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Helge Ryggvik

The Norwegian Oil Experience:

A toolbox for managing resources?

The Norwegian oil policy is regarded by many as the only successful example where a country, after discovering oil, has built a competent national oil industry, yet still has managed to maintain an egalitarian welfare state.

Following the largest environmental disaster in recent history, the Deepwater Horizon accident, Norway's apparent ability to master the safety and environmental challenges has received international attention.

Does Norway deserve such praise? Do other nations really have anything to learn from the Norwegian oil experience? What exactly is the Norwegian oil experience?

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INNHOLD

INTRODUCTION

It was December 2004. I was in the largest concert hall in Caracas, together with activists and trade unionists from across Latin America. Hugo Chávez was giving one of his charismatic speeches. While he was reading out the list of foreign guests he came to my name and then paused: "Terje Nustad, the leader of OFS, the Norwegian oil workers' union. Norwegian oil workers! Terje – where are you, Terje? Stand up!" The applause went on for a long time.

There was no doubt what the applause expressed: respect for the Norwegian oil experience. To the radical movements of 21st century Latin America, Norwegian oil policy and Statoil have appeared to be the only successful example of a country which has been able to secure a national governance and control of oil activities and to ensure that the profits were channelled towards the majority of the population. On the podium, Evo Morales was sitting with Chávez. He was introduced as Bolivia's next president.

It is not only in Venezuela that I have had this experience. Among unionised oil workers in Colombia (a medium-sized oil producer), among environmental defenders and rain forest activists in Ecuador, among oil workers and the middle class of Azerbaijan, or in Angola among those members of the elite who are interested in the oil question and not completely swallowed up by corruption, there is great respect for the way Norway entered the world of oil. Many other Norwegians who have travelled in oil-producing countries can confirm this.

It was March 2010. I was in New Orleans. On the other side of the table Troy Trosclair, the leader of the offshore inspectors working for the American regulators, the Mineral and Mining Service (MMS), in the Gulf of Mexico, was waving his hands. Trosclair also

respected the Norwegian oil experience, but he was rather sceptical about the way in which Norway's experience was used within his own institution as an argument for reducing the number of inspections in the Gulf of Mexico. Only three weeks later, disaster struck.

We should not overestimate this positive perception of the Norwegian oil experience. Even among those sections of the middle class or particularly well-informed trade union members in oil-producing countries who are aware of the Norwegian oil experience, knowledge as to what that experience is, is limited. Depending on who you talk to, two images predominate. People who work in the petroleum industry in one way or another are most interested in the technological aspect: that Norway has developed an industry which can master all the challenges involved in producing oil under the difficult conditions of the North Sea.

For people standing a little bit outside the oil industry, what predominates is the understanding that Norway has managed to find oil but nevertheless remains an egalitarian welfare state. In both of these groups, Norway also scores points because the country is still experienced as being different from the USA and the old colonial powers, the home countries of the big oil companies. Today, in a USA which is still in shock following the largest environmental disaster in the superpower's history, it is precisely Norway's apparent ability to master the safety and environmental challenges that people notice.

Does Norway deserve this respect? Do others really have anything to learn from the Norwegian oil experience? And, most importantly: what exactly does the Norwegian oil experience consist of?

On the Shoulders of Activism in the Global South

The first thing to be said must be that we started with a good dose of luck. Moreover, Norway's oil experience cannot be separated from developments in Southern oil-producing countries, what was then often called the Third World. There was already a long history of conflict: from Mexico's nationalisation of its oil reserves in 1938, through Mosaddegh and Iran's attempt to do the same in 1951, up to the creation of OPEC, an organisation which seriously flexed its muscles at the same time as Norway started its oil adventures. In these conflicts, the balance of strength between the oil companies and producer nations had gradually been altered in favour of nation-states. From this point of view, the discovery of the gigantic Ekofisk field in the middle of the North Sea in the autumn of 1969, could not have come at a better time for Norway. Not only could Norwegian oil activities start in a participatory democracy with a developed industrial sector, but we could also stand on the shoulders of a movement where many of the most important battles had already been fought in the global South.

To understand the Norwegian oil experience, it is not enough to understand it in the light of developments in the rest of the oil world. What must also be understood is that oil has changed Norway. If many people in the global South have seen Norway as a model, this is not least because – by contrast with the home countries of big multinational oil companies like BP, Total, ExxonMobil and Chevron – we do not have strong imperial traditions. However, Norway in the early 1970s and Norway in 2010 are two different societies. In 2010, oil is easily Norway's most important industry. Its largest companies have centred their strategies for many years around securing contracts and petroleum reserves in other parts of the world. Thus Norway now has an economy whose main actors have the same underlying interests as those companies which early Norwegian oil policy aimed to protect the country from. This development sometimes affects how the Norwegian oil experience is represented.

But despite all these reservations the Norwegian oil experience is rich in real history: in other words, events where individuals, social groups and political forces mobilised, intervened and so changed the course of developments. Which lessons can be learnt from this depends of course on the prior conditions in one's own country. There are great differences between small island states like Sao Tomé & Principe, where there is no basis for developing an independent industry that could master all the many key aspects of the oil business, an Ecuador, Uganda or Greenland, where oil is

found in vulnerable environments and there are good arguments for leaving it underground, and a Russia or Venezuela, which have enormous oil reserves and a good basis for establishing a skilled and independent oil industry.

The range of problems and conflicts associated with the phenomenon of oil and gas is so wide that we cannot consider all of them in depth. For more than 100 years, oil has been easily the world's most important strategic military resource. For most of this same period, it has been by far the most widely sold commodity. Over the last decade, the gradual acknowledgement that we are reaching a period where we can no longer maintain the same level of production, despite increasing demand (peak oil), has contributed to a further sharpening of the lines of conflict. This presentation does not aim to give an exhaustive presentation of oil history. Its goal is to highlight the decisive conditions and events in order to understand why Norway was successful, from many points of view. However, in the final sections we also want to highlight situations where mistakes were made or where the underlying developmental logic of oil production has created difficult moral, political and economic dilemmas.

Nevertheless, if understood correctly, the Norwegian oil history is rich in experiences which are universally valuable. Since the underlying political economy is to a large extent the same, many of these experiences are also relevant for managing other energy resources.

1. OIL: THE STATE'S PROPERTY, THE PEOPLE'S PROPERTY

On October 29th 1962, three representatives of the medium-sized American oil company Phillips arrived in Trygve Lie's office in Oslo. After his term as UN General Secretary, Trygve Lie had become the chair of a committee whose brief was to entice foreign companies to establish themselves in Norway. Popular accounts of this often represent Phillips as seeking a monopoly of oil extraction in the Norwegian sector.[1] A more accurate representation would be that Phillips wanted to open negotiations, if not to secure a monopoly then at least to secure a central position in the Norwegian sector.[2] But the way the problem has been presented was significant. In neighbouring Denmark, a consortium consisting of the shipping group A.P. Møller and the oil companies Gulf and Shell had secured a monopoly on prospecting and extracting petroleum reserves on what was then expected to be recognised as the Danish continental shelf.

Trygve Lie, however, did what was clearly the correct thing: he made no promises whatsoever. Instead, the matter was passed to the Ministry of Foreign Affairs, which was given the task of clarifying what rights Norway had over the North Sea areas in question.

1 Egil Helle, *Norges Olje – de første 20 årene* [Norway's oil: the first 20 years], Oslo 1984, p. 25.

2 The actual records of the meeting show that Phillips sought the "first rights on such explorations in the North Sea areas which will be assigned to Norway". Helge Ryggvik, *Det første møtet mellom norske myndigheter og multinasjonale oljeselskap* [The first meeting between Norwegian authorities and multinational oil companies]. *Hovedoppgave* thesis in history, Oslo University, 1992.

Within the Department, a lawyer, Jens Evensen, was assigned to the task. He was also appointed chair of a small committee which was to elaborate a framework for any allocations of concessions. In other words, Norway took time to think about it. Thus in practice it was a small group of civil servants who managed the matter. At this point in time, there were few people, either in the general public or among politicians, who understood the importance of what was happening.

Norwegian Jurisdiction

Like many other countries with potential oil reserves, the first major challenge Norway faced was to secure an agreement determining which areas it had sovereignty over. Nothing could be done without clarifying borders. Without clear borders, there was no Norwegian jurisdiction and hence no possibility of collecting income from any oil which might be found. In the 1960s, oil extraction at sea was still a fairly new activity, and its international legal basis was unclear. At that time, Norway had a fishing territory which extended a mere 12 nautical miles (22 kilometres) from the coast. The rest was considered international waters.

The starting point in international law for any clarification was a convention agreed in Geneva in 1958.[3] At this point, only 13 nations had ratified the convention. Norway was not one of them, unlike the USA and the Soviet Union. In June 1964, the convention came into force once the necessary 20 nations had ratified it. Individual points of the convention were adjusted during a revision process in 1982.[4] Maritime law, however, has not become much clearer: today there is still a range of sea areas with potential oil reserves but no agreed boundary. When Russia and Norway finally reached an agreement in spring 2010 in their negotiations on the so-called grey zone in the Barents Sea, this was more based on a political compromise than on international legal principles.

3 Convention on the Continental Shelf of 29th April 1958. Malcolm Nathan Shaw, *International Law,* 2003.

4 The relevant convention is today designated as the "UN Convention on the Continental Shelf".

The representatives from Phillips who approached the Norwegian authorities in 1962 assumed that the Norwegian sector would be defined by a partition line in the middle of the North Sea. For a time in the 1960s, however, the officials in the Ministry of Foreign Affairs feared that neighbouring states would argue that the Norwegian continental shelf should be defined by the Norwegian Trench. The North Sea is a relatively shallow sea area, large parts of which are less than 60 metres deep. The Norwegian Trench, which lies just off Norway's southern coast, goes down to 350 metres off the Western Norway region. At its deepest, off the Southern Norway region, it is 700 metres deep. Not one drop of oil has been found on the inland side of the Trench. The Norwegian Trench, however, did not become a problem.

The Geneva convention, which was based on the equidistance principle, included a formulation which assumed that the continental shelf should be reckoned as extending to a depth of 200 metres. However, it also stated that the boundary could be extended if it became possible to extract natural resources in the areas in question. In the early 1960s, oil companies were attempting drilling in waters of 50–60 metres depth. However, there was reason to believe that it would become possible to drill in far deeper waters within the foreseeable future. None of the states that bordered the North Sea were keen on a boundary agreement founded on such an uncertain basis. The only likely starting point for a division was some kind of equidistance principle. This could cause difficulties when a boundary was drawn between states that bordered one another: Germany and Denmark, for example, had difficulties in reaching an agreement. For the same reason, the dividing line between Norway and Russia was problematic. When two nations lie directly opposite each other, matters are considerably easier.

The decisive declaration was not the result of any clever negotiating strategy on Norway's part. The initiative that led to the present boundary came from Great Britain in 1964. Great Britain wanted an agreement with Norway as quickly as possible, based on the equidistance principle, without having to wait for the outcome of the other, more complex, boundary disputes further south in the North Sea. Evensen and the other Norwegian officials, of course,

immediately responded positively. In calculating the fine details of the geographical line, the Norwegian negotiators were particularly happy that the boundary was calculated starting from outlying islands and skerries. The British, for their part, got the same benefit from the Shetland Islands. Since both the British and Norwegian coastlines were so long, this agreement set the boundaries for large portions of the North Sea. With every day that passed without protests from other states, international law was created.

The negotiations with Denmark were more difficult, partly because of a Norwegian mistake. In private conversations with the Danes, Evensen had responded positively to the idea of a secret clause which provided for cancelling a boundary agreed between the two countries if Denmark lost its boundary dispute with Germany. Luckily for Norway, the Danes abandoned this request. When Norway and Denmark signed their boundary agreement in December 1965, Norway had secured jurisdiction over a maritime surface area that was almost as large as its land surface. It was only in 1969 that judgement was delivered in the boundary dispute between Denmark and Germany. This judgement did not use the equidistance principle as an unambiguous legal basis. If Norway had agreed to the Danish request for a secret clause, what everyone believed to be a securely founded agreement between Norway and Denmark would suddenly have become invalid. Moreover, the Ekofisk field, which was found immediately afterwards, lay in the south-western corner of the Norwegian sector, right up against the Danish boundary.

However, even if Norway had found itself dealing with this kind of diplomatic timebomb, it is not clear that the boundaries which had already been drawn would not have remained valid. Both Norway and Great Britain had strengthened their legal situation by initiating economic activities in the areas in question. Nobody was more interested than the oil companies in seeing an agreement reached as quickly as possible. It is worth noting that it was not only the same oil companies, but to a great extent the same *representatives* of these companies who lobbied both Norwegian and British authorities. The oil companies wanted a boundary line based on the equidistance principle. Everything else would have produced complicated and lengthy negotiations and delayed the start of serious drilling operations.

In later years, several oil companies – often speculative ones – have started drilling in areas whose boundaries have not been clarified (Iraqi Kurdistan, East Timor etc.) In the North Sea, it was allied western states who were involved. For American and French companies, moreover, Norway was potentially a more favourable jurisdiction than Great Britain, for the simple reason that Great Britain was already home to two major international oil firms: BP and Shell. There was every reason to believe that Great Britain would give its own companies a particularly central role. Thus all other firms would have more scope in Norway. The same was true for Norway in relation to Denmark. In Denmark, most companies were excluded by the monopoly which had been given to A.P. Møller.

Thus a situation existed where Great Britain, Norway and most of the international oil companies had largely common interests. The situation was somewhat like the aftermath of the Napoleonic wars: Norwegian civil servants had certainly made a contribution in 1814 when Norway was separated from Denmark and got its own constitution, but it was changes in the balance of strength between far greater powers abroad which gave them an opening to do so.

Economic Rent and Escheat

Once the boundary between Norway and Great Britain had been defined, efforts intensified to create a legal framework. It is unlikely that Norway would have made Denmark's mistake in allocating the whole continental shelf to a single consortium. Unlike Denmark, Norway had both a legal framework and a long political tradition of how to relate to large foreign companies seeking to exploit other countries' natural resources. Norway's modern industrial revolution, at the beginning of the 20th century, was based on the exploitation of cheap water power. Like many countries in the global South today, Norway initially had neither the capital nor technology to exploit this valuable resource. The big question was how to use foreign interests without losing control over developments. In the

years following Norway's final separation from Sweden in 1905, the establishment of a suitable concessions regime was the big issue in Norwegian politics, the so-called "Waterfall law controversy".

The then Minister for Justice, Johan Castberg, who made the conclusive contribution to the concessions law in 1909, was influenced by the contemporary Progressive movement in the USA, particularly the journalist and self-taught economist Henry George.[5] In his 1879 *Progress and Poverty*, George had developed a radical interpretation of David Ricardo's theory of economic rent. He argued that any surplus or rent accumulated as the result of ownership of particularly rich natural resources should belong to the public as a whole.[6]

Ricardo's theory of comparative advantage is well-known today as being almost the gospel truth for advocates of free trade, not least in institutions like the World Trade Organisation (WTO). But Ricardo equally stressed the difference between the type of surplus which could be defined as profit (which he advocated) and economic rent (which he condemned). Ricardo linked economic rent primarily to agriculture. In this context, economic rent represented extra income, beyond the average rate of profit, which can be secured by owning or controlling particularly fertile land. He was also clear, however, that the same point could apply to natural resources like coal.

The moral ethos deriving from the Protestant work ethic was prominent in all the classical economists' condemnation of economic rentiers, including Adam Smith's. Nobody should enrich themselves without contributing their own work, their entrepreneurship or their willingness to take risks. The same moral position is to be found in Karl Marx, who also wrote extensively on the subject.[7] Just as classical economists had nothing but contempt for the British aristocracy, who lived the good life simply by virtue of owning particularly fertile lands, the Georgists and the Progressive movement

5 Henry George, *Progress and Poverty,* 1879.
6 David Ricardo, *On the Principles of Political Economy and Taxation,* 1817.
7 Karl Marx, *Capital: a critique of political economy* (vol. 3). London 1998.

saw the tendencies towards monopoly in the then-developing major industries in America as a parasitical burden. The figure of fear in the Norwegian water power debate was Rockefeller himself and his Standard Oil company. The energy of Norwegian waterfalls had been given by nature. Its value should not go to any individual.

The new waterfall laws determined that the energy, and hence the value, which could be collected from the big waterfalls belonged to the state, and hence the public. This was of course a radical encroachment on forest owners and large farmers, who often owned the wood and land on both sides of the river banks. Conservative politicians protested loudly. But since the Norwegian state lacked both technology and capital, it depended initially on others to exploit this water power.

In the first instance, therefore, major waterfalls were exploited by foreign-owned industrial companies.[8] German and French capital and technology predominated. It was emphasised, however, that companies such as the large fertiliser producer Norsk Hydro should not own the energy. The provisional nature and lease character of these allocations was made clear through the so-called escheat (*hjemfallsrett*), which was a central, if contested, part of the concession regime.[9] Under the new law, all exploitation rights which were allocated were to return to the state, without compensation, after a period of 60 years. With the help of this concessions law, the state subsequently managed to acquire the know-how needed to exploit water power itself.

When the oil companies came to Norway in the 1960s, the vast majority of water power production was thus publicly owned and operated. It was therefore entirely natural that the allocation of rights for prospecting and potential extraction of oil and gas conformed to the legal approach and ideology which were already built into the existing Norwegian concessions regime. Norway had the experience of water power. Denmark – flat and dominated by agriculture – did not.

8 Ketil Gjølme Andersen, *Flaggskip i fremmed eie, Hydro 1905–1945.* [Flagships under foreign ownership: Norsk Hydro 1905 – 1945.] Oslo 2005.
9 The Norwegian word *hjemfall* is based on the German *Heimfall*. Literally it means that the land, or block, "falls" back to the state after a certain period.

The Oil Law

Thus it was not a particularly radical moment when the Norwegian government agreed a cabinet decree on May 31st 1963 determining that "The ocean floor and the underground of the underwater areas off the coast of the Kingdom of Norway are under Norwegian sovereignty as regards the exploitation and research of natural deposits..." Since there were no previous private owners, it was a straightforward matter for the state to declare itself the proprietor. Ten years previously, with its *Outer Continental Shelf Lands Act* of 1953, the USA had declared that there was federal jurisdiction over all areas lying more than three miles from the coast. The American law gave the relevant department the right to allocate concessions or "leases".

Foreign oil companies in the Norwegian sector, particularly American ones, feared that what they saw as a socialist Norwegian state would set stiff conditions for access. However, even if in the 1970s Jens Evensen was critical of a pro-American foreign policy, never appeared as an anti-capitalist in his relations with the oil companies. Rather than exploiting the conflicts between the different oil companies to see how far they were willing to go, he made it possible for them to coordinate their interests vis-à-vis the Norwegian state. The companies set up a cartel-like joint committee which spoke in a single voice to the authorities. The committee was led by Esso's head in Norway.

Many of the formulations included in the cabinet decree of April 9th 1965, which was to be a foundation stone of the Norwegian concessions regime, were written by lawyers working for the foreign companies. Evensen's greatest concern about the oil issue was to steer it as quickly as possible through the Norwegian bureaucracy and to secure the necessary formal political treatment, without any conflicts that could stir up a political debate and interrupt the process. This does not mean that the decree only served the interests of the oil companies. Since at the outset there was no Norwegian know-how in the area, it was not unreasonable to exploit the companies' expertise – so long as one was careful to protect oneself when national interests were really at stake.

Both the cabinet decree, and the contracts which all firms had to sign in order to be allocated concessions, contained rules to ensure the state's sovereign right of intervention and regulation of the firms' practice. The decree did not include any rules on safety as such, but stated that if the state were to appoint inspectors, the companies must give them full access and follow their instructions (§ 45).

The principle of escheat was built into various rules. Extraction permits were initially given for a period of six years. After the first three years, firms agreed to divest themselves of a quarter of their allocated block (§ 20). If they wanted to retain a block beyond this initial six-year period, they had to give up another quarter of the original allocation after the second three-year period. Those parts of a block which were retained after a concession extension, however, could be held for a further 40 years (§ 22).

Although the rules on escheat gave the state some certainty that it would receive a share if a company found significant oil and gas, the companies did not experience this as a significant intervention. The blocks which were allocated in the first round of concessions were very large (500 km^2!). If a company found oil, it was unlikely that the field itself would cover the whole block. With the 46 years that companies could retain their share of a block, there was a good probability that they could extract most of any oil and gas they found. The companies were at least as concerned about the conditions for withdrawing from a block, if the likelihood of finding something was not good. The Norwegian state was of course interested in seeing that an area was mapped as well as possible.

