

# SFI Public Discussion Note

## Negative Interest Rates



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# Introduction



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Over the last years, central banks of several countries have set short-term interest rates below zero (Denmark, Euro area, Japan, Sweden until December 2019, Switzerland), and in some cases, even long-term market interest rates have become negative. Therefore, it does not come as a surprise that negative interest rates have become a focal point of economic discussions. In Switzerland, currently the country with the lowest negative interest rates, the debate about the past, present, and future of this phenomenon and its impact on the overall economy is especially active. Similar discussions are taking place in the Euro area with respect to the policy of the European Central Bank (ECB). Even the US president tweeted in September 2019 that the Federal Reserve should lower interest rates "to ZERO, or less," for the US to refinance its debt.

The Swiss National Bank (SNB) regularly explains the fundamental economic reasons for negative interest rates and why they could stay negative for some time to come. Nevertheless, the current situation is of increasing concern to a growing number of critical observers. The discussion centers around the fundamental question of whether the benefits of the current policy still outweigh the costs (including low returns on savings, asset inflation, incentives for risk-taking, and the financial situation of pension funds). It is clear that ultimately, the SNB's monetary policy influences the entire Swiss economy—and thus the Swiss population as a whole. But could the SNB really avoid negative interest rates?

Against this background, the goal of this Public Discussion Note is to show how the negative interest rate environment evolved, to explain the positive and negative consequences of the current situation for Switzerland, and to discuss possible future developments.

The views expressed are personal and do not necessarily represent those of Deutsche Bundesbank, the Swiss Finance Institute, the University of Lausanne, the University of Miami, or their staff.



With its Public Discussion Note series the Swiss Finance Institute (SFI) is actively promoting a well-founded discussion of topics relevant to the financial industry, politics, and academia. Furthermore, SFI disseminates its findings through research, publications, Master Classes, conferences, and continuing education courses.

# Looking Back: Why Did We End Up with Negative Interest Rates?

The SNB has a mandate to conduct the country's monetary policy as an independent central bank. It is obliged by the Swiss constitution and statute to act in accordance with the interests of the country as a whole. Its primary goal is to ensure price stability, while taking into account current economic developments.

Given the geographic location of Switzerland and the importance of trade for the Swiss economy, it becomes clear that the CHF/EUR exchange rate is crucially important for the country. About two thirds of the Swiss gross domestic product (GDP) are based on exports, and about 54% of it are based on imports. A closer look at the GDP statistics reveals that the European Union (EU) is by far the most important trading partner. About 45% of exports and 63% of imports are based on trade with the EU. (Source: Federal Statistical Office)

After the introduction of the Euro in 2002, and until about 2010, the exchange rate between the CHF and the EUR fluctuated within an approximate range of 1.45-1.65 CHF per EUR. For the Swiss export industry this was a fairly stable and predictable exchange rate which allowed them to export upper-end quality and highly specialized goods and services at competitive prices. Additionally, it allowed the Swiss retail industry (and especially retail stores in border areas) to remain competitive despite slightly higher domestic price levels.

In late 2009 the situation in the foreign exchange markets started to change. After the financial crisis, growth rates remained low all over the globe, the EUR and USD started to weaken against most currencies, and the Swiss Franc once again (as had been the case several times in the past) became a "safe haven" for foreign investments. Between January 2010 and September 2011, the CHF strengthened against the EUR from approximately 1.50 CHF per EUR to about 1.10 CHF per EUR, an appreciation of around 30%. This created significant pressure on the export industry, and

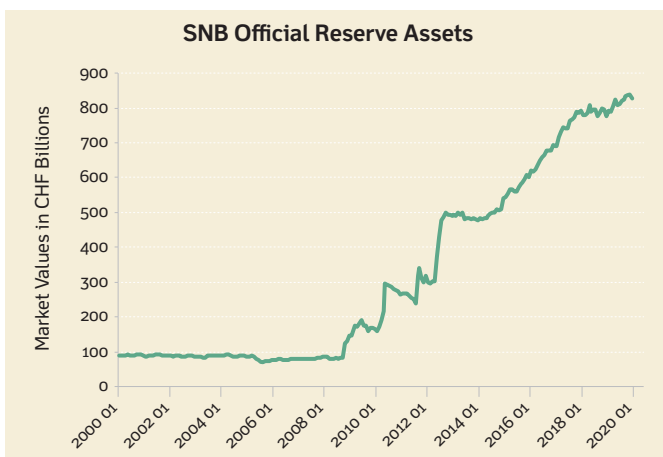
trade associations as well as unions in Switzerland became very vocal that the SNB should take measures to weaken the CHF. Likewise, the fear that a strong Swiss Franc could create deflationary tendencies for the Swiss economy was widely discussed in economic circles and the press. During this time the SNB did not make any public statements in terms of its exchange rate policy, but based on quarterly SNB reports it became clear that there had been ad hoc foreign exchange interventions at various times.

