PICTET
1805
Asset Management

SEPTEMBER 2019
FOR PROFESSIONNAL INVESTORS

THE PARADOX OF NEGATIVE INTEREST RATES

The case of Switzerland


1805
PICTET
Asset Management


1805

In this white paper we provide a deep dive into the paradox of negative interest rates, as illustrated by the case of Switzerland. Our analysis shows the Swiss National Bank (SNB) was justified in introducing the negative interest rate policy (NIRP) in December 2014. However, the SNB should have started normalizing policy in 2016 and progressively hiked rates to zero by 2018. Instead of supporting economic recovery, long-lasting NIRP has paradoxically contributed negatively to growth and inflation expectations. It has also put market efficiency at risk by inflating asset prices in Switzerland and more broadly in the Eurozone. This prevents natural economic adjustments. Furthermore, the central banks' guidance toward further rate cuts is failing to boost inflation expectations. Keeping or re-enforcing NIRP could lead to the failure of the current monetary policy framework and ultimately force the SNB to replace it. Indeed, long-lasting NIRP might induce the next phase of financial instability in absence of further positive net wealth effects.

Further interest rates cuts appear unlikely to prevent inflation expectations from falling and safe-countries' currencies from appreciating, given investors current focus on geopolitical uncertainties and the subdued economic outlook. This is particularly the case for the Swiss franc, whose long-term appreciation trend is a reflection of the country's labour productivity gains and political stability. According to our valuation model, we find evidence that the Swiss franc is undervalued against the euro in trade weighted terms. Hiking policy rates from extremely low levels would help the Swiss franc converge to its long-term fair value, which we estimate is close to parity vis-à-vis the euro.

The SNB should also consider enhancing its communication strategy by making greater use of empirical evidence to justify either keeping the policy rate unchanged or abandoning NIRP. Any interest rate normalization should be accompanied by limited interventions in the foreign exchange market mainly in two cases: to counteract a rapid short-term appreciation and to prevent the Swiss franc from derailing from its long-term structural trajectory.

ERMIRA MARIKA
HEAD OF SWISS BONDS

NIKOLAY MARKOV
ECONOMIST

1

Main findings

The history of finance is littered with innovations that have outlived their usefulness. The Swiss National Bank's (SNB) negative interest rate policy (NIRP) might become one of them when used in the long run. Our analysis shows the SNB was justified in introducing the negative interest rate policy (NIRP) in December 2014. When it first came into effect, NIRP had a clear role to play. The SNB had earlier removed the cap on the Swiss franc/euro exchange rate, which meant policymakers had to devise new ways to prevent an already strong currency from appreciating further. However, the SNB should have started normalizing in 2016 and progressively hiking the policy rate to zero by 2018. In Switzerland, but also more broadly in the Eurozone, instead of supporting economic recovery, long-lasting NIRP has paradoxically contributed to the negative sentiment in terms of growth and market inflation expectations and has put at risk market efficiency by keeping asset prices disconnected from economic fundamentals. Furthermore, the central banks' guidance toward further rate cuts is also proving to be ineffective in rebounding inflation expectations. Similarly to NIRP, the forward guidance is principally helping rising or keeping financial assets valuations to high levels despite weaker fundamentals and low growth prospects. This prevents natural economic adjustments from arising. Keeping or re-enforcing NIRP could lead to the failure of the current monetary policy framework and ultimately forcing the European Central Bank (ECB) and the SNB to replace it.

When we analyze more in detail the direct transmission of NIRP to economic variables we find a mixed picture. The policy was successful in lowering interest rate differential, shifting down the interest rate yield curve and marginally decreasing mortgage lending rates, most clearly within the first few months. The success is less certain for other economic variables which show some statistical correlation to NIRP but low causality: inflation, exchange rate and employment are predominately influenced by international forces. Lastly, there are economic variables whose rela-

tionships to NIRP remain theoretical and are not confirmed by empirical evidence: inflation expectations, capital flows and export volumes have proved less sensitive to NIRP than monetary theory suggests.

