Fiscal Commission Working Group

Stabilisation and Savings Funds for Scotland
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Foreword: Crawford Beveridge

It is a privilege to present the second report by the Fiscal Commission Working Group to Scottish Ministers.

This report considers how an independent Scotland could most effectively manage the tax revenue received from oil and gas extraction.

The oil and gas industry has made a significant contribution to Scotland’s economy for four decades and will represent a valuable asset in the future.

This report sets out how both a short term stabilisation fund and a long-term savings fund could be incorporated into the fiscal framework of an independent Scotland. This could help to maximise the economic opportunity that Scotland’s oil and gas wealth presents and ensure that it provides a lasting benefit for future generations.

The economic rationale for establishing such funds is clear and they have been successfully implemented in a number of countries. They can help manage short term fluctuations in tax revenue caused by temporary shocks to commodity prices or production levels. They can also ensure that the depletion of a country’s finite natural resources is at least partially offset by the accumulation of financial assets which can provide a lasting benefit for future generations. There is a strong case for an independent Scotland to establish such funds as part of any post-independence fiscal framework.

As in any country, the government of an independent Scotland will face a range of competing priorities in managing its public finances. It would therefore have to balance investments into such funds, alongside wider decisions regarding levels of public spending and taxation.

This report focuses on the design of a stabilisation fund and a savings fund in an independent Scotland. In doing so, it sets out a clear and credible framework which could
be established immediately following independence to build flexibility into the budgetary process and help promote long-term macroeconomic stability.

The Working Group has been conscious not to specify the level of investment that should be made into either fund as this would be for the government of the day and democratic decisions relating to the public finances and taxation. We have however, proposed a model which takes into consideration the fiscal position that an independent Scotland is likely to inherit, and which, in principle, allows investments to be made into both a stabilisation fund and a savings fund without an automatic offsetting change to public spending or taxation.

In the case of a stabilisation fund, this could initially involve the Scottish Government basing its spending plans on a cautious forecast of oil revenues. If oil revenues exceeded the forecasts, the excess could be transferred into the stabilisation fund. Should outturn receipts come in below forecast, the Scottish Government could utilise the reserves previously accrued in its stabilisation fund to offset the shortfall.

Such an approach would provide a formal framework for ensuring that fiscal policy is planned on the basis of cautious North Sea forecasts. It would also ensure that Scottish Government borrowing was more stable, more predictable and, potentially cheaper, than would otherwise be the case. In the years immediately following independence, such stability could be an important factor in further promoting Scotland’s credibility on international financial markets.

The Working Group has also considered in detail the timeline for making investments into a long term savings fund. In the long run, the Working Group sees merit in Scotland aiming to run some form of onshore budget balance. This would provide the optimal conditions for investment in a savings fund.

Given the fiscal position that an independent Scotland is likely to inherit, such a rule would make such investments unlikely in the years immediately following independence. However, the Working Group strongly endorses the merits of a long term savings fund and the importance of committing to its establishment as a central element of Scotland’s fiscal
framework. This would ensure that the need for long term investment was balanced alongside more apparent short term spending priorities from day one of independence.

The framework proposed by the Working Group would therefore enable investments to be made into a savings fund provided Scotland was running a manageable deficit and public sector debt as a share of GDP was on a downward path. It is envisaged that, subject to the performance of the Scottish economy in the coming years, this could allow the Scottish Government to start making modest investments into a long term savings fund shortly after independence.

I am grateful to my fellow Working Group members – Professor Andrew Hughes Hallett, Professor Frances Ruane, Professor Sir James Mirrlees and Professor Joseph Stiglitz – for the expertise and knowledge that they have brought to this report.

This report, together with the previous work of the Working Group, represents a considerable body of analysis on the macroeconomic policy choices available to the government of an independent Scotland. I hope that they will help to promote an informed debate on the economic choices that will face Scotland in the future.

Crawford Beveridge CBE
Chair, Council of Economic Advisers

October 2013
Fiscal Commission Working Group Membership

Membership is drawn from the First Minister’s Council of Economic Advisers. The Chair is Crawford Beveridge CBE.

Crawford Beveridge CBE (Chair) – Crawford Beveridge is a technology industry veteran with more than 35 years of experience. This included working as an Executive at Sun Microsystems for over 15 years. In 1991, Beveridge left Sun to become Chief Executive of Scottish Enterprise. Beveridge returned to Sun in April 2000 as Executive Vice President of People and Places and Chief Human Resources Officer. In addition to being the Non-Executive Chairman of the Board of Autodesk, Beveridge is Chairman of Scottish Equity Partners Ltd, and a Non-executive board member of eSilicon and Iomart Group PLC. He was awarded a C.B.E. in the New Years Honours list in 1995.

Professor Andrew Hughes Hallett - Professor of Economics and Public Policy at George Mason University in the US, visiting Professor at Harvard University and Professor of Economics at the University of St Andrews. Professor Hughes Hallett specialises in international economic policy and has acted as a consultant to the World Bank, the IMF, the Federal Reserve Board, the UN, the OECD, the European Commission and central banks around the world.

Professor Sir James Mirrlees – Professor Emeritus at Cambridge University and distinguished professor-at-large at the Chinese University of Hong Kong. In 1996 Sir James was awarded the Nobel Prize for his work on economic models and equations about situations where information is asymmetrical or incomplete. In 2010, he led the Mirrlees Review of taxation which examined the principles and characteristics of a good tax system for open developed economies in the 21st century.

Professor Frances Ruane – Professor Ruane is Director of Ireland’s Economic and Social Research Institute and Honorary Professor of Economics at Trinity College, Dublin. She has published widely in the area of international economics and industrial development.

Professor Joseph Stiglitz – Professor Stiglitz is Professor of Economics at Columbia University. He won the Nobel Prize in Economics in 2001 and was a member of the US Council of Economic Advisers (CEA) from 1993-95, serving as CEA Chair from 1995-97. He was Chief Economist and Senior Vice-President of the World Bank from 1997-2000. In 2009 he was appointed by the President of the UN General Assembly as Chair of the Commission of Experts on Reform of the International Financial and Monetary System.
Executive Summary

In the event of Scottish independence, the majority of oil and gas production, together with the majority of reserves, on the UK Continental Shelf (UKCS) will reside in Scotland’s territorial waters.

Whilst oil and gas production on the UKCS has peaked, significant reserves remain and the sharp increase in wholesale prices observed over the past decade means that the value of these stocks is substantial. The sector will therefore make an important economic contribution for a number of decades. Managing this resource will be a key task for the government of an independent Scotland.

This report outlines how the fiscal framework of an independent Scotland could be designed to ensure that it takes account of the distinct characteristics of oil and gas tax revenues. This will help to ensure that the significant opportunities offered by the sector are maximised.

- In the short run, year on year changes in oil and gas tax revenues mean that Scotland’s fiscal framework should support macroeconomic stabilisation and assist with budgetary planning.

- In the long run, oil and gas is a non-renewable asset. Therefore, the Scottish Government should consider how it manages its oil and gas wealth in a manner which safeguards the long-term sustainability of its public finances and supports intergenerational equity.

Countries with large reserves of oil and gas have often established short-term stabilisation funds and long-term savings funds to meet these objectives:

- **Short-term stabilisation funds** provide a mechanism to buffer the budget from year on year variations in oil and gas tax revenues. They entail saving a proportion of tax receipts in a fund during years when receipts are higher than expected, and withdrawing from the fund in years where receipts are low. They therefore provide a liquid source of funding to help protect the budget, and in turn the provision of public services, from fluctuations in oil and gas tax revenues.

- **Long-term savings funds** allow countries to save a proportion of the tax revenue generated from oil and gas production for future generations. By doing so, a savings fund enables the
returns from finite oil and gas revenues to be converted into a permanent pool of financial wealth that will generate income flows from interest payments, dividends and rising asset values. If carefully managed these revenue streams can lead to a permanent source of income that can be utilised long after oil and gas production has stopped.

Such funds are common among oil and gas producing countries. Of the 20 largest oil producers in the world, the vast majority operate some form of national or sub-national Sovereign Wealth Fund, with the UK being a notable exception.1 Through effective resource management, some countries have been able to build up their funds into substantial holdings of wealth which can provide a significant source of funding for the national budget.

Norway provides a good example of how a country can effectively manage its oil and gas revenues and their experience offers a number of important lessons for Scotland.

The country’s oil fund is now worth 4,397 billion kroner (around £470 billion), making it the largest sovereign wealth fund in the world2. The income generated by the fund has provided a significant source of funding to the government, whilst ensuring that the extraction of the country’s natural resources is offset by the accumulation of financial assets. Countries such as Chile and Australia have also established national wealth funds to support fiscal stabilisation and long-term savings. Likewise, sub-national funds have been established in certain regions in countries such as Canada and the USA.

**Opportunities for Scotland**

The Working Group believes that there is clear merit in Scotland establishing both a short term stabilisation fund and a long term savings fund immediately following independence. The funds should be closely integrated into the wider fiscal framework of an independent Scotland and in particular the operation of any fiscal rules. The potential operation of fiscal rules in an independent

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1 Top 20 oil producers based on 2012 production data from BP Statistical Review of World Energy. [http://www.bp.com/content/dam/bp/pdf/statistical-review/statistical_review_of_world_energy_2013.pdf](http://www.bp.com/content/dam/bp/pdf/statistical-review/statistical_review_of_world_energy_2013.pdf). Of these countries, only the UK and Iraq are not listed in the Sovereign Wealth Fund (SWF) Institute Fund Ranking, [http://www.swfinstitute.org/fund-rankings/](http://www.swfinstitute.org/fund-rankings/) as having some form of national or sub national SWF. Whilst Iraq operates a ‘Development Fund for Iraq’ which holds the proceeds of the country’s petroleum export sales it does not operate as a traditional SWF. The funds in China and Brazil, the world’s fourth and thirteenth largest oil producers respectively in 2012, are non-commodity based.

Scotland and the role of a Scottish Fiscal Commission will be discussed further in the Working Group’s forthcoming paper on the creation of a fiscal framework for an independent Scotland.

To maximise their effectiveness, such funds should be embedded in the long-term institutional management of Scotland’s public finances. As such it will be desirable to ensure that there is broad consensus on their underpinning objectives and principles. This will ensure that they remain in place across different governments.

A short term stabilisation fund could initially involve the Scottish Government basing its spending plans on a cautious forecast of oil revenues which had been assessed by an independent Scottish Fiscal Commission. Then, if oil revenues exceed the forecasts, the excess could be transferred into the stabilisation fund. Should outturn receipts come in below forecast, the Scottish Government would have the opportunity to utilise the funds previously accrued in its stabilisation fund to offset the shortfall rather than increasing borrowing, cutting public spending or increasing taxes.

Such an approach would provide a formal framework for ensuring that fiscal policy is planned on the basis of cautious North Sea forecasts. This in itself would represent prudent fiscal management and would reduce the risk of borrowing overshooting planned levels.

The fund could also act as a liquidity buffer by providing an immediate, and potentially large, source of funding which the Scottish Government could draw down upon. This would ensure that Scottish Government borrowing was more stable, more predictable and, potentially cheaper, than would otherwise be the case. In the years immediately following independence, such stability could be an important factor in further promoting Scotland’s credibility on international financial markets.

Over time and as fiscal conditions allow, the Scottish Government could consider strengthening deposit rules for the stabilisation fund to ensure that a greater proportion of revenues are set aside. The fund’s objectives could also evolve to encompass a wider macroeconomic stabilisation role. This approach could further enhance the resilience of the Scottish economy and provide a useful additional risk management mechanism within a formal monetary union with the rest of the UK.

A long term savings fund would ensure that that the extraction of Scotland’s oil and gas reserves is partly offset by the accumulation of financial assets that can provide a permanent income stream in the future.
Such a fund should be established immediately following independence. This would guarantee that the fund’s operation and guiding principles were embedded within the wider management of Scotland’s public finances from day one. It would also allow clear guidelines to be established to ensure that the Scottish Government’s fiscal framework facilitated the transfer of resources into a savings fund when conditions allow.

Such a process would help to lock in a strategy of prudent financial management and strengthen Scotland’s credibility on international financial markets. It is also similar to the approach taken by Norway in the early 1990s when they established their fund.

The ultimate aim for a long-term savings fund should be for Scotland to run some form of onshore budget balance\(^3\). This would allow the majority of North Sea revenues to be invested in an oil fund. Given the fiscal position that an independent Scotland is likely to inherit, this may not be achievable in the years immediately following independence. However, investments into a savings fund would not necessarily require Scotland to be in budget surplus. Instead, they could be started once Scotland’s overall budget deficit was reduced to below the level of long-run economic growth and debt was on a downward trajectory. This would allow receipts to be deposited in the fund, whilst simultaneously reducing public sector net debt as a share of GDP. Such a strategy would help strengthen budgetary management, and provide a counterbalance to apparent short-term spending priorities. In principle it would also allow investments to be made into both a stabilisation fund and a savings fund without an automatic offsetting change to public spending or taxation. The potential benefits offered by this approach are outlined in Chapter 5.

