Negative interest rates – the world turned upside down

by NAB Group Economics

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Latest ECB move highlights negative interest debate

- Negative interest rates - where lenders pay interest to borrowers – got little attention until recently as they were confined to a few Euro-zone neighbours trying to keep down their currencies and lift inflation back to target. Below target inflation has now resulted in negative policy deposit rates in the Euro-zone and Japan. The ECB is now charging commercial banks 0.4% to deposit their money with it but is willing to pay 0.4% interest to commercial banks who lift lending to household and non-financial business customers. The US and Canadian central banks are also exploring the concept but UK central bankers are less keen, saying it can resemble a “beggar thy neighbour” policy of competitive currency depreciation.

- With interest rates so low in many parts of the world, there is concern that other central banks might one day need to use negative rates in the event of another economic downturn. Australia and New Zealand’s policy rates of 2% and 2¼% respectively are at the high end of the spectrum among OECD economies but very low by historical standards and by the yardstick of rate cuts implemented in previous downturns. Alongside uncertainty over just how many countries might one day face negative rates (it could be a lot if there was a global recession) is the difficulty of knowing just how far rates can be driven into negative territory before banks and retail customers opt to use cash instead. Negative rates take economic policy into unexplored territory and there is a lot of uncertainty over how firms and people will react.

- There is also uncertainty over how far negative rates hit banking and insurance profits or, indeed, whether they will work to lift demand and inflation. Negative central bank policy rates have flowed into money market and sovereign bond rates as well as pulling down retail lending rates but negative retail deposit rates remain rare. The outcome has been a squeeze on bank interest margins that has produced concern for the future viability of the classic bank model of operation. These concerns look exaggerated as some bank business models are hit harder than others, banks found other ways to boost revenue and protect margins and central banks have a lot of discretion over how much pressure they put on commercial bank earnings.

- Negative rates should slightly boost activity in countries applying them, mainly through exchange rate depreciation. Reforms to central bank operations are also possible that could allow cuts into deeper negative territory, producing greater economic impacts.

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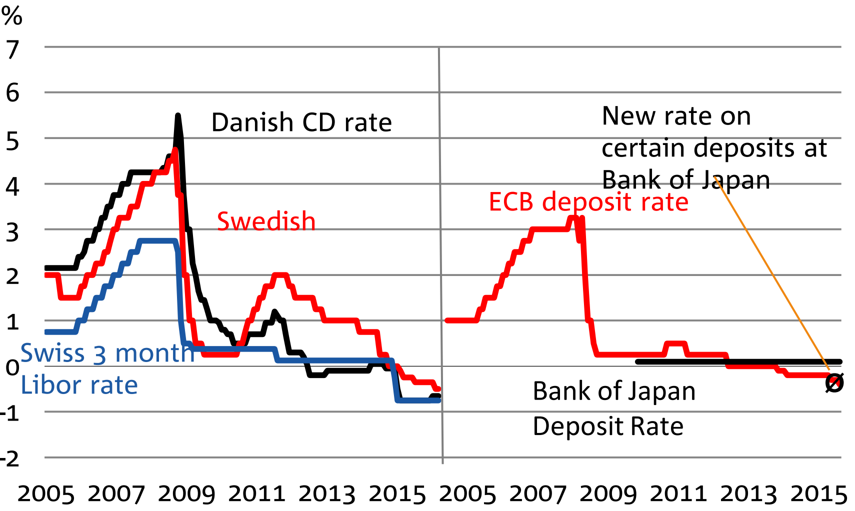
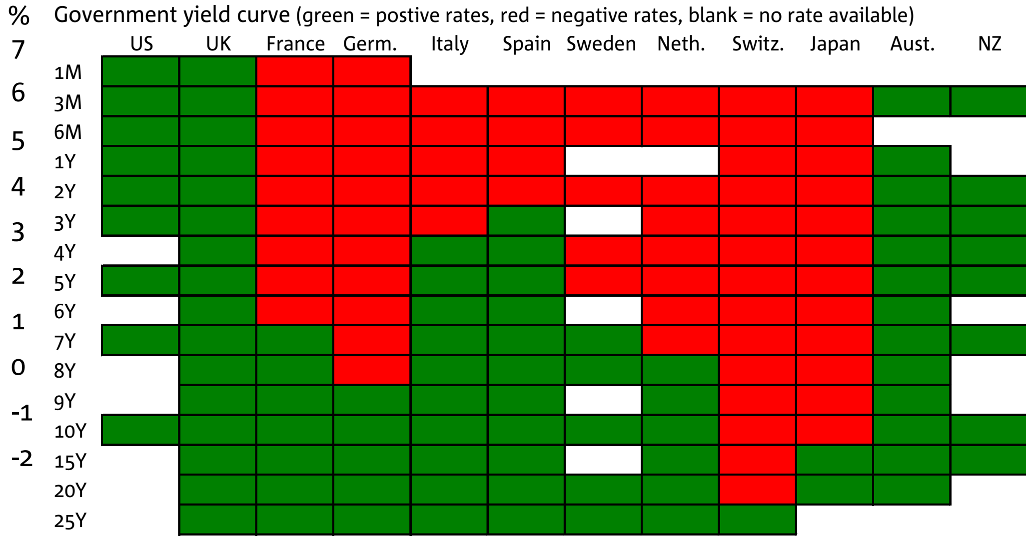
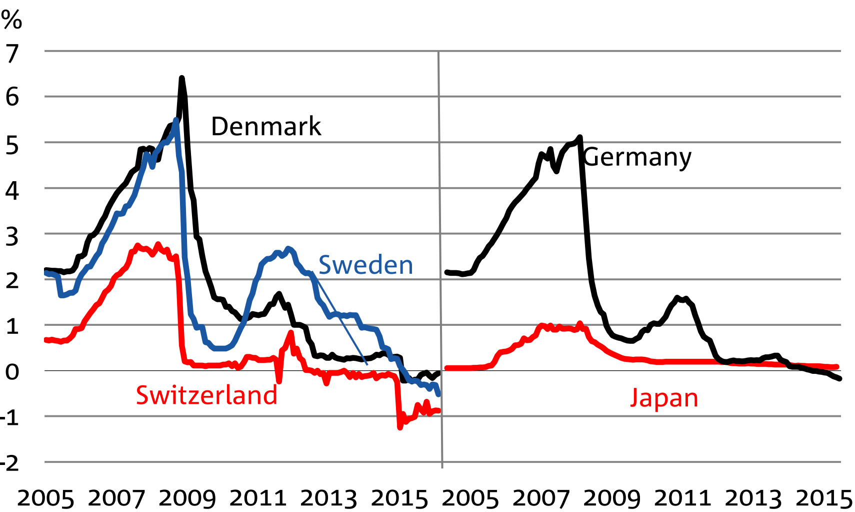
Negative central bank policy rates flow through the markets

