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ARTICLE

Vertical Integration Among Oil-producing Countries

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This paper explores the vertical integration of oil-producing countries. Attempts at vertical integration were prominent among oil-producing countries throughout most of the twentieth century, but particularly following the surge of resource nationalism in the 1970s. Vertical integration attempts have largely been regarded as a sideshow in the history of global oil. This article argues that vertical integration was a crucial aspect of producer country strategies into the 1970s and 1980s, and that it affected the organization of national oil industries in important ways. It does so by exploring the Norwegian case. The article demonstrates the importance of vertical integration to the long-term development of the Norwegian oil industry. It discusses the implications of these findings for the study of vertical integration in other oil-producing countries.

Keywords: oil; public policy; economic development; natural resources

This article is about the vertical integration of oil-producing countries. Attempts by government to establish value chains under national control were prominent among producing country governments throughout the twentieth century, but entered a new phase with the surge of resource nationalism in the 1970s.[1] As a long list of governments, primarily in Latin America, the Middle East, and Africa, moved to displace multinational oil companies, nationalize assets, and establish state-owned national oil companies, they not only moved to establish control with the "upstream"—with drilling to discover and produce oil and gas reserves under their deserts and sea beds—but they also sought to take control "downstream," establishing refineries and petrochemical plants and buying—starting in the 1980s—into gas station networks, including in Europe and North America.[2]

The producing states' vertical integration has puzzled scholars.[3] Many events in the 1970s, including the dramatic price rises on crude oil facilitated by nationalization in 1973–1974,

1. These events, their various causes and ramifications have been explored in numerous studies. For some of the more recent historical contributions, see Garavini, *The Rise & Fall of OPEC in the Twentieth Century*; Dietrich, *Oil Revolution.*

2. Al-Moneef, "International Downstream Integration of National Oil Companies"; Siebert and Rauscher, "Vertical Integration by Oil-exporting Countries"; Marcel, *Oil Titans*, 182–189.

3. We are not here concerned with the "old" oil-producing states of the West (United States, Canada) and East (the Communist bloc). Neither will we be interested in the United Kingdom, even though the country

diminished profitability in refining and petrochemicals and decisively shifted the oil market in crude producers' favor. Why did producer states well into the 1980s so actively seek down from their unassailable upstream mountain to stumble around in the swampy lowlands of the downstream?

In the absence of convincing explanations, scholars have downplayed the phenomenon altogether. As many downstream projects failed into the 1970s and 1980s, and as many producer states became trapped in the resource curse of the 1980s and 1990s, governments turned away from vertical integration as a policy objective. Accordingly, historians, like economists and political scientists, have fixed their attention on the upstream core of the oil business. They have thus, indirectly and unwittingly, relegated the role of the downstream to that of a historical dead end.

This article argues that oil-producing country integration is important, not only because the countries' downstream activities had significant impact on the industries in question: petrochemicals, refining, and retailing of petroleum products.[4] Venezuela was, for example, for many years one of the largest retailers of gasoline in the United States.[5] The countries of the Persian Gulf have, thanks to determined government efforts, become dominant in the production of ethylene and ethylene derivatives.[6]

Vertical integration was important because it deeply affected oil country policies in general. The 1970s were the formative period of the new nationally controlled oil industries. Ambitions for vertical integration were closely intertwined with the nationalist sentiments that dominated politics, with the aims of sovereignty and control against multinational oil company majors. Vertical integration, this article claims, shaped institutions in ways that would have far-reaching repercussions—on upstream oil production, as well as on the broader national frameworks of resource governance.

The article makes this point using Norway as an example. Norway was an atypical oil-producing country in many respects; an industrialized and developed liberal democracy on Europe's northern periphery. Compared with many oil countries in the Middle East, Latin America, and Africa, its resource governance has been seen as exceptionally successful.[7] Just like the oil countries of these regions, however, resource nationalism and an activist government played important roles in the formation of Norway's oil industry. For much of the 1970s

emerged in the 1970s a significant oil producer *and* for a period nurtured its own state-owned national oil company (BNOC). A national oil company, Petro-Canada, was also created in Canada in 1976. The national oil industries of the United Kingdom and Canada developed under much less interference from the state than the industries of Norway, the Middle East, and Latin America, however.

4. Vertical integration seems also to be trending again. See, e.g., "Oil Majors Find Virtue in Integration," *Financial Times*, June 12, 2020, accessed May 20, 2022, https://www.ft.com/content/8ff8ec62-2dcc-11e6-a18d-a96ab29e3c95.

5. Venezuela had achieved this position through national oil company PDVSA's acquisition of Citgo in 1986. See Stevens, *Vertical Integration and the International Oil Industry.*

6. See, e.g., "Report Impact of Arabian Gulf Ethane on the Global Petrochemical Industry," Trichem Consultants, December 2000, published by Chemical Online, accessed July 5, 2023, https://www.chemicalonline.com/doc/impact-of-arabian-gulf-ethane-on-the-global-p-0001.

7. See, e.g., Stevens, Lahn, and Kooroshy, *The Resource Curse Revisited*; Gormley and Kristensen, "Hydrocarbon Policy and Legislation: Norway."

and 1980s, Norwegian policy makers sought just as actively to create vertically integrated value chains based on Norwegian petroleum.

The Norwegian ambitions for vertical integration were more important than previous historiography has recognized. They were by no means the only concern of Norwegian policy makers. By piecing together evidence from the literature, public documents, newspapers, and various government archives, the article nevertheless shows that we need to understand these early Norwegian ambitions to understand the subsequent development of Norwegian oil.[8]

The article also sheds light on the puzzle of explaining producer country vertical integration. Analyzing the Norwegian oil policy debates of the 1970s allows us to identify what we will call an *integrational imperative.* This imperative stemmed from 1970s' notions about the workings of the global oil industry and the significance of these notions in a specific discourse of economic development—a discourse with deep roots in twentieth-century political thinking. It probably goes a long way in explaining the lure of vertical integration in other oil-producing countries.

Vertical Integration in the Historiography

Historians have on the whole shown little interest in oil-producing countries' vertical integration.[9] The grand attempts at integrating into petrochemicals, refining, and retailing from the 1970s have been little explored.[10] When dealing with the oil industry of the late twentieth century, historians, economists, and other social scientists have largely been occupied with what we could call the upstream *core* of the oil industry, that is, exploration and production.[11] Business historians have focused on individual oil majors like Exxon, Shell, and BP, for example, with an emphasis on their search for new sources of petroleum in the age of nationalization.[12] The few histories that have dealt with non-Western oil-producing countries have focused on the policies of production and pricing, often in the context of the Organisation of the Petroleum Exporting Countries (OPEC).[13]

This tendency also holds true for Norway. The main emphasis has been on the way national authorities, following the discovery of oil and gas on the country's continental shelf

8. The article builds on research for my dissertation, "The Crude Means to Mastery" and my book *Commerce and Politics.*

9. *Oil* is used in this context as a convenient shorthand for petroleum, although oil is synonymous with crude oil in most of the historical situations that are discussed in the article. *Oil-producing country* is here used in the conventional sense, describing countries that produce petroleum *on a substantial scale.*

10. Arguably, this is also the case with many other aspects of producer country policies; see, e.g., Boon, "The Global Oil Industry."

