>	<b>120.2</b>	<b>119.2</b>	<b>129.0</b>	<b>129.5</b>	<b>143.6</b>	<b>150.5</b>
Consumption	194.3	208.2	203.3	201.0	194.9	196.5	208.6	215.7	218.1	232.2	227.0	237.2	243.5
Import Share (percent)	47.0	50.4	56.1	55.9	52.4	52.7	54.1	55.7	54.7	55.6	57.0	60.5	61.8
Production†	79.8	80.1	73.9	74.9	72.8	70.9	75.6	79.0	75.2	88.0	85.2	84.9	87.9
<b>E. European Imports*</b>	<b>16.7</b>	<b>23.2</b>	<b>31.1</b>	<b>31.3</b>	<b>33.5</b>	<b>34.8</b>	<b>37.0</b>	<b>38.5</b>	<b>41.2</b>	<b>43.6</b>	<b>44.7</b>	<b>51.9</b>	<b>52.4</b>
<b>Total European Imports</b>	<b>108.1</b>	<b>128.1</b>	<b>145.1</b>	<b>143.6</b>	<b>135.7</b>	<b>138.3</b>	<b>149.8</b>	<b>158.7</b>	<b>160.4</b>	<b>172.6</b>	<b>174.2</b>	<b>195.5</b>	<b>202.9</b>

Source: BP Statistical Review of World Gas and Cedigaz, various issues.

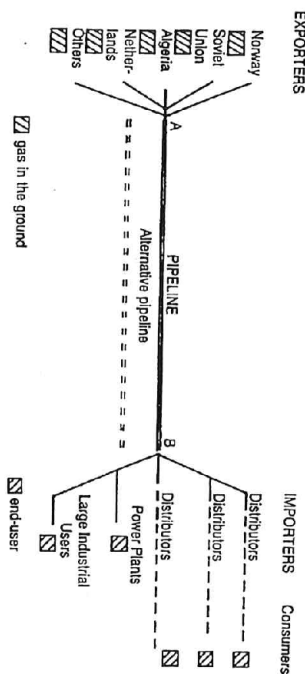
\*Former East Germany included in East European figures.

†Importing Western European countries, excluding the Netherlands and Norway. All figures may not add up due to rounding.



Figure 9.6

## Exporters and Importers of Natural Gas in Western Europe



Source: Ole Gunnar Austrvik, "The Open Access Issue: A Gas Producer's Perspective" in *Norwegian Gas in the New Europe: How Politics Shape Markets*, ed. Ole Gunnar Austrvik, Norwegian Foreign Policy Studies no. 76 (Sandvika, Norway: NUP/Verf & Vien, 1991), 62.

efficiencies in the market as income is redistributed from pipelines to producers and/or importers.

One argument against an open access solution is that it will challenge the *long-term stability* that producers enjoy in today's contracts with the transmission lines. Today, transmission lines have take-or-pay obligations that secure investment on the continental shelf.<sup>13</sup> However, one reason why these contracts are long term and stable is that consumers have a stable need for natural gas. It is difficult to see why this stability cannot be maintained when producers sign contracts with the customers directly rather than indirectly through the transmission lines. This being said, the transition itself will incur costs when moving from the existing system to a new one. Therefore, a gas producer may end up with a negative view of the proposal in the short term but a more positive one over the longer term.

Obviously, regulations and arrangements in this sector are economically, legally, and politically complex. For more than fifty years the United States has struggled with this issue in court, in legislatures, and through regulation and deregulation. We should similarly expect strong resistance in Europe to any regulatory efforts, especially from the pipelines.

The difficulty in settling issues—reasonable transportation rates, depreciation periods, equalization of tariffs, allocation of excess demand,

optimal pipeline capacity, and the pricing of new capacity—should not be underestimated. Therefore, we should not rule out alternatives to open access, such as increased competition (where it is possible), establishing publicly owned pipelines, antitrust legislation, and taxes and subsidies.

