North Sea – Two Futures

Foreword

In advance of the Scottish independence referendum on 18th September 2014, the Scottish Government published its paper *"Maximising the Return from Oil and Gas in an Independent Scotland"* on 23 July 2013 which set out the policy principles upon which oil and gas policy would be based on in an independent Scotland. Building upon those principles, the Scottish Government appointed an independent Oil and Gas Expert Commission in September 2013 to provide advice in relation to the fiscal and regulatory policy framework in the North Sea, with a view to enhancing the investment climate and improving the production profile.

In February Sir Ian Wood published his Maximising Recovery in the UKCS Review making recommendations specifically in relation to the regulation of the oil and gas sector. Those recommendations were considered in detail by the Expert Commission and it published its report, *"Maximising the Total Value Added"* on 7 July 2014. That report made a series of specific recommendations designed to ensure a sustainable future for the Oil and Gas industry in Scotland. These important pieces of work form the basis for the further development of oil and gas policy for an independent Scotland.

A key feature of the analysis carried out to date has been the consideration of the approach taken by Norway in comparison to that taken by the UK in the development of their respective oil and gas resources in the North Sea. This short paper draws together information on both approaches.

Context

The UK and Norway began extracting oil and gas from the North Sea in the early 1970's. Both countries are amongst the largest oil producers in Europe. However, there are some key differences in the economic trajectory of the two nations:

- In 1970, levels of GDP per capita in Norway were 7.5% lower than in the UK. By 2013, GDP per capita in Norway was over 80% higher than the UK.[1] Norway also has the second highest GDP per capita amongst the 34 advanced OECD countries.[2]
- Norway is ranked top of the UN Human Development Index in 2014, which provides a broad measure of standards of living. The UK was 14th in the UN HDI rankings.
- Equality in Norway is third highest amongst the 34 OECD countries, by comparison, the UK is ranked 28th.
- Norway has established an oil fund that is now worth over £500 billion, equivalent to £100,000 for every Norwegian citizen. The UK has not established an oil fund.
- UK general government net debt now stands at around 81% of GDP. In contrast, Norway has accumulated public sector net assets equal to 172% of GDP.[3]

[1] http://www.oecd.org/statistics/, GDP per head, US $, current prices, current PPPs
[2] http://www.scotland.gov.uk/Resource/0044/00446013.pdf
[3] http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx

Oil and Gas Production

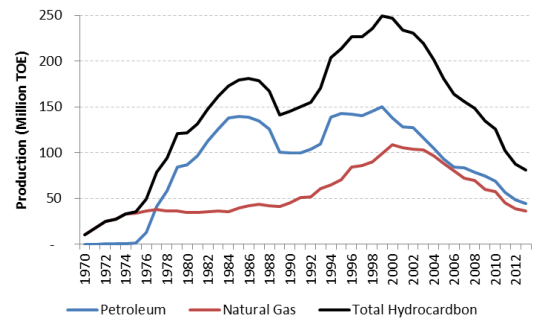
The first Norwegian oil field was discovered in 1969, and production commenced in 1971, with several other large discoveries made in the following years.[4] During the same period, significant discoveries were made in UK waters.

The UK Government awarded the first offshore exploration licence in the UK Continental Shelf (UKCS) in 1964, and in 1969 Amoco discovered the Montrose Field around 135 miles east of Aberdeen. The next major milestone in the UKCS was the discovery of the Forties oil field (almost 3 billion boe of oil reserves) in October 1970 and the Brent field (almost 2 billion boe oil and 4,500 bcf of gas) in the Northern North Sea.

Both of the UKCS and the NCS are now mature provinces in global terms with broadly similar geological challenges. It is estimated that 42 billion barrels of oil equivalent (boe) have now been extracted in the UKCS and that up to 24 billion boe of recoverable reserves remain. Over the same period, less than 40 billion boe have been extracted from the Norwegian Continental Shelf. Figure 1 shows the production profile of the UKCS and NCS respectively.