The point at which an independent Scotland’s fiscal deficit would reach a level at which public sector debt was on a downward trajectory would depend on the fiscal choices made by the government of the day and the strength of the economy. The Office for Budget Responsibility forecast that the UK’s deficit will reach this point around 2017/18.\(^4\) Assuming that Scotland follows a similar timetable for moving debt onto a downward trajectory, as a share of GDP, this may allow the Scottish

\(^3\) Scotland’s onshore budget balance is the difference between public sector expenditure and public sector receipts excluding taxes levied directly on North Sea oil and gas production (Petroleum Revenue Tax, Ring Fenced Corporation Tax and the Supplementary Charge). Within this there are a range of measures including the onshore structural current budget balance, which is the difference between current expenditure (excluding net investment) and onshore receipts after adjusting for the economic cycle or the onshore structural net fiscal balance which is the different between total public sector expenditure (including investment) and onshore receipts after adjusting for the economic cycle.

\(^4\) Office for Budget Responsibility (2013) – Economic and Fiscal Outlook, March 2013
Government to consider starting to make modest investments into an oil savings fund at a similar time or towards the end of the decade.

Summary of Recommendations

Drawing on the analysis provided in this report, the Working Group has made the following recommendations to the Scottish Government to consider in establishing the fiscal framework for an independent Scotland.

- **Recommendation:** The Scottish Government should establish a short-term stabilisation fund to manage year on year changes in oil and gas tax revenue immediately following independence. The fund’s operation should be embedded into the wider management of the public finances of an independent Scotland.

- **Recommendation:** The Scottish Government should plan its public finances and borrowing requirement on the basis of a cautious forecast for oil and gas revenue. If revenues exceed this forecast, the surplus should be transferred to the stabilisation fund. Conversely, if revenue is below this forecast, reserves could be withdrawn from the fund thereby allowing public spending to be maintained despite short term movements in oil and gas revenues.

- **Recommendation:** The Scottish Government should ensure that the mechanisms used to forecast North Sea revenue, manage transfers into a stabilisation fund and integrate the fund into the wider fiscal framework, are transparent and credible. These processes should be assessed independently of government, for example, by an independent Scottish Fiscal Commission.

- **Recommendation:** The Scottish Government should establish a long-term savings fund immediately following independence. This will ensure that a proportion of the wealth generated from the taxation of Scottish oil and gas production can be invested in financial assets and thereby provide a permanent revenue stream for future generations.

- **Recommendation:** To maximise transfers into a savings fund, a long-run objective should be for the Scottish Government to run some form of onshore budget balance, and to seek to invest a fixed percentage of North Sea revenues into a savings fund annually. In the short-
run, the Scottish Government should consider starting to make modest investments into a long term savings fund once net borrowing was manageable and public sector net debt, as a share of GDP, was on a downward trajectory.

- **Recommendation:** The operation of both a short-term stabilisation fund and long-term savings fund should be transparent and subject to clear guidelines covering the funds’ overall objectives, transfer arrangements, investment strategies, withdrawal rules, and day to day management.

- **Recommendation:** There should be regular disclosure and reporting of the principles governing the fund, and the allocation and return on assets. All of the fund’s investment activities should be open and subject to independent audit and evaluation.
1. Introduction and Overview

Introduction

1.1. The Fiscal Commission Working Group’s first report set out a series of recommendations and proposals for the Scottish Government to consider when designing a macroeconomic framework for an independent Scotland.5

1.2. In forthcoming analysis, the Working Group will set out more detailed analysis and recommendations on the design of a robust fiscal framework, focusing on key aspects, such as fiscal rules and the establishment of an independent Scottish Fiscal Commission.

1.3. A specific recommendation set out in the Fiscal Commission Working Group’s first report related to the management of North Sea tax revenues in an independent Scotland.

Box 1: Fiscal Commission Working Group’s First Report – Recommendation

A recommendation of the Working Group is that –

“The Scottish Government should seek, in principle, to establish a stabilisation fund such as an Oil Fund, to help manage its natural resources and to enhance future economic resilience.”

1.4. This report expands on this recommendation, and provides a detailed assessment of the options for an independent Scotland to manage North Sea oil and gas tax revenues through the creation of both a stabilisation fund and a longer term savings fund.

Macroeconomic Context

1.5. A key element of any macroeconomic framework is a stable, flexible and credible fiscal framework. This will be considered in more detail in the Working Group’s forthcoming report on Fiscal Rules and Fiscal Commissions. An important aspect of the fiscal framework of an independent Scotland will be the management of the tax revenue generated by the North Sea oil and gas sector and how this is incorporated into the wider budgetary process.

1.6. Oil and gas production will continue to make a significant positive contribution to the economy of an independent Scotland. It is estimated that Scotland will be a net oil and gas exporter for the foreseeable future. The sector will also generate significant wealth for the country in terms of employment, investment and tax revenue.

1.7. Oil and gas tax revenues differ from many other sources of tax revenue in two respects. Firstly, they are often subject to larger year on year variations in receipts. Secondly, they represent a finite revenue stream, as the tax receipts accrue from the depletion of a country’s non-renewable stock of natural resources. These characteristics raise important issues in terms of the annual management of tax revenues and the long term sustainability of the tax base.

1.8. Therefore, management of Scotland's oil and gas reserves will be a key priority for an independent Scotland. Norway for example has successfully managed its oil wealth and continued to have a strong onshore economy through careful use of stabilisation and savings funds.

1.9. The report looks in detail at how two different types of oil fund could be established as part of the fiscal framework of an independent Scotland: a short term stabilisation fund and a long term savings fund.

- **Short-term stabilisation funds** provide a mechanism to buffer the budget from year on year variations in oil and gas tax revenues. They entail saving a proportion of tax receipts in a fund during years when receipts are higher than expected, and withdrawing from the fund in years where receipts are low. They therefore provide a liquid source of funding to help protect the budget, and in turn the provision of public services, from fluctuations in oil and gas tax revenues.

- **Long-term savings funds** allow countries to save a proportion of the tax revenue generated from oil and gas production for future generations. By doing so, a savings fund enables the returns from finite oil and gas revenues to be converted into a permanent pool of financial wealth that will generate income flows from interest payments, dividends and rising asset values. If carefully managed these revenue streams can lead to a permanent source of income that can be utilised long after oil and gas production has stopped.
Report Structure

1.10. The remainder of the report is structured as follows.

1.11. Chapters 2 and 3 summarise recent trends in the oil and gas sector and Scotland’s public finances respectively to provide background and context to the analysis in subsequent chapters.

1.12. Chapter 4 discusses the theory underpinning both short term stabilisation funds and long term savings funds and how they have operated in other countries. Chapter 5 outlines how such funds could be potentially established in an independent Scotland and integrated into the broader fiscal framework.

1.13. Chapter 6 concludes and sets out a series of recommendations for the potential operation of such funds in Scotland. Annex A provides additional analysis of Scotland’s historic public finances to complement the information provided in Chapter 3.
2. The Oil and Gas Sector

2.1. The oil and gas industry has made a significant contribution to the Scottish economy for the past four decades. It is the largest industrial sector in Scotland in terms of its contribution to GDP, acts as a major source of employment and investment, and provides the vast majority of Scotland’s oil and gas needs.

2.2. This chapter considers recent trends in the oil and gas sector, including production rates, prices and the sector’s contribution to the public finances.

Oil and Gas Production on the UK Continental Shelf (UKCS)

2.3. Responsibility for regulating UK oil and gas production currently resides with the UK Government. However, with the majority of UK oil and gas production taking place off the coast of Scotland, it is clear that the sector will be an important part of the economy for an independent Scotland.

2.4. There are a range of different methodologies which can be employed to calculate the proportion of UKCS oil and gas reserves which fall within an area which could be considered ‘Scottish’ waters. The most frequently cited estimates are those produced by Professor Alex Kemp and Linda Stephen from the University of Aberdeen. They have estimated Scotland’s geographical share of oil and gas production using the principle of the median line, that is, that all points on the dividing line are the same distance from the Scottish and rest of the UK (RUK) coastline\(^6\).

2.5. The demarcation of the UKCS based on this approach is illustrated in Figure 1. This division is consistent with the approach taken in 1999 to determine the boundary between Scotland and the rest of the UK for fishery demarcation purposes.

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2.6. The majority of oil and gas production takes place north of the median line, although the precise share varies year on year. In 2011, 96% of UK oil production and 52.4% of UK gas production by volume is estimated to have taken place in Scottish waters\(^7\).

**Recent Trends in Production**

2.7. Production on the UK Continental Shelf started in 1967 and to date it is estimated that around 42 billion barrels of oil equivalent (boe) of oil and gas have been extracted.\(^8\)

2.8. Combined oil and gas production on the UKCS peaked in 1999 at around 1.8 billion barrels of oil equivalent (boe) annually, but has fallen in subsequent years\(^9\). Rising oil and gas prices over the past decade mean that the value of remaining reserves is substantial.

\(^7\) Source: Scottish Government - Government Expenditure & Revenue Scotland 2011-12
\(^8\) Oil and Gas UK, Economic Report 2013, [http://www.oilandgasuk.co.uk/2013-economic-report.cfm](http://www.oilandgasuk.co.uk/2013-economic-report.cfm)
2.9. Whist oil and gas production have declined over the past decade, recent increases in UKCS investment and exploration suggest that over the medium term this trend could be slowed and, in the short term, production is forecast to increase. The latest Economic Report by Oil and Gas UK, the main pan-industry body, estimated that field investment on the UKCS in 2012 was £11.4 billion, the highest level for thirty years, and is expected to increase to at least £13.5 billion in 2013.

2.10. Such investment is expected to both prolong the life of existing fields and bring new production on stream. Oil and Gas UK forecast that production could potentially increase from 1.5 million boe a day at present towards 2 million boe a day by the end of the decade. This would represent a 30% increase on current production levels.

2.11. The Department for Energy and Climate Change also publish forecasts for future production. They expect production to stabilise at current levels for the next five years, as illustrated in Figure 2. The key difference between the Oil and Gas UK and DECC projections is that the latter incorporate “very significant negative contingencies” to reflect potential slippage in planned projects and production downtime.

Figure 2: UKCS Production Forecasts (mboepd)

Source: DECC Production Forecasts, Oil & Gas UK - 2013 Activity Survey

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2.12. There are estimated to be significant reserves remaining on the UKCS. Such estimates are inevitably subject to a margin of error. However, it is clear that remaining reserves are substantial and that activity in the sector will continue for a significant period.

2.13. Oil and Gas UK, estimate that between 15 and 24 billion barrels of oil equivalent can still be recovered from the UKCS.\textsuperscript{13}

2.14. The main reason for the large differences in the estimates of remaining reserves is the significant uncertainty regarding the scale of undiscovered (or yet-to-find) resources. Finding and developing these reserves will depend on commodity prices, UKCS costs and technological advances in the sector.

2.15. Based on the projections of remaining reserves by Oil and Gas UK, more than half the volume of oil and gas reserves on the UKCS have been extracted. However, with many forecasters projecting that energy prices will continue to rise in the future,\textsuperscript{14} the wholesale value of remaining reserves remains substantial.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{remaining_reserves.png}
\caption{Volume and Value of Remaining Reserves\textsuperscript{15}}
\end{figure}

\textit{Source: Based on DUKES historical oil and gas production, and Oil and Gas UK 24 billion boe recoverable reserve estimates.}

\textsuperscript{13} Oil and Gas UK – Economic Report 2013
\textsuperscript{14} See for example, EIA Annual Energy Outlook 2013 and IEA Oil Market Report, August 2013; http://www.eia.gov/forecasts/aeo/topic_prices_all.cfm#price_cases; http://omrpublic.iea.org/
2.16. The wholesale value illustrated in Figure 3 is not an estimate of tax revenue, nor is it an estimate of the Net Present Value (NPV) of this resource. The purpose of this figure is to illustrate the total value of production and the investment by the industry and the economic benefits associated with this activity.

2.17. UKCS production is expected to be increasingly concentrated in northern waters, which will increase Scotland’s estimated share of UK production in future years. Analysis by Professor Alex Kemp forecast that 11.1 billion barrels of oil and 5.3 billion barrels of oil equivalent of natural gas could be produced on the UKCS over the next 30 years. He estimates that 98.8% of this oil production, and 60% of gas production over this period will come from the Scottish sector of the UKCS. Combined this would result in 86.8% of total hydrocarbon production coming from Scottish waters over this period.¹⁶

**Government Revenues from Oil and Gas**

2.18. The UK oil and gas fiscal regime currently comprises of three primary elements:

- Petroleum revenue tax: Levied at 50% on profits from oil and gas fields given development approval prior to March 1993. The tax is levied on a per field basis, and not on a company’s UKCS operations as a whole.

- Corporation tax: Charged at 30% on firms North Sea profits net of petroleum revenue tax. Profits from UKCS oil and gas production are ring fenced for corporation tax purposes. As such, they cannot be offset by losses generated in other parts of a company’s operations.

- Supplementary Charge: Acts as an effective increase in the corporation tax rate. It is currently levied at 32%.

2.19. The marginal tax rate on fields approved prior to March 1993 is therefore 81 per cent whilst fields approved after this date have a marginal tax rate of 62 per cent. This is a considerably higher

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¹⁶ Alex Kemp, 'North Sea Oil and Gas'. A Goudie, Scotland’s Future: The Economics of Constitutional Change. Dundee University Press, 2013
tax burden than faced by most other sectors of the economy. By way of comparison, the headline onshore corporation tax rate in the UK is currently 23%.  

