The Norwegian business system and the oil economy

Stein Bjørnstad, Ph.D. student
BI, Norwegian School of Management
June 2004, Utrecht, Holland
Conference on Comparative Business Systems

A brief library search will reveal some 3000-4000 titles on the Norwegian petroleum economy, not counting journal articles. Arguably, there is a need and an opportunity to make sense of this material, and arguably the framework pioneered by, among others, Peter Soskice and David Hall could provide a tool. Capitalism, we learn, comes in two flavours: liberal and coordinated market economies.¹ The liberal version is dominant in the Anglo-Saxon world, the coordinated version in e.g. the Scandinavian countries, Germany and Japan. The first relies mostly on markets for the allocation of labour and capital, the second on negotiation, consensus and coordination among participant firms. The first kind is frequently credited with an ability for rapid response, the second for long-termism. Each generates wealth, but the strengths of one cannot easily be combined with the strengths of the other: since each is supported by a set of complementary institutions that serve to reinforce each other. For example, a fluid capital market may not easily coexist with inflexible labour markets.

While attempting to keep the framework of Hall and Soskice in mind, I nevertheless feel resigned to rely on a somewhat different and, as for the Norwegian oil economy, better explored approach: portraits of an oil-industrial complex.² In this setting, the term was coined

² The concept was first applied in Nerheim, Gunnar, En Gassnasjon Blir Til, edited by Francis Sejersted, Norsk Oljehistorie, Vol. 2, Oslo: Leseselskapet, 1996. The original inspiration, of course, is Dwight D. Eisenhower’s warning to his nation about the emergence of a military industrial complex, see Ben Baack and E. Ray "The
by a historian of technology, Gunnar Nerheim, but the origins trace back to Dwight Eisenhower who in his farewell address chose to make his compatriots aware of a close alliance between officers, politicians and industry. Like Eisenhower’s military-industrial complex, the Norwegian oil economy sports an unusually tight alliance between oilmen, researchers, politicians, industry and others. Their self-interest is concealed or overshadowed by the paramount importance of their task be it defending the nation or building the economic foundations of a country.

Before we return to the discussion of the nature of the Norwegian petroleum economy, allow me to sketch the economic importance of the subject. At 3.3 million barrels per day in 2003 the Norwegian export volume is second only to Saudi Arabia and Russia. Some 48 fields are in production, mostly in the North Sea and some further north. Oil is expected to keep flowing for 50 more years and gas for a century. The last four years, petroleum has accounted for about 20 per cent of gross national product. In terms of value creation during 2003, oil and gas accounted for twice as much as all Norwegian manufacturing and 61 times more than fishing and fish farming. The cash flow into public coffers has averaged EUR 20 billion in recent years – sufficient to balance the budget and put aside foreign currency in a fund currently valued at about EUR 100 billion.

### Petroleum operations in the Norwegian economy

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of gross product</td>
<td>13.1</td>
<td>13.1</td>
<td>16.3</td>
<td>16.5</td>
<td>11.6</td>
<td>14.5</td>
<td>23.2</td>
<td>21.5</td>
<td>18.4</td>
<td>18.8</td>
</tr>
<tr>
<td>Share of export value</td>
<td>32.6</td>
<td>32.4</td>
<td>38.1</td>
<td>36.3</td>
<td>28.8</td>
<td>31.9</td>
<td>45.5</td>
<td>45.9</td>
<td>44.8</td>
<td>45.9</td>
</tr>
<tr>
<td>Share of total employment</td>
<td>1.1</td>
<td>1.0</td>
<td>1.0</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.0</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Source: Statistics Norway

The oil-industrial complex, thus, strives to achieve economic goals of paramount economic importance to Norway. In this we find the final and most intriguing aspect of the industrial complex approach. Eisenhower thought the magnitude of its tasks, the resourcefulness and determination of the industry, and the opaque conditions in which it operated had caused the military-industrial complex to be at odds with fundamental freedoms. Again, we may suggest

---

3 Fact sheet and numbers abound, see the excellent home pages of the Ministry of Petroleum and Energy, [http://odin.dep.no/oed/engelsk](http://odin.dep.no/oed/engelsk). The numbers cited in the text are from Fact Sheet 2004: Norwegian Petroleum Activity.
a parallel to the petroleum economy which employ a similar degree of state involvement, strategic implications, goals-driven technology development and obscure business relations. I hope this suggestion about forces of good and evil can help focus your interest for the remaining pages – and since the thought is too interesting to be let alone, we shall return to issues of power and corruption in the conclusions.