Central bank policy rates for deposits





Interbank rates in selected European countries - 3 month



- Central bank policy rates turned negative in Switzerland, Sweden, Denmark and the Euro zone through 2014 and 2015 with Japan making the move in January 2016. Currently the Danish CD deposit rate is -0.65%, the Swedish repo rate is -0.5%, the central point of the Swiss 3 month libor target band is -0.75%. The European Central Bank's deposit rate is -0.4% and a rate of -0.1% is applied to part of the deposits commercial banks hold at the Bank of Japan while the rest get paid either zero or 0.1%.

- Negative deposit rates have flowed into interbank rates as commercial banks have excess liquidity – instead of needing to borrow funds from the central banks at their policy lending rates the system has surplus cash that it has to place, either at the central bank, with other banks or in government debt and usually at negative rates. Central bank deposit rates now drive the price of money and the degree to this has flowed into negative sovereign bond rates is shown in red in the chart above.

Why have central banks adopted negative interest rates?

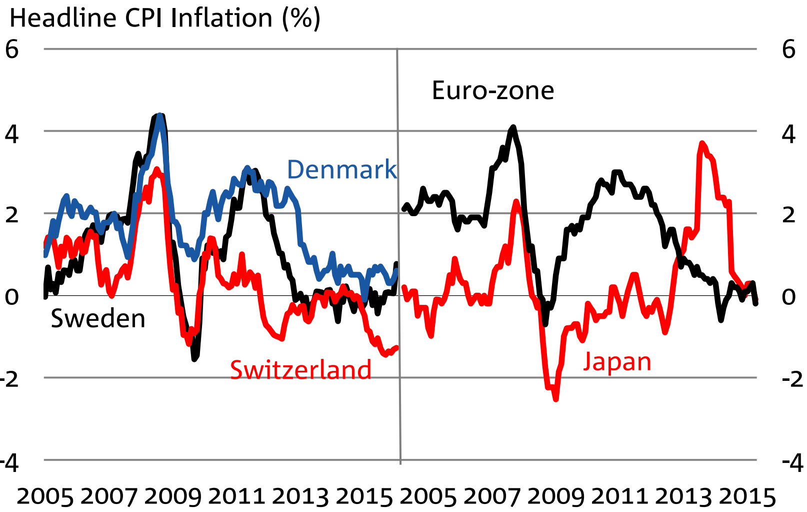
- Central Banks adopted negative deposit rates because their normal policy lending rates were already at or close to zero and they were either not reaching inflation targets (Sweden, Euro-zone, Japan, Switzerland) or needed drastic measures to keep their currency in a tight currency band (Denmark).