11. See, e.g., Vernon, *Sovereignty at Bay*; Adelman, *The Genie out of the Bottle*; Claes, *The Politics of Oil*; Mommer, *Global Oil and the Nation State.*

12. Sluyterman, *Keeping Competitive in Turbulent Markets*; Pratt and Hale, *Exxon*; James Bamberg, *British Petroleum and Global Oil*; Jonathan Kuiken, "Empires of Energy."

13. Yergin, *The Prize.* For more recent examples, see Garavini, *The Rise & Fall of OPEC in the Twentieth Century*; Dietrich, *Oil Revolution.*

in 1969–1970, moved to establish an extensive regulating regime for exploration and production, including a strong, dominant state-owned oil company, Statoil (known as Equinor since 2018).[14] Historians have emphasized the effects of the discovery and development of major oil fields like Ekofisk and Statfjord on taxation of revenues from crude oil and natural gas sales and on the development of a competitive domestic offshore supply and service industry.[15]

Many historians have noted the vertical integration ambitions of Statoil (Equinor) in the 1970s.[16] Gunnar Nerheim, for example, has studied Statoil's integrative efforts in the 1970s and 1980s in considerable detail, including the company's rise to become one of Europe's major ethylene producers in the 1990s.[17] Nerheim and Einar Lie have explored the struggles that developed between Statoil and its domestic competitors into the 1980s over the control of value chains, most notably with Norsk Hydro. By the early 1990s, the two companies—Statoil and Hydro—after acquiring Mobil's and Exxon's service station networks in Sweden, accounted for about a third of the Scandinavian retail market for petroleum products. Francis Sejersted has highlighted "integration" as the defining feature of Norwegian oil policies up until the mid-1980s.[18]

By and large, however, all these historians have tended to downplay the integration attempts relative to the developments on Norway's continental shelf and to question their merits and significance.

This depreciation of vertical integration is understandable. The greatest achievement of producer country nationalizations in the 1970s was, if anything, to *reduce* the level of integration in global oil. Before the 1970s, the global oil market was heavily integrated. Most of the major international oil companies that dominated the industry, Anthony Sampson's infamous "Seven Sisters," were vertically integrated corporations.[19] In 1946, oil economist Paul Frankel pointed out integration as one of the "essentials" of petroleum.[20] By the early 1970s, well over

14. See, e.g., the handful of works that seek to synthesize Norway's oil history: Ryggvik, "A Short History of the Norwegian Oil Industry"; Kindingstad and Hagemann, *Norges oljehistorie*; Hanisch and Nerheim, *Norsk oljehistorie*; Nerheim, *En gassnasjon blir til*; Ryggvik and Smith-Solbakken, *Blod, svette og olje*; Olsen and Sejersted, *Oljevirksomheten som teknologiutviklingsprosjekt.* See also some of the interesting recent work on Statoil's attempts at global expansion, e.g., Hveem, "Norske utenlandsinvesteringer og norsk (utenriks) politikk"; Gjersø, "The Great Leap Offshore." There is also an extensive literature on the corporate social responsibility implications of Norwegian petroleum activity. See, e.g., Sæther, *De Beste Intensjoner*; Nissen, "A Greener Shade of Black?"

15. Quite a bit has been written as well on the general framework for using oil revenues in the domestic economy, and, since the 1990s, the development of the Norwegian sovereign wealth fund, the world's largest since 2012. For works on these topics, see in particular Lie, "Context and Contingency"; Lie, "Learning by Failing."

16. These integrative ambitions, highlighted by formative Statoil CEO Arve Johnsen in his own memoirs (*Norges evige rikdom*), have been highlighted in almost every overview of Norwegian oil history, as has the rivalry with Norsk Hydro (also covered in the memoirs). The most extensive study of the latter is Lie, *Oljerikdommer og internasjonal ekspansjon.*

17. Nerheim, *En gassnasjon blir til*, 2; Nerheim, "Development Patterns in the Petrochemical Industry in the Nordic Countries."

18. Francis Sejersted, *Systemtvang eller politikk.* Sejesrted's notion of integration is somewhat broader than mine, however.

19. Linde, *Dynamic International Oil Markets*; Mabro et al., *The Market for North Sea Crude Oil*; Sampson, *The Seven Sisters.*

20. Frankel, *Essentials of Petroleum.*

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80 percent of the world's oil was believed to flow from source to consumer inside integrated company structures.[21] From the 1970s onward, this changed dramatically.

In this broader historical perspective, producer countries' attempts at mimicking international oil company integration appear feeble. The integration ratios of countries like Saudi Arabia, Kuwait, and Venezuela, that is, the share of their own petroleum output that passed through nationally controlled value chains, remained moderate into the 1990s and 2000s.[22] Many downstream investments were failures. Acquisition of refineries and gas stations in the West was resisted politically.[23] Producing country integration at the end of the day had marginal effect on the workings of the new global oil market of the late twentieth century.

The same is true for Norway. Even though the major Norwegian oil companies, state-owned Statoil and partially state-owned Norsk Hydro, became major players in the Scandinavian refining, retailing, and petrochemical industries into the 1980s, the overall level of integration remained modest. This is illustrated by state-owned Statoil's integration ratio (Figure 1).[24] Into the 1990s, downstream expansion lost momentum. When Statoil acquired Norsk Hydro's oil and gas division in 2007 (briefly operating as StatoilHydro), both companies had already spun off their petrochemical involvements. Hydro's refining and retailing had been spun off before the merger. With the sale of Statoil's fuel and retail subsidiary in 2012, Norway's "national champion" had for all practical purposes become a specialized upstream operator.[25]

Historians' depreciation of vertical integration is probably related to the difficulties of explaining producing country integration. The usual framework for analyzing vertical integration is transaction costs, a model associated with, among others, economist Oliver Williamson. This framework has been applied to analyze oil-producing states' strategies.[26] But transaction cost benefits of producer states' integration into refining, retailing, and petrochemicals are questionable.[27] This is particularly true for the heyday of downstream investments in the 1980s, when the emergence of the spot market removed many of the risks that previously had faced crude sellers.[28] This has made economists dismiss downstream investments as a misconceived strategy at best or merely a nationalist gimmick, lacking a sound commercial

21. Government report to the Norwegian parliament no. 76 (St. meld. nr. 76) 1970–71, Undersøkelse etter og utvinning av undersjøiske naturforekomster på den norske kontinentalsokkel m.m., p. 19.

22. Al-Moneef, "International Downstream Integration of National Oil Companies"; Stevens, *Vertical Integration and the International Oil Industry.*

23. Al-Moneef, "International Downstream Integration of National Oil Companies."

24. As Paul Stevens (*Vertical Integration and the International Oil Industry*) points out, refinery capacity to production ratio is a poor measure of vertical integration, partly because it does not measure the degree of operational vs. organisational integration. In Statoil's case, however, almost all of equity refinery capacity was reserved for equity oil.