2.20. However, the higher tax burden levied on the oil and gas sector reflects the fact that their extraction can generate economic rents and monopolistic profits for producers. A high level of taxation therefore allows a large proportion of the economic rent generated by the sector to be retained by the government for the benefit of the country as a whole without producing any deadweight loss or disincentivising future production. A similar approach to the taxation to oil and gas production has been adopted by most countries with substantial reserves.

2.21. The comparatively high tax rates levied on UKCS oil and gas production means that the sector has acted as a significant source of tax revenue for successive UK Governments, as illustrated in Figure 4. Over the period 1980-81 to 2011-12, the UK Government raised approximately £177 billion in direct tax revenue from oil and gas production. Adjusted for inflation, this is equivalent to around £284 billion (2012/13 prices). The UK Government has used these revenues to fund government expenditure and/or lower taxation.

![Figure 4: Annual Oil and Gas Revenue (2012/13 prices)](source: Scottish Government - Scottish National Accounts Project (SNAP)

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17 [http://www.hmrc.gov.uk/rates/corp.htm](http://www.hmrc.gov.uk/rates/corp.htm)

2.22. Figure 5 provides an illustration of the proportion of UKCS tax revenues estimated to be raised from oil and gas production in Scottish waters, based on analysis by Professor Alex Kemp. Since 1980-81, approximately 90% of UK North Sea revenues, in real terms, are estimated to have been generated in Scottish waters. In 2011-12, the latest year for which outturn data is available, it is estimated that approximately 94% of North Sea revenue was generated from production in Scottish waters.\textsuperscript{19}

**Summary**

2.23. The oil and gas sector has been a major component of both the UK and Scottish economies for the past four decades through its contribution to the public finances and as a result of the jobs and investment that the sector has facilitated. Oil and gas is also a key contributor to the country’s energy needs, for example it is estimated that it currently provides some 73% of the UK’s primary energy demand.\textsuperscript{20}

2.24. In the event of Scottish independence, it is expected that the majority of oil and gas production, together with the majority of reserves, would reside in Scotland’s territorial waters. The sector would therefore make an important contribution to the economy of an independent Scotland for a number of decades. Managing this resource will be a key task for any government of an independent Scotland.

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\textsuperscript{19} Government Expenditure and Revenue Scotland 2011-12, March 2013, \url{http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/GERS}

\textsuperscript{20} Oil and Gas UK, Economic Report 2013, \url{http://www.oilandgasuk.co.uk/2013-economic-report.cfm}
3. Scotland’s Public Finances

3.1. The previous chapter provided an overview of the contribution the oil and gas sector makes to the Scottish economy. This chapter provides a summary of Scotland’s public finances and additional context on how oil and gas revenues relate to Scotland’s overall public finances.

Scotland’s Public Finances

3.2. Government Expenditure and Revenue Scotland (GERS) is a National Statistics publication which provides estimates of Scotland’s public finances under the current constitutional framework. In doing so, GERS captures estimates of all tax revenue generated from economic activity in Scotland and all public spending undertaken on behalf of Scotland, including a share of UK wide public spending such as defence and debt interest.

3.3. The Fiscal Commission Working Group’s first report provided an overview of Scotland’s public finances under the current constitutional framework.

3.4. It is important to note that as GERS takes the current constitutional framework as given, it is limited in what it can and cannot say about independence. Post-independence, not only will the fundamental structures of the Scottish economy (such as economic incentives and expectations) be subject to change, but the basic tax and spending choices of an independent nation may also differ. In addition, particular expenditure commitments – such as debt interest payments – may be subject to negotiation.

3.5. Despite these limitations, GERS provides a useful indication of the relative strength of Scotland’s public finances as part of the UK and a starting point for discussions of Scotland’s fiscal position.

3.6. The most recent edition of GERS provided analysis of Scotland’s public finances for the five years to 2011-12. The composition of Scottish tax receipts over this period is summarised in Figure 5 below. Since 2007-08, income tax has been the largest single source of taxation in Scotland, accounting for 20% of total tax receipts. This is followed by North Sea revenues, National Insurance
and VAT which each account for between 15% and 16% of tax revenues\textsuperscript{21}. Collectively, these four taxes account for approximately two thirds of total tax revenue in Scotland.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure5.png}
\caption{Composition of Scottish Tax Receipts (2007-08 to 2011-12)}
\end{figure}

\textit{Source: Scottish Government – Government Expenditure & Revenue Scotland 2011-12}

3.7. While oil and gas production makes an important contribution to the Scottish public finances, on an international basis it represents a smaller proportion of revenue than in some other major oil producing countries. For example, in Norway oil and gas production accounted for an average of 30% of public sector receipts over the decade to 2011-12, the majority of which was transferred to the country’s oil fund.\textsuperscript{22} Likewise, among the major oil and gas producers in the Middle East, tax revenue stemming from resource extraction frequently accounts for between 50% and 90% of total tax revenue.\textsuperscript{23}

\section*{Scotland’s Overall Fiscal Position}

3.8. The strength of Scotland’s overall fiscal position will determine the amount of revenue that the Scottish Government is able to deposit into a fund. This is considered in more detail in Chapter 5.

\begin{itemize}
\item \textsuperscript{21} FCWG calculations, based on GERS 2011-12, \url{http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/GERS}
\item \textsuperscript{22} Revenue from petroleum and other taxes; Norwegian Ministry of Finance 2012 Budget. Previous years are also available at: \url{http://www.statsbudsjettet.no/Revidert-budsjett-2012/English/}
\item \textsuperscript{23} International Monetary Fund, August 2012, Appendix 1. Available at: \url{http://www.imf.org/external/np/pp/eng/2012/082412.pdf}
\end{itemize}
3.9. Government Expenditure and Revenue Scotland (GERS) provides a useful indication of the relative strength of Scotland’s public finances\(^{24}\) under the current constitutional settlement. It shows that over the past five years, Scotland and the UK have both run a fiscal deficit (a shortfall between government revenue and expenditure). This is not unusual, of the 31 members of the OECD with reported data, 27 ran a budget deficit in 2012.\(^{25}\)

3.10. When oil and gas revenues are excluded, Scotland is estimated to have run a larger fiscal deficit than the UK as a whole over the past five years. However, when Scotland’s fiscal deficit is estimated including a geographical share of North Sea revenues, Scotland is estimated to have run an average annual deficit equivalent to 5.9% of GDP between 2007-08 and 2011-12, whilst the UK deficit is estimated to have averaged 7.6% of GDP.

3.11. The relative financial positions of Scotland and the UK can be illustrated by analysing the difference in net fiscal balances as a share of GDP between the two countries. In 2011-12 Scotland’s estimated deficit was 2.9 percentage points smaller, as a share of GDP, than the equivalent UK deficit. When expressed in cash terms, this relatively stronger fiscal position was equivalent to £4.4 billion over this period.

3.12. Despite its relatively stronger overall fiscal position than the UK over the past five years as a whole, Scotland is still estimated to be running a budget deficit. In the near term it would therefore have to use North Sea tax revenues to fund current public services and reduce public sector borrowing.

3.13. Therefore this report reiterates the Working Group’s conclusion from its first report that a long-run objective of an independent Scotland should be to achieve some form of onshore budget balance, and to use at least a proportion of North Sea revenues to invest for the long-term. Chapter 5 sets out how an independent Scotland could establish a stabilisation fund and a longer-term savings fund immediately after independence. The structure of the chapter reflects the transition that may be required between the short and long term objectives of these funds.


\(^{25}\) http://www.oecd-ilibrary.org/economics/government-deficit_gov-dfct-table-en (There are 34 OECD members in total, however, OECD data for 2012 is not reported for Chile, Mexico and Turkey). Only Germany, Korea, Norway and Switzerland had a government surplus in 2012.
3.14. Figure 6 provides estimates of Scotland’s annual net fiscal balance since the 1980s, including an illustrative geographical share of North Sea revenue. The equivalent UK fiscal balance figures are also included for reference.

**Figure 6: Historic Net Fiscal Balance: Scotland & UK 1980/81 to 2011/12**

![Net Fiscal Balance Chart](chart.png)

*Source: Scottish Government, GERS historical fiscal balance.*

3.15. For most of the 1980s, Scotland is estimated to have run a substantial net fiscal surplus, driven by significant growth in oil and gas revenues. This would have provided opportunities for Scotland to have established a significant savings fund over this period. Annex A discusses how a long-term savings fund could have hypothetically worked in Scotland since 1980-81 in more detail.

3.16. Scotland’s fiscal position weakened through the 1990s and the country ran a slightly larger budget deficit than the UK (albeit very similar). Since 2001-02 Scotland’s budget deficit has been broadly in line with that of the UK.

3.17. Like the UK, Scotland has run an overall budget deficit in most years since 1990. On this basis – and subject to the limitations set out above regarding the use of GERS as an indication of an independent Scotland’s historical fiscal position – since 1990 a hypothetical independent Scottish Government (spending and raising the same revenue as the UK) would have therefore had only limited opportunities to invest *surplus* revenues into a long term savings fund during these years as North Sea revenues would have been required to help fund public services.
3.18. Given the need to restore the public finances to health following the substantial deficits of recent years, a strict surplus rule would mean that there would be relatively few opportunities to invest in an oil fund in future years. However, the Working Group believes that there is merit in the government of an independent Scotland investing a proportion of its North Sea revenues in an oil fund whilst in deficit. This is discussed further in Chapter 5.

Summary

3.19. North Sea revenue has accounted for 16% of Scottish tax revenue over the past five years. This is similar to the proportion of total receipts generated by VAT and national insurance. It is also smaller than the proportion of public sector revenues accounted for by oil and gas production in many other oil and gas producing countries.

3.20. Over the past five years Scotland’s overall fiscal position has been stronger than the UK as a whole, when a geographical share of oil is included. However under the constitutional framework at that time, Scotland is estimated to have been in deficit in most years since the late 1980s, as have most other advanced economies (including the UK).

3.21. The remainder of this report discusses how the operation of a stabilisation fund and a long term savings fund could improve an independent Scotland’s budget process, build in flexibility to respond to fluctuations in oil and gas tax revenues, and put in place a mechanism to promote long-run macroeconomic stability.

3.22. Subsequent chapters therefore consider the theory and international evidence underpinning stabilisation and savings funds and examine how an independent Scotland would benefit from adopting such a framework for the management of its natural resources.
4. Theory and International Evidence

4.1. This chapter considers the theory and rationale for establishing an oil stabilisation or savings fund. Building on this theory, the chapter then reviews a range of international examples of how countries manage natural resource wealth both in terms of short-term stabilisation objectives and longer-term savings objectives.

Rationale for Stabilisation and Savings Funds

4.2. For countries endowed with large reserves of natural resources, such as oil and gas, the wealth generated by their extraction can have a significant positive impact on their economy through the creation of high skilled jobs; by encouraging innovation and the transfer of technology to other sectors; and by promoting local development and major infrastructure investment. In addition, the government revenue that the taxation of natural resource extraction generates can provide a substantial boost to a country’s public finances, and help facilitate the provision of high quality public services.

4.3. Natural resource extraction differs from other types of economic activity in a number of ways and can therefore present unique challenges. In the short run, year on year changes in oil and gas revenues mean that specific frameworks should be in place to support macroeconomic stabilisation and to assist with budgetary planning. In the long run, governments must consider how they balance the need to safeguard the long-term sustainability of their public finances and support intergenerational equity, whilst relying on revenue from the depletion of their natural assets to fund public services.

4.4. Countries often address these issues by creating short-term stabilisation funds and long-term savings funds. The former allows higher than expected tax revenues generated in years where prices or production are particularly high to be saved and then utilised in subsequent years when receipts are lower than expected. The latter provides a mechanism for saving a proportion of the income received from a country’s finite natural resource wealth for future generations.

4.5. The overarching economic rationale for such funds was articulated by Macartan Humphreys and Martin E. Sandbu (2007) as being:
“The need to separate the pattern of spending from the pattern of income means that good fiscal policy in countries with large natural resource wealth typically involves accumulating large amounts of revenues for future use. In a notional sense, therefore, natural resource-rich countries should always have a ‘fund,’ meaning simply that they should have a stock of accumulated savings, to be drawn down when the natural resource revenues dry up.”

4.6. The specific economic rationale underpinning stabilisation funds and long-term savings funds is set out in more detail below.

**Short-Term Stabilisation Fund**

4.7. Annual oil receipts can vary from year to year in response to global economic developments and changes in price levels and production. Governments should ensure that their budgetary process reflects the potential for such variations to occur. Specifically, they should have frameworks in place so that year on year changes in oil and gas tax revenues can be smoothed to provide a stable revenue stream to fund public services. Not doing so could result in governments having to make unexpected changes in public sector expenditure or borrowing, in response to temporary changes in offshore tax receipts. Such changes can have a negative impact on macroeconomic stability and economic growth.

4.8. The fundamental purpose of a stabilisation fund is to smooth government expenditure and consumption by saving a proportion of oil revenues during periods when these revenues are higher than anticipated. These revenues can then be drawn on during periods when fluctuations in oil and gas tax revenues reduce tax revenues below expected levels. A stabilisation fund is therefore able to help de-couple public expenditure from short term changes in oil and gas revenues. By doing so, it acts as a counter-cyclical instrument to commodity price volatility and helps ensure that a government does not have to make unplanned changes to public expenditure during periods where offshore revenues fall below trend.

