SPEECH

SPEECH BY GOVERNOR LARS ROHDE AT THE SWISS FINANCE POLICY SEMINAR OF THE FEDERAL ASSEMBLY'S FINANCE COMMITTEES

DANMARKS NATIONALBANK

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DANMARKS NATIONALBANK'S MONETARY POLICY – POSSIBILITIES AND LIMITATIONS

First let me thank you for inviting me to speak at this seminar. It is a special pleasure to have this chance to share views and experiences on a matter close to my heart, namely Danish monetary policy. Especially with this audience as there are many similarities between monetary policies in Denmark and Switzerland.

Out of the grey sky on a cold and dull Thursday in January 2015, these similarities caught the financial markets' attention – fueled by the SNB announcement that it would abandon the floor on the Swiss franc against the euro. As you probably know, Denmark experienced a massive inflow of currency shortly after this announcement. And over the following weeks, we saw unusual turbulence in the Danish foreign exchange market.

[*AGENDA*]

Today I will talk about the Danish fixed-exchange-rate regime with the cold Thursday in January 2015 as a point of departure. Then I will discuss some of the potential spill-overs to Danish financial markets from the unconventional monetary policies conducted by the ECB in recent years.

I will end my speech with some remarks on our experiences with very low interest rates. We have had negative rates for some years now and so far their implications have been far less exciting or radical than some might have thought before entering the negative territory. Basically, negative interest rates have just been a continuation of low interest rates.

1 Background for the fixed-exchange-rate regime

Let me revert to that episode in 2015.

[*CHART 1: Intraday DKKEUR*]

The Swiss announcement surprised financial markets resulting in increased volatility in a wide range of financial asset markets. The Danish FX market was one of them. In the first few hours after the Swiss announcement, the Danish exchange rate fluctuated more than usual. Over the following days and weeks, we experienced a massive currency inflow, resulting in strong appreciation pressure on the exchange rate.

The Swiss decision seems to have led some foreign investors to look for comparable candidates to abandoning a peg. There are not many countries to look for. These investors could make a substantial profit if the fixed-exchange-rate policy were to be abandoned and the krone appreciated.

The initial push came from foreign investors. However, nearly two thirds of the increased demand for kroner in those few weeks in January and February came from domestic investors, including insurance companies and pension funds. Some of these companies wished to at least partly insure themselves against losses in the unlikely event that the krone appreciated like the Swiss franc.

[*CHART 2: FX reserve*]

But we are not SNB copycats – we are ECB copycats!

So in response, we used our usual measures to defend the peg. We intervened heavily in the FX market by buying euros and selling Danish kroner to meet the elevated demand. In addition, monetary-policy rates were significantly reduced. The sizeable intervention caused a sharp increase in FX reserves by almost 15 per cent of GDP in less than two months. As the pressure abated, the level of FX reserves was gradually reversed over the course of 2015 to reach a level of just above 20 per cent of GDP – close to the current level.

There is an inherent asymmetry in our use of instruments: Under *depreciation* pressures, there is no limit to how high policy rates can be raised. And the size of the FX reserves constitutes the upper bar for FX interventions. Under *appreciation* pressures, there is a limit to how low policy rates can be reduced. The scope for selling kroner and buying euros, in

contrast, is unlimited as we can print as many kroner as we deem necessary.

As a further and unconventional measure to bring the currency inflow to a halt, the government decided to suspend issuance of government bonds temporarily. This move was made after recommendation from Danmarks Nationalbank. It was an option because the government already had ample liquidity reserves.

The suspension of issuance is a version of QE – reducing the supply of bonds available for private investors. It led to a strong decline in the yield spread to German government bonds for all maturities, in particular in the short end of the yield curve. The spread became negative even for long maturity bonds. This made it more costly to speculate against the krone.

A key point is that despite many similarities, there are significant differences between the monetary policy regimes in Denmark and Switzerland. Even when faced with the largest currency flows in the history of our fixed-exchange-rate regime, we were willing to do whatever it took to maintain the peg. Abandoning the peg was never an option.

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Let me jump back to some 200 years ago. Danmarks Nationalbank was established in 1818 to restore the monetary system after a state bankruptcy a few years earlier. Danmarks Nationalbank became an independent institution more than 100 years later in 1936. The National Bank of Denmark Act of that year is still the legal basis for our activities.

Central-bank independence is enshrined in this act. Among other things, it states that the Board of Governors is solely responsible for determining monetary-policy interest rates. However, the act does not explicitly say anything about exchange-rate policy. The current fixed-exchange-rate policy was decided and introduced by the Danish government in 1982. Since then the policy has been sustained by consecutive governments with broad parliamentary support.

[*CHART 3: exchange rate since 1982*]

The formal framework for the fixed-exchange-rate regime is the European Exchange Rate Mechanism, ERM2. Officially, the krone may fluctuate by up to 2.25 per cent on either side of the central rate. In practice, Dan-

marks Nationalbank ensures that fluctuations are far smaller as you can see from this chart.

The decade-long experience with the exchange-rate peg means that the regime is deeply rooted in the Danish economy and economic policy. It is strongly supported by the general public. And the regime enjoys strong credibility among market participants. Market forces normally ensure that the exchange rate is close to the parity without any need for central-bank interventions.

[*CHART 4: Inflation rates*]

The current Danish fixed-exchange-rate policy was introduced on the basis of an unsustainable macroeconomic situation in the 1970s and early 1980s with high levels of unemployment. There were recurrent deficits on the government budget balance as well as on the balance of payments. Furthermore, repeated devaluations in order to restore competitiveness only resulted in high and volatile inflation and high interest rates.

In contrast, the German Bundesbank had good experience of maintaining a rather stable inflation by the standards of that time. Since Germany was Denmark's largest export market, it was decided to link the Krone to the D-mark.

As time passed and the peg gained credibility, it gradually became a disciplining mechanism for wage and price setters and policy makers. Progressively the Danish inflation level approached that of Germany.

Over the past 30 years, the macroeconomic situation has improved a lot due to the stabilisation-oriented economic policy. After substantial improvements in competitiveness, we have had significant surpluses on the balance of payments for the past many years – much like Switzerland. Denmark is now a creditor nation with net foreign assets around 50 per cent of GDP.

The fixed-exchange-rate regime is still a cornerstone of Danish economic policy. The policy framework implies a clear division of responsibilities in the economic policy. Monetary-policy interest rates are reserved for keeping the krone stable and do not take factors such as growth, employment and house prices into account. These considerations are addressed by other economic policies. In particular, fiscal policy plays an important role in ironing out economic fluctuations.

