

# Price stability and monetary and fiscal policy interactions

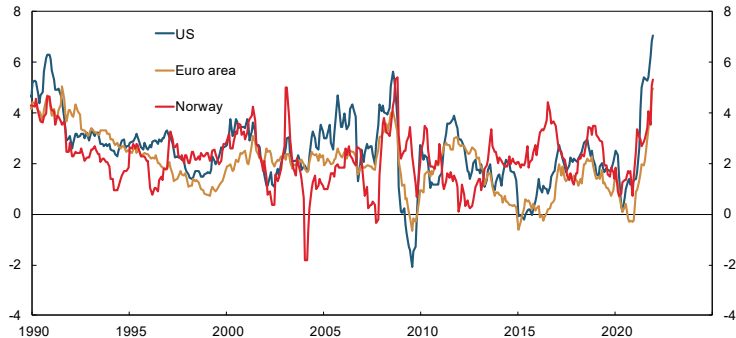
Speech by Ole Christian Bech-Moen, Executive Director of Monetary Policy, at “Valutaseminar”, the annual seminar of the Association of Norwegian Economists, 2 February 2022.

Please note that the text below may differ from the actual presentation.

The primary objective of monetary policy is low and stable inflation. Over the past 25 years, we have been accustomed to low and relatively stable inflation. In recent months, however, we have experienced a substantial rise in inflation, both internationally and here in Norway.

## Higher inflation

Consumer prices. Twelve-month change. Percent

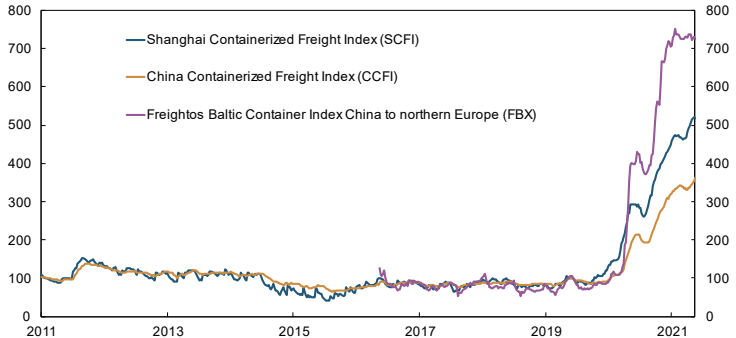


Sources: Refinitiv Datastream and Statistics Norway

A key driver of higher inflation has been supply-side constraints, partly owing to manufacturing and freight bottlenecks. Combined with strong growth in demand for the goods in short supply, this has led to a surge in prices for many internationally traded goods. The increase in energy prices has also been a driver.

## Bottlenecks

Index. February 2020 = 100

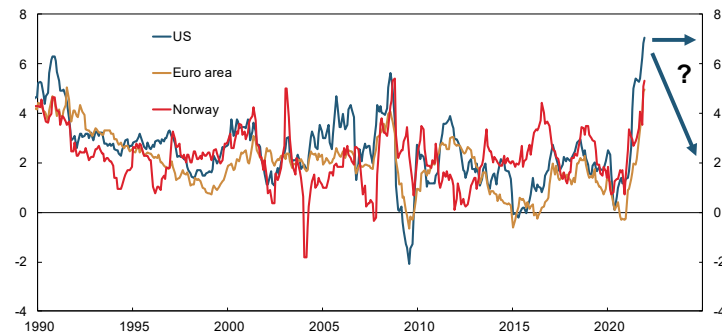


Source: Refinitiv Datastream

The big issue now being discussed internationally is whether higher inflation is transitory or here to stay. Production and freight bottlenecks are likely to unwind at some point. But have expansionary monetary and fiscal policies created inflationary pressures that will contribute to keeping inflation high even after the supply constraints loosen?

## Higher inflation – uncertainty ahead

Consumer prices. Twelve-month change. Percent



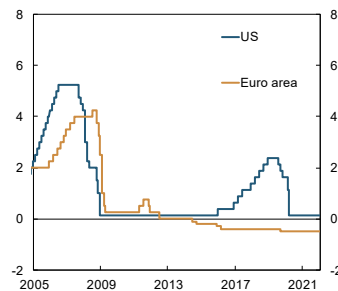
Sources: Refinitiv Datastream and Statistics Norway

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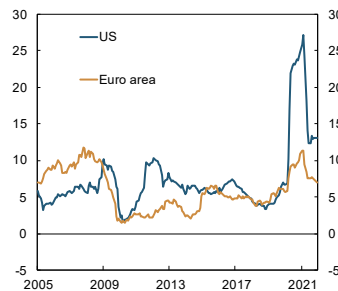
Norges Bank's forecasts indicate that inflation will come down. But the forecasts are uncertain and some of the uncertainty is related to the effects of monetary and fiscal policies internationally.