4.9. This process is illustrated in the hypothetical example below. In this scenario, £10 billion in oil revenue is used each year to fund public spending. Any revenue above this threshold is saved in a stabilisation fund. In years when oil revenues fall below £10 billion, income can be withdrawn from...
the stabilisation fund and used to make up the shortfall in receipts. As a result, public spending, illustrated by the dashed line, can be maintained at a constant level year on year, and therefore sheltered from changes in offshore tax receipts.

**Figure 7: Illustrative Example of a Short Term Stabilisation Fund**

![Graph illustrating the stabilisation fund's impact on public spending](image)

*Source: FCWG Calculations*

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**Long-Term Savings Funds**

4.10. Over the longer term, there is a powerful argument that a country’s natural resources should be developed in a way that delivers the greatest social and economic benefit for its citizens across generations. However, unlike other sources of a nation’s wealth, oil and gas reserves are non-renewable. While production levels can be maintained by discovering and developing new reserves, ultimately a point will be reached when all oil and gas reserves are depleted.

4.11. The finite nature of oil and gas production therefore requires a specialised approach to ensure long-term fiscal sustainability and intergenerational equity. Many countries have responded to these challenges by investing oil revenues through the accumulation of financial assets in a long-term savings fund. The revenues generated by these assets can then be drawn on once oil and gas reserves are depleted.

4.12. The policy rationale for a savings fund is considered in more detail in Box 2.
Box 2: Policy Rationale for a Savings Fund

Long-term fiscal sustainability

A key aim in the longer term for an oil savings fund is to provide a mechanism to convert returns from finite oil and gas revenues into a renewable financial pool of wealth. If a share of the wealth from oil and gas production is invested responsibly in financial assets, these will generate income flows from interest payments, dividends and rising asset values. If carefully managed these revenue streams can lead to a permanent source of income even after oil and gas production has ended.

Inter-generational Equity

Oil and gas production represents a depletion of a country’s stock of assets. Therefore a savings fund provides a mechanism to save some of the temporary windfalls from taxes on production for the benefit of future generations.

Efficient Resource Allocation

Oil savings funds can also avoid negative spillover effects from the sector impacting upon other sectors in the economy. There is a significant body of academic evidence that points towards resource rich countries underperforming; this is often referred to as the ‘resource curse’. There are a range of explanations for this underperformance, including upwards pressure on unit labour costs, distorted incentives to invest in both human and physical capital stocks in other sectors of the economy, and the overall impact of short-term changes in oil and gas revenues and prices on the economy. Investing in an oil savings fund can enhance stability and provide a credible and transparent mechanism for investing.

Another key objective that a longer term Scottish oil savings fund may want to promote is industrial diversification into other areas of Scotland’s economy, or support wider government policies. This could include developing the renewable and low carbon sector in Scotland. Alongside the revenue benefits from the oil and gas sector, these commodities still satisfy the majority of Scotland’s primary energy demand. The fund objectives could, for example, be designed to invest in a range of low carbon infrastructure.

4.13. The key economic rationale in the longer-term is to transform a nation’s finite natural resource wealth into financial wealth to maintain the overall stock of national wealth which can

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provide a long term income stream. In effect, as a country’s stock of natural assets is depleted through oil and gas extraction there is a corresponding increase in the country’s stock of income and wealth generating financial assets. As a result, a country’s overall stock of income generating assets remains unchanged. Figure 8, illustrates this principle using simplified assumptions.

Figure 8: Transforming Oil Wealth into Financial Wealth

4.14. Figure 9 provides an additional illustrative example that provides a more detailed example of how a fund could operate. It assumes that £100 million in tax revenue (real terms) is generated from taxation of oil and gas production for ten consecutive years and after year ten the oil and gas reserves are depleted.
4.15. Assuming that there is a 5% real rate of return on all investments, this example demonstrates how a constant permanent income stream can be achieved, even after oil and gas reserves have been depleted. Based on the assumptions in this scenario, to generate a permanent income stream the government would be required to invest £61 million of oil and gas revenues into the fund each year for the ten years of oil and gas production. After year 10, the total value of the underlying investment and any associated returns would be sufficient to continue providing £39 million a year in revenue indefinitely.

4.16. Ensuring that the depletion of natural resources is offset by the creation or purchase of other assets requires a conscious decision to invest a country’s oil wealth in financial, or capital, assets. It therefore requires fewer resources to be allocated to current spending, or to reducing other taxes, than would otherwise be the case.

4.17. This can present challenges for governments as the electoral cycle generally favours maximising the resources which can be allocated to the population of the day. These challenges stem from ‘political economy incentives against accumulation’ and there is a wealth of economic...
literature and analysis that explains why an incumbent government may prefer to shift expenditure from the future to the present.  

4.18. A long-term savings fund requires a conscious decision to forgo higher spending or lower taxation at present in favour of ensuring that future generations share in the benefit of a country’s oil and gas reserves and boosting resilience over time. Such a trade-off can often be difficult, as the demands of the current electorate are, by their very nature, more prominently articulated than those of future generations.

**Summary of the Theory**

4.19. This chapter has set out the theory and rationale for both a short term stabilisation fund and a longer term savings fund. Table 1 provides a summary of the main rationale and objectives for both types of fund.

<table>
<thead>
<tr>
<th>Table 1: Summary of Fund Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-term Stabilisation Fund</strong></td>
</tr>
<tr>
<td>A proportion of tax receipts are saved in a fund during years when outturn revenue is higher than expected, and capital is withdrawn from the fund in years where receipts are lower.</td>
</tr>
<tr>
<td><strong>Objectives:</strong></td>
</tr>
<tr>
<td>• smooth government expenditure and consumption;</td>
</tr>
<tr>
<td>• de-couple public expenditure from short-term changes in commodity revenues;</td>
</tr>
<tr>
<td>• counteract cyclical changes in oil and gas tax revenues</td>
</tr>
</tbody>
</table>

The following section will consider international evidence from various types of fund.

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28 Escaping The Resource Curse (2007), Macartan Humphreys, Jeffrey D. Sachs, and Joseph E. Stiglitz. (page 199-203)
International Evidence on Stabilisation and Savings Funds

4.20. Most countries with major oil and gas reserves have created stabilisation and/or savings funds, into which they have invested a share of the returns from their oil and gas reserves. For example, of the 20 largest oil producers in the world, the vast majority operate some form of national or sub-national Sovereign Wealth Fund, with the UK being a notable exception.\textsuperscript{29}

4.21. The number of funds in operation has grown considerably since 2000 as oil prices have increased and many oil producers have seen a significant strengthening in their public finances. The Sovereign Wealth Fund Institute’s Fund Ranking list, shows that 28 commodity based funds have been created since 2000.\textsuperscript{30}

4.22. The operation of stabilisation and savings funds, which are considered most relevant to Scotland are discussed in detail below, these include:

- The Norwegian Government Pension Fund Global
- Chilean Sovereign Wealth Funds
- Australian Government Future Fund
- Sub-National Stabilisation Funds

Norwegian Government Pension Fund Global

4.23. Petroleum was first discovered on the Norwegian Continental Shelf (NCS), in the Ekofisk field in 1969.\textsuperscript{31} Production from the Ekofisk field started in 1971, with a number of major discoveries made in the following years.

4.24. Currently, 76 fields are in production on the Norwegian continental shelf. In 2011, Norway was the seventh largest oil exporter and the fourteenth largest oil producer in the world.\textsuperscript{32} Norway was also the world’s third largest gas exporter, and the world’s sixth largest gas producer in 2011. Petroleum activities have been crucial for Norway’s economy. The petroleum sector accounted for

\textsuperscript{29} See footnote reference 1
\textsuperscript{30} http://www.swfinstitute.org/fund-rankings/
\textsuperscript{31} http://www.regjeringen.no/en/dep/oed/Subject/oil-and-gas/norways-oil-history-in-5-minutes.html?id=440538
\textsuperscript{32} http://npd.no/Global/Engelsk/3-Publications/Facts/Facts2013/FACTS_2013.pdf (page 20)
23% of Norway’s GDP and revenues from the oil and gas sector accounted for 30% of total state revenues in 2012.  

4.25. The oil and gas sector contributes to the Norwegian annual budget in a number of ways. This is illustrated in Figure 10. In addition to receiving direct tax receipts from oil and gas production, the Norwegian Government has a direct financial interest (SDFI) in many oil and gas fields, pipelines and onshore facilities. As of 1 January 2013, the Norwegian Government had direct financial interests in 158 production licences, as well as interests in 15 joint ventures in pipelines and onshore facilities – these interests accounted for around 35% of the annual oil and gas revenues in 2011. The Norwegian Government also has a 67% stake in Statoil, one of the world’s largest oil and gas operators, from which it receives annual dividends.

![Figure 10: Composition of Norwegian State Revenues from Oil and Gas](http://npd.no/Global/Engelsk/3-Publications/Facts/Facts2013/FACTS_2013.pdf (Figure 3.3))

4.26. The Norwegian Government Petroleum Fund was established in 1990, and was renamed the Government Pension Fund Global in 2006.

4.27. The purpose of the fund is twofold. Firstly, to provide a long term source of wealth to benefit future generations, and secondly to smooth out fluctuations in government receipts caused by changes in oil prices and production.

4.28. The fund is an integrated part of the Norwegian Government’s annual budget. Annual withdrawals from the fund are capped at 4% of the fund’s value. This corresponds to the expected

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33 http://npd.no/Global/Engelsk/3-Publications/Facts/Facts2013/FACTS_2013.pdf (Figure 3.3)
annual real return of the fund’s investments and is accompanied by a fiscal rule that over time the structural, non-oil budget deficit shall correspond to the real return on the fund. As a result, the annual income generated by the fund, and onshore tax receipts should be sufficient to achieve an overall budget balance. This allows all the government income received from oil and gas production to be transferred to the Fund.

4.29. The first net transfer to the Fund of just under NOK 2 billion (around £212 million) was made in May 1996. Since then the fund has grown rapidly as illustrated in Figure 13. At the end of the second quarter of 2013, it was valued at 4,397 billion kroner (around £470 billion). The fund’s strong growth is expected to continue for a number of years. On current projections, it is forecast to reach NOK 6,799.9 billion (over £720 billion) by 2020.

Figure 11: Norwegian GPFG Market Value and % of GDP

Source: Norwegian Petroleum Directorate - Facts 2013, Chapter 3

4.30. The operation of the fund also allows for a degree of flexibility with the guidelines allowing fiscal policy to be used actively to counter fluctuations in economic activity. In 2009, the Norwegian Government increased the spending of oil revenues to a total of NOK 130 billion (£13.8 billion) to mitigate the impact of the global financial crises. This amounts to NOK 39 billion (£4.1 billion) in excess of the estimated return on the Government Pension Fund - Global. This resulted in an overall fiscal stimulus of an estimated 3.0 per cent of non-oil GDP in 2009.

38 See footnote reference 37
40 http://www.nbim.no/Global/Reports/2013/Q2/2Q%202013_web%20ENG.pdf
4.31. The Government Pension Fund Global is now the largest wealth fund in the world, with substantial investments across a range of investment classes. The fund currently owns, on average, 2.5 per cent of every listed company in Europe, and 1.2 per cent of the world’s listed companies.  

4.32. A key feature of the fund has been the continued evolution in its investment strategy, as summarised in Figure 12. Initially, the fund assets were invested exclusively in bonds. However, from 1998 approximately 40% of the fund’s investments were transferred to equities. The fund currently has a target investment allocation of 60% equities, 35%-40% in fixed income securities and up to 5% in real estate.

4.33. The Norwegian fund seeks to achieve the highest possible long-term return with moderate risk. As an indication of its performance it has achieved an average annual return of 5.25% since its inception. After accounting for inflation and management costs this is equivalent to an average net real return of 3.17%. However, the fund’s historic investment performance would be expected to be weaker than recent performance as a result of both the impact of the financial crisis and the decision to reduce the proportion of fixed income investments, which tend to have a smaller return than equities. By comparison over the past five years the average net real return has been 4%.

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**Figure 12: Development of the Norwegian GPFG Investment Strategy**

- 1990: Fund is established
- 1996: First capital inflow to the fund
- 1998: Equities included in the benchmark
- 2002: Non-government guaranteed bonds included in the fixed income benchmark
- 2008: Decision to invest up-to 5% in real estate (first investment in real estate made in 2011)
- 2013: Established a Corporate Governance Advisory Board, with a role in long-term active ownership
- Ongoing: Continued revisions to the Fund benchmarks and debate about whether the fund should expand investment to infrastructure

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Efficient stewardship of natural resources in Norway has helped it to achieve rapid growth in GDP per capita over the last few decades. In 1970 Norway’s GDP per head was below its neighbouring Scandinavian countries (i.e. Denmark and Sweden) and below the UK. However, in recent decades Norwegian GDP per capita has increased at a much faster rate than these other countries, and it is now around 78% higher than the UK and over 50% higher than Denmark and Sweden. The country is also ranked top of the UN Human Development Index (2013), which provides a broader measure of living standards including assessments of education and life expectancy.

![Figure 13: GDP Per Head Selected Countries](image_url)

OECD (GDP per head, US $, current prices, current PPPs)

**Chile - Pension Reserve and Social and Economic Stabilization Fund**

Chile is a major copper producer, and currently accounts for around a third of the world’s output. The copper industry also makes a significant contribution to Chile’s public finances. For example, between 2005 and 2011 the government’s income from mining averaged $11.5 billion a year. Indeed, Codelco, the state owned mining company, is estimated to account for 16% of the government’s revenues on its own.