25. It retains ownership of the Mongstad refinery, however.

26. Barrera-Rey, *The Effects of Vertical Integration on Oil Company Performance*; Siebert and Rauscher, "Vertical Integration by Oil-exporting Countries."

27. Most economists seem to recognize that there could be cost benefits to some countries from some downstream investments, however. It was natural, for example, for Middle East natural gas producers to seek local processing of gas, because there was no alternative way of exploiting it.

28. Siebert and Rauscher, "Vertical Integration by Oil-exporting Countries"; Adelman and Zimmerman, "Prices and Profits in Petrochemicals."

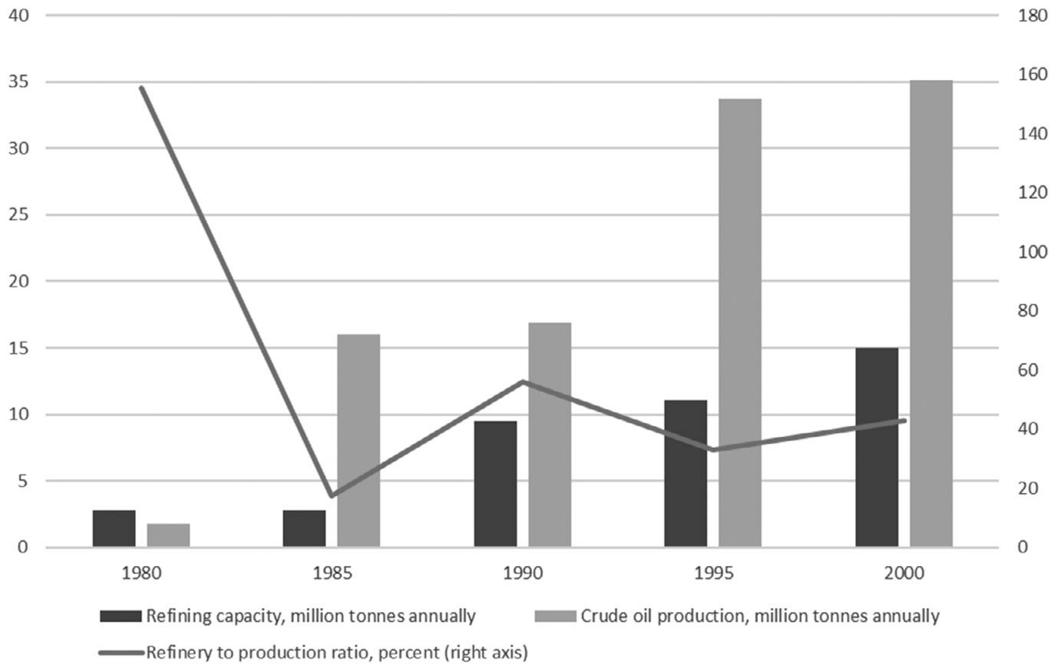

Figure 1. Statoil integration ratio.

Source: Statoil annual reports.

rationale. According to Morris A. Adelman, “petrochemical investment feeds the policy-makers’ ego and drains the economy.”[29]

Others have dismissed vertical integration as a form of “empire building.” Starting off from agency theory, economists and political scientists have seen investments in refineries and petrol stations as a means for national oil company managers to convert privileged access to petroleum rents into increased autonomy, prestige, and political leverage vis-à-vis their government principals—a recurring topic in the literature on national oil companies.[30] Empire building helps explain national oil companies’ negative influence on resource governance and their assumed contributions to the “oil curse.”[31] Assumptions about empire building play an important role in the historiography of Norway’s Statoil.[32]

The works of historian Helge Ryggvik are a good example of how these perspectives on producing country integration have come to influence historical discussion. Ryggvik, a prominent historian of Norwegian oil, has dealt extensively with most aspects of the

29. Adelman, *The Genie out of the Bottle*, 269.

30. Grayson, *National Oil Companies*; Victor, Hults, and Thurber, *Oil and Governance.*

31. Ross, *The Oil Curse.* Related but more nuanced positions can be found in Hults, “Hybrid Governance”; and, in particular, in Tordo, Tracy, and Arfaa, *National Oil Companies and Value Creation.*

32. Agency theory and derived perspectives have probably influenced Ryggvik’s perspectives on national oil company agency, most visibly in Ryggvik, *Til siste dråpe.* Agency theory assumptions also played a role in the Norwegian political debate about Statoil’s domestic position in the 1970s and 1980s. See, e.g., Osmundsen, *Gjøkungen.* See also former prime minister Kåre Willoch’s memoirs, *Statsminister.*

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industry, including the initial integration ambitions of Statoil. Ryggvik has not, however, in his own view, reached an unambiguous answer to why the ambitions were so strong.[33] As a consequence, he has increasingly come to see investment in downstream activities as a way to secure political goodwill. Goodwill was crucial, Ryggvik claims, to secure Statoil control with ever more oil and gas resources through political allotment.[34] What looked like vertical integration, according to Ryggvik, "increasingly came out as tactical positioning in order to secure the most important goal: lucrative allocations in future concession rounds."[35]

There are some important exceptions to the general scholarly view.[36] Some scholars have noticed the centrality of vertical integration and its relationship to nationalist sentiments and general industrial policies. In many studies of Latin American oil, for example, the desire for national value chains based on national petroleum resources is a recurring topic.[37] In a very interesting article, Steffen Hertog studies Saudi national oil company, Petromin.[38] Although Petromin was an unsuccessful experiment, Hertog's pioneering investigation into the oil-related rivalries of the Saudi royal family reveals how defining ambitions for vertical integration were for the institutional configuration of the domestic oil industry in Saudi Arabia as well.[39]

Oil economist Paul Stevens is one of the few scholars to tackle integration in a broader international (and industry-wide) perspective.[40] Building on both transaction costs theory and on extensive knowledge of the historical petroleum literature, Stevens has suggested a plausible explanation for vertical integration ambitions in the 1970s and 1980s. Historical vertical integration among the multinational oil companies had been a response to historically extreme transaction costs, Stevens claims. Stevens emphasizes how multinational oil companies' internalization of transactions over the first half of the twentieth century not only diminished their costs, but gradually also raised considerable barriers of entry, allowing them market control and cartel rents. These barriers forced newcomers in the 1970s to integrate,

33. Ryggvik discusses the rationale for vertical integration extensively in light of Dunning, Porter, and Chandler in his doctoral dissertation on the general development of Norway's oil industry. He does not, in his own words, reach an unambiguous (*entydig*) conclusion, however. See Ryggvik, "Norsk Oljevirksomhet Mellom Det Nasjonale Og Det Internasjonale," 193–198.

34. Ryggvik, *Til siste dråpe*, 117–124.

35. Ryggvik, "A Short History of the Norwegian Oil Industry," 19. See also Ryggvik, "Norsk Oljevirksomhet Mellom Det Nasjonale Og Det Internasjonale," 118.

36. One recent study also explicitly analyses Statoil's integration into and divestment from retailing of petroleum products over a longer time span, albeit in a somewhat limited format; Nordbotten, "Fra full satsing til total retrett."