2 Spill-overs from monetary policy in the euro zone

An exchange-rate peg can only be maintained if one is willing to implement the same monetary policy stance as the anchor country. This is a precondition in a world with international capital mobility. A strong spill-over from the ECB's monetary policy to Danish financial conditions is therefore to be expected.

[*CHART 5: Monetary policy rates in DK and ECB*]

Indeed, as we can see from this chart, the key monetary-policy rate of Danmarks Nationalbank tends to track that of the ECB very closely. Usually we announce interest-rate changes within a few hours of the ECB's announcements.

The exceptions are in situations with volatility in foreign-exchange markets and large capital flows. In those situations, unilateral interest-rate changes might be necessary. I have already talked about one such occasion – the surge in capital inflows in early 2015.

In normal times, the euro-area monetary-policy stance is summarized by the short-term interest rate set by the ECB. When the ECB wants to loosen policy, it reduces its key interest rate. And when it wants to tighten, it increases it again.

Since the great financial crisis of 2007-08, many things have been far from normal. In response to persistently weak demand and low inflation, central banks across the globe have reduced their monetary-policy rates to levels close to their effective lower bound. In that respect, Switzerland and Denmark are actually on the forefront. In the beginning of 2015, we both reduced our monetary-policy rates to -0.75 per cent.

With interest rates close to their effective lower bound, central banks have deployed a host of unconventional measures to achieve the desired amount of monetary accommodation. Of these measures, the most prominent one has been to engage in purchases of financial asset on a massive scale – often referred to as QE. For more than two years, the ECB has been purchasing assets worth between 60 and 80 billion euros per month.

And this takes me back to the point that to support an exchange-rate peg, monetary policy must mirror that of the anchor country – in our case the monetary policy of the ECB.

In normal times, matching the monetary policy moves of the ECB is simple. To offset the impact that an interest-rate change by the ECB has on the krone-euro exchange rate, we simply adjust our interest rate by the same magnitude.

But how do we match the monetary-policy stance of the ECB when it provides monetary stimulus by engaging in large scale asset purchases? As the ECB purchases bonds issued by euro area sovereigns, the supply of such bonds available to private investors is reduced. In such a situation Danish sovereign bonds stand out as an obvious alternative to for example German bonds.

The strong commitment to the peg implies that there is no exchange-rate risk for euro area investors associated with investing in krone-denominated assets. Moreover, the strong focus on fiscal sustainability that has been exercised by successive Danish governments implies that the risk of default is very low. And furthermore, Danish sovereign bonds are in general highly liquid.

[*CHART 6: Danish and German 10-year government bond rates*]

So it should come as no surprise that changes in Danish sovereign bond yields tend to track changes in German yields very closely. This was also the case in late 2014. Mounting expectations of an ECB QE programme led to substantial declines in sovereign bond yields across euro area countries. And it continued to be the case after the launch of the ECB's Public Sector Purchase Program (PSPP), although the suspension of government bond issuances caused some fluctuations in Danish yields.

In a forthcoming paper we will provide more details on the way market participants' expectations of the ECB's asset purchases have affected Danish financial markets. In particular, we assess the impact on Danish sovereign bond yields.

We find that the reaction of Danish sovereign bonds has been very much in line with how German bonds have reacted. And clearly more so than the bonds issued by a number of countries which are in the euro area.

[*CHART 7: Decline in 10-year yields due to ECB communication]*

This chart shows how long-term sovereign yields in a number of countries have reacted to selected pieces of ECB communication in the six months leading up to start of QE.

In the study, we look at the reaction of sovereign bond yields in the two days following each piece of communication. Summing over the 17 pieces of communication included in the study, we arrive at the effects that you can see here.[1]

The chart shows that in all of the 2-day windows combined, Danish 10-year sovereign bond yields declined by a total of 30 basis points. This is very close to the corresponding decline in German yields of 28 basis points. Yields in other northern European countries declined slightly more.

However, countries in the south of Europe experienced substantially larger declines in yields. To sum up, Danish and German bond yields are close substitutes. The impact of QE on bond yields in the euro area also has a spillover effect on Danish bond yields.

3 Monetary policy when rates go negative

Let me share with you some of our experiences with very low and negative interest rates. Danmarks Nationalbank pioneered by setting a key monetary-policy rate well below zero already in 2012 to stave off large capital inflows.

Since then, many other central banks, including the ECB and the SNB, have now gained experience with policy rates significantly below zero. With monetary policy rates as low as currently -0.75 per cent in Switzerland and -0.65 per cent in Denmark, we have been in unchartered territory for some years now. What have we learnt from this period?

A key message is that the situation with negative policy rates in Denmark largely mimics that of low, but slightly positive rates. And side effects have generally been negligible. In the following I will go a bit more into detail on some of the aspects.

[*CHART 8: Different deposit rates for different segments*]

There has been more or less full pass-through to lending rates in the economy since the key policy rate was lowered to -0.75 per cent in 2015. However, the degree of pass-through to banks' deposit rates has differed across customer segments.

Many large non-financial corporations face negative interest rates on their bank deposits. The same applies to the majority of insurance and

[1] We use the 17 events listed in Carlo Altavilla, Giacomo Carboni and Roberto Motto, 2015, *Asset purchase programmes and financial markets: lessons from the euro area*, ECB Working Paper Series, No 1864.

pension companies. This is appreciated due to the importance for the transmission to the exchange rate.

Banks have, on the contrary, been reluctant to introduce negative interest rates to households. Their actions have generally little impact on the exchange rate.

With negative policy rates one potential concern could be a significant hoarding of cash. So far, there have been no signs that this should be the case in Denmark. One explanation for this is that firms and institutional investors would face significant costs of handling, storing and insuring cash. And as just mentioned, households have not been meet with negative deposit rates so far.

[*CHART 9: Declining share of cash payments*]

Another explanation is that Danes to an increasing extent seem to prefer to use electronic payments instead of cash – either by using credit cards or smart phones. This suggests that the inconvenience cost of cash is rather high in Denmark. The decreasing use of cash suggests that the effective lower bound of policy rates is well below the current level in the Danish case.

Another frequently mentioned concern in relation to negative rates is the potential impact on banking sector profitability. Do we see a substantial decline in earnings in the banking sector because of low interest-rate margins and flatter yield curves? The short answer is no.

