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Oil management: Norway's example

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Norwegian children are taught at school that Norway was Europe's most impoverished country in 1905, when the Norwegians unilaterally dissolved their royal union with Sweden and declared full independence. This is not quite true, however, because Finland and Iceland at the time were poorer still than Norway. A hundred years later, however, the five Nordic countries had formed an economic cluster sharing a similar standard of life, with Norway leading the pack. In Denmark, Finland, Iceland, and Sweden, per capita GDP in 2005 amounted to USD 32,000 to USD 35,000 compared with USD 42,000 in Norway and the United States; these figures are adjusted for purchasing power parity to account for differences in the cost of living across countries.

How did Norway do it?

Many Norwegians are of the view that their natural resource wealth – first timber, then hydropower, now oil and natural gas – transformed Norway in one short century from a destitute place to one of the most affluent countries of the world. But is this a correct description? I have my doubts. Finland and Iceland's per capita incomes were only about a half of those of Denmark and Sweden around 1900. Yet, since then, Finland and Iceland have caught up with Denmark and Sweden without the gifts of nature offering a clear and decisive advantage to either Finland or Iceland, even if Finland, like Sweden, had timber and Iceland had fish. Iceland had always had fish, but it was not until the natives had acquired the requisite education and technology that they were able to launch a fishing industry. An even clearer case is that of Ireland and the United Kingdom. The Irish were significantly less well off than the British in 1900, and now Ireland's per capita GDP has surpassed that of the mother country; yet neither nation possesses any significant natural resources apart from farmland (plus a dash of oil in the case of the UK).

It seems likely that Norway would have caught up with the rest of Europe with or without its natural resources much as Ireland caught up with the UK without the benefit of natural resource wealth. This is also how Denmark, Finland, Iceland, and Sweden, which in the second half of the 19th century lost a quarter of its population to emigration, were able to lift themselves up from close to the bottom of the heap in Europe around 1900 to close to the top in 2000, despite benefitting to varying degrees from their natural wealth. The decisive factor was the people.

Norway, of course, always had its natural resources; but it was only with the advent of educated labor that it became possible for the Norwegians to harness those resources on a significant scale. Human capital accumulation was the primary force behind the economic transformation of Norway, natural capital was secondary. Human capital accumulation can lift living standards without natural capital (as in Japan and Singapore, for example), but natural capital is of little help, or worse, without the human resources necessary to harness it (consider Congo).

Not unexpectedly, in view of its considerable oil wealth, Norway exhibits some (weak) symptoms of the Dutch disease: (a) an almost stagnant ratio of exports of goods and services to GDP since before oil and gas became Norway's main export commodity, suggesting significant crowding out of nonoil exports by oil exports; (b) the absence from Norway of world-renowned high-tech companies such as Denmark's Bang & Olufsen, Finland's Nokia, and Sweden's LM Ericsson and Volvo; and, one might add, (c) an unwillingness by the Norwegian government, or perhaps we should rather call it a lack of urge, to undertake pressing reforms in the public sector, including education and especially health care as suggested, for example, by an eye-opening report by

Professor Victor Norman and associates in the early 1990s.[1] True, there have been significant reforms, but they have not increased efficiency nearly enough. Perhaps Norway's persistent lack of interest in joining the European Union and adopting the euro should be viewed in this light.

Higher incomes, less work

The above discussion raises the following question: Does the fact that Norway managed only to advance to a slightly higher level of per capita income than its Nordic neighbors that are much less well endowed with natural resources mean that Norway failed to exploit its resources as fully as it could have? Did something go wrong? My answer is No, for two reasons.

First, Norway's level of GDP per hour worked is substantially higher than that of its Nordic neighbors because Norwegian employees work about 1400 hours per year compared with 1600 hours in Denmark and Sweden, 1750 in Finland, and 1800 in Iceland.[2] The Norwegians have taken out their steadily increasing standard of living on two fronts at once: through higher incomes as well as more free time. For this reason, per capita income growth understates the rapid advance of Norwegian living standards. Growth of income per hour worked, a broader and better measure of economic wellbeing, suggests the emergence of a larger difference between Norway and its neighbors.