## Loose monetary policy

Policy rates. Percent



M2. Twelvemonth change. Percent



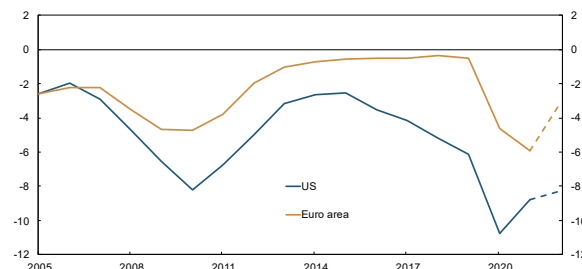
Sources: Bloomberg, OECD and Refinitiv Datastream

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Monetary policy in many countries has generally been expansionary since the Global Financial Crisis, and the coronavirus pandemic entailed a further need for monetary policy stimulus. Very low policy rates have been supplemented by quantitative easing by many central banks. Fiscal policy has become more expansionary over the past few years, resulting in large budget deficits.

## Expansionary fiscal policy

Budget deficit as share of potential GDP. Percent



Sources: IMF and Refinitiv Datastream

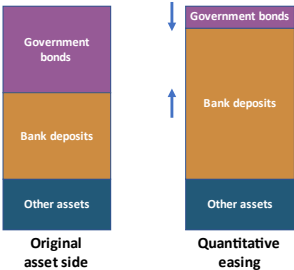
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An interesting question is whether this combination of fiscal stimulus and quantitative easing has contributed to higher inflation. One approach could be to look at how this combination affects the private sector's balance sheet. This could affect private sector demand and thereby inflationary pressures.

The asset side of the private sector basically comprises government bonds, bank deposits and other assets. I will focus on the first two.

### Quantitative easing

How is the asset side of the private sector balance sheet affected?



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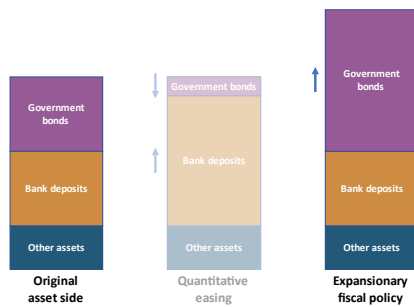
The chart shows the changes in the private sector's balance sheet due to quantitative easing. When private investors sell government bonds to the central bank, they receive money in return, in practice in the form of bank deposits. On the asset side, bank deposits will then increase and the stock of bonds will decrease. Private sector equity capital is not directly influenced by central bank bond purchases – only to the extent bond prices increase somewhat when the central bank buys bonds. What this basically entails for the private sector is a portfolio reallocation of one type of asset – bonds – to a marginally more liquid asset – bank deposits. There is really no reason to believe that this portfolio reallocation has any substantial direct effect on inflation beyond pushing up bond prices with an attendant fall in long-term rates. The latter has been one of the main reasons for engaging in quantitative easing – that is, to reduce long-term interest rates when the room for further policy rate cuts has been exhausted. A discussion of the effect of quantitative easing on asset prices more generally and potentially on financial stability, I will leave to another day.

My example implicitly assumes that the central bank bought existing government debt from the private sector – not new debt. This can be viewed as a simplified description of quantitative easing by some central banks in the wake of the Global Financial Crisis.

Let me now look at the simplest form of fiscal policy, with direct government transfers to the private sector financed by issuing government bonds that are sold to the private sector. As we see in the chart, private sector assets will rise because of the increase in the supply of new bonds. The amount paid for these bonds is returned to the private sector in the form of transfers, so that the money supply does not increase. Private sector assets will therefore comprise an unchanged stock of money, but a larger component of government bonds. Private sector net wealth has increased, matched by a decrease in public sector net wealth.

## Fiscal accommodation

How is the asset side of the private sector balance sheet affected?



