



# Long-term Perspectives on the Norwegian Economy 2013 – a summary





NORWEGIAN MINISTRY OF FINANCE

Meld. St. 12 (2012–2013) Report to the Storting (White Paper) Summary

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Translation from Norwegian. For information only.



## **The Norwegian Economy – Key Facts**

### **General**

Norway forms the western and northern part of the Scandinavian Peninsula and has common land borders with Sweden, Finland and Russia. Norway's area is 323,787 square kilometers (approximately 125,100 square miles), excluding the Svalbard Island group in the Arctic Ocean and other overseas territories. The population of Norway was estimated at 5,052,000 as of January 1st, 2013. Oslo is the capital and largest city in Norway.

Norway is a constitutional monarchy, originally adopted in 1814. The executive power of the Government is vested in the King, who exercises his authority through a cabinet. The legislative power is vested in the Storting (Norwegian parliament). Members of the Storting are elected for four-year terms through general elections based on universal suffrage. The Storting has 169 members and cannot be dissolved during its four-year term.

### **Economic sectors**

Norway is a diverse industrial society with a free market economy and generally low trade barriers. A significant share of the Norwegian economy consists of service industries, including wholesale and retail trade, banking, insurance, engineering, transport and communications and public services. In 2012, the service sector as a whole accounted for approximately 59 per cent of GDP. Norway's petroleum industries, including crude oil and gas extraction, accounted for about

26 per cent of GDP and just above 50 per cent of exports in 2012. Manufacturing accounted for close to 8 per cent of GDP in 2012.

The exploration and production of petroleum resources on the Norwegian continental shelf has had a major impact on the Norwegian economy. In 2012, Norwegian petroleum production totalled approximately 225 million standard cubic meters of oil equivalents (scm oe.). Norway ranks as the world's seventh largest oil exporter.

### **Memberships in International Organisations**

Norway is a party to the Agreement on the European Economic Area (EEA), which generally includes Norway in the internal market of the European Union (EU). Norway is a member of the European Free Trade Association (EFTA), an international free trade partnership. Norway is a founding member of the United Nations and its affiliate organisations and has been a member of the North Atlantic Treaty Organization (NATO) since 1949.

Norway is a member of a number of other international organisations, including the International Monetary Fund (IMF), Organisation for Economic Cooperation and Development (OECD), International Bank for Reconstruction and Development (World Bank) and the World Trade Organization (WTO). Norway is also a member of the Inter-American Development Bank (IADB), African Development Bank (AfDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Council of Europe Development Bank (CEB), Nordic Investment Bank (NIB), Nordic Development Fund (NDF), Nordic Council, Nordic Project Fund (Nopef) and Nordic Environment Finance Corporation (NEFCO).

# **Long-term Perspectives on the Norwegian Economy 2013 – a summary**

## **Introduction**

The main objective of the Government's economic policy is high employment and a fair distribution of privileges and duties. Based on the Norwegian social model, the Government will renew and develop public welfare systems, contribute to fairer distribution and promote a labour market based on social cooperation and negotiation, in which everyone can participate. The Government will facilitate economic growth and development across the country within limits that also allow future generations to provide for their needs. Such sustainable development demands responsible policies that emphasise environmental and climate considerations, long-term management of the national wealth, a sustainable pension system, a productive private sector and well-functioning public services.

Norway has a high income level, low inequality and a comprehensive public welfare systems supported by solid public finances. A qualified labour force and high labour force participation contribute to a flexible and productive economy. Efficient national markets and openness to international markets strengthen conditions for doing business. The welfare system requires a relatively high level of taxation. An efficient tax system and broad tax bases have allowed Norway to combine this with solid economic growth.

The macroeconomic framework promotes a solid and stable development of the Norwegian economy. The Government Pension Fund Global helps to separate the earning of petroleum income from the

use of that income, allowing the revenues to also benefit future generations. The guidelines for fiscal policy shelter the budget and the mainland economy from short-term fluctuations in petroleum revenue. Monetary policy helps to maintain low and stable inflation and to counteract fluctuations in production and employment. Policies for financial stability emphasises solidity, liquidity and sound conduct through regulation and supervision.

The work effort of the population is the foundation of the welfare state. Norway has high labour force participation and low unemployment. Since 1970, labour force participation has increased substantially through women's increased engagement in paid work. Participation in the labour market gives individuals financial independence. Nothing is more effective in reducing poverty, raising living standards and improving quality of life. High labour supply also improves the ability to meet future welfare challenges.

The aim of employment policy is to promote high labour force participation, low unemployment and efficient labour force utilisation. Tripartite cooperation between government and the social partners is vital. In Norway, trade union membership is high, wage formation is relatively coordinated at the national level, and working life is well-regulated. This allows business and labour organisations to share responsibility for social progress, not least by helping to limit unemployment. Cooperation between the government and the social partners has contributed to greater wage equality and fostered social cohesion.

The Norwegian welfare model provides generous income-protection and a wide range of services. There is considerable public funding for health and care services, daycare facilities, education and research. These welfare systems have been designed to support individual welfare, fair distribution and economic growth. A comprehensive social security net provides financial security for workers and improves the flexibility of the economy.

Norway would never have achieved its current level of prosperity without engaging in international trade and other economic interactions across borders. European cooperation is crucial, through the free movement of labour, capital, goods and services. Openness to trade is also a source of technological progress. At the same time,

changes in foreign production and demand may have a substantial impact on the domestic economy through terms-of-trade variations.

Closer global integration has brought increased immigration. Although many immigrants to Norway are granted residence on humanitarian or family grounds, work has been the most important immigration factor in recent years. A more diverse society presents both opportunities and challenges. The participation of immigrants in the labour market and the prevention of social dumping are particularly important.

Norway's economic development has been strongly influenced by the petroleum industry the last 40 years. The unusually high profitability of the petroleum industry generates considerable demand for goods and services from the mainland economy, and high revenues to the state. In the last decade, rising oil and gas prices have substantially boosted Norway's disposable real income.

Overall, the production of oil and gas on the Norwegian continental shelf seems to have passed its peak. Demand from the petroleum industry will fall in the longer term, but when and how quickly is uncertain. It seems likely that the State will continue to receive large revenues from the petroleum industry for an extended period, and that the Government Pension Fund Global will continue to grow for several decades. However, as a proportion of Mainland GDP, the Fund's contribution to financing public expenditures is expected to start declining in 15 to 20 years.

Rising life expectancy entails population aging in Norway as in other industrialised nations. Living longer is a sign of a healthy society, but may also challenge labour supply and public finances if retirement is not postponed correspondingly. Although the returns on the Government Pension Fund Global contribute significantly to public expenditure, the Fund is far from large enough to overcome the challenges presented by an aging population.

Sustained economic growth has resulted in higher incomes and increased welfare in many parts of the world, but higher production has also created environmental problems. If international efforts to reduce the emissions of greenhouse gases are ineffective, climate change is likely to be far-reaching. Rising sea levels will put low-lying



areas at risk of flooding, and the risk of extreme weather events will increase. Developing countries are particularly vulnerable to such developments.

So far, countries with advanced economies have been the main contributors to the increased concentration of greenhouse gases in the atmosphere since the industrial revolution. Greenhouse gas emissions are now growing particularly quickly in countries that formerly had very low incomes. The issue of climate change can only be resolved through broad-based international cooperation. Individual countries also have an obligation to implement active national policies to reduce greenhouse gas emissions. However, such efforts may also influence economic developments.

The choices made today may influence the range of options for future action. Current policy must therefore be considered in a long-term perspective. Doing so requires both insight into the forces driving economic developments and analysis of the consequences of different policy choices. *Long-term Perspectives on the Norwegian Economy 2013* is intended to contribute in this respect. The White Paper discusses the determinants of and challenges to a sustainable economic development, and important options for addressing these challenges. Key topics are long-term development trends, including the consequences of an aging population and the downscaling of the petroleum industry expected to gradually take place in the future.

