Danske Bank

Euro Area Research
Is the Phillips curve finally coming alive in 2019?

Aila Mihr
Analyst
+45 45 12 85 35
amih@danskebank.dk

Piet P.H. Christiansen
Senior Analyst
+45 45 13 20 21
phai@danskebank.dk

18 December 2018

Important disclosures and certifications are contained from page 16 of this report

Euro area inflation outlook - key takeaways

- We think the euro area Phillips curve is coming alive in 2019.

- Different measures of underlying inflation pressures have continued their gradual upward trend in 2018, but the impact of higher wages on core inflation has yet to materialise.

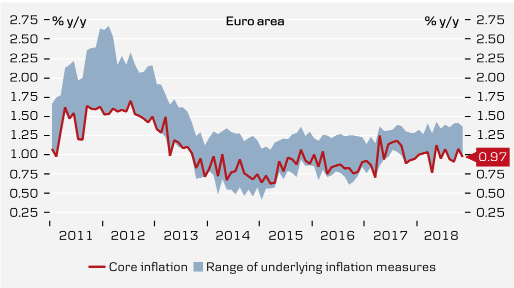
- A key ingredient for the wage pass-through to core inflation will be profit margin compression. In response to strong wage growth in Q2 and Q3 18, there are early signs that firms' profit margins have started to get squeezed from higher input costs.

- Although it is difficult to say when exactly the 'tipping point' in terms of margin compression is reached, we expect the euro area (core) inflation Phillips curve to steepen in 2019, with core inflation likely accelerating from Q2 19 onwards.

- We expect the eurozone core inflation uptrend to be mostly driven by higher services prices (due to higher input costs from wages), while the uptrend in goods price inflation will likely be more muted with the euro appreciation staying a downside risk factor.

- The EUR inflation forward curve has continued to steepen in past weeks, as expectations of weaker economic growth raised doubts about the wage pass-through to core inflation. We think market pricing has turned too pessimistic on the core inflation outlook in the euro area.

ECB's inflation carousel

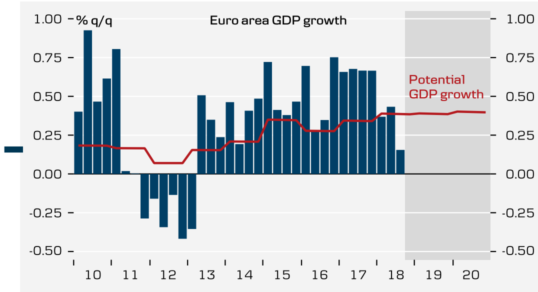


Pass-through caveats

"If firms start to become more uncertain about the growth and inflation outlook, the squeeze on margins could prove more persistent." - ECB

"Following several years of low inflation in the euro area, a more tentative pass-through of wages to prices is understandable."

- ECB



Domestic expansion continues

Rising wage pressures

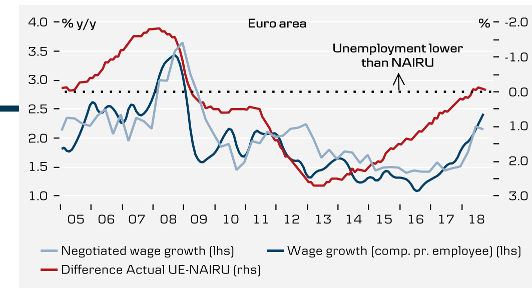
Rising unit labour costs

Firms' margins squeezed

Firms raise prices

Higher consumer prices

When will wage growth translate into higher core inflation?

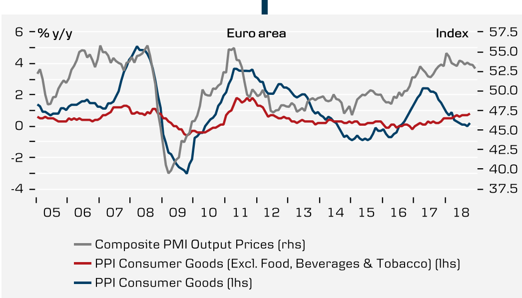


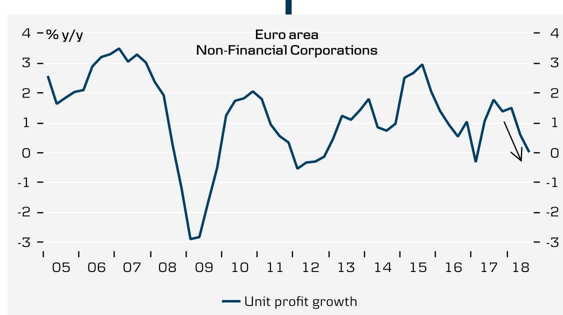
Wage growth resilience

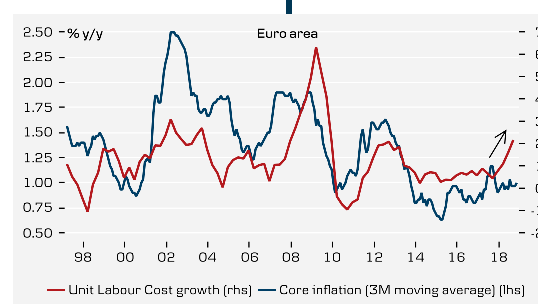
Increasing signs of tightness

(labour shortages, declining under-employment)