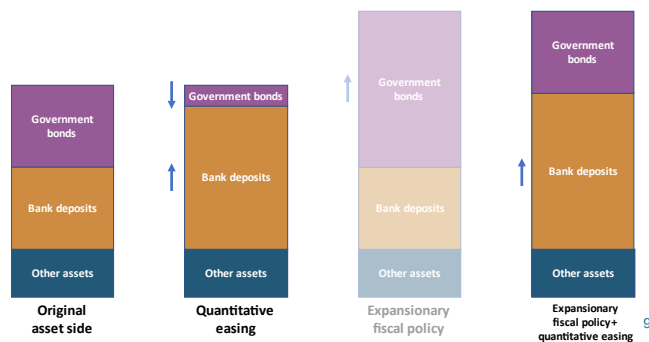
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Will government transfers to the private sector boost demand and in turn fuel inflation? This has long been a key question in the economics literature. The answer depends in part on the extent to which private agents view the increase in equity capital – in an accounting sense of course – as a real increase in their wealth and thereby their capacity to consume. That depends in turn on the extent to which they expect that the increase in government debt will have to be repaid out of future tax increases, that is, the extent to which Ricardian equivalence holds. Most economists agree that an expansionary fiscal policy has a stimulatory effect, and thereby contributes to higher inflation.

Let us now assume for the sake of simplicity that the central bank buys the *new* bonds. This can be viewed as a simplified description of the quantitative easing engaged in by some central banks during the pandemic.

## Quantitative easing and fiscal accommodation

How is the asset side of the private sector balance sheet affected?



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The effect on the private sector's balance sheet is shown in the chart. When the central bank purchases new bonds, private sector bank deposits increase. At the same time, the increase in their bond holdings due to the fiscal stimulus is reversed. The sum of fiscal stimulus and quantitative easing is thereby an increase in the money supply that is not matched by a reduction in private sector bond holdings.

Intuitively one might think that this increase in the money supply automatically fuels inflation. As I just mentioned, it is not obvious that a portfolio reallocation resulting from central bank bond purchases leads to higher inflation.

An expansionary monetary policy – with low policy rates *and* low long-term rates – stimulates the economy and fuels inflation. An expansionary fiscal policy – with increases in transfers and public demand – will also stimulate the economy. But if the deficit is financed by “money printing” and not by debt, the result will not necessarily be higher inflation.

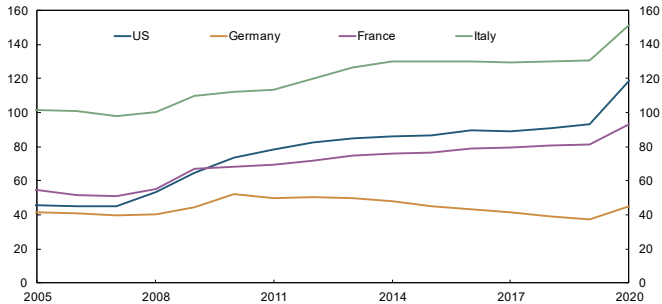
In practice, the financing may nevertheless have a bearing due to certain mechanisms. Will people perhaps expect, rightly or not, that printing-press financed budget deficits will lead to higher inflation and lower real interest rates, inducing them to spend the money sooner? Will perhaps money in the form of bank deposits be more readily spent than money that is held as bonds? And will politicians, rightly or wrongly, perhaps regard money printing as a cheaper source of financing, inducing them to pursue a more expansionary fiscal policy?

I have now discussed the inflationary effects of quantitative easing and fiscal policy in the short run. Over a longer horizon, inflation will largely be determined by some fundamental properties of monetary and fiscal policy regimes. If monetary policy is geared towards ensuring low and stable inflation, and central banks have the instruments and independence to fulfil their mandates, it makes sense to think that the increase in inflation is temporary. The question is not *whether* inflation will be brought down again, but what the cost will be in the form of higher interest rates and reduced economic activity.

However, the literature on monetary and fiscal policy interactions also analyses situations where monetary policy is not able to deliver price stability. A concept often used to describe such a situation is fiscal dominance.<sup>1</sup> Under fiscal dominance, fiscal policy is not sustainable, and sooner or later, the central bank must abandon its price stability objective and instead use monetary policy to finance budget deficits by printing money. In practice, it is then fiscal policy that determines inflation.