In the negotiations prior to the cabinet decree and the final allocations, the companies were most concerned about the financial conditions. Here, too, they were satisfied with the final outcomes. Before the concessions, parliament (in accordance with what Evensen had offered the companies) passed exceptional measures which allowed reduced taxes for oil companies.[10] Furthermore, the companies had expected that Norway would settle on a royalty of 12.5 %. Evensen ensured that this was set at 10 % instead. Royalties

10 Besl. O. [law] no. 129 (1964-65).

are levies which involve the state taking a given percentage of the wealth produced, rather than (as with taxes) a percentage of the profits. From the point of view of a producer nation, royalties were thus a major source of income. A 2.5 % reduction in royalties was worth more than a comparable reduction in taxes. The most satisfied companies were the American ones, who had secured an exception from a rule requiring participating companies to set up Norwegian subsidiaries. Under the relevant American tax regulations this meant that any prospecting in the Norwegian sector could be deducted from taxes in the US.

Although Evensen played an active role in piloting the oil issue through the bureaucracy, there is no indication that he departed from the overall parameters set by his political masters. The thrust of the contribution made by Evensen, and the small group of young helpers gathered around him, was completely in accordance with the perspectives of the key economic planners in the Labour Party. The overall goal was to get the international companies to commit themselves as fully as possible. In this way, the probability of actually finding oil would be greatest. At the same time, there was a concern to secure access to foreign currency. Evensen had received these signals well. For these reasons, it was also important to prevent Norwegian companies becoming too heavily involved.

This last position was met with great suspicion by a small but important group of Norwegian business leaders who wanted to invest in the North Sea right from the start. Foreign oil companies' interest in Norway was unknown to most people. Private business leaders, however, could see the Klondike mentality in close up, as well as the hectic game prior to the first allocations of Norwegian concessions.[11] If the interest was so great, surely this was an indication that there really was great wealth out there?

One option for Norwegian companies was an alliance with one or more foreign companies. However, there was little help to be had from Jens Evensen. He signalled to the foreign companies that

11 The best known of these were Johan B. Holte and Torvild Aakvaag, director and future director of Norsk Hydro respectively, and the shipowner Frederick Olsen..

alliance with a Norwegian group would not strengthen their application. However, the French-dominated Petronord group and the American Amoco believed, in part mistakenly, that it would help their application to collaborate with Norwegian partners, who thus nevertheless received a share. Overall, however, Norwegian participation in this first major round of concessions was minimal.

Without access to independent oil expertise and with limited means of investment, Norway's position in the 1960s was very similar to that frequently experienced by poor countries in the global South, both before and since. Norway was certainly in a weak negotiating position, and the idea of a particularly radical oil policy can certainly not be ascribed to the very first chapter of Norway's oil history. It can of course be claimed that Norway had no alternative. Despite the risk of being accused of hindsight, it is hard not to conclude that Norway took a big risk in opening such a large proportion of its continental shelf to the oil companies on relatively poor conditions for the nation and the state.

Conclusion: Evaluation and lessons

It was of course fundamental for Norway to ensure that the companies committed themselves enough to find oil, if there was any to be found. But was it necessary to give the companies so many advantages? The first round of concessions was gigantic. Nearly the whole area south of the 60th parallel was advertised. Given that not all blocks were equally promising and that companies had to commit themselves to prospect in all their allocations, the final allocation comprised 81 blocks. Nonetheless, this was the largest allocation ever in the Norwegian sector (42,000 km^2), and these were the blocks which the companies had the highest expectations of, given the knowledge of the time. Of the blocks which were allocated, Norwegian companies were only represented in 21, and these were modest minority shares. By contrast, British companies were represented in 283 of the total 346 blocks allocated in the first British concession round (the British blocks were somewhat smaller than the Norwegian, so the totals are not directly comparable).

Evensen, moreover, was of the view that Norway was competing with Great Britain in seeking the active commitment of the oil companies. Thus he was concerned to make sure that the conditions in Norway were better from the companies' point of view. But how appropriate was this analysis? There is good reason to believe that a major commitment in the British sector, leading to oil finds, would have strengthened Norway's negotiating position. The tactic of "agree now or we will take our business elsewhere" is surely as old as the first market. Many young oil nations have experienced similar tactics from oil investors.

Most recently, in 2010, a variant of this argument has been used by the oil lobby in Norwegian social debates. After the signing of a boundary agreement with Russia, a large new potential petroleum area (87,000 km^2) has come under Norwegian jurisdiction. The environmental movement sees this area as particularly vulnerable. The advocates of a rapid approach, however, have argued that Norway must hurry up if it wants to prevent the Russians, on the other side of the boundary, from taking the initiative. There are no simple truths in this situation. In the long term, however, history shows that the longer oil reserves remain in the ground, the more they are worth. This is simply because oil is a highly desired, powerful and limited resource.

In the meantime, Phillips found oil in block 2/4, allocated in the first round of concessions - the field which was to be named Ekofisk. Through its participation in the Petronord group, Hydro had secured a share of 6.7 % of this gigantic field (700 million sm^3 (standard cubic metres) oil equivalent (OE)). Given that the Norwegian share in the first allocation round was so small, and that the company had no independent oil know-how, this was sheer luck. Ekofisk was so large that even a small share meant large profits.

Even with a rather low royalty level and with the tax reductions introduced immediately before the allocation of concessions, the Ekofisk field would have contributed significant income to the Norwegian state. However, this income could have been far greater if the state had secured a greater royalty and state-owned shares in concessions right from the start. The state's weak ownership position also limited the possibilities of intervention in the absolutely critical industrial development of the Ekofisk field.

If most finds in the Norwegian sector had been in blocks which were allocated in the first round of concessions, Norwegian oil policy would hardly appear as a model for other countries. Luckily for Norway, the majority of oil deposits in the Norwegian sector (Frigg, Statfjord, Gullfaks, Snorre, Troll etc.) were to be found north of the area, which was advertised in the first round. The most important general lesson for countries in the same situation must be "Don't give too much away in the first round. Take the time needed to set up a legal framework. And make sure that this framework is sufficiently flexible that the state can tighten the rules when the conditions change."

2. A RADICAL, NATIONAL OIL POLICY

Thus it had been demonstrated that there was oil in the North Sea – large quantities of oil. Furthermore, it soon become clear that there could be much more, north of the large geographical area which had been advertised in the first rounds. The Ekofisk field was far down in the south-western part of the Norwegian shelf. A year later, the British found oil considerably further north, right beside the boundary line, in what would become the Brent field. Thus the hope grew that oil could be found further north in the Norwegian sector as well. Moreover, new allocations were not bound by the agreements previously made with foreign companies. In other words, there was an opportunity for a new, and more aggressive, Norwegian oil policy.

From "Gentleman's Agreement" to Confrontation

By this point, Jens Evensen's influence on the oil question was limited. The authorities' handling of oil issues had mostly been taken over by a small oil office in the Ministry of Industry. Several years of complicated negotiations, shielded from the critical eyes of outsiders, had created close relationships between the little oil bureaucracy and the foreign oil companies. No corruption has been discovered in this relationship between civil servants and the oil companies' representatives. But then as now the oil industry was good at lobbying. Even if the officials were clear that they represented the state's interests, they had developed a shared perspective with the oil companies. When Phillips found the Ekofisk field, this

oil bureaucracy was involved in a kind of "gentleman's agreement" which created the expectation that foreign companies would get significant allocations, including in the promising areas further north. Several companies were aiming towards the area where the large Statfjord field would later be found.

If the oil companies had been satisfied with the allocations and conditions during the first two rounds of concessions, they were that much less satisfied with what happened after the Ekofisk find. The first part of the 1970s were politically turbulent in Norway: between the winter of 1971 and the outcome of the September 1973 elections, four governments held power. Each change of government represented a move to the left. This political unrest was closely linked to the conflict over Norwegian membership of the EEC. In September 1972, a clear majority voted against membership. Like many other countries, Norway was experiencing a general radicalisation in youth cultures. However, the mobilisation against EEC membership helped to give this radicalisation a broader popular base. By comparison with other countries, this in turn gave the Norwegian version of the rebellion of 1968 a more nationalist profile. All of this played a decisive part of shaping Norway's approach to oil.

If oil policy before 1970 had in practice been shaped by a small group of civil servants, it soon involved all layers of society. The decisive break with the Ministry of Industry's benevolent perspective on the oil industry can, nonetheless, be linked to a small group of individuals. When Finn Lied became Minister of Industry in Trygve Bratteli's first government, with the young Arve Johnsen as his permanent secretary, Norway was to ally itself seriously with the radical wave sweeping the oil world. Lie and Johnson worked closely together with the powerful industrial strategist Jens Christian Hauge, who had been a Second World War resistance leader in the struggle against the German occupation regime.

From the perspective of Norway's edition of the 1968 rebellion, the trio who were about to take over the leadership of Norway's struggle with the world's largest multinational companies were not exactly radical. By contrast with Jens Evensen, all three were consistent supporters of Norwegian membership of NATO and a pro-American defence policy. Thus if the conditions for American oil companies were now tightened, it was certainly not from any anti-Americanism. When Arve Johnsen became permanent secretary for Finn Lied in 1971, he was sales chief of Norsk Hydro's aluminium branch. Johnsen had only joined the Labour Party after starting his career in private business. He was enthusiastic about Norwegian membership of the EEC and was one of the most active spokespeople on the "yes" side in the run-up to the referendum in 1972. But among his own allies, Johnsen represented that wing of the Labour Party which had ambitions for Norwegian industry. If Evensen took a soft approach to negotiations, Johnsen was hard and uncompromising. If anything was to be achieved in the difficult negotiations with the representatives of major international oil companies, one had to be just that: hard and uncompromising.

A New State Company

In 1971, just before the end of Per Borten's centre-right government, the Ministry of Industry had tried to create the conditions for Norsk Hydro to become the dominant Norwegian national oil company. A bank took on the task of secretly buying up shares in order to secure more than 50 % for the state. Despite Arve Johnsen's background in Norsk Hydro, however, he worked together with Lied and Hauge to create a completely new, 100 % state-owned, operational oil company. The starting point was a desire to develop an instrument which would give the Norwegian nation as much governance and control of oil activities as possible. Hydro was poorly suited to this role, because it was already an established actor with strong independent interests of its own. It would simply have been too difficult to direct Hydro; changing its ownership was not in itself enough to change the industrial dynamics, loyalties and culture which were embedded in it.

The idea was that if a suitable instrument for oil policy was to be developed, this would have to involve creating an oil company from the ground up.[12] In order to underline the company's specific role,

12 Arve Johnsen, *Utfordringen. Statoil-år*, [The challenge: the year of Statoil], Oslo 1988, p. 9.

and for it to be a genuinely political instrument, it had to be 100 % state-owned. The political treatment of the question was pushed through at high speed. On June 14th 1972, parliament resolved the creation of a state-owned oil company. On September 18th, a week before the EEC referendum, the company held its founding general meeting. Considering that Lied and Johnsen were working for a minority government, the process was remarkably smooth. This is not least because the moderate bourgeois parties also wanted a tougher line *vis-à-vis* the international oil industry. Some weeks later, Arve Johnsen became director of the new company.

It would still take many years before Statoil became a fully operational oil company. In the immediate aftermath of its establishment, it was an open question what kind of state company Statoil would become. The balance of strength between Statoil, other Norwegian actors and foreign oil companies in the Norwegian sector was also not pre-determined. Nevertheless, with his new position Arve Johnsen could immediately challenge the dominant foreign companies. The history of oil is full of examples of how controlling the transport network has been of decisive importance for who secures the greatest possible share of oil rent. It is Norway's great good fortune that Arve Johnsen understood this. During a study trip to the USA in the early 1960s, he had learnt enough international oil history that he recognised the game Rockefeller had played when he tried to secure a share of the economic rent from the Pennsylvania oil fields by obtaining control of rail freight and, later on, of a pipeline network.[13]

Oil Rent

There is hardly any resource which Ricardo's theory of economic rent better describes than oil and gas production[14]. Like water power, petroleum is an energy source and hence a strategic resource. But the total water power produced in Norway has only rarely been greater than the national demand for energy. Thus neither the state nor private actors have been in the parasitic position of being able to collect economic rent at the expense of consumers in other countries. Before the existence of an international power grid, it was not technologically possible for foreign capital to exploit Norwegian energy resources without connecting this to a range of productive economic activities such as the production of fertiliser, ammonia, aluminium and so on.

By comparison with agriculture and water power, the most specific quality of petroleum is that it is a non-renewable resource. In his discussion of the economic rent from agriculture, Ricardo shows how the returns from equally sized portions of land varied considerably depending on how naturally fertile they were, even if the same equipment was used, equal amounts of labour were expended and so on. The point is that the difference between the most fertile and the least profitable cultivated land is relatively small in practice, compared with the economic rent that oil companies and individual states extract from the world's richest oil fields, which are a non-renewable resource.

The well servicing company Schlumberger states that around 40,000 oil fields are registered around the world. But 95 % of the world's total oil production takes place in only 1,500 large fields. These are very few compared with the hundreds of millions of cultivated pieces of land around the globe. Of the large oil fields, only a few dozen in turn are really gigantic. In the 1970s and 1980s, an even greater part of the world's oil production took place in these giant fields than it does today. If one takes a long-term perspective, the history of the earth's crust is very dramatic. There are few places where all the favourable conditions required for finding oil apply. The result is that in most places there is no oil at all; in some places there is a little, spread across smaller fields; in other places there

13 Interview with Arve Johnsen, February 6th 2008.

14 A large number of books critical of the oil industry have been published since 2000, many of them written by journalists. Most have focused either on geopolitical power questions or on issues related to peak oil; few have been based on analyses of the political economy of oil. An important exception is David Harvey, who has discussed economic rent in his *Limits to capital* (New York, 2006). In his *The enigma of capital* (New York, 2010) he relates the term rent to the production of oil.

is a huge amount. Within the social structures which have characterised human societies in the period when oil has been used, this intense concentration creates the basis for major conflicts. The most important underlying issue in these conflicts is precisely who is to control the economic rent.

The very largest oil fields in the world are in the Middle East. Between 1951 and 2000, the Ghawar field represented more than 60 % of Saudi Arabia's production.[15] Since the production costs are simultaneously small, this gives a surplus which is astronomical by comparison. The Ghawar field is estimated to contain about 70 billion barrels, or 11,000 sm^3, of oil. The Burgan field in Kuwait and the Rumalia field in Iraq are almost as large. With about 3.5 billion barrels of extractable oil, the Norwegian Ekofisk field is not very prominent by comparison. Ekofisk is nevertheless one of the world's giant fields. Even if the costs of development in the North Sea have been large, it has given both the owners and the Norwegian state access to economic rent.

But the geographical location of oil and gas fields, which are often far from the markets, makes transport very important. Whoever controls transport routes at a given point in time can exploit this position to extract a portion of the rent. At one time oil companies used their own tankers, as part of integrated company structures. In recent decades, nearly all tanker freight has been carried out by tanker shipping companies, based on market criteria. When it comes to the large trunk pipelines, however, large companies today are at least as interested in controlling them as they were in Rockefeller's time. In this case, the struggle for control is not simply between the company and the producer nation. If a pipeline runs through a third country, that country is also in a position to secure a part of the rent from the oil passing through it. The control of pipelines has also been important for Norway.

15 Matthew R. Simmons, *Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy*, New Jersey 2005.

Strategic Pipelines

The cabinet decree and contract which created the legal basis of Phillips' development of the Ekofisk field did not state explicitly where any future pipelines should be laid and who should own and control them. Phillips insisted that the same group that owned the field should also operate the actual pipelines. The strategic importance of the pipeline network from Ekofisk was particularly great because of its geographical situation in the south-western corner of the continental shelf. Arve Johnsen could see for himself that the Ekofisk pipelines could become significant as a trunk pipeline network for possible oil fields further north.

If Phillips were to have full control of the pipeline network to the continent, the company could have used its position to secure a share of economic rent from other oil fields simply by virtue of its ownership. On this issue, Johnsen found himself on a direct collision course with officials in the Ministry of Industry, who had already signalled something very different to the foreign oil companies. The civil servants sought a solution where the companies could own and operate entire pipelines, but with the state having the option of coming in with a 10 % ownership after a two-year period. Johnson sought the establishment of a dedicated company which in practice was owned and controlled by Statoil with 50 % of the shares - something which in turn opened the way for Statoil to take over operations at a later point.

Insofar as the civil servants who had been negotiating with Phillips had been inclined to concede the pipelines, this new Norwegian demand came as a surprise to the Americans. In principle, it was not civil servants who should make important decisions in industrial policy, but neither was it Arve Johnsen, who at this point was outside the government. However, together with the company's chairman, Jens Christian Hauge, Johnsen secured a political mandate to negotiate on behalf of Norway. A visibly shocked lead negotiator for Phillips is said to have shouted "This is immoral!" when Hauge first made the demand.[16]

16 Johnsen 1988, p. 36.

To the extent that Phillips had some justification for raising moral questions here, it must have come from the feeling that the company was somehow the rightful owner of everything associated with extracting the Ekofisk oil. The gesture towards morality may also have expressed the company's feeling of being blackmailed. Phillips was dependent on a transport solution if its oil was to generate income. Perhaps the accusation of immorality hit home with some of the officials in the Ministry of Industry, with whom the foreign companies had laboriously built up a relationship of trust. Phillips, however, could not show any formal agreements giving the company an automatic right to own and control the pipeline network. The overall outcome was that Phillips had to give in; the company could not afford lengthy negotiations. At the end of the day, Phillips calculated that there was so much oil in the Ekofisk field that it would nevertheless produce large profits. "Oil Norway" had thus experienced for the first time how foreign companies could use a combination of lobbying and power to establish positions which were apparently reasonable and unshakeable, but which could be challenged by a comparable counter-power.

Strategic Ownership and Control

The next major battle took place over the role that the state and Statoil would have in future concession rounds. In January 1971, Esso and Shell had attempted to secure a group of blocks bordering the British sector. They had just made a massive find in the neighbouring sector on the British side of the boundary line (the Brent field). The oil section in the Ministry of Industry was prepared to open negotiations with the foreign companies about these blocks. As the new Minister for Industry, however, Finn Lied had the process stopped. It was quite obvious that there were high probabilities of finding oil here; the British find might stretch across into the Norwegian sector.

In early 1973 Esso and Shell tried again. Johnsen, who had had access to the companies' application while in the Ministry a year earlier, understood what was at stake and did his utmost to ensure that Statoil got the blocks. He initially proposed that Statoil should have 100 % ownership, but even Lied did not support him in this. Many people in the Ministry still felt that even a 50 % share for Statoil was high, and argued that too large a state share could scare foreign companies away from the Norwegian sector. There was also a fear that too high a share for Statoil would delay the prospecting process and the development of any possible finds. Since the British had found oil in the neighbouring area, it was urgent to clarify whether the same field reached into the Norwegian sector.

The outcome, however, was that Statoil received an ownership share of 50 % in the block which later proved to contain the Statfjord field. Esso, Shell and Conoco were far from dismayed to find in August 1973 that they had received shares of 10 %, 10 % and 11 % respectively in this very promising block. The same was true for Mobil, which was to be the operator in the first instance and received an ownership share of 15 %. The companies' satisfaction grew a year later when Statfjord was shown to be one of the world's largest oil fields. With oil and gas reserves of about 650 million sm^3, Statfjord was of a similar size to the Ekofisk field. However, it had no direct connection with the Brent field. In fact one part of the Statfjord field reached into the British sector, not the reverse.

By this point the price of oil had risen to four times what it had been the previous year. Statoil's dominant position was to prove entirely decisive, both for Statoil as a company and for Norwegian oil history. Significant quantities of oil and gas would also be found after the Statfjord field, but never such a large field again. Once again, Norway had discovered that it was only by challenging the foreign oil companies that real gains were to be made. A general lesson for all oil-producing states is that the strategic agreements and decisions which are made in an early phase of an oil region's development can have decisive implications for the future.

National Governance and Control

If Arve Johnsen was able to win so many decisive battles against the state bureaucracy on behalf of Statoil, this was not least because he had solid political support. Norwegian oil policy was no longer

being developed in a vacuum. In the first half of the 1970s, an almost overwhelming stream of reports, white papers (reports to the parliament) and committees were developed, covering all sorts of challenges linked to oil activities, from specific technical problems to the overarching political issues. It was no longer just the Ministry of Industry which was involved; the Ministry of Finance, the Ministry of Foreign Affairs, the Ministry of Local Government and the Ministry of Social Affairs were all involved in setting up important committees.