***Negotiated wage growth** has overtaken wage drift as most important driver*



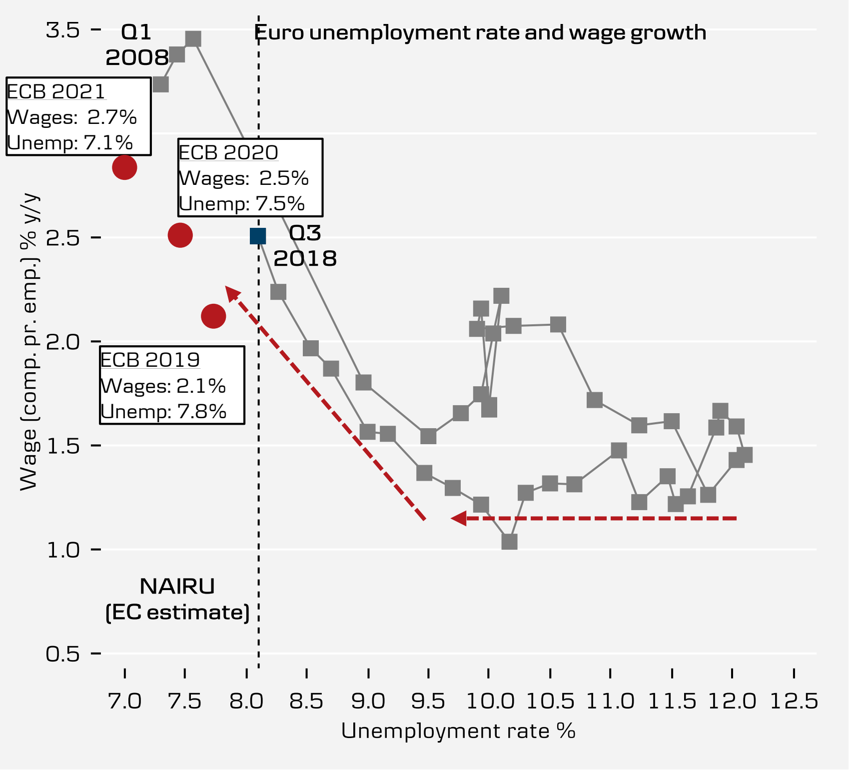




Source: Eurostat, Markit, ECB, Macrobond Financial, Danske Bank

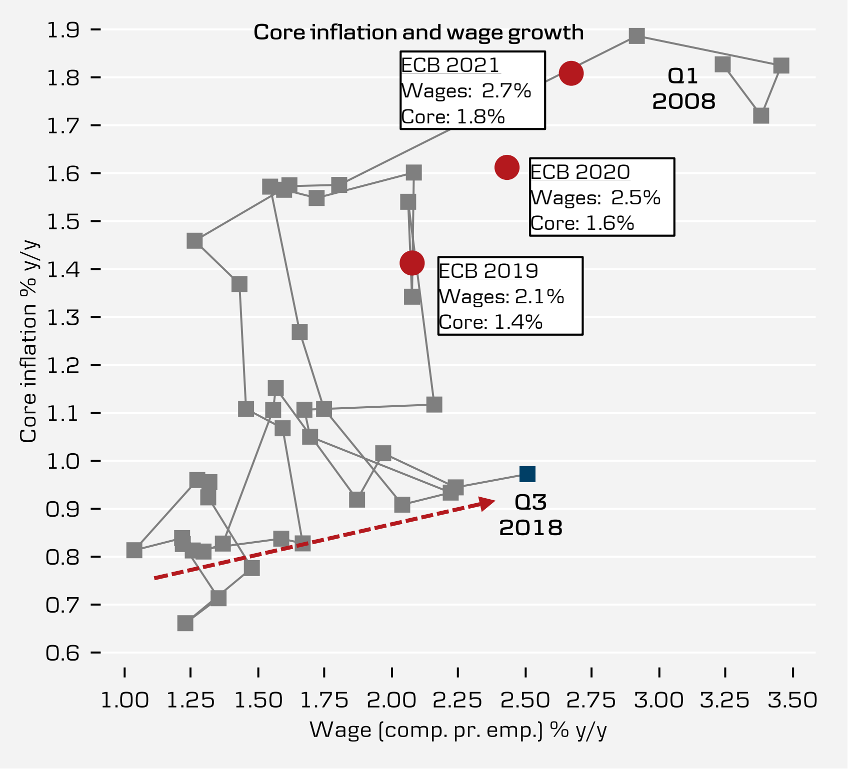
Pass-through from higher wages to core inflation remains to be seen

Euro area wage growth (2.5% in Q3) has reached the highest level since 2008 and the wage Phillips curve has steepened…



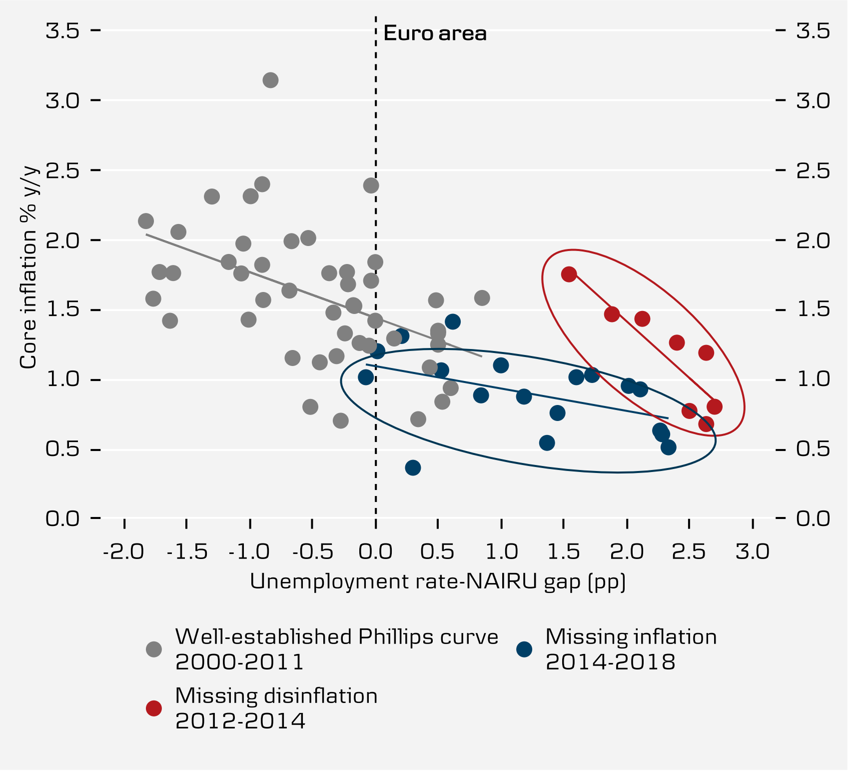
Source: Eurostat, ECB, Macrobond Financial, Danske Bank

… but the (core) inflation Phillips curve remains relatively flat and higher wages have yet to translate into higher core inflation.



Source: Eurostat, ECB, Macrobond Financial, Danske Bank

The euro area inflation puzzle



Source: IMF, Macrobond Financial, Danske Bank

- From 2000-11, there was a well-established Phillips curve (grey). However, since 2012, an inflation puzzle has emerged.
- First there was an episode of 'missing disinflation' from 2012-14, with inflation reacting slowly to higher unemployment rates (red).
- Thereafter followed a period of 'missing inflation' (blue), with inflation being remarkably stable despite considerable declines in the unemployment rate.

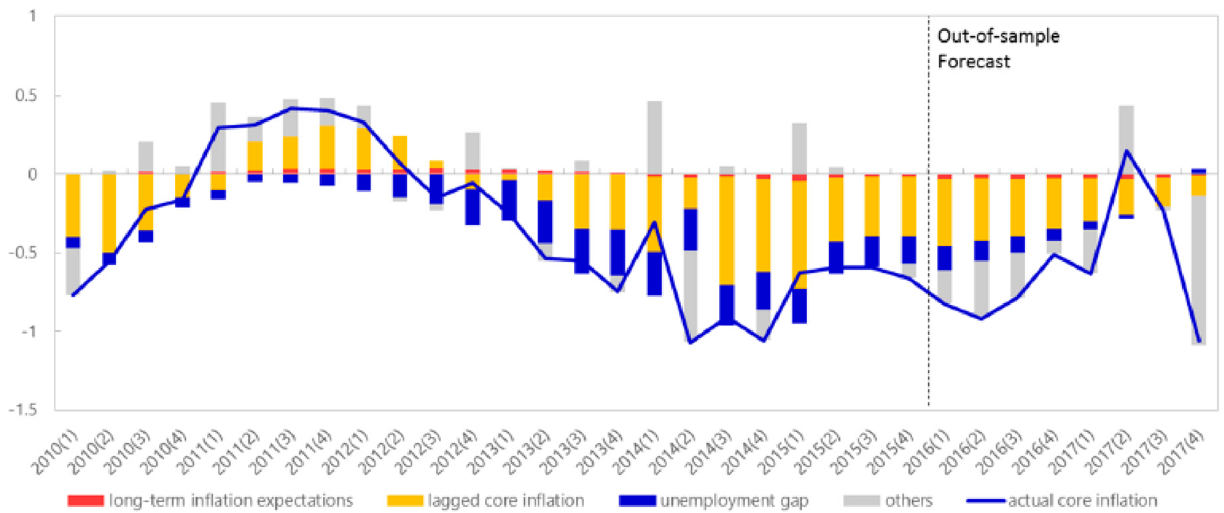
Why so low for so long?

