The depth of fall of bond yields is limited[1]

Within *Focus* we comment on extraordinary market events and analyse capital market related special topics.

Even market participants, who had come to terms with negative bond yields and hardly expected yields to rise in the medium term, were not overly surprised in the summer by the momentum with which yields continued to fall, setting new negative records: 30-year German government bonds yielded negative returns for the first time. In Switzerland, the central bank rate has been at -0.75% since 2015, with 10-year government bond yields even falling to -1.16% this summer. Globally, the share of negative yielding bonds climbed to over 30%. Although bond yields have risen somewhat in the meantime due to some glimmers of hope, fundamental questions remain. How far can bond yields actually fall? Is there a floor? Because, if there is a yield floor, bond investments currently have a very asymmetrical profile: limited profit opportunities combined with a high risk of loss.

If there is a yield floor, bond investments currently have a very asymmetrical profile.

Two aspects therefore need to be analysed: 1) how far a central bank can actually lower its key interest rate; and 2) why investors buy or hold bonds with negative yields. The real interest rate or the real yield should also be considered: ie, the difference between the nominal yield and the realised or expected inflation. A positive nominal interest rate with correspondingly high inflation can also result in a negative real interest rate – but this is then less obvious. Such phases have already occurred, for instance in the 1970s.

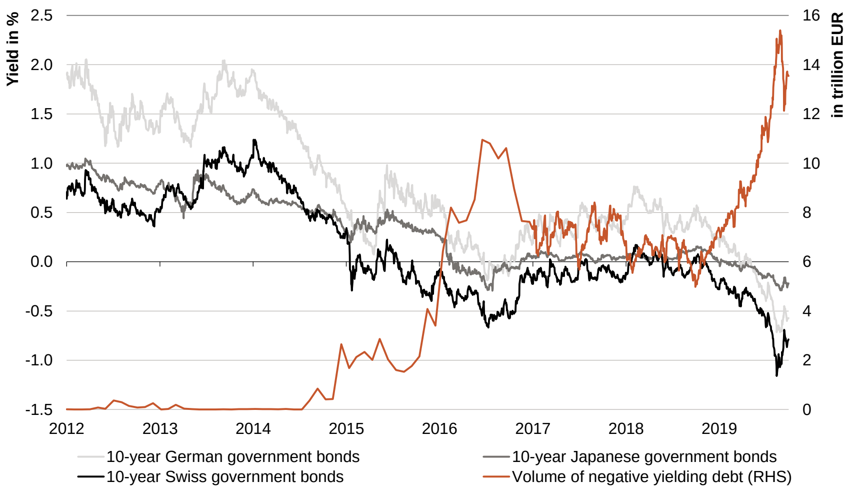
How far can a central bank actually lower its key interest rate? Why do investors buy or hold bonds with negative yields?

Central bank rate cannot be lowered arbitrarily far

Central banks cannot currently introduce arbitrarily low nominal interest rates for economically relevant facilities. An economically relevant negative interest rate for banks ultimately has one of two consequences: 1) if the banks pass it on to their

New negative records for bond yields in summer

With the sharp fall in bond yields in the summer, the volume of bonds with negative yields rose globally to almost EUR 16 trillion. This corresponds to more than 30% of all bonds.



Time period: 01/01/2012-30/09/2019
Source: Bloomberg, own calculations

[1] This article is based on a guest commentary published in the *Börsen-Zeitung* on 1 October 2019.

customers, the accountholders are likely to switch to cash holdings or alternatives such as gold; only if the possibility of holding cash is restricted, for which there are already initial approaches, can a negative interest rate be imposed that exceeds the costs of holding cash; 2) if the banks do not pass on the negative interest rate, then it is not an expansionary but a restrictive monetary policy measure in times of banks' excess liquidity and lack of equity capital, because it restricts the banks' ability to expand lending and does not increase it.

If the central bank rate falls too far, it no longer has an expansionary effect but favours a recession.

In a recent study,[2] Princeton economists Markus Brunnermeier and Yann Koby described an interest rate as a reversal interest rate below which monetary policy no longer has an expansionary effect but favours a recession. The level of this reversal interest rate depends on the structure of the banking business, the regulation of the banks and the market power of the banks. Moreover, the longer the interest rate stays at or below this level, the higher the reversal interest rate becomes; for example, because the positive valuation effects of the lower interest rate expire for the banks, as do the holdings of higher-interest investments.

The ECB, the BoJ and the SNB are unlikely to succeed in cutting interest rates to any significant extent.