In addition to the apparent similarities between the nature of oil and defence businesses, the industrial-complex approach is seemingly supported by empirical findings. The oil-industrial complex writing draws on the work of business and economic history, historians of technology and historians of politics. I should haste to add, that the coherence in their findings partly reflects their coherence in institutional background and experience. Many have collaborated on various oil-related projects where the works of one leaned on the works of another to form a compact guard for their findings. The astonishing unity, however, is also a tribute to the generalizing talents of professor Francis Sejersted, the doyen of Norwegian economic history.\textsuperscript{4} His approach is one that compares across time, not across national borders. The same time-honored and time honoring practice is reflected in this paper. We follow the emergence of the oil-industrial complex through three distinct phases: a phase of non-discriminatory, open economy logic between 1962 and 1971; a phase of strong national preferences from 1971 to 1986, and finally; a phase of internationalization and cost-cutting with less room for national preferences. This last stage continued at least until 2001.

\textbf{Oil in isolation, 1962-1971}

After the 1959 discovery of gas in Groningen, Holland, Phillips Petroleum took an active interest in the North Sea. In 1962 the American company approached the first Norwegian official that sprang to mind, Trygve Lie, former UN General Secretary. Popular anecdote claims Mr. Lie thought the incident a mistake since, he claimed, there was no oil in the North

Sea.\textsuperscript{5} Phillips, however, continued the pursuit and in order to answer the request, the Norwegian government had to formulate a policy.

The overarching priority of the early 1960s was to attract investments. The task of Ambassador Lie is a case in point: he headed a mission to attract inward investments. A protégé of his, Jens Evensen, was put in charge of establishing an institutional framework. Seismic exploration began in 1963. By 1965, Norway had agreed to divide the continental shelf with other countries bordering the North Sea along the median line. That year, the first concessions were granted according to the same basic system used in the British sector: time-limited licenses to explore and later develop specific “blocks”. The first exploratory well drilled in 1966 proved to be dry.

From a legal and principal point of view, the regulatory system corresponded with a long-standing tradition of government regulation. The Norwegian state had a tradition reaching back to the mid 19th century in which the state sought to advance modernization. In order to achieve this goal, the government provided infrastructure and compensated, by financial and other means, the shortcomings of the Norwegian economy. Besides, Professor Sejersted invites us to think of the model as non-discriminatory.\textsuperscript{6} If there was any bias in the first attempts to formulate an oil policy, it was pro-foreigner, reflecting the preoccupation with attracting investments in order to allocate scarce Norwegian capital for other purposes. With regard to taxing, offshore profits was to be taxed more leniently than ordinary industry. Assumptions of risk and reward, no doubt played a part.

The oil business system that emerged in the 1960s had the qualities of an enclave. Large, integrated, multinational oil companies arrived to explore the North Sea. They fulfilled their tasks much as they did elsewhere - within their own field of reference, bringing along the work-practices, suppliers and technology from the Mexican gulf or wherever their previous work had brought them. The nature of their business was such that they had to deal with governments and confer to rules, but their business practices did not correspond to the labeling inherent in varieties of capitalism. They mostly originated in liberal, Anglo-Saxon, market economies, but subsequent business had confined them to deal with governments.


Mostly, they were a world onto themselves with an integrated business structure where most transactions was made in-house or within a close family of suppliers. Their style of leadership was American and rough, and the North Sea oilmen behaved accordingly. Trade unions had no influence at this first stage of the oil exploration.

In his early stage, Norwegian engineering companies did not show much interest in exploring business opportunities in the North Sea. Arguably, the shipyards and construction companies of the mainland may not have had much to contribute and if they had, the continuous boom in shipbuilding provided a alternative focus for the attention.