An IMF study from August this year looks at this question and finds a high degree of inflation persistence/inertia is the key factor behind recent low core inflation. In contrast to the US, the inflation process in the euro area is to a large extent backward-looking. The IMF identifies a range of possible drivers of stickier inflation in the euro area, including:

- More backward-looking wage and price-setting behaviours (due to the high share of SMEs in Europe)
- Long duration of wage agreements → hence wages are reset less frequently
- Wage indexation to inflation less common than in the US

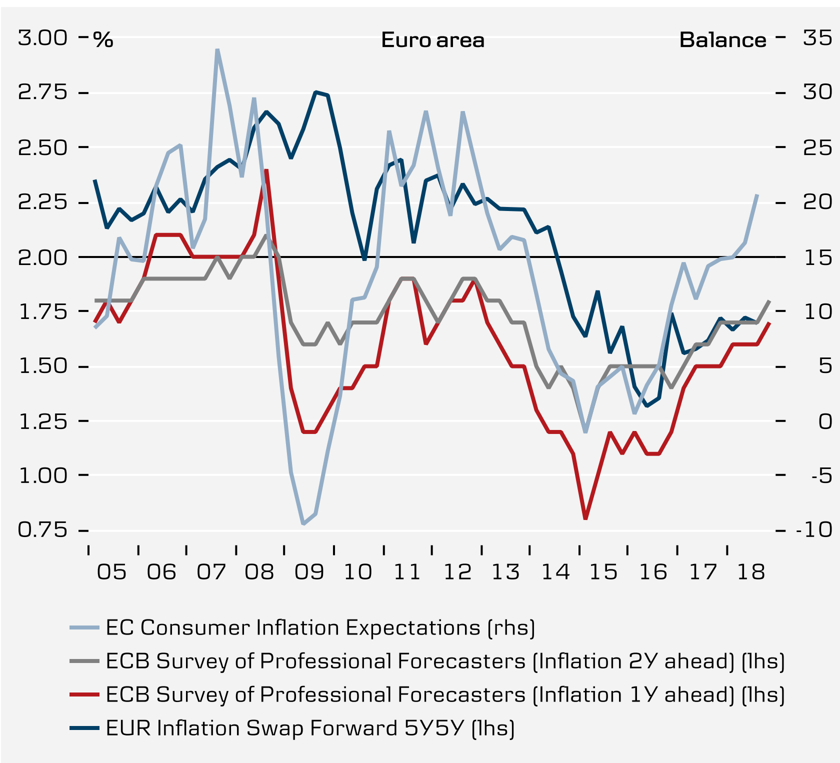
IMF concludes that the core inflation convergence towards the ECB's target will be gradual, as negative shocks take time to dissipate.

Figure 11. Decomposition of Core Inflation Deviation from Model Implied Mean, Based on Domestic Phillips Curve Model



The expectations game

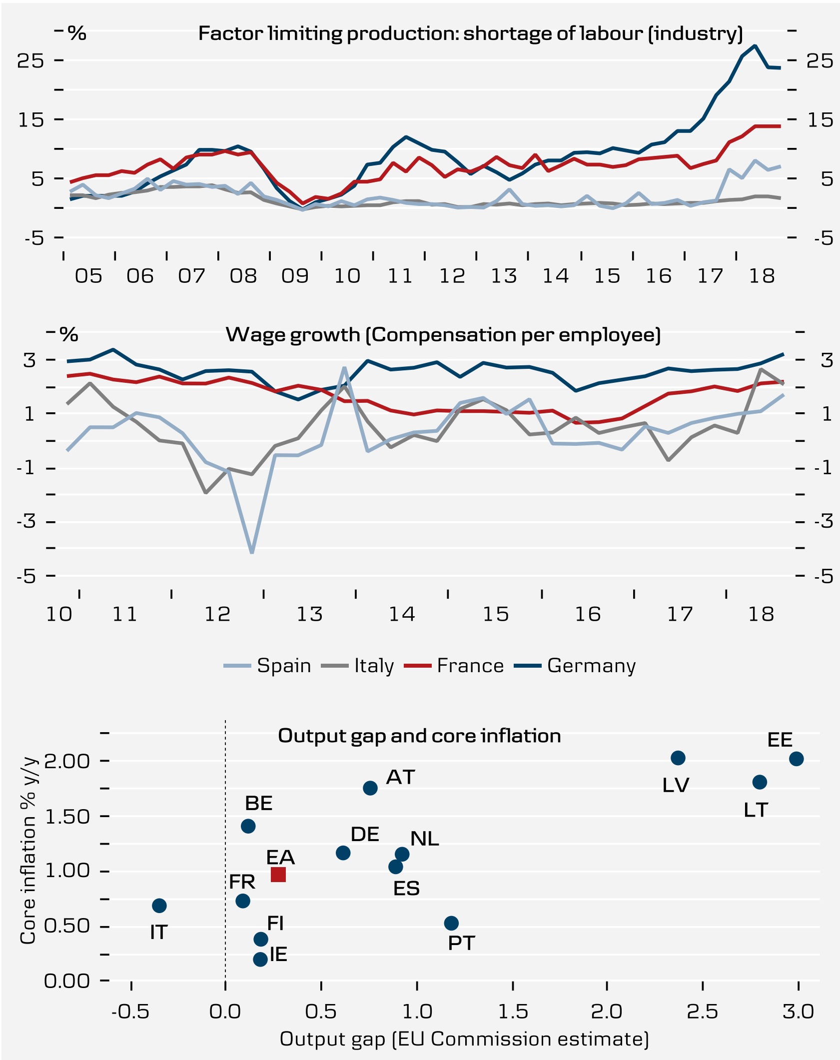
- Past rates of inflation are important ingredients in the wage formation and core inflation process. The rise in both market-based and survey-based inflation expectations since 2017 is hence good news for the euro area inflation outlook.
- Still, market-based inflation expectations are showing signs of stabilising - and are still somewhat far from the 2% level...



Source: ECB, EC, Bloomberg, Macrobond Financial, Danske Bank

Source: Bloomberg, Macrobond Financial, Danske Bank

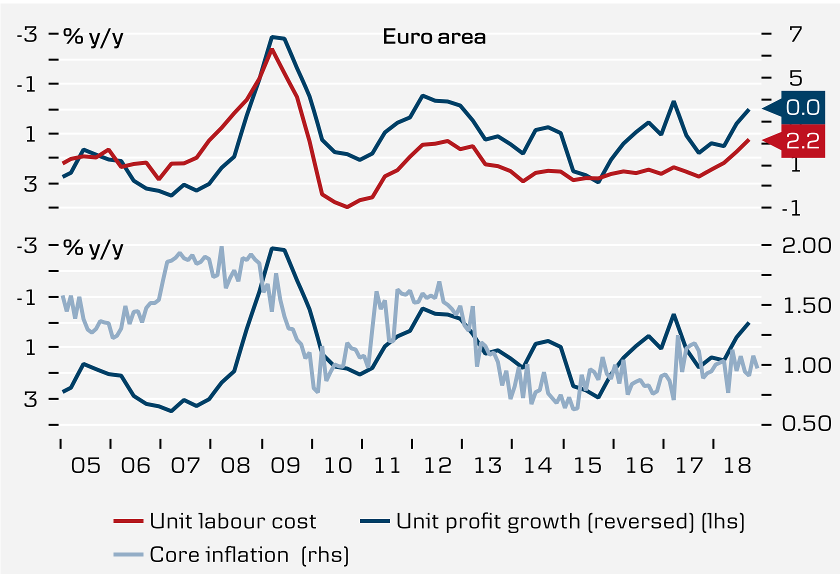
Wage growth outlook: country divergence will persist