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46 http://stats.oecd.org/# GDP Per head, US $, current prices, current PPPs
48 The Economist (27 April 2013) – Copper Solution
49 The Economist (27 April 2013) – Copper Solution
50 Financial Times (23 May 2011) - Codelco: In urgent need of a huge injection of investment
4.36. Chile established a Copper Stabilisation Fund in 1985 to provide a mechanism to insulate the economy from fluctuations in copper prices. In 2006, the fund underwent significant reform and was replaced by two new wealth funds, the Pension Reserve Fund (PRF) and the Economic and Social Stabilisation Fund (ESSF).\textsuperscript{51}

4.37. The Pension Reserve Fund acts as a long-term savings mechanism and is designed specifically to address the long-term funding pressures which will be presented by the country’s aging population. The fund must receive an annual payment equal to at least 0.2% of the previous year’s GDP regardless of the country’s broader fiscal position. In years where the country runs an overall budget surplus transfers are set equal to the surplus up to the value of 0.5% of GDP.\textsuperscript{52} Since its inception in 2006 the fund has grown rapidly. From an initial investment of $600 million, the market value of the Pension Reserve Fund (PRF) was $7.1 billion as of end of May 2013.\textsuperscript{53}

4.38. Withdrawals from the fund were initially not permitted. However, since 2008 annual withdrawals, up to the value of the return generated in the previous year, have been allowed\textsuperscript{54}. From 2016, the maximum withdrawal amount will be equal to a third of the difference between the pension expenses of the respective year and equivalent inflation adjusted expenses in 2008.\textsuperscript{55}

\textbf{Figure 14: Market Value of the Chilean PRF and ESSF Funds}

\begin{center}
\includegraphics[width=\textwidth]{figure14.png}
\end{center}

\textit{Source: Chilean Ministry of Finance}

\textsuperscript{51} http://www.swfinstitute.org/swfs/social-and-economic-stabilization-fund/
\textsuperscript{52} http://www.hacienda.cl/english/sovereign-wealth-funds/pension-reserve-fund.html
\textsuperscript{55} http://www.hacienda.cl/english/sovereign-wealth-funds/frequently-asked-questions/what-is-the-objective-of-the-funds.html

\hspace{1cm}

43
4.39. The Economic and Social Stabilisation Fund (ESSF) was established in 2007, with capital funding of over $2.5 billion transferred from the original Copper Stabilisation Fund, it received a total of $13.1 billion in contributions throughout 2007. The fund is currently worth approximately $15.4 billion.\(^{56}\) The growth in the market value of the ESSF and the PRF is illustrated in Figure 14.

4.40. The fund’s primary purpose is to insulate the Chilean public finances from fluctuations in the economic cycle. Revenue is invested in the fund when receipts are high, and withdrawn when revenue falls. For example, at the height of the financial crises in 2009, the Chilean Government was able to withdraw $4 billion (2.8% of GDP) from the fund to provide a fiscal stimulus, and a further $4 billion to offset cyclical falls in tax revenues.\(^{57}\) As a result of these measures Chile was able to run a fiscal deficit equivalent to just 4.1% of GDP in 2009, compared to an average deficit across the G7 economies of 10.2%.\(^{58}\)

4.41. In addition, as the Chilean Government relies on copper production for a significant proportion of its revenue, the fund can be used to offset falls in government revenues stemming from fluctuations in wholesale copper prices. As illustrated in Figure 15, the size of the country’s copper industry means that changes in wholesale prices can have a significant impact on the country’s economic performance. Rules are therefore in place to transfer revenue to the fund during years where the economy is growing rapidly and/or copper prices are high, and subsequently draw down funds when the economy slows or copper prices fall.


4.42. Transfers into the ESSF are linked to Chile’s fiscal rules for the broader management of the public finances. From 2001 to 2007 these rules required Chile to achieve a structural budget surplus of 1% of GDP. This target was subsequently lowered to 0.5% of GDP in 2008, and to a structural balance in 2009. Changes to the way in which the country’s structural deficit is calculated mean that it is now estimated to have stood at 3% of GDP in 2009. The government has therefore now adopted a new target of reducing the structural deficit to 1% of GDP by 2014.

4.43. The manner in which Chile calculates its structural budget balance takes account of both the current point of the economic cycle and the difference between the effective copper prices and the long-term price, as determined by an independent committee of experts. As such, when copper prices are high, the government must run a larger overall fiscal surplus to achieve a structural balance or small structural surplus. For example, in 2007 Chile’s structural surplus was estimated to be 1.1% of GDP; however the effective surplus was estimated to be 8.2% of GDP, as summarised in Figure 16. By achieving such an ambitious structural budget target Chile has therefore freed up significant resources to invest in its savings and stabilisation funds.

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59 Berganza (2012) - Banco De Espana - Fiscal Rules in Latin America: A Survey
60 OECD – Economic Survey of Chile 2012
61 This commitment was stated publicly in October 2011, in the Public Finance Study on “A Second-Generation Structural Balance Policy for Chile.” Available at http://www.dipres.gob.cl/572/articles-81713_doc_pdf.pdf.
Australian Government Future Fund

4.44. Australian economic growth has outpaced many other OECD countries over the last two decades. The OECD has attributed this to responsible economic policies and more recently, high demand for commodities from Asia. Figure 17 illustrates the increase in GDP per capita in Australia from around 108% of the OECD level in 1990 to over 120% in 2011.

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Figure 16: Chile Effective and Structural Balance

![Graph showing Chile's Effective and Structural Balance](image)

Source: Chilean Ministry of Finance

Figure 17: Australian GDP Per Capita Index, OECD=100

![Graph showing Australian GDP Per Capita Index](image)

Source: OECD (GDP per Capita, current prices, current PPPs)

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4.45. As a result, Australia's public finances are in better shape than many OECD countries. The general government deficit in Australia was around 3% of GDP in 2012, less than half the level in the United States or the United Kingdom, whilst general government net debt in Australia was approximately 12% of GDP\(^{63}\).

4.46. Given the strength of the Australian public finances, the Australian Government established a Future Fund in May 2006, to make provision for unfunded superannuation liabilities.

4.47. Whilst the fund is not directly linked to natural resource extraction, the mining sector makes a major contribution to the Australian economy accounting for around 9.5% of the country’s GDP in 2012.\(^{64}\) However, when mining related activity is included, it is estimated that the resource sector accounts for between 15% to 20% of GDP.\(^{65}\) The sector’s rapid growth during the past decade, driven by the surge in demand for raw materials from emerging markets, has led to a strengthening of the country’s public finances and therefore facilitated the development of the fund.

4.48. In contrast to the onshore budget balance approach that underpins the Norwegian Pension Fund Global, the Australian Government Future Fund receives ad-hoc contributions from a combination of budget surpluses, proceeds from the sale of the government’s holding of Telstra, a telecommunications and media company, and the transfer of remaining Telstra shares. No transfers have been made into the fund since 2008. Table 2 sets out the transfers to date. Although the fund is not directly linked to natural resource extraction, it highlights the approach taken by the Australian Government to manage the country’s public finances over a period of strong commodity revenue growth.


Table 2: Australian Government Future Fund Deposits

<table>
<thead>
<tr>
<th>Date</th>
<th>Source of Funds</th>
<th>Amount (AUD $ bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>05-May-06</td>
<td>Initial Seed Capital</td>
<td>$18.0</td>
</tr>
<tr>
<td>22-Jan-07</td>
<td>2005-06 Budget Surplus and first instalment of Telstra 3 sale proceeds</td>
<td>$18.639</td>
</tr>
<tr>
<td>16-Feb-07</td>
<td>The remainder of the 2005-06 Budget Surplus</td>
<td>$3.638</td>
</tr>
<tr>
<td>28-Feb-07</td>
<td>2,104,657,933 Telstra shares</td>
<td>$8.966</td>
</tr>
<tr>
<td>22-Jun-07</td>
<td>Telstra 3 sale proceeds (prepayments of the second instalment)</td>
<td>$0.151</td>
</tr>
<tr>
<td>28-Jun-07</td>
<td>21,894,459 Telstra shares</td>
<td>$0.102</td>
</tr>
<tr>
<td>24-Aug-07</td>
<td>2006-07 Budget Surplus</td>
<td>$7.0</td>
</tr>
<tr>
<td>25-Jun-08</td>
<td>Telstra 3 sale proceeds (second instalment receipts)</td>
<td>$3.9</td>
</tr>
<tr>
<td>21-Nov-08</td>
<td>35,361,956 Telstra shares</td>
<td>$0.141</td>
</tr>
<tr>
<td><strong>Total Transfers</strong></td>
<td></td>
<td><strong>$60.537</strong></td>
</tr>
</tbody>
</table>

4.49. Under the Future Fund Act 2006 withdrawals may not be made from the Fund - apart from meeting operating costs - until at least 1 July 2020 unless the value of the Fund exceeds a target asset level. This is the amount that is expected to offset the present value of projected unfunded superannuation liabilities. In 2013-14 the target asset level was calculated to be $119.4 billion AUD, rising to $132.7 billion AUD in 2016-17.

4.50. In addition to the national Australian Future Fund, the state of Western Australia also has a standalone future fund where it deposits a proportion of the royalties received from iron ore extraction. It was created with the specific purpose of providing a long-term revenue stream from the depletion of the state’s minerals.

4.51. The fund was established in December 2012 with seed funding of $223 million AUD. Further transfers totalling $820 million AUD are planned over the years to 2015-16 and the Fund will receive at least one per cent of the annual royalty revenue received from iron ore extraction in the state in the subsequent 16 years. Withdrawals from the fund will not be permitted until 2032.

69 Western Australia Treasury – Budget 2012-13 Fact Sheet
4.52. While the Australian Future Fund and Western Australia Future Fund are both established with long-term saving objectives, the OECD has recommended that the Australian Government should also consider creating a separate stabilisation fund to better insulate public spending decisions from revenue changes caused by fluctuations in the terms of trade.  

**Sub-National Stabilisation Funds**

4.53. A range of stabilisation and savings funds based on oil and gas tax revenues also operate at the sub-national level, including the Alberta Heritage Savings Trust Fund in Canada and the Alaska Permanent Fund in the USA. Many other states in the USA also operate ‘Rainy-Day Funds’. Whilst these funds are generally not linked directly to the depletion of natural resources, they do provide a framework by which governments can effectively build up surplus funds during periods of economic growth which can then be drawn down in the event of economic shocks.

4.54. Individual US states are not prevented from running fiscal deficits and there is no harmonisation of state income, corporate, sales or excise taxes in the US. Although in practice almost all states follow a form of balanced budget rule on an annual basis.

4.55. As part of the decentralised fiscal framework in the United States, 48 US states have a stabilisation fund or Rainy Day fund. These exist to provide stability to state budgets and mitigate economic fluctuations.

4.56. While the US fiscal framework is unique, Box 3 provides some interesting context with regards to the design of deposit and withdrawal rules for stabilisation funds and also how stabilisation fund resources have been used in times of economic downturn.

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72 http://www.nasbo.org/sites/default/files/Spring%202013%20Fiscal%20Survey%20of%20States.pdf
Box 3: US Rainy Day Funds

Rainy day fund balances in 2012-13 varied significantly across states, from less than 1% of annual expenditures in Washington to around 14% in Texas and over 226% in Alaska. However, around 70% of the assets are concentrated within the top 3 funds (Alaska, Texas and Massachusetts).73

Rainy Day Fund - Deposit Rules

Generally, US states are required by their constitutions or by statute to contribute to their rainy day funds according to a formula or rule up to a pre-set limit or cap. At a minimum, most are required to deposit some portion of year-end surpluses into their rainy day funds during good years. Examples of different funding mechanisms are listed below74:

- Idaho must deposit any revenue in excess of 4% growth over the previous year’s revenues, up to 1% of revenues.
- Utah must deposit 25% of year-end surpluses to the fund.
- Virginia’s deposits use a formula related to the growth in tax revenues.

There is no uniformity as to how much states are required to keep in their funds. Some states cap the size of their fund as a proportion of tax revenue or expenditures whilst others place no limit on its potential size.

Rainy Day Fund - Withdrawals

Amongst US states “revenue shortfall” or “budget deficit” conditions are the most common criteria for withdrawal from the funds. In seven states, authorisation for a withdrawal only comes after a supermajority of the legislature approves the withdrawal.75 Some states - such as Kentucky and North Dakota - give their Governors authority to make transfers from their budget stabilisation funds to prevent cash deficits that may occur during the fiscal year. Alternatively, in other states (e.g. Connecticut, Indiana, Michigan, Nebraska and New York), withdrawals are triggered when expected revenues or other economic indicators fall below specified levels. In the event a withdrawal is made, some states also place caps on the size of withdrawals.