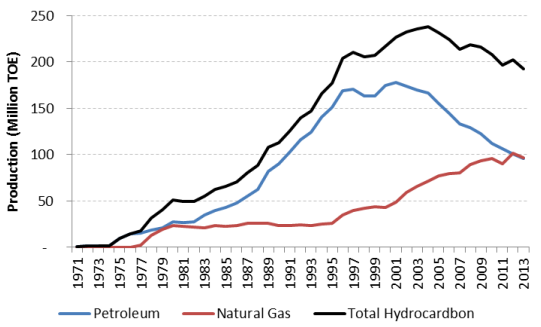
Figure 1: Production from the UKCS and NCS (million TOE)

UK Continental Shelf



Source: Digest of UK Energy Statistics 2014

Norwegian Continental Shelf



Source: Norwegian Petroleum Directorate, FACTS 2014

The approach taken to developing and maximising the return from the respective North Sea resources by the UK and Norway has differed.

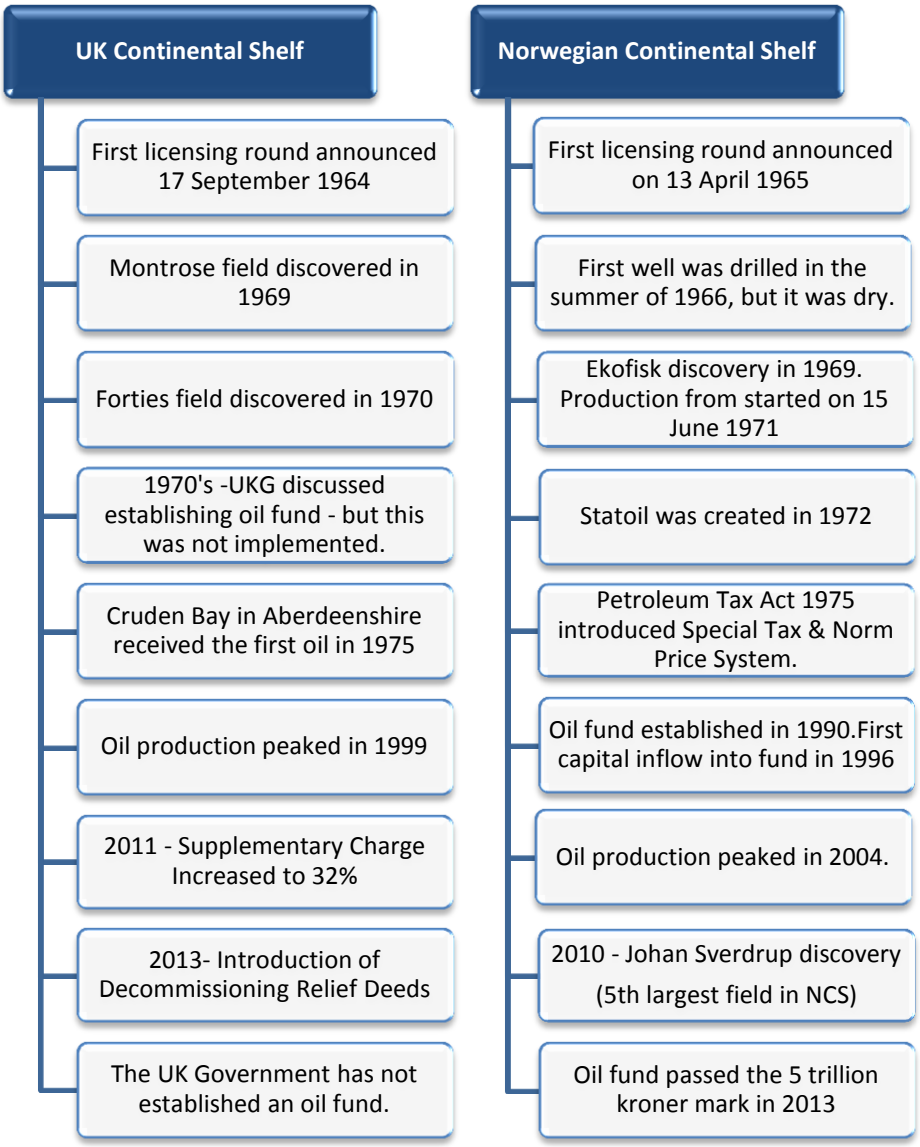
The key areas of difference have been in the two nations' approach to:

- **Sustainable Value;**
- **Management of Revenues;**
- **Fiscal Policy; and**
- **Regulation.**

Some of the significant events defining the two approaches are illustrated in the timeline in Box 1.