- Switzerland, Sweden, Japan and the Euro-zone have CPI inflation targets of 2%. None of these inflation targeting central banks have been hitting their targets – headline inflation is negative in Switzerland, the Euro-zone and Japan and well below target in Sweden. Some of this inflation undershoot reflects falling prices for energy etc. – core measures of CPI inflation that exclude food and energy are positive but still sub-2% in Sweden, Japan and the Euro-zone. Even core inflation is negative in Switzerland. As Denmark's central bank has to keep its currency within a tight band against the Euro-zone, negative rates were adopted to discourage capital coming into the country. Those capital inflows kept threatening to take the currency outside its trading limits.

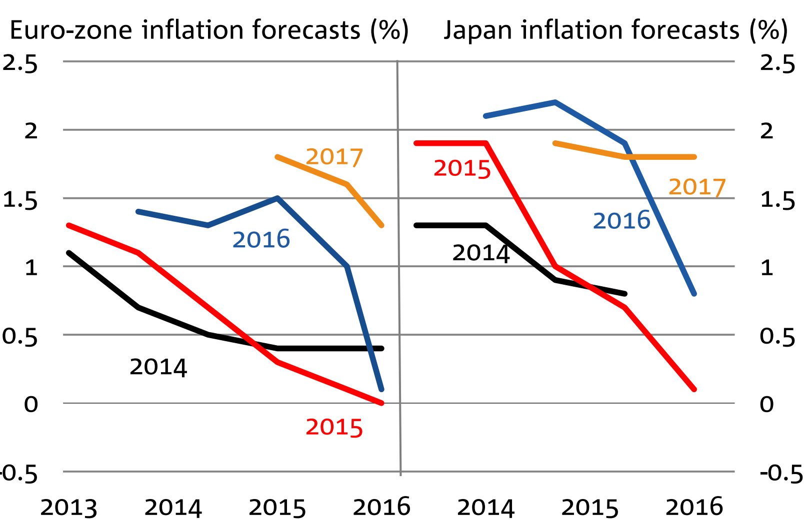
- With policy lending rates around zero and inflation persistently below target and repeatedly failing to meet forecasts , even central banks with mandates to hit their inflation targets over the medium term rather than at all times recognised that they had to do something more to get prices up. Central banks wanted to avoid subdued inflation feeding into weak inflationary expectations and low wage growth that risks dragging their economies into a toxic protracted Japanese-style deflation. Hence the focus on "unconventional" monetary policies that can operate to lift demand when lending rates hit zero.

- If central bank inflation forecasts are met, they should not need negative rates for too long. The Swiss central bank sees inflation returning with the CPI falling 0.5% this year but rising 0.3% in 2017. Sweden's central bank sees inflation rising to 2.1% in 2017 and 2.9% in 2018 and its policy rate back in positive territory by 2018. The Bank of Japan predicts inflation to rise through the next few years to near the 2% target it is supposed to reach "at the earliest possible time" with CPI inflation reaching 1.8% by FY 2017. The ECB also expects inflation to turn positive and rise. The problem is that central bank inflation forecasts have repeatedly been too high. Moreover, while central banks may currently see zero rates as a short term expedient, experience since 2008 with historically low policy rates shows how "temporary measures" can last much longer than expected.

Inflation rates have been trending lower



Headline CPI forecasts have been pared back



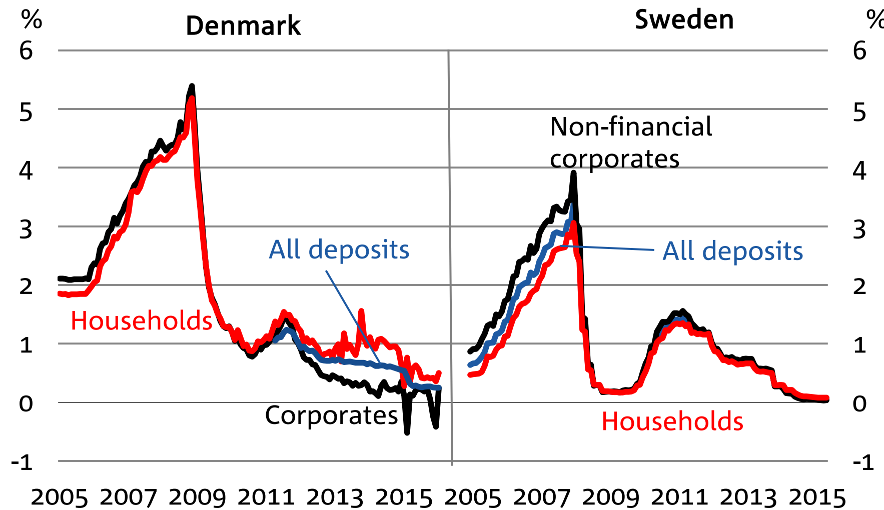
Overseas experience - retail deposit rates have seldom turned negative

