Terms-of-trade shocks and challenges for stabilisation policy

Speech by Mr. Svein Gjedrem, Governor of Norges Bank, at the Symposium in Honour of Victor D. Norman, Bergen, 7 June 2006

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

Ladies and Gentlemen,

Let me first say that I am glad of the opportunity to speak at this symposium. Victor Norman has made valuable contributions to our understanding of international economics, both as a researcher and teacher. Most economists that have graduated in Norway since the early 1980s are familiar with Victor's textbooks.

Victor has also been a powerful contributor to the public debate for more than a quarter of a century. While international trade and capital flows are key topics in his teaching and research, his involvement in the public debate also include issues like competitive conditions for business and industry, the effective utilization of resources - not least in the public sector - taxation and the tax system, pensions, health care, and many more.

Substantial improvements in Norway's terms of trade

Looking at economic developments globally and in Norway over the last few years, it is reasonable to say that Victor's main fields of interest are more important than ever.

Trade liberalisation, political changes, technological advances, and a sharp reduction in transaction costs have fuelled a globalisation process that seems to have accelerated over the last 15-20 years. As a result, cross-border flows of goods, services and capital are growing at a markedly faster pace than world production.

Few countries are benefiting as much as Norway - and losing as little - in the current environment of freer trade and increased cross-border labour mobility. Prices for goods we import are falling in relation to prices for goods we export. Norway's terms of trade are improving. The Norwegian economy has experienced a strong positive income shock. Real national disposable income will increase by 25-30 per cent in the period from 2003 to 2006. The impact of the rise in oil and gas prices is particularly strong, but the terms-of-trade gains for the mainland economy have also been high.

The situation in Norway differs from that of our Nordic neighbour countries. Sales of Swedish and Finnish high-tech products are growing strongly in volume terms, but prices are falling. Denmark has a diversified business sector, which is overall moving on a steady path.

The terms-of-trade gains partly stem from a sharp rise in prices for oil, gas and other commodities. Strong global economic expansion in combination with rapid production

growth in China, India and other newly integrated economies has led to a substantial rise in demand. High demand for oil combined with limited idle production capacity and uncertain production levels in many oil-producing countries have led to a sharp rise in oil prices and other energy prices. High energy prices are boosting investment in the petroleum and electricity sectors, with considerable impetus to the engineering industry. Increased trade has engendered higher demand for shipping services and favourable freight rates. This has in turn led to a boom in the shipbuilding industry.

While oil prices are high, they are still lower than the prices that prevailed after the OPEC II shock in 1979. Norwegian oil production, on the other hand, has increased considerably since then.

Price developments have also been favourable for many metals. Prices for fresh farmed salmon have also shown a pronounced rise in recent years.

As consumers, we are benefiting from ongoing globalization through falling prices for many imported goods. After a shift towards a higher share of imports from low-cost countries, prices for Norway's imported consumer goods have fallen virtually every year since the mid-1990s.

The change in clothing prices may serve as an illustration. Prices rose by around 3 per cent annually for a long period, but since 1995 they have been falling by about 6 per cent annually. This kink point coincides with the dismantling of barriers in the textile trade and with a period of rationalisation in retail trade in Norway.

The magnitude of the current income shock is best seen in a longer, historical perspective. The improvement over the last few years is the largest since the First World War. The level of our terms of trade has not been as high since the late 1940s.

Sweden has experienced a decline in terms of trade. If we again compare terms-of-trade developments in Norway and Sweden, we see that the shocks to the Swedish economy have tended to be smaller.

Challenges in a petroleum economy

The current macroeconomic framework, most notably the fiscal and monetary policy regimes, has been quite successful so far in shielding the Norwegian economy from excessive fluctuations. The increase in income has not led to a pronounced rise in price and wage inflation. Businesses have become increasingly efficient in their use of resources, and the supply of labour has been ample. Nevertheless, in the face of such strong external influences, smoothing developments in the Norwegian economy is no easy task.

Government revenues include large net cash flows deriving from oil, which gives us an economic base that is not available to many other countries. The size of the cash flow from petroleum activities varies, however. And if petroleum revenues were to be spent as they accrue, the result would be wider fluctuations in the Norwegian economy.

Petroleum revenue spending also has an impact on competitiveness in Norwegian business and industry. Extensive and uneven spending of petroleum revenues would have a negative impact on exposed industries.

The particular challenges of petroleum revenues can be illustrated by looking at the basic relationship between aggregate production, consumption and relative prices.

The potential production frontier shows alternative combinations for the production of sheltered goods and goods exposed to international competition when labour and capital are used efficiently. Consumers prefer a combination of sheltered and traded goods. In equilibrium, the relative price of sheltered goods in terms of traded goods is the price that clears the markets. In this simple one-period model, the trade balance is zero. Furthermore, the relative price is equal to the real exchange rate.