[4] http://www.npd.no/en/Publications/Facts/Facts-2014/

Box 1: Timeline of Significant Events in the North Sea



Sustainable Value

Revenue from Oil and Gas Activities

Production in the UKCS is estimated to have generated over £310 billion in tax revenue at today's prices.[5] However, the Norwegian Government has captured an even higher share of the economic rents. Since 1971 the oil and gas sector has contributed over £500 billion in revenue to the Norwegian Exchequer at today's prices.

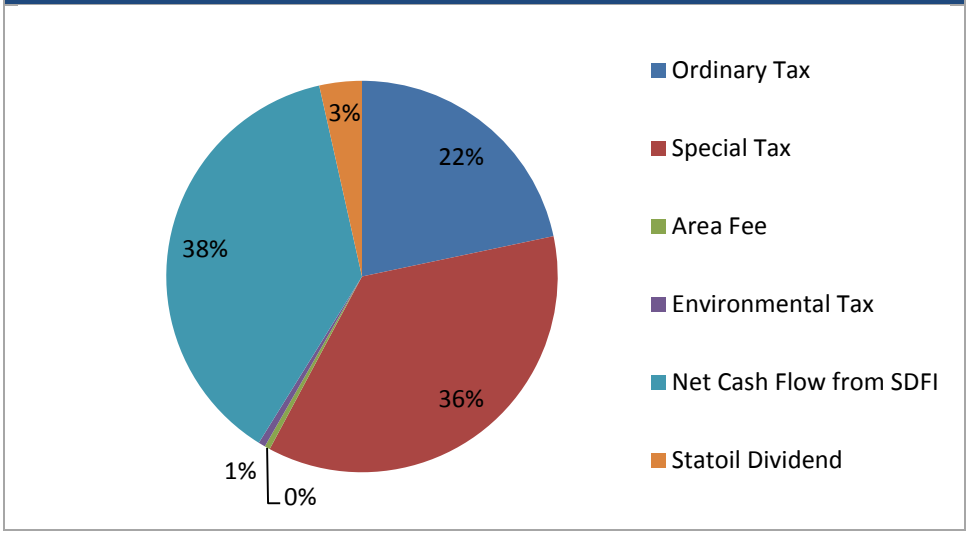
The higher level of revenue generated by Norway can principally be attributed to its direct financial interest in a number of oil and gas fields, pipelines and onshore facilities. This portfolio is collectively called State's Direct Financial Interest (SDFI) and is managed by the state owned company Petoro AS. The state pays a share of the costs associated with these projects, and in turn receives a proportion of the after-tax profits. The Norwegian

[5] http://www.woodreview.co.uk/documents/UKCS%20Maximising%20Recovery%20Review%20FINAL%2072pp%20locked.pdf

Government's direct financial interest in such projects accounted for 38% of its petroleum revenue in 2013, as shown in Figure 2.

In addition, the Norwegian Government continues to hold a 67% stake in Statoil, one of the largest petroleum companies in the world, through which the government receives dividends. These additional sources of revenue mean that the Norwegian Government receives significantly more in revenue per unit of output than the UK Government.

Figure 2: Composition of Norwegian State Revenues from Oil & Gas



In contrast, the UK Government sold its stake in the British National Oil Company in the 1980's, and has adopted a free market approach to the exploitation of oil and gas in the UKCS, relying on private companies to innovate and invest in the basin in order to maximise its economic potential.

It was highlighted recently by Scotland's Expert Commission on Oil and Gas (the Expert Commission) in its report *Maximising the Total Value Added*[6] that whilst significant direct investment in the UKCS by a new National Oil Company (NOC) would be difficult to justify now, the presence of a strong regulator could still replicate some of the key responsibilities often entrusted to a NOC, and bestow some of the benefits provided in regions like Norway where NOCs have taken a prominent role in the development of the nation's resources. This approach has the potential to contribute towards Maximising Economic Recovery and hence contribute towards the generation of a higher level of revenue.