### **Norway – a small, open economy**

Norway's income level is higher than that of most other countries. Including the petroleum industry, GDP per capita is approximately 20 per cent higher than that of the USA. Norway also ranks highly based on Mainland GDP, where the highly profitable petroleum sector is excluded. Figure 1 shows GDP per capita split into hours worked and GDP per man-hour. The figure shows that per capita labour supply is lower in Norway than in the USA and the EU. However, Norway enjoys a higher return on each hour worked. This is partly because Norway's productivity is relatively high and partly because Norway

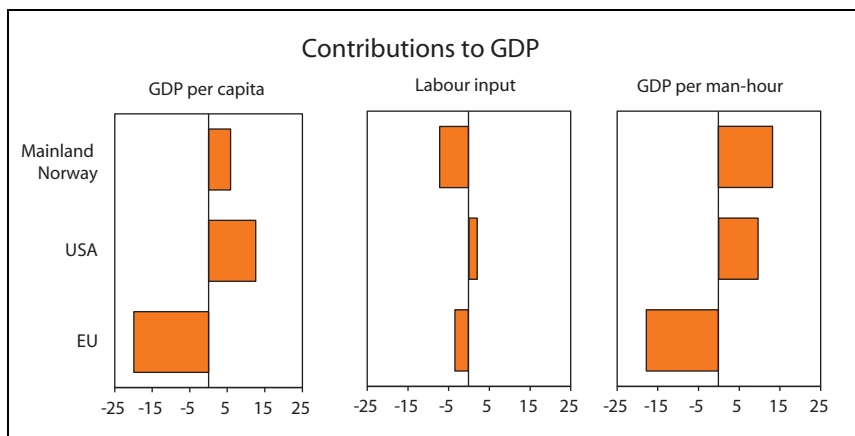


Figure 1 GDP per capita and contributions from hours worked per capita and GDP per man-hour, compared to the average for the 50 per cent richest OECD countries. 2010. Per cent

Source: OECD.

achieves high prices for the goods and services it sells to other countries. The contrast with the EU is particularly striking.

A small country like Norway benefits particularly from the division of labour made possible by international trade. In recent years, trade, labour immigration and capital flows have strengthened Norway's links with other countries. Open borders and lower transaction costs are changing global supply and demand for goods and services. Populous countries like China, India and Brazil have become more strongly integrated into the global economy, increasing the number of people participating in the global division of labour. International markets are growing, increasing the benefits of economic specialisation. In addition, strong growth in Asian countries is gradually shifting the world's economic centre of gravity.

Norway may be affected differently by the rise of emerging economies than most other OECD countries, due its resource base and industrial structure. Since the late 1990s, rapidly growing demand,

particularly from Asian countries, has raised the prices of important Norwegian exports. Imports have increasingly become oriented towards cheaper consumer goods from the same countries. Such imports compete very little with goods produced domestically. Norway's terms of trade has therefore improved considerably. Household purchasing power has increased, while business profitability has remained sound.

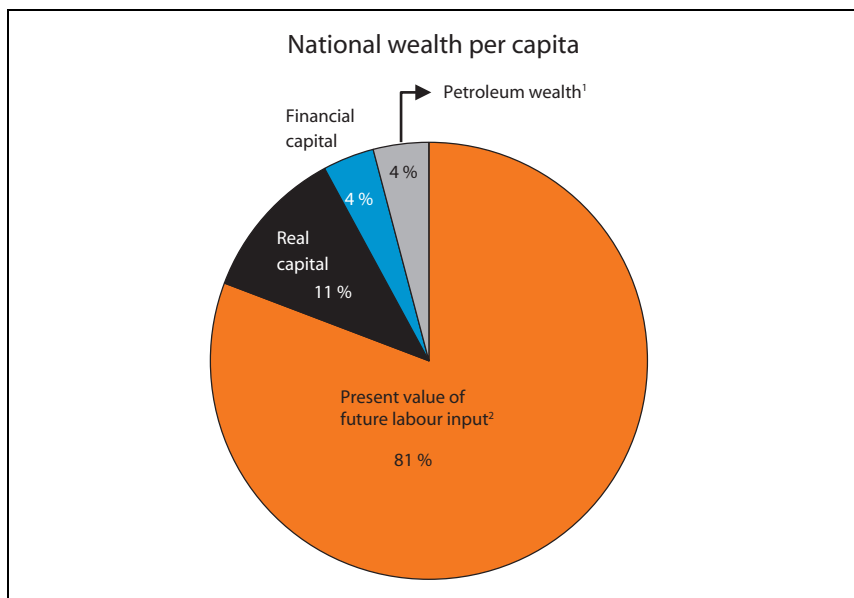
The future prices of Norway's imports and exports are uncertain, not least the oil price. If global economic growth slows down significantly, oil and gas prices may fall sharply. Future prices can also be affected by technological developments, new sources of energy and more extensive pricing of greenhouse gas emissions. Oil and gas price developments are important for the level of demand from the petroleum industry, for national revenue and for public income.

As the Government Pension Fund Global grows, returns in the international capital markets are becoming increasingly important for Norway's national income. To reduce total risk, the Fund's investments are diversified across different asset classes and a wide range of countries, sectors and companies. Nevertheless, aggregate returns on these investments may continue to fluctuate markedly.

## **The mainland is the core of the economy**

Although the Government Pension Fund Global and the remaining petroleum reserves are considerable assets, they are modest compared to the revenue generated by the mainland economy. Activity in the mainland economy is the primary basis for production, employment and income. As for most other countries the main component of national wealth is the value of the work perform, now and in the years to come, see figure 2.

Labour force participation is high in Norway compared to most other countries, particularly among women and older workers. Still, many people are outside the labour force due to reduced working capacity. A number of these individuals may be able and motivated to work, provided that steps are taken to facilitate this. The successful



**Figure 2 Net national wealth per capita. 2010. Per cent**

<sup>1</sup> Petroleum wealth is calculated at the present value of future resource rent per capita in the petroleum sector.

<sup>2</sup> The value of future labour input is the present value of future per capita wages, calculated by multiplying the hourly wage cost by the number of hours worked. A discount rate of 4 per cent is applied.

Sources: Statistics Norway and Ministry of Finance.

integration of immigrants into the labour market is also important to achieve high labour force participation in the future.

Norway's population will age in the decades ahead. Per capita labour supply will shrink unless retirement is postponed in line with increased life expectancy. Lower labour input will weaken the production of goods and services in both the private and public sectors.

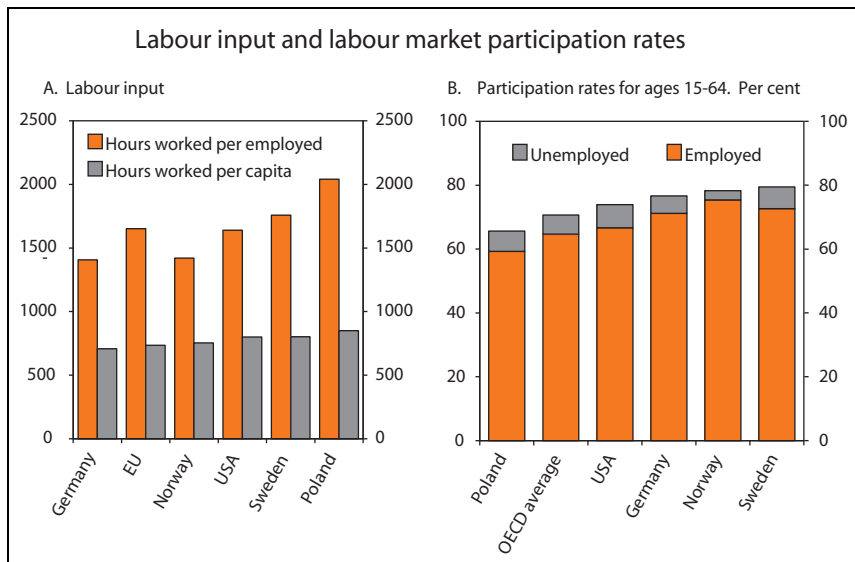
Rising life expectancy and improved public health mean that more people can stay longer in the labour force. The reform of Norway's public pension system provides incentives for increased labour supply through closer and more transparent links between work incomes and

pension benefits. A flexible retirement age, the opportunity to combine work and pension income, and life expectancy adjustment of pension benefits are encouraging people to postpone retirement. The reform of disability benefits and the agreement for a more inclusive working life (IA agreement) are also intended to facilitate higher labour supply, for example by making it easier to combine work and benefits. However, a flexible retirement age and higher income level also allow people to give priority to leisure rather than work. If stronger work incentives are effective in increasing labour supply, disposable real incomes will rise substantially.