In general, the nature of the Norwegian business system was very different outside the oil-enclave. The small-scale, egalitarian concept of business is most memorably recalled in Sejersted’s work on “democratic capitalism”. The concept has caught on and one cannot fail to spot certain parallels with the “coordinated market economy” ideal type of Hall and Soskice. Business was local, small, self reliant within the community, often financed by local savings. There were large businesses in Norway. Most of them were in the melting business or otherwise engaged in exploiting the opportunities inherent in hydropower. Until the 1960s, at least, by virtue of location, these businesses remained as enclaves in an otherwise small-scale, localized economy. Moreover, business was transparent and conducted with conscience. A traditional paternalism still reigned, and labor relations were cozy. Those inclined to misanthropy will find in this idyllic state of affairs a useful contrast agent for the exposure of misery to come.

**National preferences, 1971 - 1987**

The enclave structure of the petroleum economy did not last. In 1965 a large Norwegian company, Norsk Hydro, whose business was the refining of hydroelectric power into exportable nitrogen fertilizer and melted metals, tried to reserve a role for Norwegian businesses in the North Sea. This attempt was unsuccessful, but the nature of the oil business system was soon to change due to other considerations: Most importantly, Phillips struck oil,

---

7 The authoritative work on labor and labor relations in the oil industry is Smith-Solbakken, Marie, "Oljarbeiderkulturen: Historien Om Cowboys Og Rabulister," Dr. art, University of Trondheim, 1997.
8 Several unrelated essays exploring the concept are published in Sejersted, *Demokratisk Kapitalisme*.
9 Hall, and Soskice. "An Introduction to Varieties of Capitalism."
lots of it, in 1969 and the risk-return calculations changed dramatically. A social democratic government returned to power in 1971 and reformulated the premises of the oil industry. The change was one from favoring international industry to favoring Norwegian companies; from exploiting the oil in isolation to allowing petroleum to fertilize the onshore economy through the creation of new industries and the landing of oil and gas on Norwegian shores for refining. At the time, the thought that these policies might reduce the overall value one could extract from the resource base did not figure prominently. It was rather the other way around; a strong national involvement was seen as a precondition for exploitation.

A quite peculiar system was set up to implement the policy. Parliament decided to establish a petroleum directorate and a state owned petroleum company, Statoil, handling both upstream and downstream activities. Thus emerged a three-level administrative structure to handle policy development, policy control and policy implementation respectively. The structure was vigorous, partly because of the formal anchoring in the government apparatus, partly because the exchange of people within the system served to blur the border between politics and business. The state favored its company when granting licenses, usually allowing Statoil at least 50 per cent of each grant. Until the 1980s Statoil lacked the expertise to actually develop and operate a field, but nevertheless yielded unrivalled formal and arbitrary power in every major decision throughout the 1970s.

The cabal of persons is interesting. In the 1970s, no office of power was closed for the people that ran Statoil. Statoil’s first chairman was Jens Chr. Hauge, a man of formidable authority, war hero, minister of defence 1945-52, and initiator of the military research establishment where his friend and confidante, Finn Lied, was director before becoming minister of industry in the crucial period from March 1971 to October 1972. Lied presided over the establishment of Statoil. His deputy, Arve Johnsen, became managing director. They all belonged to the governing Labor party, but so did the people who devised the previous oil regime in the early 1960s. Possibly, we can spot a distinction between those in the Labor Party who wanted to build the nation through labor and capital and those who focused on technology and advanced industries. If so, Hauge and Lied belonged in the later group. Hauge had been Labour’s

---

11 The proposition is found in Innst. S. nr. 294 (1970-71).
entrepreneur of choice and was entrusted with establishing companies to handle strategic industries such as atomic energy, defence, air and electronics.\textsuperscript{13} This is not to say Hauge was in charge rather than Lied or Johnsen. As managing director of Statoil, Johnsen arguably called the shots, but he belonged to a group of people that shared the same instinctive lack of trust in the ability of industry to know its best interests with regard to technologies and modernization. Johnsen remained a very political businessman and throughout his tenure as managing director, he stayed loyal to the ideal of using petroleum for nation building purposes.

The change of policy regimes that started in 1971 turned out to be very radical. It was triggered by an altered risk-return calculation and involved an element of planned, conscious and shrewd reversal of politics resulting in increased exploitation of the companies that had been tempted to engage and invest in the North Sea.\textsuperscript{14} A number of other developments then served to cement and deepen the change of policies and make the shift truly radical. First, the 1973 OPEC oil shock further raised the stakes and underlined the importance of the industry. Taxes were raised against strong, futile protests. Then, following the international economic downturn in the 1970s, overall Norwegian economic policy encouraged spending as a way of rising demand not necessarily counting the return on any individual spending project. Later still, in 1981, a conservative government returned to power and wanted to make room for private, Norwegian oil companies like Hydro and Saga. As the government was somewhat unable to restrain Statoil, this policy served to further reduce the role of foreign multinationals.