These committees drew on the general expertise which was available in Norwegian professional institutions. At the start this was not very much but both the committees themselves and the comprehensive discussions which followed their reports were part of a steep learning curve. All the reports, white papers and proposals were followed by extensive debates in parliament. Many parliamentarians later developed a considerable understanding of oil-related issues. This was expressed in parliamentary recommendations, the final outcome of white papers, which were sometimes as important as the reports they responded to.

Of all the many oil-related political documents which were produced in this period, two in particular stand out. Both were important parts of outlining the general direction of Norwegian oil policy. The first was produced by the parliament's extended industrial committee in 1971, in other words before the creation of Statoil. In its statement, the committee listed ten points to ensure that "natural resources in the Norwegian continental shelf are exploited in a way that benefits the whole society".[17] The first points ran as follows:

- national governance and control must be secured for all activities on the Norwegian continental shelf;
- Norway must become independent of others in the supply of crude oil;

17 Innst. S. [recommendation to parliament] no. 294 (1970-71). The committee's ten points are often described as the "ten commandments" of Norwegian oil activities.

- a new industrial sector should be developed, based on petroleum;
- this development must take existing business activities and environmental protection into consideration as necessary;
- useable gas should not be burnt off;
- petroleum deposits should be brought ashore in Norway, as a general rule;
- the state should contribute to the construction of an integrated Norwegian oil milieu;
- a state oil company should be established...

The phrase "national governance and control", the first of the ten commandments, was to remain a mantra for the development of Norwegian oil policy. The phrase was strongly marked by the political rhetoric of the contemporary debate on the EEC. But in the years which followed it was to acquire real content. Many of the ministries named above were already involved in various measures which aimed at regulating oil activities. These attempts became more coordinated, and intensified, in 1972 when parliament resolved on the establishment of a separate Petroleum Directorate together with the creation of Statoil. The Petroleum Directorate was to be the state's professional body for resource administration, and was responsible for regulating the work environment and safety questions.

The target of Norwegian self-sufficiency in oil has to be understood in light of the fact that importing oil products before the Ekofisk find had contributed to a growing Norwegian currency deficit. It was sidelined as a target once it became clear that Norwegian demand was minimal by comparison with the resources to be found in the sector. Moreover, Norway was still nearly self-sufficient in electricity from water power. Given that there were no concerns as yet over the relationship between human-generated CO2 emissions and climate change, it might seem strange that the requirement that no gas be flared off (other than in short test periods) was so central to a list of overarching needs. The background, however, was a concern for a socially-oriented management of resources which viewed the waste of valuable resources as in itself negative. It was feared that short-sighted self-interest might lead

international oil companies to skim off the cream and only extract the resources that gave the largest immediate profit.

As can be seen, a majority of these commandments were aimed in various ways at securing the establishment of a national Norwegian oil industry. The centrality of this concern is of course linked to the fact that this declaration came from the parliament's industrial committee. It nevertheless expressed a widespread understanding that if Norway was to see a benefit from the new industry, it would not be enough to simply tax foreign companies. It was also important to ensure that Norway built up its own independent capacity. This was in part based on a purely economic train of thought: Norway had to secure the greatest possible share of the wealth creation which would take place around the industrial side of oil activities. At the same time, the creation of a national oil industry, part private and part state-owned, was seen as one of the instruments to ensure "national governance and control". To the degree that it established independent technological know-how, Norway could not be blackmailed by dominant foreign companies. Thus it would also be easier to push for better financial conditions.

A Moderate Pace and a "Qualitatively Better Society"

The most far-reaching of all the reports from this period is white paper no. 25 on "The role of petroleum activities in Norwegian society", presented by the Ministry of Finance in February 1974.[18] It is rare that white papers can be used to describe a *Zeitgeist*. The Norwegian white paper no. 25 is one exception. According to the report, the wealth from oil should be used to develop a "qualitatively better society". This meant a society with greater equality in living standards, in order to prevent social problems. As we have seen, environmental considerations already had a significant place in the industrial committee's perspective in 1971. By 1974 this was even more significant. More environmentally-friendly and resource-friendly production was needed. Local society was to be developed. The development of welfare, environment, perspectives on equality, local politics – all the buzzwords used in the campaigns for and against EEC membership – were now to become realities, financed by the new oil fortune. At the same time, and crucially, all of this was to take place without turning into a "swift and uncontrolled growth in the use of material resources".[19]

The white paper underlines, time and time again, how important it is for elected bodies to control all aspects of petroleum policy. In order to achieve this, the decisive factor was control of the pace of development. The white paper's first point states:

> Wishing for a long-term perspective in the exploitation of resources, and after a comprehensive evaluation of its social aspects, the Government has concluded that Norway should take a moderate pace in the extraction of petroleum resources.[20]

By keeping to a moderate pace, it would be easier to ensure that the oil and gas which it had been decided to produce would be extracted in a defensible way. This would prevent the conversion costs of adaptation to a completely new industry from becoming too large. As the quotation shows, the aim was also that the resources should last for a longer period.

The most interesting aspect here is that the goal of a moderate pace of oil extraction was based on the expectation that the large price growth experienced while the white paper was being written (a quadrupling, towards $9 a barrel) would diminish over time. While globally many people feared that oil would soon end, the white paper thus assumed the opposite – that prices would fall – an assumption for which there were good reasons. It was also reasonable to believe that the strong growth in prices would lead to

18 St. meld. (white paper) no. 25. (1973–74), *Petroleumsvirksomhetens plass i det norske samfunnet*. [The role of petroleum activities in Norwegian society].

19 Op.cit., p. 6.

20 Ibid.

energy-saving measures. Furthermore, the white paper also stated that the oil crisis, which was then at its height, could lead to external pressures, both from the oil companies and from other western countries, to expand production in the Norwegian sector. In other words, it was important for Norway to steel itself against these pressures. Despite all these factors, the white paper concluded that it was rational for Norway to aim for a moderate pace. Norway should enter the age of oil with good intentions for a better society, and not make itself too dependent on oil.

When the white paper was presented, the size of the Statfjord field was as yet unknown. It was assumed that with the oil and gas from Ekofisk and the gas from Frigg in full production, a level of about 35 million tonnes of oil and 25 million tonnes of gas would be reached by 1977. The majority agreed on introducing a "moderate" level of 90 million tonnes of oil equivalent annually.

Conclusion

When Hugo Chávez tightened the conditions for foreign oil companies operating in Venezuela in the 2000s, he met with strong reactions from the international oil industry. Esso went to court and tried to get support for freezing Venezuelan reserves in foreign banks. Political condemnation of the measure was particularly strong from the USA, the home of many dominant oil companies. Many other oil-producing countries in the South followed Venezuela's example and demanded a renegotiation of agreements which had been shaped when they were in a far weaker negotiating position, during the low oil prices of the 1990s.

The financial media described the new turn as resource nationalism. The concept "nationalism" was used in this context to claim that this policy was based on symbols and feelings rather than on rational economic calculations. The truth, however, is that Venezuela did nothing different from what Norway (and many other oil-producing countries) did in the 1970s. It is not irrational for an oil-producing nation to do what it can to secure the greatest possible share of oil rent. If one needs foreign technology and capital to gain access to oil, a reasonable starting point would be that the companies who are involved should not earn more than the average profits for other, purely capitalist, industries. Classical economists, like Adam Smith, David Ricardo and Henry George, would have seen nothing immoral in this position. Far from it: so long as there is no international system to distribute natural resources justly, economic rent in its entirety should fall to society via the state in question.

However, precisely because limited natural resources are unequally distributed, oil-producing countries have a particular moral responsibility. Even if these profits are tied to particularly advantageous natural conditions, they represent wealth which cannot be realised without others paying. In the specific case of oil, it is also a polluting resource and – as we have learned since the 1970s – one which contributes to climate change. An oil-producing nation with large profits therefore has a moral responsibility: to the poor in countries which do not have access to petroleum reserves of their own; to the environment; and to future generations. In some countries, a social evaluation would conclude that the oil should remain underground. Where the choice is made to allow production, Norway's original position would be best, both morally and from a purely economic point of view: a moderate pace of extraction.

3. GOOD INTENTIONS AND HARSH REALITY

In 1978, Norway received an inquiry from the West African coastal state of Benin. Oil had been found directly off the country's short coastline. In an interview with the private Norwegian oil company Saga's in-house magazine, Jacques Dalodé of Benin's Ministry of Industry explained why the country had turned to Norway:[21] in a short period of time, Norway had built up independent oil know-how without becoming dependent on the large international oil companies.

This was the first time that Norway received an official inquiry from an African state wanting to learn from the Norwegian oil experience; it would not be the last. This inquiry was noteworthy because it illustrates how quickly the image of Norway's particularly successful oil experience was internationally established. As we have seen, the key elements in what on paper appears to be the Norwegian oil experience were already in place by 1978. The overarching goal of national governance and control was to be realised by:

1. The aim of securing the greatest possible share of the rent from oil for the state, which would distribute it in an egalitarian way across Norwegian society;
2. The establishment of a state oil company;
3. The establishment of a Petroleum Directorate with a national responsibility both for socially responsible resource administration and for safety;
4. Support for the establishment of a strong national contractor industry;

21 *Saga-Nytt* [Saga News] 1980, p. 6.

5. A political guarantee that the pace of extraction and investment would be a moderate one, so that other sectors would not be marginalised and that resources would last;
6. A strong emphasis on extraction taking place in an environmentally justifiable way.

However, when Benin's inquiry arrived in 1978, most of these aims were simply good intentions. The five years which had passed since the first posts in Statoil were advertised were far from enough for the company to have mastered all the industrial challenges involved in being an oil company. The Petroleum Directorate still did not have sufficient authority and know-how to decisively change foreign companies' safety practices. The previous year, during Easter of 1977, a dramatic blow-out on the Bravo platform at Ekofisk had demonstrated that the environmental challenges were far from being solved. Activities in the North Sea were still almost completely dominated by foreign companies. Phillips and Elf were in the process of completing construction and moving to the operational phase on the Ekofisk and Frigg fields. Mobil was directing a high-speed development of the Statfjord field. It took time to develop independent oil know-how. We shall discuss the different issues in turn.

A Holding Company or a State Company with Operative Capacity?

If the establishment of Statoil took place largely without conflict, this happened not least because Norwegian politicians and business leaders were aware that the establishment of state oil companies was a general trend in the oil world. Moreover, it was not only countries in the Middle East and Latin America which had established state oil companies. In fact, Norway was one of the few European countries which had no direct state involvement in the oil industry. BP in Great Britain, ENI in Italy and Elf / Total in France were all state-owned. In 1974 (two years after Norway) Great Britain created another state oil company, the British National Oil Company (BNOC), despite already having BP; BNOC never became more than a paper company. In other European countries the state was involved directly or indirectly in downstream activities. In Sweden, the Swedish Association of Oil Consumers (OK) ran petrol stations and refineries as a cooperative.

But there were major differences between BP, which had been created to secure oil supplies for an old colonial power, and the state companies in OPEC countries, which were created to ensure that the greatest possible share of oil rent went to the nation. On the political right, many thought that Statoil should be limited to acting as a holding company that managed state ownership shares, without developing an operational capacity. Johnsen, however, was determined that Statoil should not only become an operator, but that - in the same way as the very largest oil companies – it should secure positions at each stage of the oil process, from upstream prospecting and production down to refining, the chemical industry and the sale of oil products. Johnsen soon became known for using rather pompous expressions. One of these – "We must conquer the strategic heights" – has been frequently quoted, and sums up the strategy behind Statoil's development.

Although Johnsen had good parliamentary support for his position, he still met with opposition from the state bureaucracy. Statoil had been established as a so-called state-owned limited company. This distinguished it from many contemporary state oil companies in OPEC countries, where there was no clear division between the state administration and the state's operative oil company. Instead, Statoil was to have an independent management. Political direction was initially organised through the Ministry of Industry (from 1978, the Ministry of Petroleum and Energy) acting as its general assembly, which could thus freely appoint the company's board. So long as Statoil did not generate its own income, and thus had to beg for grants each time it needed to expand its staff or undertake investments, this situation gave the officials considerable power. It was only from the early 1980s, when serious production came onstream on the Statfjord field, that Statoil had a significant source of independent income.

As part of the Statfjordfield block allocation, where Mobil had been granted an interim role as operator, the American giant had

agreed to train Statoil. According to one clause, Statoil was to take over as operator in the course of the ten-year period following a commercial find. Mobil only agreed to this deadline very reluctantly. Arve Johnsen, however, was concerned that Mobil would not take this training task seriously with a less binding agreement. Johnsen's fear was justified: Mobil saw leadership of construction and operation in one of the world's largest and most challenging oil fields as strategically important. This strategic significance was greatly strengthened by the dramatic development within OPEC, which saw foreign companies thrown out of one country after another. Under Alex Massad's leadership, the company started an intense campaign to maintain its important Norwegian position. Mobil did everything it could to exploit all the unclarified points in the agreement, and lobbied actively to secure Norwegian political support for its view. In the many conflicts which followed, Johnsen could now use Statoil's 50 % ownership majority. However, he was entirely clear that it was only by building up real independent technological know-how that Statoil could stand up to Mobil's power.

Little more than a year after its establishment, Statoil could start building up a department which would be closely modelled on Mobil's Statfjord organisation. In order to avoid being too dependent on Mobil, it was crucial for Statoil to have other options at the same time. First came the laborious work of recruiting staff for all the areas seen as strategically important. Since Norwegian know-how was so limited, Johnsen was forced to travel to the USA to find leaders for many branches of the company. He took care to appoint Americans who had no connections to Mobil. Statoil, however, also benefitted from the fact that the Norwegian educational system had made great efforts to meet the new industry's needs. The technical college in Trondheim (NTH) soon had an assembly line training engineers. As students saw their own prospects, Statoil was the top choice for starting a career. Within the geology departments at the universities of Oslo and Bergen, the emphasis in teaching and research was rapidly shifted from the bedrock which characterised dry land in Norway to the kind of sedimentary rocks where oil was to be found.

Technological Power and Pipelines

The first field where Statoil had the potential for actual operational activities using its own engineering know-how was the laying of pipelines. This corresponded exactly with the technological / political role that Statoil needed to take in order to challenge the power of the foreign companies. As early as 1968, following the discovery of the small and at that time uncommercial Cod field, a committee had been set up to evaluate the possibility of bringing oil ashore on the Norwegian coast.[22] Following the Ekofisk find, the issue was raised again, requiring yet another report.[23] The major challenge was the same Norwegian Trench which had created uncertainty in the boundary negotiations.

For Phillips, the choice was simple. The markets for the Ekofisk oil and gas lay on the European continent and in Great Britain. Both oil and gas could be transported without huge difficulty in pipes laid at depths of 60 to 70 metres near the field, which became shallower the closer they came to land. The Norwegian Trench was around 360 metres deep on the alternative route. Furthermore, the underwater terrain was quite rugged. A look at the map shows that it would hardly have made good economic sense to bring the Ekofisk reserves ashore in Norway and then send them back in the same direction. Because of water power, Norway did not require much oil itself. The important point, however, was the feeling of being dictated to by Phillips. Phillips' key argument was that it was technologically impossible to cross the Norwegian Trench by pipe. As long as the Norwegian report, whose conclusions were different, was nothing more than a superficial evaluation, it was the operator's engineering know-how which decided the outcome.

The question of the Norwegian Trench and pipelines ashore came up again in 1974 in connection with the development of the Frigg field (116 billion sm^3 gas). This time, the question was dealt

22 Tore Jørgen Hanisch and Gunnar Nerheim, *Norsk oljehistorie* [Norwegian oil history], Oslo 1992, p. 156.

23 NOU [Official Norwegian report] 1972 no. 15, *Ilandføring av petroleum* [Bringing petroleum ashore].

with by a committee whose know-how was considerably greater.[24] Once again, though, the parliament had to bend to the operator Elf's assessment. Since the Frigg field stretched into the British sector, it was feared that the British might drain Norwegian gas if agreement was not reached on a development strategy.

In contrast with this, when the Statfjord field was developed Statoil set up its own engineering department to elaborate real plans for a pipeline ashore. Statoil paid more than 100 million kroner up to January 1979 to various subcontractors who explored the possibility of an oil pipeline project. These reports were on a completely different level than earlier reports. We now know, with the benefit of hindsight, that Statoil pushed ahead too fast in some areas. The available technology depended on divers going to extreme depths and carrying out demanding tasks. This was impossible in practice without simultaneously risking serious damage to health.[25]

The Norwegian company optimistically concluded that it was possible to bring oil ashore. At this point, however, there was great uncertainty around the development of the Statfjord field because of major cost overruns. Parliament, which had been pushing to secure industrial ripple effects by bringing the reserves ashore, had got cold feet. Thus the solution which was chosen involved piping the Statfjord oil into tankers from large cargo buoys directly beside the large platforms. This was a year *after* the small group from Benin sought advice from Norway.

When Arve Johnsen was asked in connection with Statoil's twentieth anniversary which decision had been the most important of the company's first fifteen years, he answered that it was the 1981 parliamentary decision to construct the Statpipe.[26] What might sound like praise for the parliament's decision was of course a lightly disguised way of emphasising what Arve Johnsen thought he and Statoil deserved the credit for. The Statpipe was to bring the Statfjord gas ashore to Kårstø, just north of Stavanger. It would be processed there and then shipped back across the Norwegian Trench. Initially, it was then connected to the pipeline network from Ekofisk, where the state had a majority of shares via Statoil thanks to the intense negotiations of 1973. The decisive point for Statoil was that the company had not only led the engineering work prior to construction; it was now to implement the parliamentary resolution by constructing and operating the actual pipeline.

The pipeline was in operation by 1983. In the event foreign participation was nevertheless considerable. The pipes were laid by the American firm McDermott; the diving was split between the Norwegian company Seaways and the French Comex. Two years later, in October 1985, gas from Statfjord could be transported underwater to Germany via an onshore processing terminal in Norway.

Arve Johnsen was probably right. The Statpipe, and the conquest of the Norwegian Trench at last, was probably the single moment where Statoil most clearly realised what had been a central goal at its foundation. Statoil had done what was politically desirable – and technologically feasible. Kårstø, Kolsnes, Stura, Mongstad, Tjellbergodden, the Snøhvit plant near Hammerfest – none of the many major petroleum-related industrial projects along the Norwegian coast – could have been realised if the Statpipe project had not succeeded. But by this point it was 1985, not 1978.

"Strategic Heights"

If the Benin representatives had the impression that Norway had already mastered the many challenges linked to oil activities seven years before the first really significant Norwegian-led operations in the North Sea, this impression was also shared by Norwegian public opinion. There were various reasons for this exaggerated faith in domestic exploits. The most important was that all the Norwegian actors had a strong interest in playing up their own know-how. The

24 NOU [Official Norwegian report] 1974 no. 40, *Rørledninger på dypt vann* [Deep water pipelines].

25 NOU [Official Norwegian report] 2003 no. 5, *Pionerdykkerne i Nordsjøen* [Pioneer divers in the North Sea]. Kristin Øye Gjerde og Helge Ryggvik, *Nordsjødykkerne* [The North Sea divers], Stavanger 2009.

26 The information comes from *Statoil Magasin*, reproduced in Bjørn Vidar Lerøen, *Troll, gass for generasjoner. AS Norske Shell*, [The Troll field: gas for generations. Norwegian Shell], no date (the book discusses events up to 1996).

contractor industry wanted to secure contracts, while the Norwegian oil companies wanted to secure strategic concessions and operator roles. In this context Statoil had the best strategic position. With its 50 % ownership of the Statfjord field, the company could constantly emphasise its own role without objections from Mobil. Arve Johnsen had ensured that Statoil led the Statfjord group's information section. A Norwegian press corps which liked emphasising Norwegian feats did not ask whether this gave a distorted impression of who was actually carrying out the tasks in the North Sea.

But in the years which followed things did in fact move quickly. According to the original agreement, Statoil should have taken over the operatorship of Statfjord after ten years, in 1983. It was nonetheless a milestone when the company finally took over responsibility from Mobil in December 1986. The same was true for the start of production on the Gullfaks field just before Christmas that year. Statoil initially held 91 % ownership of Gullfaks, which was allocated in the fourth round of concessions in 1978. The remaining 9 % were owned by Norsk Hydro. In other words, this was a 100 % Norwegian-owned field. Statoil had used Esso as a "technological assistant", but had been operator itself from the prospecting phase through to construction and operation. Gullfaks was a giant field (360 million sm^3 oil). This represented slightly more than half the oil in Statfjord. Since the development of Gullfaks took place in parallel with the preparations for the takeover of Statfjord, Statoil now had two different strategic bases.