Banking sector profitability in Denmark has been robust and increasing in recent years because other factors have countered those negative effects on interest earnings. Low interest rates also stimulate economic activity and ease debt-servicing costs for businesses and households. The result is lower impairment charges for the banks. Furthermore, banks have also been able to raise their fees.

Periods of low interest rates are sometimes associated with risks of bubbles in asset prices. Given the current *long* period of *very* low interest rates, we continue to monitor the development in asset prices closely, especially in property markets. Thus far, the development in real-estate prices has been broadly in line with fundamentals such as income, interest rates and other user costs.

There are, however, some important regional challenges in the capital area, where strong vigilance is needed. In case of any concerns about in-

flated asset prices, other economic policies may need to be activated, including micro and macroprudential policies.

The recent years' unconventional policy measures by many central banks have resulted in higher prices of long-dated bonds. This could be regarded as a transfer of wealth from debtors to creditors. It has led to some discussions about the distributional aspects of monetary policy.

However, one should bear in mind that the central bank's ability to influence longer-term interest rates is often a crucial feature of monetary policy because longer-term interest rates are important for economic activity. Hence, distributional effects may be knock-on consequences of the conduct of monetary policies.

The extremely low policy interest rates around the world have to be understood in the context of very low inflation and high private demand for financial assets – the counterpart to high savings and low investments in the private sector.

The low interest rates set by central banks across various currency regimes – fixed, floating or monetary unions – are responses from central banks pursuing their mandates. It might not be a preferred state, but the global economy would have been worse off had interest rates been higher. In the Danish case, the negative interest rates have been nothing but a necessary consequence of our exchange-rate policy.

Thank you for your attention!

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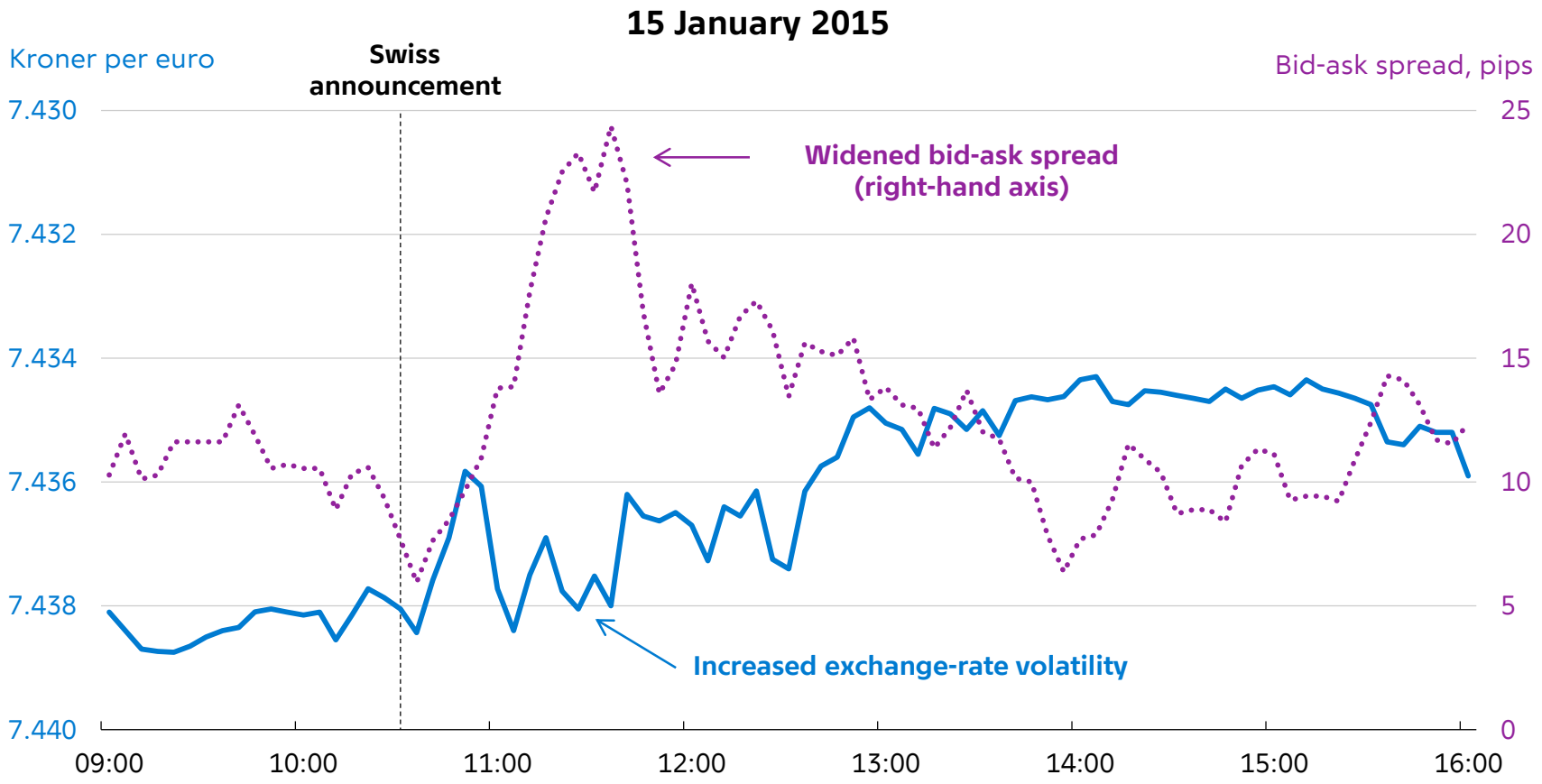
MONETARY POLICY IN DENMARK – POSSIBILITIES AND CONSTRAINTS

