



# Monetary Policy

(Advanced Monetary Economics)



ECON 4325

# Outline

- Announcing the two *Midterm Quiz Winners!*
- Monetary Policy in Norges Bank
  - What?
  - Why?
  - How?
- Norges Bank Watch 2016
  - Main critique
  - Main response

Recall:  
Both MP report 1/16 and  
the NB Watch report are on  
the reading list.

# Monetary Policy in Norges Bank

## What?

1/9

### Policy objective:

- Low and stable inflation
  - Close to 2.5 per cent over time
- A flexible inflation targeting regime
- Stabilize inflation in the **medium** term
  - The horizon will depend on disturbances to which the economy is exposed and the effects on prospects for the path for inflation and the real economy.

### Policy decision:

- 6 times per year
- Press conference and written document which explains the assessments (also when the rate is not changed)

### Economic Analysis

- Monetary Policy Report - with financial stability assessment
  - Four per year (March, June, September, December)
  - Forecasts of several variables like inflation, the output gap and the key interest rate (!)

# Monetary Policy in Norges Bank

## What?

2/9

### Decision-making process:

- “Autocratically-collegial” committee (Blinder, 2009)
  - 3 Internals (Governor and Dep. Governor)
  - 5 external members (part-time)
  - 2 alternates (part-time)



Øystein Olsen  
Chairman  
Governor



Jon Nicolaisen  
Deputy chairman  
Deputy Governor



Egil Matsen  
Deputy chairman  
Deputy Governor



Hilde Myrberg  
Board vice chair Petoro  
Strong petroleum experience  
Board member since 2014



Kathryn M. Baker  
Significant board experience  
Board member since 2016



Karen Helene Ulltveit-Moe  
Professor at UiO  
Board member since 2014



Kjetil Storesletten  
Professor UiO  
Board member since 2014



Steinar Juel  
Economist Civita  
Prev. Chief Economist Nordea  
Board member since 2013



Arne Hyttnes  
Alternate since 2016



Kristine Landmark  
Alternate since 2016

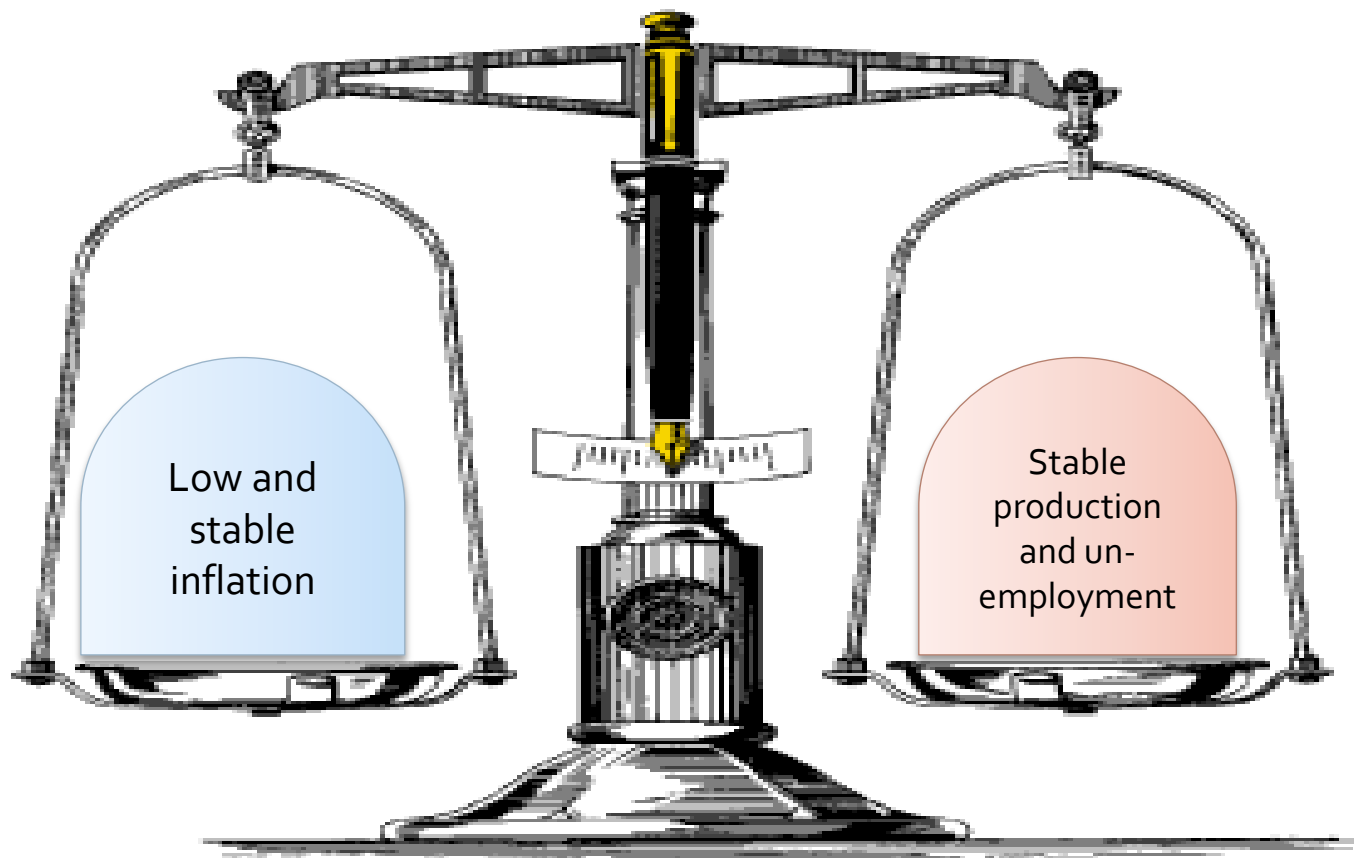
- No minutes or voting record, but the written document published immediately after the decision has some elements of minutes. Speeches by the internal members.

# Monetary Policy in Norges Bank

What?

3/9

## Flexible inflation targeting



# Monetary Policy in Norges Bank

## What?

4/9

### Monetary Policy Report

- Forecasts with fan charts
  - For inflation, output gap, interest rate
- “Delta accounting”
  - Why is the interest rate changed or not changed?
- Every report states: *The reported interest rate path will be the expected path unless the Norwegian economy is exposed to new major shocks*
  - Important for credibility that the CB keeps this promise. How should you as a market participant form your expectations based on this statement?

# Monetary Policy in Norges Bank

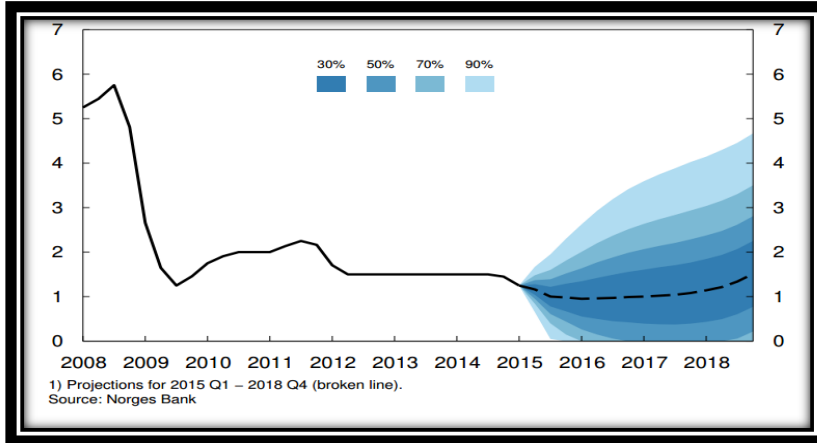
What?