The control given by owning and operating two of the North Sea's largest fields were without doubt the most important "heights" gained in Statoil's positioning under Arve Johnsen. They were not the only ones, however. In the course of his 16 years as director, the company established a solid position in the downstream aspect of the oil industry. Socio-economically, it is very important – both for oil producing countries and those that are dependent on importing petroleum products – to secure the greatest possible industrial ripple effects associated with processing oil and gas. In the 1960s, before the oil finds in the North Sea, Scandinavian countries competed with each other to secure the refineries set up by the major oil companies to serve the region.

Where conditions exist for free competition, refining can be seen as a case of pure capitalism, rather than the realisation of economic rent as in the case of the production of oil from large oil fields. Refineries are rarely able to produce the same profits as ownership of a large oil field. If the largest oil companies have nonetheless owned and operated refinery plants for large parts of their history, one reason is that their secure access to crude oil, large organisations and marketing apparatus makes them able to operate such plants more profitably than others can. Oil directors with a long track record have also found that in periods of major consumption growth, refining capacity can prove to be a bottleneck. During the low oil prices at the end of the 1990s, the financial markets rewarded oil companies which divested themselves of their refining capacity. Many oil companies concentrated their investments upstream, where it was easiest to produce economic rent. However, immediately prior to the financial crisis, the world's refining capacity had once again become too small.

It can be particularly difficult in countries with potentially large oil reserves to understand the political economy of the downstream side of activities, precisely because many companies are playing a strategic game where the goal is first and foremost to secure access to large oil fields. In Norway, it was only Arve Johnsen and Statoil who had the strategic aim of establishing a fully integrated oil company with independent positions at all stages of the production chain. For all three Norwegian oil companies, however, establishing themselves downstream was shaped by tactical positioning in order to secure their most important goal, lucrative allocations in future concession rounds.

This was particularly true of the smallest of the three, Saga. The private Norwegian alternative consisted of shipping capital and had no oil know-how. Since the company was competing with foreign companies which did, it depended on political goodwill to secure ownership and positions that it could establish itself from. In this situation, an otherwise liberally-oriented shipping milieu played a game which depended on Norwegian protectionism to succeed. With the hectic activity that was taking place in the Norwegian sector in the 1970s, there was simply no room for a second or third

operational Norwegian company. For Hydro and Saga, the key task was thus to hold on tight to downstream positions in order to appear as Norwegian "oil companies", with goodwill and claims on concessions in the next phase of development of the sector.

In the early 1970s, Norsk Hydro had already secured its position with the Mongstad refinery to the north-west of Bergen. This plant was originally built by BP; soon Statoil and Saga also joined as owners. All three Norwegian companies became owners around the same time in a petrochemical plant at Rafnes in Bamble in Telemark, 150 km south of Oslo. Hydro was to operate an ethylene plant, while Saga was to operate a polyolefin plant. Polyolefin was far outside the shipping world's starting know-how. Neither the refineries nor the petrochemical plants produced large profits. Saga nearly bankrupted itself with its involvement. The company was initially saved by finally getting a lucrative allocation (the Snorre field).

The upshot was that Statoil took over both the Mongstad refinery and large parts of the chemical industry. Saga could thus concentrate on its owners' initial interest, securing a share of the oil rent from the Norwegian sector as a result of lucrative preferential allocations. Even Hydro, which was after all initially an industrial company, did the same. A clear distance developed between the company's oil department and its traditional industrial field of interest (fertiliser, aluminium, magnesium and so on).

It was cost overruns associated with the extension of the Mongstad refinery forced Arve Johnsen's departure as Statoil's leader in 1988. At a time of low oil prices, the refinery seemed to be draining money. Johnsen's "strategic positioning" nevertheless paid off years later, showing good profits when oil prices rose.

The development of Norwegian outlets for petrol and other oil products was also shaped by political games and economic positioning. For a long period, Statoil was prevented from selling oil products itself in the Norwegian market. Industrial politicians had developed a compromise under which the three Norwegian oil companies – Statoil, Norsk Hydro, and the private company Saga – were to sell petrol and oil products jointly under the name Norol. The state was the main shareholder, with the rest divided between the three companies. Norol began from BP's old petrol station network in Norway. None of the three companies, however, were particularly satisfied with the arrangement. Both Statoil and Norsk Hydro compensated for this with extensive purchases of petrol stations in the rest of Scandinavia. Statoil also expanded into other northern European countries. As early as 1978, Statoil bought out Hydro and Saga's shares in Norol. It took more than a decade, however, before the state's shares went to Statoil. Only in 1991 could the company sell petrol under its own name in Norway. Saga became a pure crude oil company, while Hydro gradually withdrew from retail.

Tax and Negotiating Power

The wave of nationalisations and attempts at establishing local oil capacity which took place in many oil producing countries in the 1970s was replaced by a corresponding neo-liberal counter-wave in the 1980s. Ironically, the large profits realised by many OPEC countries in the 1970s was one important element of the process that led to this counter-wave. Corrupt leaders deposited enormous amounts in American banks. Since investment possibilities were poor in the USA, this money was lent to speculative projects in growth areas in the global South, not least in Latin America. The financial crisis which followed gave institutions like the World Bank, the International Monetary Fund (IMF) and the Global Agreement on Trade and Tariffs (GATT, later WTO) the power to push through comprehensive privatisation and deregulation measures.[27] In medium-sized oil producing countries like Colombia, Ecuador, Argenina and Peru it was precisely the energy sector which was targetted. Pressure was also directed at larger oil producers like Brazil, Mexico and Venezuela.

The neo-liberals believed that oil-producing states should leave the oil industry to established multinational oil companies. It was these companies who had mastered the technology. The same was

27 Susan George, *A fate worse than debt*, London 1988. Susan George, *The debt boomerang*, London 1992.

true for the associated multinational contractor industry. The reasoning was roughly as follows: "If at each crossroads the cheapest foreign alternative had been chosen, the total profit would have been greater, and thus there would have been more left over to tax."

This was the ultimate realisation of Ricardo's theory of comparative advantage, but without considering his theory of economic rent. No country was to place barriers in the way of international investments. All forms of protectionism which shielded or supported local industries in one way or another had to be combatted because they disrupted competition. Direct state involvement in industrial activity was condemned.

This kind of thinking has on occasion led to the proposition that Norway should also have relied on the services offered by foreign companies, and that all attempts at localising the industry entailed large additional costs which reduced profits, and in turn reduced the possibilities for taxing the companies. If this argument has never been taken entirely seriously – even when neo-liberalism made its ideological breakthrough in Norway in the 1980s – this was because the history of oil in Norway had demonstrated all too clearly that there was a direct connection between local technological know-how and economic and political power.

In the conflict over pipeline routes, as we have seen, the Ministry of Industry experienced this when Phillips, and later Elf and Mobil, used their technological competence to push for solutions which were economically beneficial for the companies, but did little for Norway in socio-economic terms. This was even clearer to the officials of the Ministry of Finance. It would not have been possible to secure a correspondingly high government take for the Norwegian state if it had not held a technologically skilled Statoil in reserve – which could take over everything if the companies were to hold back.

Before the first round of concession allocations, one of Shell's representatives showed Evensen a calculation in which the Norwegian state would end up with a somewhere between 60 % and over 70 % of the wealth, depending on how great the costs were in relation to income.[28] With the reduction in royalties and the targetted tax reduction for oil companies which Evensen forced through, Norway stood to see a lower government take from the Norwegian sector than, for example, Great Britain's at the same period.

In case of a major find, where the costs were low in relation to income, the government take could have ended up little higher than 50 %. Even if the tax reductions prior to the concession allocations could be seen as part of a package, there was no formal rule preventing the state from changing tax levels subsequently. This immediately became an issue once the size of the Ekofisk field became known. Phillips and the rest of the Ekofisk shareholders appeared to be in a position to collect large quantities of economic rent. When in 1974 the government, via the Ministry of Finance, wanted to raise the tax on oil companies, the foreign companies protested loudly.

The new tax proposal entailed a royalty (tax on production) calculated on a sliding scale between 8 % and 16 %, an ordinary company tax corresponding to that on land-based business (50.8 %) and a special tax of 25 %.[29] At the same time, it laid down that the authorities could define a standard price for the purposes of tax assessment. The companies would have considerable possibilities for tax deduction of costs. Altogether, though, this was a dramatic sharpening of taxes. Norway now wanted to secure a government take of around 80 %.

All the major companies sent angry letters to the government when the proposal was presented. Both Shell and Esso made statements which could be interpreted as saying that they would rethink their future in the Norwegian sector if the proposal was accepted.[30] The loudest protests, naturally, came from the owners of the Ekofisk field: except for the new royalty system, the tax increases were also to apply to Ekofisk. Phillips' lawyers pointed out that it was unreasonable to introduce rules with retrospective effect. Once again, the oil companies met with considerable sympathy on the

28 Archive of the Continental Shelf Committee. Letter from C.F. Driessen (Shell) to Jens Evensen. January 7th 1965.
29 Hanisch and Nerheim 1992, p. 434.
30 Ibid.

part of officials in the Ministry of Industry. However, the Norwegian Ministry of Finance, which had a long experience of issues related to economic rent, did not let itself be scared off. Its underlying understanding was the same as in the Norwegian water power regime: the state had to aim for the greatest possible share of the economic rent from large fields like Ekofisk to go to the community.

The Ministry of Finance assumed that as long as the oil companies secured profits which corresponded to, or were higher than, those in other industries, they would nevertheless choose to remain in the Norwegian sector. Furthermore, since the establishment of a Norwegian state company was in progress, there would also be an alternative if the companies made good on their threats of withdrawing from the Norwegian sector. Sure enough, even Phillips chose to conform. Phillips was not only risking its position in relation to Ekofisk, Norwegian authorities could also punish the company indirectly, particularly during later allocation rounds. However, Norway's negotiating strength was based most decisively on the fact that it had an alternative if the foreign companies ultimately withdrew.

Conclusion

The first major strategic oil policy conflict in Norway was about bringing pipelines ashore. This was no coincidence. Throughout oil history, the ownership of pipelines and the choice of routes has always been very significant, both for who secured the oil rent and for what economic side benefits were to come of the industry. In Bolivia, the international oil industry wanted to build a pipeline over the Andes mountains to the Pacific coast in order to export oil to American consumers, rather than building a distribution network which could contribute to badly-needed economic development in the region. In Ireland, where gas has been found off the country's beautiful west coast, the local population is fighting a pipeline and associated refinery which will have destructive environmental effects. The common feature here is the confrontation with a powerful industry which uses a combination of ownership power and technological power to further its interests.

4. THE NORWEGIAN CONTRACTORS

The establishment of Statoil was already an important step in the process of localising the oil industry in Norway. However, it was also intended as an instrument to ensure the largest possible proportion of Norwegian supplies to the new industry. Measured by the number of work places, suppliers or contractors make up a far greater proportion of the oil industry than the oil companies themselves. This is true for most oil regions around the world, although the proportions can vary somewhat.

Some of this proportion represents services which are not particularly specific to the oil industry. There are, however, also companies which manage technologies peculiar to oil activities. In some cases these companies use technology which is at least as advanced as that found within the major oil companies themselves. For a country seeking to secure national governance and control of oil activities, then, the relationship to the contractor industry will be very important, whether the industry is local or international.

The Relationship between Operator and Contractor

The economic parameters of the contractor industry are different from those of the oil industry, in the sense that it is more of a traditional capitalist activity based on competition. Firstly there are large contractors who sell goods and services directly to the oil companies. Then there are more specialised companies which sell products to contractors. These in turn can have their own

subcontractors. The market conditions for a typical oil contractor, however, are clearly different from the kind of free competition model which underlay Adam Smith's theories. In many oil regions open to international oil companies, a considerable proportion of the contracts comes from a limited number of major oil companies. Both big and small contractors thus find themselves in a relationship of constant dependence on the oil companies, particularly on those companies which at the time in question are operators as well as owners in their licensed field.

Independently of whether the allocation of oil blocks takes the form of auctions (as in the USA, Iraq etc) or the allocation of concessions (as in Norway), most oil fields around the world which are open to foreign participation are owned by consortiums. The owners of a *licence* act in practice as a board for the *operator*, which leads the work itself. Often, the company with the largest ownership interest has the operator role; however, this is not always the case. In Norway and most other oil producing countries, it has been the authorities who have chosen which company should have the operator role. But in some countries, where the authorities permit this, the companies can choose for themselves, on the basis of various tactical and strategic interests, which member of an ownership consortium is to be the operator.

Some companies have earned fortunes simply through the speculative buying and selling of interests in oil fields. From the beginning, Norwegian authorities had a restrictive approach to companies which did not have oil-technological know-how (with the exception of Norwegian ones, which were to be trained). Large, established oil companies can also have an interest in buying up or selling off their share of particular licences for more or less speculative reasons.

Nevertheless, most major oil companies see the role of operator as very important. This is essentially the same logic which brought Norwegian authorities to seek to establish a national oil industry: besides the share of income secured by being one of the licence owners, an operator can benefit from the industrial ripple effects. This relates both to income (which can be entered in accounts as expenditure for the ownership group as a whole and is often

tax-deductible) and the development of technological know-how. In many cases, too, the networks established through physical presence in a given oil region will be important in positioning prior to future allocations. And, importantly, an operator will often have a decisive influence over which companies are used as contractors. In the Norwegian sector, it was obvious from the start that operating companies tended to choose contractors which they already had relationships with. This meant that the majority of the first companies to secure contracts were American.

Even if one limits oneself to upstream oil activities, there is a range of diverse skills which have to be brought together before one can locate, and potentially start production of, oil and gas. The relationship between oil companies and contractors has changed considerably since oil prospecting started in the Norwegian sector in the 1960s. The main trend has been a tendency for oil companies to increasingly focus on finding, owning and controlling oil fields, while a considerable proportion of other services are contracted out to other firms. This relates both to offshore and land-based oil activities.

Already at the end of the 1960s, there were large contractor companies which followed the oil companies around the world. Since then, however, there has been a consolidation process. Many of the key capacities which the companies do not possess are now concentrated in a few global contractors, each dominating its own special field. Those who followed the 2010 Deepwater Horizon tragedy in the Gulf of Mexico closely through the media will have discovered that on a drilling platform only a small proportion of the crew are actually employed by whichever oil company is formally the operator for drilling. The work in this case was carried out by the rig owner and drilling company Transocean. The drilling was followed by the arrival of the Halliburton company in connection with testing the well, the supply of drilling mud and so on. Those who followed still more closely will also have noticed that the so-called blowout preventor was supplied by the Cameron company, which specialises in this. All three are contractors on a global scale in their own areas. Incidentally, Halliburton does far more than simply service oil wells.

The First Phase of Prospecting and Development: Foreign dominance

During the first phase of prospecting in the Norwegian sector, much of the work was carried out by the American company Odeco, which owned the rigs and drills used by many of the oil companies that were granted concessions in the first two rounds. Odeco brought both supervisors and oil workers who had experience from the Gulf of Mexico.

From the very first drilling season, the company employed a number of Norwegian oil workers. This was hardly done just to satisfy Norwegian authorities, who were concerned from the start to ensure Norwegian jobs. Firstly, Norwegian workers started with much lower wages than the Americans. They were also cheaper to employ (shorter travel times etc.) It was no coincidence that the first Norwegian company to secure a contract in the sector was Christiana Dampkjøkken, a catering company from Oslo. It was logical for the company providing catering services to be close to the bases. In the 1960s there were as yet no globally oriented companies providing such services.[31] The new industry could thus create some local ripple effects independently.

The challenge for Norwegian workers was to secure skilled jobs in the areas that the oil industry saw as central areas of know-how. In the same way, it was difficult for Norwegian companies to break into the parts of the industry which were seen as strategically important. But insofar as oil activities in the North Sea had a unique maritime character (higher waves, colder and deeper water, further from land), where even American companies with a background in the Gulf of Mexico fell short, there were some fields where Norway had an advantage. In the 1960s, Norway was the world's third largest seafaring nation by tonnage. Not only did Norway have a large fleet with skilled sailors, but almost every coastal town had a substantial shipyard, with both skilled workers and good engineers. Even before the international economic crisis that followed the oil price shock of 1973/1974, this industry was starting to experience increased competition from Japan and Korea. There were thus strong incentives to find alternatives.

Many Norwegian shipping companies threw themselves into the market for prospecting rigs immediately after the Ekofisk find became known. This happened without strong state incentives. Several rigs were built in Norwegian shipyards. In the prospecting bonanza that was the North Sea in the 1970s, this produced both workplaces for Norwegian shipyard workers and good profits to the actual owners. Here Norway had a significantly different starting-point from countries in the global South with correspondingly large oil reserves. Norway had both a capital base and skills which could relatively easily be converted to oil activities.

However, even the drilling equipment on board these rigs was produced and installed by American experts. Furthermore, it was American drilling entrepreneurs who ran the drilling operations proper when the semi-submersible rigs were used. Norwegian workers had a self-image as extremely competent, western, skilled workers. On the rigs, they found themselves working at the bottom of the task hierarchy. Many felt they were discriminated against.

From the moment of the big oil finds, it was no longer prospecting but the construction and operation of production appliances which became most important for contractors and jobs. Here, too, there were areas where foreign companies preferred Norwegian firms and workers without being forced to do so. Transporting the large installations that were to be built entailed both major technological challenges and costs. In the same way as with the prospecting rigs, it was advantageous to transport production workers out by helicopters as close as possible to the installations. But insofar as most of the installations were almost exactly in the middle of the North Sea, they could have just as well have been managed from Great Britain, which was a few years ahead of Norway in its development. There would also have been no reason why another North Sea country with a suitable geographical location could not have played such a role – Denmark, West Germany, the Netherlands, Belgium or France. If the Norwegian share of

31 In the 2000s, catering services could be supplied by global contractors such as Sodexo or Compass Group.

the action was nevertheless relatively large, there were various conditions which played a part in this.

Geography was an advantage in one decisive area. The deep Norwegian fjords were very suitable for producing the concrete under-structures of the gigantic installations which were then towed out into the North Sea. From the construction of the Statfjord platforms until the Troll and Sleipner installations in the 1990s, the under-structures were built in concrete. The Troll platform, which has a total height of 472 metres, could not have been built in the same way in Great Britain. The choice of concrete as a material was of course good news for that part of Norwegian industry which had built large dam projects during the development of water power.[32] With Norwegian-produced under-structures, the conditions were created for the platform itself and part of the production equipment on it to be supplied by firms in Norway.

In relation to the large, fixed production installations, it was also an advantage that Norway started with a developed mechanical industry. But the transition from building ships to constructing complex processing equipment on oil platforms at sea required a considerable upgrading in know-how. Neither were any of the shipyards along the coast large enough to take on independently the challenges they faced. There was thus a process of comprehensive mergers, where individual groups of shipyards soon appeared as parts of concerns which specialised in offshore tasks.

Direct and Indirect Protectionism

However, neither the geographical advantages nor the contribution of Norwegian industry were enough to ensure that Norwegian participation was as large as it was to become. The decisive factor in achieving this was the overarching political goals and the instruments which were employed to realise these. Many of these were openly protectionist. Clear signals were sent that companies which did not contribute to raising the share of Norwegian contractors would be punished during later concession rounds. A section of a 1972 law required Norwegian goods and services to be preferred in cases where they were economically competitive. Companies were requested to use Norwegian workers where possible. There were also more indirect measures, like support for training in oil-related expertise and the creation of state research institutions to support Norwegian companies.

At least as significant as intentionally protectionist measures was the indirect localisation effect that followed from establishing the Norwegian regulation regime offshore. Measures whose initial purpose was to establish a high safety and environmental standard, to regulate the workplace or health issues, played perhaps the greatest role in giving an advantage to Norwegian firms and workers. Even the more conservative government which took over in 1981 demanded that foreign firms should accept the rules of the game within the established Norwegian tripartite relationship between trade unions, employers' associations and the authorities.[33] The requirements that the oil fields' operational organisations had to be based in Norway, that all documents and contracts had to be set out in Norwegian, and that the working language on the platforms was to be Norwegian, could be justified on social and safety grounds. They nevertheless had the effect of giving companies who understood the Norwegian system an advantage. For similar reasons, it benefitted foreign companies to maintain a position in Norway and employ Norwegians in key positions. Even arch-American companies like Phillips and Esso eventually developed relatively "Norwegian" operational organisations.

Together with the authorities' demands and regulations, Statoil – with its ever more dominant position – was a decisive motor in the localisation process. Here, Statoil's 50 % ownership of the Statfjord field was to prove decisive once again. The construction

32 Ole Andreas Engen, "The Development of the Norwegian Petroleum Innovation System. A Historical Overview" in *Innovation, Path Dependency and Policy: The Norwegian Case* (eds. Jan Fagerberg, Bent Verspagen & David Mowery), Oxford 2009.

