# Øystein Olsen: Economic perspectives

Address by Mr Øystein Olsen, Governor of the Norges Bank (Central Bank of Norway), to the Supervisory Council of Norges Bank and invited guests, Oslo, 17 February 2011.

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Nearly a decade has passed since the inflation targeting regime was introduced. In spring 2001, Norges Bank was charged with the task of setting the interest rate with a view to keeping inflation low and stable. At the same time, new fiscal policy guidelines, also known as the fiscal rule, were implemented, charting a course for petroleum revenue spending.

For the first time in a long time, economic policy in Norway was given an overall long-term anchor and a binding operational objective. In Report No. 29 to the Storting from 2001, the Storting was informed of the new guidelines. The report may not qualify as poetry, but it is a document to which I have a close relationship.

This evening I will take a look at the experiences of these operational guidelines and discuss the following questions. Has the inflation target and the fiscal rule lived up to the expectations of ten years ago? And how can the experiences of the past ten years be used in addressing today's challenges?

In 2011 it is also ten years since Georg Akerlof, Michael Spence and Joseph Stiglitz were awarded the Nobel Prize in Economics for their work on asymmetric information. The theories provide a backdrop to understanding the financial crisis that engulfed the world economy in 2008.

A lack of reliable information resulted in excess risk-taking by many, perhaps unknowingly. Investors and banks believed they could pass on losses to others or expected the authorities to intervene in the event of failure. It is now widely recognised that the regulatory framework for financial markets was too weak. Increased ambitions with regard to regulating financial markets and new and better instruments are on the agenda. I will revert to this later.

But let me start with the external environment.

## The world economy: Keeping one's house in order provides robustness

The global economic crisis in autumn 2008 was the biggest economic earthquake in our time. The following year, world GDP fell for the first time in generations. The crisis was triggered by an abrupt decline in the US housing market, but a tightly interwoven financial sector caused the problems to spread rapidly across countries and sectors.

When the bubble burst, excessive optimism in the financial sector turned to deep pessimism. The flow of credit dried up. It became expensive and difficult for financial institutions to procure funding even though the problems had originated in asset value losses in a faraway region. Cross-border trade, which is dependent on well functioning credit channels, was adversely affected.

Even an expansionary economic policy, with record-low interest rates, low tax receipts and strong growth in public demand for goods and services, could not prevent the downturn from deepening in many countries. However, it did help reduce its duration compared with the depression in the 1930s.

### *Chart 1: Current account. As a percentage of world GDP. 2000 – 2010*

The crisis was preceded by a build-up of global imbalances. Large and growing deficits in the US were driven by high consumption and a large appetite for debt among US households. In the US, domestic spending had outpaced domestic production for a long period. Private debt increased in the US, but also in Europe, matched by high saving in Asia – primarily in China. Asia's willingness to purchase US bonds allowed the imbalances to grow.

Global trade imbalances have been reduced somewhat over the past two years, but there is a considerable risk that they will persist. They must be corrected through structural changes in the real economy. This may weaken growth in the world economy in the coming decade. Asian economies, however, have fared well through the crisis. Emerging economies are now sufficiently large so that growth in their economies provides impetus to production in other regions.

***Chart 2: GDP. Constant prices. Index, 2000=100***

The financial crisis hastened the pace of change in the world's economic geography. If GDP is set at 100 in the year 2000, it would have grown to 112 for the euro area and 118 for the US up to last year. The figure for Brazil is 143 and 271 for China. If the trend continues China could outgrow the US to become the largest economy in the world in the course of the next 10–20 years.

In the US, Japan and most European countries, key rates have in practice reached a lower boundary. The authorities cannot provide further impetus to the economy through interest rate cuts and currency depreciation. Western countries with trade deficits would have benefited from a boost to their exports. A stronger Chinese currency could be part of the solution.

With its enormous labour reserves, China has substantial capacity for exporting to the wealthiest nations in the world. If more income is not spent on domestically produced goods and imports, it is probably because of fundamental structural features of the Chinese economy. Income is still low for large groups. A substantial share of income flows to state-controlled enterprises and high-income groups with a high propensity to save. A substantial share of GDP is invested in new real capital, which in turn continues to fuel export growth.

The Chinese economy is likely to change. A larger share of income will be channelled to consumption. The current account surplus as a percentage of GDP has been reduced in the past few years.

But deficit countries in the west must come to grips with their own problems. Demand for goods and services in western countries cannot outstrip production on a sustainable basis. Households in Europe and the US can now be expected to increase saving. Many have experienced that debt does not evaporate as fast as assets.

***Chart 3: Government gross debt. As a percentage of GDP. 2000, 2005 and 2010***

Financial crises tend to be followed by debt crises. Someone has to pay the bill. The rapid growth in government debt in Europe and the US is consistent with a well known historical pattern. Fiscal policy was used actively in most countries to curb rising unemployment. The mistakes of the 1930s were not to be repeated. The intention was good and the policy was most likely appropriate, but weak public balances became even weaker. On top of this, some countries provided substantial government funding to banks.

The situation came to a head in several euro area countries, initially in Greece, which had allowed deficits to creep up during the growth period. In the next round, Ireland, Portugal and Spain came under pressure and had to payer higher interest rates on new loans. The UK also ran a government budget deficit in the favourable pre-crisis years and when tax revenues rapidly declined and social security spending rose, the deficit increased to more than 10 per cent of GDP and government debt doubled.

The authorities in many countries must now tread a difficult balance. Controlling debt requires an economy with a back strong enough to carry it. It is not certain that low interest rates are sufficient to sustain the nascent recovery if fiscal policy is tightened. Credible reforms that limit public spending in the long run, combined with moderate tightening in the short run, could be an appropriate strategy. Governments that saved during the expansion may have the scope for pursuing that approach. Greece did not save. The fiscal leeway for the most heavily indebted countries is limited and confidence in reforms has weakened, forcing them to implement austerity measures more rapidly.

A common feature of the countries that fared well through the financial crisis was that they had kept their house in order. A long-term economic policy anchor provided latitude to use fiscal policy actively when this became necessary. The economies that fared well had also kept price and cost inflation under control in the years prior to the crisis. Norway falls into this group, even though our abundant natural resource wealth puts us in an exceptional situation.

## Economic policy guidelines

Today we can look back at ten years of inflation targeting and the fiscal rule. Despite the financial crisis, this has been a golden period for Norway. Economic developments in Norway have been influenced by changes in global trade patterns, which I have described in brief. Asia has replaced Europe as our main trading partner for many goods, and the price of our exports has risen at a markedly faster pace than the price of our imports. National income is almost 30 per cent higher in real terms than ten years ago. EU enlargement provided us with access to a larger labour market and Norway's population has grown faster than for many years. Unemployment has been low – close to an average 3 per cent through the decade.