Employers play a key role in efforts to build a labour market in which everyone can participate. The design of the tax and benefits systems, as well as legislation for labour and employment protection, also influences the incentives for employment and workplace inclusion. Worker and employer incentives must be considered as a whole.

Despite a high employment rate, the number of hours worked per capita is lower in Norway than the OECD average. The reason is that average working hours are shorter than in most other countries. Accordingly, there might be a potential for increasing future labour input through longer average working hours. For some years to come, new generations of women will have a higher education level and stronger links to the labour market than the older generations they replace. This could increase the average hours worked per employee. At the same time, increasing prosperity can be enjoyed as more leisure, as seen in Norway and other OECD countries in recent decades. If the latter effect is strongest, and the average hours worked per employee drops, production and income growth will fall. On the other hand, an increase in the average hours worked will boost production and income growth.

Labour immigration to Norway has risen strongly after the enlargement of the EU in 2004. Approximately 60 per cent of the increased employment since 2004 have been immigrants. This boost to the labour force helped to extend the strong upswing in the Norwegian economy before the financial crisis. The last two years have again demonstrated that labour immigration can help to improve production capacity and the flexibility of the Norwegian economy. However, high



**Figure 3 Labour input and participation rates. 2011**

Source: OECD.

labour immigration is also raising demand for housing and resulting in higher utilisation of roads and other infrastructure. Labour immigration may thus have moderated the upward wage pressure, but may also have contributed to higher housing prices. Labour immigration may also increase differences in wages and other working conditions. Efforts to combat social dumping are therefore important.

Future labour immigration will depend on the economic situation both in Norway and in the new EU countries, including differences in economic cycles and income levels. Hence, population changes and economic conditions are more closely linked than before. There is greater uncertainty about the future size and composition of Norway's population. Experience from other countries shows that labour immigration can vary strongly over time, and may even be reversed during economic downturns.

Production in a modern economy relies on access to real capital in the form of machinery, transportation equipment, buildings and infrastructure. To maintain or increase the capital stock it is necessary that households, companies and the public sector invest. Since Norway participates in the international markets for goods and capital, savings and investments may be decoupled. A well-functioning capital market is important both for an efficient use of capital and for the efficiency of the economy more generally.

Welfare growth depends on how efficiently resources are used. Economic growth in mainland Norway has primarily been driven by productivity growth. High productivity growth depends on the ability to reallocate resources from less profitable to more profitable companies and industries.

To remain flexible, the labour force must have the right expertise. The educational system must maintain a high level of quality from daycare facilities to institutions for higher education. A high-quality educational system will support Norway's research and development efforts, and its ability to assimilate insights from similar efforts abroad. High-quality health and care services will help to mobilise the resources of individuals, and boost labour force participation. Well-functioning public services thus promote widespread labour market participation and high productivity.

A well-functioning judicial system, well-protected property rights and the absence of corruption are fundamental prerequisites for economic growth. Efficient national markets contribute to a sound business environment and the reallocation of labour and capital to the activities that produce the greatest returns. Effective competition is a means to this end. To enable the efficient use of resources, all companies and industries should compete on equal terms, including direct and indirect taxes.

The World Bank's "Doing Business" index ranks 183 countries according to the quality of the business environment. Norway was ranked sixth in the most recent edition of the index.

## **Stabilisation of economic cycles**

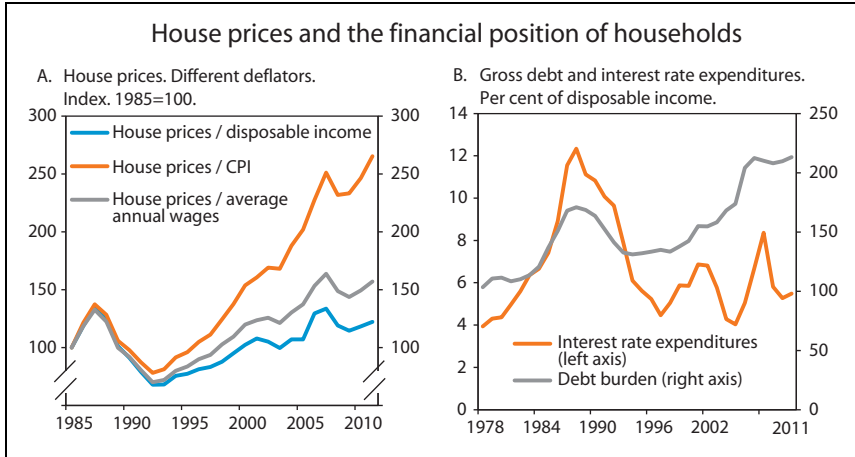
Economies do not grow evenly over time. Large deviations in production and employment from the long-term growth path are costly. In an economic downturn, welfare is reduced, both for individuals who become unemployed and for society as a whole. Many countries have found that unemployment can persist at a high level, causing large and long-term losses of productive capacity. Stable economic development is therefore an important objective of economic policy.

A well-functioning financial sector is important for the growth potential of an economy, as it can help channel savings into the most profitable investments and help redistribute risk between market participants. However, there are also many examples, from Norway and other countries, of economic setbacks with roots in financial markets and financial imbalances. Such downturns have tended to be deeper and longer lasting than economic setbacks with other origins. Financial market regulations must enable banks and other financial institutions to provide credit also when unforeseen events put pressure on liquidity or profitability. The strong rise in housing prices and household debt in Norway since the mid-1990s may challenge both Norway's financial stability and the stability of the Norwegian economy more generally. Household debt as a proportion of disposable income is now higher than before the housing price crash of 1987–1992. The debt burden is particularly high among young households, although a low interest rate means that the interest burden currently remains relatively modest.

The financial crisis illustrates that closely integrated economies also are vulnerable. Economic turmoil and setbacks can spread more quickly and with greater force. International cooperation is required to secure the benefits of globalisation and reduce the risk of negative spill-overs from economic setbacks. There is a particular need for better regulation of the financial sector.

In addition, economic policy should aim at reducing imbalances and strengthening the economy's ability to absorb shocks. At the





**Figure 4 House prices and the financial position of households in Norway**

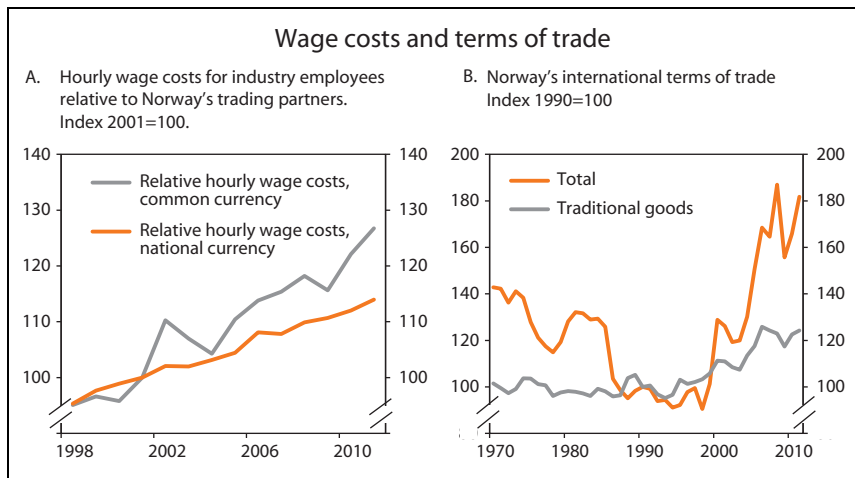
<sup>1</sup> Capital expenditures net of tax as a share of disposable income plus capital expenditures.