5/9

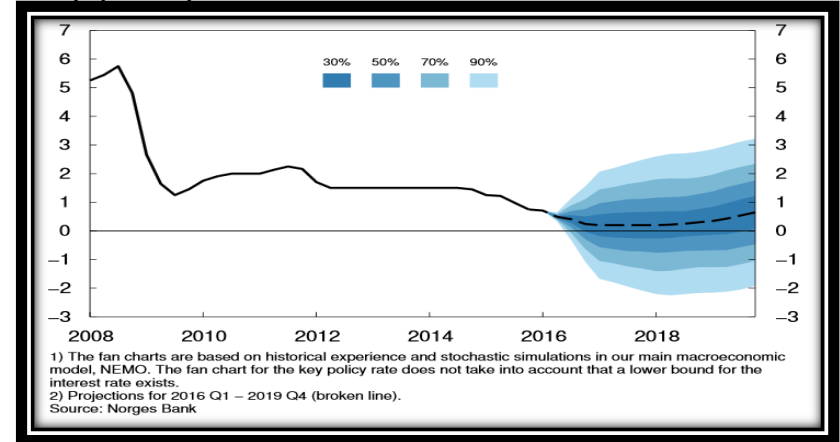
Baseline scenarios in MPR 1/15

Baseline scenarios in MPR 1/16

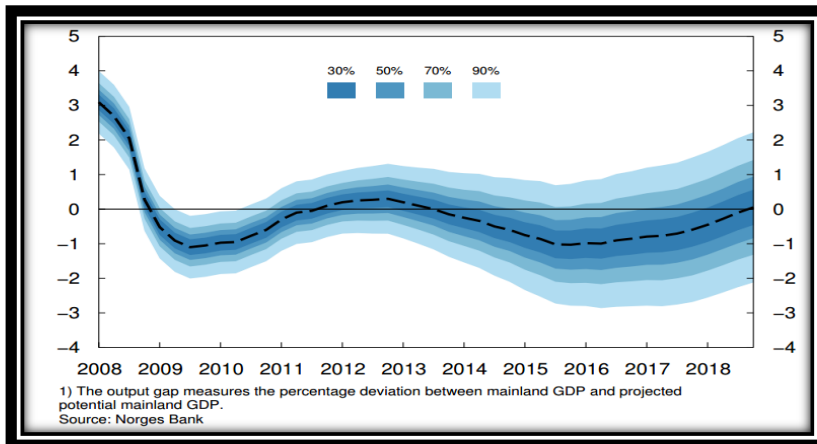
Key policy rate



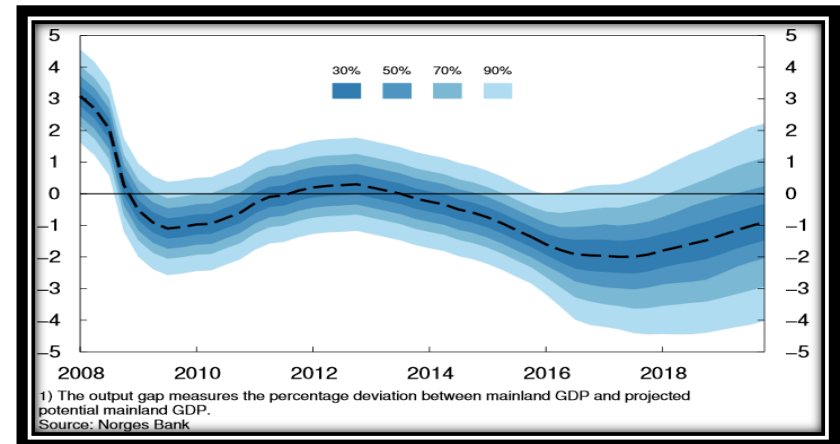
Key policy rate



The **projected** output gap



The **projected** output gap



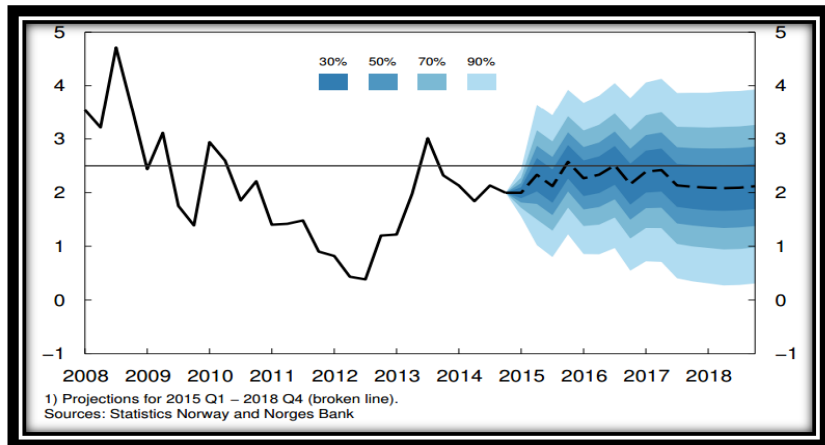
# Monetary Policy in Norges Bank

## What?

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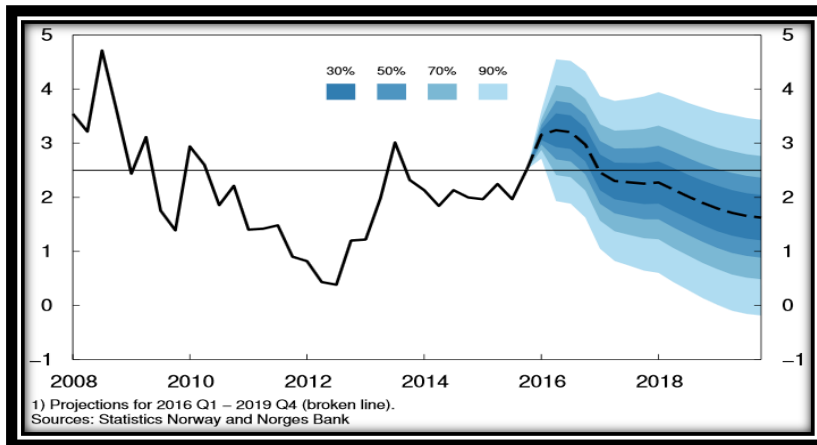
Baseline scenarios in MPR 1/15

### Inflation (CPI)

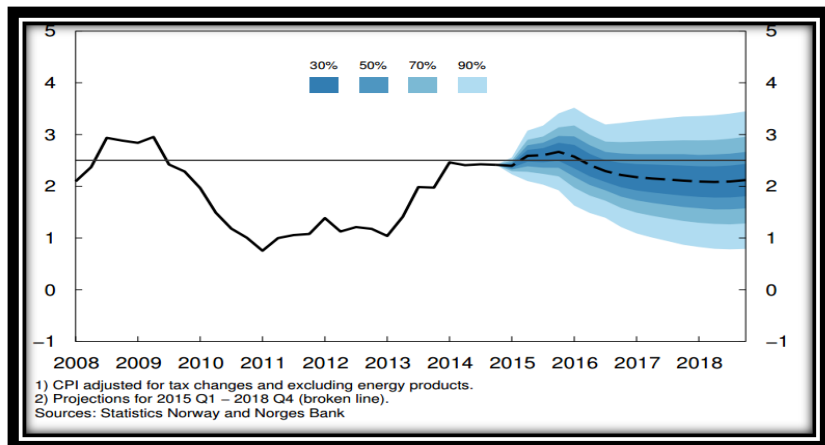


Baseline scenarios in MPR 1/16

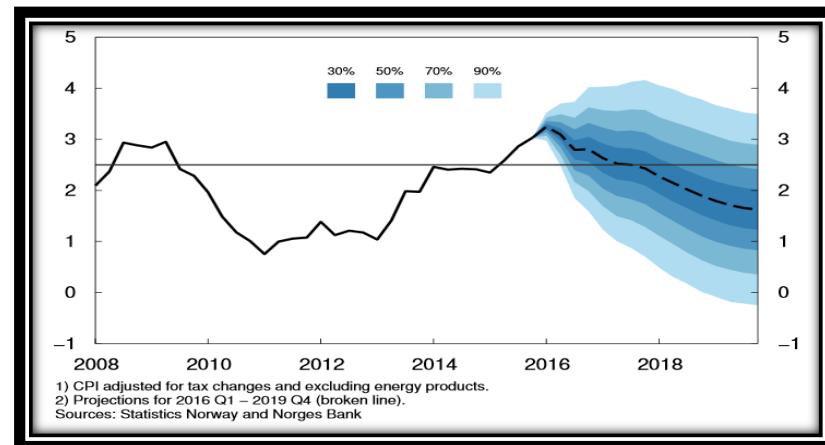
### Inflation (CPI)



### Core Inflation (CPI-ATE)



### Core Inflation (CPI-ATE)





# Monetary Policy in Norges Bank

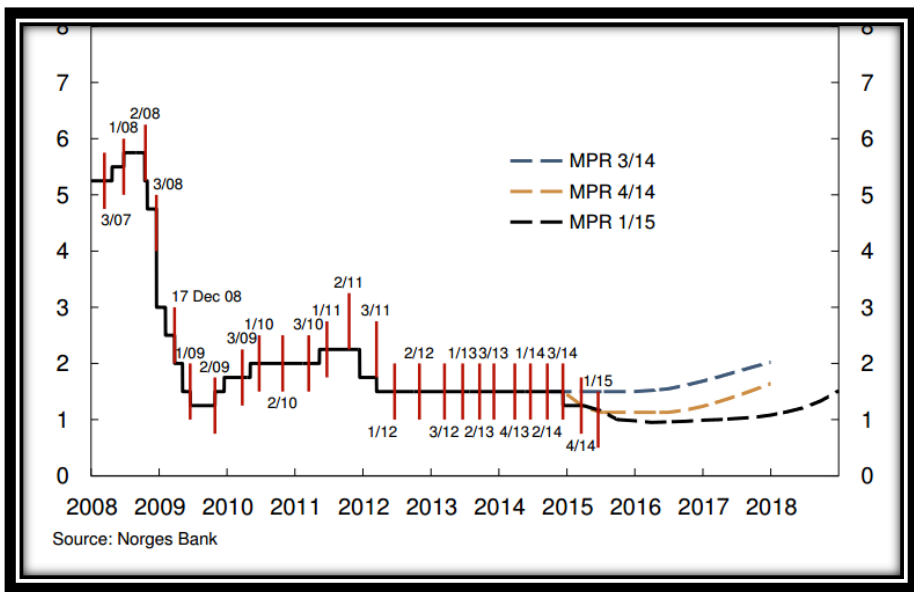
## What?

7/9

When the facts change, we change our minds..

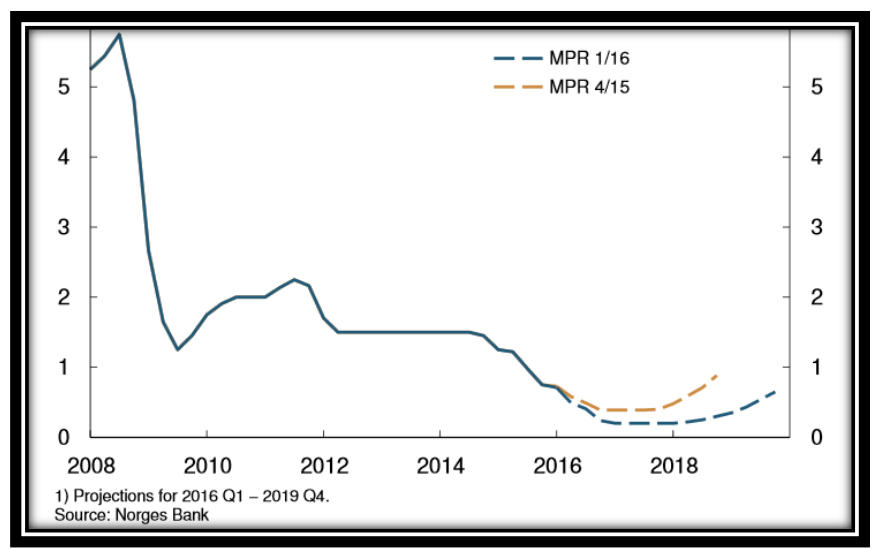
What do you do, Sir?