***Chart 4: CPI and CPIXE. 12-month percentage change, 5-month moving average. January 2001 – December 2010***

CPI inflation has varied to some extent. Underlying inflation has naturally been more stable, but has been both higher and lower than the target. If we look at the ten-year period as a whole, inflation has been 2 per cent, that is to say close to the target.

### *The notion of operational guidelines*

The past decade of low and stable inflation must be seen against the background of Norges Bank's active use of the key policy rate. The interest rate has been set with a view to meeting the inflation target that was introduced in 2001. The notion of an operational economic policy framework sprang from the experience of economic planning in the 1960s and 1970s.

The first decades after the war were naturally marked by high ambitions with regard to macroeconomic management at home and abroad. Through the 1970s, a period of soaring inflation, stagnation and deepening deficits, the pendulum swung. While the focus had previously been on market failure, it shifted to management failure in many countries.

On the theoretical side, the economists Finn Kydland and Edward Prescott demonstrated that authorities operating a long-term plan may have strong incentives to deviate from that plan at a later stage.[1] If firms and households see through this at the outset, they will adjust their behaviour accordingly, undermining the long-term plan. If the authorities make a credible commitment to operational rules, they will come closer to achieving their long-term objectives.[2]

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[1] Finn Kydland and Edward Prescott (1977): "Rules Rather than Discretion: The Inconsistency of Optimal Plans". *Journal of Political Economy* 85: 473–492.

[2] The advantage of tying oneself to economic policy objectives does not conflict with the ability of economic policy to stabilise the economy at the same time. On the contrary, a credible commitment to objectives can provide greater leeway for stabilising the economy. See, for example, Michael Woodford (2003) "Interest and Prices", Princeton University Press.

The clearest expression of this lesson was found in monetary policy. In Norway, the authorities set an objective for the value of the krone, but devalued when the krone came under pressure. The devaluations were over time incorporated into expectations and inflation surged. It is tempting to quote Hermod Skånland, who stated that Norway "early and with great perspicacity" charted a course for economic policy – and thereafter promptly embarked on a different path.[3]

During the upturn in the mid-1980s, the interest rate was held low and public spending was high. The economy became vulnerable. When oil prices fell in 1986, a change of course became imperative. All efforts were concentrated on bringing public spending under control. Interest rate setting was geared towards maintaining a steady krone exchange rate. The aim was to bring down inflation close to the level prevailing in other countries.

The banking crisis and the downturn in the early 1990s led to renewed recognition that market forces had to be controlled and banks regulated. An approach based on broad economic policy cooperation was pursued. Under the so-called Solidarity Alternative, or wage moderation policy, the social partners were to ensure moderate wage growth and competitiveness. The authorities promised to deliver a stable krone. Structural reforms were implemented to increase growth capacity. Confidence in monetary policy gained a firm footing and inflation and the real interest rate declined.

But the regulatory pendulum that swings back and forth was still in motion. In the period up to the turn of the millennium, petroleum revenues were on the rise and fiscal policy came under pressure. The fixed exchange rate regime amplified fluctuations in the economy and the social partners were no longer able to rein in cost growth. The Solidarity Alternative had played its role. Unexpected growth in petroleum revenues also highlighted the importance of designing a long-term government savings plan. We needed a new anchor for both fiscal policy and monetary policy.

***Chart 5: Inflation. Moving 10-year average and variation in CPI. Per cent. 1980 – 2010***

Report No. 29 from 2001 sets out long-term guidelines for economic policy. The division of responsibility was further clarified. Norges Bank was given a clear responsibility for keeping inflation low and stable. The government and the Storting can build on Norges Bank's response pattern when drawing up annual budgets. They can also take into account that increasing spending via government budgets may trigger an appreciation of the krone. The social partners can apply a low and stable rate of inflation when they negotiate the share of economic growth to be taken out as real wages and set their ambitions with regard to employment.

## The guidelines and the financial crisis

The financial crisis in 2008 put the economic policy guidelines to a severe test.

The interest rate cuts that followed from the inflation target led to a reduction in households' annual interest expenses of around NOK 40 billion. The krone acted as a buffer. The burden on leveraged companies was eased and many investment projects became profitable in an environment of lower interest rates. Monetary policy made a substantial overall contribution to Norway's resilience to the crisis.

[3] Speech delivered at the Petroleum Seminar at the Norwegian Association of Economists on 2 November 1988.

***Chart 6: Real interest rate. Per cent. August 1987 – February 1990 and June 2008 – December 2010***

***Chart 7: Registered unemployment. Per cent. August 1987 – February 1990 and June 2008 – December 2010***

Well anchored inflation expectations made monetary policy effective – the reduction in Norges Bank's key policy rate was perceived as a decline in the real interest rate. Other central banks experienced that there was little scope for reducing the real interest rate to a sufficiently low level.

This downturn contrasts sharply with the downturn in the 1980s when the interest rate had to be maintained at a high level to defend the krone exchange rate. At that time, there was a lack of confidence in both monetary policy and fiscal policy. The costs proved to be substantial. Unemployment increased more in line with that experienced in some European countries today.

However, when the financial crisis reached Norway in 2008, our country was in a particularly favourable position. A long period of substantial petroleum revenues – and a clear savings plan – had provided us with considerable leeway. As a result, fiscal policy could also be put to effective use during the downturn. The guidelines stipulate that the government budget deficit shall over time be equivalent to 4 per cent of the capital in the Government Pension Fund Global, – more in bad times, less in good times.

***Chart 8: Fiscal policy. Change in the non-oil budget surplus from 2008 till 2010. In billions of NOK***

A fall in output and employment automatically leads to reduced taxes while unemployment benefits increase. An important aspect of the fiscal rule is that it includes a mechanism whereby these effects also translate into a weaker budget balance. These automatic stabilisers generated strong impulses through 2009 and 2010. The decline in output and employment automatically triggered a reduction in taxes and an increase in transfers of more than NOK 40 billion for the two years as a whole to the benefit of households and firms.

The increase in the Government Pension Fund Global provided, under the fiscal rule, room for a NOK 25 billion increase in spending. The government and the Storting approved additional spending, bringing the overall contribution from fiscal policy to more than NOK 100 billion in these two years. Hardly any other country provided such strong overall stimulus through the use of public instruments during the crisis.

The guidelines from 2001 provide a clear long-term framework for monetary policy and fiscal policy and provide for cyclical adjustments in economic policy – in part automatically and in part through judgement. In this way, the guidelines reconcile the need for a flexible approach to macroeconomic management with the gains brought by a commitment to more long-term operational objectives.

## A decade of inflation targeting

Inflation is so low today that most people barely give it a thought. The rate of increase in consumer prices has disappeared from the front pages, where it was a frequent guest in the 1980s. We do not miss inflation.

Even though inflation over the past decade has been close to the target of 2.5 per cent, demanding trade-offs have had to be made over the years. The element of judgment in the conduct of monetary policy has been put to the test. Through the years, we have gained insight into the functioning of the Norwegian economy under an inflation targeting regime. Let me touch upon some of those insights.