Finally, in September 2011, the SNB decided to change its approach. On the morning of 6 September 2011, the Governing Board of the SNB called a press conference where its president announced that the SNB, "... with immediate effect, will no longer tolerate a CHF/EUR exchange rate below the minimum rate of 1.20. The SNB will enforce this minimum rate with the utmost determination and is prepared to buy foreign currency in unlimited quantities ...".

Within a few hours the CHF/EUR exchange rate stabilized around 1.23 CHF/EUR, and for the next years the CHF/EUR exchange rate remained fairly stable, staying within an approximate range of 1.20-1.24 CHF/EUR. This allowed the Swiss export industry to anticipate the CHF/EUR exchange rate with great certainty and gave them a stable and predictable basis for capital budgeting and financial forecasting.

After the introduction of the floor on the EUR the SNB did not have to intervene much at first. The official reserve assets remained fairly stable at a level of approximately CHF 300 billion. In early 2012, however, the Euro crisis and discussions about the situation of Greece (and other countries in the Euro area) forced the SNB to intervene at a much larger scale, and by mid 2012 the official reserve assets had quickly grown to around CHF 500 billion. Amid growing concerns in Switzerland about the impact of the SNB's monetary regime, the

situation changed on 26 July 2012, when the ECB president famously announced: "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough ...". This statement quickly calmed the markets and also had an immediate effect on the growth of the SNB's official reserve assets: For the next two years they remained more or less stable.



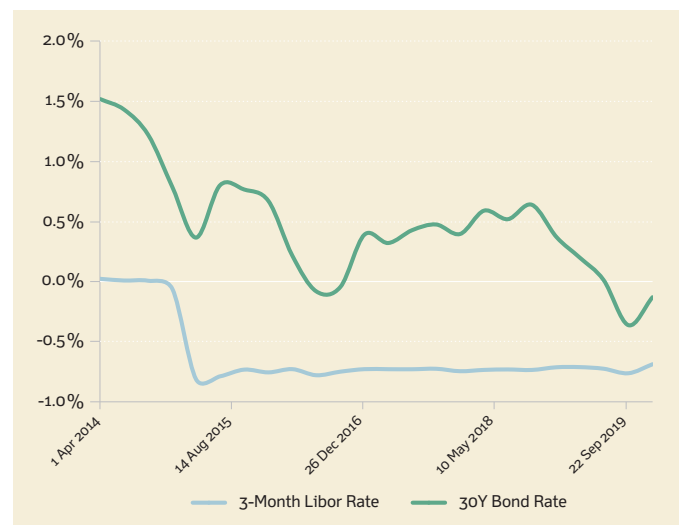
In the second half of 2014, several economic events increased the pressure on the CHF and therefore on the EUR floor, which forced the SNB to intervene in the currency markets again. First, the EUR had weakened against the USD from roughly 1.40 to 1.18 USD per EUR, and because of the minimum CHF/EUR exchange rate the CHF had weakened against the USD as well. Second, discussions about a possible "Grexit" resurfaced, which together with Russia's and other countries' economic decline had triggered the CHF's "safe haven function" again. Third, from Summer 2014 onwards the Governing Council of the ECB had taken a series of measures aimed at further easing its monetary policy stance in the face of falling inflation. These measures included the gradual lowering of the deposit facility interest rate—the benchmark rate for euro area markets into negative territory. Having stayed at 0 % since July 2012, it was cut to -0.1 % in June 2014, and then to -0.2 % in September 2014. Fourth, and probably most important, the ECB had begun to openly discuss the possibility of starting a quantitative easing program in January 2015, which would lower EUR interest rates and increase the downward pressure on the EUR and therefore the upward pressure on the CHF.



Given these developments, many economists and politicians in Switzerland started to question the SNB's interventions and the level of the official reserve assets, which in the meantime had reached about 85% of Switzerland's GDP. The SNB, however, continued to publicly defend its position and promised to uphold its monetary policy and strategy. An additional measure came as a surprise, when, in mid-December 2014, the SNB announced that it would introduce a negative interest rate of -0.25% on sight deposits, beginning on 22 January 2015 (the date of the next ECB meeting).