There is a technological precondition that allowed the nationalization of policy to reach such proportions. Whereas in the 1960s policymakers believed in the existence of a ready developed technology to be transferred to a Norwegian setting, it appeared the rough conditions in the North Sea demanded tailor-made solutions and special design. It is much more difficult for new entrants to break into established technological systems than participate when a new path is about to be formed. In this situation, the large shipbuilding industry and engineering companies on the mainland, with expertise in concrete constructions and shipbuilding, could be relied upon to build solutions. And thus, spurred by the preferential


\textsuperscript{14} For some essays following this perspective, see Bergesen, Helge Ole, and Anne Kristin Sydnes, \textit{Naive Newcomer or Shrewd Salesman?} Bergen: Fritjof Nansen Institute, 1990.
acquisition policies of Statoil, a new style emerged which is referred to as the *Norwegian style*. Statoil and the government insisted on national deliveries, and this dictum dictated the contents of the new style: fully integrated production platforms complete with quarters, a chemical plant, storage and drilling facilities all mounted on top a huge concrete construction rising from the seabed to well above sea level. The use of concrete favored Norwegian construction companies. Furthermore, the steel construction on top of the concrete foundation should be modular in order for work to be divided among the numerous and small Norwegian engineering companies and wharfs. Arguably, this way of developing an oil field was costly, but such worries were secondary to getting the oil up. Like military research in wartime, or NASA struggling to place a man on the moon, costs were a secondary concern.

Technology, we know, tend to be path dependent. Once this Norwegian style had been devised and made to work, engineers, suppliers, regulators and others conspired to maintain the style. The concept was copied from field to field, somewhat adjusted, but not to an extent that would confuse the concept and delay production. The engineering companies played a critical role since modularized construction requires a central coordinating resource. Several companies played a role, most prominently *Norwegian Petroleum Contractors*, a joint venture between several firms established at the urging of Statoil. In addition, Kvaerner and Aker, two large engineering companies, developed proprietary expertise.

Statoil was the main engine for involving Norwegian industry in the lucrative oil business, but not the only option. In addition, the government sought to give Norwegian industry access to technology through three powerful levelers: a) instructions to oil companies requiring 50 per cent of all R&D expenditure to be allocated in Norway, b) the extraction of special R&D efforts as a condition for granting concessions, and c) goodwill agreements whereupon the government declared that intentions to do R&D in cooperation with Norwegian companies could influence the allocation of concessions.

One might think this kind of dirigisme would imply cozy labor-relations. Not so. Neither the dominant trade union movement nor the employers’ associations made any headway in the North Sea during the 1970s. Phillips Petroleum had set up a pliant in-house labor relations committee, possibly to preempt the introduction of proper trade unions. It turned out the oil
company had nourished a serpent. The workers on the committee started organizing oilmen elsewhere, the union turned militant and activist and launched a series of wildcat strikes between 1978 and 1981. In the 1980s, under government encouragement, the established trade unions and employers’ associations gained ground and the system started to acquire more of the corporatist nature to be found on the mainland.

Before we continue into the third phase, it is time to summarize how the introduction of oil affected the Norwegian business system. Some of the resulting developments turned out to be bubbles, like the numerous service stations that mushroomed to serve business offshore. The large-scale plants built to refine petroleum at Bamle and Mongstad were giant businesses, but not really incorporated in the overall economy. More interesting is the effects on the overall business system. Certainly, the money that flowed from the oil business, seconded by Statoil, onto the Norwegian economy served to keep wheels rolling. The centralized nature of these contracts, however, may have provided funds for the suppliers but not necessarily any incentives to be creative and develop flexible specialization. Besides, the easy money that oil companies laundered among local, small Norwegian companies could somewhat resemble corrupt practices elsewhere. Not good, possibly, from the perspective of democratic capitalism.

Retreat from favouritism, 1986 to present

The dirigisme and national favouritism in the 1970s carried within itself the seeds of its destruction. Keywords are power-relations and costs.