The fact that negative deposit interest rates increasingly burden banks over time is ultimately also the reason why the ECB introduced a tiering system in September together with the further lowering of the deposit rate; ie, the negative deposit rate is no longer payable in full on all deposits. The ECB has probably recognised that the reversal interest rate may not be far off. In September, the SNB also extended the exceptions for banks with unchanged key interest rates, thus relieving the domestic banking system of part of the burden of negative interest rates. The ECB, the BoJ and the SNB are unlikely to succeed in cutting interest rates significantly further without increasing exceptions or without restricting cash holdings.

Who buys bonds with negative interest rates and why?

"Mandatory buyers"

What about the motivation of investors to buy or hold bonds with negative interest rates? If purchases by large investor groups with increasingly negative interest rates were to ebb away, this would also indicate that real bond yields could not fall arbitrarily. Various groups come into play as buyers, such as central banks like the ECB or the BoJ via their QE programmes. Generating a profit is not the primary goal for them – even if it can happen. Banks also act as buyers, for example to avoid an even more negative deposit rate. Commercial banks must also invest part of their excess liquidity in securities. A large part of these funds is invested in high-quality, liquid government bonds with a maturity of two to five years – also for regulatory reasons. Insurance companies and pension funds also invest in such securities because the regulator forces them to hedge risks or invest with matching maturities. However, both banks and insurance companies are already making way for alternatives for any purchases beyond the regulatory requirements. The fund industry also acts as a buyer, often simply because it has to: a bond ETF tracks its benchmark one-to-one, irrespective of the level of the security's yield. The same applies to active funds that are strongly benchmark-linked and often have no other way out.

Speculative investors

But in addition to these "mandatory buyers", there are also speculative investors who deliberately buy bonds with negative yields, for example as short-term speculation on further falling interest rates. Bond prices would then continue to rise accordingly and this price increase would overcompensate for the running costs of the negative yield. Other investors may also be speculating on a currency appreciation

[2] Brunnermeier, Markus K. and Koby, Yann, "The Reversal Interest Rate", Working Paper, Department of Economics, Princeton University, 30/01/2019

of the respective country and expect this to overcompensate for the negative yields. In both cases, however, the more negative the current yield, the higher the counter-effect needs to be. A further motive can drive foreign investors (eg from the US): they have a chance to achieve a positive return after currency hedging. Last but not least, there are momentum investors such as CTA strategies or trend-following systems that only pay attention to price trends and not to the level of returns.

Simple investors and portfolio diversifiers

In addition, there is the simple investment and diversification motive. Bonds with a negative real yield are not suitable as a safe investment with the aim of at least maintaining real purchasing power. Nevertheless, a bond with a negative yield can have a certain value for the investor on the bond market if the alternatives such as liquid funds or financing costs are even more negative. But at the latest with nominal yields in the direction of -1%, the costs of keeping cash (insurance, storage, logistics) are likely to be lower. In addition, if real interest rates become increasingly negative, alternatives such as gold are available. Negatively yielding government bonds can also still work as portfolio hedges, as they regularly prove to be one of the few remaining asset classes that are negatively correlated with risky investments. Investors thus hold government bonds for diversification or as a kind of "insurance" and may be prepared to accept the insurance premium in the amount of the negative yield. However, there are alternatives: for example, safe government bonds from other countries, such as the US, which still show a clearly positive yield, but one needs to accept the currency risk, or other negatively correlated investments such as long positions in volatility or currency pairs such as JPY long or AUD short. Ultimately, the question is where the required portfolio insurance can be purchased at the lowest price.

Bonds with negative yields have an unattractive risk/reward ratio

The more negative the yields, the more alternatives are available to a large portion of bond buyers.

There is much to suggest that central bank interest rates and (real) bond yields cannot fall arbitrarily, because the more negative the yields, the more alternatives are available to a large portion bond buyers. Bonds with negative yields thus have an unattractive, asymmetrical risk/reward ratio. If the focus is on portfolio hedging, US government bonds should continue to be preferred. However, when it comes to general portfolio diversification and generating positive returns, investors should focus on niche bond segments. Examples include frontier market bonds, Scandinavian high-yield corporate bonds, Chinese bonds and US MBS bonds. All these segments are characterised by the fact that they are not simply investable through passive instruments such as ETFs. They are therefore less exposed to fluctuations in the risk appetite of international investors and have a lower correlation with other risk investments. In addition, these niches can also benefit from increasing investor interest and thus positive returns through price appreciation.

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Date: 02 October 2019

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