33 Helge Ryggvik and Marie Smith-Solbakken, *Norsk oljehistorie bd. 3: blod, svette og olje* [Norwegian oil history, vol. 3: Blood, sweat and oil], Oslo 1997, p. 271.

of the three giant platforms Statfjord A, B and C was to be a model for many of the constructions that followed. By this point Arve Johnsen had discovered that if it was relatively easy to get foreign companies to accept Norwegian contractors in areas which were not particularly specific to oil activities (transport, catering and so on), it was far harder for Norwegian companies to gain a foothold in the areas which could be defined as the core of the oil business. He also saw, in relation to major construction projects, that the company and milieus which carried out engineering tasks at any given time (a key area of know-how in itself) in turn set tight parameters for which contractors would be chosen.

In this context, he used Statoil's ownership power to press Mobil, the operator, to agree to give the engineering tasks for Statfjord B to the newly-started Norwegian engineering firm Norwegian Petroleum Consultants (NPC). The outcome was a compromise which was characteristic of the process of transmitting technology. NPC was to be operated in a joint venture association with the American firm Brown & Root. Brown & Root were to lead this development. On Statfjord C, however, NPC was to lead the process.

A comparable joint venture had previously been formed between Brown & Root and the traditional Norwegian shipbuilding firm Aker around the construction of Statfjord A, again as a result of Statoil pressure. In relation to the allocation of contracts for Statfjord B, however, Statoil signalled that the company was not willing to give a free pass to any given Norwegian milieu for all new contracts. In autumn 1977, the strategic shipyard contract for Statfjord B was given to the competing shipyard group, Kværner. The process was very dramatic. In Aker the defeat was felt so strongly that one of the employees responsible committed suicide.[34]

34 Håkon Larvik, *Statfjord. Nordsjøens største oljefelt* [Statfjord: the North Sea's largest oil field], Stavanger 1997.

A Competitive Norwegian Contractor Industry?

In the early 1980s, the Norwegian shipbuilding industry went through a serious crisis. A series of Norwegian shipyards were closed. Some survived by specialising in building supply vessels for oil activities. The bulk of skills, however, remained with Aker and Kværner, which secured comprehensive contracts in both the 1980s and 1990s around the development of the big oil fields. The decisive point for both was that they developed ever more advanced engineering know-how. In practice, NPC was overtaken by Aker. In the 1990s, it was no longer a case of oil companies coming to shipyards to get particular platform constructions screwed together. The old shipyard firms could now make their own demands on the companies. The majority of the employees were no longer skilled workers with certificates in welding, but highly trained engineers and computer experts. None of this would have been possible without start-up help from Norwegian authorities and Statoil.

The history of the Norwegian contractor industry is a complex one. Not all start-up attempts were equally successful. Furthermore, the contractor industry was always far more vulnerable to economic conjunctures than the oil companies. In periods with low oil prices, the companies could save on expenses by reducing new investments (prospecting and the development of already known fields) and live off established fields. This hit many contractors directly. In the 1980s alone, the contractor industry experienced two such crises. The low oil prices at the end of the 1990s led to a similar crisis.

Many Norwegian company groups ended up as parts of large foreign companies. However, there were also examples of Norwegian capital milieus which started out as parts of Norwegian companies and made comparable buy-outs abroad, eventually establishing large international companies. The common feature of the vast majority of these was that in the start-up phase they were assisted by various forms of Norwegian protectionism.

Thus the Norwegian diving company Seaway could never have built itself up without Statoil's influence, which helped it to secure strategic roles in the Statfjord field and in laying the Statpipe gas

pipeline.[35] The company also benefitted from the state-supported underwater research institution Norsk Undervannsinstitutt (NUI). In 1992 the company bought up the French diving company Comex. Over the years which followed, the company developed further, establishing itself globally as an underwater firm (Asergy). Similarly, Petroleum Geo Services (PGS), a company which today supplies advanced seismic services internationally, benefitted considerably from various forms of protectionism in its early phase. The same goes for companies like Kongsberg Offshore (KO) and Smedvig (later Seadrill). Even the multinational drilling and oil rig giant Transocean, which received a lot of publicity as a result of the role of its rig in the blow-out in the Gulf of Mexico in spring and summer 2010, is linked to this regime of Norwegian state support.

Towards the end of the 1980s, the Aker-controlled drilling company, Aker Drilling had achieved a market share of about 60 % of all production drilling in the Norwegian sector. In 1990, Aker Drilling was split from its mother company. Immediately afterwards, Aker bought up a somewhat smaller rig company in the British sector. This company's name (Transocean) was suitable for international expansion. Through buy-outs, mergers and reorganisations, the company built itself up through the 1990s to become a significant drilling firm in all international offshore markets. In 1996, the company was bought by a group of American owners. This was a hostile buy-out, in the sense that it was not initiated by the company's Norwegian leadership. But the figure offered was so large that the temptation proved too much for its Norwegian owners. Later, this ultra-maritime company was registered as Swiss. A company made up of units which were initially nurtured as part of Norwegian protectionism had thus ended up as a global, nationless entity.

The core of the Norwegian contractor industry, however, remained tied to Aker and Kværner, which as we have seen came from the shipyard world[36]. In the 1990s, both companies tried to secure contracts linked to offshore activities abroad. Kværner, which was particularly expansionist, broke itself trying to take over a large British shipbuilder and offshore contractor. The company was saved by capital from Aker, leading to a merger between the two companies in 2002. From 2008, the oil-related part of the company goes by the name Aker Solution. With about 22,000 employees and branches distributed around all the key offshore regions around the world, the company has become a globally competitive contractor. A key part of its wealth creation and technological development happens in Norway. At the same time, the company is vulnerable to an international buyout. When its owner, Kjell Inge Røkke, threatened to sell to a foreign buyer in 2007, the state chose to take up a 30 % ownership share. This was a unique case in the sense that hitherto the state had only contributed by creating the right conditions for Norwegian contractors. Now, the state's ownership role was intended to prevent a situation where a technological milieu built up over time was eroded through the company's core functions being moved out of the country.

35 Kristin Øye Gjerde and Helge Ryggvik, *Nordsjødykkerne* [The North Sea divers], Stavanger 2009. p. 336.

36 Espen Forsberg Holmstrøm, *National Dynamics or Dynamic Nationality,* ESST Oslo 2010.

Conclusion

Norway's experience would have looked very different without the many strategic interventions undertaken during Arve Johnsen's period as the key figure of the Norwegian oil world. The historical timing was good. While foreign companies were to dominate the first wave of developments (Ekofisk, Frigg, Statfjord A), Norwegian oil companies and contractors could dominate the second (Statfjord B og C, Gullfaks, Oseberg (375 million sm^3 oil)).

It would have been far harder to gain this access without the power to ensure that Norwegian companies and expertise could play such an important role during the crucial development phase. Norway had established its protectionist regime in part following on a corresponding radicalisation in many other OPEC countries. During the 1970s and early 1980s, it was still unproblematic for western industrial companies to establish these kinds of national supports. From the end of the 1980s, this situation was starting to

change. Organisations like the IMF, the World Bank and GATT / WTO had already been fighting against such national protectionist measures in many countries in the global South for most of the 1980s. With the creation of the EU's internal market, the pressure grew for Norway to conform to this policy.

When around 1990 globalisation became seen as a serious trend, it was argued that national ownership and control was no longer the important issue and that what mattered for a nation was its workforce and the firms' know-how.[37] The experience of Norwegian oil policy definitely shows that know-how is important, not least in enticing wealth-producing investments aimed at securing access to oil rent. At the same time, though, historical experience also shows that strategic ownership and control has often been decisive in the development of this know-how. This is true both for oil companies and the contractor industry. The problem with parts of the contractor industry, as the example of Transocean shows, is that private owners have little loyalty to national interests when foreign buyers can offer sufficient money.

Norway joined the EU's internal market with the EEA (European Economic Area) agreement in 1993. This meant that a series of protectionist measures which had been built up around the contractor industry had to be removed.[38] It was no longer possible to demand that foreign companies should create Norwegian subsidiaries.[39] The section of the 1972 law which required Norwegian goods and services to be preferred where they were economically competitive was repealed.

But during the third wave of developments, which was happening more or less simultaneously (Snorre (250 million sm^3 oil), Troll, Sleipner (180 billion sm^3 gas) and others) the Norwegian oil milieu could benefit from the know-how which had been built up in the earlier period. Just as there had been informal networks between the major multinational oil companies and leading, preferably American, contractor companies, there were now networks linking the dominant Norwegian oil companies and national contractors. The indirect protection given by Norwegian safety regulations, moreover, was still in operation.

The oil workers also showed that there was scope for change, even within a strongly international free trade framework. Before the introduction of the EEA agreement, the oil workers' trade unions went on a joint strike to demand an assurance that their trade union rights would be preserved.[40] They were successful, and it was clarified that oil workers' unions could demand the application of Norwegian pay rates if foreign companies secured work in the Norwegian sector. This clarification was to prove completely decisive.

37 Robert Reich, *The Work of Nations, Preparing Ourselves for 21st-Century Capitalism*, New York 1991. Kenichi Ohmae, *The Borderless World*, New York 1990.

38 Helge Ryggvik, *Norsk oljevirksomhet mellom det nasjonale og det internasjonale. En studie av selskapsstruktur og internasjonalisering*. [The Norwegian oil industry between national and international. A study of company structure and internationalisation.] 2000. PhD thesis, Oslo University, p. 116.

39 Ot. prp. [bill] no. 82 (1991-92).

40 Ryggvik and Smith-Solbakken, 1997, p. 314.

5. STRUGGLES AND HAZARDS

On May 20th 1978, the workers on the Eldfisk platfom on Ekofisk stopped work, in an illegal wildcat strike.[41] The immediate occasion for the strike was a British foreman who had struck a Norwegian. Land-based management immediately sent a helicopter to talk the workers down. Instead, the action was intensified. 400 Spanish-speaking workers took sympathy action, with a go-slow and refusal to carry out the work the Norwegians should have done. The foreman was transferred, but the event was the straw that broke the camel's back.

The strike was soon followed by a series of similar actions: this was a real revolt. Workers in the Norwegian sector would no longer accept the conditions they were offered. The general political goal of national governance and control, and the key strategic interventions taken in the early 1970s, determined the developments which followed. Nevertheless, it was the thousands of small battles fought out in each individual oil workplace which shaped the Norwegian oil experience more than anything else. Similarly, without popular mobilisation among the many affected by the huge new industry, many things would have been different.

Second and Third Class Workers

Countries that open up to investment from the international oil industry for the first time often find that the industry's relationship to society changes between the phase where companies are competing

41 Ryggvik and Smith-Solbakken, 1997, p. 232.

for the allocation of prospecting areas, and the phase where the actual work is carried out. In the complicated game played before the opening up of new oil regions or the allocation of new concessions, the oil companies put forward those representatives they believe to inspire most trust. Whether the relationships which are developed are corrupt or not, showing your face and establishing networks are important. Even in states where democratic traditions are weak, many companies will emphasise the creation of a positive popular image. In this same introductory phase, moreover, the same oil representatives will work intensively to affect the way the local regulation regime is shaped.

Admittedly, there were occasional loud-mouthed, cigar-smoking American oil directors who confirmed some of the preconceptions of American oil people that Norwegian civil servants held in the 1960s. Most, however, were found to be professional. Shell already had a substantial Norwegian branch with a Norwegian leadership that often presented the company's front in negotiations. Other companies employed Norwegian lawyers. It was only when foreign companies built up operational branches responsible for concrete tasks that people really found out what they represented.

North Sea oil activities were a natural development from activities off the coast of American states like Louisiana, Alabama and Texas. It was not only the companies and the technology which were transferred: the companies which came to Norway brought a working culture which shocked many Norwegian workers, particularly those with a trade union background and experience of regulated conditions in industry. Even if a good proportion of the foremen were British, they had been trained by the same companies, within an "Americanised" work regime. Norwegian oil workers spoke about, and to, their American superiors as "Yankees". In fact both "American" and "Yankee" were incorrect. Although oil companies like Esso and Mobil had their headquarters in New York at this point, it was the Southern states which had been the cultural centre of the upstream portion of the USA's oil industry. While the American trade union movement had made some inroads in individual refineries in the North, it never succeeded in gaining a foothold in the South. This fact still shapes its working culture in the Gulf of Mexico.

It did make a difference whether Norwegian oil workers came from the construction industry, were seasonal workers from agricultural districts in the Southwest, marines looking for diving jobs, sailors or were traditional industrial workers. For example, sailors, who were used to formal class differences where captains and officers ate at their own table or in their own mess, sometimes saw positive aspects to the far more jovial and less formal American foremen. Most Norwegian oil workers, however, came from backgrounds which put a high value on collective rights and protection from arbitrary attacks on the individual.

If one tried to get one's work colleagues to join a trade union in the 1970s, the results were often very poor. Norwegian oil workers could be fired the same day and sent home in a helicopter, either for opposing a decision or simply for being disliked. At times they had the feeling of being a group of second-class workers, in the way they imagined the companies treated people when they operated in the Third World.[42]

There was, however, a group of third-class workers as well. In the Gulf of Mexico, the companies had a tradition of hiring in Latin American workers for the most dangerous and dirtiest tasks. This practice was introduced to the North Sea in the 1970s. Up to the end of the 1970s, Spanish and Portuguese workers were hired by the thousand to carry out labouring tasks.[43] While Norwegian and English-speaking workers were flown out to the installations in helicopters, these workers were transported in open boats. Many worked for days without a break and found themselves out in the oil fields for months at a time.

42 Marie Smith-Solbakken, *Oljearbeiderkulturen, Historien om cowboyer og rebeller*. [Oil worker culture. A tale of cowboys and rebels.] Doctoral thesis, NTNU. Trondheim 1997.

43 Agustin Asenjo: *Norsk Olje □ spansk svette. Fremmedarbeidere og amerikansk kapital i Nordsjøen*, [Norwegian oil, Spanish sweat. Foreign workers and American capital in the North Sea.] Oslo 1979.

Dangerous Work

A work regime which sacrificed everything to get the job done within tight deadlines, and where work was often carried out over stretches of several days, was of course a dangerous one, both for safety and the environment. As early as 1966, during the Norwegian parliament's very first debate on oil policy, the committee spokesperson Edvard Hambro delivered a self-satisfied homage of the Norwegian spirit; Norway had already nearly become the world champion in oil safety.[44] At this point, the first well had not even been fully drilled. True enough, only a few months later a safety framework for prospecting drilling had been established.[45] Large portions of this framework, though, were proposals from the companies themselves. From the companies' perspective, it had little effect on existing practice. Furthermore, it was to take many years before Norwegian authorities had a system which could enforce the regulations.

Even after the Ekofisk find and the establishment of the Petroleum Directorate in 1973, many years were to pass before there was a regulatory regime that had any real effect on the oil industry's practice. It was only in 1976 that a framework for fixed installations was arrived at.[46] Divers in the Norwegian sector had no regulation until 1978. All of this was despite the fact that the first fatal offshore-related incident happened in the very first drilling season in 1966. Throughout this period, the general impression of Norwegian politicians and civil servants was that safety was good in the Norwegian sector. The fact, however, was that safety and the environment came second in the initial, chaotic, construction period.

Despite the overarching goal of a moderate pace of construction and exploitation, the activities tied to the construction of Ekofisk, Frigg and Statfjord were so intensive that all the relevant authorities and resources were pushed to the uttermost. The fact that safety and environment came second also had underlying economic causes. While other western countries were struggling with high unemployment and tightening public expenditure, Norway was continuing to develop the welfare state. The oil money had been spent in advance. Furthermore, as the main owner of the Statfjord field, the state had to bear large construction costs. These could not be covered until the oil was in full production. Both the Norwegian trade balance and the state budget had record deficits. The price that oil workers had to pay was a high one.

Between 1965 and 1978, 82 workers died in connection with activities in the Norwegian sector. In proportion to the number of hours worked, this was a very high accident rate. During the development of Ekofisk alone (between 1971 and 1977), 45 workers died. 16 of these were killed in helicopter crashes. Some accidents made headlines, like the wreck of the Deep Sea Driller platform on March 1st 1976, when six workers died, and a fire on the Alpha platform on Ekofisk the same year, when three workers lost their lives. The high overall total, however, is not a result of major catastrophes, but of multiple work incidents where one or two workers died. In the close-knit societies of the oil installations, all accidents were felt personally.

In Easter 1977, Phillips lost control during drilling from the Bravo platform on Ekofisk. The oil poured out for eight days before control could be restored. Luckily, the oil did not ignite. This could have set similar events in train to the blowout on the Deepwater Horizon in 2010 in the USA, where the platform melted as a result of the fire and the well had to be sealed in the depths under far more difficult conditions.

On March 27th 1980, the most traumatic episode in Norwegian oil history occurred, this one too on Ekofisk. One of the support pillars of the semi-submersible accommodation rig Alexander L. Kielland, broke in bad weather, with eight metre high waves. The platform immediately lurched between 30 and 35 degrees. The crew tried desperately to leave the platform. Only a handful managed to reach their life-vests. Three of the lifeboats were crushed against the platform. After 20 minutes it overturned, taking many people with it. Others struggled in the ice-cold water, surrounded by wreckage, to get onto the two lifeboats which had made it onto

44 St. tid. [parliamentary proceedings] (1965–66), p. 2260.
45 Ryggvik and Smith-Solbakken, 1997, p. 77.
46 Kgl. res. [cabinet decree] 9th July 1976.

the water undamaged. A few managed to swim to a neighbouring platform. 89 people were rescued in all, but 123 lost their lives.

For a time, what was associated with activities in the North Sea was no longer the dream of a Norway full of oil money. The Alexander Kielland accident added fuel to the fire of oil workers' dissatisfaction. They were no longer willing to be guinea pigs for activities which were apparently out of control. The rebellion seemed to be successful; there was suddenly a dramatic downturn in the number of accidents. Between the Kielland accident in 1980 and 1990, 13 people died in connection with North Sea activities. Even setting aside the Alexander Killand, this was about a tenth of the figure for accidents in the first period, despite the fact that the number of oil workers was far larger.[47] Seven of the thirteen dead were divers, a group whose safety problems were not resolved until the companies decided to carry out most underwater activities with robots (ROVs).

The changes in safety procedures dating from the early 1980s still constitute a central part of Norway's oil experience today. It is therefore crucial to understand the causal relationships and the key elements in these changes. In these changes, cultural, technological and institutional relationships interacted.

The Working Environment Act

The legal basis for the safety regulations which were established in the oil sector are to be found partly in the Norwegian Working Environment Act of 1977 and partly in the internal control system which was developed in stages by the Petroleum directorate and elaborated as a law in 1985[48]. The underlying philosophy of the Working Environment Act was developed independently from Norwegian oil activities. Earlier regulation of work conditions had been exclusively a relationship between the state and the employer. With the Working Environment Act, co-decision was extended to the workers. Employees gained the right to elect safety delegates. The safety delegates, who were linked via training and otherwise to the trade unions, had rights which directly affected the employer's right to manage.

The text of the Act itself was shaped by a philosophy which can be summed up thus: by contrast with much in previous health and safety, it was no longer the human being (the employees) who were to adapt themselves to existing technology. Employers were required to ensure that the technology was adapted to human beings. While an earlier trend in health and safety (behavioural safety) was linked to the psychologies of Skinner and Pavlov, the Working Environment Act was inspired by psychologists like Piaget and Maslow. One of the employment psychologists who was key to the formulation of the law later explained that she always used an illustration of Maslow's pyramid of needs when she had to explain the meaning of the Act.[49] Employers were to create workplaces where employees could realise themselves as human beings.

With the Ministry of Industry's support, the oil companies lobbied to ensure that the Working Environment Act did not apply offshore. In Great Britain, the same companies managed to secure an exception from the hardly less radical Health and Safety at Work Act.[50] However, unrest following the many accidents mentioned above was one factor ensuring that a strengthened version

47 Between the Alexander Kielland catastrophe and 1990, four times as many working hours were completed as between 1966 and the accident. In the early 1980s, reports of injuries increased, and subsequently fell later in the decade. It is generally agreed that a significant cause of the increase in the early 1980s was caused by greatly improved reporting systems, rather than a real growth in the number of accidents. The statistics on accidents can be found in the Petroleum Directorate's yearly reports. From 2001 on, the best statistics are in the report *Risikonivået på norsk sokkel* (Trends in risk level), published by the Petroleumstilsynet (Petroleum Safety Authority) from 2005.

48 *Lov om arbeidervern og arbeidsmiljø mv*. [Working Environment Act], February 4, 1977. *Lov om petroleumsvirksomhet på kontinentalsokkelen* [Oil Activities on the Continental Shelf Act] March 22, 1985.

