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Oil Management: Norway's Example

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The 20th century transformed the economic lot of many nations, including Norway. To this day, 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 at the time Finland and Iceland 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 – thanks mostly to its abundant, well-managed oil wealth – leading the pack. In Denmark, Finland, and Sweden, per capita GDP in 2008 amounted to USD 36,000 to USD 38,000 compared with USD 59,000 in Norway, well above the United States with USD 47,000.[1] These figures are adjusted for purchasing power parity to account for differences in the cost of living across countries. In 2007, according to the latest available figures, Norway had the world's highest score on the UNDP's Human Development Index that reflects education and life expectancy as well as per capita GDP.[2] In short, Norway has been a smashing economic and social success.

1. 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. Around 1900, Finland and Iceland's per capita incomes were only about a half those of Denmark and Sweden. 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, of course, but it was not until the natives had acquired

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[1] Source: World Bank, *World Development Indicators* 2009.

[2] Source: United Nations Development Program, http://hdr.undp.org/en/statistics/.

the necessary education and technology that they were able to launch a fishing industry. An even clearer case is that of Ireland and the United Kingdom. In 1900, the Irish were significantly less well off than the British, 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, mostly Scotland).

It seems likely that Norway could have caught up with the rest of Europe even 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, mainly to North America, 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.

Lee Kwan Yew, Prime Minister of Singapore 1959-1991, would not be surprised. In 1998, he reminisced:[3]

> I thought then that wealth depended mainly on the possession of territory and natural resources, whether fertile land ..., or valuable minerals, or oil and gas. It was only after I had been in office for some years that I recognized ... that the decisive factors were the people, their natural abilities, education and training.

Earlier, in 1966, Prime Minister Lee had this to say in a speech at the Delegates' Conference of the National Trade Union Congress in Singapore:[4]

> In the last 20 or more years since the end of the Second World War, we have seen how the human factor has been one of the most potent factors for economic growth and national recovery as against the natural geographic and mineral resources of a given society. Two nations, Germany and Japan, were both beaten down to their knees. Both lost large tracks of territory … Both found their smaller remaining territories crammed with refugees ... And, in both cases, they were able to recover through an ability to mobilize their human resources. First, there was the basic willingness of the worker to work and pay for what he wants; and second, high standards of technical expertise and American markets and investments. But the latter were not decisive. The decisive factor was the human resources at their disposal. And Germany and Japan have emerged with a strength to be reckoned with in Europe and in Asia.

[3] Lee Kuan Yew (1998), *The Singapore Story, Memoirs of Lee Kuan Yew*, Singapore Press Holdings, Singapore.
[4] Source: http://stars.nhb.gov.sg/stars/tmp/lky19661002.pdf, pp. 3-4.

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. According to some estimates, human capital accounts for 88 percent of Norway's national wealth, real capital 7 percent, the present discounted value of petroleum rent 4 percent, and financial capital 1 percent.[5] Using different methods, the World Bank attributes 63 percent of Norway's national wealth to intangible capital, including human capital, 25 percent to produced capital, and 12 percent to natural capital.[6] Human capital accumulation can lift the standard of living 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). Human capital comes first.

Today, earnings from oil constitute a quarter of Norway's GDP and investment, a third of its budget revenues, and a half of export earnings. Norway's Petroleum Fund, established in 1990 and now named Government Pension Fund to reflect its intended use, will before long amount to USD 100,000 per person, or almost two times Norway's ppp-adjusted per capita GDP. It is invested entirely in foreign securities, currently 60 percent in equities and 40 percent in fixed-income securities. The fund constitutes net government wealth as no offsetting government borrowing takes place.

2. Higher incomes, less work

The above discussion raises an important 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 Norwegians have shorter work weeks. Norwegian employees, like German employees, work about 1,400 hours per year compared with 1,600 hours in

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[5] Source: Norwegian Ministry of Finance (2006), see http://www.unctad.org/sections/wcmu/docs/com2em20p007_en.pdf.

[6] Source: World Bank (2006), *Where Is the Wealth of Nations? Measuring Capital for the 21st Century*, Washington, D.C.