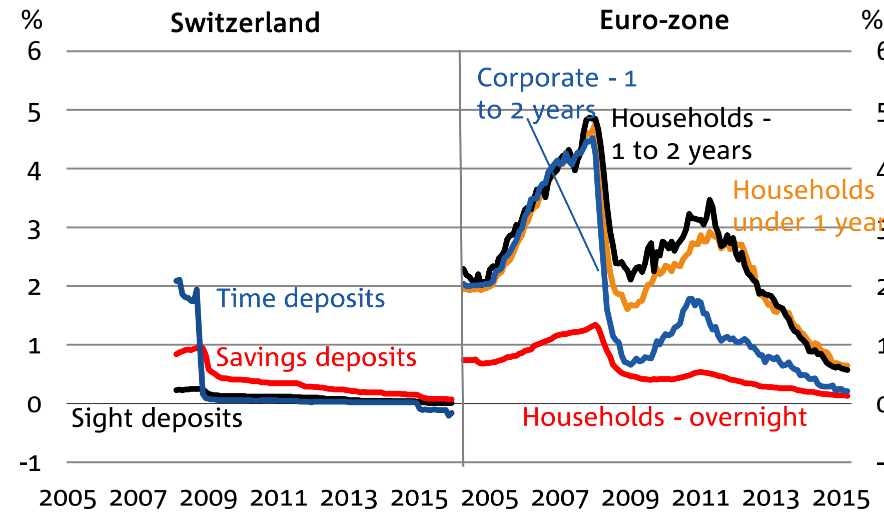
- Bank retail deposit rates are exceptionally low in those countries where central banks have adopted negative policy rates but they have seldom turned negative – zero is generally the floor. Deposit rates have been maintained better for households than for big corporates and for demand accounts than time accounts.

- Danish household deposit rates are 50 bps, corporates get 25 bps. Negative nominal rates are reserved for large corporates as well as insurance and pension funds. Surveys of Danish corporates show that most are getting zero rather than negative rates on their deposits. In response to the zero or negative yields on offer for bank deposits, Danish corporates and financial institutions have put their money into other assets, driving down their returns. The situation is similar in Sweden where households get 8 bps on new deposits while corporates get around 3.5 bps. Euro-zone households get around 60 bps on average while corporates get 25 bps or less for up to 1 year deposits.

- Swiss household deposit rates are either just about zero or negative. System average rates for sight deposits are 1bp, savings deposits are 7 bps and time deposits of at least 100k Swiss francs get negative rates of around 15 to 20 bps. Individual banks have tended to avoid setting negative rates on sight and savings accounts but late last year a small social bank – the ABS – applied negative rates more generally. Japanese deposit rates were already very low before the move to negative deposit rates and they remain close to zero but still positive.

System average retail deposit rates (% on new business)





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Overseas experience - retail lending rates leveled off despite policy rate cuts

• Commercial bank retail lending rates have trended down in the negative interest rate countries but reductions have gradually lost momentum. Banks have been protecting margins by introducing more stickiness into loan pricing, with a less prompt or full flow-though of changes in central bank deposit policy rates into retail lending rates. Where economies are strong or particular market segments buoyant, banks have even lifted margins to help offset the impact of negative central bank policy rates.

•Swedish retail lending rates fell after the shift to negative policy rates in mid-2014 but they have leveled out even though the central bank made its policy deposit rate increasingly negative. Fixed rate new housing loans in early 2016 were actually higher than a few months previously and some corporate loans rates rose slightly in January 2016.

•Swiss retail lending rates have fallen by less than might be expected – bank business loans for both fixed and variable working capital are much the same as they were before the move to negative policy rates as are variable rate mortgages. Fixed rate mortgages fell through to early 2015 but have leveled out since then and even risen for longer maturity loans.

•Although some retail adjustable rate mortgage rates turned negative in Denmark, most retail rates remained positive. In early 2016 new housing loan rates were around 4%, new corporate loans were around 1.8% in early and they have been trending up since last September. Euro-zone housing loan rates are around 2% and have been trending down while new lending to non-financial corporates have also been trending down and varied between 1½ and 3½% depending on loan size and type.

System average retail lending rates (% rates on new business)

Denmark (%, 0–10, 2005–2015): Households; Housing; Non-financial corporates

Sweden (%, 0–10, 2005–2015): Households; Housing; Non-financial corporates

Switzerland (%, 0–7, 2005–2015): Business working capital - variable rate; Housing - variable rate; Housing -; Business working captial - fixed rate

Euro-zone (%, 0–7, 2005–2015): Small business loans; Housing; Large business loans

How low could deposit rates go?