<sup>2</sup> Gross debt as a share of disposable income.

Sources: Statistics Norway and Ministry of Finance.

same time, households, companies and public administration must be prepared to deal with setbacks. Fiscal policy should allow automatic stabilisers to work fully. This requires adequate reserves. Labour market institutions must support the restructuring of firms and industries. Income policy cooperation is a key aspect of Norwegian economic policy. Norway's model for wage negotiation is based on the principle that wage growth over time should be kept within the limits set by businesses exposed to international competition. This underpins high employment, low unemployment and solidity in the balance of payments.

Wage growth has been high in Norway for several years, see figure 5. Unless Norway's productivity growth exceeds that of other countries or the economy profits from lasting gains in the terms of trade, wage growth in industries exposed to international competition must over time mirror wage growth among Norway's trading part-



**Figure 5 Wage costs and the terms of trade**

Sources: The Norwegian Technical Calculation Committee for Wage Settlements and Statistics Norway.

ners, measured in a common currency. Since the end of the 1990s Norway has enjoyed considerable terms-of-trade gains, partly due to higher oil price, but also because of developments in import and other export prices. Productivity growth was relatively high initially in this period, but has slowed the last years, as in many other countries. Sustained high wage growth in Norway in recent years is therefore strongly linked to the gains in the terms of trade. As such gains can quickly be reversed, the Norwegian economy is vulnerable to weaker raw material prices, and to a drop in the oil price in particular.

The petroleum industry has had a major effect on the development of production and employment for the last 40 years. The expansion of the petroleum industry has given Norway a large, profitable industry with effects on the mainland economy in the form of activity and business development. The petroleum industry has also provided the public sector with huge revenues. However, the importance of the industry will diminish as the petroleum resources are gradually

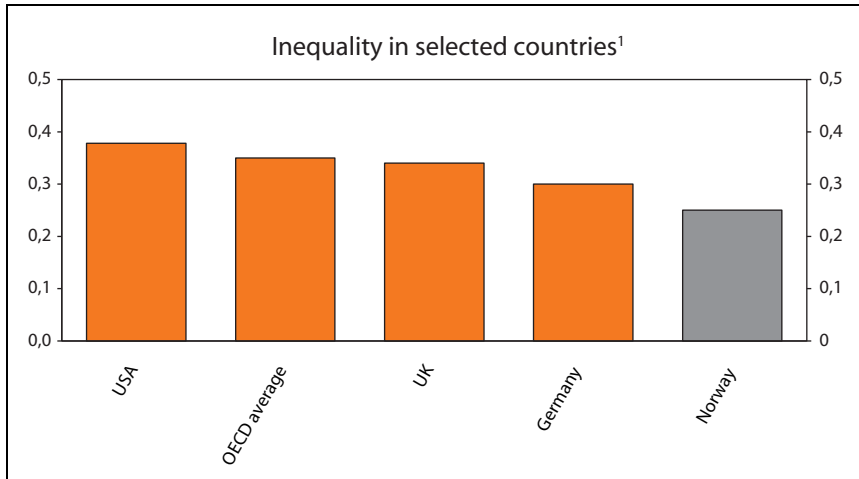
exhausted, although there is great uncertainty about when and how quickly this will occur. Reduced activity in the petroleum sector will, over time, contribute negatively to growth in domestic demand, after positive contributions for over 40 years.

When the petroleum industry begins to downscale, Norway will need other competitive industries. The supplier industry is already delivering goods and services to petroleum activity abroad. If reduced demand from the Norwegian continental shelf is replaced with foreign demand, the costs of restructuring will be mitigated. It may nevertheless be difficult to achieve the necessary restructuring of labour and capital without a period of reduced resource utilisation and higher unemployment. This restructuring may be even more challenging in the event of a sharp drop in the oil price that reduces activity not only on the Norwegian continental shelf, but also in corresponding industries abroad.

### **Income distribution and quality of life**

Along with rising prosperity levels, the development of a public social safety net has been vital in combating the poverty and insecurity that were widespread in Norway a few generations back. Today, incomes are distributed more evenly in Norway than in most other countries, see figure 6. Also income mobility from one generation to the next is higher. Explanations for this include relatively small wage differences, high employment and low unemployment, and tax and transfer systems that redistribute income. Equal opportunities are promoted through considerable public investment in, for example, day-care facilities, schools, and higher education. Free or publicly subsidised services also help to even out consumption opportunities. Universal income-protection systems and a broad range of public services reduce the risks associated with illness, disability and unemployment.

A sound tax system provides funding for welfare services and transfer schemes while maintaining the economy's capacity for growth. Norway's tax system plays an important redistributive role, as



**Figure 6** Gini coefficients. 2008 or most recent available years. Based on disposable household income after tax and transfers

<sup>1</sup> Inequality is measured using the Gini coefficient, a frequently used measure of the degree of income inequality in a country. If everyone has the same income, the Gini coefficient will be 0, while it will be 1 if only one person or household receives all income in the society. The OECD average is population-weighted.

Source: OECD.

it facilitates the provision of broad, sound welfare services and income-protection schemes. Direct redistribution through the tax system has also been strengthened through the tax reform in 2006.

OECD countries are giving increased attention to the combination of equal distribution, high economic growth and low unemployment. While the financial crisis and its aftermath have increased income inequality in many countries, income distribution in Norway has been relatively stable. One important explanation is that unemployment has remained low. This demonstrates how important broad participation in the labour market is for reducing inequality in income. Tax and benefit schemes should therefore be designed to give economic

incentives for work. Work is not only important for economic growth and the sustainability of public finances. It is also the most important factor in preventing poverty and social exclusion.

Although Norway does not have poverty by a global standard, it can be difficult to have noticeably less than others. Income level, health, life expectancy, education and family circumstances appear to have a mutually reinforcing effect. The small minority that falls through the safety nets also needs to be lifted. People with an immigrant background are overrepresented among those with persistently low incomes, and high immigration has meant that the number of low-income households remains unchanged. This underlines the importance of helping everyone participate in the labour market.

Large inequalities can reduce support for a model with broad, tax-funded welfare schemes. Common welfare solutions must be based on the principle that all inhabitants benefit from taxes paid.

A high material standard of living is not sufficient for a high quality of life. Health, job participation, education, the environment, family and social relationships, culture, safety and democratic rights are also important factors. At the same time, there is a strong correlation between income level and different measures of quality of life, both within and between countries. Some of these factors can be difficult to measure. Norway and other countries compile comprehensive statistics to shed light on different aspects of quality of life. Norway generally ranks highly in such measures.

## **Development within a sustainable framework**

Production and consumption use natural resources and energy. Economic activity may also impose a burden on the environment and reduce biological diversity. Greenhouse gas emissions contribute to global warming, and other emissions to air, water and earth can carry large local or regional costs. Some costs can be reduced by increasing investment in productive capital and knowledge. In other cases, it is necessary to limit the damaging activity.

Most industrialised nations have made substantial progress in solving national and regional environmental problems. The interna-

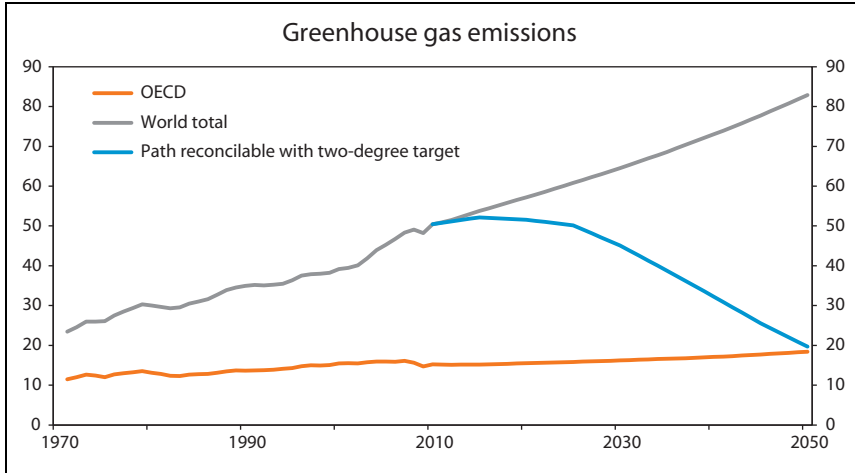
tional community, on the other hand, has not resolved the global environmental problems. Plants and animals are becoming extinct far more quickly than expected from historical extinction rates. Emissions of environmental toxins are being absorbed into ecosystems, also in other locations than where the emissions occur. Efforts are being made at both national and international level to limit the spread of environmental toxins and stop the loss of biological diversity.