Denmark and Sweden, 1,700 in Finland (and Japan), and 1,800 in Iceland.[7] The Norwegians have taken out their steadily increasing standard of life 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 over the years. The numbers for 1950 are revealing. In 1950, almost twenty years before the commercial extraction of oil began, Norwegian employees, like Danish employees, worked 2,100 hours a year compared with 2,000 hours in Finland, 1,900 in Sweden, 2,400 hours in Germany, and 2,500 hours in Iceland. Growth of income per hour worked, a broader and better measure of economic performance, suggests the emergence of a larger difference between Norway and its neighbors than does growth of per capita income.

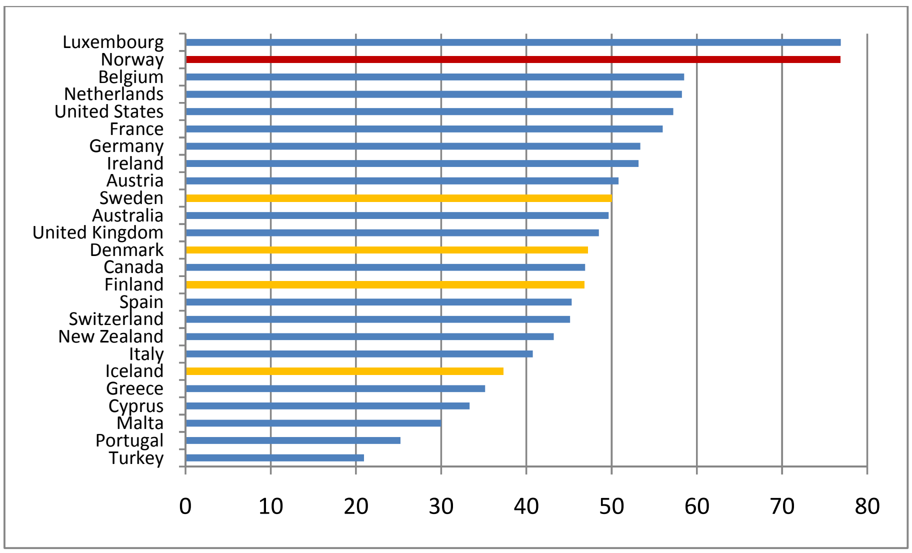

Figure 1. GDP per hour in Western Europe, North America, and Oceania
(2009 international dollars at purchasing power parity)

Source: The Conference Board Total Economy Database, January 2010, http://www.conference-board.org/economics/database.cfm.

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. In that case Norway, like its neighbors, would most likely have built up more high-tech firms alongside its old and prosperous shipping industry, but the oil wealth

[7] For further comparison, employees in Hong Kong, Singapore, and South Korea work 2,300 hours per year. Source: Angus Madisson and associates at the University of Groningen, http://www.ggdc.net.

and the concomitantly high exchange rate of the Norwegian krone, another common symptom of the Dutch disease, thwarted such an outcome.

Norway's fiscal policy and its management of its oil wealth have played an important role in stabilizing the local economy. Before, a variable but declining proportion of each year's net oil-tax revenue was transferred to the government budget, essentially to cover the non-oil budget deficit. However, as the relative importance of the petroleum sector declines, the share of petroleum revenues directed to covering budget deficits will naturally tend to increase. Even so, the domestic economy has been largely shielded from the influx of oil money, thereby avoiding overheating and keeping the value of the krone from rising. This deliberate strategy averted the damage to nonoil exports and import-competing industries that would have resulted from a more marked appreciation of the krone in real terms, or at least limited the damage. Low inflation in Norway reflects the government's disciplined fiscal and monetary policy stance and, in particular, its resistance to the temptation to channel the country's oil wealth to current uses on a large scale in the face of loud calls for using more of the oil revenue to address domestic social needs rather than continue to build up the Government Pension Fund.