***Chart 9: Krone exchange rate, inflation and Norges Bank key policy rate. January 2001 – December 2010***

The experience of the beginning of the decade revealed how demanding it is to strike a balance between different monetary policy considerations in a small, open economy. When the key policy rate is raised to restrain a pronounced rise in domestic cost inflation, it can have a strong impact on the krone exchange rate, as observed in 2002–2003. This influences both the real economy and the inflation outlook.

Midway through the decade, inflation rapidly declined. China's entry into the WTO and increased imports into Norway from Asia led to a persistent fall in prices for many goods. The combination of very low inflation and strong economic growth was a new aspect that posed a challenge to the conduct of monetary policy. Interest rates – both at home and abroad – were set at a low level. At the same time, this contributed to amplifying the cyclical upturn in Norway.

Towards the end of the decade, during the financial crisis, the interest rate was reduced sharply again and to record-low levels, which was undoubtedly not a difficult decision to make at that time. A persistently low interest rate, on the other hand, can pose a challenge in an economy where there is a strong willingness to borrow and property prices are rising, if this should lead to imbalances further ahead. The upturn in the Norwegian economy now seems to have gained a firm footing. Low inflation prospects still imply a low interest rate. On the other hand, the consideration of guarding against the risk of future financial imbalances that may disturb activity and inflation somewhat further ahead suggest that the key policy rate should not be kept low for too long.

***Chart 10: Percentage change in the CPI since the beginning of each decade. 1980s and 2000s***

***Chart 11: Percentage growth in mainland GDP since the beginning of each decade. 1980s and 2000s***

Drawing some of the threads together from the past decade, it can be said that inflation has been fairly stable and close to the target, which shows that monetary policy has been effective. Compared with the 1980s, for example, inflation has been considerably lower the past decade and growth in the mainland economy has been markedly higher. There has been no conflict between low inflation and high economic growth as many economists previously maintained.[4]

The challenges encountered have provided new insight. Inflation is not self-stabilising and there are costs involved in bringing it back to target.

The Bank's analyses and communication have evolved. The Bank has gained insight into how the interest rate functions under an inflation targeting regime. Economic agents have become familiar with our response pattern. In interest rate setting, we do not give weight exclusively to bringing inflation back to target, but also take into account the impact of the interest rate on output and employment. After a decade of learning, inflation targeting has become more flexible.

That flexibility is good to have, and easy to lose. Without results showing that the inflation target is in fact reached over time, the credibility of monetary policy is put at risk. In assessing various considerations, monetary policy must be geared to meet its primary objective – low and stable inflation. Other instruments must be used to attain other objectives.

[4] See, for example, Leif Johansen, Offentlig Økonomikk [Public Economics] (1965).

## Implementation of the fiscal rule

***Chart 12: The Government Pension Fund Global. As a percentage of GDP. 2000 – 2010***

We have also gained ten years' experience of rules-based economic policy in the area of fiscal policy. The Government Pension Fund Global has grown from close to NOK 400 billion in 2001 to more than NOK 3.1 trillion today. As a percentage of GDP, the size of the fund is in line with that projected in 2001.

When the Fund was established, it was natural to build on existing expertise in the central bank gained through management of the foreign exchange reserves – the wealth was to be invested abroad. The central bank has been and will continue to be an appropriate institutional setting for the Fund.

Under the fiscal rule, government oil revenue spending over the past ten years has totalled NOK 730 billion in current kroner. This is around NOK 100 billion more than a strict interpretation of the fiscal rule would imply.

***Chart 13: Relative labour costs. Projections from the National Budget for 2003 and actual developments. Percentage change since 2001***

Increased spending over government budgets crowds out other activity. Ministry of Finance calculations[5] showed that a scaling back of private enterprise was an unavoidable implication of the fiscal rule. Labour costs in Norway were estimated to rise by 4–8 per cent more than among trading partners in the period to 2010 as a result of a more rapid phasing-in of oil revenues.

The Ministry of Finance figures were conservative, but nonetheless too optimistic. Labour costs rose more rapidly. In the course of the decade, competitiveness actually deteriorated by 20 per cent.

When the fiscal rule was introduced in 2001, it was emphasised that some of the additional fiscal leeway provided by the oil revenues would be used to strengthen the long-term growth potential of the Norwegian economy, for example by investing in infrastructure, research and education. The Report to the Storting in 2001 noted that "[…] *a high tax level entails economic costs* […]".

The authorities have used the fiscal leeway to implement standard increases and raise spending in a number of areas. On the other hand, the priority given to measures aimed at boosting productivity and hence the long-term growth potential, including adjustments to the tax system, seems to have receded somewhat into the background.

The main objective of fiscal policy is to secure the provision of good public services, ensure an appropriate distribution of income and invest in major infrastructure. This objective must apply in good times as well as bad.

At the same time, all desirable spending programmes must be prioritised within an overall budget framework. Fund structures or other forms of financing outside the ordinary budget are only a way of avoiding budget constraints. This would weaken the credibility of the fiscal rule, which in turn would affect interest rate setting. Again – policy rules and words must be followed up by action. In the words of former Norges Bank Governor Hermod Skånland: *Once the authorities have charted a course, they should not embark a different path.*

[5] National Budget for 2003.

## Lessons from the financial crisis – financial stability and supervision

### *Chart 14: Household debt. As a percentage of GDP. 2000, 2005 and 2010*

I have described how Norway differs from other European countries after the financial crisis. While many EU countries are in the economic doldrums and are facing high government debt, Norway has made use of its fiscal leeway and has fared well. However, there is one area in which Norway differs from other countries in a manner we perhaps do not like: Norwegian households are among the most heavily indebted in Europe.

Rising debt and property prices are mutually reinforcing. Higher asset prices lead to higher collateral values for loans. Easier access to credit also leads to increased purchasing power when property is offered for sale. This increases risk in the financial system. The high level of borrowing, particularly among US households, was an important factor contributing to the financial crisis in autumn 2008. Although debt growth has slowed in Norway, the level of debt shows no sign of falling.

While monetary policy and fiscal policy have been anchored within a long-term, operational framework over the past ten years, there has been no comparable, coherent regulatory system for financial markets. Requirements are currently imposed on individual banks, but without adequate regard to overall risk in the financial system. The financial crisis highlighted the need to strengthen the current framework.

In the event of shocks to the economic system, the authorities have a role as lender of last resort. This also has a side effect – banks may feel at liberty to take on excessive risk. The banks keep the profits in good time, while they expect the public to foot a share of the bill in the event of failure.

Regulation of the financial sector must therefore secure financial stability, but at the same time protect the public against losses. Akerlof, Spence and Stiglitz – the 2001 Nobel Prize laureates – described how market participants adapt their behaviour and provided important background for the literature on the design of regulations. We should not have ambitions to fine-tune the economy, whether it is the real economy or the financial economy. But we must have ambitions to establish a sound operational framework that protects society against losses. This is now on the agenda in Norway and in other countries.