In early January 2015 the upward pressure on the CHF rose even more. In just the first two weeks of January 2015, the SNB had to intervene in the currency markets heavily in order to maintain the floor, with the QE decision of the ECB still looming. Finally, on January 15 2015, at 10:30 a.m. CH-time (GMT plus 1), the SNB announced in a press release that it would discontinue the minimum exchange rate and at the same time lower interest rates on sight deposits to -0.75%. And one week later, on 22 January 2015, the Governing Council of the ECB announced that it would expand its assets purchases to include bonds issued by euro area central governments, agencies, and European institutions up to an amount of EUR 60 billion per month.

Initially the introduction of negative interest rates by the SNB was perceived as temporary. However, five years later, not only are short-term CHF interest rates still at -0.75%, but long-term rates have also become negative.



Since January 2015 the short-term CHF interest rate has remained constant at -0.75%. However, the SNB continued to intervene in the foreign exchange markets, as evidenced by an increase of the official reserve assets to about CHF 840 billion by September 2019 (about 120% of Swiss GDP). One reason for these interventions was that the ECB had continued its lowering of the deposit facility interest rate to -0.3 % in December 2015, to -0.4 % in March 2016 and finally to -0.5% in September 2019. As mentioned before, since its introduction not only the SNB's, but also the ECB's "negative interest rate policy" have constantly attracted support as well as criticism from commentators. While it was obvious that the economic and fiscal situation was extraordinary, it was unclear how to best tackle these unprecedented problems and solve them sustainably.

# Why Are Interest Rates Negative, and What Does It Mean? An Economic Explanation

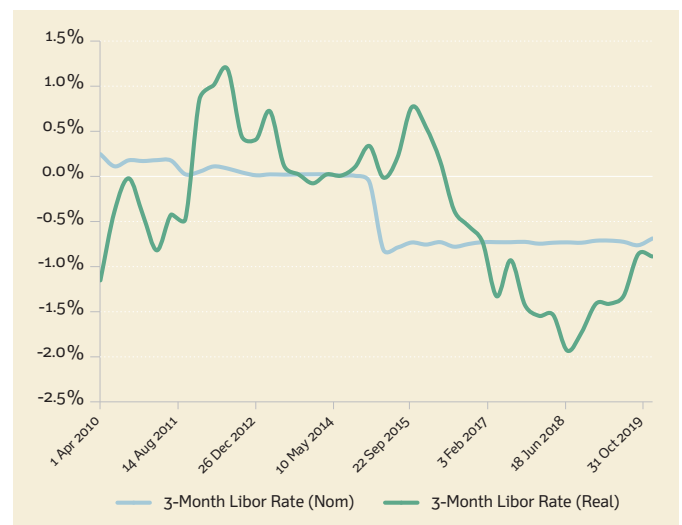
To understand the current situation, it is crucial to distinguish between various types of interest rates: short-term, long-term, nominal, and real interest rates.

## Short-term and Long-term Interest Rates

Short-term interest rates, e.g., 3-month Libor, tend to be very close to the interest rate set by the central bank. For example, if commercial banks can hold deposits at the SNB with an interest rate of -0.75%, they will also lend to each other at a similar rate. Therefore, the interbank market rate is close to the SNB rate. In contrast, long-term interest rates, e.g., 10-year Swiss confederation bond yields, are determined by the markets, in particular the expectations of future inflation and future interest rates.

## Nominal and Real Interest Rates

The SNB interest rate of -0.75 % is a nominal interest rate. Similarly, all interest rates and returns are typically in nominal terms. However, what matters economically for savers and investors is the real return, after adjusting for inflation. For example, if the nominal return is 3% and inflation is 2%, the real return is  $3\% - 2\% = 1\%$ . At the end of 2019, inflation in Switzerland was approximately 0.5%, so that the real short-term interest rate was  $-0.75\% - 0.5\% = -1.25\%$ . It is interesting to note that, while nominal interest rates have always been positive until 2015, there have been periods of negative real rates in Switzerland before. In Germany, negative real interest rates on deposits have even been the norm rather than the exception in recent decades.



## What Determines the Level of Interest Rates?

*Real long-term interest rates* are determined by fundamental economic variables (saving and investment). When saving is large and/or investment is weak, real interest rates decline as the supply of funds is overabundant. Since real interest rates in different countries increasingly tend to move together, what really matters are global saving and global investment. In the last four decades, global saving has increased more than global investment so that global real interest rates have gradually declined. They are now close to zero or even negative in several countries. The reasons behind the increase in saving and the relative stagnation of investment are numerous. For example, in recent years, growth and thus investment have been below expectations, increased economic uncertainty has stimulated saving, and demographic factors (aging population) have shifted and will shift saving patterns.

*Nominal long-term interest rates* are determined by adding the expected inflation to real interest rates. The higher the expected inflation in a country, the more likely it is that nominal interest rates are positive. However, in recent years inflation has decreased throughout the world.