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74 http://www.ncsl.org/print/fiscal/rdf08apa.pdf
75 http://www.nasbo.org/sites/default/files/State%20Budgeting%20and%20Lessons%20Learned%20from%20the%20Economic%20Downturn-final.pdf
Rainy Day Fund – Economic Stability

US States with rainy day funds were able to offset $20 billion in cuts to services and/or tax increases in the recession of the early 2000s. Rainy day funds were also drawn upon to avoid service cuts and tax increases in the most recent recession. For example, thirty-seven states utilised rainy day reserves over the last three years to help alleviate budget cuts, according to the National Association of State Budget Officers. This resulted in the aggregate value of the funds (excluding Texas and Alaska) declining from around 3.6% of State spending in 2008, to 1.6% in 2010, with the latest estimates showing a slight reversal in this trend.

Without this budget stabilisation framework in place, many US states would not have been able to adopt as flexible a response to the economic downturn.

Conclusion

4.57. Savings funds are used globally to help build sizable assets to meet future needs, in many cases connected with a projected decline in petroleum earnings (i.e. Norway) or an increase in outlays (i.e. Australia). There are also numerous examples where stabilisation funds have contributed to enhancing the effectiveness of fiscal policy by making budget expenditure less driven by revenues from resource extraction (i.e. Chile). Furthermore, sub-national evidence (i.e. Rainy Day funds in US States) highlight a range of different mechanisms for deposits to and withdrawals from stabilisation funds.

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5. Options for Managing Scotland’s Oil Wealth

5.1. This chapter considers the options for using Scotland’s oil wealth to establish a short-term stabilisation fund and long-term savings fund in an independent Scotland.

5.2. It first describes how a stabilisation fund could operate where the Scottish Government only transfers higher than forecast North Sea tax receipts into a stabilisation fund. It then describes how further rules could be adopted to guarantee that a share of revenues are transferred into a savings fund.

Role of a Stabilisation Fund in Scotland

5.3. As outlined in Chapter 4, a stabilisation fund would provide a mechanism to insulate the budget from year on year fluctuations in oil and gas tax revenues. It entails saving a proportion of these revenues in a fund during years when outturn tax revenue is higher than expected, and withdrawing capital from the fund in years where oil and gas tax receipts are low. It therefore helps to protect the budget, and in turn the provision of public services from fluctuations in North Sea revenues. It is not intended to act as a long-term savings fund and would not provide a permanent income stream for the government.

5.4. Given the year on year changes observed in oil revenues, and that they will be subject to both upside and downside movements, there is clear merit in Scotland establishing a stabilisation fund from the outset of independence. This could provide a liquid source of funding to help support Scotland’s public finances and economy in years where offshore receipts fall below expected levels. For example, if there was a temporary shock to North Sea production or to global oil prices.

5.5. A stabilisation fund would also ensure that during years where tax revenues are high, a proportion would be saved, rather than used to fund current expenditure. It could therefore send a signal to the markets about the credibility of an independent Scotland’s fiscal policies. If interpreted as a measure of fiscal responsibility this could have a positive impact on Scottish Government bond yields.
5.6. In addition, a fund could provide highly desirable predictability in the budget process, including the capital investment programme, and in the setting of policies and spending programmes. This would not only make this process more efficient for the government, but provide greater economic stability for individuals and businesses by reducing the need to implement unplanned changes to spending programmes or the tax system due to fluctuations in oil and gas revenues.

**Establishing a Stabilisation Fund**

5.7. The Fiscal Commission Working Group recommends that a short-term stabilisation fund should be established immediately following independence. The Working Group’s first report noted that an attractive approach in the short-term would be to plan Scottish Government spending on the basis of a cautious forecast of oil revenues which had been assessed by an independent Scottish Fiscal Commission\(^\text{78}\). Then, if oil revenues exceed the forecasts, the excess would be transferred into the stabilisation fund.

5.8. Das, Lu et al (2009) highlight that this is a common approach for stabilisation funds with the objective of smoothing government revenues\(^\text{79}\):

> “For funds with the policy objective of smoothing government revenue, a typical formulation calls for saving commodity revenue if the actual commodity price exceeds a certain reference price, based on a long-term trend, and withdrawing from the fund if the actual price drops below the reference price”

5.9. Given that North Sea tax revenues could be subject to year on year fluctuations, such an approach would ensure that the Scottish Government’s exposure to changes in oil prices and production was minimised. It would also ensure that transfers into a savings fund did not come at the expense of reducing planned funding for current public services.

5.10. If this framework was adopted, an important aspect would be establishing a robust and transparent process for forecasting oil and gas revenue which builds in an element of caution.

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\(^{78}\) Fiscal Commission Working Group (2013) – First Report, Box 8.03

5.11. A number of factors will determine the tax revenues from oil and gas production in Scotland, including future prices, production, investment, operating costs and the dollar/sterling exchange rate. Furthermore, companies extracting oil and gas from the UKCS are entitled to certain tax allowances (e.g. capital investment or field allowances) which they can offset against their tax liabilities. As the cost and scale of exploration have increased, the value of these allowances has also risen. This reduces the direct link between production, prices and the tax receipts received by government.

5.12. The future path of many of the key determinants of oil and gas revenues are subjective, and dependent on a diverse range of factors. This can lead to a divergence in expectations about the future path of output and tax receipts. This is illustrated in the chart below which summarises the forecasts of oil prices in 2014 by more than 20 forecasters tracked by HM Treasury.

![Figure 18: 2014 oil price forecasts](source: HM Treasury - Forecasts for the UK economy: September 2013)

5.13. There are also a range of different forecasts about the future path of production in the North Sea. For example, as set out in Chapter 2, the latest forecasts by the OBR assume that North Sea production will remain broadly unchanged at approximately 1.5 million barrels of oil equivalent (boe) a day for the next five years, whilst the latest assessment by Oil and Gas UK, the industry body, suggests that production could gradually rise to 2 million boe towards the end of the decade.  

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5.14. It may therefore be prudent for revenue forecasts to be produced under a number of scenarios using different assumptions about future prices and production, with the mid-range or low-range of the forecasts used for budget planning purposes. The country’s annual borrowing requirement could then be planned using this forecast, as could the expected compliance with any fiscal rules. Alternatively, the Scottish Government could aim to achieve a budget balance based on a cautious forecast and plan other expenditure and revenue programmes on this basis.

5.15. The range of scenarios produced, the assumptions underpinning them, and the specific scenario used for budget planning purposes could be scrutinised by an independent Scottish Fiscal Commission. The Commission could then make a public assessment about the appropriateness of the assumptions used. This would build credibility into the process.

5.16. By basing budget plans on a cautious forecast, the risk to tax revenues coming in below forecast would be reduced. In turn this would limit the need for unplanned borrowing or fiscal tightening to be introduced mid-year to offset any shortfall, which could damage economic confidence. However, if outturn receipts did come in below forecast, the Scottish Government would have the opportunity to utilise funds accrued in its stabilisation fund to offset the shortfall rather than increasing borrowing, cutting public spending or increasing taxes.

5.17. If offshore receipts were greater than the initial forecast, the difference could be deposited in the stabilisation fund. A specific requirement could be included as part of the budgetary process to deposit revenues in excess of the forecast. Alternatively such transfers could operate on a discretionary basis. A mandated approach would ensure that all available funds are deposited and would remove the potential for a bias in favour of using surplus revenues to fund immediate increases in expenditure or tax cuts. However, some degree of discretion could potentially allow a more targeted and timely response to asymmetric shocks or economic downturns.

5.18. The following diagram summarises how this budget setting procedure could operate:
5.19. The above framework outlines a scenario where withdrawals from a stabilisation fund would only be made in the event of North Sea receipts falling below forecast. In theory, revenues could also be drawn down to provide an additional source of government revenue in the event of a major economic shock. However, it would be important to ensure that the potential situations in which the stabilisation fund would be used were clearly set out and narrowly defined to ensure that funds were not withdrawn on an ad-hoc basis in response to routine funding pressures.

5.20. As fiscal conditions improve, the Scottish Government could strengthen deposit rules for the stabilisation fund to ensure that a greater proportion of revenues are set aside and broaden the fund’s objectives to encompass a wider macroeconomic stabilisation role.

5.21. There would still be merit in the Scottish Government using cautious forecasts for oil and gas revenues in its budgeting process as outlined above. However, this could be complemented by rules which ensured that a larger proportion of Scotland’s oil revenue was saved into a fund (beyond differences relative to forecasts). For example, by committing to invest a fixed proportion of revenues into a stabilisation fund, over and above any transfers determined by the methodology in Figure 19. The fund would continue to operate with a stabilisation function. However, this approach could potentially allow a more sizeable pool of liquid funds to be accumulated.
Near-Term Economic Outlook

5.22. The near-term economic outlook will constrain the size of deposits that can be made into a Scottish stabilisation fund. As outlined in Chapter 3, when North Sea revenues are included, Scotland has been in a relatively stronger fiscal position than the UK over the five year period to 2011-12 as a whole\(^81\). Along with most advanced economies, Scotland has been in deficit for this entire period due, in part, to the impact of the financial crises. Therefore, under the current constitutional framework, Scotland would have had to use its North Sea receipts to limit the size of its budget deficit over this period.

5.23. Scotland’s fiscal position is likely to improve in the coming years as the economy recovers. However, given the fiscal position that Scotland is expected to inherit, it is possible that in the coming years Scotland, like the UK, will remain in budget deficit. This would not be unusual. The IMF forecast that 28 of the 35 advanced economies it monitors will be running a budget deficit in 2014\(^82\). The latest forecasts by the OBR also estimate that, based on current trends, the UK will be in deficit in each of the next fifty years, as summarised in Figure 20 below.

![Figure 20: UK Long Term Net Fiscal Balance Projections (% of GDP)](image)

Source: OBR Fiscal Sustainability Report 2013

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\(^81\) Excluding oil and gas revenues Scotland has had a larger deficit.

\(^82\) IMF World Economic Outlook Database, April 2013, Advanced Economies, General government net lending/borrowing
5.24. There would still be advantages to transferring resources into a stabilisation fund, and adopting the broader approach to incorporating oil and gas receipts into the budget planning process whilst in deficit.

5.25. Firstly, it would provide a formal framework requiring that fiscal policy is planned on the basis of cautious North Sea forecasts. This in itself would represent prudent fiscal management and would reduce the risk of borrowing overshooting planned levels.

5.26. Secondly, it would also ensure that the fiscal framework explicitly recognises the need to treat offshore receipts differently from other tax receipts in terms of both their annual variability and the fact that they reflect the depletion of the country’s (non-renewable) stock of natural assets. It would also build in greater predictability to revenues.

5.27. Thirdly, the fund could act as a liquidity buffer by providing an immediate, and potentially large, source of funding which the Scottish Government could draw down upon. In addition, a stabilisation fund would ensure that Scottish Government borrowing was more stable than would otherwise be the case. In the years immediately following independence, such stability could be an important factor in helping to establish Scotland’s credibility on international financial markets.

**Long-Term Savings Fund**

5.28. The Scottish Government should look to establish a long-term savings fund immediately following independence.

5.29. In contrast to a stabilisation fund, the overarching principle behind the creation of a long-term savings fund is to transfer a share of the wealth generated from oil and gas production to a separate fiscal account where it can be invested over the long-term for the benefit of future generations.

5.30. The ultimate aim for a long-term savings fund should be for Scotland to run some form of onshore budget balance. This would allow as much of the North Sea revenues to be invested in such a fund as possible.
5.31. As outlined in the previous section, given the fiscal position that an independent Scotland is likely to inherit, achieving an onshore budget balance may not be achievable – or desirable – in the years immediately following independence. However, there remains a strong case for establishing the framework under which such a fund could operate.

5.32. This is similar to what happened in Norway. The legislation that established the Norwegian oil fund came into force in 1990. However, during this period the Norwegian economy was in a downturn, with high unemployment and a budget deficit. Furthermore, projections also suggested that Norwegian petroleum production would peak in the early 1990s. Therefore when the fund was established, its operation was essentially an accounting exercise. Petroleum revenues were deposited in the fund, but the entire amount was transferred back to the central government budget to cover some of the non-oil deficit. However, the Norwegian economy subsequently rebounded and the first modest net transfer to the Fund was made in May 1996.

5.33. The Working Group believes there is a strong case for establishing the framework for a savings fund immediately following independence. This would ensure that the fund’s operation and guiding principles are embedded within the wider management of Scotland’s public finances. It would also allow clear guidelines to be established to ensure that over time, and as fiscal conditions allow, the Scottish Government’s fiscal framework facilitated the transfer of a substantial proportion of offshore revenues into the fund.

5.34. There would also be a compelling case for the Scottish Government to seek to invest in a long term savings fund prior to running an overall budget surplus. This is because, a government does not have to achieve an overall budget surplus for its public finances to be in a sustainable position. A government can run an annual budget deficit in a manner which is sustainable, if the economy is growing quicker than the rate of debt accumulation. Under such a scenario, the debt to GDP ratio will still fall. As such, the burden of the debt will be reduced, relative to the country’s ability to service it.

5.35. As a first step to investing in an oil fund, an immediate priority for the government of an independent Scotland should therefore be to reduce its overall budget deficit to a level compatible with ensuring that its debt to GDP ratio is on a downward trajectory. This would be followed by

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84 The sustainability of a given level of deficit will differ across countries and over time. As an illustration, under the Euro Area convergence criteria (or ‘Maastricht criteria’) the ratio of planned or actual government deficit to GDP should not exceed 3% of GDP.
seeking to maintain debt to GDP on a path toward a manageable level (e.g. 60%) whilst simultaneously investing a percentage of North Sea revenues in a long term savings fund. Such a strategy would help strengthen budgetary management, and provide a counterbalance to apparent short term spending priorities. In principle it would also allow investments to be made into both a stabilisation fund and a savings fund without an automatic offsetting change to public spending or taxation.