I would like to highlight three main aspects of this work:

First, the financial crisis revealed that banks held insufficient capital, excessive short-term market funding and inadequate liquidity buffers. The new Basel III framework sets out stricter requirements. Higher and better-quality capital will increase banks' resilience to pronounced fluctuations in the economy without their having to tighten lending abruptly. The new rules aim to moderate growth in banking in periods of expansion.

Second, the new framework includes macroprudential tools that can be applied as necessary. Banks may be subject to additional capital requirements if credit growth in the wider economy is excessive. The requirement is intended to ensure that banks build up an extra capital buffer when systemic risk increases. Loan-to-value ceilings on mortgage loans may also be imposed.

Third, the authorities must acquire tools that enable banks to be wound up in an orderly manner. In this context, it is important that the structure of banking groups is transparent. Banks must also draw up plans for their own liquidation in the event of difficulties. Owners and creditors – not taxpayers – must bear the losses. The interest rate on banks' funding will then reflect the risk they take rather than an implicit government guarantee. This will in itself have a preventive effect.

In some areas, banking sector regulation in Norway has been stricter than in other countries. Over time, this has been a strength, not a weakness, for Norwegian banks. The new international rules are to be phased in gradually from 2013 to 2019. That is a long time to wait.

The authorities must cooperate across national borders on regulations, the timing of their implementation and enforcement. The dividing line between our own and other countries' banks is becoming increasingly blurred. Our close relationship with our neighbours also applies to the financial sector. Leading the way together with a coordinated introduction of new and stricter rules could be of mutual benefit.

The Ministry of Finance has overriding responsibility for financial stability. However, it can be demanding to restrain debt growth in times of strong optimism and confidence in the future. Our experience of well defined mandates and a clear delegation of responsibility in the field of monetary policy has been positive. The legal authority to implement macroprudential measures to safeguard financial stability should be delegated, just as the government has delegated responsibility for interest rate setting.

Norges Bank should be assigned formal responsibility to provide concrete advice on macroprudential measures for the financial sector. The Bank has a highly competent staff with a broad background and a daily presence in financial markets. Norges Bank is therefore prepared to provide advice on the measures that should be implemented. Finanstilsynet (Financial Supervisory Authority of Norway) should be responsible for implementation. The central bank and Finanstilsynet are both housed in this building – but communication between the two institutions should take place through public channels. This will provide a clear division of responsibility.

Could the discussion about new banking sector regulation be a case of the pendulum swinging back towards the regulatory optimism that I described earlier? The picture is probably more nuanced. The banks have shown a striking ability to adapt, a skill which they hardly intend to relinquish. It must be acknowledged that no regulation can prevent financial institutions from encountering difficulties. A new regulatory framework must therefore ensure that banks have the ultimate responsibility for the risk undertaken. Regulatory compliance will then also be in their own interest.

## Conclusion

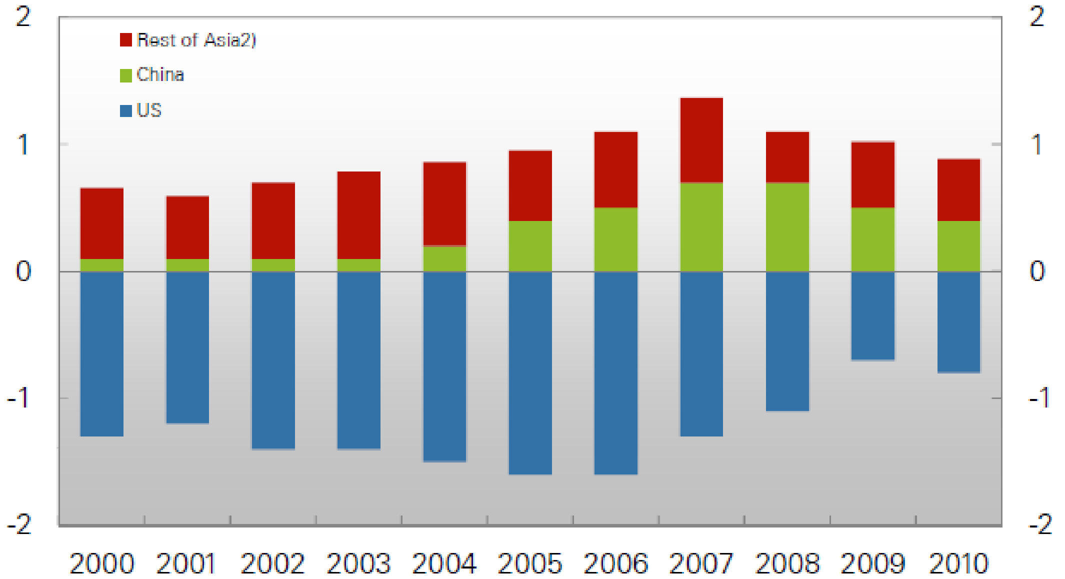
In my address this evening, I have sought to gather together some historical threads relating to the design of economic policy through our recent history and at the same time provide some glimpses of developments in the field of economics. Views on macroeconomic management have changed in this period – influenced by economic developments and events. Perhaps the policy response during the financial crisis also reflected a swing of the pendulum towards increased regulatory optimism. On the other hand, the financial crisis required full deployment of instruments. Measures were far-going and some were unconventional. In some countries, the bill to be paid is substantial.

In their prize-winning work, Kydland and Prescott raised the question of discretion versus policy rules. Today, we have perhaps opted for "both, please". An economic policy that is conducted blindly according to a rule, or only oriented towards solving day-to-day problems, can have adverse effects. Report No 29 from 2001 attempted to reconcile the gains brought by a commitment to more long-term operational objectives with the need for a flexible approach to macroeconomic management. The monetary policy framework provides for flexibility in inflation targeting.

When drawing up economic policy, a general lesson is that responsibility must be placed where appropriate. Monetary policy shall be oriented towards low and stable inflation. The interest rate must not be overburdened with many objectives, but can contribute to stabilising fluctuations in the economy. The policy for financial stability must not seek to take over the risk from banks and other financial institutions, but identify the risks to which they are exposed.

The past ten years have been a golden period for the Norwegian economy, probably owing to a combination of skill and luck. Oil revenues have given us considerable benefits. But the wealth must also be managed in a sound manner. We will encounter new challenges. We cannot take for granted that these favourable circumstances will persist, which makes it all the more important to adhere to economic policy guidelines that are based on the principles of long-termism and credibility. This provides a sound basis for navigating through future rough waters. History does not repeat itself. But the pendulum will swing back and forth, come what may.

