

## Svein Gjedrem: Petroleum and the Norwegian economy

Speech by Mr Svein Gjedrem, Governor of Norges Bank (Central Bank of Norway), at the Alfred Berg ABN AMRO's Nordic Energy Conference, Oslo, 30 August 2005.

*The speech does not contain assessments of the economic situation or current interest rate setting. Please note that the text below may differ slightly from the actual presentation.*

The references and the  [Charts in pdf-format](#) can also be found on the website of the Norges Bank.

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Let me start by reminding you of the importance of the petroleum sector to the Norwegian economy. In 2004, it accounted for 20 per cent of total GDP and almost half of Norway's total exports. Due to spillover effects, investment in the petroleum sector affects the activity level both offshore and in mainland Norway.

Oil gives us an economic base that is not available to many other countries. But it also presents us with considerable challenges.

Our petroleum resources are part of our national wealth. When oil is extracted and sold, natural assets are transformed into financial wealth. Norway's national wealth belongs not only to our generation, but also to future generations, and government policy takes this into account. When exercising fiscal discipline, the Norwegian authorities are seeking to ensure that our petroleum wealth is distributed equitably across generations.

Second, the size of the cash flow from petroleum activities varies. Considerable fluctuations in demand in the Norwegian economy, which amplify cyclical fluctuations, would be the result if petroleum revenues were to be used as they accrue.

Third, the use of petroleum revenues has an impact on competitiveness in Norwegian business and industry. A high level and substantial variations in the use of petroleum revenues would have a negative impact on internationally exposed industries.

The establishment of the Government Petroleum Fund and the guidelines for the use of petroleum revenues are intended to meet these challenges.<sup>1</sup> The Petroleum Fund serves as a buffer between current petroleum revenues and the use of these revenues in the Norwegian economy. In this way, the economy is shielded from fluctuations in prices and extraction rates in the petroleum sector. Petroleum revenues may be gradually phased into the Norwegian economy.

The Fund is also a savings fund that allows petroleum wealth to be distributed across generations. The objectives are best achieved by investing the Petroleum Fund outside the Norwegian economy. The Act relating to the Government Petroleum Fund stipulates that all central government revenues from petroleum operations shall be transferred to the Petroleum Fund and that the Fund's capital may only be spent over the central government budget. The Act prohibits using the Fund's capital in any other way.

Once a year, the government authorities decide in accordance with the Act how much of the Fund may reasonably be used. All use of central government funds is thus subject to the same assessment and alternative uses must be weighed against one another. The background material for the Act relating to the Petroleum Fund clearly indicates that the Fund shall not be a second central government budget and, by implication, shall not be used for investment or spending that have not received priority in the budget.

The chart shows the share of the central government's annual net cash flow from petroleum activities that has been transferred from the Fund to the fiscal budget. Since 1996, a considerable portion of the petroleum revenues has been retained in the Fund. In 2000 and 2001, there were almost no transfers from the Fund to the fiscal budget while in the past two years the share transferred to the fiscal budget represented about one-third of the cash flow.

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<sup>1</sup> See Act relating to the Government Petroleum Fund, adopted on 22 June 1990 and amended by Act no. 2 of 16 January 2004.

The Petroleum Fund has become large. At the end of the second quarter of 2005, the market value of the Petroleum Fund's portfolio was nearly NOK 1 200 billion or approximately EUR 150 billion, or roughly 65 per cent of GDP.

The Ministry of Finance has defined a clear mandate for Norges Bank's management of the Petroleum Fund. Norges Bank shall seek to achieve an excess return in relation to a benchmark portfolio by means of active management within a certain risk limit.

The chart shows developments in both the average annual net real return and the real return without the contribution from active management.

Returns have fluctuated considerably since the Petroleum Fund made its first investments in equity markets in 1998.

Since 1998, the first whole year the Petroleum Fund invested in equities, the annual excess return from active management has been close to half a percentage point. The corresponding krone amount is about NOK 18 billion.

Petroleum revenues generally involve substantial, but uneven currency inflows into Norway. The currency flows might have resulted in a strong krone and large variations in the exchange rate.