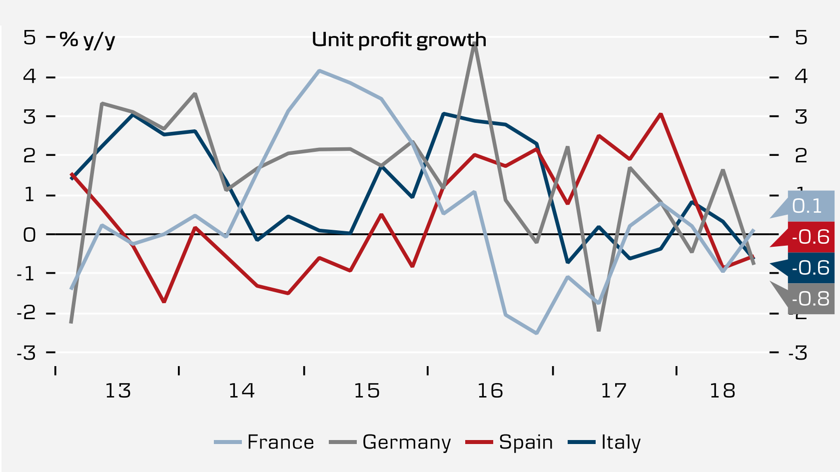


Source: Eurostat, Macrobond Financial, Danske Bank

- From a cross-country-perspective, the picture regarding wage growth developments in the euro area remains heterogeneous:
  - **Germany.** Wage growth will gather pace to average 3.2% in 2019 on the back of higher negotiated wages and increases in the minimum wage by 4% in January 2019.
  - **France.** Positive wage growth factors remain intact from rising labour shortages, steady declines in unemployment rates and a planned increase in the minimum wage. However, wage growth will decelerate in 2019, due to the replacement of the CICE (Tax Credit for Competitiveness and Employment), leading to a reduction in social security contributions of employers.
  - **Italy.** Wage growth is expected to slow down due to still high labour market slack, rising economic uncertainty and the waning positive impact of a public sector wage increase in early-18.
  - **Spain.** Wages will continue their gradual upward trend amid rising labour shortages, steady declines in unemployment rates and a (potential) increase in the minimum wage.

Wage pass-through to core inflation will depend on profit margin compression



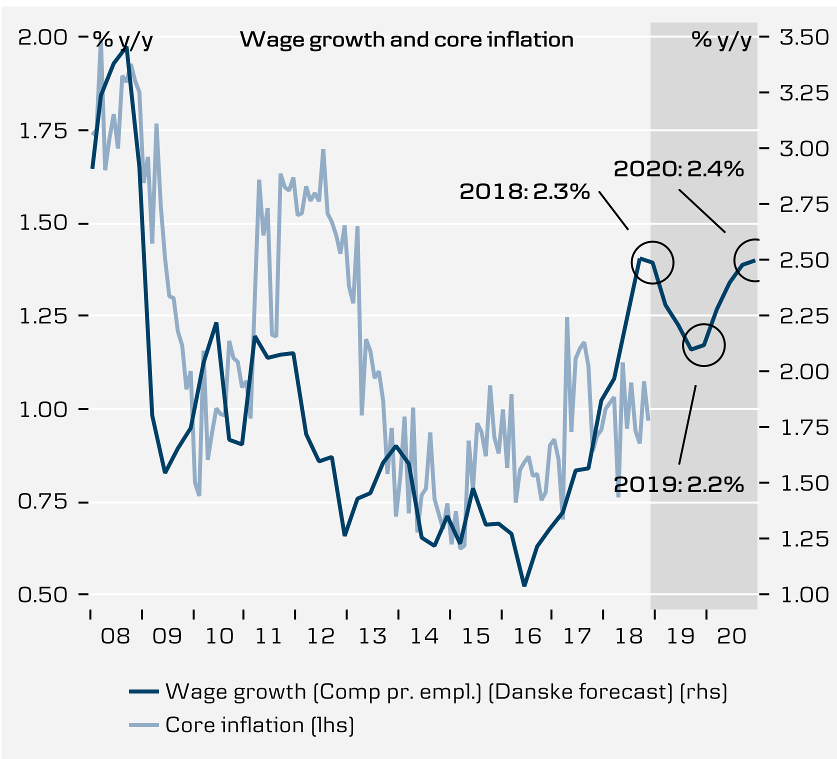


Source: Eurostat, Macrobond Financial, Danske Bank

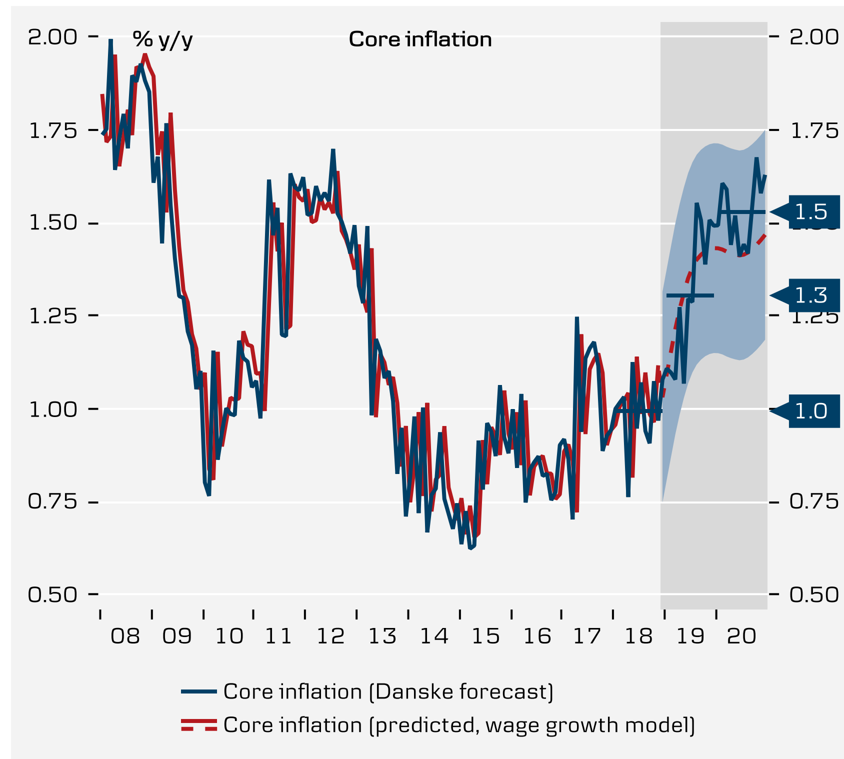
- So far the pass-through from higher wages to core inflation has yet to materialise in the euro area. To some extent, this lagged response is in line with the standard pattern of demand-driven expansions in the euro area, as recent ECB Research shows.
- As Draghi also stressed at the December monetary policy meeting, how fast and to what degree higher wage pressures will feed-through to consumer prices depends crucially on the extent to which firms' profit margins area being squeezed.
- Early evidence of this happening is already visible in the data. Unit profit growth has turned/stayed negative in Q3 in Germany, Spain and Italy and remained close to zero in France. For the euro area as a whole, unit profit growth has slowed to zero in Q3 from 1.5% in Q1.
- We do not see any convincing reason why labour productivity should suddenly pick up strongly and hence the pressure from higher unit labour costs (2.2% in Q3 vs. 1.6% in Q2) on margins will likely intensify in the coming months.
- That said, ECB Research suggests that the speed of pass-through is state-dependent. With several years of low inflation and rising uncertainty on the growth outlook, there is a risk that it will take longer and the pass-through to core inflation stays more subdued than the strong wage uptick would suggest.