37. Philip, *Oil and Politics in Latin America*; Bucheli, "Major Trends in the Historiography of the Latin American Oil Industry."

38. Hertog, "Petromin." On the importance of vertical integration to Saudi Arabia, see also Parra, *Oil Politics*, 119–120.

39. Although it falls somewhat outside the scope of this article, the English language literature on French and Italian national oil companies Elf and ENI suggests similar ideas were circulating there, even though petroleum was predominantly imported.

40. Stevens, *Vertical Integration and the International Oil Industry;* The global or transnational character of oil nationalism in the 1960s and 1970s is often highlighted, but rarely explored in itself. For exceptions, see Kobrin, "Diffusion as an Explanation of Oil Nationalization"; Dietrich, *Oil Revolution.*

simply to access markets and avoid being discriminated against. This mechanism triggered what Stevens calls a self-feeding cycle of integration, well into the 1980s.[41]

A Norwegian "Integrated Oil Environment"

We shall in the following use Norway as an example to analyze the ambitions for producer country vertical integration in the 1970s. When we investigate the public debates and the policy documents that formed the basis for this strategy, it becomes clear that vertical integration was paramount. The establishment of an "integrated oil environment" was passed unanimously by the Norwegian parliament in 1971 as one of the primary objectives of the new, national oil industry it set out to create.[42]

The urge for integration was triggered by international oil company Phillips Petroleum's discovery of oil on Norway's continental shelf. The Ekofisk oilfield, discovered in late 1969, was one of the largest offshore fields in the world at the time. A liberal licensing regime had developed in the mid-1960s that allowed Phillips and a host of other oil companies to explore for petroleum and to retain the petroleum they found. Strong nationalist sentiments were unleashed as it dawned upon politicians and the press in the spring of 1970 that Phillips and its partners were now suddenly in charge of what would become Norway's most important economic sector.[43] Government began to lay down long-term principles for a more interventionist Norwegian oil policy. The parliamentary standing committee on industrial matters eventually gave the guidelines the form of ten so-called oil commandments, passed unanimously in the summer of 1971.

Parliament contended, unsurprisingly, that to secure "national control" of the new resources was the primary aim of the oil commandments. But the commandments also made clear what "control" was meant to achieve. Benefits should be maximized before limited resources would one day run out. The best way to do this, politicians thought, was to exploit the potential that petroleum represented to Norwegian business as a source of energy and feedstock. "As an oil producing country, Norway will get a new foundation on which to develop new enterprises," the parliamentary industrial committee declared. "Based on Norwegian petroleum, it should be possible to raise industrial activity that could continue to expand (perhaps in other countries) after the Norwegian petroleum deposits are emptied."[44]

41. Stevens, *Vertical Integration and the International Oil Industry.*

42. Recommendation of the Norwegian parliamentary standing committee on industrial matters (Innst. S.) no. 294 (1970–71); Government report to the Norwegian parliament no. 76 (St. meld.) 1970–71, Undersøkelse etter og utvinning av undersjøiske naturforekomster på den norske kontinentalsokkel m.m. All Norwegian parliamentary papers are published as part of the series *Norsk stortingstidende* (St. tid., proceedings of the Norwegian parliament).

43. Nationalist sentiments were already on the rise due to the question of Norwegian membership in the European Community.

44. The original reads: "Som oljeproduserende land vil Norge få et nytt grunnlag til å bygge ut nye virksomheter på. Med basis i norsk petroleum bør det være mulig å bygge opp en industriell aktivitet som vil kunne fortsette å ekspandere (kanskje i andre land) etter at de norske petroleumsforekomster måtte være tomme," committee recommendation no. 294 (1970–71) op. cit., p. 633. This and subsequent Norwegian language quotes are translated by the author.

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The "integrated oil environment" referred to the cluster of companies, new and old, that would be involved in these industrial activities.

Historians have rarely recognized the centrality of the integrated oil environment in early policy guidelines.[45] They have certainly recognized industrial ambitions as an objective for control, but rarely highlighted them—probably taking them for granted as a self-explanatory aim for any oil-producing country. When analysing the subsequent development of the industry, historians have concentrated on the building and operation of drilling rigs and oil platforms and other offshore activities. Seemingly, they have assumed that such upstream-oriented activities represented the kind of petroleum-based industry that Norwegian politicians were talking about in 1971 or, at any rate, that these are the activities we need to consider.[46]

The 1971 policy guidelines, however, focused almost exclusively on the onshore downstream and on the need to link upstream extraction to downstream processing in mainland Norway through *landing* via permanent pipelines. So did the fervent public debate that erupted in Norway over the news of the Ekofisk discovery in 1970.

The form of processing that was most thoroughly discussed was the transformation of petroleum into synthetic materials—petrochemical processing. Refining was mentioned and retailing of refined fuel was hinted at in statements about securing the national fuel supply. The centerpiece of the discussion, however, was the prospects for Norwegian production of raw plastics like ethylene that could be used in turn to create consumer goods like clothes, toys, car parts, and much else. A petrochemical industry did not exist in Norway at the time, apart from Norsk Hydro's production of ammonia and PVC based on imported petroleum feedstock. Petrochemicals were on the rise in the other Nordic countries. Raising a Norwegian competitor was portrayed as a "national cause" of particular significance.[47] Government took a cautious approach to the industrial opportunities offered by Norwegian oil in a 1971 report. It was nevertheless necessary, government claimed, "Already now," to stress "that new industry must be developed in Norway on the basis of petroleum, *particularly a petrochemical industry*" (italics added).[48]

The refineries and petrochemical plants downstream were explicitly contrasted to the upstream offshore as a concern for government policy. An internal Labour Party memorandum, preparing the party's stance on oil in the summer of 1970, for example, stated that fees and taxes from direct sales of crude oil and natural gas could become substantial. They would,

45. Ryggvik appreciates the centrality of the integrated oil environment in his doctoral dissertation; Ryggvik, "Norsk oljevirksomhet mellom det nasjonale og det internasjonale," 172. He does not return to this point in later syntheses. See, e.g., Ryggvik, "A Short History of the Norwegian Oil Industry."

46. See, e.g., Hanisch and Nerheim, *Norsk oljehistorie*, 1. Note that the description of the policy framework is written by Hanisch, who is more interested in the economics and governance side of things, while the subsequent analysis of the industrial development is carried out by Nerheim, who is clearly very attentive to the significance of the industrial objective. This division of labor probably contributes to a somewhat narrow analysis of the 1971 policy guidelines.

47. Committee recommendation no. 294 (1970–71) op. cit., p. 633; MP Rolf Hellem in parliament June 14 1971, proceedings of the Norwegian parliament (St. tid.) 1970–71, p. 3213.