Changes in the key policy rate path



**MPR 1/15:** Lowering the interest rate path

**MPR 1/16:** Further lowering the interest rate path

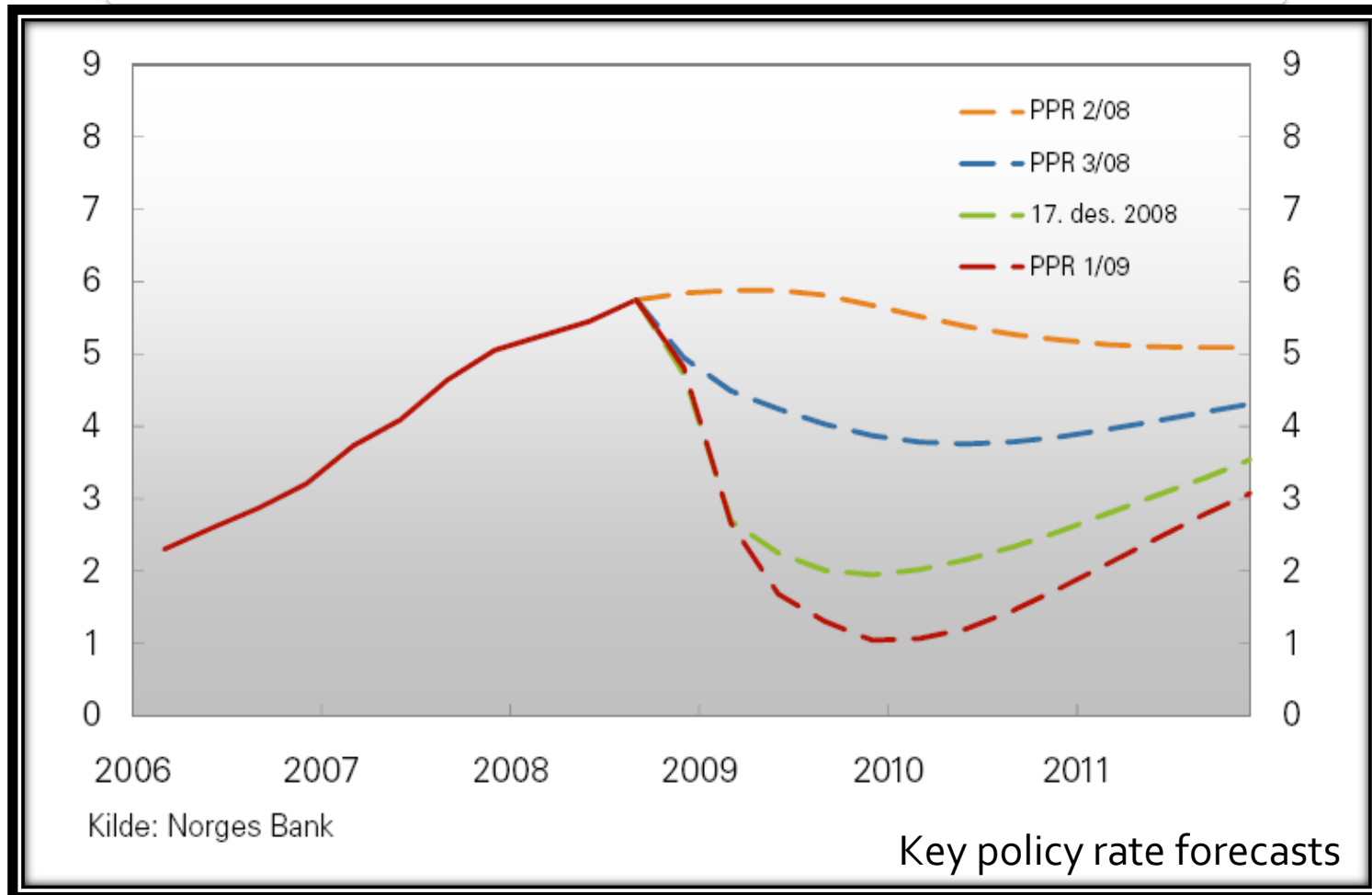


# Monetary Policy in Norges Bank

What?

8/9

When the facts **really** changed, “we” also changed our minds..



# Monetary Policy in Norges Bank

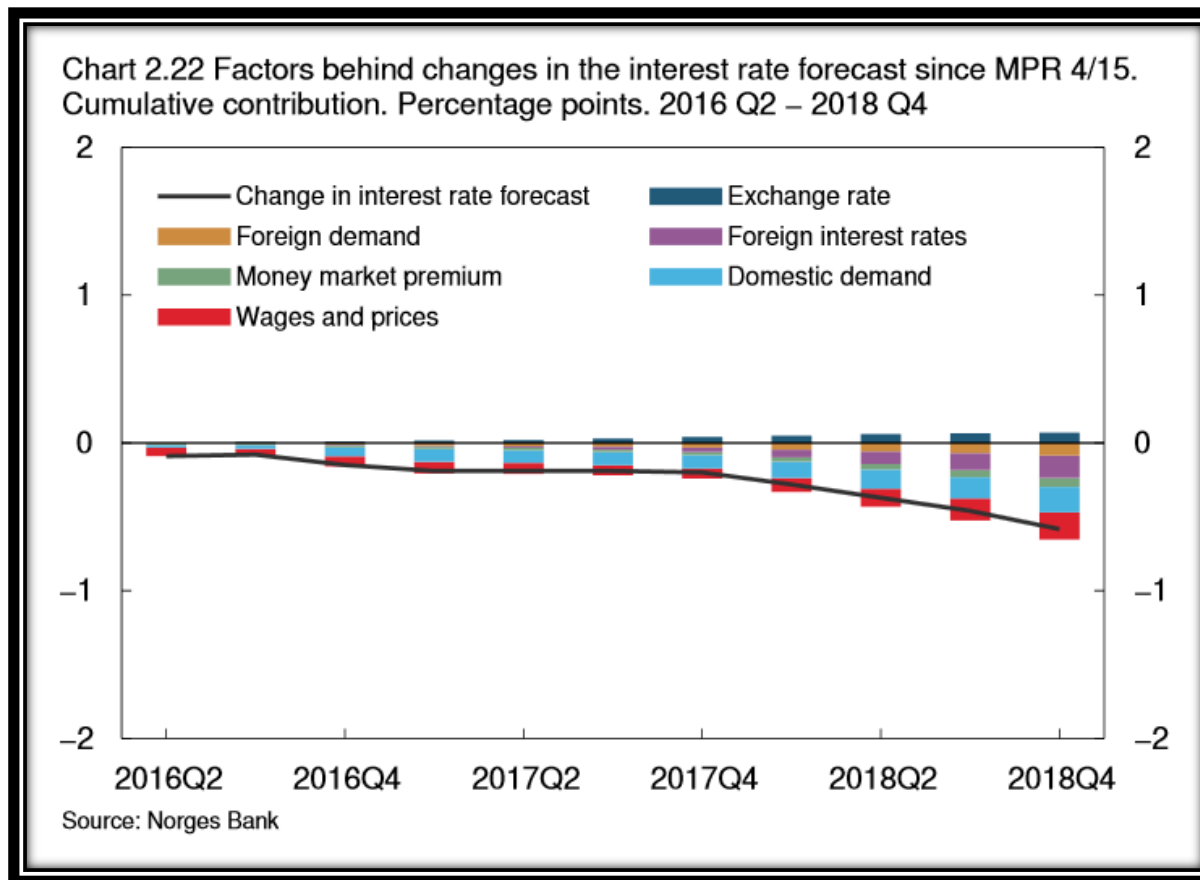
What?

9/9

Factors behind the lowering of the interest rate path

Changes between MPR 4/15 and MPR 1/16:

Super transparency!



# Outline

- Monetary Policy in Norges Bank
  - What?
  - Why?
  - How?
- Norges Bank Watch 2016
  - Main critique
  - Main response

# Monetary Policy in Norges Bank

## Why?

1/6

- Because the central bank wants to ensure stability and affect

*inflation expectations*

- Monetary policy is “management of expectations”

*For not only do expectations about policy matter, but (...) very  
little else matters*

(Woodford 2005)

# Monetary Policy in Norges Bank

## Why?

2/6

- Everyone talks about the future in one way or another!

### Janet Yellen, 18 March 2015

*"The Committee judges that it can be patient in beginning to normalize the stance of monetary policy."*

*"just because we removed the word 'patient' from the statement doesn't mean we'll become impatient"* (after the U.S. Federal Reserve dropped its "patient" stance, putting the central bank on course to hike rates as early as June.)

### Bernanke on 27 August 2011

*"Whatever it takes, we are going to do it"*

### Draghi on 10 March 2016

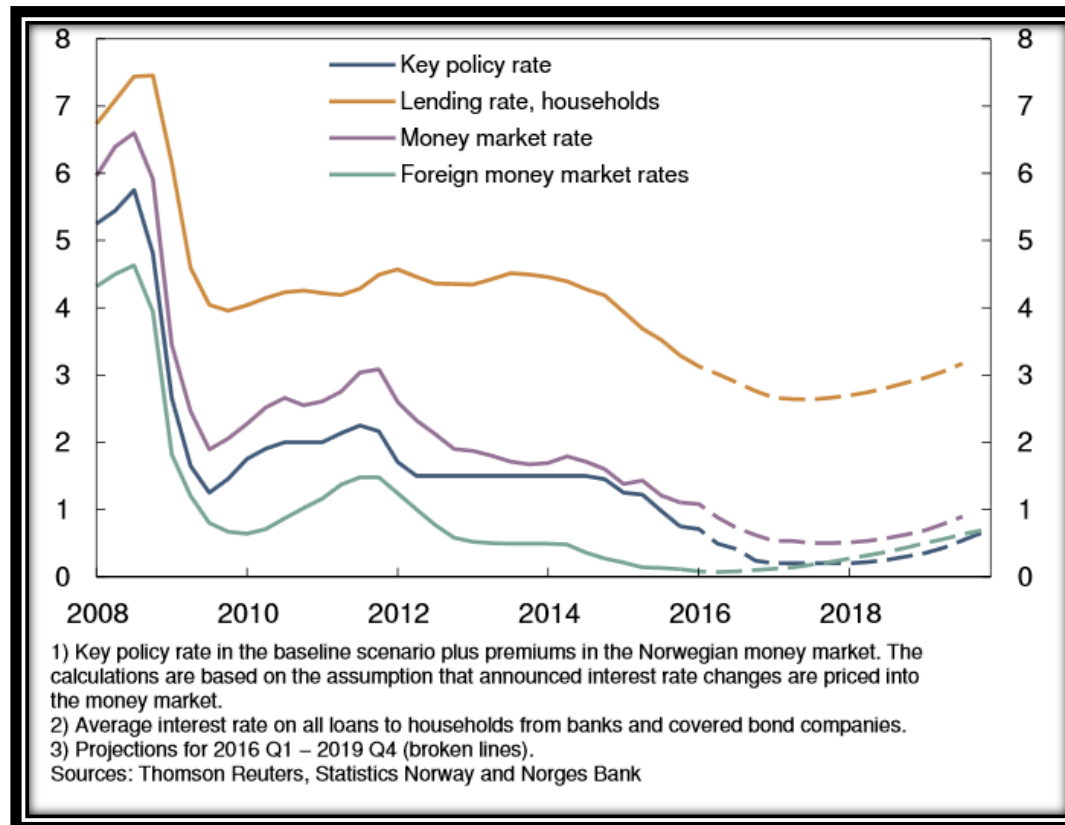
*"we don't anticipate that it will be necessary to reduce rates further."*