Value Creation

As highlighted by the Expert Commission, a key aspect of Norwegian policy making is the concept of value creation. The Norwegian Oil and Gas industry has succeeded in becoming a global hub for oil and gas activity, with a particular focus on pioneering technology. Since production began on the Norwegian continental shelf , the industry has contributed around 12,000 billion kroner (in today's prices) to Norwegian GDP. This has been maximised

[6] http://www.scotland.gov.uk/Resource/0045/00455337.pdf

through the adoption of a dual policy of attracting global oil and gas companies and stimulating the development of competence and capital.

Norway's effective, well-founded regulatory framework stimulates the companies on the shelf to make decisions that maximise the value for the Norwegian society. For example, Statoil recently opened a new research centre for improved oil recovery (IOR) in Norway. This is part of Statoil's ambition to reach a 60% recovery rate on the NCS – the achievement of which has the potential to have a significant impact on value generation.

In line with this approach, the Expert Commission highlighted that a fundamental shift in the way oil and gas policy is formulated in the UKCS is necessary. Its overarching recommendation was that *the concept of* Total Value Added (TVA) - maximising the overall contribution of the sector to the economy - should be central to the delivery of Maximising Economic Recovery in the North Sea. The Expert Commission made clear that policy formation in the UKCS has been too focussed on short-term gain. This is likely to have had an impact on some the economic indicators outlined in Box 2.

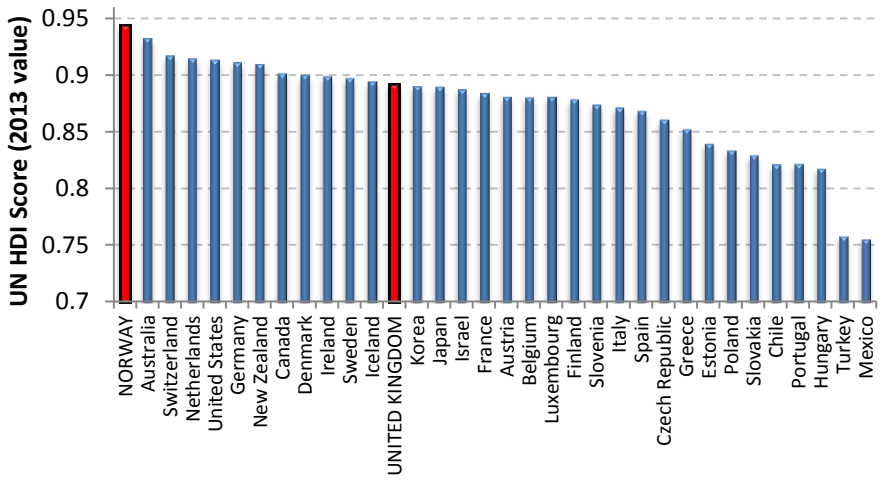
Box 2: Key Economic Indicators

On several key indicators there has been a divergence in economic performance between Norway and the UK.

In 1970, levels of GDP per capita in Norway were 7.5% lower than in the UK. By 2013, GDP per capita in Norway was over 80% higher than the UK.[7] Norway also has the second highest GDP per head amongst the 34 advanced OECD countries, the UK was ranked 17th.[8]

Norway sits toward the top of global well-being league tables. Equality in Norway is third highest amongst the 34 OECD countries, by comparison, the UK was ranked 28th. Norway also has one of the highest levels of overseas international aid. Norway is also ranked top of the UN Human Development Index (UN HDI) in 2014, which provides a broader measure of standards of living. The UK was ranked 14th in the UN HDI rankings.

Figure B1: UN 2014 Human Development Index[9]



[7] http://www.oecd.org/statistics/, GDP per head, US $, current prices, current PPPs
[8] http://www.scotland.gov.uk/Resource/0044/00446013.pdf
[9] http://hdr.undp.org/en/content/table-1-human-development-index-and-its-components

Norway faces few of the dilemmas that characterise macroeconomic policy in many advanced countries at the moment. However, recent OECD assessments have highlighted that Norway still faces challenges, such as; low cost-efficiency in education, poor work incentives, weaknesses in public expenditure management, and high and rising costs of labour stemming from the high wages prevalent in Norway and the low average working hours.[10]

Management of Oil Revenues

A number of countries with substantial natural resources have established some form of wealth fund to manage these assets, and to ensure they provide a permanent source of income for future generations. The UK and Norway are the largest oil and gas producers in Europe, but they have taken very different approaches to managing the revenue received from the oil and gas industry.