Regarding the currency, we do not find evidence that the Swiss franc is highly valued. According to our valuation model, the Swiss franc is undervalued by 4.4% against the EUR and 6.5% in trade weighted terms at the end of August 2019. Hiking policy rates from extreme low levels would help the Swiss franc converge to its long-term fair value, which we estimate close to parity vis-à-vis the EUR. There is a clear structural appreciation trend of the Swiss franc that is due to structural economic and political factors and not to interest rates. The appreciation rate against EUR amounts to 7% on average over the last five years. In trade-weighted terms we find 4% for the same period.

We also find evidence the negative rates have not considerably affected bank profitability or pension funds' funding ratios so far due mostly to inflated asset prices. Nevertheless, the negative effects due to NIRP could overweigh the benefits going forward in expectation of fading central banks' quantitative easing. Long-lasting NIRP might induce the next phase of financial instability in absence of further positive net wealth effects.

We believe that extreme monetary policy measures should only act countercyclically with the aim to protect against shocks. Monetary policy is not the right tool to mitigate the effects of structural trends, forces or issues such as competitiveness, global risk aversion, risky fiscal policies, scarcity of safe assets, and political tensions among others. Fighting structural dynamics with extreme measures might be a losing game or / and create more structural imbalances than benefits in the long run. Furthermore, extreme measures used throughout the duration of an economic cycle limit central banks' ability to adjust to future changes in economic conditions.

We think the Swiss economy has more adjustment capacity than the Eurozone when exiting NIRP. The negative effect of a strong Swiss Franc on the economy is offset by labour productivity gains.

The SNB should consider switching to an inflation targeting range, say, between 0 and 2 per cent. This would give policymakers greater flexibility to deal with inflation spikes or falls that stem from short-term factors. In fact, there is a risk of losing credibility when targets are expressed in terms of a range versus a mid-point target. However the credibility risk cannot be avoided either way and we believe it is lower when specified in terms of a target range because it provides more room for maneuver to the SNB.

Abandoning NIRP or keeping the policy rate unchanged while ECB cuts the deposit rate further down in negative territory won't be easy. The SNB will need to proceed cautiously to avoid the kind of market turbulence that followed the abandonment of the Swiss franc ceiling in January 2015. Yet there are ways to engineer a smooth transition to a more conventional interest rate policy.

Going forward, the SNB should stand ready to accompany lower EUR / CHF interest rates differentials with intervention in the foreign exchange market. Acknowledging the limited impact of currency interventions, we recommend that the SNB should use them mainly in two cases: to counteract a rapid short-term appreciation and to prevent the Swiss franc from derailing from its long-term structural trajectory. In order to realize the latter, the SNB should estimate the structural 'natural' appreciation rate of the Swiss franc against a trade-weighted foreign currencies basket and intervene only to offset strong deviations from this long-term trajectory.

We also think that the SNB should enhance its communication by making greater use of empirical evidence to justify keeping the policy rate unchanged or abandoning NIRP. The SNB may point to the fact that a strong currency was not proved to be negative for the economy, that a strong currency is not necessarily deflationary, that safe-haven countries' currencies are impacted more by global factors and that extreme policy measures are counterproductive in the long-run due to rising cumulative negative effects overweighting the benefits.

Keeping NIRP active for too long, leads to an impaired monetary policy transmission and to negative side-effects. The SNB ditched its customary caution when it unexpectedly removed the Swiss franc currency floor in 2015. This was based on its pragmatic approach given the costs of keeping the minimum exchange rate were deemed higher than the benefits. The SNB has again the opportunity to resume its proactive ability by doing the same for NIRP.

2

Theoretical framework of Negative Interest Rate Policy (NIRP)

In a small open economy like Switzerland, monetary policy seeks to affect the real economy and inflation by influencing the exchange rate. This is why the Swiss National Bank chose to accompany its move to abandon its EUR/CHF minimum exchange rate policy in January 2015, which threatened to send the CHF spiraling higher, with a cut in interest rates to -0.75%.