49 *Arbeidsmiljø* [Working environment] no. 5, 2007. "*Med Maslow i lomma*" [With Maslow in her pocket].

50 Charles Woolfson, John Foster & Matthias Beck, *Paying for the Piper: Capital and Labour in Britain's Offshore Oil Industry,* London 1997.

of the law was applied to fixed installations in the Norwegian sector[51]. Mobile installations (including diving), however, were initially exempted from the law. The traditionally liberally-oriented Norwegian ship-owners were afraid of the radical law.

The letter of the law is one thing, but if the Working Environment Act came to be so significant in the oil industry, this was above all because the oil workers' industrial unrest left a significant layer of self-conscious shop stewards. The strike wave reached its peak in 1981, but regular outbreaks continued until 1986. This was the widest-ranging strike wave in Norwegian industry since the Second World War, in fact one of the most intense in Norwegian history altogether. Many of the strikes were over pay, but the unrest was above all a settling of accounts with the workplace regime that the international oil industry had brought to the North Sea. It was a question both of self respect and of being respected, of establishing oneself as a force which the industry had to take into account. One of the demands in a 1978 strike illustrates the first point. On many platforms, toilets either had no doors or had half-sized doors. The purpose was for foremen to be able to check that workers were taking the opportunity for a break. The workers demanded, and naturally got, full-sized doors. Oil workers now used the new Working Environment Act for all it was worth. Safety requirements were thoroughly oriented towards removing dangers. In this way, workers also took an active role in shaping the technology.

The Petroleum Directorate

The unrest among oil workers also affected the authorities' role in safety work. It took time for the Petroleum Directorate to develop the know-how and self-confidence needed to confront the oil industry. In summer 1974, the head of the Directorate's safety department resigned in protest at what he felt was a defective control structure. In the years which followed, the number of staff was increased. However, it was always difficult to control activities which took place so far out in the North Sea. Each inspection on the platforms posed major logistical demands. The problem with a traditional approach to safety, where the state developed a framework and companies then related to this, was that technological development was so quick and complex that it was hard to follow it with appropriate rules. When something went wrong, the companies could hide behind the claim that the state had failed because the regulations were defective.

While the Petroleum Directorate struggled to delineate where the state's responsibility ended and the operators' began, powerful forces connected to the Norwegian shipping industry pushed for a self-regulation system like that which operated in shipping, with a certification regime administered by an insurance company. Det Norske Veritas (DNV), which was owned by the shipping industry, made an active attempt to secure this role for itself. However, Fredrik Hagemann, as the head of the Petroleum Directorate from its creation until 1996, was highly sceptical of a privatised regime where the oil industry was largely left to regulate itself. Hageman later told the story of being warned by his father, a sailor who had little time for the way the ship-owners managed health and safety.

The final institutional solution for the safety challenges was entitled Internal Control.[52] The system was a hybrid, combining the intentions of the Working Environment Act and the Pollution Act with an element of self-regulation. It laid down unambiguously that it was the responsible operator who at any given time was responsible for safety. The concept of management by objectives was introduced. This meant that companies must not only refer to existing regulations but take care to prevent accidents. Firms were obliged to develop internal safety systems (hence Internal Control) which ensured this. Where the authorities had not laid down regulations, the companies themselves were to introduce safe procedures. The Petroleum Directorate's role was above all to check that the companies had well-functioning safety systems, rather than carrying out detailed checks out on the oil installations.

51 Kgl. res. [cabinet decree], July 24th 1977.

52 *Retningslinjer for rettighetshavers internkontroll* [Guidelines for concessionary's internal control], May 15th 1981. Internal Control Regulation, determined by cabinet decree, March 22nd 1991.

After the Deepwater Horizon disaster, the American safety authorities (Mineral and Mining Services (MMS)) have been criticised for defective regulation. By comparison with the system developed in the Norwegian sector, the American regulations are more detailed, and the number of inspections per installation is far more frequent. However, when the Norwegian Petroleum Directorate first carried out inspections, it could look at a far wider range of issues than its American sister organisation.

The Petroleum Directorate's safety department (from 2005, the Petroleum Safety Authority) could demand not only that companies had safety systems which produced good results. There were also guidelines for how these safety systems were to operate. The so-called managing directives laid down that firms should concentrate on designs which eliminated dangers, or on robust technological solutions. In other words, the Working Environment Act's philosophy was extended, and it was technology which was to adapt itself to people rather than the other way around. From the end of the 1990s, the same perspective was expressed through a strong focus on the establishment of independent barriers. If something went wrong in one place there was to be a back-up solution to prevent an event developing further, in the worst case scenario into a catastrophic chain of events.

The most important difference between Norway and the USA, however, were precisely the regulations on safety delegates and the tripartite relationship between the authorities, the companies and the trade unions which had been established in the early 1980s. The safety delegates and shop stewards were a channel to bring up problems that arose in each individual workplace. The system was far from perfect; it was still the case that some safety delegates had to worry about reprisals if they raised difficult issues. In some cases local groups of workers could find that they had an interest in covering up problems, in case the company they worked for might lose a contract or something similar. The relationship to strong trade unions, however, was starting to balance this out.

The positive role of the safety delegate regulations on health and safety was clearly demonstrated at the end of the 1990s. After a period of low oil prices, many oil companies had saved on maintenance. There was a tendency to choose cheap and less robust technological solutions. The companies insisted that they were nevertheless in control of the safety challenge. Many companies had introduced safety systems using management by objectives, which visibly led to a reduction in the number of reported days lost to injury. This could involve prizes and bonuses for work groups which achieved long periods without injuries. Against this background, they claimed that safety had never been better. However, the safety delegates and safety specialists in the trade unions, who knew where the shoe was pinching, were having a rather different experience at work. After a rather disturbed period with many serious near-accidents, they were supported by the Petroleum Directorate. Many statistics showed that the trend was in the wrong direction. The oil industry was forced to increase its investment in health and safety. In many contexts, including in Norway, it has often proved to be the case that a serious accident is needed before a problem is taken seriously. Here, however, was an example of a system which managed a comparable investment *before* a major accident occurred.

Immediately after the Deepwater Horizon disaster, the American Interior Secretary Ken Salazar intervened to announce that MMS was to be divided into two institutions. It was said that it was unwise for the same institution to be responsible for maximising state income from the oil industry and simultaneously responsible for health and safety. The debate prior to MMS' breakup included a discussion of Norway, where the Petroleum Directorate's resource division and its safety division had been divided into two independent institutions from 2004. Since this breakup came so late, it can hardly be seen as a key marker of the Norwegian oil experience. The question of independence was nevertheless crucial in how far the Petroleum Directorate (and later the Petroleum Safety Authority) was able to operate as a real regulator, together with the equally important question of power and resources. An institution's independence makes little difference if it is not taken seriously and if it lacks the means to enforce its requirements.

In most countries, including in the global South, the aim is to establish a regime which covers safety-related questions before the

start of prospecting and extraction of oil and gas. However, in many countries the simplest solution has been chosen, which is for regulation to fall under the responsibility of the same state department that works with the oil industry through allocating concessions etc. In many countries with state oil companies, safety regulations are handled by these (Venezuela, Azerbaijan etc.), because this is where the relevant local know-how is found.

The importance of the Petroleum Directorate as an independent institution, separated from the state-owned Statoil, was clearly demonstrated as early as 1976, when the Petroleum Directorate demanded that Statfjord B separate out accommodation on a separate platform for safety reasons. Even if Arve Johnsen was supposed to represent social interests via Statoil, he was by now so strongly focussed on the company's economic interests that he supported the operator Mobil and rejected the demand. After a lengthy conflict a compromise was reached. There was no separate accommodation platform, but the platform's design was fundamentally changed, with a clear division between accommodation and the production space with firewalls and so on. For the Petroleum Directorate, the conflict was about demonstrating both its independence and its power.

The question of independence was underlined again in 1978, when it was decided that the Directorate's resources division was to report to the newly created Ministry of Petroleum and Energy, while the safety division was to report to the Ministry of Local Government and Regional Development. There was also the state's Pollution Agency (SFT, from 2010 KLIF – the Climate and Pollution Agency), responsible for issues relating to emissions and general oil emergencies, which reported to the Ministry of the Environment. This institutional separation was important, both because it ensured a certain degree of independence and because it created more open democratic channels into what could otherwise have been a far more closed oil system. In the years which followed, there were many open conflicts with popular mobilisation of local milieus, pitting fishery organisations, environmental groups and trade unions on one side against the oil industry's interest groups on the other. These encounters were finally resolved by conflict and interaction between these various state institutions.

Conclusion

The Norwegian sector's systems for safety and the workplace environment have never been perfect. The degree to which health and safety has actually been taken seriously has always remained a matter of determination and power. Typically, to get the oil companies to take the idea of *internal control* seriously and not simply create regulations on paper, the Petroleum Directorate had to threaten reprisals in future rounds of concessions for those who did not comply. From the early 1980s, the oil unions have had a relatively strong position. But the balance of power has shifted. In the 2000s, both Norwegian oil companies and contractors have used American systems for safety and management which rely on philosophies that conflict with the assumptions of the Norwegian Working Environment Act. Instead of recognising the workers as a collective, these philosophies seek to break up solidarity between workers by making the issue of change one of a relationship between the employer and the isolated individual.

A telling example of where the system did not work was the oil industry's treatment of divers. When the oil companies were technologically unable to drill, produce oil and lay pipelines without divers, the Norwegian oil industry as a whole had an interest in carrying out both trial dives and actual working dives in the depths of the Norwegian Trench (360 metres). If the Petroleum Directorate had put its foot down in relation to the divers' safety, it would have created a decisive limitation on the industry's development. The North Sea divers were the only group of oil workers who neither went on strike nor managed to establish strong trade unions in this period.

Issues of safety and the workplace environment will never be reducible to a neutral science. They are, and will remain, questions linked to ethics and values. It is possible to put all responsibility onto the individual worker, and systems can be built based on blind discipline. Nevertheless, historical experience shows that systematically prioritising robust technology, and designs which either eliminate or reduce dangerous work, are the most effective over time.

6. FROM "A MODERATE PACE" TO THE WORLD LEADERS IN QUICK EXTRACTION

If we look at the experience of oil producing states, it is easy to see why many people cling to the hope that there must be one country which has managed it – that despite everything oil income can be a blessing, not simply a curse. The facts are overwhelming, as is the relevant literature. Things have so often gone wrong. Look, for example, at the list of the world's most corrupt countries according to Transparency International: Azerbaijan, Angola, Libya, Nigeria, Iran, Venezuela and Saudi Arabia are all petroleum producers.[53] All these countries are either involved in civil wars, or in regions where wars are constantly being fought. The direct or underlying cause of these wars is the struggle for strategic control of the world's oil and gas reserves.

There are two possible kinds of explanation for the curse of oil. One points to external conditions. Oil is a valuable resource which others also want. Most oil lies in poor parts of the world, while most consumption takes place in the rich part. When rich countries, themselves often in conflict with each other, use their economic, political and military power to further their interests vis-à-vis oil producing countries, this can prevent positive long-term development in these countries. This is what is often called imperialism.

On the other hand, there are internal conditions, linked to the fact that oil creates economies based on collecting rent, not primarily on productive work. Many people have pointed to the history

53 Transparency International, *Corruption Perception Index* 2002.

of Spanish gold as an example of how a large income source did not necessarily in the long run contribute to creating a livelier society. In the late 1970s, a rather narrow theoretical evaluation of the same conditions was offered by the concept of the "Dutch disease".[54]

The Canadian Terry Lynn Karl gave a broader historical and sociological description of the phenomenon in his well-known book *The Paradox of Plenty*.[55] A somewhat pointed reading of Karl can be summarised as follows: in a well-rounded economy, where wealth creation is based on productive work, the elites of even the most oppressive state have an interest in investing in the long-term development of their own population. In an oil economy, however, the elite, in alliance with foreign oil companies, can to a large extent manage without its own population. Of course elements of the surplus may be shared among the population, but rather as tribute to secure loyalty and prevent political unrest. At times, moreover, elements of the elite who feel that their share is too small can mobilise the general population with promises, but the only outcome of any political change is for a new elite group to secure access to the siphons of wealth.

The fact that so many oil-producing countries look to Norway to find out if there is a real alternative to the curse of oil is a sign that there is a widespread awareness of this phenomenon. This is a good starting-point. At the same time, it appears as if interest in Norway is particularly great in countries where the initial disadvantages seem particularly large, not least when the oil fields in question are in environmentally vulnerable areas. In this case the suggestion that lessons have been learnt from the Norwegian oil experience can give a false sense of security, when an overall evaluation of social and environmental costs would conclude that the oil should actually remain underground. Thus it is even more important to understand the key aspects of this side of the Norwegian oil experience.

Certainly there is no sign of Norway being hit by the most extreme variants of the curse of oil. Norway is not on the brink of civil war. The fact that Norway created a large petroleum fund can be seen as a successful way of managing the oil income. Norway has partly avoided the "Dutch disease" by preventing its oil income from producing too much overheating in the Norwegian economy. In one way or another, most Norwegians have already received a personal share of the economic rent from the North Sea reserves, which is injected into the Norwegian economy in various ways beyond that which is placed into the petroleum fund.

Only history will be able to give a final verdict on this. Much can change in a mere decade. The Norwegian oil industry is now intensively pushing, even after the Deepwater Horizon accident, for access to one of our most naturally beautiful and environmentally vulnerable areas. This fact shows how Norwegian oil policy has failed its own starting point on the entirely decisive issue of the pace of extraction.

Things began well in this area. Even if white paper no. 25 (1973–74), mentioned in chapter 2, outlined how the oil wealth was to contribute to creating a "qualitatively better society", this was to happen without a "swift and uncontrolled growth in the use of material resources".[56] The key instrument for achieving this was the maintenance of a "moderate pace in the extraction of petroleum resources."[57] The aim was to prevent the conversion costs of adapting to an entirely new industry becoming too high. With a moderate pace, the resources would last longer. The country would also be less vulnerable on the day which sooner or later must arrive, when nothing was left.

The big question was naturally "what actually constitutes a moderate pace of extraction?" It soon became clear that the parliamentary majority's "moderate" ceiling of 90 million tonnes of oil equivalent was based on over-optimistic estimates as to the possibility of expanding production on Ekofisk. It was only after production was in full swing on Ekofisk, Frigg, Statfjord and Valhall, and the Gullfaks startup was in process, that the figure of 90 million tonnes was reached. Thus the pace chosen was not particularly moderate.

54 "The Dutch Disease", *The Economist*, November 26th 1977.
55 Terry Lynn Karl: *The Paradox of Plenty: Oil Booms and PetroStates*, Berkeley, California, 1997.
56 Op.cit. p. 6.
57 Ibid.

The goal of 90 million tonnes, however, would come to seem very moderate by comparison with the development that followed.

Rather than being consistently the most careful country, in 2009, Norway comes close to holding the world record for high-speed production, by comparison with the country's total reserves. The best indication for this can be seen in BP's statistical overview of annual oil production measured in comparison to total reserves (reserves/production - R/P - ratio).[58] According to the 2009 statistics, Norway only has 8.3 years of oil production left, if production during those years is maintained at the same level as the start of 2010. By comparison, countries like Venezuela, Iran and Saudi-Arabia, according to the same statistics, would be able to maintain today's production level for 91.3 years, 86.2 years and 69.5 years respectively.

The R/P rate cannot be used as an unambiguous historical yardstick for a country's rate of development. This depends not least on when production started up in the country in question. By comparison with the three oil countries named above – and with most other oil producing countries – Norway started production late. This fact, however, only strengthens the impression that Norway has been extracting its oil very quickly. Even the USA, where production has continued for 150 years and where the pressure for expanded production has been extreme in recent decades, is better placed than Norway. The USA can produce oil at its current rate for 11.7 years into the future.

The only countries which are worse-placed in the statistics than Norway are Thailand, Colombia and Great Britain. The first two can hardly be compared with Norway, because their production only comes from a few fields. Colombia is also restricted by the fact that large parts of the rain forest areas, where the oil companies believe there are possibilities of finding oil, are unexplored because of civil war. Great Britain, which can produce oil at the same rate as today for merely six more years, is a comparable case – and is

58 *BP Statistical Review of World Energy* 2009, p. 6. BP's annual statistics give a good overview of the development of the world's energy production. It is accessible on their website (http://www.BP.com). Historical statistics are also to be found there (BP Statistical Review, Full Report Workbook).

the only country which has unambiguously chosen to force the pace of construction and extraction faster than Norway. But with a population twelve times the size of Norway's, oil never achieved a comparable weight in the British economy and society as a whole.

This situation has been massively under-communicated by the responsible political and professional institutions, the Petroleum Directorate and the Ministry of Petroleum and Energy. Even the Ministry's official petroleum statistics for 2008 claim optimistically that Norway has only produced "36 % of what are calculated as the total resources in the Norwegian sector".[59] 36 % sounds considerable better than the figures from BP. Oil activities have, however, continued quite intensively since the 1970s, more than 30 years ago. Even if we are still far from half-way through, will it be possible to continue activities at this intensive rate for many decades to come?

The most important difference between the two pictures is hidden in the words "what are calculated as". While the Norwegian authorities present figures which include uncertain estimates of potential future finds, and assume the development of technology that can increase the production rate in existing fields, BP's figures are limited to already-proven reserves. One has to look in a statistical appendix right at the back to find the comparable figures in the official Norwegian statistics. From these, it appears that, at the end of 2009, Norway's proven reserves were 8,176 million sm^3 oil equivalent (o.e.). [60] These consisted respectively of 4,350 million sm^3 oil and 3,252 billion sm^3 gas (1000 sm^3 gas = 1 sm^3 o.e.). The rest is made up various forms of condensate. The figures of currently proven reserves which are believed extractable are 3,166 million sm^3 o.e., respectively 868 million sm^3 oil and 2,041 billion sm^3 gas.[61] Putting these figures together, Norway has produced 61.3 % of all proven reserves, and 38.7 % remain. If one looks at oil pro-

59 Ministry of Petroleum and Energy, *Fakta norsk petroleumsverksemd* [available in English as *Facts – the Norwegian petroleum sector*] 2008, p. 15.

60 Op.cit., s. 211.

61 Op.cit., s. 215.

duction alone, the figures give a particularly dramatic impression. Here, Norway has only 19.9 % of its proven reserves left.

The best yardstick for how far Norwegian oil production has come on its historical trajectory is probably the development of actual production rates, year on year. In 2009, Norway produced 238.6 million sm^3 o.e.[62] This was made up of 115.5 million sm^3 oil and 102.7 billion sm^3 gas. Oil production reached its peak in 2000 at 181.2 million sm^3. The next year it was roughly the same size. This means that in a period of eight years, production has fallen more than 36.5 %. All the main actors in the period in question did everything they could to extract the maximum oil possible. If the total level of production did not fall as dramatically in the same period, this is because of a growth in gas production which compensated for the fall in oil production. Of course, this means that the gas reserves will also run out sooner.

The Petroleum Directorate, as we have seen, was created as a neutral instrument to contribute to the most socially appropriate extraction of the oil reserves in the Norwegian sector.[63] It is clear that while the Directorate did to a large extent play this social role in the early phase of Norway's oil history, it is far more closely tied to the interests of industry in the difficult withdrawal period. In a situation where interest in the Norwegian sector is falling, the Directorate has an interest in presenting the situation as optimistically as possible. If the Directorate's forecast is to be fulfilled, of course the companies must be willing to invest. This presupposes the most optimistic view possible of the prospects of new finds.

As in other oil-producing countries, the future of the Norwegian sector will remain dependent on the changing prices of oil and gas. There are oil and gas fields which are very likely to continue producing for decades even if the prices fall. Production can of course be maintained for far longer than the 8.3 years named in BP's statistics. If production is halved, it could continue for twice as long.

62 Ministry of Petroleum and Energy, *Fakta norsk petroleumsverksemd* [available in English as *Facts – the Norwegian petroleum sector*] 2010, p. 35.

63 Its resource department continued under the same name when its safety department became an independent institution.

The main problem of the Norwegian sector is that by expanding activities so massively, its vulnerability to a fall in total production is increased. By starting production on ever more small and medium-sized fields, the so-called break-even point - the oil price required to ensure profitability - has grown considerably through the 2000s. Even if the long-term trend is for the price of oil to remain high, Norway risks seeing large parts of the industry hit by a crisis if there is a temporary fall in oil prices. As matters stand, production has already fallen considerably. The intensification of efforts to maintain production at a high level risks increasing the size of a future fall in total production.