Wage growth as the key core inflation driver in 2019 and 2020

- Although it is difficult to say when exactly the 'tipping point' in terms of margin compression and wage pass-through is reached, we expect to see a gradual build up of core inflation pressures over the coming two years.
- As higher wages usually feed through to core inflation with a six to twelve month lag, we expect the (core) inflation Phillips curve to start steepening in Q2 19, though probably less than the ECB predicts. We project core inflation at 1.5% by end-19 and 1.6% by end-2020.



Note: Wage growth rate will decelerate temporarily in 2019, due to the replacement of the CICE (Tax Credit for Competitiveness and Employment) in France, leading to a reduction in social security contributions of employers
Source: Eurostat, ECB, Macrobond Financial, Danske Bank

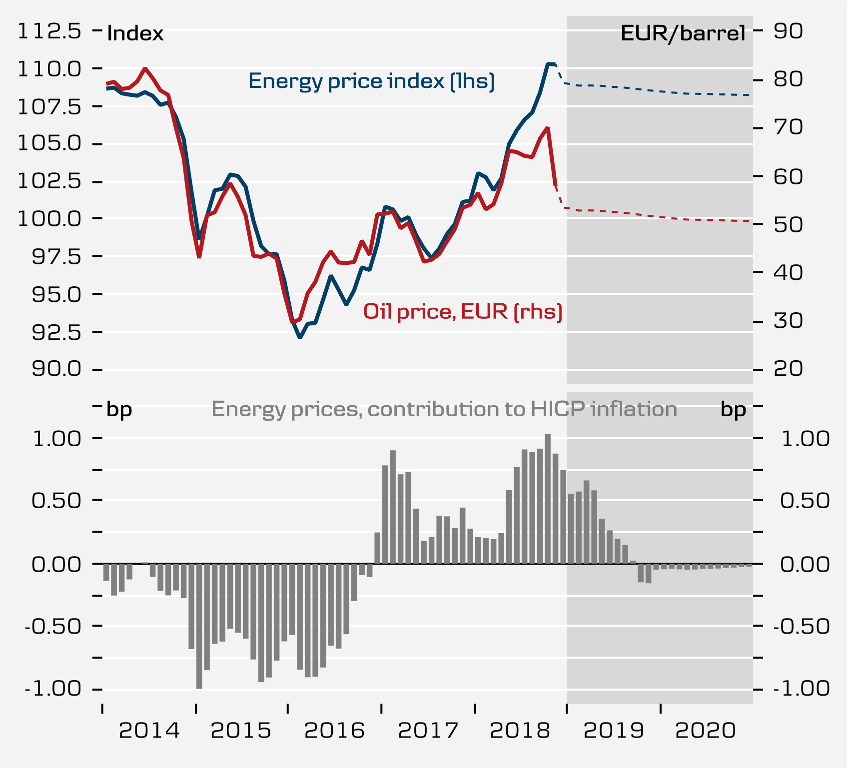


Model prediction made using: $core_t = \alpha + \beta_1 core_{t-1} + \beta_2\, wage\ growth_{t-6} + \varepsilon_t$
R^2: 0.89

Source: Eurostat, Macrobond Financial, Danske Bank

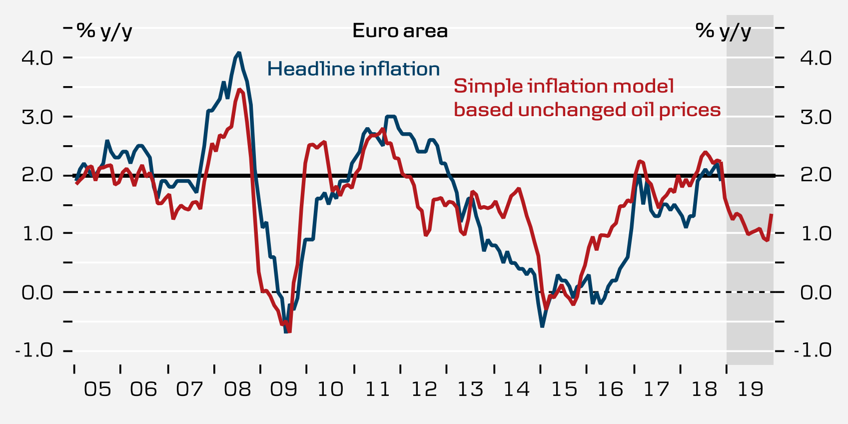
Oil boost to headline inflation is fading…

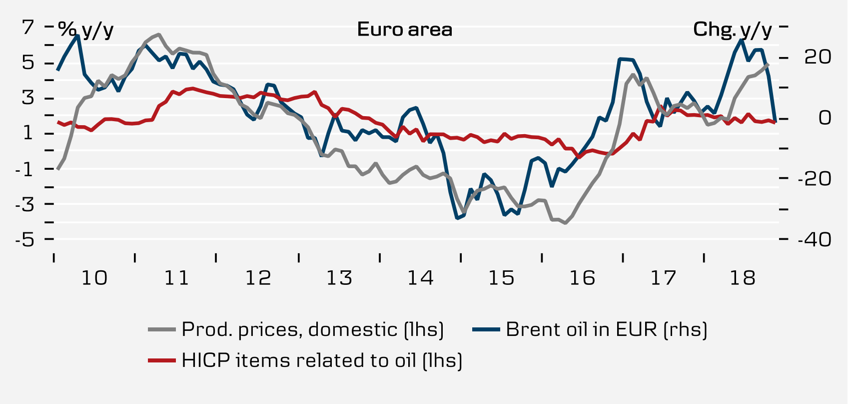
- In 2018, headline inflation saw a strong boost from higher oil and energy prices. However, this boost will increasingly wane and negative base effects mean that energy price inflation could actually become a drag on the headline inflation profile from late-2019 onwards.
- Indirect effects from the oil price increase, meanwhile, are still muted, with core inflation items related to oil yet to show any marked reaction to higher input prices.