Lars Rohde, Chairman of the Board of Governors, 3 July 2017

Agenda

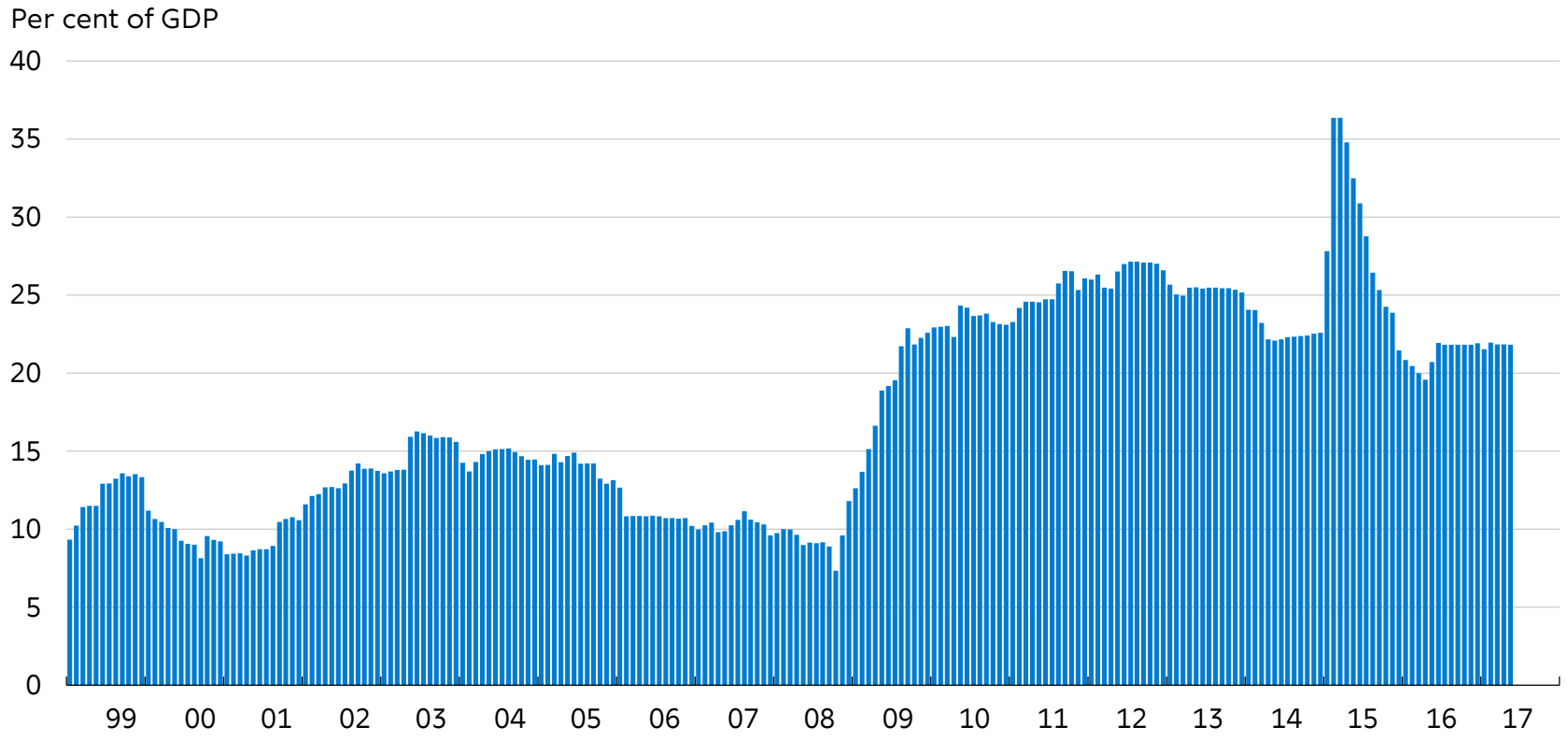
1. Background for fixed exchange rate regime
2. Spill-overs from monetary policy in the euro zone
3. Monetary policy with negative interest rates
4. Questions?

Swiss contagion to Danish FX market



Note: Left-hand axis: Reversed scale. Right-hand axis: 30-minutes moving average of bid-ask spreads measured at 5 minutes intervals.
Source: OlsenData.

Sharp increase in foreign exchange reserve in 2015



Note: In per cent of nominal GDP at yearly frequency. GDP for 2017 is from Danmarks Nationalbank's most recent projection from March 2017.

Source: Danmarks Nationalbank and Statistics Denmark.

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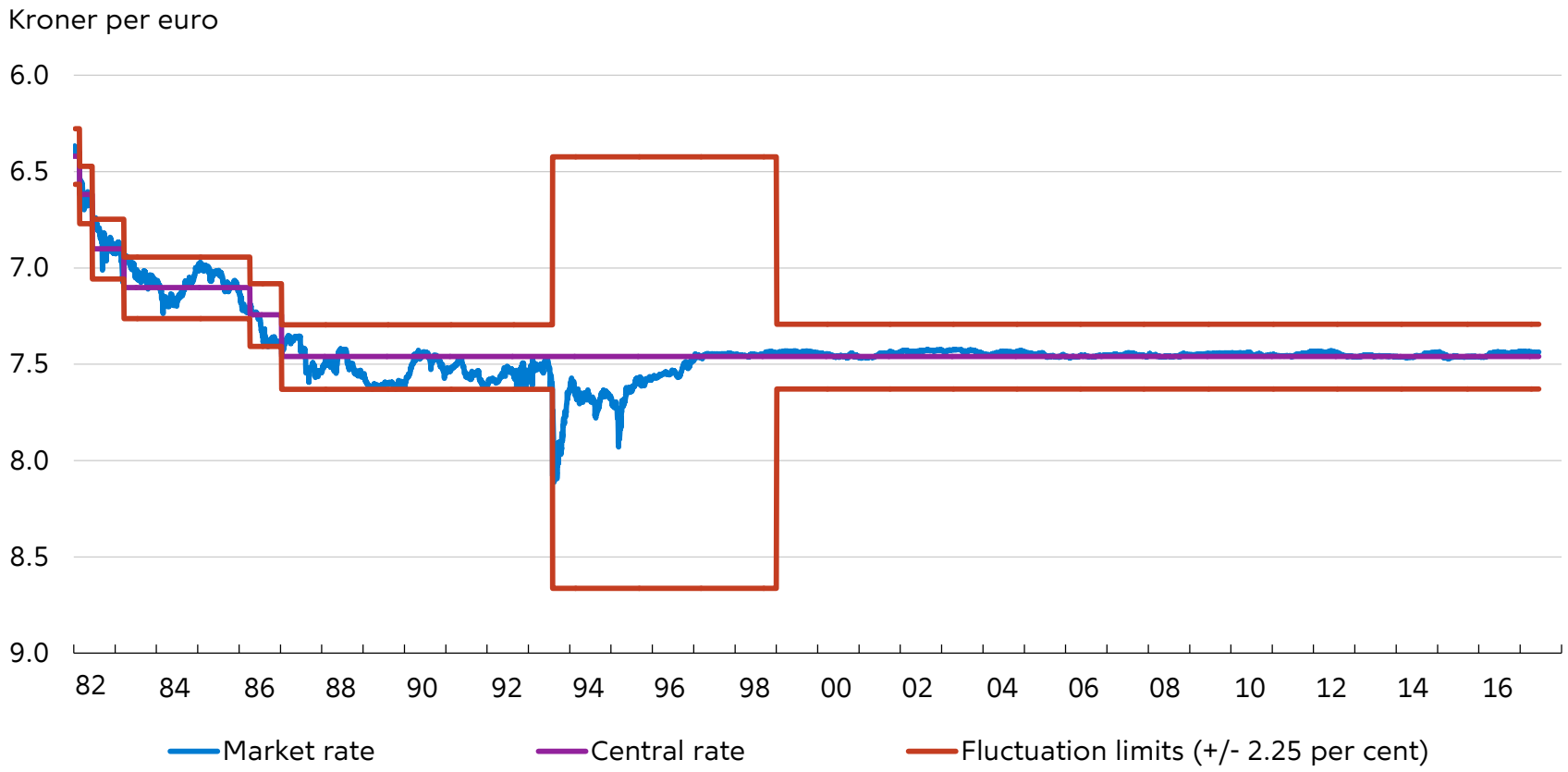
The ERM2 agreement and the fixed exchange rate