The climate challenge is a special case. Greenhouse gas emissions are closely linked to economic activity, and the consequences of climate change are both serious and intractable. Most countries have agreed that global warming should be limited to less than two degrees. Nevertheless, countries have thus far been unwilling to sign binding, comprehensive agreements to ensure sufficient emissions cuts. Future growth in greenhouse gas emissions is expected to occur in emerging economies and developing countries. If the challenge of climate change is to be overcome, emissions must gradually be reduced in all parts of the world.

Norway's climate policy is based on the agreement reached by most of the political parties represented in the Storting (the Norwegian parliament), and envisages use of a broad range of tools to reduce national emissions. The objective is the long-term restructuring of Norway into a low-emission society. The Government will strengthen the use of national measures to achieve this goal. In addition, Norway will also have to adapt to the climate changes that may occur in any event.

To succeed in keeping global warming below the two degree target, a price must be set for large parts of global greenhouse gas emissions. This will help to reorient consumption and production in a sustainable direction. Pricing of emissions will be the most important instrument for combating global climate change. It is also Norway's most important national measure for cutting emissions. Emission prices must increase substantially the next decades to reach the two degree target.

As of 2013, around 80 per cent of all emissions in Norway are subject to quotas or taxation. Norway is also contributing to considerable emissions cuts in developing countries. New technology is necessary to solve the climate challenge, and emissions pricing is particularly important for ensuring the use of new technology. As the location of emissions is unim-



**Figure 7 Global greenhouse gas emissions. Billions of tonnes of CO<sub>2</sub> equivalents**

Sources: OECD, IEA and Ministry of Finance.

portant from an overall climate perspective, emissions should be reduced where cuts are cheapest to make. The costs of investing in energy efficiency, renewable energy production and technology development may be large, but the costs of inaction may be even larger.

### **Welfare systems challenged by an aging population**

In Norway, public sector expenditure today equals approximately half of GDP. This is twice as much as 50 years ago, while the level was just 10 per cent of GDP a century earlier. The composition of public expenditure has also changed over time. New public services have been added, and transfers to households have risen substantially.

All modern societies finance public goods like defence, police, the judicial system and public administration through direct and indirect taxes. In Norway, this is also largely true of individual services such as education, health and care. In addition, the pensions and benefits

provided by the National Insurance Scheme as income protection in the event of unemployment, illness, disability, and retirement are also financed by taxes.

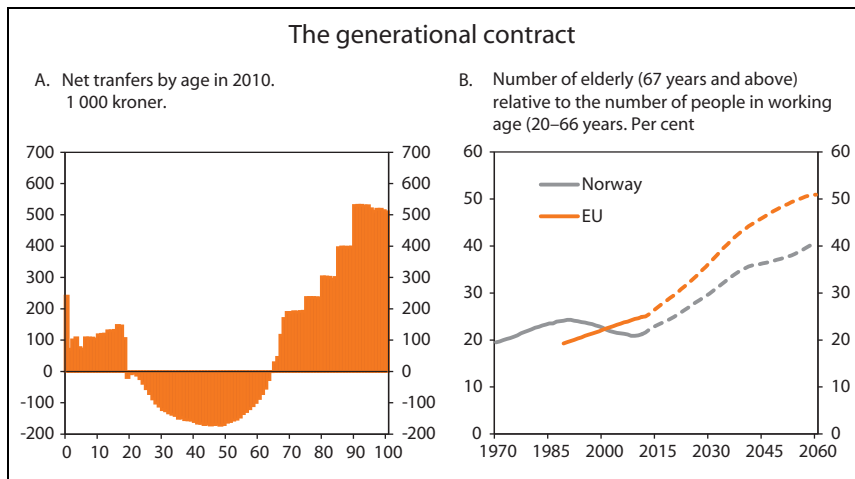
The ambition of the Norwegian welfare model is to give everyone equal access to income protection and basic welfare services. These tax-financed schemes constitute a system of transfers both between individuals and over an individual's lifetime. On average, children, youth and older individuals receive more from the public purse than they pay in, as the welfare system is primarily funded by the working-age population. This dependence constitutes an unwritten contract between the generations that in the Norwegian social model applies to all of society, not just within individual families.

As expenditure and income vary so strongly with age, changes in the age profile of the Norwegian population will have a major impact on public finances. Life expectancy at birth has risen by more than two years per decade for the last 100 years, and is expected to continue rising until the end of this century. As a result, the Norwegian population is aging, even though birth rates are higher in Norway than in many other western nations. In the last 20 years, this aging factor has been outweighed by large cohorts born after World War II and small pre-war cohorts, which have ensured a growing number of working-age persons per pensioner. However, the baby boomers born after the war are now reaching retirement age, and the number of persons over 67 per individual in working age may be almost doubled in the next 50 years, cf. figure 8.

If the proportion of the population participating in the labour market is reduced, the pressure on public finances will increase and the generational contract will become harder to uphold. Pension expenditure will increase strongly in the years ahead, and health and care expenditure will gradually follow suit. There will also be a need for more employees in the health and care sector.

This presents a challenge to public finances. The fiscal policy guidelines comprise a fiscal rule for the use of petroleum revenue, inter alia to ensure that the return on the Government Pension Fund Global makes a permanent contribution to the financing of public welfare services. The size of the Fund will gradually stabilise, while eco-





**Figure 8** Net transfers from the general government and the number of older persons in the population relative to those in working age

Sources: Eurostat, Statistics Norway and Ministry of Finance.

conomic growth is expected to continue. As a result, the Fund's financial contribution as a proportion of Mainland GDP will gradually diminish.

The fiscal challenges may be amplified by expectations and wishes to expand the quality and range of public services. Demand for services provided by the public may increase as incomes rise. Examples in this regard include education, health and care services. When services cost users little or are provided free of charge, there are few limitations on demand.

The White Paper on *Long-term Perspectives for the Norwegian Economy 2013* provides estimates of what is required to sustain today's welfare systems for the next 50 years. Addendum 1 gives a short overview of the macroeconomic projections, with particular emphasis on the role of labour input. The calculations indicate that continuation of the present welfare schemes will entail growth in age-related expenditure beyond the growth in tax revenues and returns on the Government Pension Fund Global. The fiscal shortfall will rise to about 6 per cent of

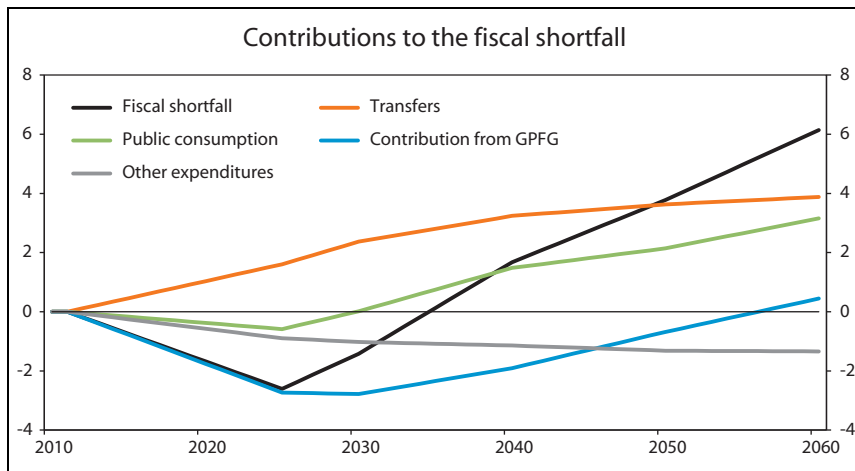


Figure 9 Contributions to the fiscal shortfall in the reference scenario. Change compared to the level in 2011. Per cent of GDP for Mainland Norway

Source: Ministry of Finance.

mainland GDP by 2060, provided that the use of petroleum revenues follows the fiscal rule and unless labour supply increases in line with life expectancy. To cover the shortfall in 2060, Norway must either increase public sector income or identify sufficient savings that do not undermine the most important welfare systems. Figure 9 shows the factors driving this development and the resulting fiscal shortfall. The shortfall is technically illustrated by the continuous change in the tax level that is necessary to finance concurrent expenditures.