5.36. The point at which an independent Scotland’s fiscal deficit would reach a level at which public sector debt was on a downward trajectory would depend on the fiscal choices made by the government of the day and the strength of the economy. The Office for Budget Responsibility forecast that the UK’s deficit will reach this point around 2017/18. Assuming that Scotland follows a similar timetable for moving debt onto a downward trajectory, as a share of GDP, this may allow the Scottish Government to consider starting to make modest investments into an oil savings fund at a similar time or towards the end of the decade.

5.37. In theory, there may be circumstances in which the government of an independent Scotland could chose to reduce its debt to GDP ratio more rapidly, rather than investing a proportion of its oil wealth in a long term savings fund. Both approaches would increase public sector net wealth. However, the Working Group believes that there is merit in a Scottish Government continuing to invest some portion of its revenues in a savings fund rather than always simply accelerating debt reduction.

5.38. Firstly, as outlined above, early operation of a long-term savings fund would allow the fund’s operation and guiding principles to be integrated into the wider management of Scotland’s wider public finances.

5.39. Secondly, ensuring that a proportion of North Sea revenues were earmarked for investment in a savings fund would strengthen fiscal responsibility compared to a process of discretionary debt reduction.

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85 Based on trends in Scotland’s public finances over the past decade, such a scenario would require Scotland to run close to a current budget balance (the difference between current revenue and current expenditure, excluding capital expenditure)
86 Office for Budget Responsibility (2013) – Economic and Fiscal Outlook, March 2013
87 The benefits of this approach would be maximised when aggregate returns on the savings fund’s investments exceed the average yield on the government’s outstanding debts. The returns achieved by a savings fund would depend on future economic performance and the composition of the investments made. As an illustration, over the past five years yields on 10 year UK Government bonds have averaged 3.1% whilst the Norwegian Oil Fund has achieved average annual returns of 5.9%. However, relative returns on savings and outstanding government debt will vary year to year, and would need to be taken into consideration when deciding when to invest in a long term savings fund.
reduction as it would reduce the understandable bias for governments to utilise these resources to fund current consumption.

5.40. Thirdly, such a fund would also result in the accumulation of income generating assets and therefore the diversification of its net worth. During periods where government’s borrowing costs are at historic lows, as is the case at present, this could represent a prudent use of government revenues.

**Longer-term Investment Strategies**

5.41. The Scottish Government should seek to have clear rules governing investments into a long-term oil fund.

5.42. One approach would be for Scotland to seek to achieve an overall structural budget balance (using onshore plus offshore receipts). With this option, the structural adjustment applied to public sector expenditure and revenue would take into account not just the current point in the economic cycle, but also the difference between current oil and gas prices and their long-term trend. This would mean that in years where there was an increase in offshore receipts due to a rise in oil or gas prices, the overall surplus required to achieve a structural budget balance would increase. This concept will be considered in greater detail in Chapter 5 of the Working Group’s forthcoming report on the fiscal framework for an independent Scotland.

5.43. Ultimately an attractive approach would be for Scotland to aim to achieve either an onshore structural current budget balance or an onshore structural net fiscal balance. This would ensure that the depletion of the country’s natural assets through oil and gas extraction is offset by a corresponding increase in capital investment and/or the accumulation of revenue generating financial assets via the investments made in a long-term savings fund.

5.44. Linking fund investments to a measure of the structural budget balance would also allow the amount of revenue transferred to the fund to automatically adjust throughout the economic cycle to reflect changes in cyclical spending. If achieved, this approach could result in the Scottish Government rapidly accumulating a savings fund which, in future years, could provide a new revenue stream for the Scottish Government. Under this scenario, an element of offshore revenues could continue to be invested in a stabilisation fund. However, if the Scottish Government successfully achieved some form of onshore structural balance over a number of years the need for
a stabilisation fund would be diminished as a smaller proportion of offshore revenues would be used to fund government expenditure.

**Longer-term Withdrawal Rules**

5.45. In addition to deciding how revenues should be transferred into a long-run savings fund, there are a range of options for how the resulting income generated by the fund can be withdrawn. As one of the key aims of such funds is to act as a long-term savings mechanism, the withdrawal methods should seek to maintain the underlying capital in the fund wherever possible.

5.46. One option following the creation of the fund would be to prevent any withdrawals from the fund unless under exceptional circumstances. This would allow the value of the fund to increase more quickly and may be particularly advantageous in the years immediately following the funds creation to ensure that the capital in the fund has time to accumulate. Alternatively no withdrawals could be permitted until a specific date or until the fund’s value reached an agreed threshold.

5.47. The fund would be expected to make positive returns on its investments in most years. These returns could be transferred from the fund for spending on government programmes. However, a downside with transferring the nominal returns is that without ‘inflation proofing’ the real value of the fund would decline.

5.48. To maintain the real value of the fund, one option would therefore be to draw down no more than the real returns from the fund each year and reinvest the remaining returns in the fund to ensure the purchasing power of the fund remains constant. As the funds returns are likely to vary year on year, this would potentially provide an unstable revenue stream for the government. An alternative approach could therefore be to withdraw the average real return from the fund to smooth out year on year variations in its performance. This is similar to the approach adopted in Norway, where annual withdrawals from the fund are capped at 4%, the expected annual real return. Care needs to be taken with this approach to ensure that the expected real return is met over the long term; otherwise there is a risk that the fund’s capital will be eroded unexpectedly.

5.49. The Working Group is attracted to the idea of initially limiting withdrawals from the savings fund to maximise the resources which are invested. Longer term, the Working Group supports the option of linking withdrawals from the fund to its expected real return. This would ensure that the
real terms value of the fund is maintained, whilst providing a predictable income stream for the Scottish Government.

**Investment Policy Issues for Stabilisation and Saving Funds**

5.50. Having established the basic motivation behind the creation of a stabilisation or savings fund for Scotland, there are a number of other key policy choices that must be considered. These include; the investment portfolio, the longer term investment strategy and the framework for managing the fund.

**Investment Portfolio**

5.51. When considering the options available for investing fund assets, it is important to distinguish between savings funds, which invest with longer-term criteria, and stabilisation funds, which, given their cyclical role, would need higher proportions of relatively more liquid assets.

5.52. To illustrate this point it is helpful to consider the international examples that were set out in Chapter 4. For example, the Economic and Social Stabilisation Fund (ESSF) in Chile has twin objectives in its investment policy – firstly to maximise the fund’s accumulated value so that it can be used to minimise cyclical reductions in fiscal revenues, and secondly to maintain a low-level of risk.

5.53. This risk averse strategy is reflected in the choice of an investment portfolio, which has a high level of liquidity and low credit risk and volatility. This ensures the availability of resources to cover fiscal deficits and avoid significant losses in the fund’s value.

5.54. The current ESSF investment policy has the following asset allocation: 30% in money market instruments (15% in bank deposits and 15% in government notes), 66.5% in nominal sovereign bonds and 3.5% in inflation indexed bonds.88

5.55. **In contrast, for savings funds, return on investment may be more important than liquidity, and it may be more appropriate for them to invest in longer-term assets with a different risk and return objective.** The overarching investment strategy of most savings funds is to achieve high financial returns subject to moderate risk.

5.56. **Savings funds therefore tend to have a varying but larger proportion of equities in their portfolios in comparison to the fixed income assets held in stabilisation funds.** For example, the Norwegian Government Pension Fund Global (GPFG) has equity investments, accounting for 63.4% of the fund in 2013.89

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89 [http://www.nbim.no/en/Investments/benchmark-indices/]
5.57. The appropriate composition of assets in the fund will be determined by the overarching objectives of the fund, and whether these relate to short to medium-term stabilisation objectives or longer-term savings goals.

**Longer-Term Investment Strategy**

5.58. In the longer-term, there would be a range of alternative investment strategies which could be utilised in managing a long term savings fund. One consideration would be developing a set of specific investment guidelines for the fund. For example, an interesting feature of the Norwegian model is the establishment of ‘ethical guidelines’. This means that all investments made by the Norwegian oil fund are subject to strict guidelines governing the companies into which the fund can invest.  

5.59. Alternatively, the fund could include a longer-term strategic target to diversify its investment portfolio to include infrastructure investments. The decision to invest in infrastructure projects has been the subject of debate in Norway for some time.  

5.60. Infrastructure investment could be expected to generate a real return somewhere between that on equities and bonds; however it would likely be subject to much lower volatility than equities.

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90 http://www.nbim.no/en/Investments/ethical-guidelines/
In addition to benefits from diversifying the investment portfolio, allowing a fund to engage in domestic infrastructure investment could provide an additional counter-cyclical economic boost to the economy during economic downturns. A key issue with regards to infrastructure investment is that the public sector will generally be involved in infrastructure projects as a contractual party or have some form of regulatory oversight. Therefore, the rules and mechanisms for this investment would need to be set out clearly.

5.61. Similarly, drawing on other options for reform that have recently been considered in Norway, there is also an argument to be made in the long-term for having multiple funds with different investment objectives. For example, it has been proposed that several minor funds could be established in Norway focusing on investment in areas where Norway has particularly strong interests (i.e. environmental investments). Those supportive of these reforms argue that it would create a competitive environment for better measuring investment performance. The Working Group recognises the longer-term merit in exploring options for targeted investments related to Scotland’s areas of expertise such as low carbon technologies or renewable energy investments.

5.62. While there are various longer-term investment options available, ultimate responsibility for the investment portfolio of a Scottish stabilisation or savings fund would be for the fund’s managers to determine. However, it will be appropriate for the Scottish Government and Scottish Parliament to determine the benchmark performance and target asset allocation of the fund. This should reflect the fund objectives and be based on an appropriate balance between risk and return.

Management of Funds and their Institutional Structure

5.63. There are a variety of ways in which the assets in savings and stabilisation funds can be managed. Internationally, some funds are managed from the central bank, some are managed by the Ministry of Finance or Government and in some cases specific institutions or independent bodies are established to run the fund. As outlined in the Fiscal Commission Working Group’s first report, Scotland has a wealth of expertise in finance and asset management, and would be able to draw on that local expertise to guide the management and investment choices of the fund.

5.64. The Working Group recognises that each institutional approach has its own merits and advantages, two main options would be open to an independent Scotland:

92 http://www.reuters.com/article/2013/07/03/norway-wealthfund-idUSL5N0F90L720130703
• One option would be for the incumbent government to set out the fund’s objectives and overall investment strategy, with operational management delegated to an institution independent of government – for example the proposed Scottish Monetary Institute. Operational independence could provide a number of benefits, such as specific investment expertise and distance from day to day political pressures. A challenge with this approach will be ensuring that there are mechanisms adopted to maintain a balance between independence and accountability.

• An alternative approach would be for the fund to be managed and operated by the Scottish Government. This would provide direct political accountability, but the day to day management of the fund could be subject to greater short-term political pressure.

5.65. While the Working Group is not prescriptive about the most appropriate option for a Scottish fund, it would recommend that the operation of the fund should be transparent and have clear channels of accountability. The Working Group recognises the merit in regular and frequent disclosure and reporting of the principles governing the fund, and the allocation and return on assets. The fund’s activities should also be subject to independent audit and evaluation of investment performance.

**Summary**

5.66. The establishment of a stabilisation fund requires a commitment to limit the potential level of current consumption in an independent Scotland, in favour of accumulating a stock of liquid assets. This can be particularly challenging in periods where the public finances are subject to other pressures. Likewise, the creation of a savings fund necessarily implies a prolonged commitment to limit current consumption in favour of investment.

5.67. This chapter has outlined both the benefits from establishing this framework and also how this approach could be delivered in a manner that will improve the credibility of the public finances in an independent Scotland.

5.68. Figure 23 provides a summary of the options discussed in this chapter and the process by which an independent Scotland could establish a fund to best manage the tax revenue from Scotland’s substantial natural resources.
Figure 23: Steps for Establishing Scottish Stabilisation and Savings Funds Post Independence

**Immediate**
- Establish management arrangements and an institutional framework for a stabilisation fund and a savings fund.
- Determine process whereby an independent Fiscal Commission could scrutinise government oil and gas forecasts.

**Short-Term**
- Integrate stabilisation fund into budgetary process.
- Establish short-term deposit and withdrawal rules whereby the Scottish Government plans expenditure on a cautious forecast for oil and gas revenue.

**Medium-Term**
- Strengthen the stabilisation fund’s deposit rules as fiscal position improves.
- Review management rules for the stabilisation fund to ensure consistency with the medium-term objectives.
- Initiate transfers into a savings fund alongside a programme of debt reduction

**Long-Term**
- Over time and as fiscal conditions allow, the Scottish Government should seek to strengthen its public finances to allow the majority of offshore revenues to be invested either in a stabilisation fund or long-term savings fund.
6. Conclusions and Recommendations

6.1. This chapter summarises the conclusions made in this report and puts forward a series of recommendations for the Scottish Government on the operation of both a short-term stabilisation fund and a long-term savings fund.

Conclusions

6.2. Scotland’s oil and gas reserves represent a significant economic and financial resource. The industry has been a key source of employment and investment in Scotland for four decades, and will continue to make an important contribution for decades to come. The tax revenue generated from oil and gas production will provide a substantial boost to the public finances of an independent Scotland.