- Attention is focusing on just how far central bank policy rates could be driven into negative territory. Until the last couple of years the consensus of central bankers seemed to be "not very far and not for too long". That was clearly the Bank of England's opinion in 2013 when it saw difficulties in holding bank policy rates below -0.5% for more than a year or two.

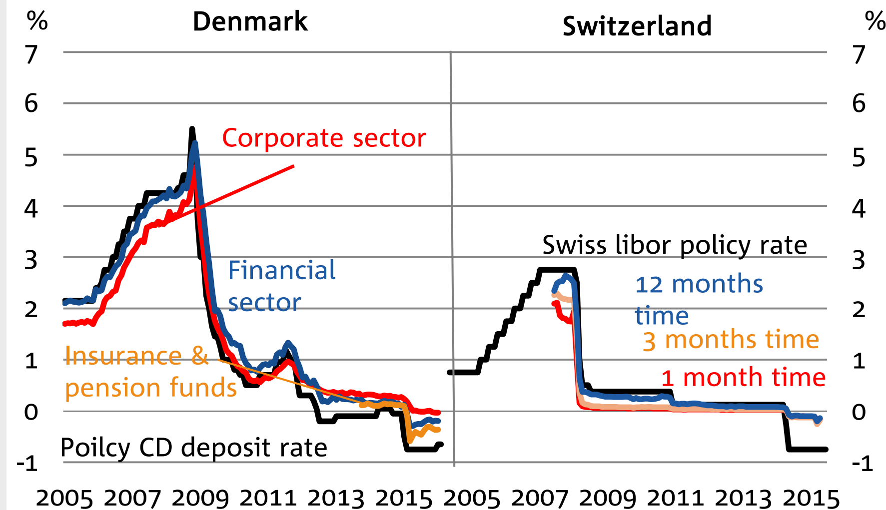
- The main constraint on making deposit rates very negative is the possibility that banks, business and households might hold their funds as cash rather than in negative rate deposit accounts. The cost and inconvenience of holding and settling in cash becomes crucial, a cost that varies according to the type of depositor and sums involved. For banks the relevant cost is using alternatives to holding their surplus funds in central bank deposit accounts, for corporates it could be the cost of setting up cash reserve accounts in vaults that are not lent out or held at a central bank, for households it could be the cost of a safe.

- Many households surveyed by the ING say they would indeed change their behaviour if they faced negative retail deposit rates, shifting their money into other assets or hoarding it. There has been no evidence of such behaviour yet in Europe but then nearly all retail deposit rates remain positive.

- The Bank of Canada has recently outlined how it could use negative interest rates if its policy lending rate was driven to zero. Previously the central bank felt it could not cut its policy rates below 0.25%, now it thinks the effective lower bound for its policy rate is -0.5% as that lines up with the cost of storing money and precious metals as well as fees for exchange traded funds that are physically backed by gold or silver. The Bank of England has a similar ball-park figure for the maximum level of negative rates.

- Experience to date bears this out, showing that negative retail deposit rates are very rare and not too negative. Danish insurance and pension funds had the lowest figure of almost -0.5% in mid-2015 while Swiss time deposit rates have generally been kept to under -0.2%. The authorities could drive rates much further into negative territory by adopting one of a number of measures that lift the cost of shifting into and holding cash. Our guess is deposit rates below -1% would prove hard to sustain as investors opted for cash but more negative rates are possible and sustainable if the authorities adopted measures outlined in the box adjacent.

Danish and Swiss deposit rates below zero



Currency reforms that make it easier to run negative interest rates

- Abolish paper currency and replace it with electronic money and fully cashless payments– big banks in Norway are already refusing to accept cash at their branches and their leaders are calling for its abolition.

- Make electronic money the unit of account at central banks and stop commercial banks from freely converting their electronic deposits into paper currency by imposing a time varying tax – adding to the cost of converting into cash.

- Impose a tax on the carrying of cash balances that dissuades people from holding them.

How far could negative policy rates spread? A lot if there was a downturn

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• Initially negative policy rates were seen as a curiosity unlikely to spread beyond a few European countries trying to keep their currencies down but they are getting a lot more attention now.