Moreover, in Switzerland, inflation has typically been lower than in most other countries. Therefore, nominal interest rates can more easily become negative, and this is why they have been mostly negative in the last few years. Other countries, like some Eurozone countries with somewhat higher rates, have only recently seen their nominal long-term rates become negative.

*Nominal short-term interest rates* are influenced by the central bank through its monetary policy and can deviate from long-term rates. Since the main objective of the central bank is to control inflation, its short-term interest rates tend to be high when inflation is high and low when inflation is low. However, short- and long-term interest rates do not deviate permanently. Also, short rates tend to be below long rates, i.e., the slope of the yield curve is typically positive. Central banks also worry about exchange rates. For example, the SNB cannot set its interest rate much higher from the ECB rate without risking significant exchange rate appreciations.

In an environment of low global interest rates and low inflation, it is obvious that the SNB sets a low interest rate. Moreover, its interest rate is typically lower than the one for other countries for two reasons. First, inflation in Switzerland is lower, which lowers the nominal rate. While low inflation is generally desirable, its drawback is that it makes it more likely to reach negative interest rates. The other reason is that the demand for Swiss Franc assets has been very strong since the Global Financial Crisis in 2007-2008. At the same time the supply of safe Swiss Franc assets has been reduced as Swiss public debt has declined in the last decade. This strong relative demand leads to an appreciation of the Swiss Franc, which can be offset by lowering the short-term interest rate and purchasing foreign currency assets.

To summarize, global real interest rates have declined in recent years due to increasing global saving and weak investment. Inflation has also been low, which has reinforced the decline in nominal interest rates.



### What Are the Economic Implications of Negative Interest Rates?

In Switzerland we currently have both negative *real* rates and negative *nominal* rates. Although this might appear as a subtle difference in terminology, its implications are fundamentally different. Since much of the public debate mixes the two aspects, these issues will be clarified first before going into more details.

It is not unusual to experience negative or *low real rates*, and their implications are relatively well known. In particular, they hurt savers and benefit borrowers. More detailed implications are reviewed below.

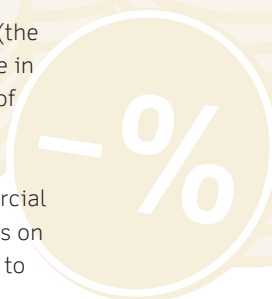
In contrast, *zero or negative nominal rates* are highly unusual and have additional implications. The main issue comes from the availability of banknotes that bear zero interest rate. It is easy, at least for some savers, to hold cash instead of other assets (for which they would have to pay a negative interest rate), for example by renting a safe deposit box. These "costs of holding cash" explain why the effective lower bound on interest rates is below zero. In theory there is an effective bottom line (the so-called effective lower bound ELB) somewhere in the negative territory, determined by the costs of holding cash or other highly liquid assets.

This has at least two implications. First, commercial banks are reluctant to set negative interest rates on their deposits as many depositors would switch to banknotes. If banks face negative rates on their assets, this will squeeze their interest margin. Second, central banks cannot decrease their already negative interest rate by much, which therefore constrains their monetary policy. This is particularly problematic in the case of a recession, to which monetary policy can then hardly react.

### The Concept of a Liquidity Trap

From a theoretical perspective, the situation when nominal interest rates are zero or negative and savings are high is called a liquidity trap, a concept first developed by John Maynard Keynes in his *General Theory*. In such a liquidity trap, banknotes and short-term deposits are close substitutes to other assets and are even preferred if interest rates on these assets are negative. The main consequences are that commercial banks face an increased demand for sight deposits, and that traditional monetary policy becomes ineffective.

Exiting a liquidity trap is challenging. Possible measures, for example, would be to increase government spending (which is a political decision), or to raise interest rates (which is a central bank decision). Also, significant price declines (i.e., deflation) could entice people to spend their savings and take advantage of the low prices. These measures all come with costs and benefits, which have to be carefully weighed against each other.





# What Are the Benefits and Costs of the Current Negative Interest Rate Environment for the Swiss Economy?

## Benefits of the Current Negative Interest Rate Environment

As discussed before, the current negative interest rate environment is the result of the SNB reacting to unprecedented global economic developments. The benefits of the current monetary policy are therefore mainly based on the avoidance of a less desirable situation. Reasons for keeping interest rates low are for example:

- **Keeping CHF per EUR exchange rate at current level:**

The strengthening of the CHF (and therefore the weakening of the EUR) was initially one of the main reasons for the introduction of the floor on the EUR (from 2011-2015), and then, after the removal of the floor, the introduction of negative interest rates. Without the current negative interest rate regime, the CHF would most likely become significantly stronger against the EUR (and possibly other currencies).