When the representatives of the official "Oil Norway" travel around to communicate Norway's good oil experience, they rarely mention the extent to which the country broke with all attempts to restrict the pace of extraction and the level of activities. Instead what is highlighted is typically the establishment of the petroleum fund (officially known as the Government Pension Fund). In autumn 2010, the value of the petroleum fund reached 3,000 billion kroner (about $520 billion). The gigantic petroleum fund is a result of the intensive pace of extraction. The lesson which is taught is often that by keeping large oil income out of public budgets, the negative side effects of "Dutch disease" can be avoided. Translated to far poorer economies in the global South, this gives a message which fits with the long-standing key message of institutions like the IMF and the World Bank: "by all means extract the oil quickly, but don't use the profits for public projects. Put the money in western financial funds".

If Norway had used the oil money in the ordinary economy at the same rate it flowed in, there would undoubtedly have been seriously negative consequences. Given the overheated pace of extraction, saving part of the profit was entirely necessary. But the alternative - a far slower oil pace, spreading oil income over a longer period - would probably have given Norway far higher profits. In the period between the end of the 1990s and 2010, the price of oil has risen far more than have either share prices or the kind of securities where the petroleum fund's administration has put the money.

To those who argue for keeping the oil income outside public finances, it is worth noting that it was not before the 2000s that the petroleum fund really started expanding. By that point, Norway had been carrying on oil extraction for 30 years. As late as 1998, the value of the petroleum fund was less than 200 billion kroner. Throughout the 1970s, Norway built up welfare services based on future oil income. Throughout the 1980s and 1990s, considerable sums were pumped into public budgets to maintain and improve these services. The money which has been placed in the petroleum fund in the 2000s is income which follows on major expenditures. From this point of view, then, Norway has a very oil-dependent economy. Despite the size of the fund, the country will face major challenges when production falls and expenditure becomes larger than income.

What was it that caused Norway to break with the best intentions that it started with for a sensible long-term oil policy?

From a Ceiling on Investment to Free Rein

Like much of the western world, Norway experienced a political and ideological swing to the right in the 1980s. In 1981, the conservative Kåre Willoch took over as prime minister. He governed until his departure in spring 1986, in later years with support from two centre parties. The Norwegian turn to the right was mild, however, by comparison with countries such as Margaret Thatcher's Britain or Ronald Reagan's USA. The welfare state, the radical Working Environment Act and other forms of regulation of work remained intact. In the field of oil policy, individual politicians used the attempt to regulate production with a "ceiling" of 90 million tonnes as an example of pro-regulation politicians' incompetence at managing economic activity. At this point, production was far below the goal in question. Nevertheless, the goal of a moderate pace still found considerable support both from the political right and the left.

In 1983, the so-called "Tempo Committee" presented a report which abandoned calculations based on what was described as "magical figures", and instead aimed for the goal of a steady level of investments.[64] Despite this aim, investments continued to rise strongly until about 1985, when they reached around 25 billion kroner. Their level remained around 25 billion annually up until 1987. In January 1988, parliament finally agreed that total investments should be limited, precisely to 25 billion.[65] At this point, production was in the process of reaching the earlier ceiling of 90 million tonnes. The new regulation was to be administered on a "first-come, first-served" basis. The Ministry of Oil and Energy was to withhold permission to start major construction projects if necessary.

For anyone familiar with the Norwegian oil industry in the 1980s, it was clear that a level of 25 billion kroner in annual investments would lead to an all-encompassing level of activity. The long list of major fields that were developed, with giant installations like Statfjord B, three enormous Gullfaks platforms and much more, was a concrete expression of this. But soon after the "ceiling" was agreed, parliament agreed a series of extension measures which opened the way for galloping growth in oil investments. In 1993, investment was up to 53 billion kroner annually.[66] In the same year, this unconstrained growth was justified as follows in a white paper on conditions in the oil industry: "Activity levels in the petroleum industry are to a considerable extent dependent on conditions we cannot control".[67] The starting-point for Norwegian oil policy had been a strong desire to secure "national governance and control" of the industry. Now the Ministry of Petroleum and Energy claimed that this was impossible! In 2008, before the financial crisis, investments had reached around 122.7 billion.[68] Calculated in 1988 prices,

64 NOU [Official Norwegian report] 1983:23 *Petroleumsvirksomhetens fremtid (Tempoplanen)* [The future of oil activities (The tempo plan)].
65 St. meld. (white paper) no. 1 (1987–88).
66 Statistisk sentralbyrå, *Historisk statistikk* [historical statistics] 1994, p. 396. The Petroleum Directorate's *Facts* gives a figure of 57 billion.
67 St. meld. (white paper) no. 26 (1993–94) *Utfordringer og perspektiver for petroleumsvirksomheten på kontinentalsokkelen* [Challenges and perspectives for petroleum activities on the continental shelf], p. 54.
68 Ministry of Petroleum and Energy, *Fakta norsk petroleumsverksemd* [available in English as *Facts – the Norwegian petroleum sector*] 2009, p. 210.

this corresponded to 75 billion kroner. This was thus a tripling of a level of investments which had been very high at the start.

This dramatic change in Norwegian oil policy was introduced without any real political debate. It was never explicitly stated that Norway had broken with the goal of a moderate pace of construction and extraction. For those politicians who had difficulty in breaking with what on the face of it seems to be common sense, economists with a strong faith in the financial markets had constructed a sophisticated counter-argument.

This argument started from the assumption that oil was capital. The theory was that oil which was pumped up and converted into securities was worth more than oil which just lay there. With the faith of the period in financial markets, the argument seemed logical. Placed in securities, oil income could yield interest from day one. Norway could also be made less dependent on developments in the price of oil by spreading the risk. That part of the profits from oil activities which was so large that it was not swallowed up by future investments and consumption, what would become the petroleum fund, could be spread across a spectrum of different financial markets. This argument was based on the condition that there was no reason to believe that the value of oil and gas would rise significantly higher than the value of shares in other types of business.

The decisive cause of the change in Norwegian oil policy, however, was not the banal faith that key economists had in the financial markets, but the fact that Norway had developed an oil-industrial complex which in many ways had its own interests that were in opposition to society as a whole. The direct occasion for the change was the first really large economic crisis in Norway since the Second World War, with significant levels of unemployment.

The crisis had clear elements of "Dutch disease". Profitability was low in branches of industry other than oil. The large quantities of oil rent which flowed over Norwegian society in the 1980s contributed instead to an inflated property market. The fall in the price of oil after 1986 burst the bubble. The big banks were bankrupt, and would not have survived if the state had not taken them over. The answer to the crisis was to remove all possible restrictions on the growth of the oil industry. The result was as expected. However,

the level of activity was now nearly twice as high as it had been before. This implied oil companies, contractors and workers who would be hard hit if the pace of exploitation was not maintained at at least the same level. Thus a spiral had been created, which pointed upwards but was unsustainable in the long term.

The Climate Dilemma

It was the UN-appointed Brundtland commission's report which more than anything else brought the concept of sustainable development into the international political vocabulary.[69] The commission, led by Norway's ex-prime minister Gro Harlem Brundtland, put human-created climate change on the public agenda. The commission's report was followed by a convention written during the UN conference on environment and development in Rio de Janeiro in 1992. The Rio convention was followed by the so-called Kyoto protocol in 1997. The convention entailed that all countries that ratified it were to stabilise emissions of climate gases at a level corresponding to that of 1990.

With a Norwegian ex-prime minister as one of its initiators, and a generally strong self-image of Norway as an environmentally conscious nation, there was strong political support for the UN's new environmental regime. Here too, Norway was to be a pioneer. The Norwegian civil servants who took part in the quota negotiations naturally raised the point that Norway's position as an oil producer made its situation a bit unusual. Thus Norway was allowed to raise production by 1 %.

As early as 1991, in other words before the first formal UN resolution, Norway seized the challenge of introducing a tax on CO2 emissions. The tax affected both petrol emissions and emissions linked to oil production. Norway was different from other oil producing countries, which often subsidised petrol for their own

69 Brundtland Commission, *Our Common Future, Report of the World Commission on Environment and Development to the Year 2000 and Beyond*. Oxford, 1987.

population. The new tax was so high that petrol prices were higher than in neighbouring Sweden, which had no oil production itself. The CO2 tax on the oil industry certainly had an impact. Many oil companies had secured an exemption from the general goal of reducing gas flaring early in the 1970s. At that time the issue was saving natural resources. When each flaring directly cost money (0.47 kroner per sm^3 gas in 2010), firms had a strong incentive in reducing emissions.

But the politicians who had agreed these ambitious targets had not foreseen the consequences of simultaneously removing all restrictions on the pace of oil production. The many new installations in the ocean needed power. In practice this was solved by establishing local gas-fired power stations. Thus, despite all the good intentions, Norway came nowhere near meeting its target of stabilising at 1990 levels. Total Norwegian emissions rose from around 35 million tonnes to over 40 million tonnes. The oil industry more than swallowed up the other reductions which were made. Between 1990 and 2008, emissions from Norwegian oil industry rose from around 8 million tonnes of CO2 equivalent to over 14 million tonnes.[70] In order to compensate for this, Norway worked towards a system which enabled industrial companies to increase their emissions, in return for financing measures to reduce them in developing countries. Norway, and its later prime minister Jens Stoltenberg, contributed to the inclusion of this possibility in the 1997 Kyoto protocol.[71]

The dilemmas which Norway faces in climate policy have created strong oppositions, with the environmental movement on one side and the oil industry on the other. These positions have remained the same from the early 1990s until the UN's climate conference in Copenhagen collapsed in December 2009. Norwegian oil interests have claimed that since the Norwegian oil industry has lower emissions per unit of oil and gas produced than others, raising production is not destructive. The environmental movement points out that the greatest emissions from Norwegian oil occur when the oil is used elsewhere in the world – emissions which Norway unjustly escapes in its emissions calculations. The oil industry replies with the key argument which it uses the whole world over: oil and gas are still cleaner than coal.

Nobody can say for certain what the effect would have been if Norway had followed its initial goals, and thus operated instead at half its current level of production. As the world's third-largest oil exporter, this would certainly have affected prices. Higher oil prices would have been an incentive both to invest in cleaner, sustainable energy and to increase the use of polluting coal. The fact is that the 3,000 billion kroner which are now in the Norwegian petroleum fund presuppose enormous CO2 emissions, in North Sea production as well as in their use by consumers. By dramatically speeding up the pace of extraction, it became impossible for Norway to meet UN targets. Since high production now will lead to reduced production in future, a fall in directly oil-related emissions from Norway can also be expected. The dilemma, though, is that the less left in a field, the more energy required to bring it out.

Conclusion: End game in Vulnerable Northern Regions?

Bacalao is a well-known dish, not least in the Spanish-speaking part of the world. Its starting point is *klippfisk*, dried and salted cod. Since the Viking age, more than 1000 years ago, dried cod has been exported from Norway. Most of it has come from the naturally beautiful area around the Lofoten and Vesterålen islands in northern Norway, where cod from the whole Barents Sea and Atlantic Ocean spawn. This area was initially protected even when oil prospecting in the Norwegian sector moved north of the Arctic Circle. In the 2000s, however, as a consequence of the fall in oil production, the Norwegian oil industry has been lobbying intensively to open these areas.

70 Statistics Norway, *Emissions of greenhouse gases by source. 1990-2009*.

71 Ynge Nilsen, *En felles Plattform? Norsk oljeindustri og klimadebatten i Norge fram til 1998*. [A common platform? The Norwegian oil industry and the climate debate in Norway up to 1998.] Doctoral thesis, Unipub, Oslo 2001.

In spring 2010, the Petroleum Directorate presented a study based on seismic research, which estimated that upwards of 200 million sm^3 oil equivalent might be found in the area[72]. These estimates were naturally uncertain. It was possible that there was little or no oil in the area. As against this, one could reasonably estimate that there was not much more oil to be found than this. This was a disappointment for the Norwegian oil industry. Many had hoped that the area would represent a new springtime for the industry. 200 million sm^3 oil do not represent more than about 2 % of the total oil that has been produced in the Norwegian sector. However, to the Norwegian oil industry, which will be on the way out without access to new reserves, these potential reserves are more than enough for the industry to deploy considerable energy and resources in securing the political measures necessary to open up these vulnerable areas.

Thus, the historically extreme pace of extraction has really brought the contradictions of Norway's role as an oil producer and environmental nation to the fore. As this is being written, Statoil is travelling around promising jobs to the single Norwegian region which has received least from several decades of oil production. On the other side are the environmental movement, fishermen, the tourist industry and other popular organisations. The outcome of the conflict is not predetermined at this point. However, this is a question which will weigh heavily in the balance when the final assessment of the Norwegian oil age is made in the future.

72 Petroleum Directorate, *Økonomisk vurdering av uoppdagede petroleumsressurser i havområdene utenfor Lofoten, Vesterålen og Senja* [Economic evaluation of undiscovered petroleum resources in the sea areas off Lofoten, Vesterålen and Senja], Stavanger 2010.

7. A RUINED MODEL?

Norwegian society's struggle to secure national governance and control of the oil reserves necessarily meant, in the first instance, limiting the power of foreign oil companies. But what if the national institutions established to limit this power became interest groups themselves, without popular democratic control? Here we use the concept "oil-industrial complex", in reference to the well-known farewell speech of the American president Dwight D. Eisenhower in 1961, where he warned the nation against the military-industrial complex – an industrial, bureaucratic and political network whose agenda was opposed to society's interests, and which pursued an arms race for its own sake. The constantly growing activity levels in the Norwegian sector produced an oil-industrial complex which was in many ways just as dominant in the Norwegian context as the military industry had ever been in the USA.[73] Even though some kind of national control had been secured, there was no guarantee that local elites would not find various ways to siphon off the national oil fortune.

If much of the enthusiasm generated around the establishment of national oil policies in many southern countries in the early 1970s had declined a few decades later, this was not least because many national, state-owned oil companies had established themselves as impenetrable monolithic powers, often characterised by thorough-going corruption. The fact that institutions like the

73 When Eisenhower introduced the concept of a military-industrial complex, the USA's military expenditure made up about 10 % of the country's GNP. In 2008, oil represented 557 billion kroner of Norway's total export income (918 billion), or 60 %. Statoil Hydro had a turnover which corresponded to the total of the eight next largest companies in Norway.

IMF and the World Bank could achieve a wave of privatisations in the energy sector in the cash-strapped Latin America of the 1990s without too much opposition is due in part to a general popular disillusion with the state companies. In a country like Venezuela, however, it soon proved that various forms of privatisation were an even greater goldmine for those elites which were in a position to enrich themselves from the national oil fortune.

By comparison with many countries in the global South, where there was often no clear division between political representation, the state bureaucracy and the operational business activities of a state oil company, the Norwegian version of state enterprise was rather more transparent. With the establishment of a dedicated Petroleum Directorate, which was to be in principle the state's professional body for managing the resources in the most socially appropriate way, a milieu was created that could evaluate the actions of the state-owned Statoil from a more neutral starting point.

The fact that the Petroleum Directorate's safety regulation function was first separated out as a branch reporting to a department other than the Ministry of Petroleum and Energy (in 1978) and was later established as an independent institution (the Petroleum Safety Authority, in 2005), similarly contributed to establish a sort of institutional counter-weight to Statoil's dominance as a source of expertise. The state's Pollution Control Authority (SFT, now KLIF), which reported directly to the Ministry of Environmental Protection on issues linked to oil emergency planning and potential environmental emissions, played a comparable role.

However, the institutional division of powers within the state apparatus could not of itself outweigh the real constellations of power linked to technological skill and the control of the oil rent. The combination of an ever-larger operational organisation with great technological skill and the right to a correspondingly ever-greater share of the oil fortune contributed to Statoil's dominant position as the source of expertise for most oil policy-related questions. The first to see this as a serious problem was Norway's prime minister in the 1980s, Kåre Willoch.

In his memoir on his time as prime minister, Willoch wrote that Statoil had become a state within the state.[74] As leader of the conservative party Høyre (The Right), Willoch was on principle sceptical of state participation in the economy. From this point of view, his scepticism about Statoil can be seen as an expression of the neo-liberal wave which affected many countries in the 1980s. The interesting thing, however, was his reasoning. Once the income from Statfjord began to come in serious quantities around 1980, Statoil had a far greater freedom of financial action. The combination of its position as the majority owner of all new blocks and a serious crisis in the shipyard industry along the Norwegian coast gave Statoil many options. Many local politicians were willing to give their loyalty if their region could be assured of strategic investments. Willoch said at one point that Arve Johnsen had greater influence in parliament than he did. Another key problem, as Willoch presents it, was that Statoil had nearly achieved a monopoly as the source of expertise for technological solutions.

Whatever political priorities a prime minister or president might support, he or she would be entirely dependent on the complex evaluations which are taken within technological milieus. These milieus are by definition loyal to the leadership of the company they work for, not to the prime minister. If a company has a different agenda than that which serves the whole society, it is in a position to use its power to further its own interests. In most situations, it will not even become known whether this power has been consciously or unconsciously used in this way, because no-one else has the resources or skill to inspect what takes place.

The problem with Willoch's attempt to present Statoil as an undemocratic monolith is that the alternative – an oil industry dominated by correspondingly powerful private actors – was even less democratic. Willoch's argumentation and unease was nearly identical with that which had been felt vis-à-vis the foreign companies in the 1970s. By placing so much stress on the dominant actors' technological power, and the way in which they could use their size to determine who received contracts and who did not, Willoch

74 Kåre Willoch: *Statsminister* [Prime Minister], Oslo 1990, p. 287.

actually demonstrates how important it was that Statoil was set up as an operational company. Without Statoil, the foreign companies would still have had a "total" power at this point. Willoch sought to overcome the dilemma he faced through two key measures.

In his time as prime minister, Willoch contributed to creating the conditions for the semi-state Norsk Hydro to be established as an operational company in the Norwegian sector. With attractive concessions, Hydro also gained access to part of the oil rent. Willoch saw clear advantages in the existence of an alternative, competent Norwegian engineer milieu which could stand up to the monopoly situation that Statoil was creating. The trouble with establishing yet another operational Norwegian milieu was that this increased the pressure on the self-imposed limitations on the pace of extraction. An operational development organisation constantly needed major new contracts to maintain its organisation. This pressure did not diminish when, immediately after Willoch's departure, the private Saga firm also received the green light to set up an operational organisation to manage the Snorre field (238 million sm^3 oil).

Petoro

The most important restriction of Statoil's dominance, however, was the company's so-called "wing-clipping" in 1984. With major ownership shares of all allocations after 1972, Statoil was soon to generate so much income that it could have acted as a Ministry of Finance for the whole country. The political left also found this problematic. In spring 1984, parliamentary parties agreed on a compromise which stripped the company of its comprehensive ownership rights.[75] Statoil kept its shares of fields which were already in production or close to completion. On the large Troll field (1,300 billion sm^3 gas), significant ownership shares were taken from the company. From now on, the state's involvement in oil activities was to be split in two. One part, as previously, was to be controlled by Statoil. The other part, the state's direct financial interest (SDFI) was to be directly controlled by the state, as the title suggests. The aim of the division was among other things to prevent Statoil alone having an automatic majority in all owner groups and hence control of the construction and management of the fields. In practice, the state was not to use its direct ownership share to vote in the various groups, but retained the right to do so. With this, it was felt that national control had been preserved.

The establishment of SDFI was an important if little-known part of Norwegian oil policy. SDFI was to prove an effective instrument for collecting oil rent for the nation. Its ownership shares were especially concentrated in fields where it was expected that income would be particularly high. Up to 2001, SDFI operated as a state holding company, without operational activities, managed by a small administration – in practice a small office in the Ministry of Oil and Energy. Around the year 2000, SDFI was managing oil reserves of a size about three times greater than Statoil's.

In 2001, SDFI was established as the state holding company Petoro. Its headquarters was moved from the Ministry to a somewhat larger administration in the oil town of Stavanger. Petoro still had no operative responsibility, but measured in reserves and income it remained far larger than Statoil. In 2008, Petoro's best year, the company represented 158.8 billion kroner of the state's total oil revenue. 239.6 billion came from taxing the oil companies, while only 16.9 billion was Statoil profit. From this point of view, Petoro was a success. That does not mean, however, that it was an alternative to Statoil. Without Statoil's technological know-how, it would not have been possible to secure such a large share of the oil rent for the nation. Thus even if Petoro was in part an instrument to restrict Statoil's financial power, it was dependent on Statoil's technological power vis-à-vis foreign companies.

75 The white paper which covers this was presented on April 27 1984 (St. meld. 73 1983–84). The white paper largely develops the Melbye report's approach.