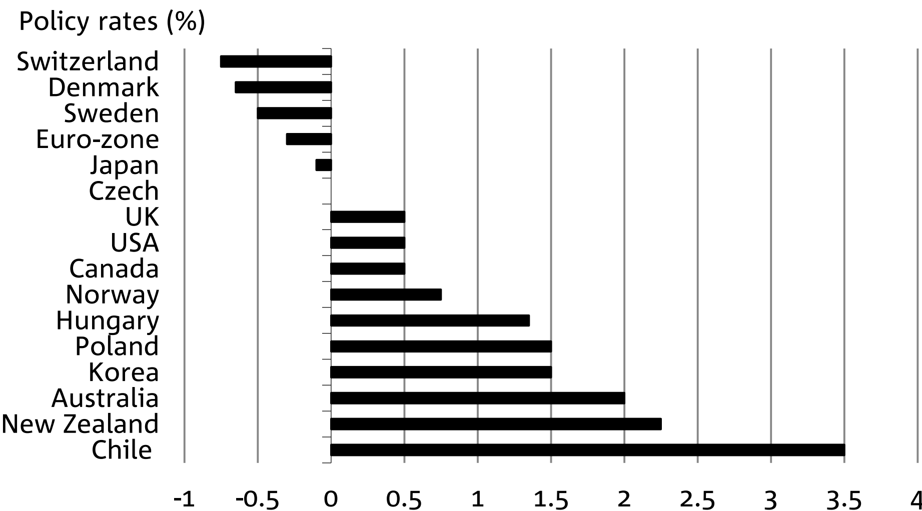
• Several central banks are now thinking about whether they might need to adopt negative rates one day as well as the legality and practicality of such a move. The Bank of Canada set out its thinking late last year and the US Fed is working on the pros and cons of such a move. The Bank of England clearly has reservations about using negative rates.

•The problem central banks face is that all their normal policy rates are either at or very close to zero and futures pricing shows most OECD countries' rates staying under 2% out to 2020. if central banks faced another economic downturn and/or inflation that was persistently sub-target they could find themselves left with only "unconventional" monetary policy measures and negative rates form part of that small group of monetary measures.

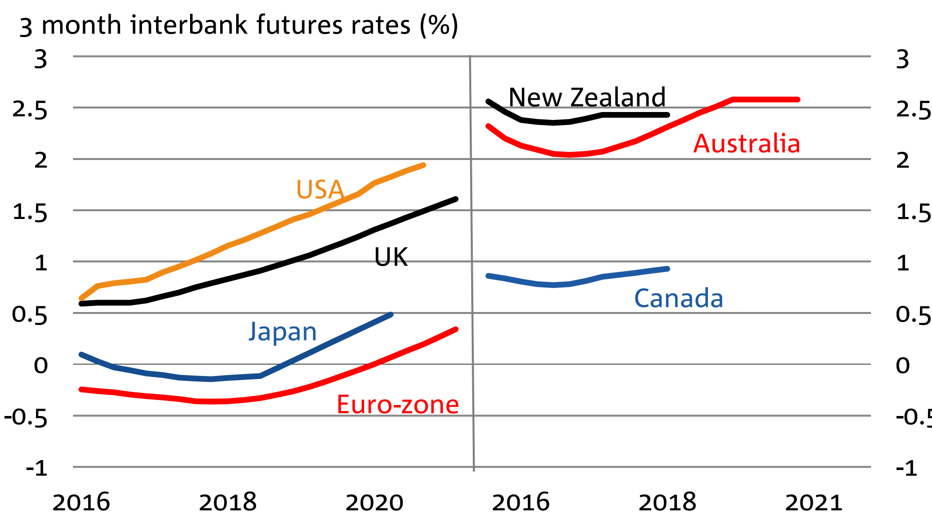
• If advanced economies do face a "secular stagnation" in their growth and structurally low real interest rates then there is a need to have measures like zero rates on standby in case there is another downturn. Sweden's example shows that negative rates can even be required even in an economy that is growing strongly (4½% yoy at end 2015 in Sweden's case) but where policy rates are already at zero and inflation below target.

• Financial markets are pricing in the continuation of very low interest rates for years and there are plenty of risks on the horizon – hence the need for central banks to review if and how they could apply negative policy rates. When economic downturns occurred in the past, central banks usually needed to cut policy rates by 2% percentage points or more to support demand. If a global recession did hit (and we are not forecasting one), the only OECD economies with room to cut lending rates by much before they hit the zero floor are Turkey (not shown on the chart opposite) Chile, NZ and Australia. Most OECD countries could hit the zero floor quite quickly, hence the surge in central bank contingency planning for increased use of "unconventional" measures like negative rates.