The estimates are uncertain. They depend upon the underlying assumptions, and circumstances beyond political control may have a major effect on developments. However, the main conclusions are robust to reasonable variations in the underlying assumptions.

High petroleum prices and high returns in international capital markets increase Norway's disposable income, but also contribute positively to public finances. Petroleum prices directly affect the State's net cash

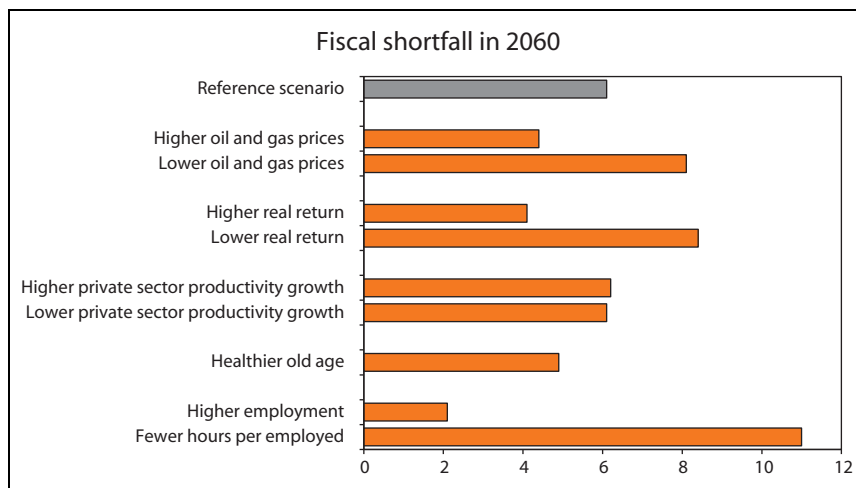


Figure 10 Different scenarios for the fiscal shortfall in 2060. Per cent of GDP for Mainland Norway

Source: Ministry of Finance.

flow from the petroleum sector which is set aside in the Government Pension Fund Global. The returns on the Fund are determined in international capital markets. Norway's current high level of oil and gas production, together with the size of the Fund, makes the prices on petroleum and capital highly significant for the development of the financial contributions from the Fund, and thus for future public finances. Figure 10 illustrates the effect of an increase or decrease in petroleum prices by 25 per cent, relative to the baseline price of NOK 525 per barrel of oil, measured in 2013-prices. The figure also illustrates a return on the Fund of one percentage point above or below the reference scenario.

Higher productivity growth in the private sector increases overall prosperity and strengthens the economic foundation for funding public welfare benefits. However, it does not in itself contribute to better public finances. Higher productivity results in a higher wage level. This raises tax revenue, but also entails higher expenditures on

wages, pensions and other transfers. On the other hand, higher productivity growth in the public sector creates leeway that can be used to strengthen public finances. If Norway succeeds in improving resource utilisation in the public sector by  $\frac{1}{4}$  per cent per year, the fiscal shortfall in 2060 will be reduced by approximately  $3\frac{3}{4}$  per cent of Mainland GDP. However, public sector productivity is difficult to measure, and consequently also to manage.

Rising life expectancy will hopefully mean an older population with better health, but may also entail longer periods of chronic illnesses such as dementia and muscular impairment. If the population's health at different age levels improves, it could reduce the need for care services and ease the challenge to public finances. The figure shows an alternative where the health of older people gradually improves in line with higher life expectancy. The coverage of care services of the age group 74–89 years is therefore reduced.

Labour supply developments are paramount to public finances. Tax on labour is an essential source of revenue. Higher employment will therefore expand tax bases and significantly bolster revenues. The figure shows the effect of an increase in labour supply in line with Statistics Norway's calculations of the potential long-term effects of the pension reform. Given the other assumptions underpinning the reference scenario, such an increase will cover most of the fiscal shortfall. If increased labour supply decreases reliance on public benefits, there will be a double fiscal dividend, as expenditures also go down. The calculations do not take into account any such reductions in outlays.

On the other hand, a shorter average working day has the same effect as a drop in employment. The figure illustrates the effect of a continued decline in the length of average working hours, in line with the developments seen in the past 20 years. In 2060, labour input will then be more than 10 per cent lower than in the reference scenario, and the fiscal shortfall will almost double. A longer average working day, however, would give a similar boost to public finances as higher employment.

The sustainability of public finance cannot be based on hopes of high petroleum prices and high returns on the Government Pension Fund Global, or on hopes that rising life expectancy will also result in a healthier older population. The supply of labour may, however, be influenced by

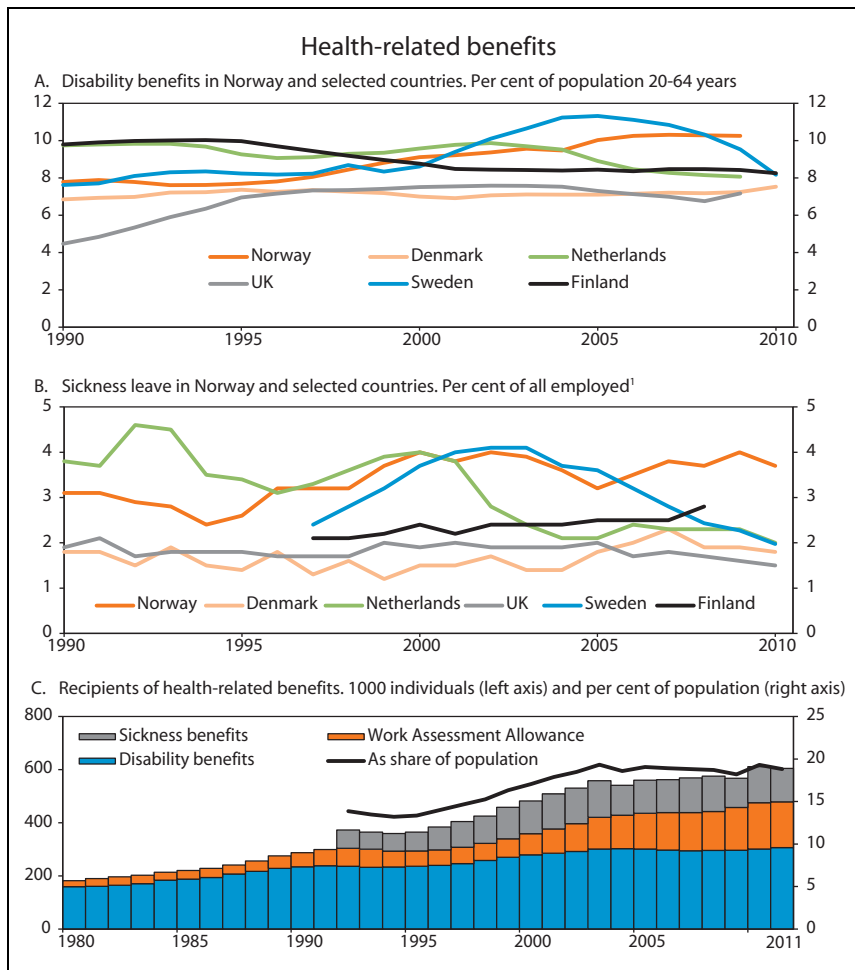
policy. Policies for *promoting employment* should therefore be the principal strategy for addressing future fiscal challenges. High labour supply is a prerequisite for maintaining and further developing the welfare state.