Note: Using market pricing for Brent oil (USD60/bbl) and EUR/USD forwards

Source: Eurostat, Macrobond Financial, ECB, Danske Bank

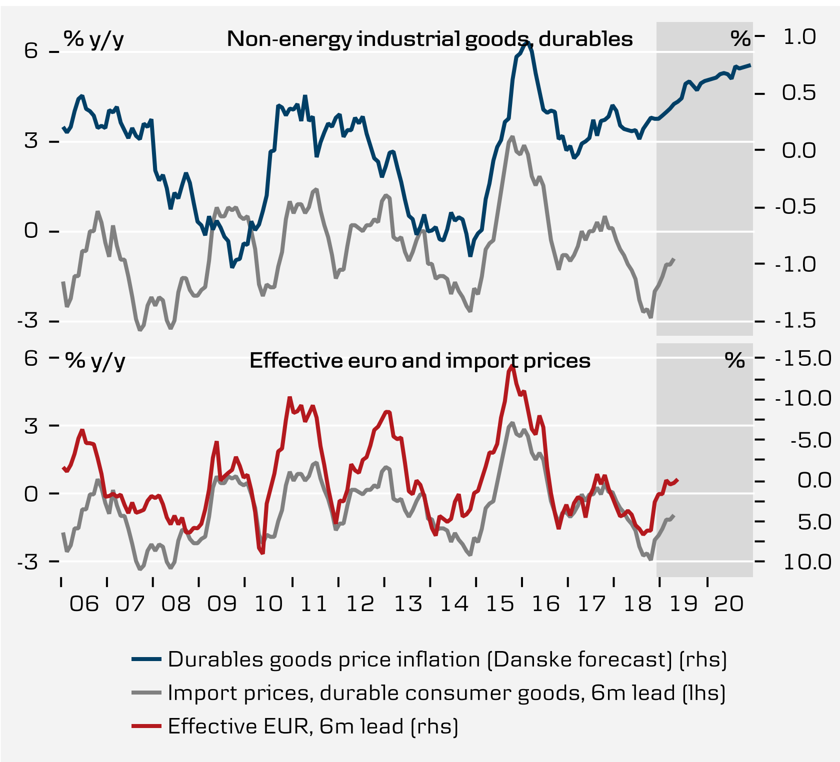




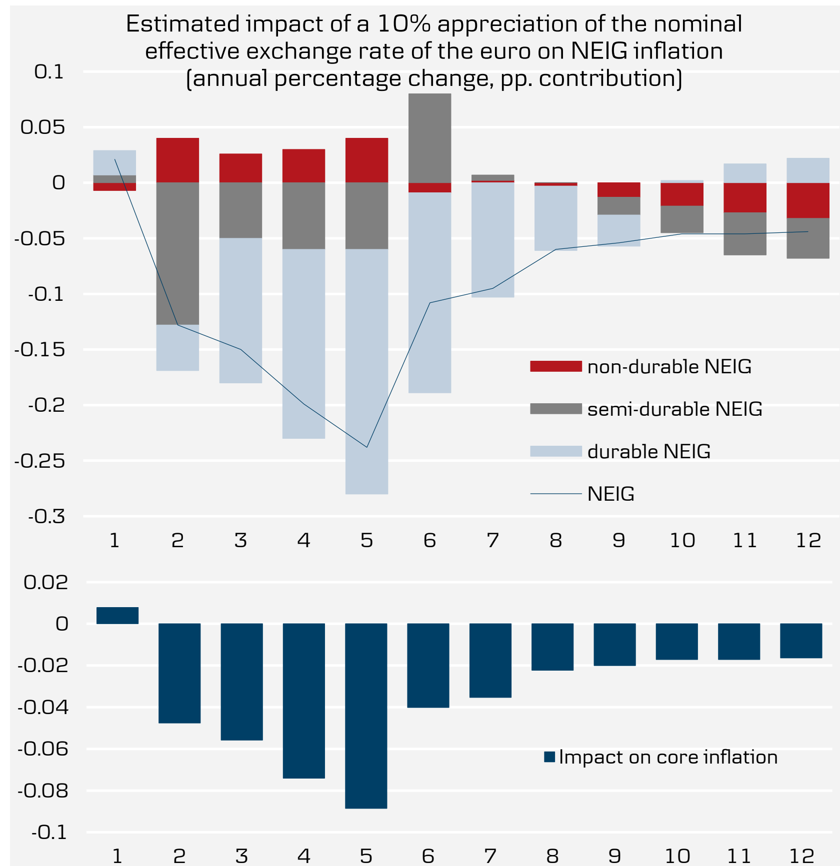
Source: Eurostat, Macrobond Financial, Danske Bank

… while EUR headwind is waning

- The effective euro (EER38) appreciated by around 5.5% in 2018 – which likely was a contributing factor behind this year's persistent core inflation disappointments. However, while the oil boost to eurozone inflation is waning, EUR appreciation is becoming less of a headwind in 2019. Import prices have ticked up as euro strength has abated, which should in our view support durable goods prices (and core inflation) in 2019. That said, there is a risk that the negative impact lingers for longer, as exchange rate movements can take up to two years to fully pass through to inflation.



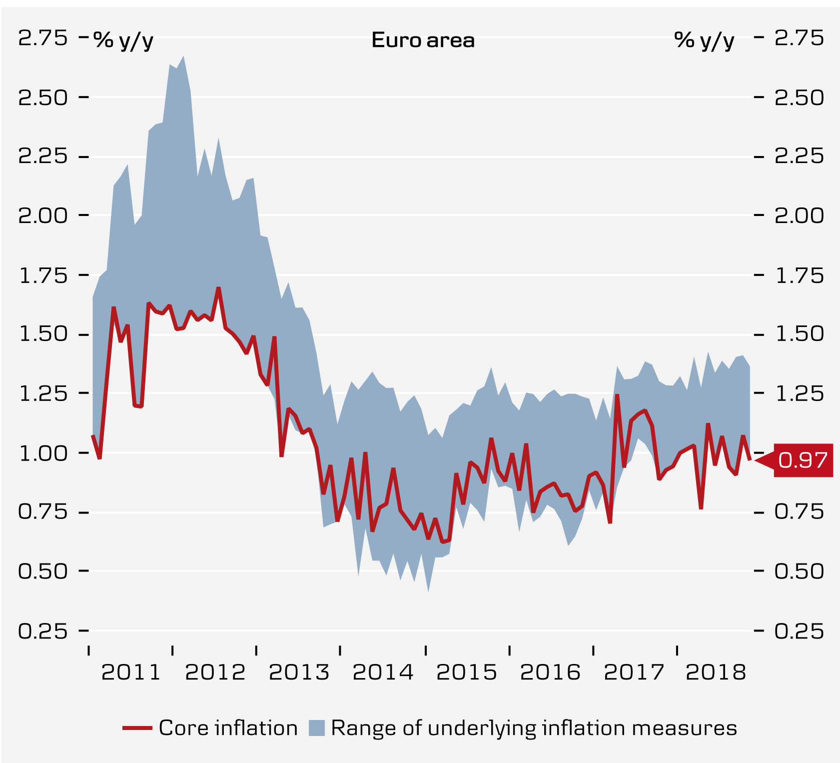
Source: Eurostat, Macrobond Financial, Danske Bank



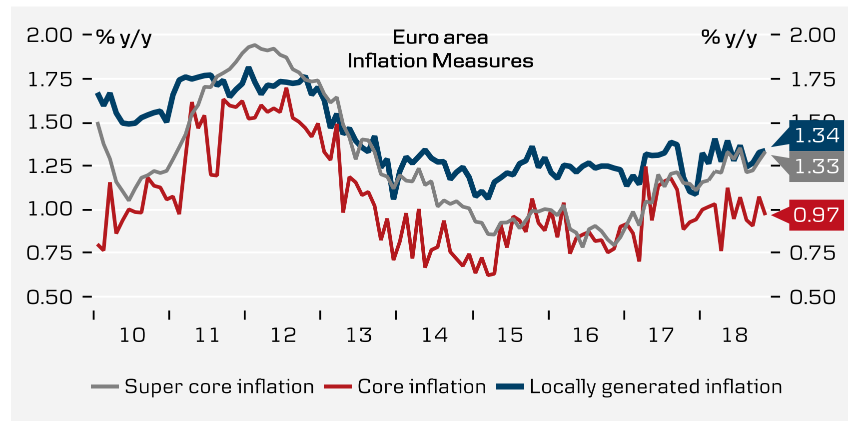
Sources: Eurostat and ECB calculations.
The x-axis refers to the quarters following a change in the exchange rate.