3. Norway's oil management regime

The recent literature on natural resources and economic growth is succinctly summarized in Michael Spence *et al*. (2008, pp. 8-9) as follows:

> Economies blessed with abundant oil, minerals, or other natural resources should be able to invest the "rents" or proceeds at home, raising their growth potential. But the historical experience has most often been the reverse. The pitfalls are well known. Sometimes the state sells extraction rights too cheaply or taxes resource revenues too lightly. Sometimes the money it raises is stolen or squandered by rent-seeking elites and vested interests. When the money is invested, it is not always invested wisely or transparently. And by providing a ready source of foreign-exchange, natural resources can also reduce incentives for diversifying exports, a predicament known as "Dutch disease." States will improve on this sorry historical record only if they capture an appropriate share of the resource rents; save a judicious amount overseas; and set clear, growth-oriented priorities for absorbing the remainder at home.[8]

[8] Spence, Michael, *et al*. (2008), *The Growth Report: Strategies for Sustained Growth and Inclusive Development*, Commission on Growth and Development, The World Bank, Washington, D.C. For more, see

Through astute decision making, Norway has for the most part managed to steer round these pitfalls. Indeed, the last sentence quoted from the Spence Report above provides a clear description of Norway.

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, now Pension Fund;
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, with the adoption of inflation targeting in 2001 embarked on a course toward increased independence from the government, manages the fund on behalf of the Ministry of Finance, maintaining a distance between politicians and the fund that has grown to around USD 450 billion (USD 94,000 per person in Norway in 2009).

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

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Frankel, Jeffrey A. (2010), "The Natural Resource Curse: A Survey," NBER Working Paper 15836, http://www.nber.org/papers/w15836.

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.[9] Oil and other forms of energy have become Norway's main export in more ways than one as StatoilHydro, in which the state holds a majority of shares, is now present in some 40 countries around the world. The petroleum industry has conferred significant spillover benefits on others at home and abroad through the transfer of technology as well as research and development.

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.[10] 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 prop up 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.

Unsurprisingly, however, despite its many successes, Norway appears to exhibit 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 krone for krone of nonoil exports by oil exports;

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

[10] See Gylfason, Thorvaldur , "Dwindling fish: what's the catch?," http://www.voxeu.org/index.php?q=node/871.

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.[11]

True, significant reforms have been undertaken, but more needs to be done to address the problems of the public sector, including government monopoly, insufficient competition, and low efficiency. There is a danger that some entrenched structural problems in the country’s education and health care sectors may be misdiagnosed as financial problems because the oil wealth may blunt the willingness of politicians to undertake difficult structural reforms. Even so, the authorities have by and large resisted the temptation. Perhaps Norway’s persistent lack of interest in joining the European Union – a proposition the Norwegians rejected in two national referenda, in 1972 and 1994 – and adopting the euro should be viewed in this light. This lack of interest may well reflect similar forces as Norway’s failure to open up fully to foreign trade and investment because many Norwegians consider their country so rich, thanks to their oil wealth, that they have no need for EU membership.

4. Social policies, human capital, and Saudi Arabia

To a large extent, Norway has managed to shelter its domestic affairs from the ailments that afflict many other resource-rich countries. Central government expenditures have not been allowed to rise to higher levels relative to GDP than in Denmark, Finland, and Sweden next door. Even so, local government expenditures in Norway have increased more than they probably would have in the absence of the general feeling of economic security afforded by the country’s oil wealth. Social policy, including education, health care provision, and social security, is ambitious and generously funded. By international standards, this was the case

[11] 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. Mr. Norman was Norway’s Minister of Labor and Government Administration 2001-2004.

already before the oil discoveries. The oil industry is not labor-intensive. No special efforts were called for to secure occupational diversification.

Norwegians attend colleges and universities in steadily increasing numbers. Female enrolment at the tertiary level doubled from 46 percent of each cohort in 1991 to 94 percent in 2006. It is not certain, however, whether the average quality of college education in Norway has changed in tandem with – or perhaps, as some fear, in inverse proportion to – increased enrolment. Meanwhile, in Saudi Arabia, which had only a slightly larger population than Norway in 1960, or 4.1 million compared with 3.6 million, female enrolment at colleges and universities almost quadrupled from 10 percent of each cohort in 1991 to 36 percent in 2006. The figures on male enrolment at the tertiary level convey a similar picture. In Norway, the tertiary enrolment rate for males rose from 39 percent in 1991 to 61 percent in 2006, while in Saudi Arabia it increased from 11 percent to 25 percent. Virtually all Norwegians now attend secondary school, and have done so for decades, compared with 70 percent of Saudi males and 76 percent of Saudi females, up from 40 percent for males in 1992 and 38 percent for females.