The transition period to a new system *may* last for a long period with both old and new rules, to various extents, functioning in the market simultaneously. In the field of natural gas, the single internal market is not necessarily introduced as a dramatic shift from one set of rules to another at the end of 1992. "Project 1992" also symbolizes a process that may last throughout the decade where various regulations and arrangements may be introduced on a flexible basis. As a start, the Commission has introduced a "transit directive" to allow high pressure transmission lines access to other transmission networks, and is considering "third party access" rules which, *inter alia*, will allow importers and exporters similar rights.<sup>14</sup>

The companies operating on the Norwegian continental shelf may hold diverging views on these market changes. If EC regulations are applied offshore in the future, the expensive pipelines now earning substantial profits may lose. Those companies interested in making money by transporting rather than producing gas may oppose the proposals for a more open network. Some companies also argue that such regulations potentially lead to more, not less, bureaucracy and inefficiency.<sup>15</sup>

### ENERGY, THE EC SINGLE MARKET, AND NORWEGIAN POLICIES

In Norway in the 1970s and 1980s, expected and actual oil revenues contributed to domestic inflation and forced many firms out of business. Some of these symptoms parallel the "Dutch disease" experienced in the Netherlands after it began exporting natural gas in the 1960s. If Norway again reaps windfall profits from the petroleum sector in the 1990s, similar problems may recur. The issue, however, can no longer be dealt with as it was in the 1980s. The government's attempt to maintain a link between the Norwegian kroner and the ECU makes it much more difficult for officials to employ currency devaluation to mitigate problems caused by the inflationary effects of oil revenues. Interest rates too must be harmonized with European levels to maintain a stable currency. Thus, the tying of the kroner to the ECU restrains the government's



ability to use monetary policy instruments to affect the economy.<sup>16</sup> The fact that the raw-material-based Norwegian economy functions differently than the industry-based EC economies (and that of other Nordic countries) is central to this issue.

In addition, an EEA agreement or full EC membership will further limit the availability of traditional economic policy tools by limiting the use of direct subsidies and transfers to firms about to go out of business. With only an EEA agreement, the availability of EC-restructuring programs will also be limited. Thus, the problems for Norwegian exports may become worse in the 1990s if inflation again exceeds European levels and the use of monetary policy instruments remains restricted. Due to the heavy economic dependence of Norway on the EC, fiscal policies could implicitly be harmonized with EC budgets as well. Even though autonomy will be greater in fiscal than in monetary policies, the possibility of implementing much more expansive budgets than Norway's most important trading partners may become more difficult than before. Over time, the only way to be competitive in European markets is to keep costs down and improve efficiency. That may not be bad for the economy, because it may force a restructuring to take place. But the macroeconomic freedom of action, and, thus, the ability to implement comprehensive and independent national economic policies, may become further restricted. Thus, with or without an EEA agreement or EC membership, Norway will need to find *new* ways to use oil revenues so that petroleum income will not produce undesired inflationary effects.

One approach is to create an *oil fund*. Such a fund was established in 1990 to separate oil taxes and royalties from other public revenues. However, this fund accrues *all* revenues from the petroleum sector and has not really changed the past practice of combining oil revenues with the rest of the budget. In short, it is only the name of the account that has been changed. The Storting can still use all of the revenues to balance deficits based on the argument that the best democratic decisions for the country's economic future are, by definition, made in parliament. The net present value of future revenues accrued in this fund correspond to the government's share of the calculated petroleum asset already mentioned. Norway can be rather sure to receive some of this calculated asset, even if prices drop. However, the part of the calculated asset that is accrued from increasingly higher prices is more and more risky. Norway *may* get it, or may not, depending on the volatile price of crude oil.

One *alternative* approach could be to direct into the oil fund income that originates from oil prices above a certain level (for example \$15-20/barrel), while income that originates from prices below this level is passed into the general accounts. Obviously, revenues that originate from the higher part of a price are potentially more unstable than revenues from the lower part. The "money shower" from higher prices that periodically descends on Norway and other petroleum producers is a destabilizing factor and the primary macroeconomic challenge.<sup>17</sup>

A fund of such volatile revenues should *not* be used to balance domestic budgets, but be invested abroad or at home to create earnings in foreign currency in the future. A policy of investing abroad has as a model Kuwait's policy over the last couple of decades. Before Iraq's invasion in 1990, half of Kuwait's earnings in foreign currencies originated from such investments and contributed to stabilizing its trade balances. If Norway chose a more *outward-looking* economic strategy in the future, a policy of *domestic investments* could be linked to the development of industries exporting to markets with higher international profits and growth rates than most Norwegian export industries sell in now. The country could, in effect, develop long-run comparative advantages. Instead of giving direct support to certain industries—which may easily conflict with more comprehensive GATT and EEA rules—support could be given to the development of infrastructure like roads, railways, air services, telecommunications, education, and research. Obviously, the distinction between the activities to be covered by "normal" budgets and those covered by volatile oil revenues should be clarified. But with this clarification, such investment and (fixed cost) support would lower costs in industry and improve efficiency and international competitiveness. If the desire is to support growth in specific sectors (as in Japan), general support should be given to areas that are important for the development of those sectors.