OECD Country Monetary Policy Rates March 2016



Selected 3 month interbank futures rates March 2016



Impact of negative rates on bank operations

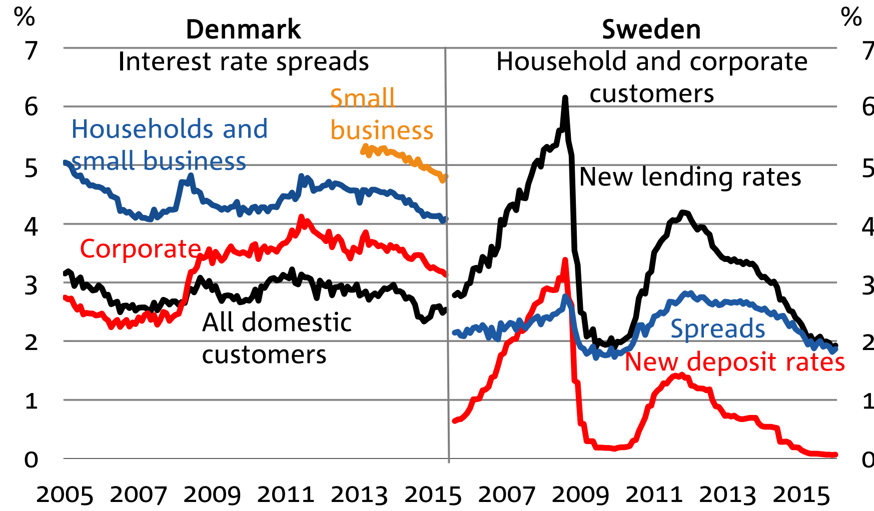
- Negative policy rates put downward pressure on lending rates while bank retail deposit rates generally hit a zero floor, squeezing bank margins. Fears have been expressed that negative policy rates could weaken the traditional model of bank operation. A recent Bank for International Settlements article says that negative policy rates have a "debilitating impact on banks' resilience through undermined profitability". Swiss banks paid around $US 1 Billion in 2015 in negative interest charges on only a part of their deposits held at the Swiss central bank.

- While negative interest rates do appear to have resulted in an erosion of bank margins, their impact should not be exaggerated – it all depends on the bank's precise funding mix and fixed/floating share of its lending.

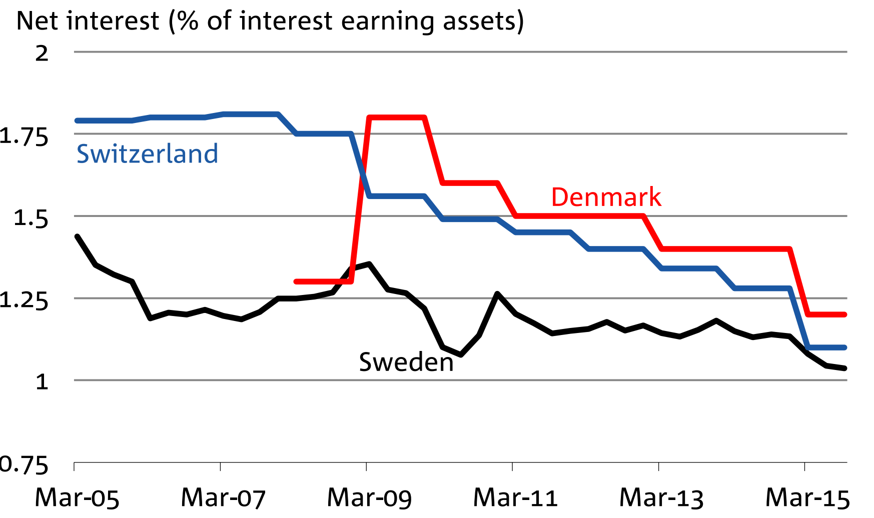
1. Where market conditions have allowed it, banks have lifted retail lending rates to protect margins (Sweden, Swiss housing) but the Bank of Japan doubts if this option is open to Japanese commercial banks. Regulators are watching to make sure that banks do not try to lift their margins by taking on a lot more risk or extending loan maturities too far.
2. Even though retail deposit rates may have a zero floor, negative policy deposit rates have flowed into lower wholesale funding costs, helping keep bank costs lower and limit impact on the bottom line - the irony is that regulators often prefer the "more stable" deposit funding.
3. Central banks have ways to limit the impact of negative policy deposit rates on bank profitability – Japan, Switzerland and Denmark only apply these negative rates to a proportion of commercial bank deposits held at the central bank, reducing their cost impact. The ECB did not do this.
4. Banks have lifted their fees and charges to offset the impact on net interest revenue that is due to the margin squeeze coning from retail deposits hitting a zero floor as lending rates are cut.

- Spreads between lending and deposit rates have narrowed in Denmark and Sweden and system wide bank net interest margins have fallen in negative rate countries (the 2015 numbers for Switzerland and Denmark are our estimates). Banks like Nordea, Danske, Swedbank highlight the adverse impact of negative deposit rates on their margins but experience to date does shows that the idea that negative rates mean the 'death of the banking model" is greatly exaggerated.

Interest rates and spreads



Net interest margins



Will negative interest rates work – and how? Kuroda versus Carney

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- Whether and how negative rates work to lift activity and inflation is currently a matter of great uncertainty and debate. Much depends on the extent and length of time to which central bank policy rates can be moved into negative territory and the degree to which they are allowed to flow into retail deposit and lending rates.