What distinguishes that from the above discussion of expansionary fiscal policy, where the central buys bonds? I argued then that this did not necessarily lead to higher inflation, at least not beyond the stimulus from an expansionary fiscal policy. In the static analysis of the private sector’s balance sheet, however, the implicit assumption was “monetary dominance” and not fiscal dominance. Under monetary dominance, the government adjusts spending and taxation so that fiscal policy is sustainable. Monetary policy can then take responsibility for price stability. The aim of quantitative easing in the balance sheet analysis was to stabilise inflation and the real economy – not finance budget deficits. Under fiscal dominance, on the other hand, the central bank would have had to steadily increase its purchases of government bonds and would not have been able to use its policy rate to curb inflation.

**Rising government debt**  
 Government debt. Share of GDP. Percent



Source: IMF

It is not difficult to find examples of fiscal dominance in history, and even in some countries today. Fiscal support measures during the pandemic have driven up government debt in many countries that had already risen to high levels in the wake of the Global Financial

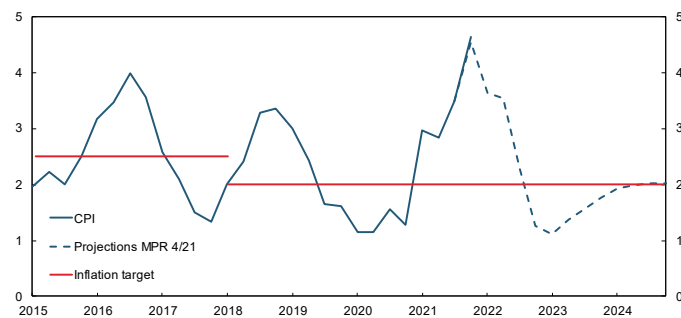
<sup>1</sup> The distinction between fiscal dominance and monetary dominance can be traced to the seminal article “Some Unpleasant Monetarist Arithmetic” from 1981 by Nobel laureate Thomas Sargent and his co-author Neil Wallace.

Crisis. Is there a risk of fiscal dominance becoming more widespread? If central banks in heavily indebted countries raise policy rates, budget deficits may rise owing to higher interest expenses, and governments may be compelled to tighten fiscal policy. If central banks are not willing to raise policy rates to the extent necessary to bring inflation under control, out of concern for government budget positions, a situation may arise that in practice can be characterised as fiscal dominance.

As I mentioned earlier, Norges Bank's forecasts suggest that inflation in Norway and abroad will move down again in the course of this year.

## Expecting inflation to move down

Consumer price index (CPI). Four-quarter change. Percent



Sources: Statistics Norway and Norges Bank

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The implicit assumption underlying our economic analyses is *monetary* dominance – not fiscal dominance – both here in Norway and among our trading partners. Even so, the assumption of monetary dominance in Norway is not particularly controversial because, unlike most other countries, Norway has substantial public wealth.

Even if we assume monetary dominance, economic theory makes an important point: monetary policy cannot necessarily take sole responsibility for price stability. The fiscal stance must not undermine the primary task of monetary policy.

I have so far talked about the implications of monetary and fiscal policy interactions for price stability. I'll now turn to the implications of these interactions for stability in the real economy.

Over the past 30 years, there has been a relatively broad global consensus among economists that monetary policy is appropriate as the first line of defence in stabilisation policy. Policy rates can be changed quickly to mitigate the impact of economic shocks. Fiscal policy measures, on the other hand, usually take longer to decide and implement (even if the pandemic support measures proved that this can also be done quickly). Some fiscal stimulus measures can also be difficult to reverse. Active use of fiscal policy may therefore conflict with the sustainability of government finances in some countries.

The experiences of the Global Financial Crisis and the pandemic have to some extent changed the economics profession's views on fiscal policy. Previously, the focus was on ensuring sustainable government finances by means of rule-based fiscal frameworks. But as we have seen in recent years, both monetary and fiscal policy measures will be needed to address large, extraordinary shocks.

The appropriate policy mix generally depends on the nature of the economic shock. The pandemic can serve as an example. We interpreted the shock as both a negative supply shock and a negative demand shock, but the net effect was insufficient demand relative to

potential output in the near term. (This is also referred to as a “Keynesian supply shock”.<sup>2</sup>) If the problem is insufficient demand relative to potential output, an expansionary monetary policy will normally help stabilise both the real economy and inflation.