- **Supporting export industry:**

As mentioned before, the Swiss export industry contributes about 2/3 to the Swiss GDP and is therefore a crucial part of the Swiss economy. Almost half of all exports go to the EU, so a weaker EUR (and stronger CHF) would negatively impact exports (although some export sectors would be more affected than others) and therefore to a significant extent also the Swiss economy.

- **Preventing unemployment rate from rising:**

A less competitive export sector would probably move some of the high-end manufacturing abroad, or alternatively, reduce the domestic labor force. In either case the unemployment rate in Switzerland would increase.

- **Avoiding the risk of deflation:**

A stronger CHF would allow Swiss importers to pay less for their imported goods and services, which could then be passed on to the consumers. While the resulting lower prices would be attractive, they could possibly create disinflation or even deflation, which is usually undesirable from an economic perspective and would also violate the SNB mandate.

On a different level, negative interest rates directly benefit various economic entities:

- **Lower costs of public debt and positive impact on budgets:**

Measured by international standards, the level of public debt in Switzerland is low. Nevertheless, under the current negative interest rate regime, the federal government, cantons, and municipalities pay less for their debt. This has a significantly positive impact on their budgets.

- **Lower tax rates:**

Cheap debt allows the cantons, the federal government, and the municipalities to keep the tax rates stable, or even lower them. This has a positive effect for all taxpayers, private persons, and businesses.

- **Borrowers benefit from low interest rates:**

Corporate as well as private borrowers can finance debt at relatively low rates.

- **Decreased expenses for owning and renting real estate:**

The current interest rate environment has driven mortgage interest rates to an all-time low. This benefits not only homeowners, but also renters, since rental prices in Switzerland are tied to benchmark interest rate levels.

## Costs of the Current Negative Interest Rate Environment

The persistent negative nominal and real interest rates in Switzerland are not only a problem for monetary policy and the SNB. There are a number of other areas that directly affect individuals, the economy, and the society as a whole.

Frequently mentioned are for example:

- **Risk of real estate bubble:**

When real interest rates are low, theoretical analysis shows that bubbles are more likely. It has been argued that real estate prices in Switzerland have been driven up to significantly higher levels than those seen at the end of the 1980s, when the last major real estate bubble reached its peak. Also, vacancy rates in certain geographical areas have risen significantly over the last years. Furthermore, pension funds hold an increasing proportion of their assets in real estate, which puts additional upward pressure on property prices.

- **Pension fund problems:**

Swiss pension funds are (by constraint or by choice) required to maintain a specific asset allocation, such as keeping a relatively high liquidity or investing in fixed income, and therefore suffer from negative interest rates.

- **Riskier lending by financial intermediaries:**

There is evidence that financial institutions underestimate credit risks and engage in riskier lending, while possibly accepting overvalued credit collateral. While the risk of banks is closely monitored through supervising authorities like FINMA in Switzerland, other financial intermediaries which take a growing role in real economy financing are becoming riskier, especially fixed-income funds. This is an issue that worries the International Monetary Fund, as expressed in their last Global Financial Stability Report (October 2019).

- **Potential threat to financial stability:**

Very low interest rates, and inadequately low risk premia in particular, may become a threat to financial stability. Many investors, including banks and pension funds, face a strong pressure to produce returns from their investment. This leads to a search for yields with investments in riskier assets, as far as allowed by the respective investment policy and regulation. For example, there is ample evidence that low US interest rates have led to riskier investments in US dollars, e.g., corporate bonds in emerging markets.

- **Bank profitability:**

Since negative interest rates are only partially and reluctantly passed on to customers, bank margins are narrowing and bank profitability suffers. While some banks could at least partly compensate the negative effects by focusing on fee-based approaches, others are more concerned about and affected by this situation.

- **Risk of stock market bubble:**

With low interest rates on bonds, investors seeking alternatives to savings and deposits are attracted by equity. This can potentially push up stock prices and lead to stock market bubbles. On the other hand, the current situation is also one of high uncertainty and seemingly low investment opportunities, which may cool down the enthusiasm for stocks. In general, assets whose valuations are mainly driven by low interest rates could face corrections in the future.

- **Possible inter-generational problems:**

Young people (in their 20s and 30s) are now encouraged to already start saving for retirement given low future returns and considering the expected (low) inflation. This could introduce a vicious circle: low interest rates generate even more savings, which then puts pressure on interest rates, etc.

These benefits and costs of the current negative interest rate environment have to be carefully weighed against each other. So far, the current global economic environment does not seem to leave much room to maneuver for the SNB, given its mandate. In other words, the SNB's current monetary policy seems to indicate that their assessment concludes that for the time being the benefits outweigh the costs.