Note: Reverse scale.
Source: Danmarks Nationalbank.

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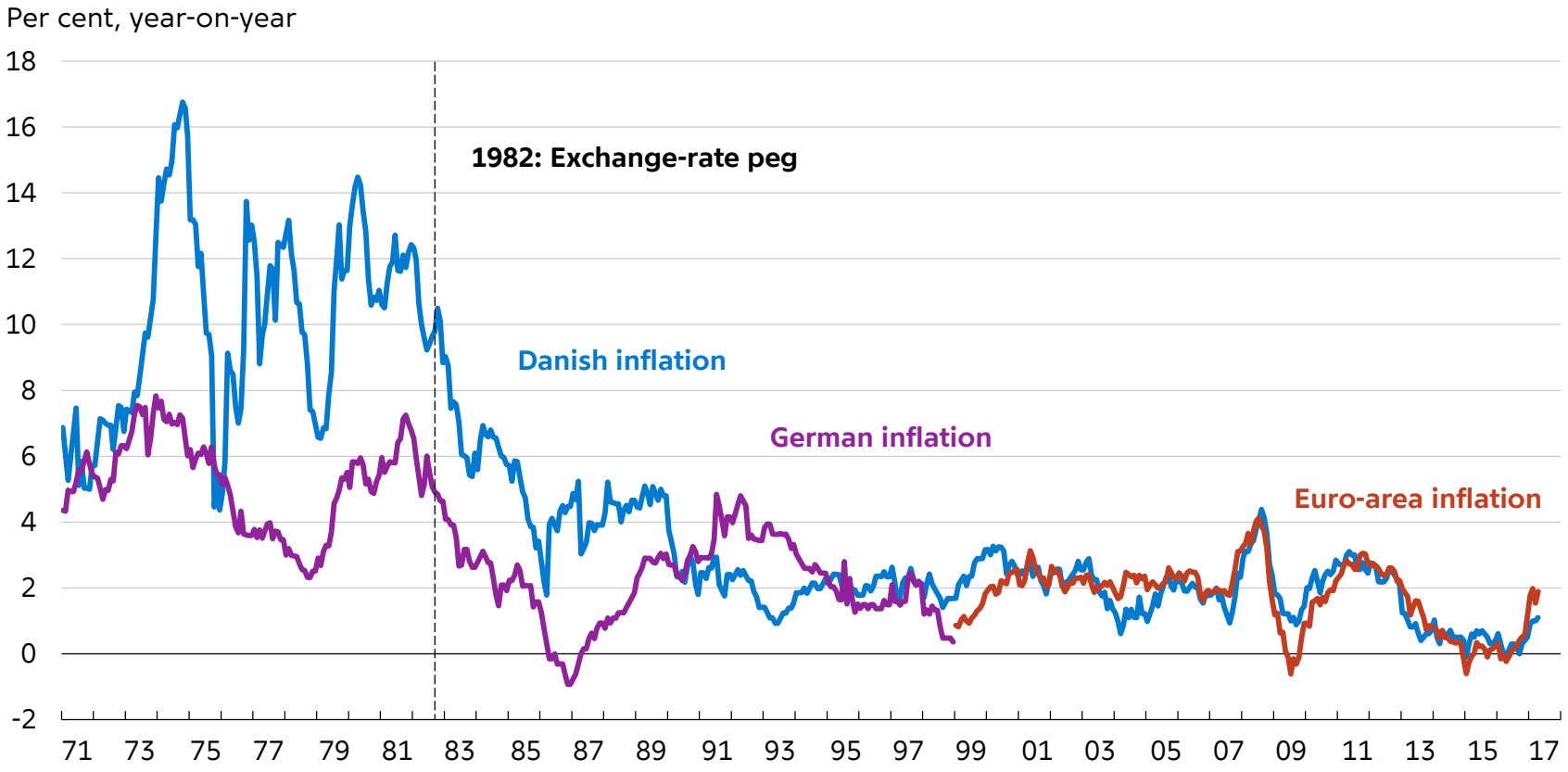
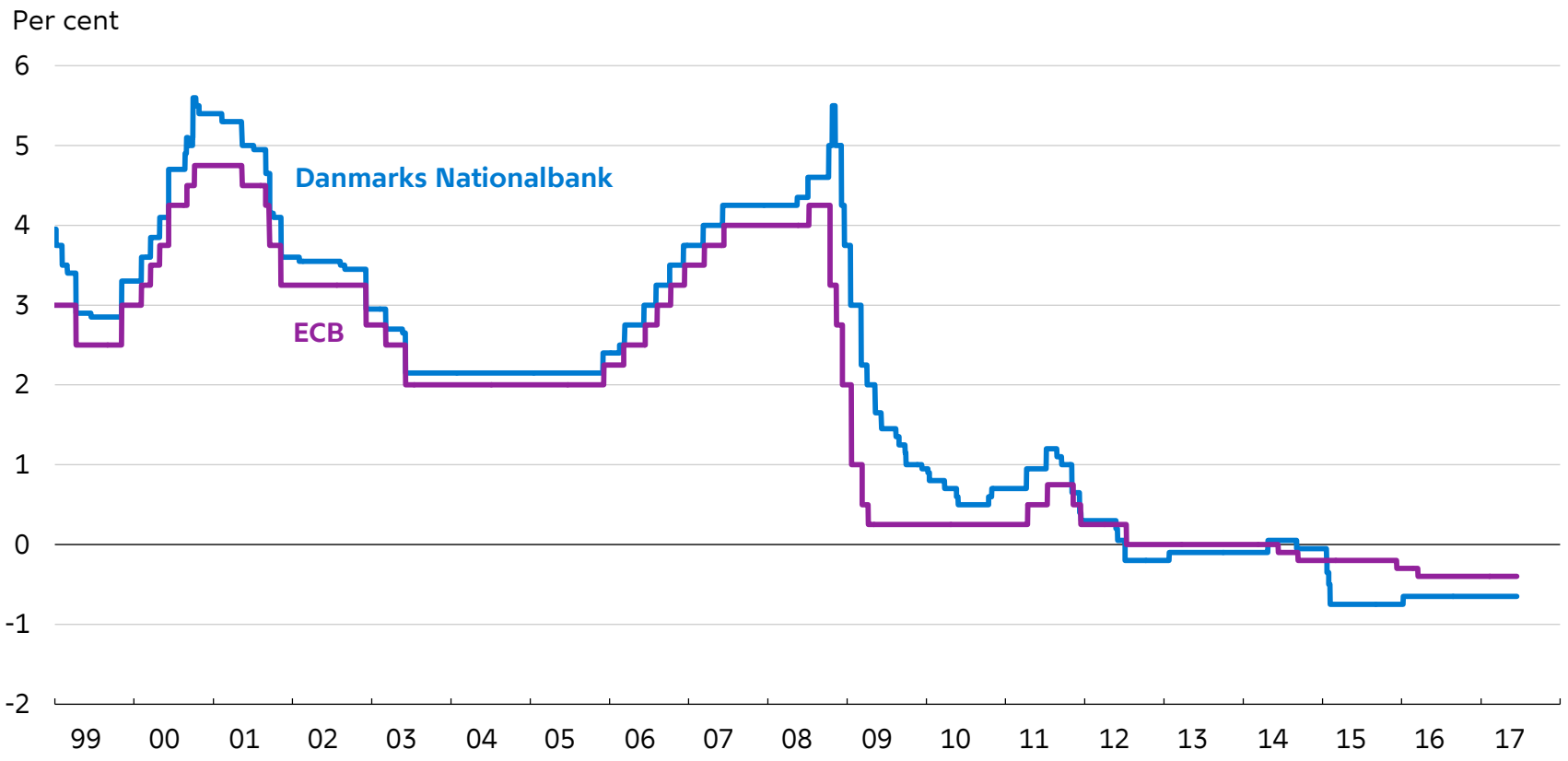
Fixed-exchange-rate policy introduced after a period of high and volatile inflation