48. "Det bør allikevel allerede nå presiseres at ny næringsvirksomhet må utvikles i Norge med basis i petroleum, særlig petrokjemisk industri. Staten må delta aktivt for å fremme en slik utvikling," government report no. 76 1970–71, op. cit., pp. 23–24.

however, be "of only secondary significance compared to the important direct and indirect consequences bringing petroleum on shore in Norway would have."[49]

Integration was understood both physically and organisationally. Landing via seafloor pipelines constituted the physical element. Offshore crude oil loading by ship was still uncommon in the early 1970s, and the specific geographic alignment of permanent pipelines was seen as strategically crucial for industrial exploitation. The principle that oil and gas should be landed in mainland Norway became a prominent oil commandment. The term *landing* (*ilandføring*) itself served almost as a slogan for those politicians most skeptical of foreign multinationals—a rallying cry for sovereignty in oil.[50]

Norwegian politicians agreed that physical integration required organizational integration. It would be necessary, Norwegian politicians thought, to somehow join organisationally the offshore extraction, pipeline transport, and onshore processing. This would have to be a corporate structure, one that was to some extent integrated. The exact composition of this structure, the division of privileges and responsibilities between various new or existing corporate agents, was of course highly controversial in 1970–1971, explaining why the vague term *environment* (*miljø*) was chosen. Parliament could agree to commandments, however, that singled out the desire for such an environment and that highlighted the government's responsibility to midwife it. It also passed a commandment singling out the creation of a new state-owned corporate agent as a crucial factor in the process.[51]

We must not overstate the significance of industrial benefits over other aims of oil policy. There were many policy initiatives in the period that aimed to secure other objectives of governance. Many of them were important and broadly accepted, even though they did not receive as much attention in 1970–1971 from parliament and the press. Neither should we overstate the relative significance of downstream over upstream. Most politicians were no doubt aware that economic opportunities existed offshore. To secure some of those opportunities was clearly part of the motivation for establishing the integrated oil environment. It makes no sense, of course, to emphasize the importance of integration between upstream and downstream without appreciating the upstream part.

It is equally meaningless, however, to understand the urge for integration without downstream ambitions. The enormous industrial repercussion of offshore field development would only become clear gradually, when the gigantic proportions of the field development project at Ekofisk (and later Statfjord and many other fields) became clear into the mid-1970s. In the early 1970s, offshore activities were still largely regarded as a temporary high-risk industrial niche.[52] Enthusiasm for petrochemicals, on the other hand, was strong and widespread. "It is likely that what we now plan to create of petrochemical industry is only the start of something

49. PM Noen synspunkter vedrørende norsk oljepolitikk, June 8 1970, box D/Da 483, Archive of the Norwegian Labour party.

50. "A-partiet krever full nasjonal olje-kontroll," *Arbeiderbladet*, August 17, 1970; "Oljepolitikk etterlyses", *Dagbladet*, November 20, 1970.

51. Crucial among these means were the licensing regime, regulating oil company access to the continental shelf, and the so-called state participation agreements that were introduced at the time, allowing the state to participate in the rights and obligations of a license. See Thomassen, "Taking a Leaf out of OPEC's Book?"

52. See, e.g., Espeli, *Industripolitikk på avveie*, 153.

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far bigger," noted one Conservative representative of the Norwegian parliament in 1974, as a deal was reached with the Ekofisk owners to supply a Norwegian ethylene plant:

> Perhaps petrochemical products in a few years will become the biggest export item from our country […] I see before me a development where Europe, America, and Japan in the future will become important markets for petrochemical products from Norway. […] I think we ought to assume that the petrochemical industry can be one of our largest branches of industry in 20–30 years.[53]

Tellingly, the ten oil commandments were conspicuously unconcerned with the upstream. Four of the ten commandments alluded to the general principles of government involvement: its environmental, regional, and foreign policy implication. The six remaining commandments all were concerned with industrial repercussions, with a clear downstream tilt: with landing, with the integrated oil environment, with fuel access, with new industrial activities onshore, and, finally, with the state's responsibility for midwifing it all.[54] No word was mentioned to indicate that the development of resources should be as efficient as possible, so as to maximize the returns for the Norwegian people. The spending of oil revenues and the supply of goods and services to exploration and production operations, so crucial in retrospect, were not treated in a broad oil policy perspective until 1974.

The Integrational Imperative

There were many considerations that seemed to justify an integrated approach to oil and gas in the early 1970s. Looking closely at the sources, we can identify three major elements that figured particularly prominently in the Norwegian policy debates of the day.

The first element was the impressive performance of downstream industries, particularly petrochemicals. The uses of and demand for synthetic materials had seemed endless in the 1950s and 1960s. Increases in production and profits were manifold.[55] The potential strategic significance of petrochemicals had been recognized by observers for many decades.[56] Norwegian authorities clearly believed that establishing such an industry in Norway would

53. "Det er sannsynlig at det vi nå planlegger å bygge opp av petrokjemisk industri, bare er begynnelsen på noe som vil bli langt større. Kanskje vil petrokjemiske produkter om noen år bli den største eksportartikkel fra vårt land, slik treforedlingsproduktene var det for få år siden. […] Jeg ser foran meg en utvikling der Europa, Amerika og Japan i framtida vil bli viktige markeder for petrokjemiske produkter fra Norge." "Jeg tror vi bør regne med at petrokjemisk industri kan bli en av våre største industrigrener om 20-30 år.," Olaf Knudson in the Norwegian Parliament (Stortinget), June 13, 1974, Proceedings of the Norwegian parliament (St. tid.) 1973–74, pp. 4039–4040.

54. The ban on flaring of gas is sometimes interpreted in environmental terms. The main concern was clearly economic, however. Because the ban was given such a prominent place among the "oil commandments," it must probably reflect that natural gas was seen as the most realistic basis for a Norwegian petrochemical industry. On the problems of flaring and ÿ nits status in producing country legislation, cf. Evensen, *Oversikt Over Oljepolitiske Spørsmål Bl.A. På Bakgrunn Av Utenlandsk Oljelovgivning Og Utenlandsk Konsesjonspolitikk.*

55. Molle and Wever, *Oil Refineries and Petrochemical Industries in Western Europe*; Spitz, *Petrochemicals.*

56. Frankel, *Essentials of Petroleum*, 139–140.

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enable the country to reap some of the economic benefits from an expanding market. The technological sophistication and continuous innovation that were associated with synthetic materials would create positive synergies with the rest of the Norwegian economy. Their beliefs were strengthened, possibly even created, by powerful Norwegian business lobbyists, themselves seeing petrochemicals as presenting attractive new market opportunities.[57]

The second element was the need for integration as a response to the integration of the existing oil industry. Most of the companies that operated on Norway's continental shelf in 1970 were vertically integrated or participated in some form of partnership with downstream operators. Government highlighted in a 1971 report to the Norwegian parliament "that between 80 and 85 pct. of global crude oil sales takes place within integrated petroleum companies." This, government explained, held far-reaching implications for the multinational oil companies' ability to evade both taxation and political demands for landing and processing in mainland Norway.[58]

One prominent Norwegian oil bureaucrat, Jens Evensen, singled out vertical integration as a key challenge for oil policy. Evensen wrote in 1971 that it was the integrated character of the multinational oil companies that had led other oil-producing countries to create national oil companies and take more active control over their domestic petroleum industry, "in order to protect their legitimate self-interests." Evensen presented his views in a report on international oil legislation, prepared as background for Norwegian policy decisions. "In my opinion," Evensen concluded, Norway should in its organizational adaptation "draw the consequences of these special circumstances."[59]

This conclusion suggested that the Norwegian government, to achieve anything in oil at all, had to establish competing value chains of its own. This argument confirms Paul Stevens's hypothesis of a self-feeding cycle. Integration was met by more integration.