So, by the way, how have the largest oil exporter of the world and the third largest, Saudi Arabia and Norway, fared in the economic sphere since 1960?[12] Have they grown together or grown apart? For starters, Norway's population grew by 0.6 percent per year on average, bringing its population to 4.8 million in 2008. The Saudi population, by contrast, grew by 3.8 percent per year on average and reached nearly 25 million in 2008. Rapid population growth is not conducive to rapid economic growth because, among other things, with many mouths to feed many parents cannot afford to send all their children to school.

[12] Russia, the second largest oil exporter, is excluded from the comparison.

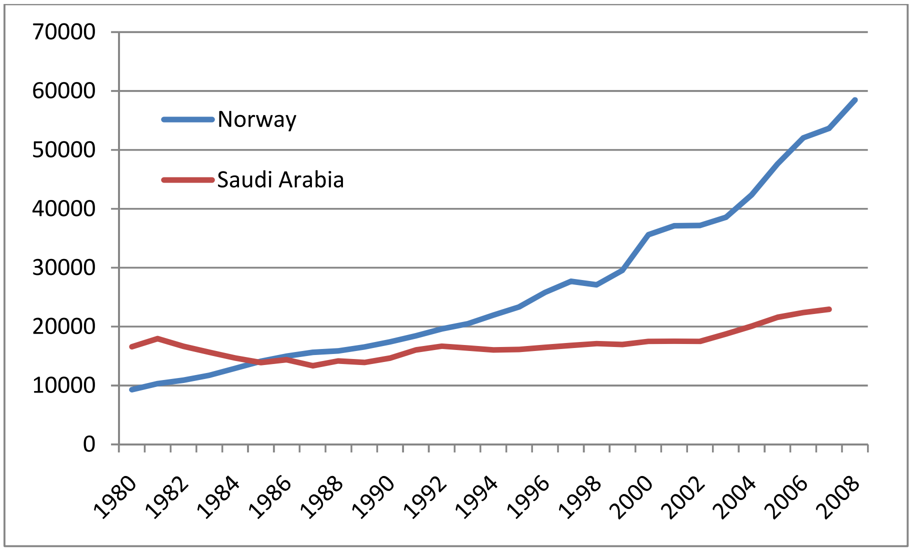

Figure 2. GNI per capita in Norway and Saudi Arabia 1980-2008
(current international dollars at purchasing power parity)

Source: World Bank, *World Development Indicators* 2009.