Since 1996 the Norwegian Government has invested a proportion of the revenue received from offshore production in an oil fund, the Norwegian Government Pension Fund Global. The purpose of the fund is twofold:

1. to provide a long term source of wealth to benefit future generations; and
2. to smooth out fluctuations in government receipts caused by changes in oil prices and production.

Oil and gas production accounted for an average of 30% of public sector receipts in Norway over the decade to 2012-13. The majority of this revenue has been transferred to the country's oil fund.

The Norwegian Government first transferred capital to the Fund in May 1996. By the end of 2013, the fund had received a total of 3,302 billion kroner and amassed a cumulative return of 1,799 billion kroner. As a result, by the end of 2013, the fund passed the 5 trillion kroner mark (over £500 billion), which is equivalent to almost a million kroner for every Norwegian citizen.[11]

The fund currently owns, on average, 2.5% of every listed company in Europe and 1.2% of the world's listed companies – investments which have achieved average annual returns of 5.9% over the last five years.[12] In addition to sustainable investments, an interesting feature of the Norwegian model is the role of 'ethical guidelines'. These are based on the principle that a good return in the long term is considered to be dependent on sustainable development in an economic, ecological and social sense.[13] This means that all equity investments made by the Norwegian oil fund are subject to strict guidelines governing the companies into which the fund can invest.

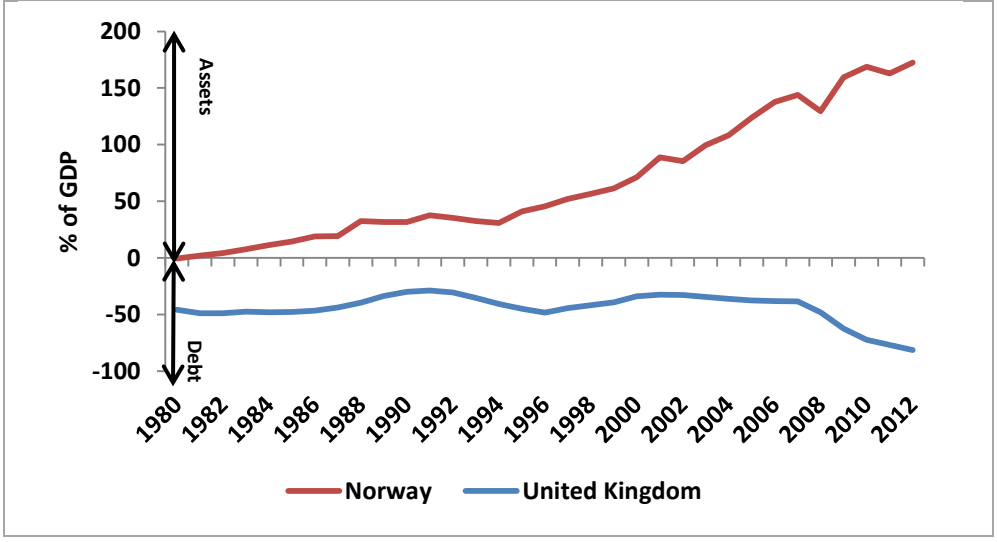
[10] http://www.oecd.org/eco/surveys/Norway-Overview-2014.pdf
[11] http://www.nbim.no/en/transparency/reports/2013/annual-report-2013/
[12] http://www.nbim.no/en/the-fund/return-on-the-fund/
[13] http://www.regjeringen.no/upload/FIN/brosjyre/2010/spu/english_2010/SPU_hefte_eng_ebook.pdf

In contrast, successive UK Governments have used the revenue generated from oil and gas production to fund current general government expenditure and/or lower taxation. This has arguably allowed for greater public sector investment and a more competitive tax environment than would otherwise have been the case. Professor Joseph Stiglitz has argued that the UK "squandered" its oil wealth, and that UK Governments' economic policies reflected "false prosperity where they took all the income coming in from the North Sea but rather than investing that in enhancing the human capital, the fiscal capital and the technical skills, a disproportionate amount of that went elsewhere".