The main transmission channels of the negative interest rate are inflation, inflation expectations and the exchange rate. In this case, the CHF acts as an intermediate goal for the SNB's price stability mandate. The expected currency depreciation would support a rebound in imported goods and services inflation which would then feed into higher domestic consumption price inflation and inflation expectations. In addition, CHF depreciation would boost exports growth and contribute to a stronger real GDP. This, in turn, would lead to tighter labour market conditions, stronger nominal wage growth and a fall in the unemployment rate. The ultimate outcome would be for headline inflation to reach the SNB's target rate of below 2% a year. Furthermore, NIRP is seen as a way to boost asset prices through a lower term and risk premium. The resulting boost to wealth would further lift aggregate demand and inflation.

From a theoretical point of view, NIRP should operate in much the same way as conventional positive interest rates monetary policy. The only difference is that, because NIRP potentially incentivises economic agents to withdraw money from banks and hold cash, there is a practical limit on the effectiveness of negative interest rates. This limit is in effect the interest rate equivalent of the cost of insurance, transportation and storage of cash, which varies considerably across countries. The effective lower bound (ELB) on interest rates is negative once we account for transportation, storage and insurance for cash. However, the ELB can

move up over time as economic agents will seek to harness financial innovation to reduce the costs associated with holding cash (McAndrews, 2015).

Lowering the policy rate below the ELB would incentivise economic agents to convert their entire savings into cash. In countries that rely heavily on bank deposits as a funding source, such behavior could lead to a bank run. As long as banknotes and coins are zero interest rate-bearing assets, there will be a natural limit on how negative interest rates can go.

Some researchers have attempted to predict how an economy might behave if rates were held at a level below the ELB. Ball et al. (2016) present a simulation of the transmission of monetary policy without a zero lower bound (ZLB) constraint and compare it to the evolution of the economy when the lower bound is in operation. In their simulation, the US federal funds rate is set according to the Taylor Rule model. Based on this framework, the authors show that the rate would have fallen to -6% in the aftermath of the financial crisis in early 2009. This would have been followed by a quicker rebound in economic activity and by a faster monetary policy normalisation process. Hence, eliminating the ZLB constraint leads to a lower output loss in the event of a recession as monetary policy is both better deployed and normalised more quickly.

The challenge for policymakers, then, is how to remove the ELB on interest rates to improve the effectiveness of monetary policy transmission. One solution is to find a way to impose a tax on cash holdings similar to bank reserves or to switch completely to electronic money. In order to allow for the possibility of deeply negative interest rates, the incentive to hold cash has to be constrained by the central bank. To reach this objective, Assenmacher and Krogstrup (2018) propose the creation of a dual local currency. Under such a framework, the central bank would divide the monetary base into two separate domestic currencies; reserves and cash. In this system, reserves are issued electronically while cash is issued in banknotes and coins. The interest rate on reserves would serve as a floor for money market interest rates (as is the case today in Switzerland). For the cash withdrawn, the central bank sets a spot cash reserve conversion rate (CRC). The change of CRC would set the yield on cash in terms of reserves. In this way, the central bank can steer demand for cash. Advocates of the dual currency system maintain, it can be considered as complementary to other measures such as the raising of inflation targets. One shortcoming of this approach is that it might speed up the switch from cash towards a fully elec-