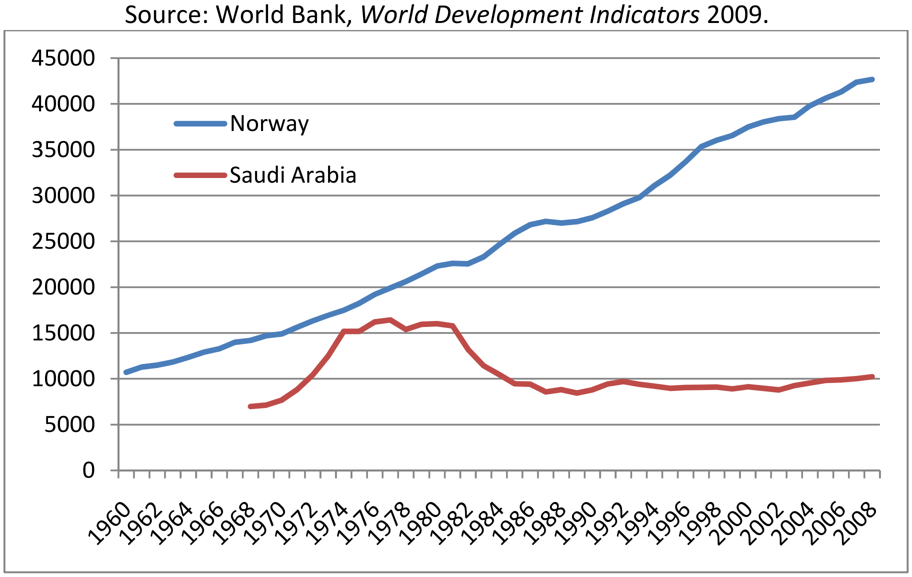

Figure 3. GDP per capita in Norway and Saudi Arabia 1960-2008
(constant 2000 USD)

Source: World Bank, *World Development Indicators* 2009.

Figures 2 and 3 illustrate the two countries' economic growth performance in recent decades. Figure 2 shows the evolution of purchasing-power-parity-adjusted per capita GNI in 1980-2008. Figure 3 shows the evolution of per capita GDP in 1960-2008 in constant U.S. dollars. It is striking to observe that apart from the short-lived boom following OPEC's oil price hikes of 1973-74 and 1979-81, Saudi growth has been modest, with per capita output virtually stagnant since the mid-1980s. From 1968 to 2008, Saudi Arabia's per capita GDP grew by 1 percent per year on average compared with 2.8 percent growth in Norway.

We have noted different rates of population growth and of school enrolment in the two countries, suggesting that human capital accumulation may have a bearing on our comparison of growth in the two countries. Much else matters for growth. Norway has invested a larger proportion of its GDP than Saudi Arabia over the years, or 27 percent of GDP on average during 1960-2008 compared with 21 percent in Saudi Arabia. It is also interesting to note that, in Norway, manufactures exports declined from over 60 percent of merchandise exports in early 1970s to less than 20 percent in 2007. Meanwhile, Saudi manufactures exports rose from nothing to 10 percent of the total. Throughout the period 1960-2000 Norway and Saudi Arabia occupied the opposite ends of the University of Maryland democracy index which reflects various aspects of democratic rights and freedoms and spans the range from 10 in fully fledged democracies to -10 in dictatorships.[13] But we digress.

Or do we? The purpose of the above growth comparison of Norway and Saudi Arabia is to point out that, of the two countries, Norway, besides starting out from a stronger position, has made more progress in building up human capital through education as well as modest population growth, real capital through investment, and social capital – social cohesion, if you prefer – through deep-seated democracy among other things. Through democracy, Norway has achieved deep political diversification.

5. Double diversification

Diversification is good for growth. Political diversification encourages growth by distributing political power away from ruling elites to the people, thus in many cases replacing an extended monopoly of often ill-gotten power by democracy and pluralism. Economic diversification spurs growth in a similar fashion by directing economic activity away from excessive reliance on primary production in agriculture or a few natural-resource-based industries, thus helping lead labor away from low-paying jobs in low-skill-intensive farming or mining to more lucrative jobs in more high-skill-intensive occupations.

[13] The index discussed in the text is the 'polity2' index in the Polity IV data base. See Marshall, Monty G., and Keith Jaggers (2001), "Polity IV project: Political regime characteristics and transitions, 1800-2000." See http://www.cidcm.umd.edu./inscr/polity/.

The basic argument is the same in both cases: diversity pays. Modern mixed economies need a broad base of manufacturing, trade, and services to be able to offer the people a steadily improving standard of life. Therefore, they need to find ways of diversifying their economic activity away from once-dominant agriculture that tends to perpetuate poverty and likewise from too much dependence on a few natural resources that often tend to stifle or delay the development of modern industry and services. To function well, national economies also need broad political participation and a broad base of power in order to be able to offer the citizenry an efficient and fair way of exercising its political will and civic rights through free elections and such. Without political democracy, bad governments tend to overstay their welcome and do too much damage. The need for diversification is especially urgent in resource-rich countries because they often face a double jeopardy – that is, natural-resource wealth that is concentrated in the hands of relatively small groups that seek to preserve their own privileges by standing in the way of both economic and political diversification that would disperse their power and wealth. Rent-seekers typically resist reforms – economic diversification as well as democracy – that would redistribute the rents to their rightful owners.[14]