Chart 1 Current account. As a percentage of world GDP. 2000 – 2010[1)]

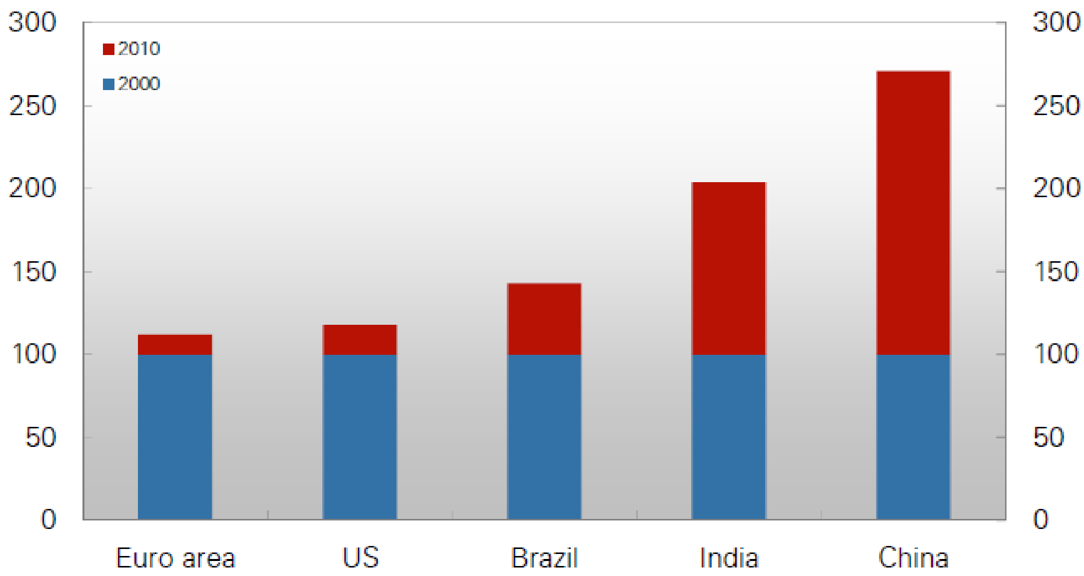



1) IMF estimates for 2010

2) Republic of Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Fiji, India, Indonesia, Kiribati, Lao People's Democratic Republic, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Democratic Republic of Timor-Leste, Tonga, Vanuatu, Vietnam, Japan, Hong Kong SAR, Korea, Singapore, and Taiwan Province of China

Sources: IMF World Economic Outlook Database October 2010 and Norges Bank

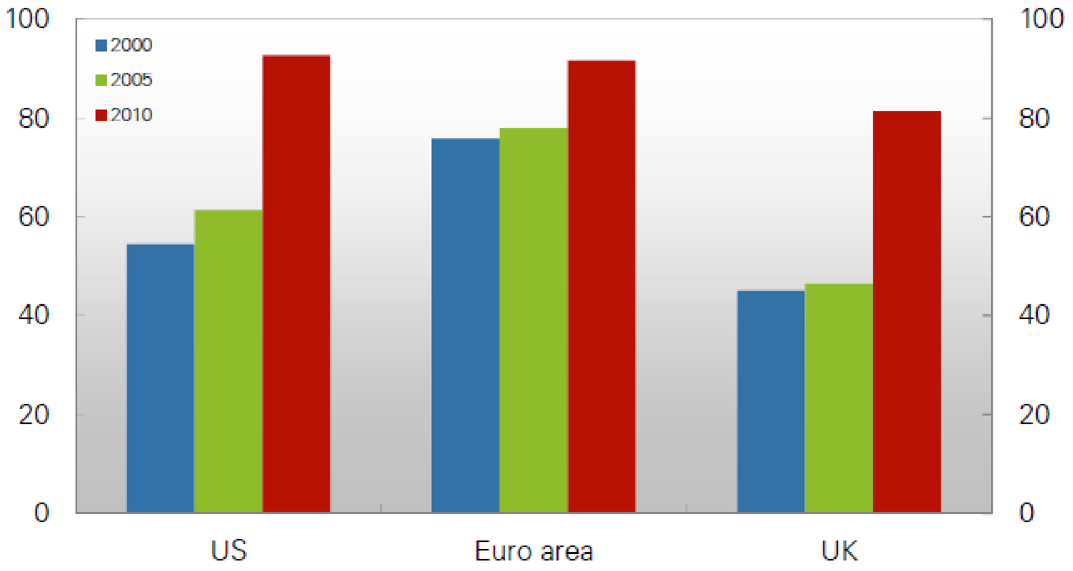
Chart 2 GDP. Constant prices. Index, 2000=100[1)]




1) IMF estimates for 2010

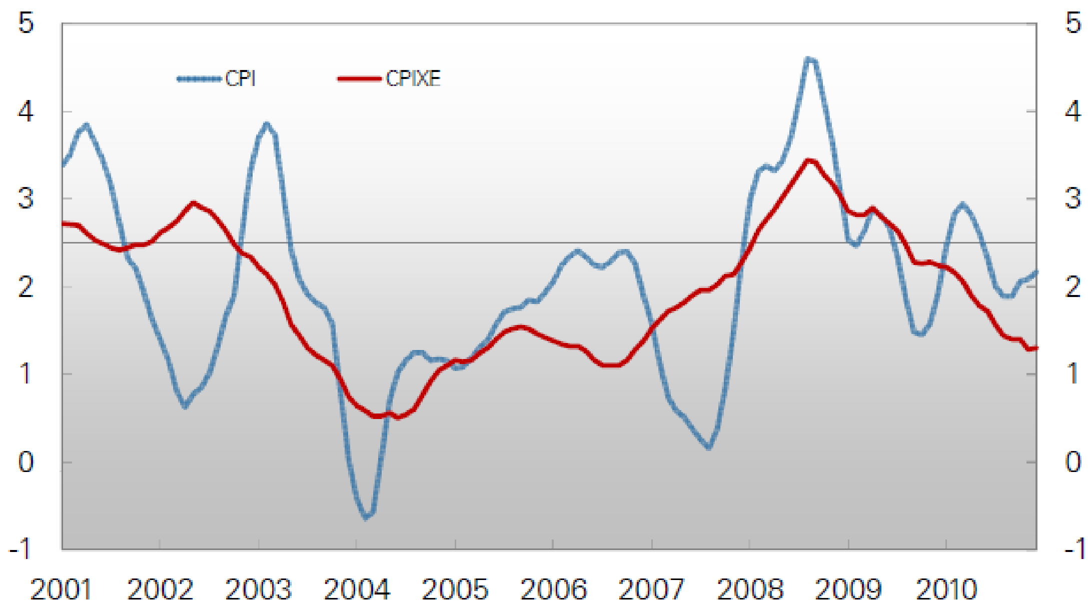
Sources: IMF and Norges Bank

Chart 3 Government gross debt. As a percentage of GDP. 2000, 2005 and 2010[1)]