*"... rates will stay low, very low, for a long period of time ..."*

# Monetary Policy in Norges Bank

## Why?

3/6



*Central banks generally control only the overnight interest rate, an interest rate that is relevant to virtually no economically interesting transactions.*

# Monetary Policy in Norges Bank

## Why?

4/6

### Effects of publishing interest rate forecast

- Can more efficiently affect market expectations
- The market can react to **new information**
  - Market interest rates should adjust when economic **news** occur, and not when the policy decision is announced
- More **transparency** may lead to **stabilization** of inflation and output
  - As discussed at lecture 2
- Easier to **evaluate** monetary policy

### Experiences with publishing the interest rate forecast

- More **precise communication** than verbal deliberations
- Conditionality **well understood** by market participants
  - It's a forecast – not a promise
- **Less** monetary policy **surprises**
  - (If we adjust for the financial crisis)
- Market rates more stable
- Makes the internal process more focused
  - Each piece in the forecasting process has measurable interest rate implications



# Monetary Policy in Norges Bank

## Why?

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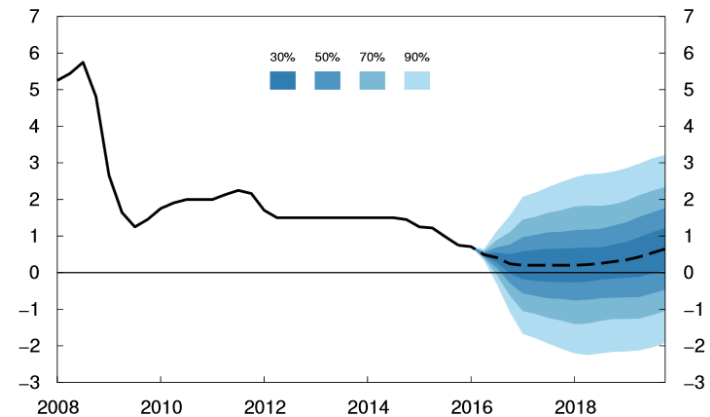
Mario Draghi, ESB



Janet Yellen, Fed



Mark Carney, Bank of England



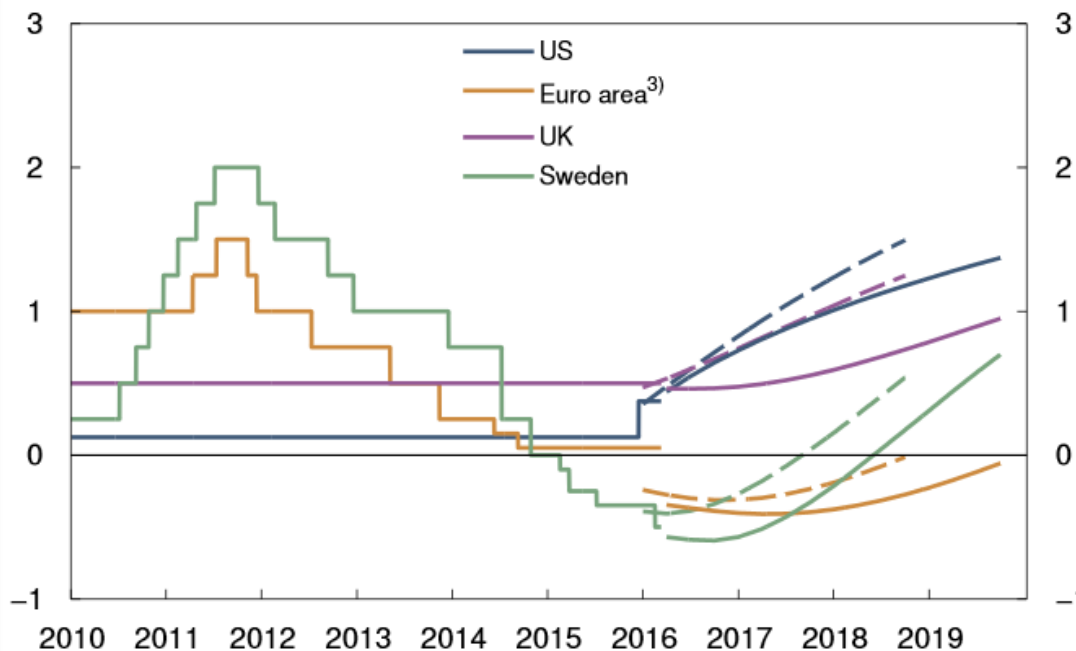
Norges Bank

# Monetary Policy in Norges Bank

## Why?

6/6

Chart 1.14 Policy rates and estimated forward rates at 11 December 2015 and 11 March 2016<sup>1)</sup>. Percent. 1 January 2010 – 31 December 2019<sup>2)</sup>



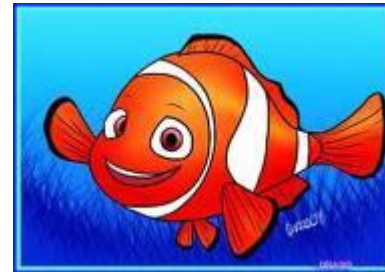
1) Broken lines show estimated forward rates at 11 December 2015. Solid lines show forward rates at 11 March 2016. Forward rates are based on Overnight Index Swap (OIS) rates.  
2) Daily data from 1 January 2010 and quarterly data from 1 January 2016.  
3) EONIA for the euro area from 2016 Q2.  
Sources: Bloomberg, Thomson Reuters and Norges Bank

The market forms their interest rate expectations based on the communication from the CBs

Given the chart, how do you think the market evaluates the current economic situation?

# Outline

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  - Why?
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- Norges Bank Watch 2016
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  - Main response



# Monetary Policy in Norges Bank

## How?

1/11

### Norges Bank's criteria for a good interest rate path:

- 1) Stabilizing inflation close to the target in the medium term.

$$L_t = (\pi_t - \pi^*)^2$$

- 2) A reasonable balance between the path for inflation and the path for capacity utilization.

$$L_t = (\pi_t - \pi^*)^2 + \lambda(y_t - y^{potential})^2$$

- 3) Gradualism and consistency

$$L_t = (\pi_t - \pi^*)^2 + \lambda(y_t - y^{potential})^2 + \gamma(i_t - i_{t-1})^2$$

- 4) Robustness and cross-checks / "normal" situations

$$L_t = (\pi_t - \pi^*)^2 + \lambda(y_t - y^{potential})^2 + \gamma(i_t - i_{t-1})^2 + \tau(i_t - i_t^*)^2$$

# Monetary Policy in Norges Bank

How?

2/11

How to implement these criteria?



A model-based approach

Why model the interest rate path?



Ensure consistency

Science  
versus art



Focus the discussions



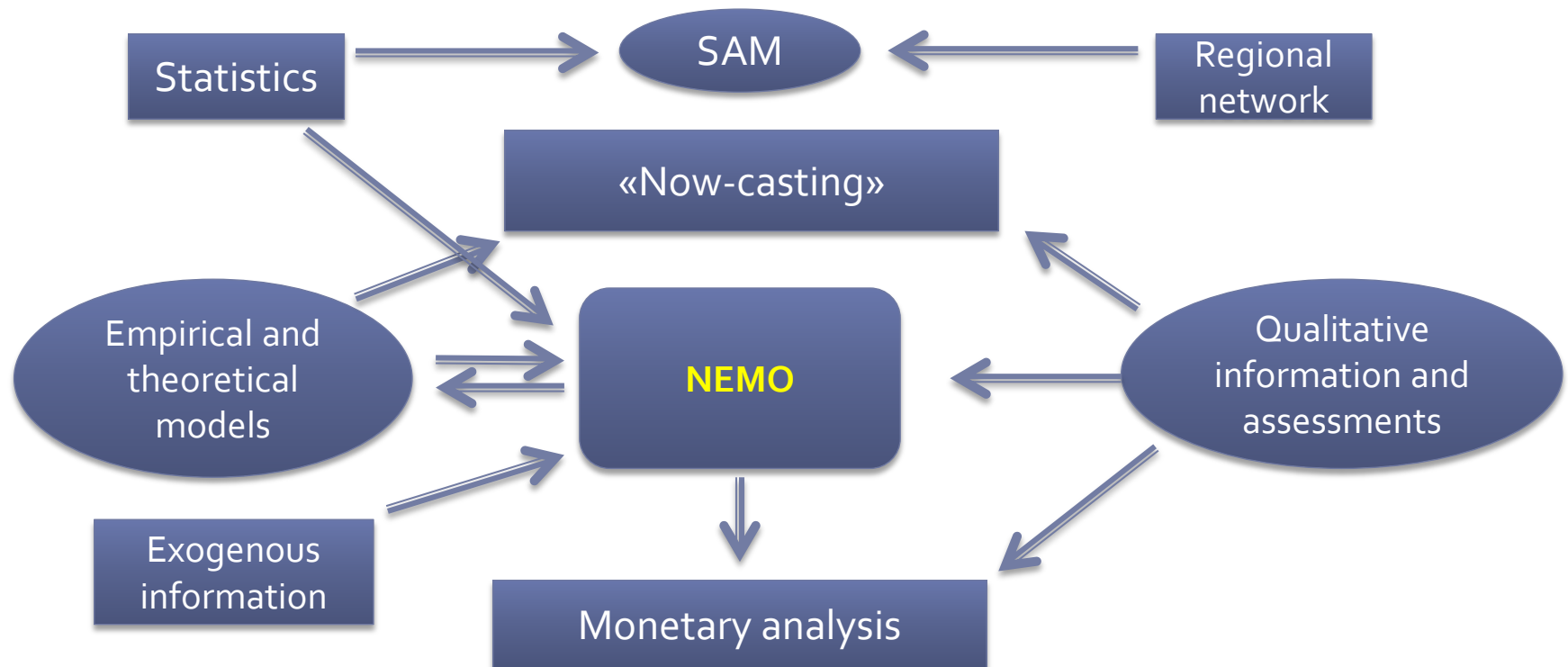
Document the use of judgment

The interest rate forecast that best satisfies the criteria may be interpreted as the interest rate path that minimizes the sum of current and future losses.