Introducing petroleum revenues, which can be seen as a cost-free foreign exchange gift, separates the consumption possibility frontier from potential production in mainland Norway. Consumers can increase their consumption of traded goods without producing more. However, with a higher income level, demand for sheltered goods also increases. In order to facilitate the transfer of resources, wages are bid up and prices for sheltered goods increase. Consequently, the real exchange rate appreciates. The new equilibrium implies that consumption and production of sheltered goods have risen. Production of traded goods has declined, while the consumption of these goods has increased due to the foreign exchange gift.

Structural changes - i.e. the transfer of resources from production of exposed to sheltered goods - are amplified when petroleum revenue spending increases substantially. And the challenges resulting from these structural changes would be amplified if petroleum revenue spending varied from one period to another.

Victor Norman has described this mechanism and presented charts similar to the ones shown here in textbooks that have been widely used at Norwegian universities and business schools since the early 1980s.

This mechanism was also recognized at an early stage by the Norwegian government. In 1974, in a report[1] to the Parliament entitled "The role of petroleum activities in Norwegian society", this issue was discussed in depth. I quote: "A transfer of production and employment between firms and industries may occur through higher domestic cost pressures" □ and further □ "How strong the pressures will be, depends in particular on how strongly Norwegian business and industry is involved in petroleum activities and the scale of revenues that are spent domestically".

The risk of "Dutch disease"[2] has been a common reference in the discussion on petroleum revenue spending. Dutch disease occurs when spending is so high that the basis for exposed industries is eroded and fluctuations in economic activity are amplified.

Changes in industry structure involve costs in that invested capital may remain idle and labour resources may be used less efficiently in periods. It may take time and be difficult to re-establish the use of these resources. Restructuring costs would probably be so substantial

that the government should take them into account. An economist[3] in Norges Bank has found, using a stylised model, that in order to minimise restructuring costs over time, petroleum revenue spending should be limited in such a way that a constant share of imports can be financed by petroleum revenues for an indefinite period. Furthermore, he found that spending one per cent of total petroleum wealth per year would achieve this. Petroleum wealth comprises here both financial wealth accumulated in the petroleum fund and the value of oil and gas under the seabed. The rule implies that petroleum revenue spending would not affect the real exchange rate. This work focused on minimising restructuring costs, and did not analyse the issue on the basis of a more general welfare function.

Moreover, the flexibility of the economy to adapt to a shifting economic environment may change over time. Increased flexibility and efficiency in labour, capital and goods markets may reduce the need to take restructuring costs into consideration.

I will come back to our current fiscal rule for petroleum revenue spending shortly.

The need for some sort of rule in fiscal policy aimed at restraining petroleum revenue spending should become clear when we look at our experience over the last 30 to 40 years.

The government began at an early stage to budget on the basis of future strong growth in petroleum revenues. The result was that we spent a large share of our petroleum income in the 1970s and 1980s. Welfare schemes were expanded significantly. The real exchange rate appreciated, and manufacturing industry was scaled back. Frequent devaluations from 1976 were unable in the long term to prevent a decline in the manufacturing sector. On the contrary, they proved to be self-reinforcing.

The absence of a nominal anchor was one of the main reasons behind the pronounced swings in the Norwegian economy in the 1970s and 1980s. With a policy of low interest rates and devaluations, inflation took root. Nominal interest rates were kept at a low level even though inflation rose. The wide fluctuations culminated in a credit boom in the mid-1980s.

Victor Norman recognized this mechanism. In 1986, he argued in a newspaper article[4] that: "We are again treading a path where monetary and fiscal policies amplify cyclical fluctuations instead of moderating them. We saw this clearly in 1982/1983 and again last year."

The value of petroleum exports can be quite volatile and uncertain. Petroleum exports rose rapidly until the oil price declined markedly in 1986.

The recession after the credit bubble burst and after oil prices fell was deep. The recession was more severe than would have been the case if we had maintained a larger, competitive manufacturing sector. Norwegian manufacturing lost export market shares in the late 1980s in spite of booming conditions abroad and substantial capacity slack at home.

The value of petroleum exports rose again to historically high levels in 2000. High petroleum revenues to the government made it increasingly challenging to smooth cyclical fluctuations

by means of fiscal policy. Greater responsibility for stabilising inflation and output fell to monetary policy.

Economic policy was revised in spring 2001. The most important policy change was the plan for phasing in petroleum revenues - the so-called fiscal rule. An inflation target for monetary policy was introduced at the same time.