### The Limited Options of Monetary Policy

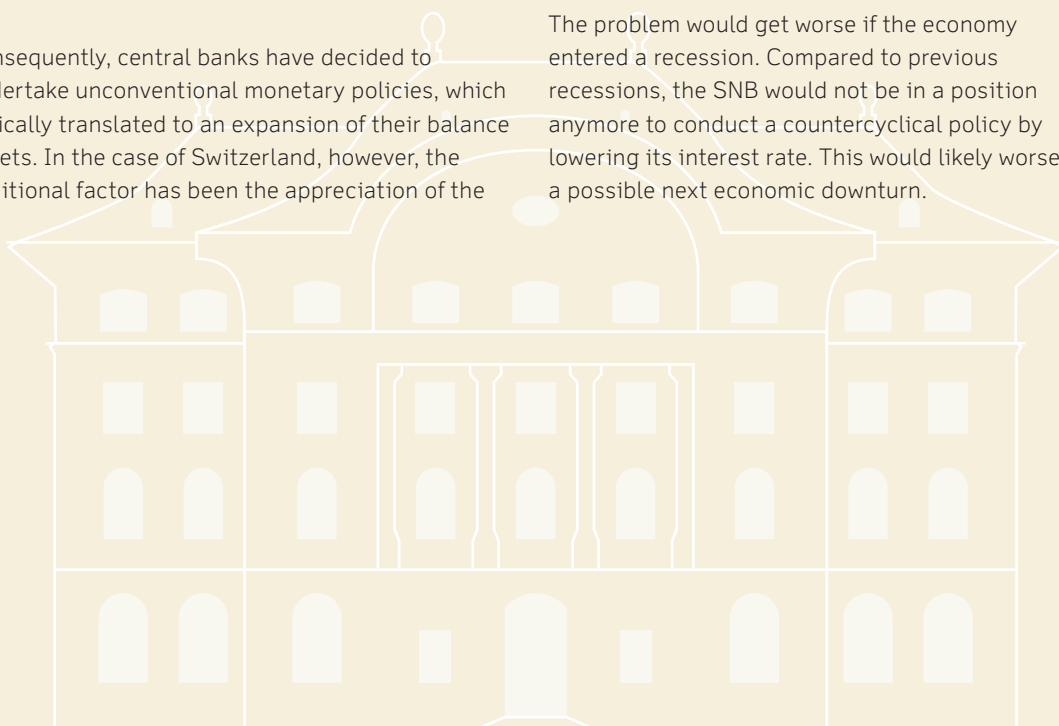
The main problem of negative interest rates is the constraint on monetary policy. In the current special situation, it would—in theory—be optimal to conduct a more expansionary monetary policy.

In more normal times, this would simply mean to lower interest rates. However, when interest rates reach zero or are below zero, this is much more difficult.

Consequently, central banks have decided to undertake unconventional monetary policies, which typically translated to an expansion of their balance sheets. In the case of Switzerland, however, the additional factor has been the appreciation of the

currency. This first implied that the expansion of the SNB's balance sheet went through the acquisition of foreign assets (to offset the demand for the currency), while other central banks purchased domestic assets. But these purchases (called unsterilized interventions) have not been effective enough or should have been conducted on a massive magnitude (several times Swiss GDP). Therefore, the policies have been accompanied by negative interest rates.

The problem would get worse if the economy entered a recession. Compared to previous recessions, the SNB would not be in a position anymore to conduct a countercyclical policy by lowering its interest rate. This would likely worsen a possible next economic downturn.



# Are Negative Interest Rates Here to Stay?

## Possible Scenarios and Ideas

For the next couple of years, the likelihood of higher interest rates seems very small. On the contrary, the SNB keeps mentioning that interest rates could become even more negative. In other countries, long-term nominal interest rates have declined during 2019 and other central banks may start applying negative interest rates as well. Furthermore, the possibility of a weaker economy in the near future could pull down interest rates even further as investment slows down and precautionary saving is stimulated.

In theory, there is one thing that the SNB could do to increase long-term nominal rates and exit the liquidity trap. This would be to increase inflation expectations. It would have to convince the public and investors that inflation would be higher in the future. For example, instead of targeting an inflation rate between 0 and 2%, it could target a rate around 2% (so that inflation could go higher than 2%); or it could change its strategy altogether by targeting the price level or nominal GDP. Not only is such a change unlikely at this stage, but it is unclear whether it would be credible and increase inflation expectations.