What does it take to diversify? Most of the things that are good for growth are also good for economic diversification. Saving and investment outside agriculture and other natural-resource-based industries – e.g., in infrastructure and tourism – are important vehicles for diversification in economies that still rely on agriculture or natural resources. Education and training are another essential input into successful diversification because they enable the sons and daughters of farmers, if not the farmers themselves, to find more lucrative work in manufacturing, trade, and services. Education at all levels has played an essential role in the successful transfer of labor from agriculture to the high-tech services sector that has put such an indelible mark on, for example, India and Ireland. Openness to trade and investment is another key to diversification because of the important contribution that foreign capital infusions can make. China, to name but one fast-growing country where foreign investment has played an important part, is a case in point as witnessed by the many

[14] See Auty, Richard M. (2001), "The political economy of resource-driven growth," *European Economic Review*, Vol. 45, No. 4-6, May, pp. 839-846, and Ross, Michael (2001), "Does oil hinder democracy?" *World Politics*, Vol. 53, April, pp. 325-361. See also Isham, Jonathan, Michael Woolcock, Lant Pritchett, and Gwen Busby (2005), "The Varieties of Resource Experience: Natural Resource Export Structures and the Political Economy of Economic Growth," *World Bank Economic Review,* Vol. 19, No. 2, May, pp. 141-174.

joint ventures there between domestic and foreign companies since China opened its gates in 1978. Trade and investment impart experience and valuable knowledge to the countries involved. At last, political pluralism reinforces economic diversification because democracies evolve naturally towards modern diversified manufacturing and service-oriented societies. Educated people in democratic countries do not want to grow rice.

Social capital involves more than just democracy. Norway has managed to preserve the egalitarian nature of its society, thereby further strengthening social cohesion and efficiency. The distribution of disposable incomes and wealth has shown no signs of becoming less equal as a consequence of the emergence of the oil industry. Norway's strong emphasis on education at all levels since long before the oil was discovered has promoted egalitarianism and vice versa with the result that Norway remains one of the most egalitarian countries of the world as measured by the Gini index of income inequality. Norway's Gini index rose from 21 in 1986 to 25 in 2008, a modest increase that preserves Norway's status as a paragon of Scandinavian equality in a world of rising disparities.[15]

One of the factors that separate Norway's experience from that of Saudi Arabia and the rest of OPEC is timing. At the time of the oil discoveries in the 1970s, Norway was a democratic, liberal welfare state with mature social institutions and a well-developed financial system. All of this facilitated judicious and far-sighted management of Norway's oil wealth, at least compared with most other oil producers.[16] In contrast, full-fledged development of a democratic, mixed market economy did not take place in most OPEC countries prior to the discovery of their oil resources, or since for that matter.[17] At present, the Sovereign Wealth Funds of Norway and Saudi Arabia are similar in size which means that, per capita, the Saudi Fund is roughly one-fifth the size of the Norwegian Pension Fund.

In addition to economic and political aspects of diversification and economic development, there is a legal argument that needs to be taken into consideration. The British philosopher Leif Wenar has pointed out that a people's right to its natural resources is a human right proclaimed in primary documents of international law and enshrined in

[15] Source: Statistics Norway (2010). An estimate of the Gini index is not available for Saudi Arabia.
[16] See Hannesson, Rögnvaldur (2001), *Investing for Sustainability: The Management of Mineral Wealth*, Kluwer Academic Press, Amsterdam.
[17] See Karl, Terry Lynn (1997), "The Perils of the Petro-State: Reflections on the Paradox of Plenty," *Journal of International Affairs*, Vol. 53, Fall, pp. 31-48.