The third element that Norwegian policy makers invoked to justify a strategy vertical integration was its moral implications. To integrate was the *right* thing to do. Processing our own petroleum was, according to one engineer writing to a magazine in early 1971, a matter of "respectability." Not integrating would make Norway a "helpless supplier" to "highly industrialised countries," he claimed, just like many "little developed countries" before it.[60] Failure to land petroleum in mainland Norway, one liberal newspaper editorial claimed in late 1970, could lead to Norway becoming "an oil-producing satellite in the hands of forces over which

57. The lobbying is documented extensively in Hanisch and Nerheim, *Norsk oljehistorie*, 1; Johannessen, Rønning, and Sandvik, *Nasjonal kontroll og industriell fornyelse*; Lie, *Oljerikdommer og internasjonal ekspansjon.*

58. "Man gjør imidlertid oppmerksom på at det er antatt at mellom 80 og 85 pst. av verdensomsetningen av råolje foregår i integrerte internasjonale petroleumsselskaper. Dette påvirker i stor grad den pris som oppnås for råolje på det frie petroleumsmarkedd. Man må likeledes være klar over at noen øres forskjell i oppnådd pris pr. barrel kan være av betydning for den norske stat bl.a. ved beregning av royalty og skatt. […] Avsetningspolitikken må derfor vies spesiell oppmerksomhet." Report to the Norwegian parliament no. 76 (St. no. 76) 1970–71, op. cit., p. 19.

59. "At denne spesielle organisasjonsform kan ha ført til foreteelser som for produksjonslandene har fremstilt seg som urimelige, er naturlig nok. Den har også ført til at produksjonslandene for å beskytte berettigede egeninteresser, har krevet en mer aktiv deltagelse på produksjons- og omsetningssiden. Etter min mening må også Norge trekke konsekvenser av disse spesielle forhold." Evensen, *Oversikt over oljepolitiske spørsmål*, 95.

60. Jardar Malmo in Teknisk Ukeblad March 18, 1971, quoted by Nerheim, *En gassnasjon blir til*, 172.

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we have no influence."[61] Although politicians preferred less blunt language, they clearly adhered to the same logic.[62]

The Development Discourse

To understand the significance of these elements we must recognize their place in a broader discourse of economic development. The idea that different countries represented different stages in a process of economic and civilizational progress was old, spanning back possibly to the British Industrial Revolution of the eighteenth century. By the 1950s and 1960s, "development" had solidified in global scholarly and political discussions, both as a concept for measuring and explaining degrees of progress and as a normative objective of policy.[63] It had become like a towering lighthouse, guiding all sailors toward the coast, to use Wolfgang Sachs's metaphor.[64] In this discourse, the important distinction was that between more and less "developed" countries. The value chains based on natural resources were crucial to this distinction. The supply of raw, unprocessed natural resources was seen, by dependency theorists and others, as a feature distinguishing the less developed, just as the import and further processing through industrial processes was seen as distinguishing the developed. This distinction was to no small extent seen to define the entire world economic order. The position of "mere" supplier locked the resource-rich countries in a state of underdevelopment and "dependency." Downstream processing of local natural resources in integrated value chains hence appeared logical, not only in economic terms, as a way to add value locally, but also symbolically and discursively, as a way to break the fetters of economic dependency and gain true national sovereignty.

This discourse was not new in the 1970s. It had developed specific Norwegian traits at least since the mid-nineteenth century.[65] The quest for development had guided Norwegian industrial policy makers when they introduced legislation in the early twentieth century securing Norwegian hydropower resources for domestic industrial processing.[66] It was further intensified by Norwegian governments after 1945, using state-owned enterprises to facilitate the use of Norwegian resources in production of aluminum, steel, and iron. Large, vertically integrated companies were seen as instrumental in facilitating development, not only by adding

61. "Oljeselskapenes interesser vil ikke uten videre falle sammen med våre nasjonale interesser. Det må være en selvfølgle at våre myndigheter ikke bøyer av for en ensidig teknisk-økonomisk argumentasjon fra snevre utbytterinteresser, men har landets framtidige utvikling for øyet." "Vi må ikke bli en oljeproduserende satellitt i hendene på krefter vi ikke har noen innflytelse over." "Oljepolitikk etterlyses, leder," *Dagbladet*, November 20, 1970.

62. Politicians adhered to the same logic, however. Minister of industry Finn Lied would in a retrospective interview use the clearly derogatory term *kupongklipper*, i.e., rentier, to refer to the status he wanted Norway to avoid as an oil country. Interview with Finn Lied, by Kjell Pihlstrøm April 19, 2005.

63. Herath, "The Discourse of Development."

64. Sachs, "Preface to the New Edition," xv.

65. The substantial Norwegian government efforts to establish railroads and other infrastructure, as well as financial institutions, in the second half of the nineteenth century, can be understood in terms of seeking national "progress," as measured against the British benchmark.

66. Sanders, "Europe's Northern Resource Frontier."

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value to raw materials, but, increasingly into the 1960s, also by enabling the kind of strategic innovation that characterized the big American corporations, the new powerhouses of global industrial progress.[67]

Oil had by 1970 come to play a special role in the discourse of development. Nowhere was the dependency between suppliers and consumers more salient. Oil, of which the bulk of global reserves were now found around the Persian Gulf, was a defining resource in the emergence of the modern developed industrial society and lifestyle.[68] Yet the Persian Gulf, as well as other oil-rich regions in Africa and Latin America, was seen as pronouncedly "backward" in industrial terms. This discrepancy had been lamented ever more strongly after 1945 by the new, newly decolonized states of developing oil-producing regions, fueling their discontent with the multinational companies that maintained the global order.[69]

The power of the discourse of development is clearly relevant when seeking to understand the strategies of other oil-producing countries as well.[70] The exact mix of motivations clearly varied from country to country. The concern for development was, however, universal, and, if anything, more pressing in the developing world than in industrialized Norway. In a world dominated by vertically integrated oil majors, vertical integration seemed a necessary strategy to escape the multinationals' grip. But it also represented a very promising strategy, given the value potential that downstream industries still represented. These elements, often overlooked by those who have written about producing country integration, combined in the early 1970s to form almost an imperative for producing country integration.[71]

The Integrational Imperative and the Organization of Statoil

The political emphasis on vertical integration had substantial practical consequences. We shall concentrate on one of them, Norway's state-owned oil company Statoil, today Equinor. Equinor is one of the most striking features of Norwegian oil governance, with its unrivalled position on Norway's continental shelf making it the most domestically dominant state-owned oil company of the industrialized West. But it is also often regarded as the most successful national oil company.[72] Although its exact role has been debated, it is often seen as a "national champion" succeeding through partnerships with Norwegian supply firms to make Norwegian offshore technology competitive on a global basis.[73]

67. There is an extensive Norwegian language literature and debate on these policies. For a recent English language contribution that engages with these debates, see Sogner, "Creating and Protecting Paths."