6.3. To ensure the benefits that oil and gas production offer an independent Scotland are maximised, it is important that the country’s fiscal framework takes into account the distinct characteristics of oil and gas tax revenues.

- In the short run, year on year changes in oil and gas tax revenues mean that a fiscal framework must be in place to support macroeconomic stabilisation and to assist with budgetary planning.

- In the long run, the Scottish Government must consider how it manages its oil and gas wealth in a manner which safeguards the long-term sustainability of its public finances, supports intergenerational equity and boosts economic resilience.

6.4. Countries with large reserves of oil and gas have often established short-term stabilisation funds and long-term savings funds to respond to these issues:

- **Short-term stabilisation funds:** Provide a mechanism to insulate the budget from year on year variation in oil and gas tax revenues. They entail saving a proportion of tax receipts in a fund during years when receipts are higher than expected, and withdrawing capital from the
fund in years where receipts are low. They therefore help to protect the budget, and in turn the provision of public services, from fluctuating commodity prices.

- **Long-term savings funds:** Allow countries to save a proportion of the tax revenue generated from oil and gas production for future generations. By doing so, a savings fund allows the returns from finite oil and gas revenues to be converted into a renewable financial pool of wealth that will generate income flows from interest payments, dividends and rising asset values. If carefully managed these revenue streams can lead to a permanent source of income that can be utilised long after oil and gas production has stopped.

6.5. Such funds are common among oil and gas producing countries. Of the 20 largest oil producers in the world, the vast majority operate some form of national or sub-national Sovereign Wealth Fund, with the UK being a notable exception. Through effective resource management, some countries have been able to build up their funds into substantial holdings of wealth which can provide a significant source of funding to the national budget. Norway provides a good example of how countries can effectively manage their oil and gas revenues and offers a number of important lessons for Scotland. The country’s oil fund is now worth around £470 billion, making it the largest sovereign wealth fund in the world.

6.6. The Working Group believes that there is clear merit in an independent Scotland establishing both a short-term stabilisation fund and a long-term savings fund immediately following independence. The funds should be closely integrated into the wider fiscal framework of an independent Scotland and in particular the operation of any fiscal rules and a Scottish Fiscal Commission.

6.7. To maximise their effectiveness, such funds should be in place for a number of years. As such it will be desirable to ensure that there is cross party consensus on their underpinning objectives. This will ensure that they are embedded in the broader-long term management of Scotland’s public finances.

6.8. A short-term stabilisation fund could initially involve the Scottish Government basing its spending plans on a forecast of oil revenues which had been assessed by an independent Scottish Fiscal Commission. Then, if oil revenues exceed the forecasts, the excess could be transferred into

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93 See footnote reference 1
the stabilisation fund. Should outturn receipts come in below forecast, the Scottish Government would have the opportunity to utilise the liquid funds previously accrued in its stabilisation fund to offset the shortfall rather than increasing borrowing, cutting public spending or increasing taxes.

6.9. Such an approach would provide a formal framework for ensuring that fiscal policy is planned on the basis of cautious North Sea forecasts. This in itself would represent prudent fiscal management and would reduce the risk of borrowing overshooting planned levels.

6.10. The fund could also act as a liquidity buffer by providing an immediate, and potentially large, source of funding which the Scottish Government could draw down upon. This would ensure that Scottish Government borrowing was more stable and predictable than would otherwise be the case. In the years immediately following independence, such stability could be an important factor in helping to establish Scotland’s credibility on international financial markets.

6.11. A long-term savings fund would ensure that the revenues obtained from the extraction of Scotland’s oil and gas reserves were prolonged by the accumulation of financial assets that can provide a permanent income stream in the future.

6.12. Such a fund should be established immediately following independence. This would ensure that the fund’s operation and guiding principles are embedded within the wider management of Scotland’s public finances. It would also allow clear guidelines to be established to ensure that the Scottish Government’s fiscal framework facilitates the transfer of resources into a savings fund. Such a process would help to lock in a strategy of prudent financial management and strengthen Scotland’s credibility on international financial markets.

6.13. The ultimate aim for a long-term savings fund should be for Scotland to run some form of onshore budget balance. This would allow the majority of North Sea revenues to be invested in an oil fund. Given the fiscal position that an independent Scotland is likely to inherit, this may not be achievable in the years immediately following independence. However, investments into a savings fund would not necessarily require Scotland to be in budget surplus. Instead, they could be started once Scotland’s overall budget deficit was reduced to below the level of long-run economic growth and debt was on a downward trajectory. This would allow revenue to be deposited in the fund, whilst simultaneously reducing public sector net debt as a share of GDP. Such a strategy would help strengthen budgetary management, and provide a counterbalance to apparent short term spending.
priorities. In principle it would also allow investments to be made into both a stabilisation fund and a savings fund without an automatic offsetting change to public spending or taxation.

6.14. The point at which an independent Scotland’s fiscal deficit would reach a level at which public sector debt was on a downward trajectory would depend on the fiscal choices made by the government of the day and the strength of the economy. The Office for Budget Responsibility forecast that the UK’s deficit will reach this point around 2017/18. Assuming that Scotland follows a similar timetable for moving debt onto a downward trajectory, as a share of GDP, this may allow the Scottish Government to consider starting to make modest investments into an oil savings fund at a similar time or towards the end of the decade.

Recommendations

6.15. Drawing on the analysis prepared in this report, the Working Group offers the following recommendations for the Scottish Government to consider in managing the tax revenue generated from oil and gas production.

**Recommendation:** The Scottish Government should establish a short-term stabilisation fund to manage year on year changes in oil and gas tax revenue immediately following independence. The fund’s operation should be embedded into the wider management of the public finances of an independent Scotland.

**Recommendation:** The Scottish Government should plan its public finances and borrowing requirement on the basis of a cautious forecast for oil and gas revenue. If revenues exceed this forecast, the surplus should be transferred to the stabilisation fund. Conversely, if revenue is below this forecast, reserves could be withdrawn from the fund thereby allowing public spending to be maintained despite short term movements in oil and gas revenues.

**Recommendation:** The Scottish Government should ensure that the mechanisms used to forecast North Sea revenue, manage transfers into a stabilisation fund and integrate the fund into the wider fiscal framework, are transparent and credible. These processes should be assessed independently of government, for example, by an independent Scottish Fiscal Commission.

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94 Office for Budget Responsibility (2013) – Economic and Fiscal Outlook, March 2013
**Recommendation:** The Scottish Government should establish a long-term savings fund immediately following independence. This will ensure that a proportion of the wealth generated from the taxation of Scottish oil and gas production can be invested in financial assets and thereby provide a permanent revenue stream for future generations.

**Recommendation:** To maximise transfers into a savings fund, a long-run objective should be for the Scottish Government to run some form of onshore budget balance and to seek to invest a fixed percentage of North Sea revenues into a savings fund annually. In the short-run, the Scottish Government should consider starting to make modest investments into a long term savings fund once net borrowing was manageable and public sector net debt, as a share of GDP, was on a downward trajectory.

**Recommendation:** The operation of both a short-term stabilisation fund and long-term savings fund should be transparent and subject to clear guidelines covering the funds’ overall objectives, transfer arrangements, investment strategies, withdrawal rules, and day to day management.

**Recommendation:** There should be regular disclosure and reporting of the principles governing the fund, and the allocation and return on assets. All of the fund’s investment activities should be open and subject to independent audit and evaluation.
Annex A – Scotland’s Historic Fiscal Position

A1. When assessing the sustainability of public spending and taxation – particularly in the context of how North Sea revenues have been managed - it is valuable to examine the long term trends in Scotland’s public finances. This annex considers how Scotland’s public finances have evolved since 1980-81, the earliest year for which estimates are currently available. It also illustrates how North Sea oil revenues could have been managed historically to provide a long term savings function.

A2. Figure A1 provides estimates of Scotland’s overall net fiscal balance as a percentage of GDP from 1980-81 onwards. The results show that during the early 1980s, if a geographic share of North Sea revenues had been assigned to Scotland, it would have run a substantial net fiscal surplus, driven by the significant growth in oil and gas revenues. Scotland’s fiscal position weakened through the 1990s but since 2001-02 has been broadly in line with that of the UK.

A3. Taking GERS as an illustration of the possible hypothetical fiscal position of an independent Scotland, there would have been significant opportunities in the 1980s to invest surplus funds in an oil fund. This would have been more difficult during the 1990s given that, like the UK, Scotland was in deficit. However, as discussed in Chapters 5 and 6 the Fiscal Commission Working Group still sees merit in investing in such a fund both for short-term stabilisation purposes and for long-term savings whilst in deficit.

95 The dataset is available from http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/GERS/RelatedAreas/LRfiscalbalances2013 The dataset is classified as experimental
A4. Over the period 1980-81 to 2011-12 as a whole (the longest period for which data is currently available), the UK is estimated to have run an average annual net fiscal deficit of around 3% of GDP. Excluding North Sea revenues over this period Scotland is estimated to have run a larger average annual net fiscal deficit than the UK, however, with a geographical share of North Sea oil and gas revenues assigned, Scotland is estimated to have been in a relatively stronger fiscal position than the UK. Indeed, since 1980-81, and as a result of the estimated large surpluses in the 1980s, Scotland is estimated to have run an average annual net fiscal surplus worth 0.2% of GDP over this period.

**Historic Management of North Sea Revenues**

A5. The estimates of Scottish public spending which underpin the historic net fiscal balance illustrated in Figure A1 assign Scotland a population share of UK debt interest payments each year, irrespective of the notional level of Scottish public sector net debt implied by the analysis.

A6. This analysis can be extended to illustrate how a long term savings fund could have hypothetically operated in Scotland over the past thirty years. To do this it makes the following
assumptions. Whilst only illustrative, such an approach does highlight the benefits that such a fund can produce.96

- Scotland is assigned a population share of UK net debt in 1979. In subsequent years it is assumed that this notional debt burden moves in line with any borrowing, or debt repayment, as implied by Scotland’s estimated net fiscal balance.

- The debt interest payments assigned to Scotland are linked to the notional level of Scottish public sector debt, and not the UK total. When Scottish public sector net debt is estimated to be below a population share of UK debt, there is a proportionate reduction in Scottish debt interest payments.97 Conversely, when Scottish net debt is estimated to be higher than a population share of UK debt, there is a corresponding increase in the assumed level of Scottish debt interest payments.98

- It is assumed that any financial assets built up by the Scottish public sector are transferred to a long term savings fund. Assets held in the Fund could provide a source of funding for the Scottish public sector, and in turn help reduce future Scottish deficits. The returns received on any assets would clearly depend on the success of such investments. To demonstrate the sensitivity of the results two scenarios are considered. The fund’s assets are assumed to generate a constant real return of 1% a year in scenario 1 and a real return of 2% a year in scenario 2.

A7. Such analysis is illustrative, and dependent on the assumptions used. In particular, it does not, and cannot, reflect the potential impact of utilising the additional revenue provided by a hypothetical investment fund to address any particular infrastructure needs in Scotland, and the corresponding impact this could have on the wider economy. Nor does it reflect the impact that changes in government policy or alternative constitutional frameworks could have on Scottish

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96 This analysis extends similar estimates provided in Box 8.03 of the Working Group’s first report, and updates it to reflect the latest experimental estimates of Scotland’s long term fiscal position published in March 2013 as part of the GERS 2011-12 report.

97 During years where Scotland is estimated to have no public sector debt, debt interest payments would therefore fall to zero.

98 The analysis assumes that Scotland’s debt financing costs (the interest rate paid on any debt) is linked to the borrowing costs incurred by the UK. No adjustment is made for the potential impact on Scotland’s notional borrowing costs of having a proportionately higher, or lower, level of debt or differing market perceptions than the UK as a whole.
economic growth and the corresponding effect this could have on tax revenue and demand for public services.

A8. Figure A2 provides estimates of Scotland’s annual fiscal balance from 1980-81 to 2011-12 under the above scenarios.

A9. Under scenario 1 where the savings fund assets are assumed to generate an annual real return of 1%, Scotland’s average annual net fiscal surplus between 1980-81 and 2011-12 is estimated to be 6.2% of GDP. When the real returns are assumed to be 2% a year, the average annual net fiscal surplus is estimated to be 7.4% of GDP over this period.

A10. Scotland’s stronger fiscal position under these two scenarios reflects the fact that it is assumed to use the surpluses achieved in the early 1980s to reduce debt and invest in a savings fund. In turn, these measures would lead to lower debt interest payments, and provide a new revenue stream, in the form of the revenue generated by the investments, thereby leading to a stronger fiscal position in subsequent years.
Holding all other factors constant, under these two scenarios, Scotland would have been able to eliminate its notional net debt by 1982-83 and started to accrue assets in subsequent years, as illustrated in Figure A3.

On this basis, the Scottish public sector would still have large holdings of assets by 2011-12, in effect a long term savings fund, rather than debt. Under scenario 1 these assets could have been worth 55% of GDP, whilst under scenario 2 they could have been worth 78% of Scottish GDP.

To put these results into context, Scotland’s per capita share of UK public sector net debt in 2011-12 is approximately £92 billion. In contrast, under the above scenarios, Scotland could have held financial assets in 2011-12 worth £82 billion under scenario 1, and £116 billion under scenario 2.