# Monetary Policy in Norges Bank

How?

3/11



# Monetary Policy in Norges Bank

## How?

4/11

### WHAT DO CENTRAL BANKS DO IN PRACTICE?

- Optimal control?

- Minimizes a loss function
- Uses a lot of information

- Simple interest rate rules?

- Not mechanically, but as cross checks!
- In MPR: Always comparison with rules as cross-checks

One example of cross-checking:

Minutes from interest rate meeting at the Riksbank 14 December 2010:

*"With GDP growth of over 5 %, more or less normal resource utilization, and inflation and inflation expectations at around 2 %, it feels **slightly uncomfortable** to have a repo rate of 1.25 %. A traditional **Taylor rule** would in the present situation result in a repo rate of 3 to 4 %."*

Deputy Governor Svante Öberg

# Monetary Policy in Norges Bank

## How?

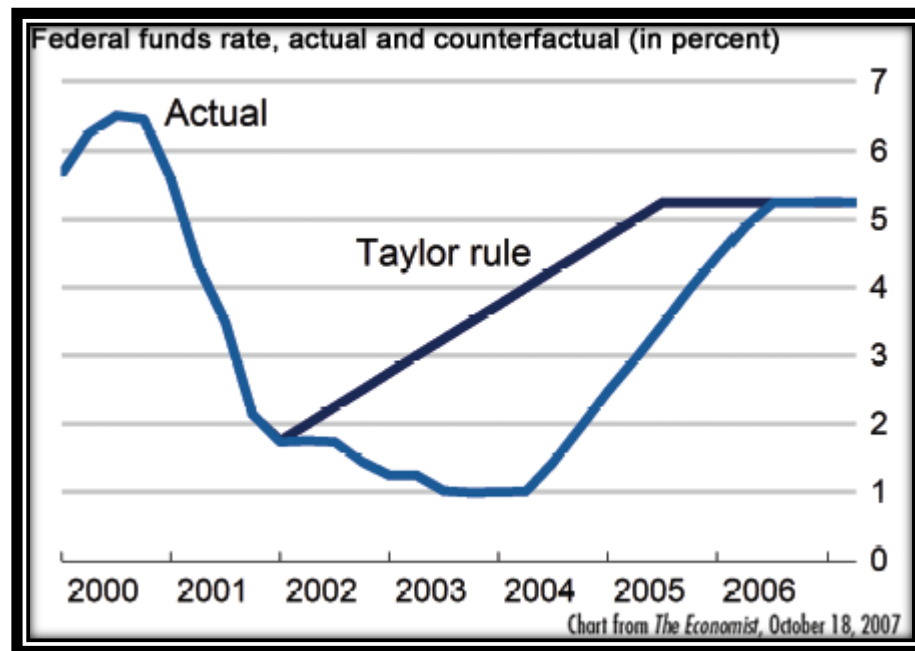
5/11

Another example of cross-checking:

Otmar Issing (the first ECB Chief Economist and former ECB board member) expressed his views in 2007:

*"At the ECB we were confronted with extreme uncertainty on data for the output gap and the equilibrium interest rate. Notwithstanding this difficulty it was important always to monitor estimates of the Taylor rule using a variety of data."*

- Why is the Taylor rule so trusted for cross-checking?
  - Seems to fit well with data
  - Has been very influential
  - Recall graph from last lecture:





# Monetary Policy in Norges Bank

## How?

6/11

Said about interest rate rules:

### Taylor and Williams (2010)

- “.. Simple monetary policy rules are designed to take account of only the most basic principle of monetary policy of *leaning against the wind* of inflation and output movements. Because they are not fine tuned to specific assumptions, they are more robust to mistaken assumptions..” (emphasis added)

### Taylor versus Svensson:

#### John Taylor

“Simple rules should be used as normative guidelines, not as mechanical formulas”



#### Lars Svensson

“The proposal to use simple instrument rules as mere guidelines is incomplete and too vague to be operational”



# Monetary Policy in Norges Bank

## How?

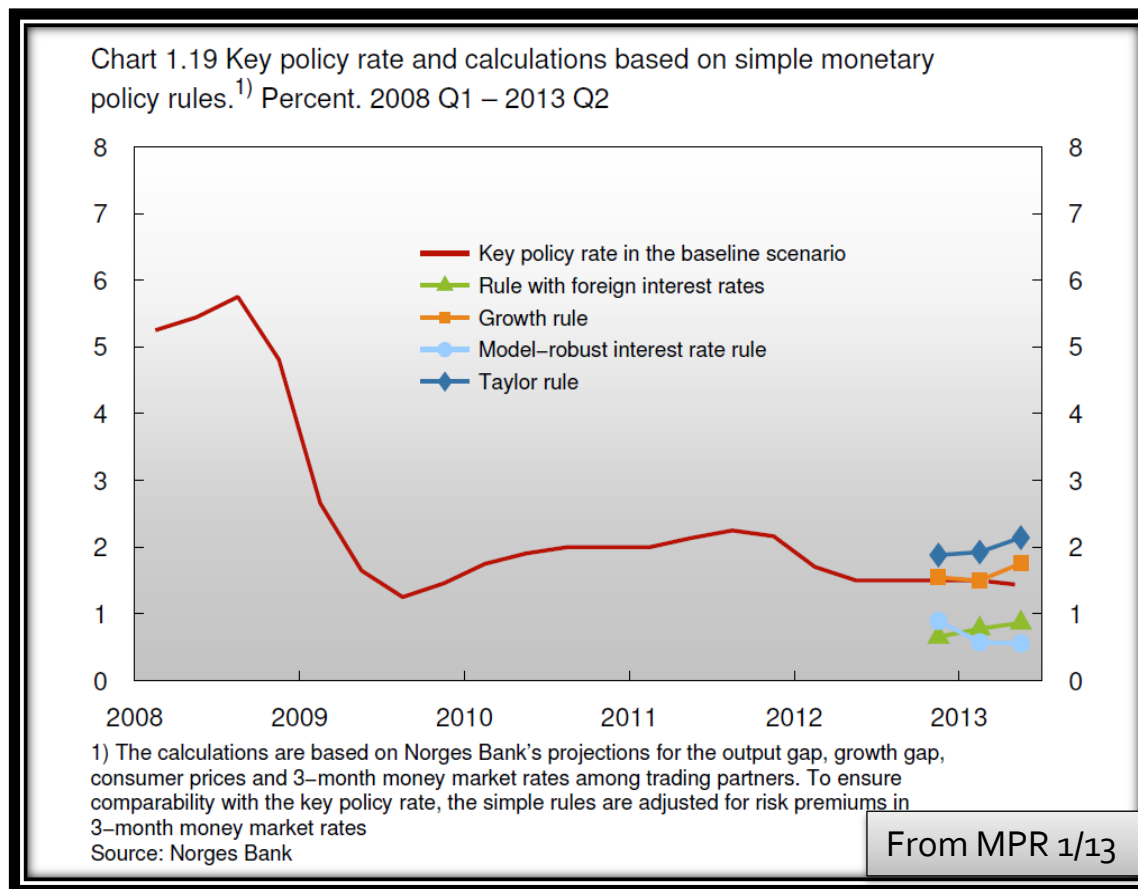
7/11

Norges Bank has made use of cross-checks

### How to provide robust monetary policy?

- A “reasonable” interest rate path sounds like a good idea
  - Then the loss function penalizes interest rate volatility
- Cross checks
  - Study market expectations
  - Use simple interest rate rules. What should the CB do if there is large deviation from the rules?

How to explain the graph?

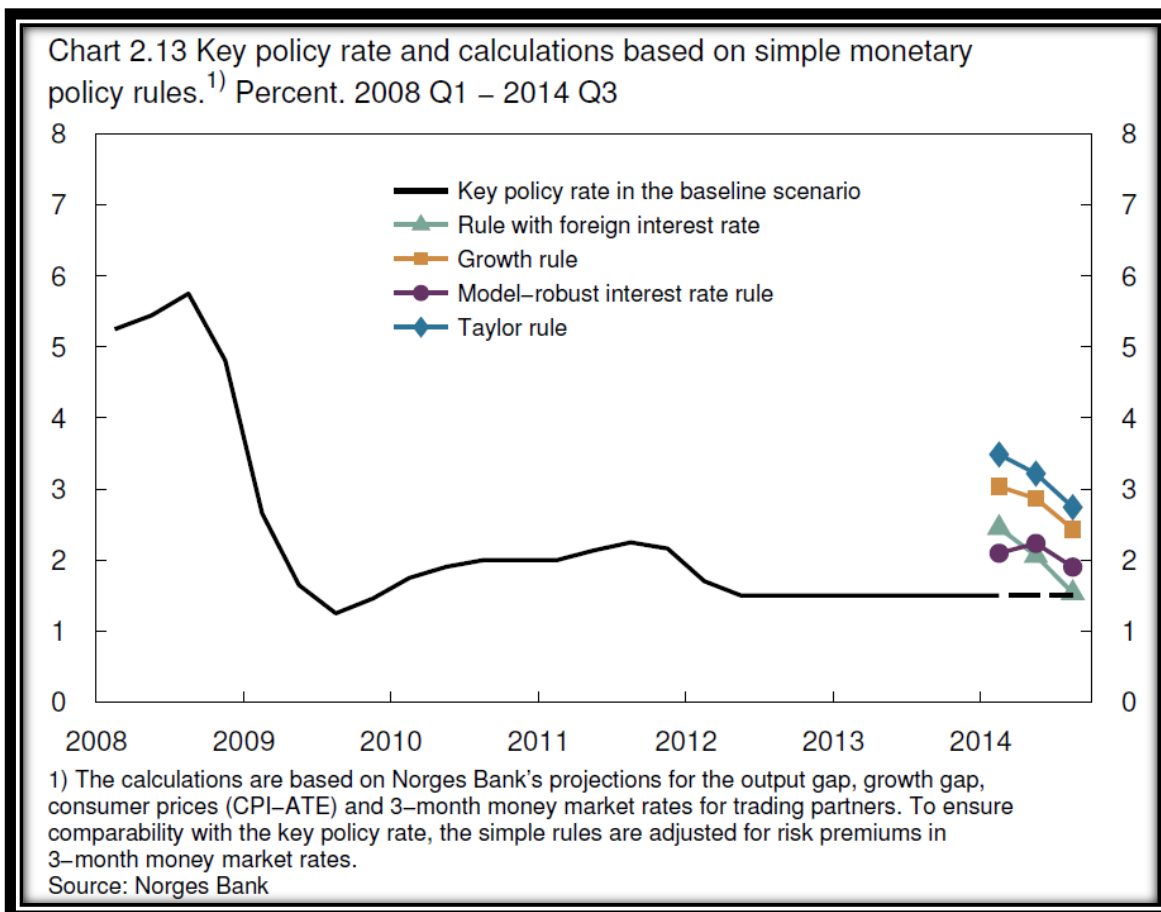


# Monetary Policy in Norges Bank

## How?

8/11

Graph from MPR 1/14.