68. Graf, *Oil and Sovereignty.*

69. Schrijver, *Sovereignty over Natural Resources.*

70. Auty, *Resource-based Industrialization*; Marcel, *Oil Titans*, 182–189; Philip, *The Political Economy of International Oil.* See also Schrijver, *Sovereignty over Natural Resources.*

71. See, e.g., Adelman and Zimmerman, "Prices and Profits in Petrochemicals"; Siebert and Rauscher, "Vertical Integration by Oil-exporting Countries"; Al-Moneef, "International Downstream Integration of National Oil Companies."

72. Thurber and Tangen, "Norway's Evolving Champion"; Hults, "Hybrid Governance"; Tordo, Tracy, and Arfaa, *National Oil Companies and Value Creation*; Sarbu, *Ownership and Control of Oil.*

73. See in particular, Thurber and Tangen, "Norway's Evolving Champion." Perspectives that seem to confirm this image are provided in a very interesting study by Gjerde and Nergaard, *Subseahistorien.*

This historical development is associated with the company's organization; partly with Statoil's increasingly specialized role as an upstream offshore operator, and partly with government's arm's-length governance of the company (which has become even more pronounced as government gradually has reduced its share from 100 to 67 percent, starting in 2001).[74] Across a long historical perspective, however, the company's success must be associated with the fundamental choice in 1972 to make Statoil *operational*, that is, to allow it to conduct operations in the company's own name and to acquire the necessary organizational capacity to conduct such operations.

Several historians have highlighted the debate about operational status that surrounded the establishment of Statoil in 1972.[75] The general tendency has been to explain Statoil's operational status by the preference for such a company by the Norwegian Labour Party, in government when the proposal for the state company was prepared and passed in 1971–1972.[76] Operational status was, however, tightly connected to the ambitions for an integrated oil environment and to the question of the state company's place in the integrated value chain.

Sources reveal that the Norwegian Labour Party always tied operational status to vertical integration.[77] In the party's first oil policy program from 1970, Labour (then in opposition) wanted "a national oil company that *in an active way* can take care of exploration and extraction, bringing the petroleum on shore, and [take care of] further processing and marketing" (italics added).[78] Finn Lied, minister of industry in Trygve Bratteli's Labour Party government in 1971–1972, declared in a magazine interview in 1972 that he wanted the state company to act as a "catalyst" for the establishment of a Norwegian petrochemical industry.[79] Integration was also detailed in the statement of purpose that Lied proposed to parliament in the spring of 1972. Here, the company had as its aim "by itself or by participation in other companies to conduct exploration for and extraction, transport, refining and marketing of petroleum and diverted products."[80]

Vertical integration had been a central element in the Labour Party's industrial policy for many decades. It had long been feared that Norway was too reliant on natural resource exports like fish or only lightly processed goods like pulp and metals. Norwegian Labour had promoted processing of Norwegian natural resources since the 1930s as a way of increasing both industrialization and economic independence.[81] The state's prominent role in these efforts

74. Hults, "Hybrid Governance"; Tordo, Tracy, and Arfaa, *National Oil Companies and Wealth Creation.*

75. Hanisch and Nerheim, *Norsk oljehistorie*, 1, 272–284.

76. E.g., Lie, *Norsk økonomisk politikk etter 1905*, chap. 8.

77. For more detail on the establishment of Statoil, see Thomassen, *Commerce and Politics.*

78. "I dag mangler vi et meget viktig ledd i den kjeden som til sammen skal være vår totale innsikt i oljesektoren, nemlig et nasjonalt oljeselskap som på en aktiv måte kan sørge for leting og utvinning, ilandføring og videre bearbeiding og markedsføring." PM Grunnlag for uttalelse om norsk oljepolitikk, sentralstyresak nr. 11 August 12, 1970, folio "Industriutvalget 1970," box D/Da 483, Archive of the Norwegian Labour Party (Archive of the Norwegian Labour movement, Oslo); "A-partiet krever full nasjonal olje-kontroll," *Arbeiderbladet*, August 17, 1970; "Arbeiderpartiet vil ha statlig oljeselskap," *Morgenbladet*, August 17, 1970.

79. "Strukturelt etterslep I norsk industri," interview with Finn Lied in the magazine *Norges Industri*, no. 12, June 26, 1972.

80. "Selskapet har til formål selv eller gjennom deltagelse i andre selskaper å drive undersøkelser etter og utvinning, transport, foredling og markedsføring av petroleum og avledede produkter," Government proposition to parliament (St. prp.) no. 113, 1971–72: Opprettelse av Statens oljedirektorat og et statlig oljeselskap m.m., 21.

81. Grønlie, *Statsdrift.*

was partly rooted in Labour's ideological desire to secure the benefits of industrialization for the public, partly in strong belief in government's superior resources in a country weak on capital.

Vertically integrated company structures also had particular significance in Labour's 1960s' industrial policy strategies. Finn Lied belonged to a group within the party who saw large multidivisional corporations as a key to successful long-term economic development. Inspired by the impressive twentieth-century merits of American multidivisional enterprise, Lied saw corporate organization as superior to government in allocating financial and personnel resources efficiently and audaciously. A level of audaciousness was necessary to innovate and to develop the technologies necessary to increase material welfare.[82] Such an organization was obviously well suited to exploit the extremely complex, wide, and varied industrial potential that Norwegian oil resources offered. Lied became particularly fascinated in the early 1970s by ENI of Italy and Elf-ERAP of France, state-owned European oil companies using their privileged roles in energy and industry to foster technological development for their home countries. Such a coordinating role clearly also favored an integrated structure.

The Labour Party, thus, had many reasons to favor integration. But so did the center-right parties—the Conservatives, Centre, Christian, and Liberal parties—on which the Labour Party government's proposal depended. The center-right held the parliamentary majority in 1965–1973 and government office in 1965–1971, and it was only their own inability to cooperate that left government open to Labour for the short but crucially important period of 1971–1972.

Despite some reservations, the center-right parties joined enthusiastically in support of an oil-based industrial environment. Center-right MPs were at least as susceptible to private business lobbying as Labour MPs, and their fascination with petrochemicals was equally strong. They accepted also that a state-owned company in some form was necessary to enable such an environment. Some politicians, particularly in the Conservative Party, were skeptical about the state company, fearing that it could become too dominant, could supplant private business, and could erode parliament's control with government's industrial activities. The perceived urgency of the need to establish a Norwegian oil-based industry, however, ensured that such concerns were moved into the background.[83]

The debate over Statoil's operational status was, in fact, a debate over the company's role *within* the integrated value chain. The center-right parties preferred a *nonoperational* state company organization that would operate as a holding company. Such an organization would satisfy the desire for government-backed industry building while limiting the reach of state enterprise.[84] The main objective was clearly to prevent the state company from integrating vertically. It was a matter of course, one Conservative MP declared in 1971, that the state oil company should not "spread itself over the entire oil spectrum from exploration to refining and distribution."[85] In 1970, the then center-right coalition government appointed an expert committee to investigate the organization question, and the committee's report proposed a

82. Sogner, "Creating and Protecting Paths."

83. The technicalities were related to state participation agreements with the multinationals, see Thomassen, "The Crude Means to Mastery."