Source: Statistics Denmark and Thomson Reuters Datastream.

Danish monetary-policy rates tightly linked to ECB rates



Note: Key policy rates.
Source: Thomson Reuters og Danmarks Nationalbank.

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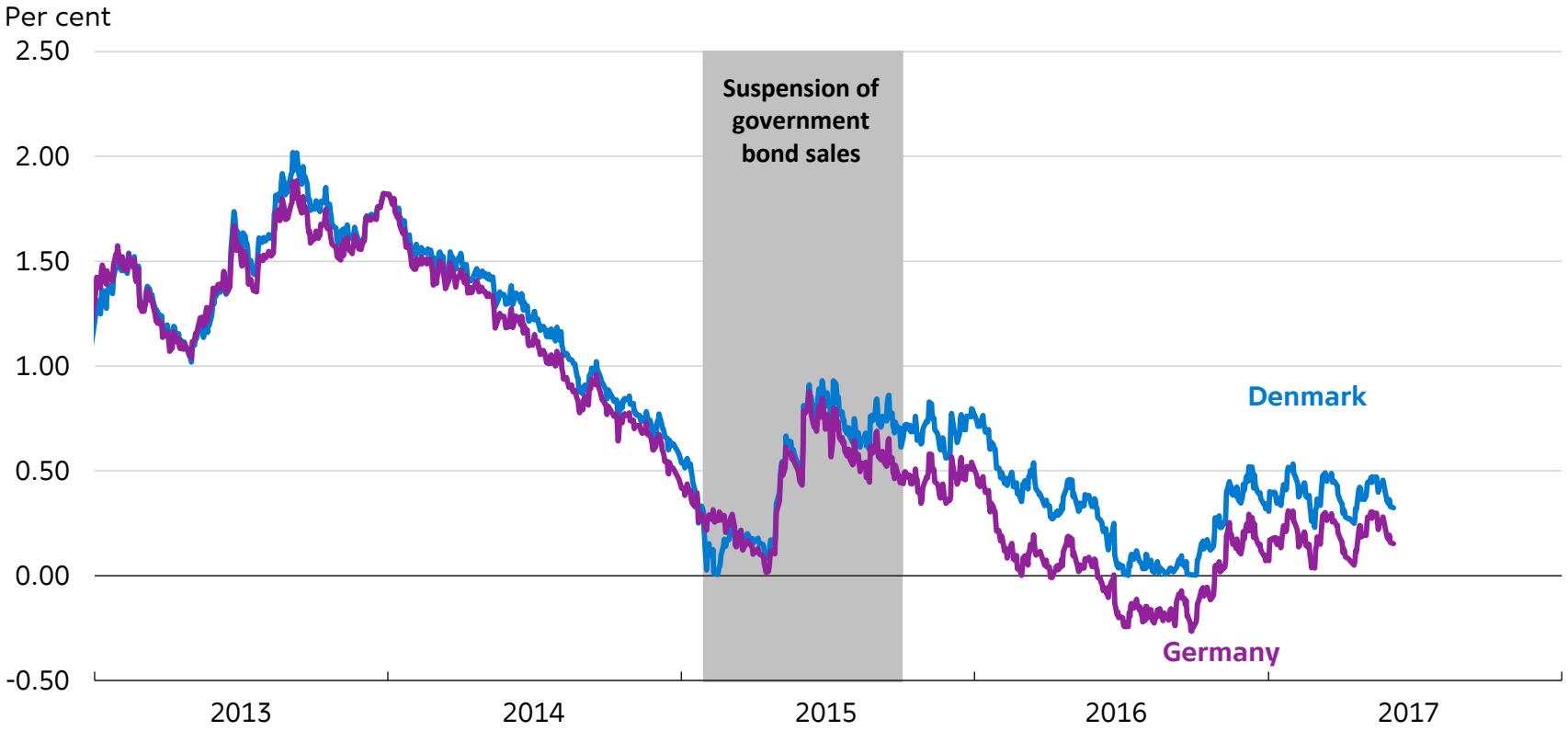
Danish government bond yields co-moves strongly with German yields



Note: 9-year par rates.
Source: Nordea Analytics.