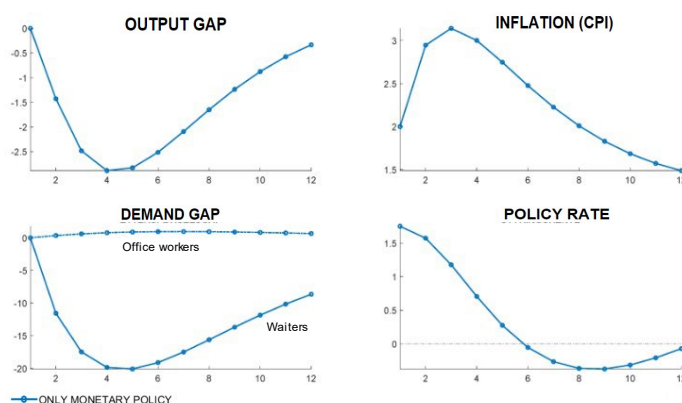
Another characteristic of the “pandemic shock” is that it affected sectors and groups very unevenly: it was an asymmetrical shock. Sectors based on close customer contact, such as culture, tourism and restaurant industries, were the ones that bore the brunt of the pandemic-related restrictions.

Let me illustrate a few points about monetary and fiscal policy interactions in a situation that can be interpreted as a simplified description of the shocks during the pandemic with the help of a small-scale, stylised model.

In the model there are two groups in the population – those working in sectors that were shut down and those working in sectors not directly affected. For the sake of simplicity, I call them “waiters” and “office workers”. The shock that hits the economy is a negative demand shock to the “waiter” sector.

Let us first look at the case where only monetary policy responds, which can be seen as an illustration of the traditional view of monetary policy as the first line of defence in stabilisation policy.

## Only a monetary policy response



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The chart shows the effects of the shock on the policy rate, inflation, output and demand from “waiters” and “office workers”, respectively. Here the central bank pursues a normal monetary policy, where the policy rate responds to inflation and overall activity (as measured by the output gap). Even though the shock only hits the one sector, it has aggregated effects. The central bank lowers its policy rate, reducing the fall in the output gap. Even though the output gap falls, inflation rises. The reason is that the exchange rate depreciates due to a lower interest rate, which pushes up imported goods inflation.

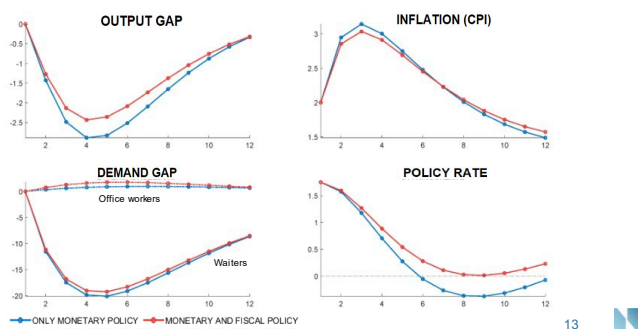
The policy rate reduction curbs some of the fall in demand from “waiters”. Yet at the same time, the lower policy rate stimulates demand from “office workers”, who have not been affected by the shock. Demand for the latter group ends up being marginally higher than before the shock. Monetary policy can therefore counteract the aggregate effects of the

<sup>2</sup> See Guerrieri, V. et al. (2022) “Macroeconomic implications of Covid-19: Can negative supply shocks cause demand shortages?”. *American Economic Review* (forthcoming).

shock but cannot target a specific sector. As such, nor can it affect the distribution between “waiters” and “office workers”.

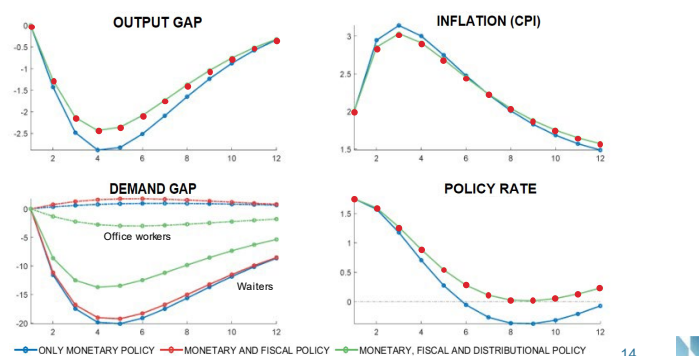
In this case, it is assumed that the central bank can lower the policy rate substantially. In practice, however, the room for rate cuts may be limited, either because there is a limit to how low the policy rate can be set before transmission to market rates is lost or because there may be other reasons why the central bank is reluctant to set the policy rate below a certain level. For example, a number of central banks, including Norges Bank, are very reluctant to set a negative policy rate, because it can result in undesirable and unintended effects on financial markets. The lower bound for the policy rate is shown by the broken line in the chart. If this lower bound is binding, monetary policy will be less able to cushion an economic downturn.