Following the second large hike in oil prices around 1980, the cash flow of Statoil took on new proportions. A new conservative minority government elected in 1981 attempted to rein in the powers of Statoil. The oil company fought back with intense lobbying, and achieved a compromise whereby, in 1984, the state acquired directo ownership of shares in oil fields and covered its corresponding part of the development costs. The government now received a share of the oil income directly without extracting dividends from Statoil’s coffers, and the company was somewhat cut down to size. Ideology played a part. Terje Osmundsen, a young

---

15 Sejersted uses the term in Systemtvang Eller Politikk: Om Utviklingen Av Det Oljeindustrielle Kompleks i Norge.
16 Smith-Solbakken, "Oljearbeidkulturen: Historien Om Cowboys Og Rabulister."
deputy minister involved in the downsizing effort, later spearheaded an effort by the main employers’ association to withdraw somewhat from the corporative arenas of the Norwegian economy.\(^{17}\)

Then came the oil price collapse of 1986. The oil economy, as a percentage of GNP, halved. That year, the state coffers received no oil money at all and exploration activities came close to halt. The government had to readjust its policies. Taxes were lowered, and after 1987 the foreign companies were no longer required to pay the exploration costs otherwise allocated to Statoil and the government according to ownership share in the fields. The oil price collapse also had a profound effect on the choice of technology because the Norwegian style was simply too costly to apply. In the years following 1986 a range of new technologies appeared: sub-sea drilling, horizontal drilling enabling more wells to be made from a single platform, movable installations, gas and water injection back into fields to increase oil output, and a division of labour between large platforms and various satellites. Norwegian companies did play a role in the technology development, and the cost of extracting oil and gas in the North Sea has since fallen remarkably. In the process, individual suppliers are expected to contribute more to the R&D and the role of the main engineering contractors has diminished.

The case may serve to illustrate a general debate about innovations. It appears both resource abundance and resource starvation can give impetus to technological developments. There is, however, continuity between the development efforts before and after the oil-price collapse. In both cases we witness development on command – first a struggle to get oil up, then a struggle to get costs down. Furthermore, the seeds of the technological development were sown in the first phase. Several organizations experimented with alternatives to the Norwegian style, fuelled in part by the R&D money that was lavished on the developers.\(^{18}\)

The inefficiency of national preferences also proved to be the undoing of Arve Johnsen as head of Statoil. Whereas the huge cost of developing oil fields offshore could be offset against healthy earnings in the long run, the cost overruns were more transparent in the downstream industries. Statoil spearheaded the effort to refine petroleum into gasoline and chemicals at

\(^{17}\) For Mr. Osmundsen’s version, see Osmundsen, Terje, *Gjøkungen : Skal Statoil Styre Norge?* Oslo: Dreyer, 1981.

Mongstad. This and other initiatives lost money on a scale that captured the public mind. Arve Johnsen had to leave Statoil following a huge overrun at the Mongstad refineries in the late 1980s.

Partly as an effect of its political downsizing, partly from a need to focus on cost, Statoil was turned into a more normal company. The company wanted to, and was encouraged to, refocus on efficiency. The company retained, and retains, connections in government but is no longer expected to give or take favours. In 2001, Statoil was listed on the Oslo and New York Stock Exchanges and the government allowed private investors to buy a minority stake. Moreover, Statoil has strived to behave like the other multinationals and is venturing into the Caspian Sea, Nigeria, the South China Sea and other regions of opportunity and danger. It does not matter any more whether its business partners are Norwegian or foreign companies. Norwegian companies still retain a privileged position, however. The major oil companies do not easily abandon their established suppliers and contacts but prefer to keep risks and uncertainties down. The prospect of a truly international Norwegian oil supply industry helps explain why various governments have nurtured Statoil’s international relations.

Gradually, Statoil has been encouraged to aim primarily for profit, not as a locomotive for developing Norwegian industry. Partly, this has been of economic necessity, partly because the oil company’s heavy-handed tactics were politically unacceptable, and possibly because the preferential treatment of the 1970s and early 1980s was no longer necessary. The various components of the system had developed and matured.