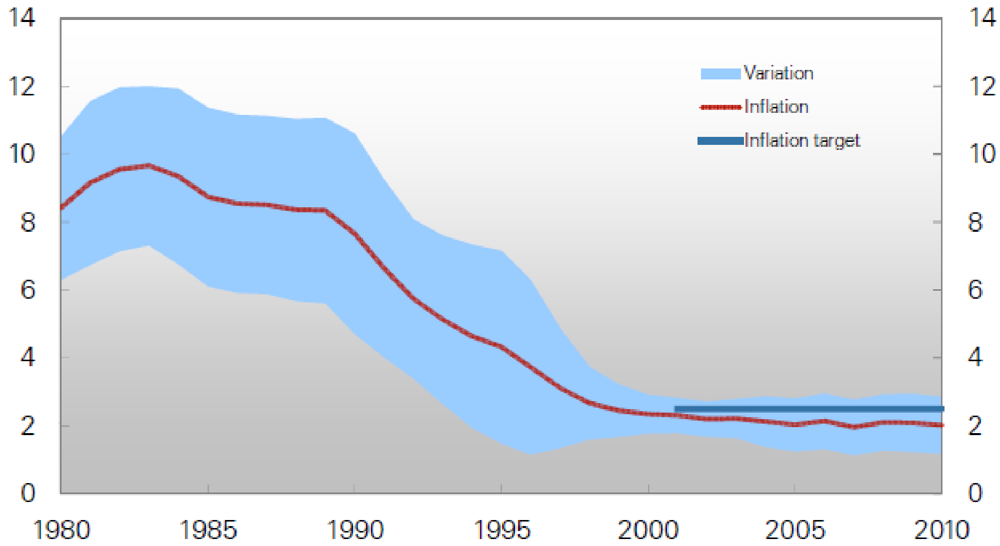

1) OECD estimates for 2010
Source: OECD Economic Outlook 88

Chart 4 CPI and CPIXE[1)]. 12-month percentage change, 5-month moving average. January 2001 – December 2010



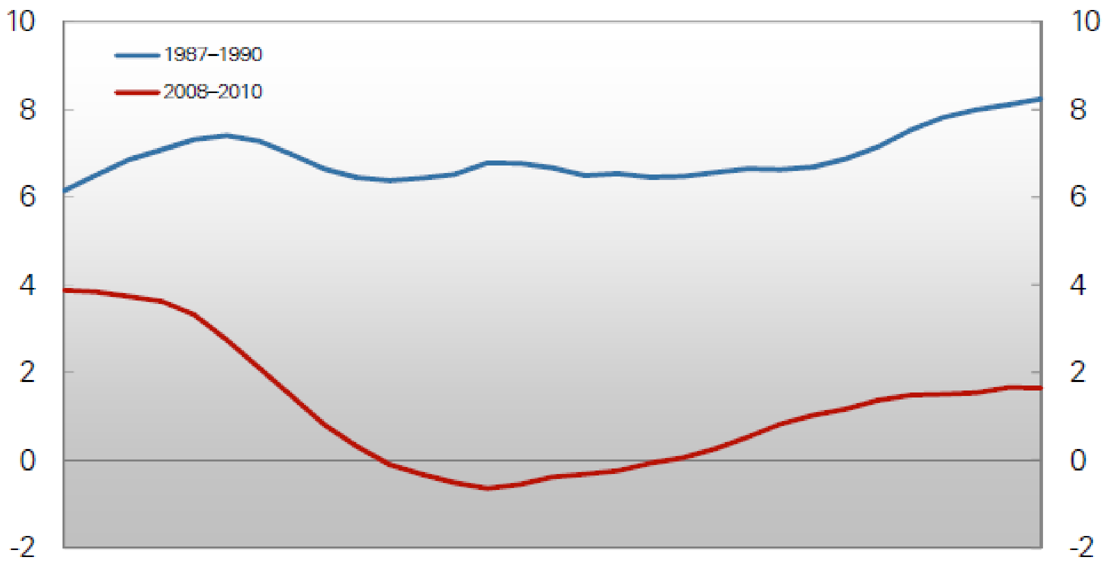

1) CPI-ATE to February 2002
Sources: Statistics Norway and Norges Bank

Chart 5 Inflation. Moving 10-year average[1)] and variation[2)] in CPI. Per cent. 1980 – 2010



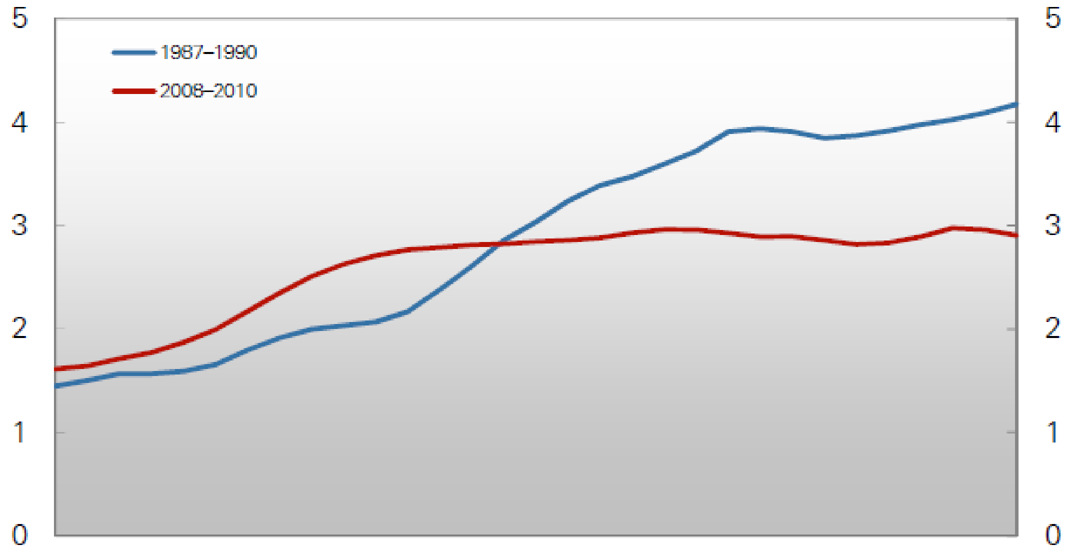

1) The moving average is calculated 10 years back
2) The band around the CPI is the variation in the CPI adjusted for tax changes and exluding energy products in the average period, measured by +/- one standard deviation
Sources: Statistics Norway and Norges Bank

Chart 6 Real interest rate[1)]. Per cent. August 1987 – February 1990 and June 2008 – December 2010