As illustrated in Figure 3, UK general government net debt now stands at around 81% of GDP. In contrast, Norway has accumulated public sector net assets equal to 172% of GDP.[14]

Analysis by the Fiscal Commission concluded that, had it used its oil wealth to establish an oil fund in 1980, Scotland could have eliminated its share of UK public sector net debt by 1982/83. By 2011/12 Scotland could have accumulated financial assets of between £82 billion and £116 billion. That would be equivalent to between 55% and 78% of GDP.[15]

Figure 3: General Government Net Debt



This illustrates one of the long-term implications of the different approaches taken to the management of tax revenues from oil and gas production in Norway and the UK.

Fiscal Policy

Oil and gas investment decisions and their consequences are particularly long-term in nature. A fiscal regime should therefore reflect the appropriate time periods for the industry, which typically extend well beyond Government budget periods. This is a concept which has been emphasised by the Expert Commission.

In both the UK and Norway, oil and gas production is subject to a distinct fiscal regime from the wider economy. This reflects the fact that oil and gas production represents a depletion

[14] http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx (Latest data are for 2012)
[15] http://www.scotland.gov.uk/Resource/0043/00435303.pdf

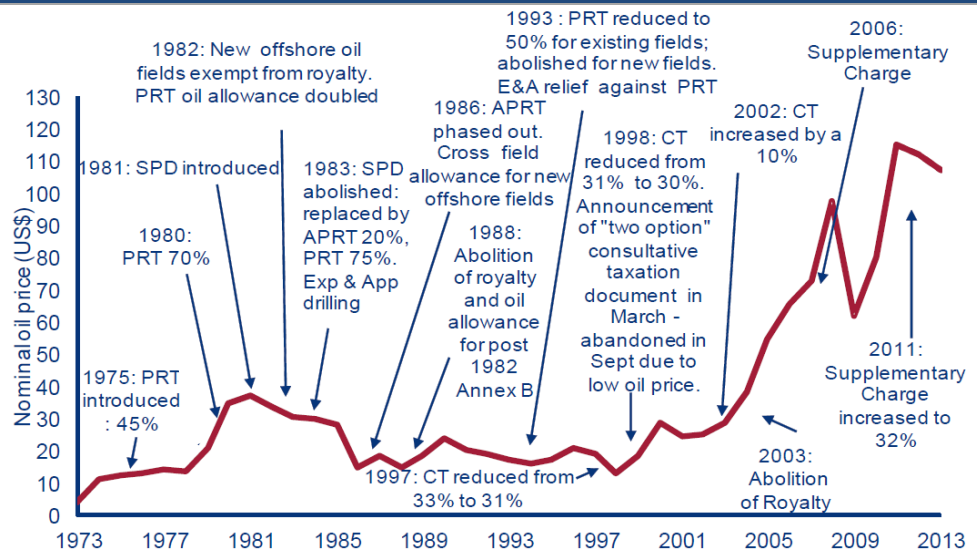
of a country's finite natural resources and ensures that the country retains an appropriate share of the resulting economic rents.

In the UK, oil and gas production is subject to a tax rate of either 62% or 81% depending on the age of the field. In Norway, the headline tax rate is 78%. A key change in the fiscal regimes in both countries is the number of reforms which have been implemented in recent years. The UKCS fiscal regime has been subject to considerable fiscal instability, with the most recent change being the 12 percentage point increase in the supplementary charge in 2011. The sequence of these tax changes is illustrated alongside the historic oil price in Figure 4 below.

To maintain international competitiveness and attract investment in the North Sea, the UK Government designed Field Allowances to provide targeted relief from the scope of the Supplementary Charge. These allowances have supported field investment but have also contributed to the complexity of the UKCS fiscal regime. The Expert Commission stated that: "*the current system in the UKCS…is now very complex in its operation and has been subject to frequent changes. This is largely due to the ad-hoc nature of its development in response to specific short-term issues.*"[16]

The Report highlighted that unlike Norway, the UK Government has failed to deliver a robust policy environment, stating that the "*short-term approach of Government to policy, fiscal management and ministerial and official appointments contrasts with the inherent long-term perspective that is taken by industry in making investment decision and planning.*"

Figure 4: UKCS Tax Changes[17]



Note: **PRT** refers to the Petroleum Revenue Tax, **SPD** refers to Supplementary Petroleum Duty, which was introduced at the start of 1981 and abolished at the end of 1982. **APRT** refers to Advance Petroleum Revenue Tax, which was introduced at the start of 1983, following the removal of **SPD**. CT refers to Ring Fence Corporation Tax.