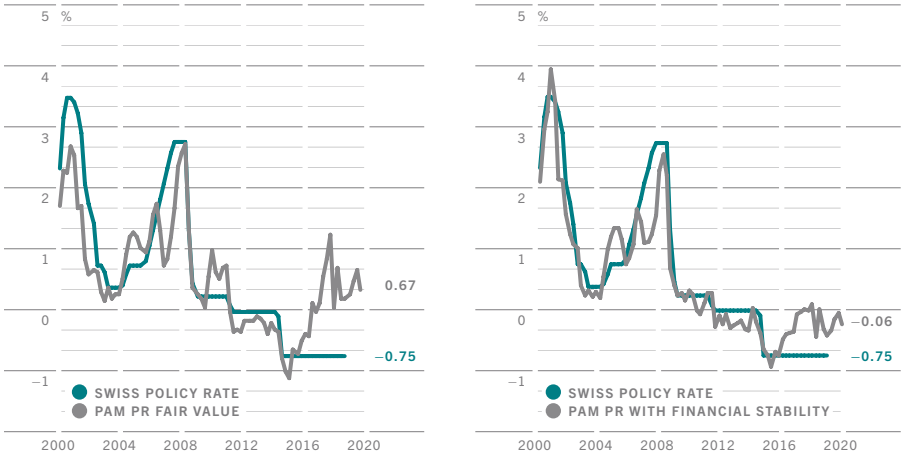
tronic money system which may reduce seigniorage revenues. All in all, the ELB seems removable but only after implementing supplementary measures.

What is the academic evidence telling us about Switzerland?

To judge the effectiveness of NIRP in Switzerland, we can draw on an analytical framework devised by Markov and Nitschka (2013, 2016). The authors determined that, to capture the non-linearities of the SNB's responsiveness to changes in the underlying economy, the central bank's reaction function should be viewed as "semi-parametric". Under the academics' policy rule, the 3-month Libor rate is set as a function of the inflation and output gap forecasts as well as a function of the rate of change in the nominal effective exchange rate index. The authors have found that the exchange rate is a key transmission variable for the SNB's monetary policy and that the SNB's responsiveness to fluctuations in the CHF is clearly asymmetric – it is more

FIG.1

SWISS POLICY RATE AND ESTIMATED POLICY RATE FAIR VALUES



Source: Pictet Asset Management, Refinitiv & CEIC

likely to take action against an appreciation than depreciation. In particular, there is evidence the SNB reacts strongly to a significant CHF appreciation, one that is in excess of 5%. Based on their modelling approach, we have estimated the appropriate level for the Swiss policy rate in the two charts in FIG.1 using two specifications.

The left-hand chart is based on a semi-parametric policy rule with three explanatory variables: our inflation forecast, output growth forecast and the rate of change in the real effective exchange rate. From this vantage point, it is

clear that the estimated policy rate closely tracks the actual 3-month Libor rate target set by the SNB including during the period when the SNB applied the NIRP in January 2015. Furthermore, the rule does not only suggest that it was optimal for the SNB to move rates into negative territory at that time but also that the SNB should have gone further into negative territory by cutting the policy rate to -1.1% in Q3 2015. The analysis also shows the SNB should have started normalising rates in 2016 and that the policy rate should now be positive.

The chart on the right-hand side displays the estimated policy rule from an augmented version to account for the additional SNB's mandate of financial stability. To capture the need for the SNB to keep rates low(er) in a deleveraging phase, we add the private credit gap estimate as an additional explanatory variable in the reaction function[1]. The comparison of the two rules shows that the only difference in the estimated policy rates is in their magnitude. The augmented policy rule with the financial stability variable indicates that the SNB was justified in introducing NIRP in early 2015 but should have been more aggressive (cutting to -0.9%). Similarly, the augmented policy rule suggests the SNB should have started normalizing rates in 2016 but at a gentler pace than implied by the first (baseline) policy rule.

As of May 2019, the baseline rule suggests that the SNB's Libor rate target should be at 0.3% while the augmented rule points to a policy rate of -0.2%. Looking ahead, by early 2020, the augmented policy rule suggests that the SNB should have completely removed negative rates based on the expected evolution of macroeconomic variables.

This analysis shows that the SNB took the right decision to apply the NIRP in January 2015. It was an adequate measure to counteract deflationary pressures and currency shocks. However, the analysis shows that the SNB should have been quicker to raise rates towards zero given the change in Switzerland's macroeconomic fundamentals.