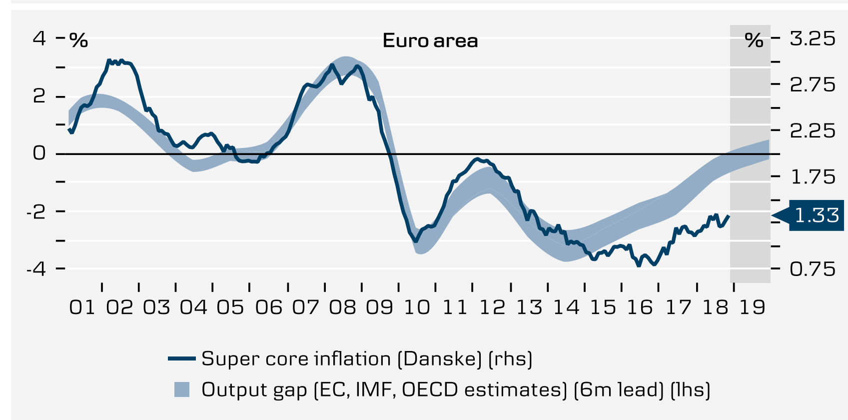
Underlying inflation measures – gradually trending up

- Different measures of underlying inflation pressures have continued their muted upward trend in 2018, but still present a somewhat mixed picture**. Super core inflation** – which only includes HICP items related to the output gap – is an important 'early warning indicator' of inflation momentum. Super core has over the last few years been less responsive to changes in the output gap, but since 2017 a turning point in underlying inflation momentum has emerged and we expect the upward trend – with occasional setbacks – to continue in 2019 as well. Meanwhile, our **domestically generated inflation measure** – which includes only locally sourced HICP items and aims to filter out the (mostly negative) impact of international factors and globalisation – remains without any clear upward trend. We think this will be an important indicator to monitor going forward, also to identify early signs of the inflationary impact from wages.



Note: Range of underlying measures consists of HICP excl. energy; HICP excl. energy and unprocessed food; HICP excl. energy and food; HICP excl. energy, food, travel-related items and clothing; 10% trimmed mean; 30% trimmed mean, super core inflation, local inflation measure
Source: Eurostat, ECB, Macrobond Financial, Danske Bank



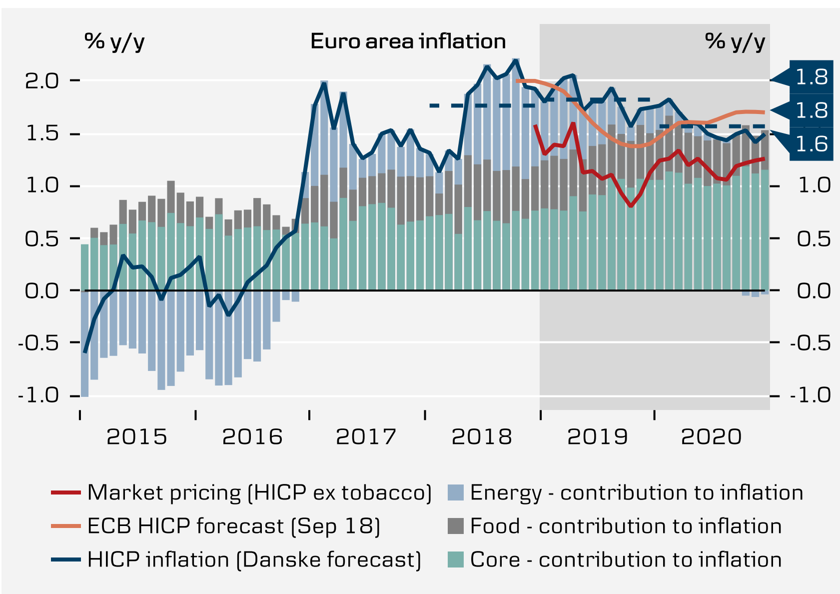


Source: Eurostat, ECB, Macrobond Financial, Danske Bank

Market has turned too pessimistic on core inflation outlook

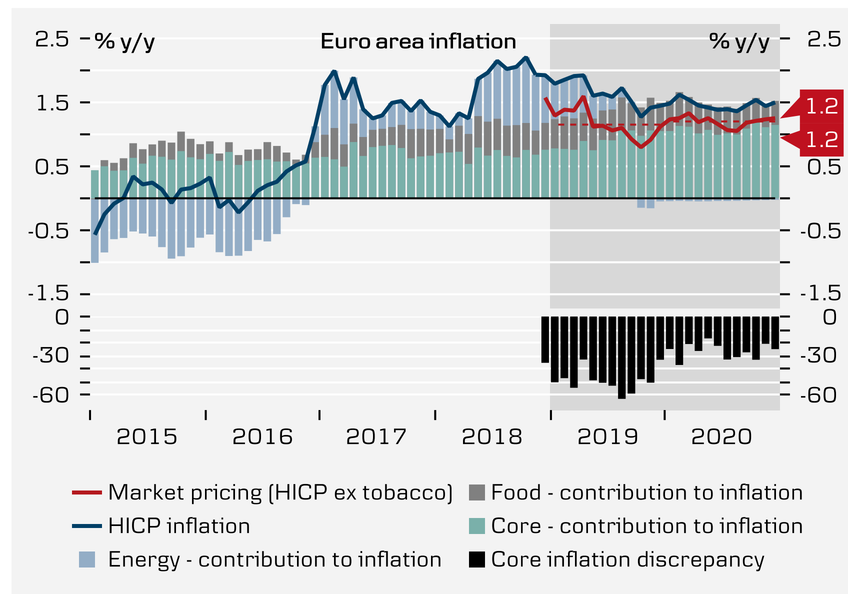
- We expect headline inflation to oscillate around the 2% level in H1 19, driven by a recovery in oil prices and elevated food price inflation. However, towards end-2019 we expect headline inflation rates to fall back closer to the 1.5% level, as energy and food price inflation abates while the rise in core inflation will only materialise gradually.
- The EUR inflation forward curve has continued to steepen in past weeks, as expectations of weaker economic growth raised doubts on whether wage increases will feed into service price inflation if a recession hits and companies become reluctant to raise prices.
- We think euro area recession discussions are premature (see also here) and hence inflation market pricing has turned too pessimistic in our view. Even when correcting our forecasts by taking forward values for Brent oil and EUR/USD, the market in our view currently underestimates a pick-up in core inflation (illustrated by the negative 'core inflation discrepancy').