The Petroleum Fund acts as a buffer and dampens the wide fluctuations in the krone exchange rate that petroleum revenues might otherwise have generated. An increase in petroleum revenues will result in higher capital outflows from the Petroleum Fund. Operators in the foreign exchange market may at times have a tendency to underestimate the Fund's function as a stabilisation mechanism. The capital outflows through the Fund contribute to both curbing the appreciation of the krone and maintaining its stability.

Since the summer of 2004, the krone exchange rate has appreciated by about 5 per cent, as measured by the trade-weighted exchange rate index (TWI).

The chart shows the krone exchange rate and oil spot prices from 1999. The chart indicates that there is no clear relationship between the nominal exchange rate and oil spot prices over time. An appreciation of the krone has accompanied higher oil prices in some periods and lower oil prices in others.

The correlation between oil prices and the nominal exchange rate has therefore varied over time. However, since the introduction of the inflation target in March 2001, the average correlation has been about zero. This is a remarkable result and may indicate that the Petroleum Fund has shielded the nominal exchange rate from movements in oil prices. Therefore, there is cause for some optimism regarding the possibilities of isolating the mainland economy from variable oil prices in the short and medium run. In the long run, however, we cannot insulate the real exchange rate from developments in the petroleum sector or the use of petroleum revenues. I will return to this later.

An increase in oil prices may nevertheless generate expectations of increased petroleum revenue spending ahead, particularly if high oil prices are assumed to persist. Such expectations may exert appreciation pressures on the krone. The chart shows that future oil prices 6-7 years ahead have increased more than spot prices since January 2004. This sharp rise may help to explain some of the appreciation over the past year. In addition, there may be expectations that developments will be more favourable in the Norwegian stock market than in foreign markets when oil prices rise. This may also have contributed to strengthening the krone.

However, when estimating the future value of the Petroleum Fund, the expected decline in the level of production on the Norwegian continental shelf should also be taken into account. In addition, there has been a tendency lately to overestimate production when looking a few years ahead.

Investment in the petroleum sector is an important source of business cycle fluctuations in Norway. Investment rose sharply in the 1970s and 1980s and reached a peak in 1998. Mainly as a result of persistently high oil prices and expectations that oil prices will remain high, investment in the Norwegian petroleum sector may again reach record levels this year. Norges Bank's regional network currently reports a very high level of activity among suppliers to the petroleum industry.

However, investment may decline as large development projects like Ormen Lange, Kristin and Snøhvit near completion. It is uncertain how sharp the fall will be, but today's high level of exploration activity and a long period of high oil prices imply that petroleum investment will remain high in the years ahead.

Investment in the petroleum sector has spillover effects on the mainland economy, initially on the engineering industry and the construction sector. Looking forward, the scale of petroleum investment and its spillover effects are highly uncertain. The last time petroleum investment showed a sharp increase, in 1997/1998, growth was substantially stronger than had been assumed. An upturn occurred in the Norwegian economy as a whole at the same time. The unexpected increase in petroleum investment contributed to an economic upturn that was substantially stronger than projected. If oil prices rise further or remain at the current high level for a long period, petroleum investment may again amplify the cyclical upturn to a greater extent than projected.

Let me now return to the framework for economic policy in Norway. The Storting (Norwegian parliament) has approved a fiscal guideline for the use of petroleum revenues. It states that, in general, petroleum revenue spending shall be limited to 4 per cent, or the expected annual real return on the Petroleum Fund over time. This fiscal rule shall ensure that the use of revenues in the Norwegian economy is at a level that can be sustained over time.

The usefulness of a fiscal guideline is that it gives weight to long-term considerations when addressing day-to-day economic policy challenges. The fiscal rule stabilises enterprises' expectations concerning competitiveness and the krone exchange rate, thus preventing abrupt and pronounced swings in the structure of the economy. If the government authorities disregard the rule, enterprises will lose an important reference. A policy rule can make matters worse if economic agents have drawn up long-term plans on a faulty basis.