1 The private credit gap is estimated with a recursive (one-sided) HP filter. This is based on the recommended BIS methodology used to com-pute the required countercyclical capital buffer from the estimated credit gaps. More information can be found in Drehmann et al. (2010).

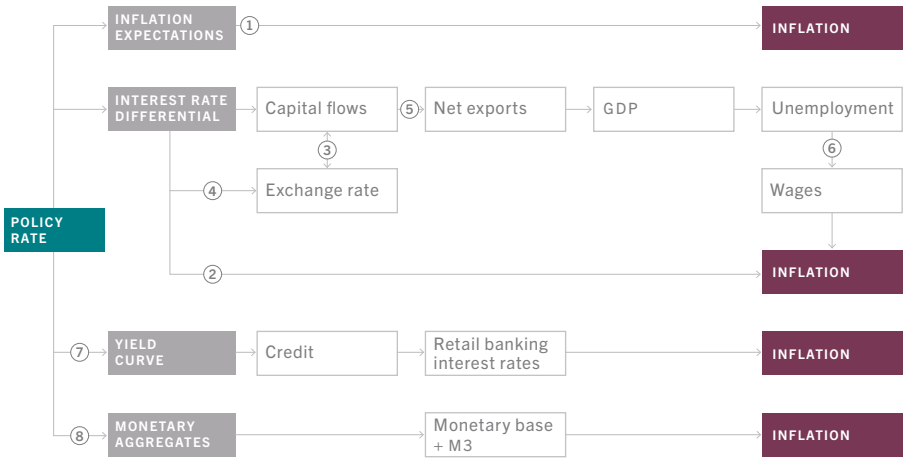
3

Empirical evidence of NIRP impact on SNB economic targets

In order to assess the impact of NIRP on the Swiss economy we use the SNB's four monetary policy transmission channels as our lens (FIG.2). Our study looks at how NIRP is transmitted through these channels to affect inflation differentials, inflation expectations, interest rate differentials, the yield curve and monetary aggregates.

FIG.2

MONETARY POLICY TRANSMISSION CHANNELS



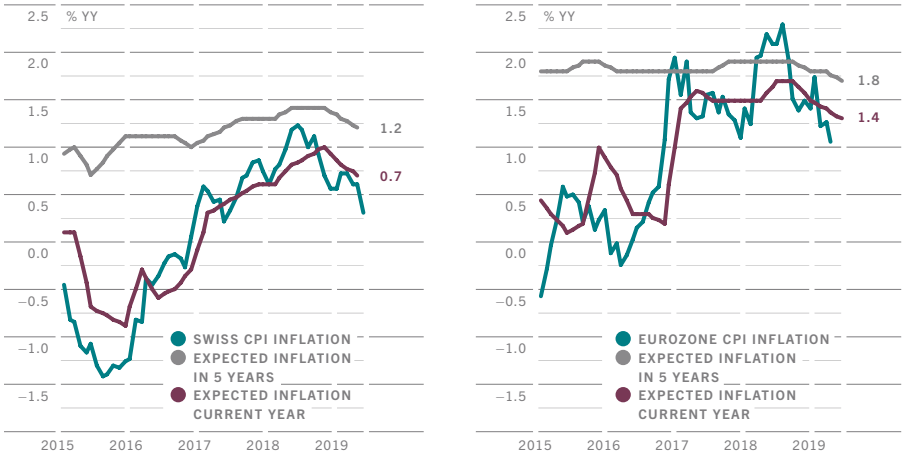
Source: Pictet Asset Management, Refinitiv & CEIC

1. Inflation expectations and inflation

When we look at NIRP's influence on inflation expectations, FIG.3 shows that both inflation and inflation expectations one year into the future dropped sharply following the introduction of NIRP in early 2015. However, the relationship is not as strong as it appears. This movement has been largely engineered by the removal of EUR / CHF floor and a drop in oil price.