How does this graph differ from the one in the MPR 1/13?

How do you think the economic conditions have changed based on these differences?

# Monetary Policy in Norges Bank

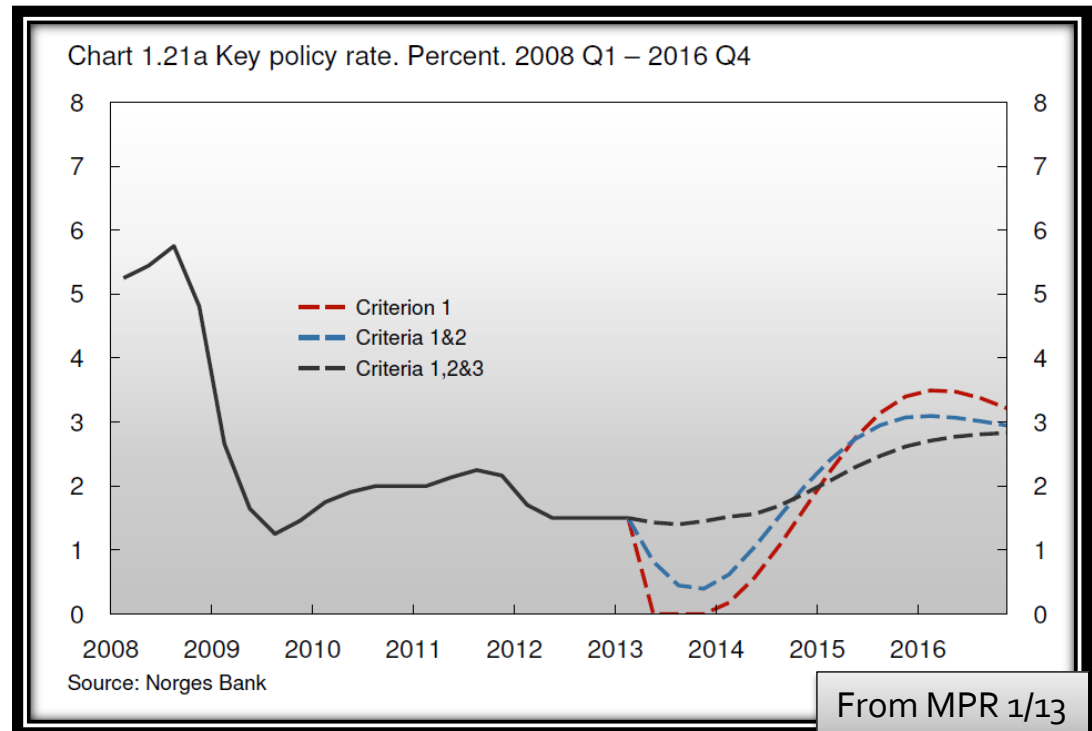
## How?

9/11

**Recall:** Norges Bank's 4 criteria for a good interest rate path:

- 1) Stabilizing inflation close to the target in the medium term.
- 2) A reasonable balance between the path for inflation and the path for capacity utilization.
- 3) Gradualism and consistency
- 4) Robustness and cross-checks (included in criterion 3 in the graph)

$$L_t = \underbrace{(\pi_t - \pi^*)^2}_{\text{Criterion1}} + \underbrace{\lambda(y_t - y^{\text{potential}})^2}_{\text{Criterion2}} + \underbrace{\gamma(i_t - i_{t-1})^2}_{\text{Criterion3}} + \underbrace{\tau(i_t - i_t^*)^2}_{\text{Criterion4}}$$



How to explain the graph?

# Monetary Policy in Norges Bank

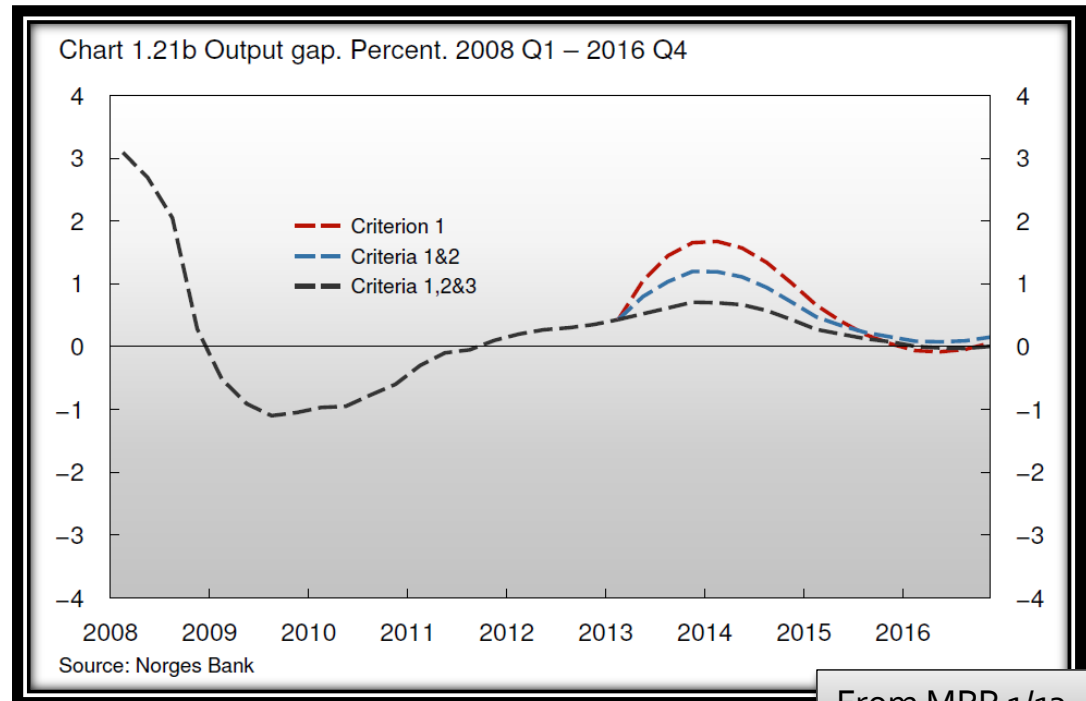
How?

10/11

**Recall:** Norges Bank's 4 criteria for a good interest rate path:

$$L_t = \underbrace{(\pi_t - \pi^*)^2}_{\text{Criterion 1}} + \underbrace{\lambda(y_t - y^{potential})^2}_{\text{Criterion 2}} + \underbrace{\gamma(i_t - i_{t-1})^2}_{\text{Criterion 3}} + \underbrace{\tau(i_t - i_t^*)^2}_{\text{Criterion 4}}$$

- 1) Stabilizing inflation close to the target in the medium term.
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- 4) Robustness and cross-checks (included in criterion 3 in the graph)



From MPR 1/13

How to explain the graph?

# Monetary Policy in Norges Bank

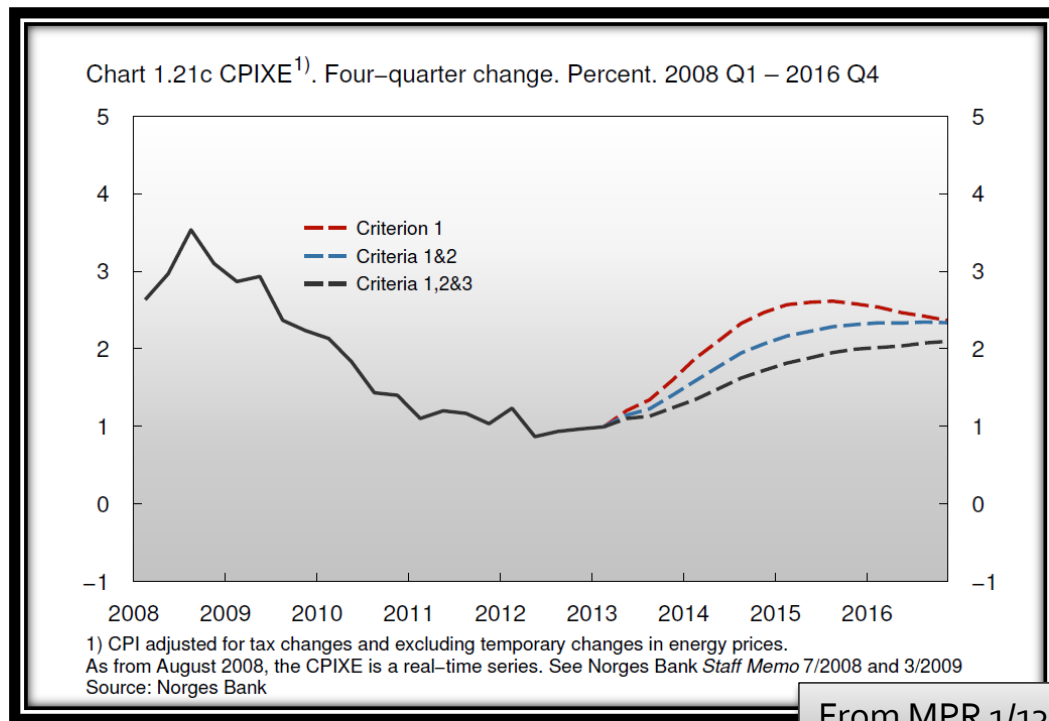
## How?