As Statoil ceased to be an instrument to guarantee Norwegian interests, a corporative business system has replaced the dirigisme of the 1970s and early 1980s. One example is the way government in 1993 sponsored and encouraged the establishment of NORSOK. This is a cooperative establishment to standardize technology and cut development costs through tight cooperation. The success of this body triggered the establishment of INTSOK whose purpose is to further cooperation on international markets.

**Concluding remarks**
Since the 1960s, the perceived role of government has changed. First, the government had no intension to meddle in the oil business. In the second phase, the state had every intension to
meddle. Since the late 1980s, at least until about 2000, the state has some intention to meddle. Sejersted and others will think the role of government in this last phase is particularly challenging.

For an illustration of the dilemma, consider the heavily politicised game of gas exports. The gas business differs from the oil business in the sense that it requires even larger investments in infrastructure (pipelines) and long-term customer relationships. The Norwegian government is an active participant along with multinational and Norwegian companies. Negotiations are handled through the Gas Supply Committee. In this setting, the government’s role is purely commercial, its interests and behaviour indistinguishable from those of the oil companies. The way this oil-industrial complex is run is not at all in agreements with the Rechtsstaat ideal where, according to popular anecdote, public servants kept separate inkwells for private and public letters respectively.

If we were to critically evaluate the oil-industrial complex approach, what would our critique amount to? I can think of four concerns.

First, we should note, the ideological usefulness of the industrial complex. Intriguingly, the concept draws support from historians with widely differing interests and outlooks – Trotskyites, conservatives, liberals. The fact that researchers with widely differing outlooks have felt at ease in this tradition reflects the ability of the industrial-complex approach to unite people regardless of their dislikes; whether your distrust is in government or big business sceptics, private capital or foreign multinationals, there is something for you to worry about in the industrial complex tradition. This may trigger a tendency to write about an idyllic past.

Second, the ability of the oil-industrial complex to influence the overall Norwegian business system may be limited. Few people work in the oil business, and to some extent it remains an enclave. Even if oil is a corrupt business, the oil business remains somewhat isolated. There are other strongly entrenched business interests in Norway that may be exercising stronger passions and powers. Agriculture springs to mind. Traditional manufacturing also has the ability to raise passion.

Third, the corporative phase of Norwegian oil business in the 1990s may be drawing to an end. Statoil has clearly stated ambitions and the company rigorously strives to compare itself
with international oil companies. Except in the field of gas exports, the Norwegian
government may be withdrawing to a non-discriminating position more similar to the regime
of the 1960s. The common European market may place certain restrictions on its room of
manoeuvre.

Forth, the industrial complex studies tend not to be comparative. From a very superfluous
reading, I understand oil business has a universal tendency to generate misfortunes in the form
of corruption and Dutch disease. I am not able to discuss whether the Norwegian petroleum
economy compares favourably or unfavourably with other countries. That is, how exactly is
our variety of capitalism?

Bibliography
Ask, Alf Ole, and Bjørn Westlie. Maktens Ansikt : Et Portrett Av Jens Chr. Hauge. Oslo:
Bergesen, Helge Ole, and Anne Kristin Sydnes. Naive Newcomer or Shrewd Salesman?
Bergen: Fritjof Nansen Institute, 1990.
Hall, Peter, and David Soskice. "An Introduction to Varieties of Capitalism." In Varieties of
Capitalism: The Institutional Foundations of Comparative Advantage, edited by Peter
Hanisch, Tore Jørgen, and Norsk petroleumsforening. Norsk Oljehistorie. Oslo:
Olsen, Odd Einar, and Ole Andreas Engen. "Et Teknologisk System I Endring: Fra Norsk Stil
Til Internasjonale Ambisjoner." In Oljevirksomheten Som Teknologiutviklingsprosjekt,
Ryggvik, Helge. "Norsk Oljevirksomhet Mellom Det Nasjonale Og Det Internasjonale." Dr.
philol, University of Oslo, 2000.
Sejersted, Francis. Demokratisk Kapitalisme, Det Blå Bibliotek. Oslo: Universitetsforlaget,
1993.
———. "Innledning." In Oljevirksomheten Som Teknologiutviklingsprosjekt, edited by Odd
———. Systemtvang Eller Politikk: Om Utviklingen Av Det Oljeindustrielle Kompleks I
Smith-Solbakken, Marie. "Oljearbeiderkulturer: Historien Om Cowboys Og Rabulister." Dr.
art, University of Trondheim, 1997.