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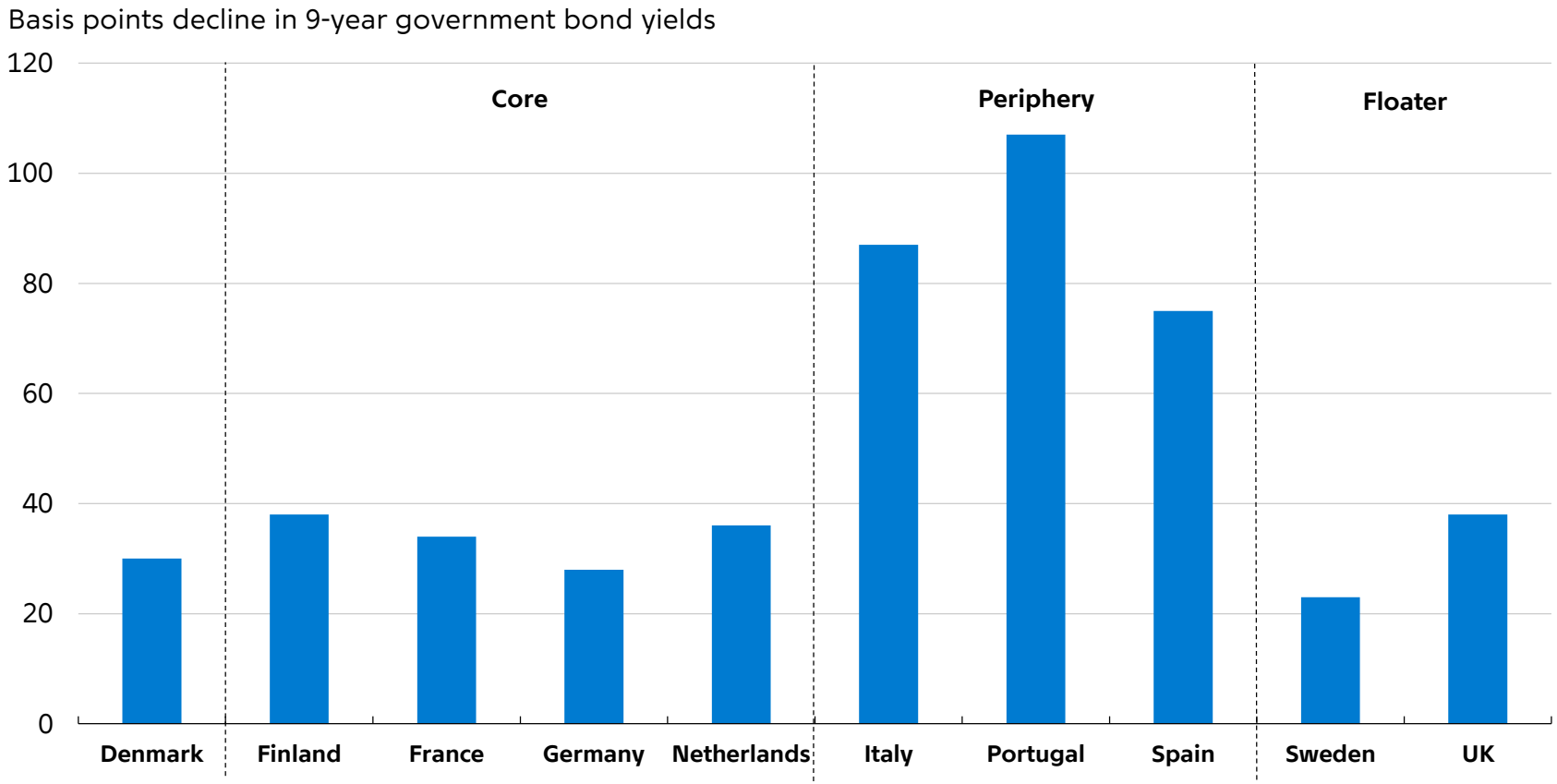
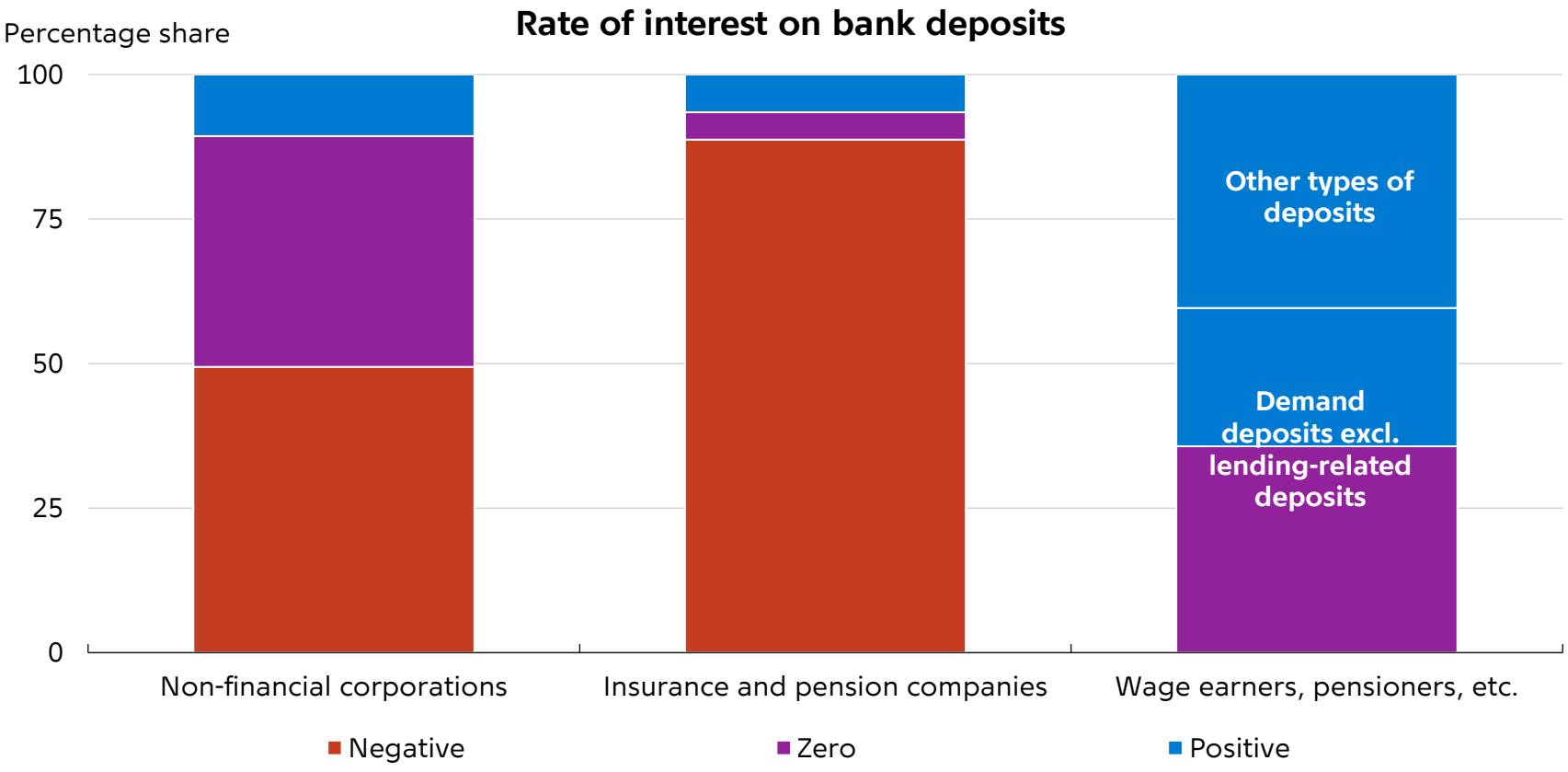
Decline in long-term Danish yields in line with core euro area countries