[16] http://scottishgovernment.presscentre.com/imagelibrary/downloadmedia.ashx?MediaDetailsID=2359&SizeId=-1
[17] Wood Mackenzie, Upstream Service

In contrast, the Norwegian fiscal regime is regarded as being relatively stable and *"robust in withstanding price fluctuations in the crude oil and gas markets…the main features of the system have been upheld over many years"*.[18]

Regulation

Norway is also widely considered to have balanced oil industry interests with its national interests through its approach to resource stewardship. This has contributed to the divergence in economic performance between Norway and the UK.

In his *Maximising Recovery in the UKCS* Review Sir Ian Wood directly compared the regulatory resources of the UK and Norwegian models, stating:

"In the early 1990's, the UKCS Regulator had around 90 personnel…when there were approximately 90 fields in production. The UK now has over 300 fields in production but the Regulator is down to approx. 50 personnel, working on more complex licensing and stewardship issues. In contrast the Norwegian Petroleum Directorate (NPD) has over 200 personnel and…the Netherlands has around 70, supplemented by consultancy resources"

Sir Ian was critical of the role of DECC as the regulator, stating that it was: *"significantly under-resourced and far too thinly spread to respond effectively to many of the demands of managing an increasingly complex business and operating environment".*[19]

The Wood Review and the Expert Commission report have both advocated the creation of a new arm's length regulatory body to steward the North Sea resources, recognising that the emphasis of future regulation should be on high quality, proactive stewardship.

In making recommendations for the implementation of that new body, both independent reports have drawn on the experience of the Norwegians as an example of good practice.

Opportunities Under Independence

The Scottish Government has made clear that the long-term policy direction in an independent Scotland would be based on the principles set out in its paper *Maximising the Return from Oil and Gas in an independent Scotland* and in accordance with the independent advice received from the Expert Commission on oil and gas. That policy approach could learn greatly from aspects of the Norwegian model of governance and stewardship.

Building upon this approach, an independent Scotland will:

- adopt **a dual policy focus** where policy is built with the explicit aim of Maximising Economic Recovery, and constructed so that Government and society benefit from the Total Value Added generated by the industry as a whole;

[18] http://www.bahr.no/no/aktuelt/saker/_attachment/2869?_download=true&_ts=135436a4dc8.
[19] http://www.woodreview.co.uk/

- **support and encourage the domestic supply chain** to be innovative, developing new technologies, capabilities and skills to enable it to thrive long after the cessation of production in the North Sea and generate sustainable value for the wider economy;
- **create a Scottish Energy Fund** to provide investment for future generations from a natural resource that can only be extracted once, and to provide income that can smooth receipts from oil revenues, recognising that these vary from year to year;
- provide industry with the necessary **fiscal and regulatory stability and predictability** for it to innovate and thrive in a globally competitive environment;
- put in place **new fiscal measures** designed to enhance the climate for investment in the North Sea and improve the production profile, while ensuring a fair return for the nation;
- make no changes to the fiscal or regulatory regimes in the North Sea without prior **meaningful consultation with industry** – the new regulator will have a formal right of consultation on any fiscal or regulatory change which could have an impact on investment or production; and
- **adopt a new more proactive and effective model of stewardship** through the creation of a new arm's length regulator which is appropriately resourced and empowered to Maximise Economic Recovery in the North Sea and which works in close collaboration with a new Scottish Energy Department based in Aberdeen to Maximise the Total Value Added from the oil and gas industry in Scotland for decades to come.

Scotland now has a second opportunity to steward its oil and gas assets for the benefit of the nation, as well as supporting the growth of an industry that in many areas is the best in the world. This paper has highlighted some of the divergences in key economic and social indicators between the UK and Norway, demonstrating the opportunities that still exists for Scotland.