many national constitutions.[18] Thus, Article 1 of the International Covenant on Civil and Political Rights states that "All people may, for their own ends, freely dispose of their natural wealth and resources …"[19] Except in the United States, where rights to oil resources were legally transferred to private companies, natural resources are as a rule common property resources as described by Wenar. This means that, by law, the resource rents accrue in large part to the government. This also means that the accrual of natural resource rents to the government presupposes representative democracy and, hence, as a matter of international law, the legitimacy of the government's right to dispose of the resource rents on behalf of the people. This principle is, for instance, acknowledged in the Permanent Constitution of the State of Qatar, Article 1, which states: "Its political system is democratic." Further, Article 29 states: "Natural wealth and its resources are the property of the State; and the State shall preserve and exploit the same in the best manner in accordance with the provisions of the law." For another example, the Iraqi constitution of 2005 proclaims in Article 108 that "Oil and gas are the property of the Iraqi people in all the regions and provinces." Again, by international law, this proclamation presupposes political diversification through representative democracy.

Similarly, by Norwegian law, the oil wealth belongs to the state. The petroleum industry extracts oil and gas on public land albeit offshore. In principle, all the rent from oil and gas should accrue to the Norwegian people through their government. The state's title to these resources constitutes the legal basis for government regulation of the petroleum sector as well as for its taxation. Exploration and production licenses are awarded for a small fee to domestic and foreign oil companies alike. The Norwegian government expropriates the oil and gas rent through taxes and fees as well as direct involvement in the development of the resources rather than through sales or auctioning of exploration and production rights.

6. Conclusion

Rapid development requires the accumulation of high-quality capital of several different kinds. These different kinds of capital tend to complement one another in the growth

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[18] See Wenar, Leif (2008), "Property rights and the resource curse." *Philosophy and Public Affairs*, Vol. 36, No. 1, Winter, pp. 1-32.

[19] The first article of the International Covenant on Economic, Social and Cultural Rights is identical.

process, with one notable exception. That exception is natural capital which, as experience shows, tends to compete with or crowd out other kinds of capital. Part of the reason may be that natural capital, certainly in the case of nonrenewable resources such as oil and minerals, is generally to a large extent inherited rather than currently produced. Natural capital thus resembles “other people’s money” or “manna from heaven.” This kinship often blunts the owners’ incentives to manage their natural resources judiciously, or even encourages squander: this, in essence, is the tragedy of the commons writ large.

Abundant natural resources, if not well managed and supported by sound institutions embracing liberty, equality, and democracy, tend to fill rulers and citizens alike with a false sense of security and to induce them to neglect some of the things that are necessary for rapid growth and rising prosperity and to trigger damaging conflicts among rent-seekers. Abundant natural resources are especially risky when the rents can be extracted from a narrow geographic or economic base (e.g., oil and minerals) and are easy to grab. Investments in physical, human, and social capital – as well as financial and foreign capital – are different in that non-natural capital cannot be grabbed to the same extent except by drastic means such as the wholesale nationalization of industry or the overthrow of a democratically elected government.

Norway’s long tradition of democracy and social market economy since long before the advent of oil has probably helped immunize the Norwegian people from the ailments that inflict most other oil-rich nations. Large-scale rent seeking has been averted in Norway, investment performance has been adequate, and the country’s education record is excellent. Even so, Norway faces challenges. Some (weak) signs of the an outbreak of the Dutch disease can be detected, as indicated above, notably stagnant exports, the absence of a large, vibrant high-tech manufacturing industry, and sluggish FDI.

But perhaps the main challenge is to make sure that the abundance of oil wealth does not instill a false sense of security, a feeling that anything goes and that the social safety net can be used as a hammock. To prevent this from happening and thus to safeguard economic incentives, it was probably necessary to immunize the Petroleum Fund from political interference, just as other key institutions – the courts, media, central banks – have needed to be depoliticized over the years, with mixed success. The transfer of the Petroleum Fund to the Bank of Norway some years ago was a step in this direction. Another solution might be to invest the authority to dispose of the oil revenues in a new special independent, yet democratically accountable and fully transparent authority in the spirit of modern central banking legislation in countries that have granted their central banks and financial inspection agencies substantial independence from political interference. Such an arrangement would severe or at least weaken the link between the allocation of oil revenues and monetary policy considerations. Perhaps the most advisable strategy would be a mixed one, with shared public and private responsibility for the disposal of the oil wealth, in order to spread the risks and reconcile different points of view.