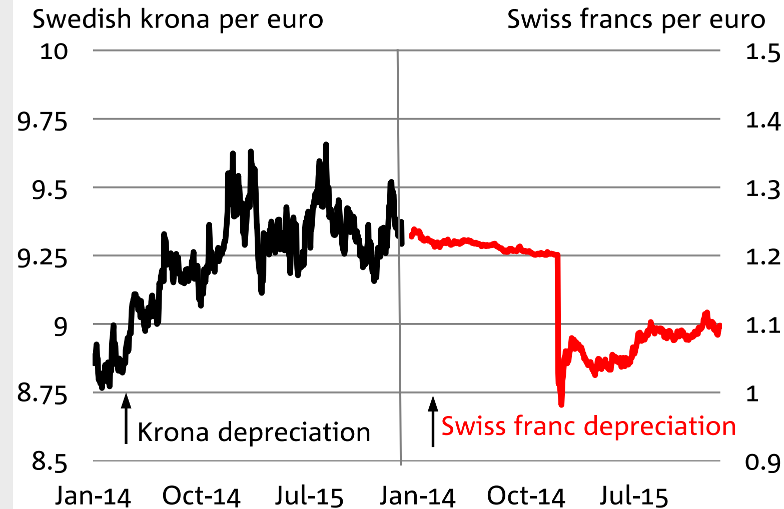
- **Impact on retail rates** - If retail deposit rates stop at the zero floor and banks stop passing cuts into lower lending rates, that blocks off one of the major transmission mechanisms of monetary policy – borrowers spending power is no longer affected.

- **Commercial bank willingness to lend** – negative deposit rates were designed to dissuade banks from piling up funds at central banks and instead lend the money out to their customers. The ECB has brought in a carrot to accompany that stick to lift bank lending – it will lend banks money for 4 years at a price scale stretching from its refi lending rate (now zero) to its deposit rate (now -0.4%) provided those banks lift their lending to private non-financial sector customers. This is uncharted territory but the use of the carrot could have more impact on banks than the stick.

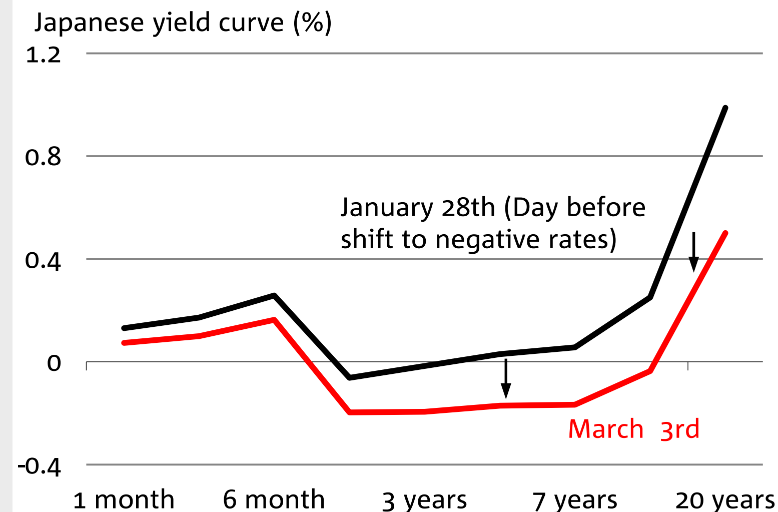
- **Depreciate your currency and beggar your neighbours** - Negative policy rates flow into lower money market and long bond rates, affecting bank wholesale funding costs and driving the exchange rate down. The Swiss and Swedish currencies have not appreciated against the Euro, despite Euro weakness and that could well reflect negative rates holding down their currencies – chart opposite.

- Bank of England Governor Carney has been critical of negative rates as a way to lift activity, saying it relies heavily on currency depreciation that boosts the local economy at the expense of its partners and harming the global economy. Bank of Japan Governor Kuroda disagrees – saying that share prices rose and money market rates fell (see chart opposite) after Japan's move to negative rates, already low retail deposit rates were cut even further, real interest rates declined across the entire yield curve and all that should boost activity. Previous moves toward negative rates did keep currencies down but the yen rose after Japan made the shift – leading critics to say that even the "beggar thy neighbour" currency depreciation rationale for negative rates was ineffective, so the policy was a failure. Kuroda's reply is that the yen's appreciation reflected the safe haven role of the yen in a period of global financial market volatility and was nothing to do with the introduction of negative rates, which were still effective in his opinion. This debate highlights the experimental nature of using negative rates as a policy.

Currency rates versus the euro



Japanese bond yields following shift to negative rates



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