In the current global environment various additional instruments, which go significantly beyond "classic" monetary policy, have been suggested by economists, politicians, and industry representatives. Some would require a political consensus; some are a combination of monetary and fiscal policy. For example:

- **Helicopter money:**  
This has been suggested as an alternative approach to quantitative easing, to bring an economy out of a liquidity trap. It means that central banks would make direct payments to all or some individuals. Alternatively, a temporary "negative tax" (comparable to a temporary unconditional basic income) could be introduced, with a potentially similar effect. These concepts have various drawbacks and have not been tested so far.
- **Modern Monetary Theory (MMT):**  
In brief, this relatively new theory suggests that monetarily sovereign countries (like especially the US) can sustain much greater deficits than traditionally suggested without putting the economy at risk. The still somewhat obscure theory has not been tested in reality, although even ECB president Mario Draghi mentioned in September 2019 that the ECB's Governing Council should be open to ideas such as MMT, although it would be a government decision and therefore more like a "fiscal task".
- **Tax on cash transactions:**  
As nominal rates become more negative, cash becomes more attractive. It may become necessary to tax cash, so it becomes more costly to hold it. For example, commercial banks could be taxed when they distribute cash. And possibly they would then pass on this cost to their customers.
- **Elimination of cash:**  
This would be an extreme measure, which has not yet been fully applied anywhere. Some countries have moved closer towards a cashless society (for example Sweden), and some countries have devalued currency bills with a high denomination (for example India has abolished the 500 and 1'000 Indian rupee notes, and in this way eliminated about 80% of cash circulation altogether).
- **Dual currency system:**  
Another measure would be to have a dual currency system, i.e., an exchange rate between cash and electronic money. So far this has not yet been implemented anywhere.

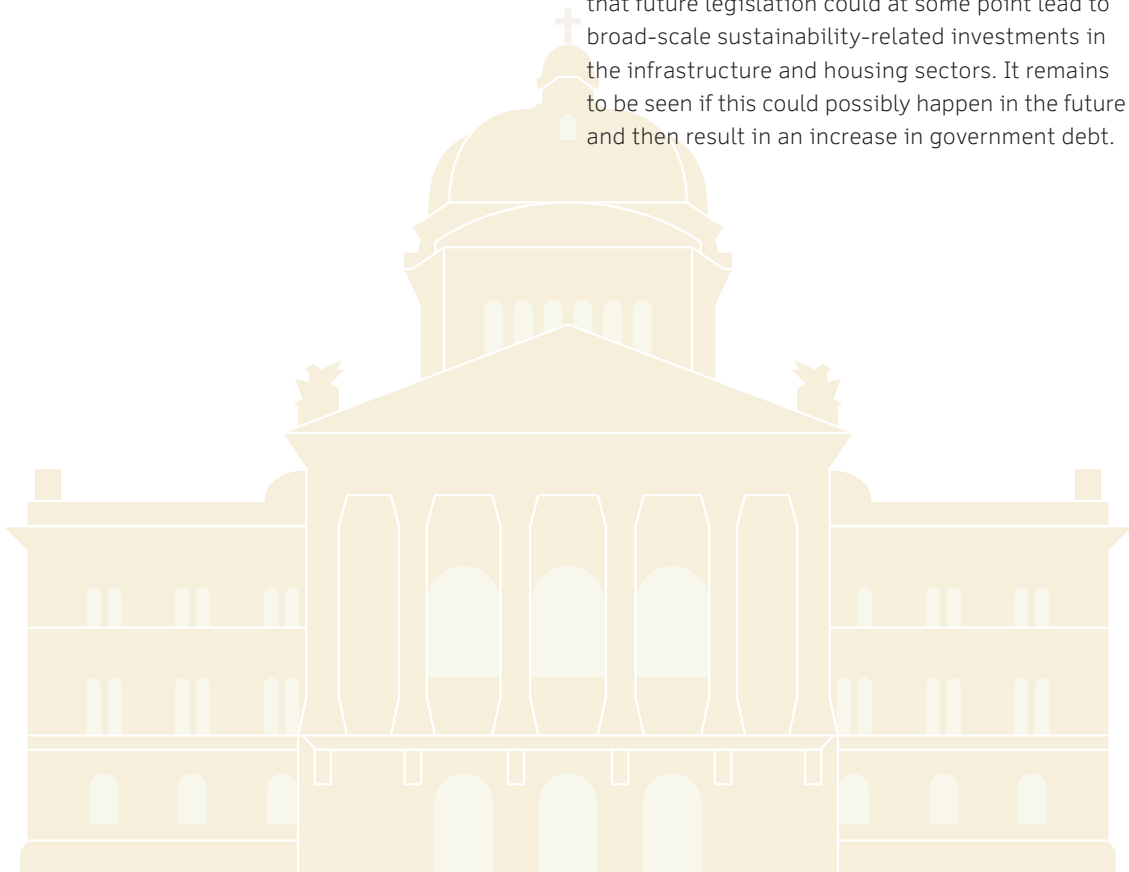
Also, an interesting thought-experiment could be to think about a concerted action of some of the major central banks. Since in today's globally connected monetary system it has become difficult for a single central bank to act decisively, a joint effort to deal with this difficult situation could possibly alleviate

some of the existing problems. On the other side, it could be very difficult to find the right mix of cooperation and joint monetary policy so that the potential benefits would affect the involved economies equally positively.