### **Challenges and options for the preservation of Norway's welfare state**

Norway's fiscal policy must manage the income from oil and gas in a manner that both contributes to a permanent increase in the national welfare and helps to dampen short-term economic fluctuations. To achieve these aims, the mainland economy should be sheltered from large fluctuations in petroleum sector revenues. Both saving and stabilisation considerations call for a distinction between the earning and use of oil revenue. The Government Pension Fund Global and the fiscal rule for the use of petroleum revenue make this possible, cf. addendum 2. By exchanging large, but temporary, revenue streams from petroleum production for a permanent return from the Fund, the fiscal framework ensures that Norway's oil wealth also will benefit future generations. Compliance with the fiscal rule thus plays a crucial role in addressing the challenges inherent in the non-renewable nature of petroleum resources.

The fiscal rule over time envisages a sustainable increase in the spending of petroleum revenue. However, the rule does not by itself guarantee that the current Norwegian welfare schemes are sustainable. When public pension and healthcare expenditures increase as a proportion of GDP, other expenditures must be reduced or public revenue must be increased.

If people live longer, it may be reasonable also to work longer. Over time, it is not possible to preserve a welfare system where an increasing share of the population receives more than they contribute. Exit from the labour force must be postponed as life expectancy increases. Total labour input will also increase if the labour force is expanded or average working hours increased. If, on the other hand, the trend towards shorter working hours continues as prosperity rises, it will be very difficult to maintain present welfare systems.



**Figure 11 The use of health-related benefits**

<sup>1</sup> The share of employed in working age (15-74 years) who were absent from work the entire sample week because of illness.

<sup>2</sup> Comparable numbers for sickness benefits are not available before 1992.

Sources: The Norwegian Labour and Welfare Administration, OECD, and Statistics Norway.

A larger share of the adult population receives health-related cash benefits from the public sector in Norway than in other countries, see figure 11. Helping the recipients for benefits to participate in the labour force is therefore particularly important. This is the aim of Norway's pension reform, disability reform and inclusive working life efforts. Further measures to postpone retirement, lengthen average working hours and contribute to the widest possible inclusion of immigrants and other vulnerable groups are clear priorities for further work in this area. The Government's aim is to promote a labour market in which everyone can participate. Labour market policy therefore emphasise close follow-up, activation and other measures to ease the transition into employment.

In the next 10-15 years, before age-related expenditures increase sharply, higher public savings can help support the sustainability of the Norwegian welfare state. However, since the most important driving force behind the long-term public finance challenges is a permanent increase in life expectancy, a temporary increase in savings can only be part of the answer.

Efficient use of resources in the public sector is necessary to contribute to sustainable public finances and support the growth potential of the economy. New technology can make an important contribution by improving the efficiency of services.

Higher and more widespread user fees may be an instrument for identifying the priorities of the population. When services are free or generously subsidised, demand no longer provides reliable information on how important services are to their users. Higher user charges can help, and will also generate increased revenue. At the same time, large increases in user charges can have highly undesirable effects in terms of redistribution. If low-income groups are to be protected against user charges, the systems may become complicated and expensive to administer, and weaken labour supply incentives.

Tax revenue from Mainland Norway amounts to just under NOK 950 billion, or more than 45 per cent of Mainland GDP. Tax revenue is the most important source of funding the welfare benefits. Norway has a higher level of direct and indirect taxation than the OECD average. However, broad tax bases that identify actual income allow different enterprises and investments to be treated equally, so that tax rates

can be kept lower than otherwise possible. This promotes profitable investments and the growth potential of the Norwegian economy. Broad tax bases are also crucial for the tax system to have the desired effects on income distribution.

Many countries are currently battling low growth, high debts, large public deficits, and increasing inequality. Recent developments in Europe illustrate that a failure to ensure sustainable public finances can result in more inequality and painful restructuring. Even though high petroleum revenues give Norway greater leeway than most other countries, there are no guarantees for continued high incomes and low unemployment. Many countries have ended up in financial difficulties due to poor management of income from extensive natural resources. The importance of solid institutions and responsible economic policy must not be underestimated.

The phasing-in of petroleum revenue and growth in the working-age population have boosted the Norwegian economy significantly. These factors will gradually diminish over the next few decades. The key to a continued positive economic development is to make necessary adjustments while maintaining the core of the Norwegian social model. The most important thing is to facilitate the proper use of labour. High labour force participation in Norway is both a product of the Norwegian social model and a prerequisite for its continued existence.



### **Addendum 1 Projections show that labour supply is paramount for fiscal sustainability**

Can Norway sustain its current welfare benefits in the coming decades together with the present labour market behaviour? This question is the starting point for the reference scenario in *Long-term Perspectives on the Norwegian economy 2013*. Together with the other forecasts in the report, it illuminates the challenges and opportunities faced by the Norwegian economy towards 2060. However, the forecasts are neither a prognosis for the development of public finances, nor do they express the Government's policy targets.

In the reference scenario, the current standard of welfare benefits is maintained. Life expectancy and demographic trends are based on the middle alternative in the population forecasts prepared by Statistics Norway. Current labour market participation is continued for different groups defined by age, gender and immigrant background, and average hours worked per employed person is kept unchanged. In coming years, total labour force participation will decline due to the expansion of the group approaching retirement age relative to the rest of the working-age population. An expected increase in the proportion of the population with an immigrant background from poor nations underpins this trend.

The pension reform is intended to boost labour supply. However, the reference scenario does not explicitly incorporate any effects of the pension reform on labour supply. The reasons for this are that it is too early to assess the concrete effects of the pension reform and that many effects will develop gradually. At the same time, the assumption that the length of average working hours will remain unchanged is optimistic compared to the downward trend in recent decades. It is conceivable that workers will continue to want to take out part the general growth in productivity and income growth in the form of increased leisure time. The labour supply in the reference scenario lies close to an alternative under which increased employment as a result of the pension reform interacts with a continued decrease in the length of average working hours in line with the post-1990 trend.

The reference scenario shows that public expenditures will increase sharply in the longer term. Over time, revenues must be increased or expenditures must be cut to secure the sustainability of public finances, assuming that petroleum revenue is used in line with the fiscal rule. It is estimated that the fiscal shortfall will rise to about 6 per cent of Mainland Norway GDP by 2060 unless labour supply increases with rising life expectancy. In the reference scenario, the fiscal shortfall is illustrated technically by increasing the tax level.

Labour supply is particularly important for the sustainability of Norway's welfare systems. An alternative way of illustrating the fiscal shortfall is to present it as the necessary change in labour input. Increased labour input will increase the size of the tax base and corresponding revenues for given tax rates. A calculation of this kind is shown in figure 12. The calculation demonstrates how higher employment produces higher tax revenue and thus helps to balance public budgets, but does not take into account the potential effects of increased employment on social security expenditure. If higher employment also reduces the number of benefit recipients, and thus social security expenditure, the calculation will overestimate the need for higher labour input.

According to these calculations, the number of man-hours per capita in the age group 15–74 years must increase from 1,014 in 2011 to 1,070 in 2060 if the fiscal policy rule is to be followed. Accordingly, in 2060, the average number of hours worked will be the same as in the first half of the 1970s, and lie some 5½ per cent above the 2011 level.

In the reference scenario, labour force participation by different groups in the population is assumed to remain fixed over time. However, increasing life expectancy indicates lower labour input per capita in the years ahead. Labour input per capita in the age group 15–74 years will thus fall to 950 hours in 2060, as the proportion of older people increases. Compared to this level, labour input must increase by 12½ per cent by 2060 to balance public budgets.