Danske baseline forecast



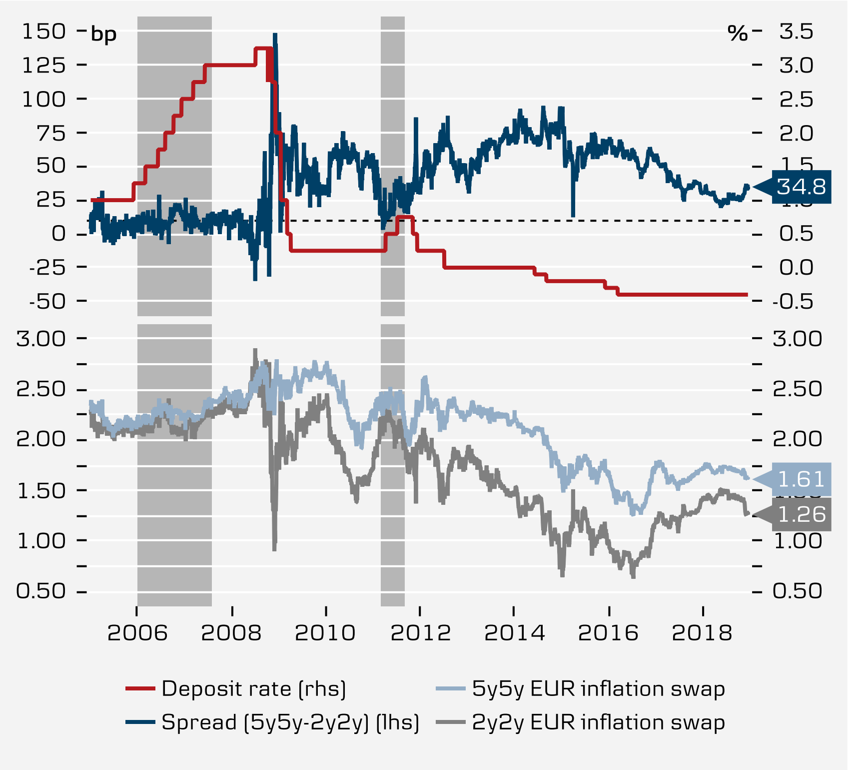
Assumptions: Brent oil at 71USD/bbl in 2019 and 80USD/bbl in 2020;
EUR/USD at 1.19 in 2019 and 1.30 in 2020
Source: Eurostat, ECB, Macrobond Financial, Danske Bank

Using market fwd curves



Notes: Using market pricing for Brent oil and EUR/USD forwards
Core inflation discrepancy is defined as the difference between HICPxt market pricing and the HICP forecast using market forward curves for EUR/USD and Brent oil.
Source: Eurostat, ECB, Macrobond Financial, Danske Bank

Market-based inflation expectations need to move higher for the ECB to be confident in starting a full hiking cycle



Source: Bloomberg, ECB, Macrobond Financial, Danske Bank
Shaded area indicate periods of ECB hikes

- Traditionally, ECB hikes have coincided with periods when market-based inflation expectations hovered around the 2% target (i.e. both 2y2y and 5y5y at or above the 2% target), while also being well-anchored across the inflation curve (i.e. the spread between medium-term (2y2y) and long-term (5y5) inflation expectations was around 10bp).
- The ECB's reaction function has changed to some degree over the years, now focusing now much more on core inflation dynamics. We still think that with a gradual uptrend in core inflation to around 1.5% by December 2019, the ECB could be confident in delivering a first rate hike driven by its will to exit crisis policy mode.
- That said, for the ECB to be confident in starting a full hiking cycle (i.e. once the deposit rate has reached zero) we need to see 2y2y moving above the 1.70% level as well as 5y5y-2y2y spread compression.

Disclosures

This research report has been prepared by Danske Research, a division of Danske Bank A/S ('Danske Bank'). The authors of this research report are Aila Mihr, Analyst, and Piet P.H. Christiansen, Senior Analyst.

Analyst certification

Each research analyst responsible for the content of this research report certifies that the views expressed in the research report accurately reflect the research analyst's personal view about the financial instruments and issuers covered by the research report. Each responsible research analyst further certifies that no part of the compensation of the research analyst was, is or will be, directly or indirectly, related to the specific recommendations expressed in the research report.

Regulation

Danske Bank is authorised and subject to regulation by the Danish Financial Supervisory Authority and is subject to the rules and regulation of the relevant regulators in all other jurisdictions where it conducts business. Danske Bank is subject to limited regulation by the Financial Conduct Authority and the Prudential Regulation Authority (UK). Details on the extent of the regulation by the Financial Conduct Authority and the Prudential Regulation Authority are available from Danske Bank on request.

Danske Bank's research reports are prepared in accordance with the recommendations of the Danish Securities Dealers Association.

Conflicts of interest

Danske Bank has established procedures to prevent conflicts of interest and to ensure the provision of high-quality research based on research objectivity and independence. These procedures are documented in Danske Bank's research policies. Employees within Danske Bank's Research Departments have been instructed that any request that might impair the objectivity and independence of research shall be referred to Research Management and the Compliance Department. Danske Bank's Research Departments are organised independently from and do not report to other business areas within Danske Bank.

Research analysts are remunerated in part based on the overall profitability of Danske Bank, which includes investment banking revenues, but do not receive bonuses or other remuneration linked to specific corporate finance or debt capital transactions.

Financial models and/or methodology used in this research report

Calculations and presentations in this research report are based on standard econometric tools and methodology as well as publicly available statistics for each individual security, issuer and/or country. Documentation can be obtained from the authors on request.

Risk warning

Major risks connected with recommendations or opinions in this research report, including as sensitivity analysis of relevant assumptions, are stated throughout the text.

Expected updates

None

Date of first publication

See the front page of this research report for the date of first publication.

General disclaimer

This research has been prepared by Danske Bank Markets (a division of Danske Bank A/S). It is provided for informational purposes only and should not be considered investment advice. It does not constitute or form part of, and shall under no circumstances be considered as, an offer to sell or a solicitation of an offer to purchase or sell any relevant financial instruments (i.e. financial instruments mentioned herein or other financial instruments of any issuer mentioned herein and/or options, warrants, rights or other interests with respect to any such financial instruments) ('Relevant Financial Instruments').

The research report has been prepared independently and solely on the basis of publicly available information that Danske Bank considers to be reliable. While reasonable care has been taken to ensure that its contents are not untrue or misleading, no representation is made as to its accuracy or completeness and Danske Bank, its affiliates and subsidiaries accept no liability whatsoever for any direct or consequential loss, including without limitation any loss of profits, arising from reliance on this research report.

The opinions expressed herein are the opinions of the research analysts responsible for the research report and reflect their judgement as of the date hereof. These opinions are subject to change and Danske Bank does not undertake to notify any recipient of this research report of any such change nor of any other changes related to the information provided in this research report.

This research report is not intended for retail customers in the United Kingdom or the United States.

Disclaimer related to distribution in the United States

This research report is distributed in the United States by Danske Markets Inc., a U.S. registered broker-dealer and subsidiary of Danske Bank, pursuant to SEC Rule 15a-6 and related interpretations issued by the U.S. Securities and Exchange Commission. The research report is intended for distribution in the United States solely to 'U.S. institutional investors' as defined in SEC Rule 15a-6. Danske Markets Inc. accepts responsibility for this research report in connection with distribution in the United States solely to 'U.S. institutional investors'.

Danske Bank is not subject to U.S. rules with regard to the preparation of research reports and the independence of research analysts. In addition, the research analysts of Danske Bank who have prepared this research report are not registered or qualified as research analysts with the NYSE or FINRA but satisfy the applicable requirements of a non-U.S. jurisdiction.

Any U.S. investor recipient of this research report who wishes to purchase or sell any Relevant Financial Instrument may do so only by contacting Danske Markets Inc. directly and should be aware that investing in non-U.S. financial instruments may entail certain risks. Financial instruments of non-U.S. issuers may not be registered with the U.S. Securities and Exchange Commission and may not be subject to the reporting and auditing standards of the U.S. Securities and Exchange Commission.

Report completed: 17 December 2018, 16:50 CET

Report first disseminated: 18 December 2018, 07:30 CET