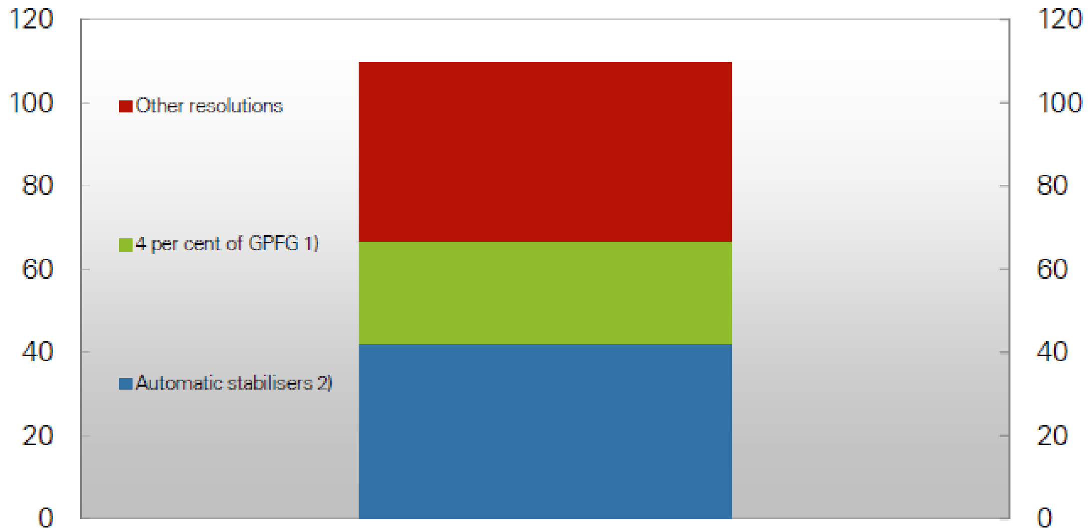

1) 3-month nominal money market rate deflated by the CPI-ATE (5-month moving average for both variables)
Sources: Statistics Norway and Norges Bank

Chart 7 Registered unemployment[1]. Per cent. August 1987 – February 1990 and June 2008 – December 2010



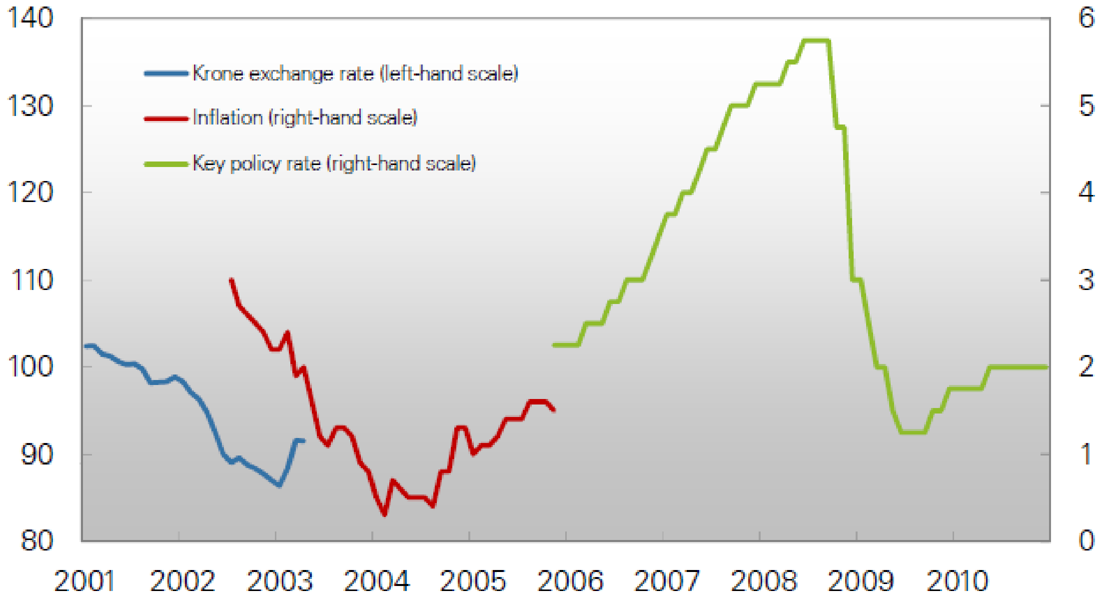

1) 3-month moving average
Source: Norwegian Labour and Welfare Administration

Chart 8 Fiscal policy. Change in the non-oil budget surplus from 2008 til 2010. In billions of NOK



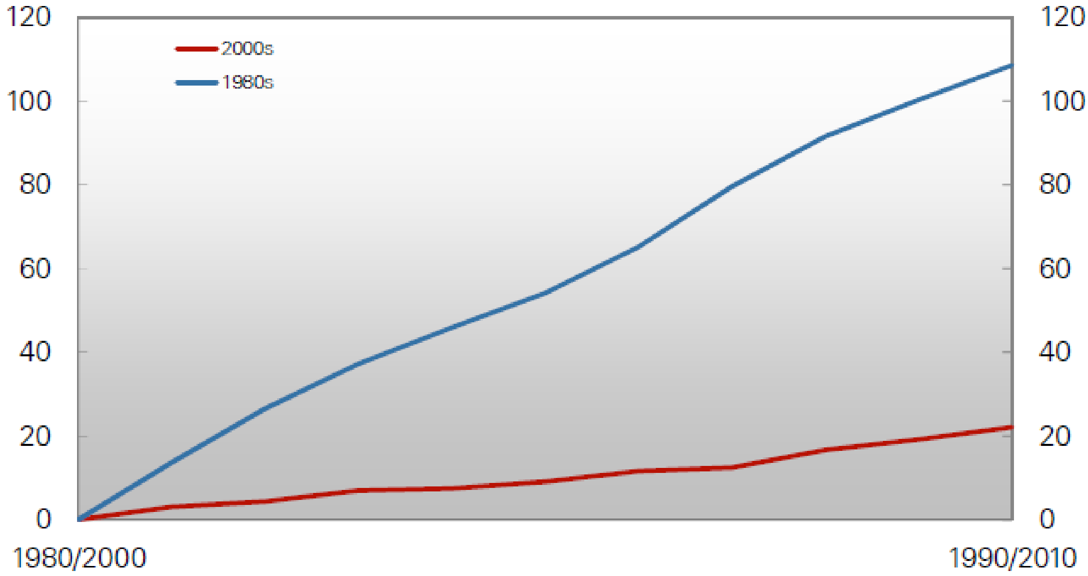

1) Change in expected return on Government Pension Fund Global (4 per cent of fund's capital at beginning of year)
2) Change in cyclical adjustments
Source: Ministry of Finance

Chart 9 Krone exchange rate[1], inflation[2] and Norges Bank key policy rate
January 2001 – December 2010