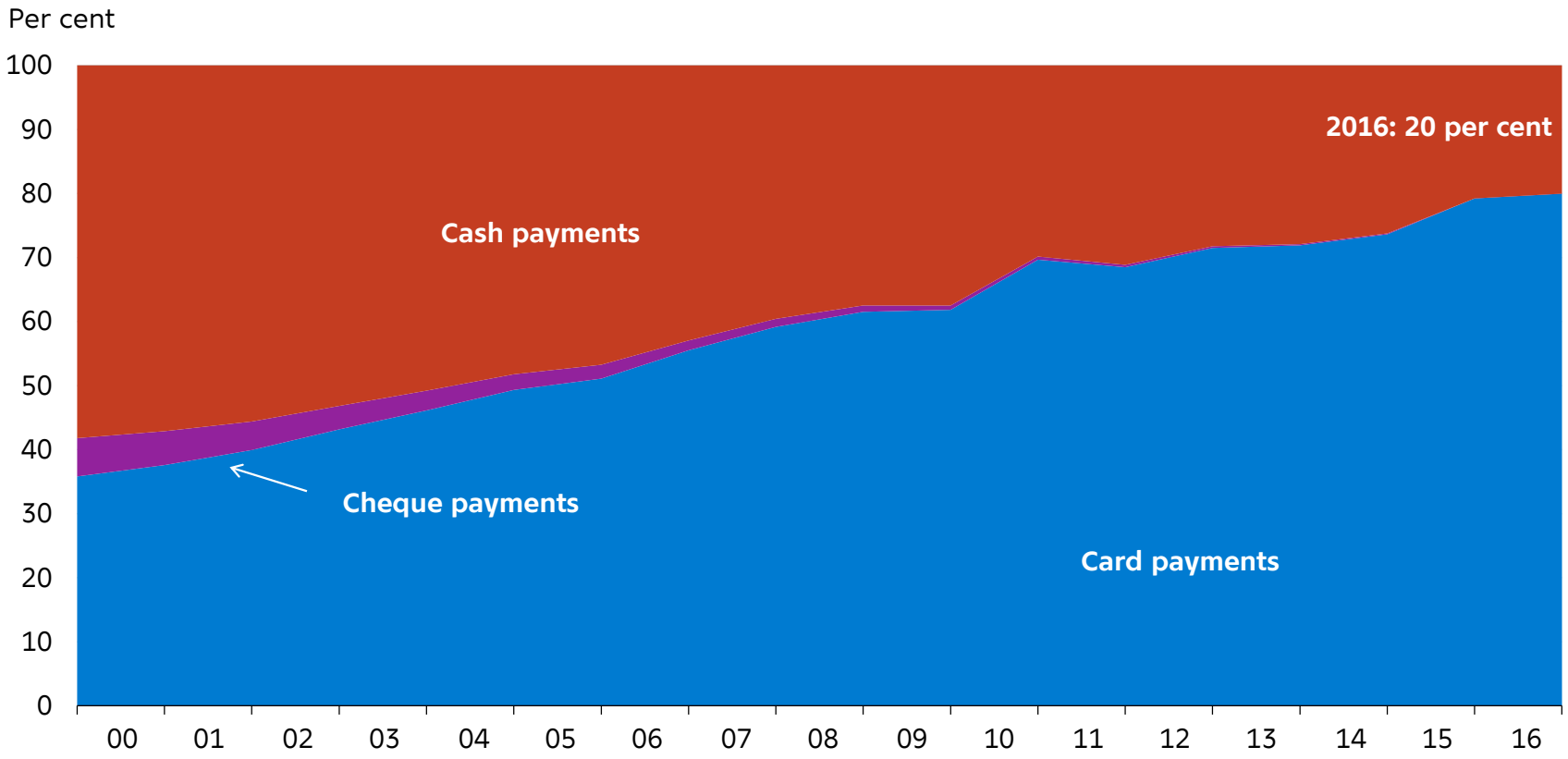
Note: Aggregate decline in sovereign bond yields in two-day windows following 17 pieces of ECB communication.
Source: Thomson Reuters Datastream, ECB and own calculations.

Households are largely exempt from negative interest rates on deposits



Note: 'Other types of deposits' refer to time deposits, lending-related deposits, etc.
Source: Danmarks Nationalbank.

Share of cash payments in Denmark is declining steadily



Note: Payments made by smart phones are included in card payments.
Source: Statistics Denmark, Danmarks Nationalbank, Finance Denmark, Nets and own calculations.

THANK YOU!