11/11

**Recall:** Norges Bank's 4 criteria for a good interest rate path:

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- 1) Stabilizing inflation close to the target in the medium term.
- 2) A reasonable balance between the path for inflation and the path for capacity utilization.
- 3) Gradualism and consistency
- 4) Robustness and cross-checks (included in criterion 3 in the graph)



From MPR 1/13

How to explain the graph?

# MPR Chpt 3 Financial stability part

## We won't go into detail

The objective of the countercyclical capital buffer is to bolster banks' resilience to an impending downturn and counter possible procyclical effects of banks' lending practice.

The Regulation on the Countercyclical Capital Buffer was issued by the Government on 4 October 2013. The Ministry of Finance sets the level of the buffer four times a year. Norges Bank draws up a decision basis and provides advice to the Ministry regarding the level of the buffer. The decision basis includes Norges Bank's assessment of systemic risk that is building up or has built up over time. In drawing up the basis, Norges Bank and Finanstilsynet (Financial Supervisory Authority of Norway) exchange relevant information and assessments. The advice and a summary of the background for the advice are submitted to the Ministry of Finance in connection with the publication of Norges Bank's *Monetary Policy Report*. The advice is published when the Ministry of Finance has made its decision.

The buffer rate shall ordinarily be between 0% and 2.5% of banks' risk-weighted assets. The buffer requirement will apply to all banks with activities in Norway, eventually including branches of foreign banks.

Norges Bank will recommend that the buffer rate should be increased when financial imbalances are building up or have built up. The buffer rate will be assessed in the light of other requirements applying to banks. The buffer rate may be reduced in the event of an economic downturn and large bank losses, with a view to mitigating the procyclical effects of tighter bank lending.

Understand the meaning of the countercyclical capital buffer and read chapter 3 in MPR in relation to lecture 12

# Outline

- Monetary Policy in Norges Bank
  - What?
  - Why?
  - How?
  
- Norges Bank Watch 2016
  - Main critique
  - Main response



# The Norges Bank Watch report

6 main comments

1/11

## Norges Bank Watch 2016 – 6 main comments

1. The Norges Bank Mandate should be evaluated and rephrased
2. The March meeting was poorly executed
3. Norges Bank needs to improve its communication
4. Gradual interest rate setting has contributed to less consistency
5. Whether financial stability concerns should be taken into account when conducting monetary policy is not clear
6. Low oil prices is not a sufficient explanatory factor for lower interest rate path

# The Norges Bank Watch report

## Comment 1: The mandate should be evaluated and rephrased 2/11

### Critique:

The NBW agrees with Norges Bank's flexible interpretation of the mandate, but finds that the mandate text is too vague.

### **Suggestions:**

1. Include an "escape clause" that describes how long, and by how much, one can deviate from the inflation target (medium term)
  - Should in particular describe how Norges Bank should react to supply-side vs. demand-side fluctuations
2. Consider different inflation indices, not just the CPI or CPI-ATE
  - Imported vs. domestic inflation
3. If an evaluation is opened for: Also consider if – and in that case when – the inflation target should be changed.

**Question to students:** Why does the NBW also consider the "escape clause" to be problematic?

# The Norges Bank Watch report

## Comment 2: The March meeting was poorly executed 3/11

### Critique:

The March meeting was poorly executed

### Why?

1. Nobody expected the interest rate to be unchanged
  - “Everybody” expected the rate to be cut
  - Development “almost as expected” means keeping the path from December 2015, which suggested a high probability for a cut in March 2016
  - Not cutting = Norges Bank was inconsistent and not very transparent. A mistake.

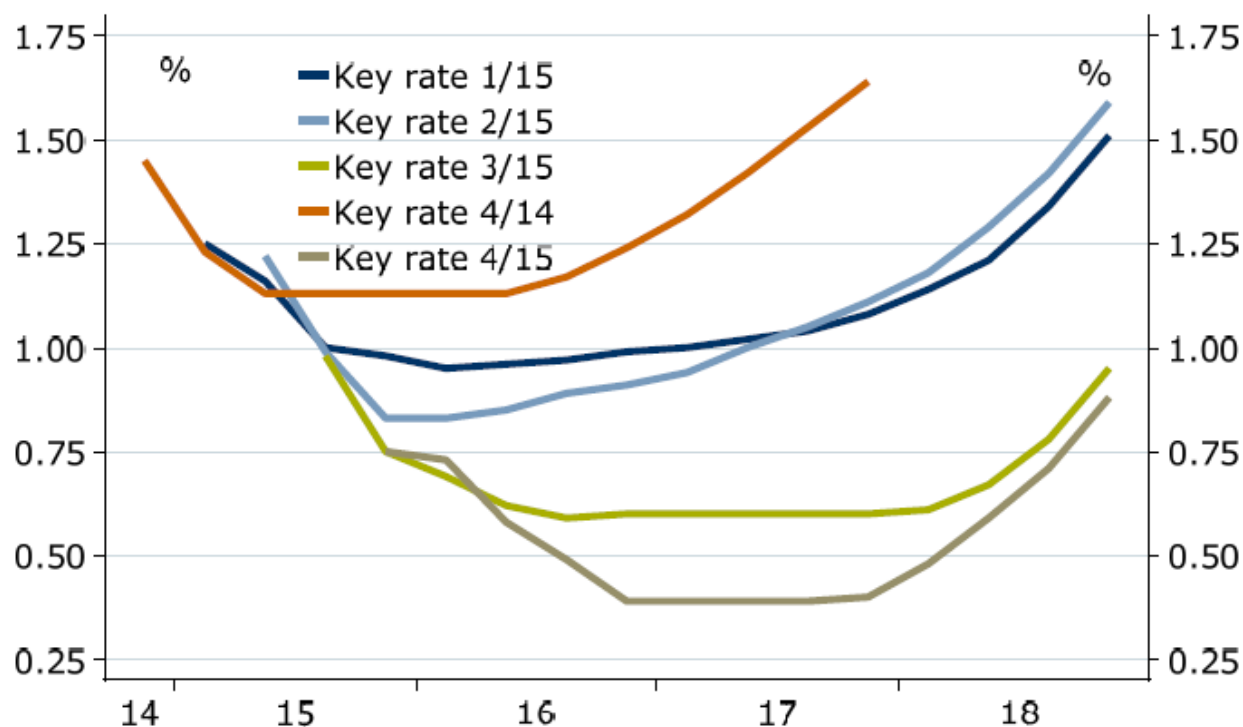
The interest rate decisions made at the other meetings in 2015 were also hard to predict, but mostly due to unclear economic conditions, not poorly conducted monetary policy.

**Question to students:** How should the Norges Bank interest rate path be interpreted?

# The Norges Bank Watch report

Comment 2: The March meeting was poorly executed 4/11

Chart 13 Norges Bank's forecast for key rates in various MPR

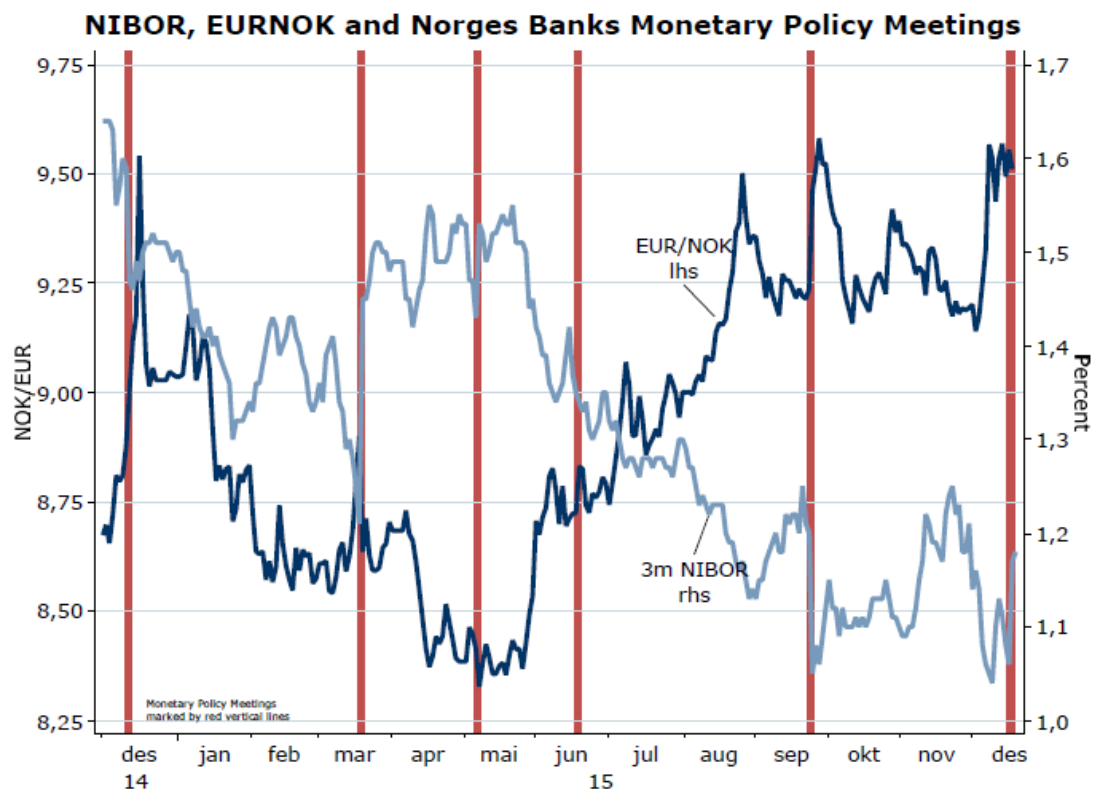


Source: NBW and Macrobond

# The Norges Bank Watch report

## Comment 2: The March meeting was poorly executed 5/11

Chart 15 Market reactions to Norges Bank decisions through 2015



Source: NBW, Nordea Markets and Macrobond

# The Norges Bank Watch report

## Comment 3: Communication must improve

6/11

### Critique:

Almost impossible for externals to understand how Norges Bank considers risk changes and the robustness criterion, and how this affects the interest rate path

### **Why?**

- Because Norges Bank does not document these changes in the same way as i.e. changes in inflation and growth.