FIG.3

SWISS AND EUROZONE INFLATION AND INFLATION EXPECTATIONS



Source: Pictet Asset Management, Refinitiv & CEIC

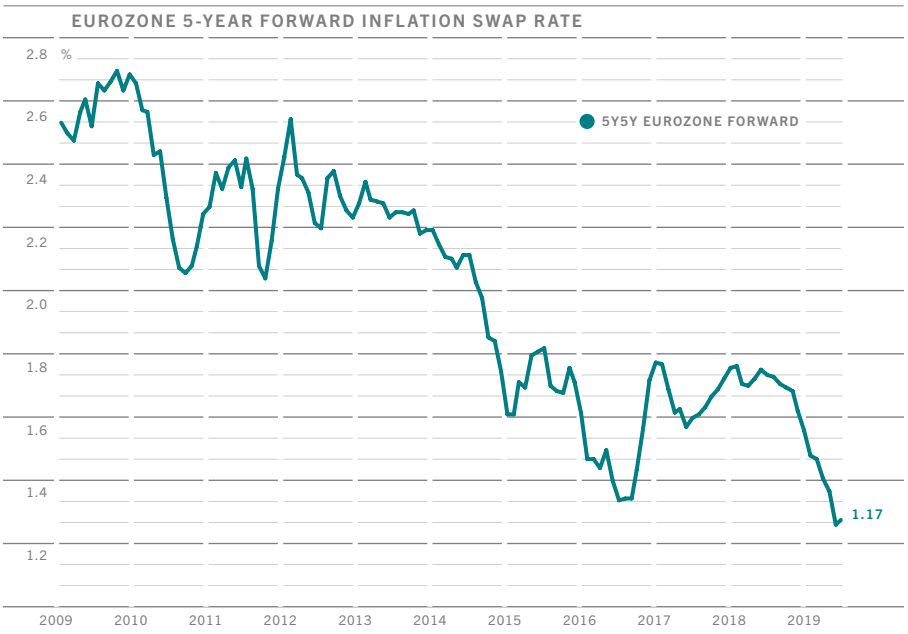
A better gauge of the SNB's influence on inflation expectations is the expected inflation rate five years ahead. As the NIRP framework aims to deliver more monetary stimulus, the policy should have had a stronger influence on longer-term inflation expectations, raising the 5-year breakeven inflation rate. This was clearly not the case; long-term inflation expectations have remained broadly

stable since 2015, hovering around 1.2%. This suggests that the transmission of NIRP through the inflation expectations channel has been impaired.

In Europe, we find a similar picture: there is no major change in long-term inflation expectations since the introduction of NIRP in June 2014.

As far as market expectations on inflation are concerned, the 5-year forward swap rate in FIG.4 shows for the Eurozone[2] that NIRP coincided with higher inflation expectations after 2016. NIRP has shown its limits once major central banks have started exiting from the quantitative easing programs and global factors negatively impacted growth and inflation expectations. Inflation expectations are back to pre-NIRP period levels in the case of the Eurozone despite central banks' efforts to guide market expectations towards further monetary policy easing.