If volatile petro-money is continuously used to balance domestic budgets, inflation rates—and thus costs in nonoil industries—may again rise higher than those in Norway's trading partners. Only with great difficulty can devaluation be used to mitigate the problem, and even then it would conserve the industrial structure and possibly a stop-go pattern that follows fluctuations in the oil market. A continuous reliance on an *inward-looking* economic strategy will require more protection from international competition for Norwegian firms. GATT rules and (simultaneously) the establishment of free-trade blocs (such as the EEA) make it doubtful that Norwegian industry can acquire such protection.



If tomorrow's industrial and trade policies are the same as yesterday's, the creation of new economic activities and jobs may prove to be very difficult. More likely, some old jobs will disappear without being replaced by new ones.

Norwegian *international* energy policy has balanced the various interests within the country against interests from abroad, such as those emanating from OPEC and the IEA. European integration will make the EC an additional important actor in this area. If trans-European gas networks, including those from western Siberia, are subjected to EC regulations, the Community will only become more crucial to Norwegian energy interests, perhaps becoming the most important actor. Norway and the EC are *interdependent* on this issue, with the EC receiving a huge flow of petroleum from Norway and the two actors having a joint interest in stability and predictability in energy trade. The conflicting economic interests *may* simply be considered a question of distributing economic rent between producer and consumer through the price of oil and gas, in particular the producer's price for gas. Norway's wish to secure arrangements that leave a "reasonable" portion of the rent to the producer is constrained by the belief that prices should not rise so high that they place a drag on economic growth in the EC and the rest of the world, to the detriment of Norwegian nonoil exports. Of course, the EC's perception of what is "reasonable" may differ from Norway's. Which party will benefit the most from this interdependent relationship depends on the overall economic and political relationship, positions, and processes between and within Norway and the EC, as well as the tightness of petroleum markets. Actors within the Community (as well as other consumers and producers) have strong incentives to influence Norwegian policy making on these issues. Norway needs to formulate independent policies, whether a member of the EC or not, since no EC country shares its interest in the distribution of rent.

As perhaps the largest energy exporter in Europe, Norway will increasingly attract more attention from the rest of the world. This may give Norway new and improved relationships with other countries and may increase its influence in international politics and economics in general, as well as on specific energy matters. On the other hand, the property rights to huge energy resources, and Norway's own dependence on revenues from the sector, may also turn world attention into pressure. Norway's large area, significant energy resources, and small population parallel some of the characteristics that can be attached to Kuwait. Like Kuwait, in a possible political conflict, which may involve a battle over

the control of energy resources, Norway alone will not be able to defend against aggression from larger countries, whether from east, south, or west.

For most people today military aggression towards Norway seems like an extreme and rather unthinkable possibility. However, from a long-term perspective, Norway's geographical position and energy wealth may force the country to choose alliances for protection. Norway's membership in NATO has been one way of showing which side Norway will rely on in a conflict. But political pressure evolves through many stages before the outbreak of war, so it would be wise to have a range of instruments and arrangements designed to prevent aggression at all stages and in all its forms. Membership in the EC would improve Norway's security situation by strengthening Norway's link to other Western countries through increased political and economic integration. But Norway has to be aware that such a security link may also be used to push down the rent available to an energy producer.

One effect of deregulation in the European *gas market* will eventually be that both exporters and importers increase their commercial activity in the markets to replace the broker role of the transmission lines today. If so, producers should build a portfolio of direct customers, stabilize incomes, and possibly increase sales. End-users (in this context, distribution companies, power plants, and large industrial users) will allocate purchases between local producers and exporters to optimize their portfolio so as to secure supplies and minimize dependency on each seller.