### Monetary policy and traditional fiscal policy



Now assume that fiscal policy supplements monetary policy in the form of traditional aggregate countercyclical policy, which responds to *aggregate* demand. This case is shown in the chart. We see that fiscal accommodation lessens the need for a policy rate cut, and the lower bound for the policy rate is no longer binding, as we have specified fiscal policy. But even if such a policy is beneficial with regard to the lower bound, traditional fiscal accommodation will not help even out demand between “waiters” and “office workers” either.

### Monetary policy and targeted fiscal policy



Unlike monetary policy, fiscal measures can be targeted. In this chart, I assume that the government is concerned with distributional effects and implements targeted support to the “waiters”. The result is that demand from the “waiters” falls to a lesser extent. In these model exercises, I have assumed that there is some redistribution from the “office workers” to the “waiters” so that demand from the former group shows some decline. The support for the “waiters” also has an effect on aggregate demand, lessening the need for a very low policy



rate here as well (the green line is on top of the red line). In this model exercise, pursuing a targeted fiscal policy in addition to an expansionary monetary policy result in substantial gains.

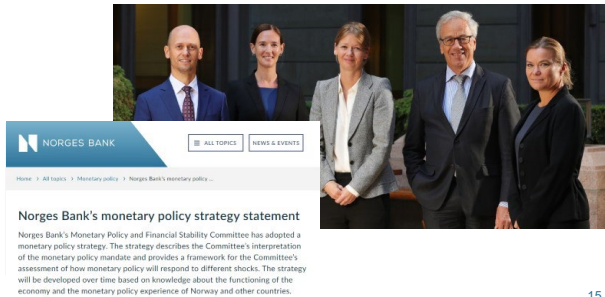
The ability to target instruments is generally an advantage when responding to asymmetrical shocks. In this model exercise, I have assumed that it is easy to identify which groups are affected by the shock. This is perhaps a natural assumption in order to illustrate support measures during the pandemic. However, it is often very difficult to identify how different groups are impacted. In addition, it is not always evident in practice whether the shock is temporary, as assumed here, or permanent. If the shock proves to be permanent, targeted measures may stand in the way of the necessary structural adjustments.

There are several dimensions of the policy mix that have not been included in the simple model exercises I have presented, but that we want to explore further in the future. For example, the policy mix can be important in order to avoid a build-up of financial imbalances caused by stabilisation policy.

I have now illustrated that effective interaction between monetary policy and fiscal policy can yield benefits. Central bank independence is crucial. It is nonetheless an advantage that the two policy areas are familiar with each other's response patterns in order to make the right decisions. Information sharing between the Ministry of Finance and Norges Bank is an important element.<sup>3</sup>

In December, Norges Bank published the Monetary Policy and Financial Stability Committee's monetary policy strategy. The strategy builds a bridge from the mandate for monetary policy to its practical implementation.

### Norges Bank's monetary policy strategy

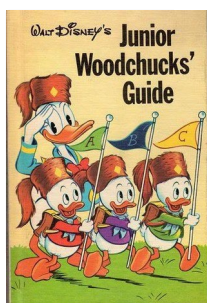
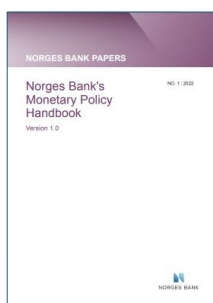


The academic basis for monetary policy in general and the strategy in particular have now been compiled into Norges Bank's *Monetary Policy Handbook*, which is being published today. We'd like the handbook to be thought of as a kind of Junior Woodchucks' guidebook for monetary policy. If you're wondering about some aspect of how we conduct monetary policy, you can look it up in the handbook.

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<sup>3</sup> This was also pointed out in the National Budget for 2022, where the Government writes "(I)t is especially important for fiscal policy and monetary policy to be formulated on the basis of a shared understanding of the state of the economy and how the policy areas function, both separately and in interaction with each other".

## Monetary Policy Handbook



By publishing both Norges Bank's monetary policy strategy and its *Monetary Policy Handbook*, we hope to provide the authorities and the general public with deeper insight into our monetary policy assessments, response pattern and decision basis. We also wish to discuss issues of relevance to monetary policy with today's participants and other fellow economists in other institutions. We hope that the strategy and the handbook will also be useful in that context.

Thank you for your attention.