In second place, without its resource wealth, Norway would almost surely have achieved a comparable economic success by employing its increasingly well educated labor force in other ways. Then Norway, like its neighbors, would most likely have built up more high-tech firms, but the oil wealth and the concomitantly high exchange rate of the Norwegian krone, another common symptom of the Dutch disease, thwarted such an outcome.

Norway's oil management regime

Norway's sensible approach to oil wealth management deserves the attention it has received in other resource-rich countries around the world. Norway's approach has several key features:

a) From the beginning, before the first drop of oil emerged, the oil and gas reserves within Norwegian jurisdiction were defined by law as common property resources, thereby clearly establishing the legal rights of the Norwegian people to the resource rents;
b) On this legal basis, the government has absorbed about 80 percent of the resource rent over the years, having learnt the hard way in the 1970s to use a relatively small portion of the total to meet current fiscal needs, instead setting most of its oil revenue aside in the state petroleum fund the name of which was recently changed to pension fund to reflect its intended use;
c) Further to the preventive legislation passed at the outset, the government laid down economic as well as ethical principles (commandments) to guide the use and exploitation of the oil and gas for the benefit of current and future generations of Norwegians;
d) The traditional main political parties have from the beginning shared an understanding that the national economy needed to be shielded from an excessive influx of oil money to avoid overheating and waste, a view not shared by the Progress Party (est. 1973); and
e) The Central Bank (Norges Bank), which was granted increased independence from the government in 2001, manages the fund on behalf of the Ministry of Finance, maintaining a distance between politicians and the fund that has now grown to around USD 400

[1] See Victor Norman *et al*. (1991), *Mot bedre vitende? Effektiviseringsmuligheter i offentlig virksomhet* (*Against Better Judgment? How to Make the Public Sector More Efficient*), SNF-rapport 4/91, Stiftelsen for Samfunns- og Næringslivsforskning, Norwegian School of Business Administration, Bergen.

[2] Source: Angus Madisson and associates at the University of Groningen, http://www.ggdc.net.

billion (USD 85,000 per person in Norway) and constitutes net government wealth as no offsetting government borrowing takes place.

For all these reasons, Norway was able to avoid rent seeking and related problems that have afflicted other oil exporting countries – Iran, Libya, Mexico, Nigeria, Russia, Saudi Arabia, Sudan, Venezuela, you name it. Clearly, what sets Norway apart from those other countries is that Norway was a well-functioning, full-fledged democracy long before its oil discoveries. Democrats are less likely than dictators to try to grab resources to consolidate their political power.[3] Oil and other forms of energy have become Norway's main export in more ways than one as the state-owned StatoilHydro is now present in some 40 countries around the world.

In this light, and also in view of Norway's successful management of its substantial hydroelectric resources, also through state ownership, it is striking that Norway's management of yet another important natural resource – fish – has left much to be desired, to put it mildly, as is the case in most other fisheries around Europe and the world with dwindling fish stocks, some on the verge of extinction due to overfishing and other forms of mismanagement.[4] In Norway, there may be a rational reason for the difference. It was decided decades ago to subsidize the fishing industry in northern Norway, much like agriculture, and to limit the size of trawlers permitted to fish in Norwegian waters, among other regulations. The authorities would hardly ever admit this, but they seem to have held back the efficiency of the fishing industry in a deliberate effort to maintain its manpower needs to stem migration from north to south. If so, this was not solely a regional policy undertaking, and hardly a cost-effective one as such, but also a matter of foreign policy as Norway shares part of its northern border with Russia. It is, perhaps, easier to build a management system from scratch, with no vested interests in place, as the Norwegians did with their oil management. In fisheries they did not.

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[3] Mehlum, Halvor, Karl Ove Moene, and Ragnar Torvik, "Cursed by resources or institutions?", *World Economy*, 2006, August, pp. 1117-1031.

[4] See my recent VoxEU column, **Dwindling fish: what's the catch?** (http://www.VoxEU.org).