A gas strategy that does not include such an increase in activity may run the risk of losing its market share in the long run. The ability of the companies and the government to pursue an active market strategy while also influencing policy makers and regulators in Brussels may determine whether the net result of the changes in the gas market will be positive or negative for Norway. The final content of EC energy policies may remain uncertain for a number of years ahead, but the direction seems clear. Therefore, strategic investments in, for example, pipelines and local distribution companies should be considered, while also pursuing good relations with the huge transmission companies.

EC regulations that affect the way gas sales are organized *could* push prices down by establishing competition between gas sellers on the Norwegian shelf. Norwegian policy makers should concentrate, as they have, on maintaining maximum bargaining strength versus the market, informally or formally, through the Norwegian Gas Negotiation



Committee, or through establishing new institutional arrangements.<sup>18</sup> One much-used argument has been that coordination of gas sales is necessary to optimize the resource portfolio.

In the *offshore supplies* sector the BEA agreement assumes that foreign firms will be given the same competitive status as Norwegian firms. The elimination of offshore discrimination and "public procurement" may reduce costs to the benefit of the oil companies and the government take, but to the detriment of Norwegian supply industries. The principle of reciprocity demands, however, that Norwegian firms get easier access to the offshore sectors in Britain and other countries. The size of these other markets, the proximity of Norwegian firms to Britain, and the high level of competence in Norway in this area indicate a potential for market penetration. The possible losses in the home market may be balanced by gains in other offshore markets, and the comparative advantage that Norway has developed in this area may be further exploited. The tendency to concentrate employment around Stavanger, Bergen, and Oslo as the offshore supplies sector has matured indicates that these areas may benefit the most from participation in the single market.

The government may have to strengthen the Ministry of Petroleum and Energy's position in relation to the oil companies to guard Norwegian interests if, in the long run, Statoil cannot be used as a petro-political instrument to the same extent as before. This also may be necessary if concession rules are made nondiscriminatory, meaning the government cannot favor Norwegian companies over other companies from BEA countries. The proposed concession directive is, however, not a part of the present BEA agreement.

Furthermore, environmental arguments may be used by the EC to increase petroleum taxes, even though the actual reasons are to take rent and power from oil producers (OPEC) and reduce consumption of imported fossil fuels. Such taxes will harm Norwegian economic interests. Until now, Norway has raised a rather strong voice internationally on environmental issues. In the future, Norway may shade foreign policy in this area more in the direction of defending her economic interests (shared by no other BEA country) rather than her environmental interests (shared by many other countries), much the way OPEC countries do today. If Norway, the major petroleum exporter in Western Europe, changes the emphasis in its foreign policy to favor energy over the environment, while also becoming a member of the

European Community, EC environmental policy debates may be influenced in a new way.

From an energy perspective, would Norway be better off as a member of the EC? The evidence is mixed. From a *security* point of view the answer seems to be "yes." A stable security situation may also promote investment and economic growth. Norway, however, should see that a tighter political link to the Western countries is not used by Norway's allies to press prices down. EC regulations will more directly affect Norway if it joins the Community. In the field of energy, the country may have a say in these dynamic processes as a nonmember, but its voice would probably be louder if it had a member's seat at the negotiating table. As long as no EC members share Norwegian interests in the distribution of economic rent in energy trade, Norway will have to pursue a more *independent commercial and foreign policy* in this area, rather than just adapt to general EC policies. Thus, from an *economic* point of view, the overall question of membership should be decided on the basis of other factors important to the country. For energy, Norway's mixed interests make it most important that it has the *ability and will* to interact with and influence decision makers in Brussels and an ability to adapt to the new international environment in a way that reaps benefits and avoids problems.

## NOTES

1. This figure includes natural gas liquids.
2. See table 9.1.
3. All Statford oil is shipped by boat from the field. Statford gas production started in 1985 with the opening of a pipeline system.
4. The disputed territory covers 160,000 km<sup>2</sup>, 20,000 km<sup>2</sup> larger than the North Sea sector, which covers an area approximately the size of Colorado.
5. The *primary* oil activity comprises employment in oil companies, drilling, and service and supplies industries. *Secondary* activity includes industrial construction activity. *Derived* activity covers the buildup and running of refineries and terminals. See Odd Einar Olsen and Jan Einar Reiersen, "Svart gull på alles fat? Oljevirksomhetens regionale fordeling," Kommuneforlaget, 1991.
6. However, the devaluation was made in a situation of full employment. This may have contributed to higher inflation rates in subsequent years than would otherwise have been the case.