The fiscal rule and the inflation target can also be seen as an answer to the problems raised by Finn Kydland and Edward Prescott. The insights from their influential work was that economic policy can achieve better results if the authorities can commit themselves to a pre-established set of credible policy rules.

The need for rules in the spirit of Kydland and Prescott is perhaps greater in Norway than in most other countries. Other countries often find themselves in situations where they have to limit and stabilise their fiscal deficits and government debt levels. Balanced budgets serve as a long-term guide for fiscal policy. For us, balanced budgets will not work as a guideline.

Macroeconomic framework

Norway's stabilisation policy now rests on four pillars. Under the petroleum fund mechanism, increased government petroleum revenues are invested abroad. This curbs the impact of oil price fluctuations on domestic demand and production - and on inflation and the exchange rate. A floating krone also has a stabilising effect, as the exchange rate normally appreciates in good times and depreciates in bad. At the same time, the fiscal rule and the inflation target anchor exchange rate and inflation expectations. As a result, the impact on these variables of a terms-of-trade change, stemming from variations in the oil price, becomes less pronounced. Moreover, the fiscal rule slows the pace at which exposed industries are scaled back.

According to the fiscal rule, petroleum revenue spending shall be limited to four per cent, i.e. the expected annual real return on the accumulated financial wealth in the petroleum fund. This implies a steady phasing-in of petroleum revenues into the mainland economy. This partly insulates the economy from fluctuations in petroleum prices and extraction rates in the petroleum sector - and when followed it ensures that revenue spending in the Norwegian economy is at a level that can be sustained over time. Nevertheless, as the petroleum fund is becoming very large, the fiscal rule implies that sizeable and increasing revenues will be spent every year, thereby leading to expansionary impulses from fiscal policy.

We must also strive for an equitable distribution of our wealth across generations. Although the value of the petroleum fund is considerable, financing the large future pension payments under our universal pay-as-you-go scheme will be very demanding.

The cost level in the Norwegian economy, compared with that of our trading partners, rose substantially with the beginning of the oil age. The level has fluctuated somewhat since then, without a clear tendency to become higher or lower, and has, over time, been adapted to a steady phasing-in of petroleum revenues into the mainland economy. When we reach a point in the future when the share of imports that can be financed by petroleum revenues

declines, the relative cost level will have to be reduced. The real exchange rate 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.

This depreciation can be achieved either by lower price and wage inflation in Norway than in other countries or by a nominal depreciation of the krone. The latter would be the least painful channel, and with a flexible exchange rate it is also the most likely.

Final remarks

To sum up, increased globalisation and the ensuing terms of trade improvements have exposed the Norwegian economy to a significant upward income shock. This has amplified the domestic upswing. So far, however, strong growth impulses have not led to major imbalances in the labour market or strong upward wage and price pressures.

This may be seen as an indication that our fiscal and monetary policy guidelines have been quite successful so far in shielding the Norwegian economy from excessive fluctuations.

In principle, these policy guidelines are just as appropriate for coping with favourable periods as with adverse periods. We will face another test of the macroeconomic framework when the terms-of-trade change is reversed and the gains either fully or partly dissipate.

Structural policies aimed at maintaining flexibility in labour, capital and goods markets are, however, probably more important than stabilisation policy to sustain both high growth and economic stability in the future.

Developments in labour productivity over the last two decades may be an indication of the importance of structural policies. Norway has managed to sustain productivity growth at a high level. Restructuring in the Norwegian economy in the 1990s, changes in the tax system, broader and deeper financial markets, and deregulation in trade and service markets appear to have resulted in a more efficient use of resources.

Many of these changes were advocated by Victor Norman in the 1980s and early 1990s. For example, in 1991 he chaired an official committee[5] exploring possible efficiency gains in the government sector. In the report, high possible efficiency gains were envisaged as a consequence of the committee's proposals, including a better functioning labour market. Victor's conviction as to what economic policy can accomplish can be illustrated by the following quote from the committee's report: "We believe that in principle it should be possible to once again reduce unemployment in Norway to one per cent without creating permanent pressures and restructuring problems in the economy."

Thank you for your attention!

Footnotes

[1]Report no. 25 to the Storting (the Parliament), 1974.

[2]The expression "Dutch disease" originates from the Netherlands, where the government rapidly spent large revenues from the extraction of gas in the 1960s.

[3] Q. Farooq Akram (2005): *"Efficient consumption of revenues from natural resources - An application to Norwegian petroleum revenues"*. Norges Bank, Working Paper 2005/1.

[4] Aftenposten Morgen 11 September 1986.

[5] See NOU 1991: 28, "Mot bedre vitende? Effektiviseringsmuligheter i offentlig sector" (only available in Norwegian).