The required increase in labour input may come about via a rise in the proportion of the population participating in working life, or via longer average working hours. If the average number of hours worked per employed remains unchanged, the proportion of employed persons

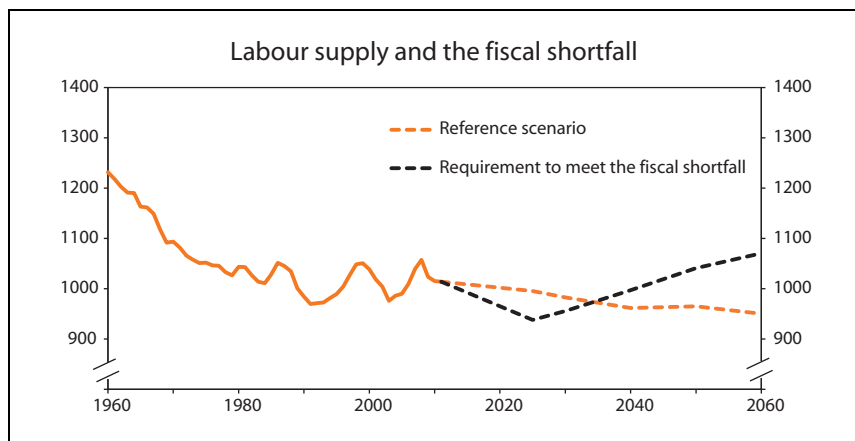


Figure 12 Number of hours worked per capita in the age group 15–74 years. Reference scenario and a scenario that covers the fiscal shortfall

Sources: Statistics Norway and Ministry of Finance.

in the age group 15–74 years must increase from the current level of  $71\frac{1}{2}$  per cent to  $75\frac{1}{2}$  per cent in 2060. This is  $8\frac{1}{4}$  percentage points higher than the level assumed for the reference scenario. Alternatively, the average number of hours worked per employed person could be increased by  $11\frac{1}{2}$  per cent, from 1,430 hours in 2011 to 1,595 hours in 2060. By comparison, the average annual number of hours worked in a full-time position was around 1,625 hours in 2011.

Norway has high labour force participation compared to other countries. Iceland is one of very few countries with a higher proportion of people engaged in work than Norway. If the proportion in each age group participating in labour force in Norway were to rise to the same level as in Iceland, the number of hours worked per person in the age group 15–74 years would rise from 1,014 hours to 1,120 hours in 2011. If this labour force participation were to continue in coming decades, it would provide most of what is needed to balance public budgets in 2060.

While labour force participation is high, average working hours in Norway is among the shortest in the OECD. Since 1970, average

working hours has shrunk by some 20 per cent. This drop has been much sharper in Norway than, for example, Sweden, Denmark and Finland. In Sweden, the average number of hours worked in 2011 is estimated at almost 1,650, even though labour force participation is at the same level as in Norway. If Norway's average working day were to be lengthened to match Sweden's, this would be more than sufficient to balance public budgets in 2060.

Longer lives and better health results in population aging, but also improves the opportunities to stay longer in the workforce. According to population forecasts prepared by Statistics Norway, a child born in 2060 will have a life expectancy that is some six years, or 7.7 per cent, longer than that of a child born in 2011. If labour input in 2060 rises as much as life expectancy in percentage terms, it will account for almost two-thirds of the increase needed to balance public budgets. This can be achieved by postponing exit from the labour force or by working more hours on average during one's working life.

## Addendum 2 Norway's fiscal framework

Norway's petroleum industry presents particular challenges for fiscal policy in ensuring a stable economic development. The public revenues from petroleum are large, vary considerably from year to year, and will be depleted over time. Many countries have found that temporary large revenues from natural resource exploitation produce relatively short-lived booms that are followed by difficult adjustments as production and revenues diminish. Moreover, income from non-renewable resources like oil and gas should also benefit future generations.

The Government Pension Fund Global and the fiscal rule for the use of oil revenue address these challenges, and are designed to support a stable development of the Norwegian economy in both the short and long term. The Government Pension Fund Act stipulates the transfer of the State's net cash flow from petroleum industry to the Government Pension Fund Global. The fiscal rule specifies that the transfers from the Fund to the central government budget shall, over time, reflect the expected real return on the Fund, which is estimated at 4 per cent. This framework delinks the earning and use of petroleum revenue, reducing the costs of future restructuring and the risk of a sharp decline in industries exposed to international competition.

The fiscal rule was presented in the White Paper *Guidelines for Economic Policy* (Report No. 29 (2000–2001) to the Storting), and received the support of a broad parliamentary majority. The White Paper pointed out that the question was not *whether* more petroleum revenue should be used in public budgets, but rather *when* and *how quickly* this should happen. The fiscal rule envisages a gradual increase in the use of this revenue, but also ensures that it will benefit future generations.

The fiscal rule is a long-term guide for the use of the money in the Government Pension Fund Global. It also puts emphasis on evening out economic fluctuations to contribute to good capacity utilisation and low unemployment. Several mechanisms have an effect in this regard.

The fiscal rule allows automatic stabilisers to play out fully. Accordingly, the yearly use of petroleum revenue is measured using the

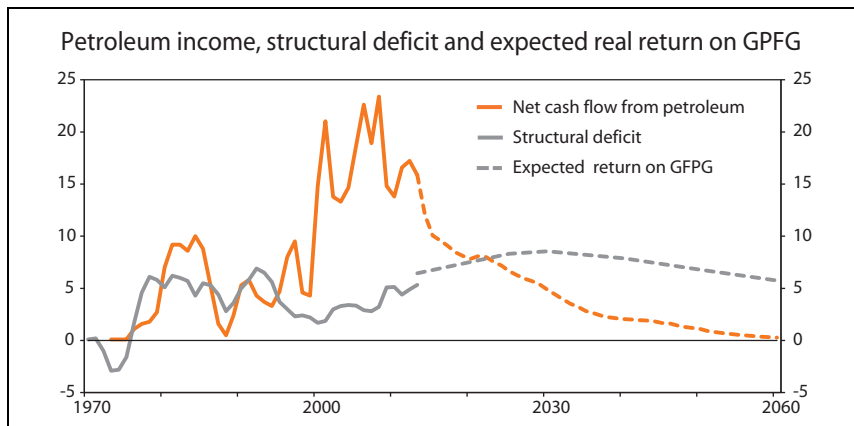


Figure 13 The State's net cash flow from the petroleum sector, the structural, non-oil deficit and expected real return from the Government Pension Fund Global. Per cent of trend-GDP for Mainland Norway

Sources: Ministry of Finance and Statistics Norway.

*structural* non-oil deficit, not the actual non-oil deficit. The structural non-oil deficit is corrected for fluctuations in the business cycle and other temporary changes in public expenditure and income. This means that the transfers from the Fund to the budget may be higher than the expected return on the Fund during a downturn, and lower during an upturn. The automatic stabilisers in the budget are estimated to be stronger in Norway than in many other countries due to Norway's well-developed welfare systems.

The spending rule also allows budget policy to be used actively to stabilise production and employment. However, experience indicates that fiscal policy has a limited capacity for fine-tuning of the business cycle. Since 2001, monetary policy has been the first line of defence in the policies for economic stabilisation.

Together, the fiscal rule and the Government Pension Fund Global comprise a fiscal framework that insulates the fiscal budget from fluctuations in petroleum revenue, stemming either from volatile oil and gas prices or from changing production or investments

in the petroleum sector. Through the Fund, a large proportion of the State's oil and gas income is invested in other countries. Investing foreign exchange earnings abroad protects the krone against the large, varying foreign exchange earnings generated by the petroleum industry. The fiscal policy framework thus supports Norway's monetary policy, and lays a foundation for more stable expectations in the currency market.

Following a decline in the second half of the 1990s, the use of petroleum revenue has increased again in the last 10 years, see figure 13. Nevertheless, measured as a share of trend-GDP for Mainland Norway, the level remains lower now than in the 1980s and early 1990s. The figure also shows how the spending rule helps Norway to convert substantial, yet temporary and fluctuating income from the petroleum industry into more stable spending over public budgets. Norway has managed the most intensive harvesting phase fairly successfully. The contribution of Fund returns to the national budget as a proportion of mainland GDP is expected to increase slightly in the next 15 years, and then peak. The proportion will then fall gradually as flows into the Fund diminish and the mainland economy continues to grow.

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