While a short-term rate increase would strengthen the CHF, its potential impact on the Swiss economy has been debated. In recent years, the "typical" CHF overvaluation of the past appears to have softened. Some economic models even seem to indicate that the Swiss Franc is no longer overvalued against the EUR and the USD. The implications of an appreciation for economic activity may therefore be limited.

If monetary policy should become ineffective, in theory there might be a role for standard fiscal policy. If Swiss confederation government bonds yield a negative interest rate, it is because demand is much stronger than supply. Therefore, increasing government debt would put upward pressure on interest rates, even though we do not know by how much debt should increase to turn interest rates positive. However, here again this is unlikely to happen as there is a political resistance in Switzerland to increase public debt and there is no imminent and immediate need of increasing investments beyond the current level, especially given that capacity utilization is already very high.

Having said that, given the results of the recent elections to the Swiss parliament and the many new members from "green parties", it could be possible that future legislation could at some point lead to broad-scale sustainability-related investments in the infrastructure and housing sectors. It remains to be seen if this could possibly happen in the future and then result in an increase in government debt.



# Conclusion

*Should* the SNB bring back positive interest rates? In an ideal world the easy answer would be "yes". However, in the real world the question has to be different: *Could* the SNB bring back positive interest rates? The answer here is most likely "no". First, the mandate of the SNB is to ensure price stability, while taking into consideration the economic developments. To reach this objective, the SNB currently needs negative interest rates, as long and as low as they are still effective. If it were to increase its interest rate, this would most likely lead to an appreciation of the Swiss Franc and to a reduction of economic activity. It would also lower prices, both due to lower activity and a decline in imported prices. Inflation could become negative, i.e., deflation could set in. Long-term interest rates would decrease. On the other side, some of the costs of the current negative interest rate regime, as described before, would decrease as well. So, the SNB will have to carefully evaluate both sides, trying to keep the overall costs for the Swiss economy at a reasonable and fair level for all industry sectors, while making sure that it does not fail its mandate.

But the more important question is whether the SNB could increase real long-term rates. As explained before, a central bank can directly affect short-term nominal interest rates, but there is no direct impact on long-term real rates (disregarding possible asset purchase programs). Actually, an increase in the SNB short-term interest rate could be counterproductive and imply a decrease in long-term rates. First, this would decrease inflation expectations and therefore future nominal rates. Second, a reduction in economic activity may reduce real rates. Therefore, an increase in the SNB rate is more likely to decrease than to increase long-term interest rates.

Furthermore, the global environment is also key. Interest rates are negative in Switzerland mainly because global interest rates are low, and they are more likely to decline than to increase in the coming year. Therefore, Switzerland has to hope that no deep recession occurs in 2020 or 2021, as this would further lower rates. Also, since monetary policies are also less effective in other countries, an adjustment of fiscal policies would be beneficial to Switzerland. In particular, if, for example, Germany would conduct a more expansionary, debt-financed, fiscal policy, this would definitely relieve the downward pressure on Swiss interest rates.

To summarize, even though in theory there are potential remedies to negative interest rates, they will probably not be implemented in practice at this time. Swiss monetary policy is currently relatively restrained and right now there is no active fiscal policy. Moreover, Switzerland is very much dependent on global interest rates and on what happens in other countries. For the time being, it is therefore likely that interest rates will stay negative.

Having that said, the current situation is associated with both significant costs and risks for the Swiss economy, individual industrial sectors, and ultimately the entire Swiss population. In order to avoid the emergence of a "new normal" in the long term, it is strongly advisable to continue a well-founded and economically sound discussion. There seems to be a growing number of prominent voices who doubt that the current system can be fixed with traditional methods. New measures, which go beyond the classic instrument of monetary policy, will have to be brought into the public, political, and academic debate as well.

## **Swiss Finance Institute**

The Swiss Finance Institute (SFI) is the national center for fundamental research, doctoral training, knowledge exchange, and continuing education in the fields of banking and finance. SFI's mission is to grow knowledge capital for the Swiss financial marketplace. Created in 2006 as a public-private partnership, SFI is a common initiative of the Swiss finance industry, leading Swiss universities, and the Swiss Confederation.