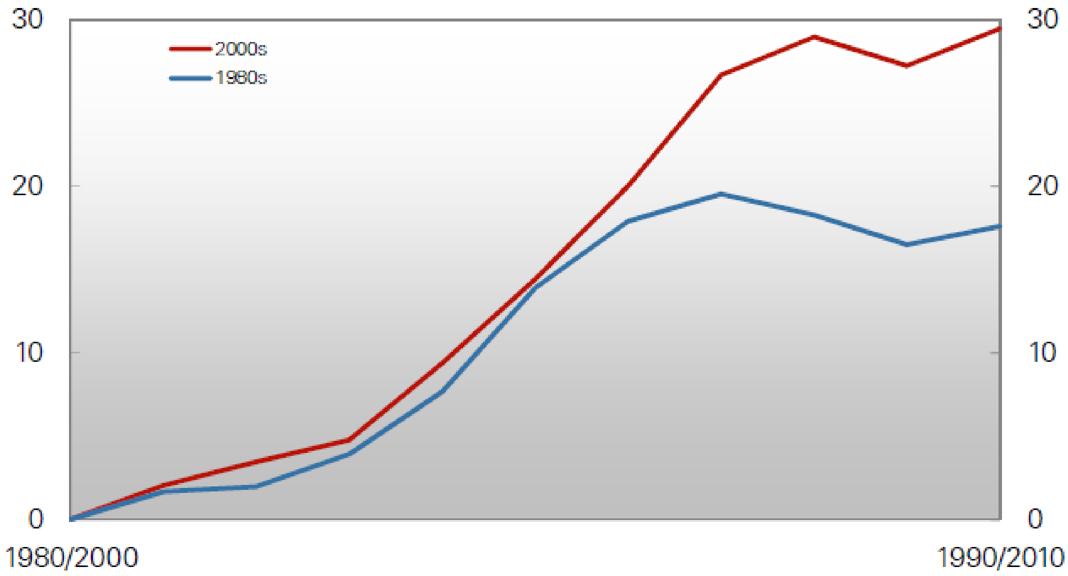

1) Index, January 2001 - April 2003. A falling curve denotes a stronger krone exchange rate
2) CPIXE. 12-month change. July 2002 – November 2005
Source: Norges Bank

Chart 10 Percentage change in the CPI since the beginning of each decade.
1980s and 2000s



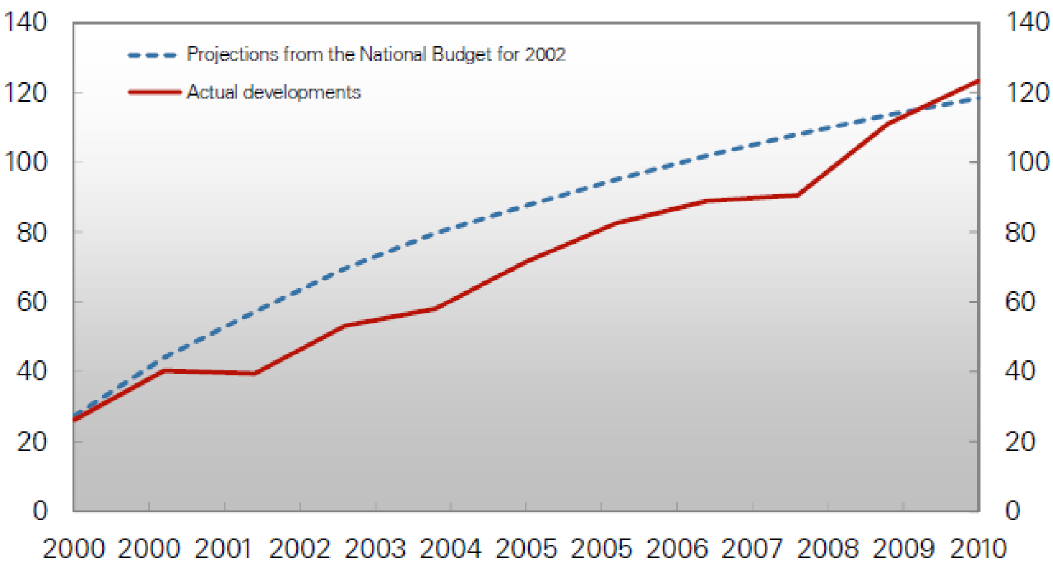

Sources: Statistics Norway and Norges Bank

Chart 11 Percentage growth in mainland GDP since the beginning of each decade[1]. 1980s and 2000s



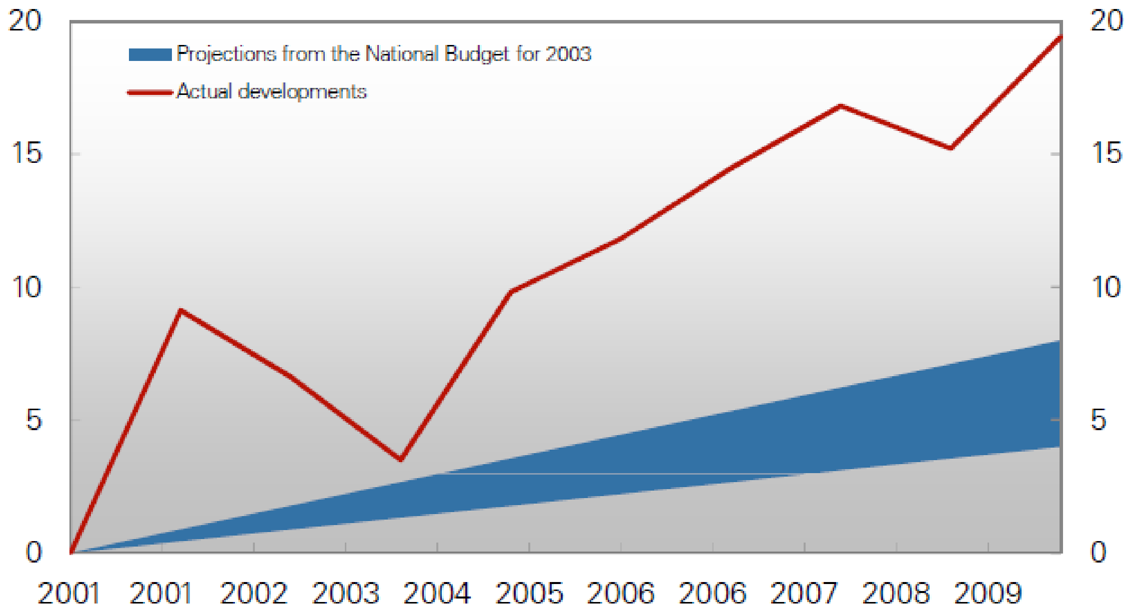

1) Projections for 2010 from Monetary Policy Report 3/10
Sources: Statistics Norway and Norges Bank

Chart 12 The Government Pension Fund Global. As a percentage of GDP[1]. 2000 - 2010




1) Market value of the Fund at year-end. Projections for GDP in 2010 are from the National Budget for 2011
Sources: Statistics Norway, Ministry of Finance and Norges Bank

Chart 13 Relative labour costs. Projections from the National Budget for 2003 and actual developments. Percentage change since 2001




Sources: Technical Reporting Commitee on Income Settlements, Ministry of Finance and Norges Bank

Chart 14 Household debt. As a percentage of GDP. 2000, 2005 and 2010[1)]


1) At end of 2000, 2005 and 3rd quarter 2010
2) Household debt from MFI (Monetary Financial Insitutions) in the euro area
3) C2, households. As a percentage of mainland GDP
Source: ECB, Thomson Reuters, Statistics Norway and Norges Bank