84. The name Statoil was only introduced in 1973, as a shorthand for the official 1972 name: the Norwegian Stat Oil Company.

85. Jan P. Syse in parliament, quoted in Hanisch and Nerheim, *Norsk oljehistorie*, 1, 273.

nonoperational organization.[86] In a nonoperational holding company form, the committee explained, an important role for the state company would, in addition to serving as a coordinating body for the development of oil-related industry, be to supply the predominantly private firms of the "environment" with oil and gas, possibly also capital, as a passive partner in joint ventures.[87]

There can be little doubt that such a company would have been created, had there not been second thoughts. The nonoperational model was popular in 1970–1971 in the civil service and in parliament—even among Labour MPs.[88] In the summer of 1972, however, a proposal establishing Statoil as a fully operational company was passed unanimously. What had happened? Håvard Aven has studied Conservative oil policies in detail. He suggests that the party's representatives became increasingly concerned about the private sector's capacity, organizationally and financially, to play the leading role they had envisaged for it in the oil environment. They were particularly concerned with its capacity to establish a downstream petrochemical industry.[89] As many new oil companies were created in 1971–1972, all competing for the same scarce personnel and capital resources, such concerns were amplified. Statoil's operational status was becoming a sine qua non for establishing an integrated Norwegian oil environment, and hence for true Norwegian sovereignty and control.

This is probably a major reason why even the staunchest skeptics backed down in the summer of 1972.[90] The decision was baked into a broad and complicated compromise, and Norwegian historians have been right in stressing the confusion surrounding it.[91] Aven suggests, however, that Conservative skeptics understood quite well what was going on.[92] The concern with vertical integration, in other words—deeply intertwined as it was in discourses of development and national sovereignty—tipped the parliamentary majority in favor of an operational state company.

Conclusion

The vertical integration of oil-producing countries never became as important to the global oil market as multinational oil company vertical integration had been before the 1970s. Vertical integration policies were in many cases flawed and unsuccessful. The upstream core of the oil business has been the most important historically. It is perfectly legitimate, therefore, that historians have been concerned with how the upstream structures and institutions came about.

86. This was also the view of the civil servants of the ministry of industry, who played an important role in both appointing and informing the expert committee. PM Innstilling om organisasjon for statlige kontinentalsokkelsaker, June 24, 1971, D/Da-L0024, Archive of the Ministry of Oil and Energy, Riksarkivet, Oslo.

87. Innstilling om organisasjon for norske kontinentalsokkelsaker (Report of the organisation committee, attached to government's proposal no. 113, op. cit.), p. 30.

88. Hanisch and Nerheim, *Norsk oljehistorie*, 273.

89. Aven, "Høgres syn på statleg eigarskap i norsk oljeverksemd 1970–1984," 40.

90. To reach unanimity was an important goal in itself, as has rightly been highlighted by many historians. But unanimity was not sought at all costs.

91. Hanisch and Nerheim, *Norsk oljehistorie*, 282–284.

92. Cf. Aven, "Høgres syn på statleg eigarskap i norsk oljeverksemd 1970–1984."

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As historians we must not go too far in reading the present into the past, however. Doing so creates risks of overlooking unexpected, yet crucial relationships. The upstream focus among historians has, as we have seen, led them to overlook the significance of vertical integration ambitions for the formation of policies, institutions, and governance frameworks in the 1970s. Business historians should pay more attention to vertical integration of oil-producing countries.

We have seen in this article how ambitions for vertical integration shaped Norway's oil industry. Establishing integrated value chains from Norwegian petroleum was a crucial objective for the establishment of an operational state-owned oil company, Statoil, in 1972. The strong state company is normally seen as a key defining feature of Norway's oil industry and an important, albeit controversial, element in Norway's oil governance success.

Historians have analyzed the establishment of Statoil without fully recognizing these ambitions. Had it not been for the ambition to integrate vertically, it is far from clear that a company like today's Equinor could ever have developed. Key policy makers certainly wanted a state oil company upstream, and some probably saw operational status as a way of securing Norwegian industrial involvement there. As we have seen in this article, however, explicit political interest centered on the downstream, and hence on the need for integration. There is reason to doubt whether government would have insisted so strongly on the company being operational (or whether the opposition would have been so doubtful about the nonoperational holding company model) if they had not all been so occupied with vertical integration.

Other examples of the importance of vertical integration could have been given. We could have shown, for example, how the urge for domination within an integrated Norwegian value chain created a deep and bitter rivalry between Statoil and Norsk Hydro into the 1970s and 1980s. The rivalry had far-reaching consequences for the development of Norwegian oil, including offshore technology, well into the 1990s.[93] It is difficult to understand this rivalry and its intensity without understanding the initial 1970s political ambitions for extensive vertical integration.

The findings of the article have implications for our understanding of producer country vertical integration in general. Some of the more profound factors we have identified underpinning the Norwegian integrational imperative were not unique to Norway. Integration was partly a response to the integrated nature of the existing oil industry, making integration self-feeding, as Paul Stevens has pointed out.

Moreover, Norwegian policy makers were mesmerized by the spectacular development of the petrochemical industry and saw it as an obvious instrument to advance domestic industry and the national economy and foster innovation and growth. This view of petrochemicals as a key to economic development and modernity was not new or exclusive to Norway. It fed into a discourse of economic development that, even though it had special Norwegian characteristics, was at heart an international phenomenon.

The self-feeding integrational cycle and the quest for development were probably key explanatory factors for the vertical integration strategies of the oil-producing countries in Latin America and the Middle East as well. As we have seen, the drive for integration was

93. See Lie, *Oljerikdommer og internasjonal ekspansjon*; Nerheim, *En gassnasjon blir til*, 2.

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important in Norway, as was the choice of an operational company model for the national involvement in oil. That may possibly have been the case also for some of the other oil-producing countries—helping us to understand the global proliferation of national oil companies in the 1970s.

This is not to say, of course, that the Norwegian approach to vertical integration represented some universal model that all producing countries adopted. Oil-producing states were very different, with Norway being an outlier, with its deep-rooted liberal democracy and its industrialized economy. Government approaches to oil varied widely, also in terms of national oil company organization and integration strategies. National specifics influenced how and to what extent producing state governments responded to the integrational environment, as well as to what extent they succeeded. All of this would become clear from comparing this article with, for example, Hertog's study of Saudi Arabia's Petromin.

By explaining Norwegian oil politics as a response to a universal challenge, however, the article suggests a framework within which producing country policies can be addressed in future studies. By analyzng how different regimes and oil companies responded to the integrational imperative of the 1970s, we can probably uncover differences and similarities of much interest for both national and international historiographies, as well as for the literature on oil governance in general.

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