### **Suggestions to improve communication:**

1. All important information should be in writing, not just given at the press conferences (to ensure equal access).
2. The press conferences should not leave doubt about how the written material should be interpreted.
3. Meetings without reports should conclude how news will affect the direction of the interest rate.
4. Norges Bank should consider the possible benefit of communication *between* meetings.
5. Norges Bank should move towards more qualitative ways to communicate.

**Question to students:** How to best communicate judgment?

# The Norges Bank Watch report

## Comment 4: Gradual interest rate setting = less consistency 7/11

### Critique:

Gradual interest rate setting to minimize the real effects of falling oil prices seems reasonable due to gradual effects on the exchange rate and a desire to stay away from the ZLB.

May have contributed to make Norges Bank less consistent.

### **Consequence:**

1. Forward guidance less effective because economic agents trust the communication less.

**Question to students:** Are the pros larger than the cons wrt gradual interest rate setting?

# The Norges Bank Watch report

## Comment 5: Be clearer about the role of financial stability 8/11

### Critique:

Not clear if the robustness criterion is the right framework for considering financial stability or if financial stability should be considered when setting the interest rate

### **Why?**

- The robustness criterion does not seem to be symmetric
  - Not clear what Norges Bank would do in a situation where Norway is in recession and house prices suddenly drop

### **Suggestions:**

1. Be more clear about the central bank target function (loss function) and Norges Bank's view on house prices
2. Should consider other instruments more suitable for the task.

**Question to students:** What should the optimal loss function look like?



# The Norges Bank Watch report

## Comment 6: Low oil prices not sufficient for lower path 9/11

### Critique:

All 4 reports point towards lower oil prices to explain the lower interest rate path.

NBW finds no clear connection between these two variables, therefore: Lowering of path not sufficiently explained.

### **Why?**

- Probably because Norges Bank no longer believes that the effects of the oil shock is temporary.

### **Consequence:**

1. When changes are poorly explained, Norges Bank becomes less predictable.
2. Hard for externals to figure out how Norges Bank will react to future changes in the oil price.

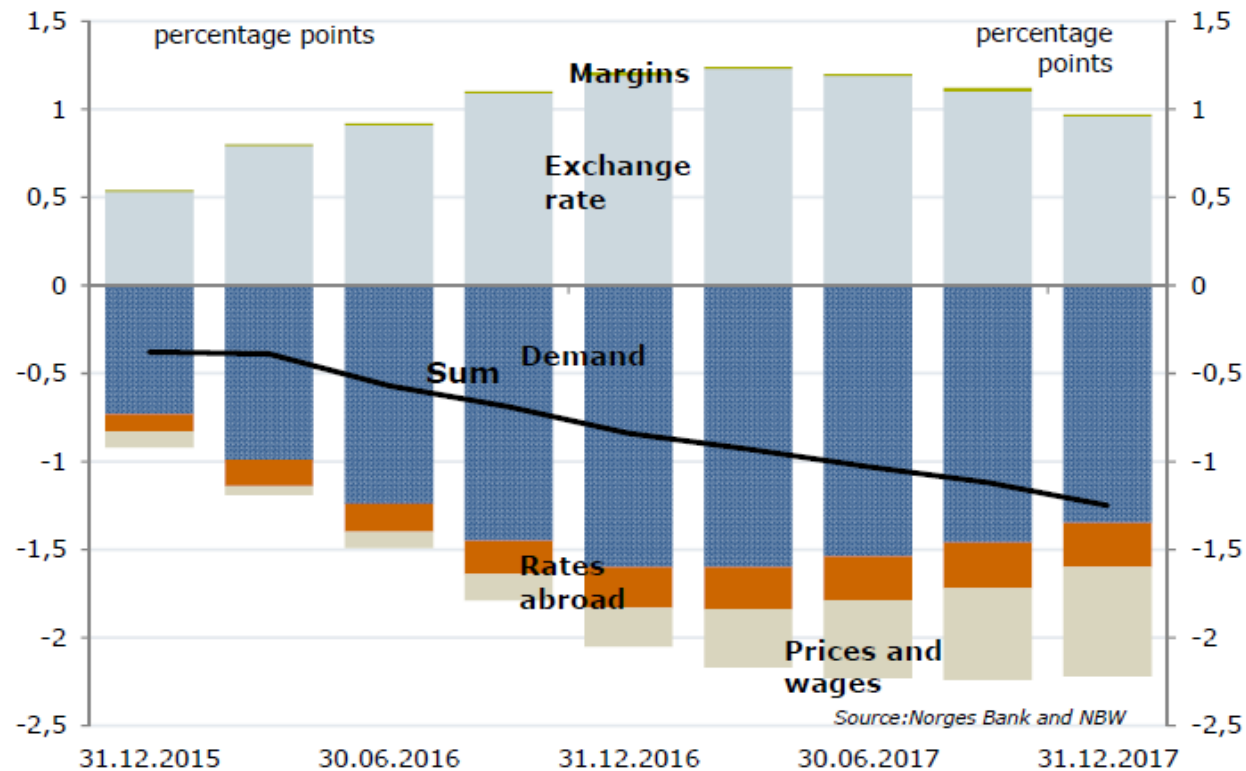
**Question to students:** How will changes in shock persistence/the persistence of the effect of shocks change monetary policy behavior?

# The Norges Bank Watch report

## Comment 6: Low oil prices not sufficient for lower path 10/11

Chart 14 Factors behind changes in the interest rate forecast through 2015

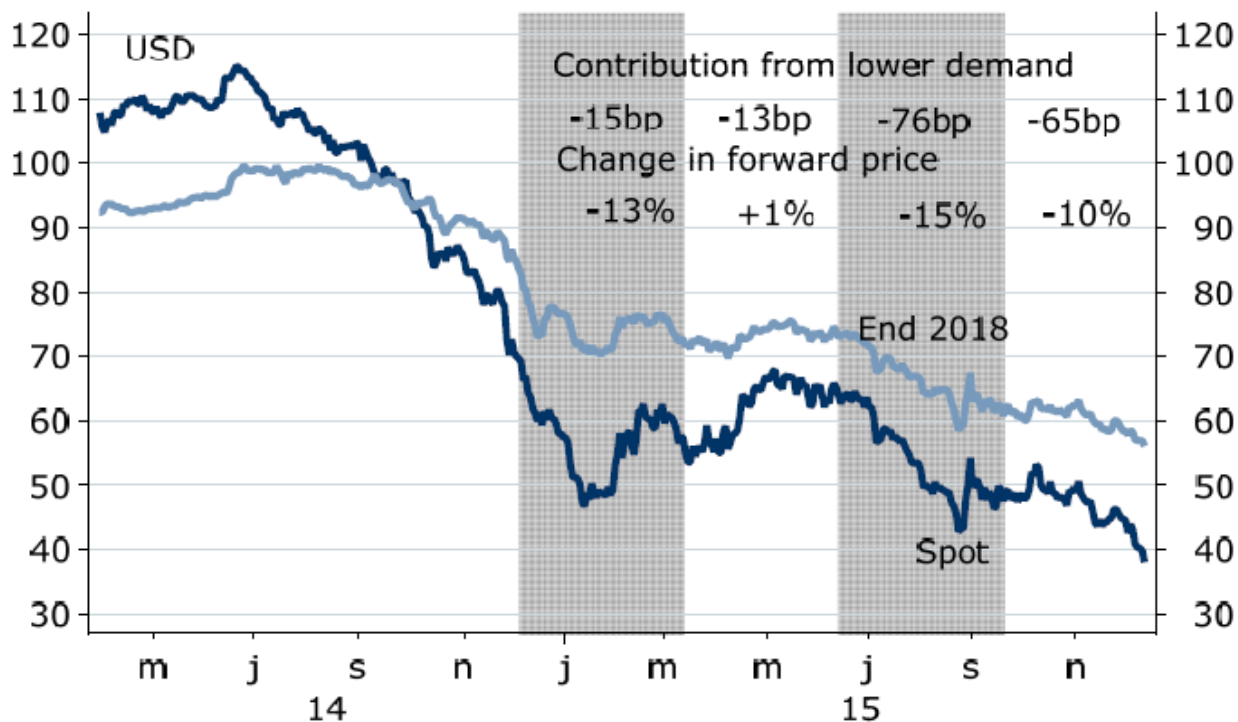
Cumulative contributions from MPR 4/2014 to 4/2015



# The Norges Bank Watch report

## Comment 6: Low oil prices not sufficient for lower path 11/11

Chart 17 Oil price and the contribution from lower demand on the interest rate path



Source: NBW, Nordea Markets and Macrobond

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  - What?
  - Why?
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# The Norges Bank Watch report

## Main response

1/2

### Deputy governor Jon Nicolaisen responds:



1. On evaluation of the mandate:
  - The report broadly supports Norges bank's use of flexibility in the conduction of Monetary Policy.
  - To specify an "escape clause" in the mandate will reduce flexibility.
  - Norges Bank finds that the mandate as it stands today provides enough flexibility to conduct a reasonable monetary policy.

# The Norges Bank Watch report

## Main response

2/2

### Deputy governor Jon Nicolaisen responds:



#### 2. On robustness:

- With large changes in the driving factors for the Norwegian economy and a substantial change in risk, 2015 has been a challenging year for the communication of monetary policy.
- We try to communicate the considerations made by the executive board in the “Executive Board’s Assessment”
- We take note of the criticism put forward by the NBW that we at times have been unpredictable.
- Our aim to communicate quantitatively might have been too ambitious and suggested a precision which we do not have.

# Next week

- Financial Stability in Norway
  - Guest lecturer Henrik Borchgrevink



- Read: The Norges Bank *Financial Stability Report 2015*



# Monetary Policy

(Advanced Monetary Economics)



ECON 4325