The fiscal rule for the budget states that the government can use 4 per cent of the Fund over time. This year, around 6 per cent of the Fund is being used. The deviation partly reflects an unexpected shortfall in tax revenues from the non-oil economy in recent years. The government budget deficit is the difference between total revenues and total expenditure. They each account for about half of total GDP in Norway. Even small deviations from expenditure and revenue projections can have a major impact on the deficit. Exchange rate changes will also lead to fluctuations in the value of the Petroleum Fund. For these reasons alone, the use of petroleum revenues may in periods deviate from the 4 per cent rule. Spending was also increased in response to the economic downturn in 2003. We can therefore safely affirm that the fiscal rule has been normative for fiscal policy.

Nevertheless, over the last years more oil money has flowed into the Norwegian economy than earlier. Petroleum investment shows a pronounced increase this year. Moreover, government petroleum revenue spending has increased in recent years.

The fiscal rule is part of a set of economic policy guidelines. The various components of economic policy have varying effects. This is why they have different functions:

- Monetary policy steers inflation in the medium and long term and can also contribute to smoothing swings in output and employment.
- The central government budget – growth in public spending – influences the krone and the size of the internationally exposed business sector in the medium term. Government expenditure and revenues must be in balance in the long term.
- Wage formation, the structure of the economy and incentives determine how efficiently we use our labour resources and other economic resources.

There is also an interaction. To give you an example:

- In its budget resolutions, the government authorities will attach importance to the effects of the budget on the Norwegian economy and will therefore take account of interest rate effects. In this way, they avoid a situation where growth in public spending and the interest rate push the economy in different directions.

Norway's history as an oil nation goes back to the end of the 1960s. At the beginning of the oil age in Norway, the relationship between the use of petroleum revenues and changes in industry structure was highlighted.

However, since then, competitiveness in the business sector in Norway has deteriorated both due to high wage growth and in later years an appreciation of the krone against our trading partners. Costs rose sharply from the mid-1960s to the mid-1970s. In subsequent years, costs have varied around this higher level.

So far this year, competitiveness in Norway's manufacturing industry has been about 5.5 per cent weaker than the average for the period 1970-2004. Over the past 30 years, manufacturing has been scaled back in waves. A substantial decline occurred in the period 1977 to 1984 and from 1987 to 1992. The last wave occurred around the turn of the millennium. Manufacturing employment decreased by close to 55 000 persons from 1998 to 2004.

There are many studies in international literature<sup>2</sup> that point to the pitfalls facing a country that suddenly discovers large natural resources. Certainly, the Norwegian manufacturing sector has undergone substantial changes over the past 30 years. On the other hand, this period has also been marked by substantial productivity gains in parts of the sheltered sector, for example in retail trade and the banking sector. Petroleum activities have contributed to technological developments in the shipbuilding industry and the offshore sector.

The current cost level in the Norwegian business sector is adapted to an expansion of the petroleum sector and a steady phasing-in of petroleum revenues into the mainland economy.

In the long term, the exchange rate tends to adjust so that both the domestic economy and the current account are in balance.

After a period, we will be able to cover a smaller share of our imports using current petroleum revenues and by drawing on the Petroleum Fund. Competitiveness will then have to be improved. It may have to be brought back to around the level prevailing at the end of the 1960s prior to Norway's emergence as an oil nation. Rough estimates<sup>3</sup> suggest that the real exchange rate that ensures balance in the external account when petroleum wealth no longer has the same significant role in the economy is more in line with the real exchange rate that we started with. This is shown in the chart, where the real exchange rate in the very long term will revert to the level prevailing before petroleum extraction began.

In conclusion, the Petroleum Fund and the fiscal rule shield the economy from fluctuations in oil prices and extraction rates. With an inflation target, inflationary pressures are steered using the interest rate, while the value of the krone fluctuates. Consequently, when decisions on the use of petroleum revenues are taken, weight must not only be given to long-term considerations and the distribution of wealth across generations, but also to developments in the real exchange rate and the competitiveness of the exposed sector over the short and medium term.

Thank you for your attention.

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<sup>2</sup> See e.g. J. D. Sachs and A. M. Warner (2001) "The curse of natural resources" in *European Economic Review* 45, pp 827 – 838.

<sup>3</sup> See Akram, Farooq Q. (2003): "Reell likevektsvalutakurs for Norge" (Real equilibrium exchange rate for Norway), in *Norsk Økonomisk Tidsskrift* 118, pp 89-112.