7. The petroleum assets correspond to the net present value of future sales revenues minus fixed and variable costs in production and transportation. Government share is the net cash flow from the sector: taxes, dividends from Statoil, and net payments from the central government's direct participation in petroleum activities. Obviously, it is difficult to calculate the value of this asset, as it depends on the development of the size of the reserves, technology, prices, and the choice of discount rate. In the calculation made in 1992, oil prices were expected to remain at NOK 120-126/bbl. (\$20/bbl. with a currency rate of approximately 6 NOK/U.S. dollars), total reserves around 7.8 billion tons of oil equivalents, and the discount rate chosen was 7 percent. *Revidert nasjonalbudsjett*, 1992.

8. See *Norwegian Oil and Foreign Policy*, ed. Ole Gunnar Austrvik, Norwegian Foreign Policy Studies no. 68 (Sandvika, Norway: NUPU/Vett & Viten, 1989) for discussions on the formation of Norwegian oil-market policy and Norway's relations with OPEC.

9. Bruce W. Jentleson, *Pipeline Politics: The Complex Political Economy of East-West Energy Trade* (Ithaca, N.Y.: Cornell University Press, 1986) discusses this case in depth. Ole Gunnar Austrvik, "Norwegian Gas in an International Context: The U.S. Embargo of Soviet Gas in 1982" in *Norwegian Gas in the New Europe*, ed. Ole Gunnar Austrvik, Norwegian Foreign Policy Studies no. 76 (Sandvika, Norway: NUPU/Vett & Viten, 1991) discusses the Norwegian response to pressure to replace Soviet gas by increasing gas production.

10. Commission of the European Community, "The Internal Energy Market," Working Document, 2 May 1988.

11. The Commission of the European Community, "The Need for Greater Integration of Europe's Gas Grid," Energy in Europe no. 10, 1988.

12. The pipelines themselves will, of course, suffer under such a regime. The point of the proposed regulations is, to a large extent, to reduce the profits and power of the pipelines.

13. Take-or-pay means that if the purchaser cannot use the gas contracted, he has to pay for the contracted volume anyway.

14. See Jonathan Stern, "Third Party Access in European Gas Industries: Regulation-driven or Market-led," The Royal Institute of International Affairs, October 1992, for an overview of the steps taken by the Commission on this issue.

15. A more thorough discussion of the regulation of the EC market for natural gas is given in Ole Gunnar Austrvik, "Europe 1992: Introduction of Common Carriage for Natural Gas?," Discussion Paper M-90-01, Energy & Environmental Policy Center, John F. Kennedy School of Government, Harvard University, 1990. *Norwegian Gas in the New Europe* presents a broader discussion of the role of Norwegian gas in the new Europe.

16. The elimination of exchange rate policy as a tool of macroeconomic management caused some economists and politicians to criticize the ECU link. See for example Fredrik Carlsen's discussion in "Bør petroleumsfunder grunnlovsfestes?," *Norsk økonomisk tidsskrift* nr. 2, 1992.

17. For a discussion of the distinction between "stable" and "unstable" parts of the price of oil, see Ole Gunnar Austrvik, "Limits to Oil Pricing: Scenario Planning as a Device to Understand Oil Price Developments" in *Energy Policy*, 20(November 1992): 1097-1105. In this article, the long-term development of the price of oil, given certain assumptions, is expected to lay on or between an upper (illustrated as \$30-40/bbl) and lower (illustrated as \$15-20/bbl) limit. An alternative to financing the fund with the most volatile part of the price is to put into the fund the economic rent from the sector. But the size of this rent is difficult to determine, and it varies strongly between fields. Furthermore, not all the rent is unstable and, thus, a problem.

18. The GFU (headed by Statoil) is responsible for selling all of Norway's offshore gas. New ways of organizing gas sales are discussed by the president of Statoil's natural gas division in Terje Vareberg, "Major Challenges Facing Norway as a Gas Producer" in *Norwegian Gas in the New Europe*.