From Management to Depoliticisation

Even after its wings were clipped in 1984, Statoil remained by far the most powerful actor on the Norwegian oil scene. The decisive factor was and remained technological know-how. In the technological arena, the company was to become even more dominant in the years that followed. This was in itself in line with the original political intentions. Statoil would never have achieved such a dominant position if the company had not been given ownership from the start of many of the largest and most strategically important fields in the Norwegian sector. Despite the fact that Statoil owed everything to Norwegian politicians, the desire soon grew to free itself as far as possible from political control of the company's leadership and administration.

Norwegian state undertakings have taken various ownership and management forms. From the start, Statoil was organised as a state-owned limited company. This means that the company was subject to the same legislation and organisational structure as a private limited company, with a general meeting and a board. The difference from private companies was that the state – in this case the Ministry of Petroleum and Energy – owned all the shares and thus could choose the company's board. The board had the responsibility of choosing, and if necessary removing, the company's director. At its creation, however, Statoil was seen as so important that one rule stated that it was to give an annual report to parliament on "significant issues relating to principles and policy". The discussion of the so-called paragraph 10 plan was a by-word for wide-ranging oil policy debates in the Norwegian parliament well into the 1980s. In this way, both the composition of the board and the parliamentary debates represented important democratic control mechanisms. The wide-ranging oil policy debates which these arrangements made possible were by no means purely symbolic or a distraction. The insight which they enabled into the company's strategic choices contributed to raising the level of knowledge about oil questions among politicians and other interested parties. Thus in many cases the debates became an expression of genuine popular democratic involvement in questions of oil policy.

Towards the end of the 1980s, Statoil's leadership worked actively to free itself from the paragraph 10 debates in parliament, arguing that it was damaging that the company's opposition could gain insight into its strategic dispositions. The opposition to political management, however, was also an expression for how far the company's strategic interests had changed since the first phase of its establishment. Arve Johnsen's strategy as Statoil's leader had been, as we saw, characterised by idealistic goals. At the same time, Statoil was initially dependent on playing a political role in order to justify the privileges it was constantly awarded. As long as foreign companies were the most important competitors in the North Sea, it was useful to be able to show that Statoil was a better alternative to these companies.

At the end of the 1980s, with ownership shares bringing in large quantities of economic rent and a company that had operational responsibility for an ever-greater proportion of the Norwegian sector, most of the previous political involvement became a distraction. As early as the end of the 1980s, moreover, there was a general understanding that the likelihood of finding new giant fields like Ekofisk, Statfjord or Troll was small. In other words, if Statoil was to maintain the organisation that the company had created, future reserves and development in the Norwegian sector would not be enough. Statoil had to establish itself as a player on the large international oil scene. For this strategy to succeed, it was even more important for the company to free itself from the type of political control it was originally subject to.

The depoliticisation of Statoil gathered pace seriously when Harald Norvik took over as the company's director in 1988. Norvik had a far lower profile as leader than Arve Johnsen, but oversaw far-reaching changes in strategy. Immediately after his appointment as director, clear signals were given to the Norwegian contractor industry that it could no longer expect special treatment from Statoil in the allocation of contracts. Behind the scenes, a proposal to privatise Statoil was explored. The supporters of privatisation were closely following the British Thatcher government's gradual sell-off of state shares in BP through the 1980s. The question of privatising Statoil, however, was temporarily shelved when

Norway was hit by a general bank crisis in 1988. It was hard to combine a situation where the state was in practice nationalising large parts of the private banking system with the parallel privatisation of Norway's largest industrial company.

Out in the World as BP's Apprentice

In the summer of 1990, Harald Norvik nonetheless announced a comprehensive change of Statoil's strategic goals. Statoil was to conquer the international oil world. The aim was to establish it as a key player alongside the genuinely large oil companies, with ownership shares, production and operatorship in every continent. The time was apparently well-chosen. With the break-up of the former Soviet bloc, large new regions were being opened up to the international oil industry almost overnight.

Statoil's way out into the world was to happen initially via a comprehensive strategic alliance with BP.[76] Statoil and BP would operate together in countries like Russia, China, Vietnam, Azerbaijan, Angola and Nigeria. After a time, Russia and China were withdrawn from the arrangement. In Vietnam, Azerbaijan, Angola and Nigeria, however, BP and Statoil were to operate in common operational work groups. The underlying rationale for the alliance was as follows: BP had a large organisation and a lot of international experience, but little capital. The company also had to struggle with a bad reputation in the countries in question from its time as a tool of the British Empire. Statoil for its part had a deep purse coming from its advantageous position in the Norwegian sector. As a Norwegian state company, moreover, it had a better reputation in many relevant contexts. The alliance entailed BP training up Statoil to be an international oil company. In most cases BP was to be the operator. The only place where Statoil was operator in name was, typically, in Nigeria, where BP had been thrown out ten years previously.

76 Lin Lerpold, *Reputation by Association, Exploring alliance formation and organizational identity adaption*. Stockholm 2003.

In parallel with its collaboration with BP, Statoil continued to orient its organisation in the Norwegian sector towards the market. The annual paragraph 10 report became reduced to a short account which rarely provided the basis for any real debate. Although this was not initially said publicly, it was clear that the intention was to restructure Statoil into a company which could be converted to private ownership. The alliance with BP had secured Statoil ownership shares abroad, particularly in Angola and Azerbaijan. However, it soon appeared that its international ambitions were harder to realise in practice than had been assumed. After the big global opening around 1990, it became harder and harder to gain access to new oil regions. Even during long periods of low oil prices, the oil companies' competition for positions in the new regions became ever greater. Within the BP / Statoil alliance, work was often hindered by internal conflicts. These conflicts were in part based on different corporate cultures and in part on different strategic assumptions. When BP took over the American oil company Amoco in 1998, it withdrew from the alliance.

When the BP / Statoil alliance was dissolved, Statoil had already attempted to establish itself independently in several countries. Its largest individual engagement was in Venezuela. However, none of the projects was a particularly great success. The merger between BP and Amoco, moreover, was not the only one. A mere year later, in 1999, dramatic changes had taken place in the company structure of international oil activities. ExxonMobil, TotalFinaElf, Chevron-Texaco and Conoco-Phillips – with a single bound, the distance between Statoil and the league of the world's largest companies had become even greater.

Statoil Shares on the Open Market

Many conditions combined to put the question of privatising Statoil back on the agenda towards the end of the 1990s. Neoliberal ideology had gradually consolidated its position among Norwegian elites throughout the decade. Norwegian brokers were of course fully aware that listing Statoil would immensely boost turnover on the

Oslo Stock Exchange. In the networks within and around Statoil, many people could gain personal advantages through privatisation. Even if there had been few examples in the 1990s of political interventions seriously affecting the management of the company, a general antipathy to political governance had grown within Statoil. The decisive element in finding sufficient support for privatisation to be presented as a real proposal from Statoil's board in the summer of 1999 was its ambitions for international expansion. One of the two oil worker unions, SAFE, opposed privatisation. With promises for a comprehensive industrialisation in Norway resulting from a broader international field of operations, however, the other major trade union linked to the Norwegian trade union federation supported privatisation.

The Statoil board's proposal was not a mere part-privatisation, but also that the State's SDFI portfolio should be transferred to the new company.[77] Since SDFI at this point owned oil reserves three times as large as Statoil's, this would have meant an enormous transfer of oil rent to the new company. The proposal of transferring the whole of SDFI to Statoil was rejected. However, when Statoil was publicly listed on the Stock exchange as of June 2001, it nevertheless acquired the right to a cheap purchase of 15 % of SDFI: a present from the state. Since it was planned that Statoil would now have private owners, it was hard to argue that Norsk Hydro should not also receive something. In the end Hydro was allowed to buy 5 % of SDFI.

The state had been instructed to sell off to a point where its share of Statoil was around 70 %. It thus still had a controlling share. But in parallel with privatisation, the state made a declaration of intent that Statoil should now be managed on the basis of profitability alone. This means that it was the New York and Oslo stock exchanges, in other words the 30 % of private owners, who would decide the company's development. In other words, Statoil was to act like any other multinational oil company. The original paragraph 10, which gave an opportunity for political oversight and management, was repealed.

A controlling share of 70 % was of course not the same as a 100 % privatisation. The state still had the option of dictating to the company if a situation arose where it was felt important enough to do so. But the share price in Statoil's first year as a privatised company rose more than that of competing oil companies. This had two main causes. On the one hand, the Norwegian state demonstrated that in practice it was leaving Statoil to its own devices. Simultaneously, the company operated a generous dividends policy vis-à-vis its shareholders.

There was political opposition to the privatisation of Statoil. Within the Labour Party, the old industrial politicians who had been behind the establishment of the company were central in opposing privatisation. If a majority of politicians were nevertheless willing to give up such an important instrument of oil policy, this was in part an expression of how the oil industry had become an independent power factor in Norwegian society. It was to an increasing degree oil interests which directed politics, rather than the other way around. The impression had also been created that all the major challenges linked to oil activities had been mastered in the Norwegian sector. Since the Norwegian sector was finished sooner or later, why not invest in international expansion? One of the arguments which was routinely used was that an international Statoil would bring Norwegian contractors abroad with it.

In the course of the 2000s, however, it became clearer and clearer that the depoliticisation of Statoil created a series of moral and practical dilemmas for Norwegian oil policy. Statoil shares were initially priced with reference to the expected returns from the company's large reserves in Norway. These were to a large extent finds and ownership shares which Statoil had gained access to as a protected Norwegian state oil company. When Statoil, in the years which followed, was able to show that its profits in relation to capital invested were in the same league as the major international oil companies and far above the average of other Norwegian industries, this was in large part a question of Norwegian economic rent.

77 St. prp. [Bill] no. 36 (2000 – 2001) *Eierskap i Statoil og fremtidig forvaltning av SDØE*. [The ownership of Statoil and the future management of SDFI.] Appendix 1, "Statoil-styrets rapport av 13. August 1999".

The international stock market's main yardstick for oil companies at this point was the so-called reserve-replacement ratio. As the expression suggests, this is the question of whether an oil company has gained access to as much by way of new reserves as it produced in the course of the year. Since production in the Norwegian sector reached its peak around 2001, and Statoil had started with such a central position here, it would not be able to maintain a comparable level of profitability without establishing similar situations abroad. To maintain its profits, then, the company needed not only to create new projects abroad. It also had to find reserves whose profitability was comparable to those the company had been able to collect in its period as a protected company in the Norwegian sector.

In their eagerness to create the best possible conditions for Norway's largest company, the leading politicians did not see the historical irony here: the company which had once been created to ensure that the greatest possible oil rent went to Norwegian society, was now to seek access not just to normal profits, but the oil rent from other countries' reserves. Like other large oil companies, Statoil established a secret internal rent. In the eagerness to internationalise this was hardly followed consistently. But the idea was that projects which did not produce a profit of over 20 % should be abandoned, because they brought the company's average returns down.

The Petroleum Directorate, which had overall responsibility for ensuring a high rate of extraction in the Norwegian sector, rapidly discovered that Statoil's new profitability policy could cause problems in the Norwegian sector too. As a result of the intense rate of extraction, which the directorate itself had arranged, most of the reserves in the Norwegian sector were to be found in small, marginal fields. Moreover, many of the major older fields were entering a so-called tail production phase. A tail production phase can last for many years, but profitability can be low and thus vulnerable to shifts in oil prices. The large companies, including Statoil, wished to concentrate on the fields which gave the greatest profitability. There were several examples of fields being shut down even though they could continue to produce at a profit.[78]

Oil Midges and Deregulation

For most of the post-war period, it was usual to see the oil industry as being divided between a group of major oil companies (including the so-called seven sisters) on the one side and, on the other side, a group of medium-sized companies which were often described as "independent".[79] The expression "independent" means that they were not involved in the cartel-like cooperation between the major international companies. In the 2000s, following the big mergers, a new type of structure emerged. Many medium-sized companies were swallowed up as part of the wave of mergers. Facing far more aggressive financial markets, the big companies aimed at projects which produced super-profits. This left a market for what was rapidly to become a swarm of often very small companies which specialised in high-risk prospecting projects.

High risk could mean political risk, as in the case of the Norwegian mini-company DNO (*Det norske oljeselskap*), which signed an agreement with Kurdish autonomous authorities in Iraq. This was at a time when Iraq was still occupied, when the local authorities' jurisdiction over oil had not been clarified and when the country as yet had no oil law. It could mean environmental risk, as with the British oil midge Chairn, which started drilling off the west coast of Greenland in 2010, without appropriate preparation for accidents and with no effective regulation system in place. Or it could mean fields where the likelihood of finds was small, as was increasingly the case in the Norwegian sector.

78 Esso ceased production on the Odin field in 1994, even though there were still considerable reserves of gas which could be produced. In 2007, the oil company Talisman took over Yme from Statoil after Statoil shut down production there.

79 Anthony Sampson, *The Seven Sisters*, London 1975. Daniel Yergin, *The Prize, The Epic Quest for Oil, Money and Power*. New York 1991.

How could the midges succeed since they had minimal technological know-how and a very weak financial backbone? The answer is only partly to be found in the space created by the large companies when they avoided such projects. The oil midges survived first and foremost because they were favoured objects of speculation. Even if the likelihood that an oil midge would find oil was far lower than that the large companies would do so, the growth in values would be that much greater if a midge made a significant find. In the period leading up to the financial crisis there was one case after another of rumours flying about possible finds in blocks where the midges had shares. These were often false rumours, and some made money by selling out before the realities became known.

But the oil midges would not have achieved such a central position in Norway in the early 2000s if they had not been accepted as actors by the oil authorities. A series of key changes in the concessions system created the opening they needed. After Statoil's privatisation, the Petroleum Directorate created a regulation, politically cleared by the Ministry of Petroleum and Energy, which allowed oil companies in the Norwegian sector to sell already allocated shares in blocks more or less freely. This opening affected not only the established oil companies. The Petroleum Directorate followed up with a process where new companies were "prequalified" to own and sell shares in the Norwegian sector. At the same time, the directorate accepted that a somewhat smaller, but constantly growing group of companies would be recognised or "qualified" as operators. Since the year 2000, 50 new small companies were allowed in, about 30 of these as operators. Casinos were forbidden in Norway, but this system created a special club where a small elite could play among themselves, with two classes of membership – those recognised as operators and the rest.

The Petroleum Safety Authority (Petil), which was separated from the Petroleum Directorate in 2005, retained the right to block the "qualification" of new companies on safety grounds. However, Petil was under pressure from those parts of the oil authorities which hoped that the midges' high willingness to take risks would contribute to preventing a major fall in total Norwegian production. Many of the companies which were accepted thus had little know-how. It was not uncommon for companies to sell off their prospecting licences immediately before the start of drilling. Those companies which remained involved up to the drilling process hired in contractors for most of the work. Nevertheless, ever more small companies gained access to the ordinary concession rounds.

The most important entry point for many, however, was a new and far more frequently used regulation for allocating "mature" areas, established in 2003 (awards in predefined areas (AFA)). In this case, the bureaucratic and political treatment of the applications was far less thorough-going. This meant, among other things, that environmental evaluations were given less weight. In many cases the Petroleum Directorate failed to take objections from the Institute of Marine Research into consideration.[80] In September 2010, a state-appointed committee concluded that this big opening for speculative small companies had been a mistake.[81] The challenge was how to find a suitable alternative. When Statoil and Norsk Hydro announced, just before Christmas 2006, that they wanted to merge, the concentration of operators had become even more problematic. The new StatoilHydro operated more than 75 % of the oil produced in Norway.

The background of this merger was the same as that for privatisation in 2001. Neither Statoil nor Norsk Hydro had been fully successful in their investment abroad. The distance that separated them from the biggest firms was still great. Even if many people in the company's leadership wanted it, it was politically problematic for Statoil to merge with a major foreign actor. Together, the new StatoilHydro would have greater muscles (oil rent from the Norwegian sector) to enable it to expand internationally. The com-

80 Institute of Maritime Research, *Vurdering og redgivning av forslag om blokker til utlysning i 21. konsesjonsrunde* [Evaluation and recommendations on proposals for blocks to be advertised in the 21st round of concessions], 2008.

81 Ministry of Oil and Energy, *Økt utvinning på norsk kontinentalsokkel. En rapport fra utvinningsutvalget* [Increased extraction from the Norwegian continental shelf. A report from the extraction committee]. September 2010.

panies could also avoid competing with each other over whatever remaining "titbits" might remain in the Norwegian sector.

The company that emerged from the fusion was almost totally dominant in the Norwegian sector. From 2009, StatoilHydro became Statoil again. In summer 2010, the state's share was 67 %. Politicians who wanted alternative technological evaluations of major new construction projects could now no longer play on the conflicts between Statoil and Hydro. Since the company's management was subject to international stock markets, the situation was not so different from how matters had stood when Norway was at the mercy of the know-how of international oil companies.

Statoil was of course still shaped by its earlier history, but the last of the generation of engineers who had built up the industry under Arve Johnsen's leadership disappeared in a rationalisation process as part of the fusion. They were paid well. Over 2,000 experienced staff took golden parachutes, costing the company an astonishing 8.4 billion kroner in 2010.[82] The point was not simply to reduce the number of staff, but also to show the market that the company had created a new culture. It was not, however, particularly new. Ever since the 1990 alliance with BP, Statoil's organisation had been trained by the same consultants and structured by the same kind of management systems as any other multinational oil company.

82 *Dagens Næringsliv*, November 19 2009.

CONCLUDING REMARKS

In 2010 the Norwegian oil experience appears as an overall success, in the sense that many of the initial intentions were successful.

Through Statoil, strategic state ownership, a strong professional institution like the Petroleum Directorate and above all through the continual build-up of technological know-how, Norway has managed to ensure that most of the economic rent from oil has gone to the state, and hence to society.

Although in recent decades Norway has followed developments in many other countries, and the income differences between a rich elite and the majority of the population have grown, the core of the Norwegian welfare state model is still intact. A significant portion of the oil fortune has gone to expand and improve it.

When oil income exceeded what was needed to strengthen the Norwegian welfare state model, the rest was placed in a fund for future use. In this way Norway avoided being hit by the most extreme form of the curse of oil.

The international oil industry arrived in Norway with a practice that rejected trade unions. But the companies which remained in Norway, once Norwegian companies had secured a place, were forced to accept workers' fundamental rights. Tripartite collaboration was established, with firms, the state and trade unions negotiating agreement on central issues.

The international oil industry prefers to regulate itself. Yet even if Norway has had its accidents and environmental emissions, it has developed an advanced regulation system which has demonstrably reduced the risk of operating advanced petroleum installations at sea.

However, the final judgement on the Norwegian experience belongs to the future. As a small country on the periphery of Europe, what happens now will depend on developments in the rest of the world just as in the past. The major challenge is how far Norway manages to carry out the transition which will come when oil production in the Norwegian sector nears its end. As we have seen, there are signs that the oil industry has developed a dynamic of its own which will make this transition harder. A telling expression of this fact is that while North Sea countries like Denmark, Germany and Great Britain have developed a significant sustainable offshore windfarm industry, there is no comparable investment in Norway – despite the fact that the natural conditions are better in Norway.

If in 2010 Norway no longer has any company which can act as an instrument to manage all the challenges in a phase marked by production from small fields and from large fields in their tail production phase, this situation also expresses a long period in which it has been the industry's own dynamics, and not management based on general socio-economic goals, which has determined the direction of development.

With stagnating gas production and a rapidly falling oil production, the areas where Norway has been successful will be put under more pressure. With ever more fields reaching the margins of profitability, the industry will be tempted to make savings by weakening a relatively robust safety regime, planning for pollution emergencies and the rights of oil workers.

The Norwegian oil industry's pressure to be allowed access off the Lofoten and Vesterålen islands is an expression of the fact that we have moved into a period where it is willing to take greater risks. Not only is this a unique, naturally beautiful and environmentally vulnerable coastal area, but the region in question is the spawning ground for a major group of Norwegian cod. This is a renewable resource that has provided income to Norway for more than a thousand years.

However, the proposal of oil prospecting in the Lofoten and Vesterålen islands has simultaneously mobilised considerable popular resistance. Even if the oil industry has become a powerful interest group, the outcome of this conflict is not a given one. The struggle for and against oil prospecting has become one of the largest conflict issues in Norwegian society.

If one central lesson is to be highlighted from the Norwegian oil experience, it must be the presence and significance of conflict between oil actors and society, and the importance of society's determination to secure its own power and position vis-à-vis the big companies. There is no single Norwegian oil experience. The Norwegian oil experience has come about through the constant conflict between interest groups. Norwegian oil experiences, therefore, are the product of an active democracy – a democracy which has not only expressed itself through formal parliamentary representation, but equally through direct popular mobilisation.

Therefore, the greater the degree of openness and general popular oversight of political priorities and decisive technological choices, the better a society will be able to manage a strategic energy resource in a way which benefits society as a whole.