FIG.4



Source: Pictet Asset Management, Refinitiv & CEIC

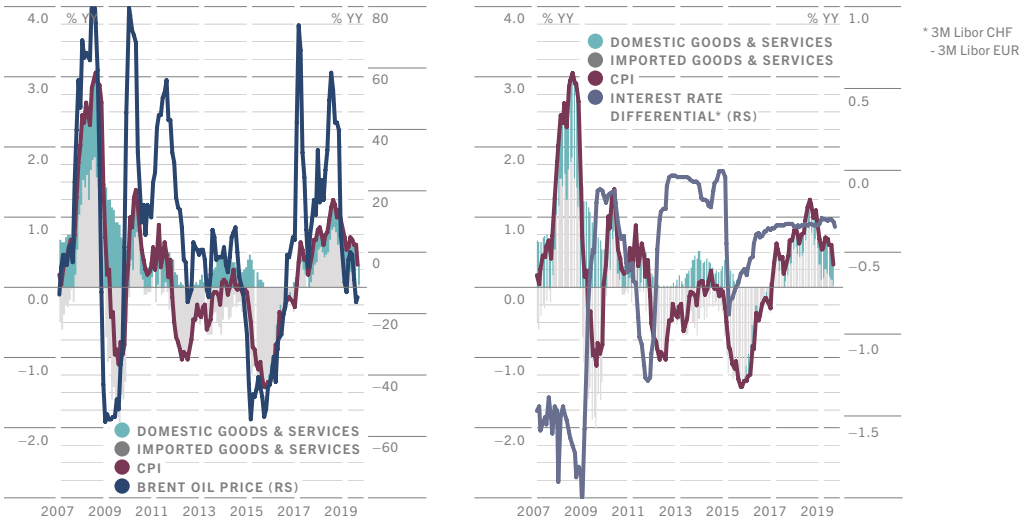
2 There are no equivalent data for Switzerland.

2. Interest rate differential and inflation

The SNB's key argument for maintaining low interest rate differential through negative interest rates – pulling Switzerland out of deflationary territory – is difficult to rationalise. FIG.5 displays the breakdown of headline inflation by domestic and imported goods and services contribution against the evolution of Brent oil prices (left-hand chart)

FIG.5

SWISS INFLATION BREAKDOWN, BRENT OIL PRICE AND INTEREST RATE DIFFERENTIAL



* 3M Libor CHF - 3M Libor EUR

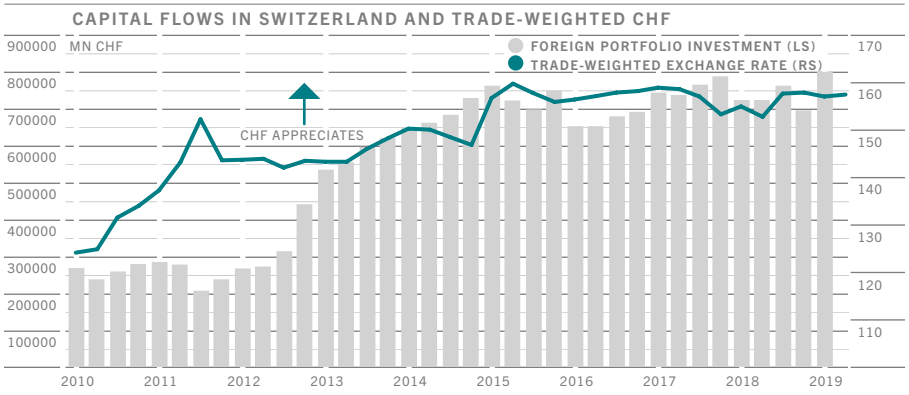
Source: Pictet Asset Management, Refinitiv & CEIC

and against the EUR / CHF interest rate differential (right-hand chart). The left-hand chart shows that the strong decline of headline inflation in 2015 and 2016 was mostly driven by lower imported goods and services price inflation, which was, to a large extent, driven by the lower oil prices. Global factors seem far more influential on inflation than EUR/CHF interest rate differ-entials (right-hand chart).

3. Exchange rate and capital flows

Regarding the relationship between the exchange rate and capital flows, we find little evidence that NIRP can contain the appreciation of the Swiss franc; the policy doesn't appear to make it less attractive for foreigners to hold investments denominated in the currency. Academic research[3] shows that interest rate differentials and capital flows have less influence on safe haven currencies than variations in global risk appetite. As shown in FIG.6, net Swiss franc

FIG.6



Source: Pictet Asset Management, Refinitiv & CEIC

holdings by non-residents were stable when the currency strengthened between 2010 and 2012 and have remained unchanged since the introduction of NIRP in late 2014.

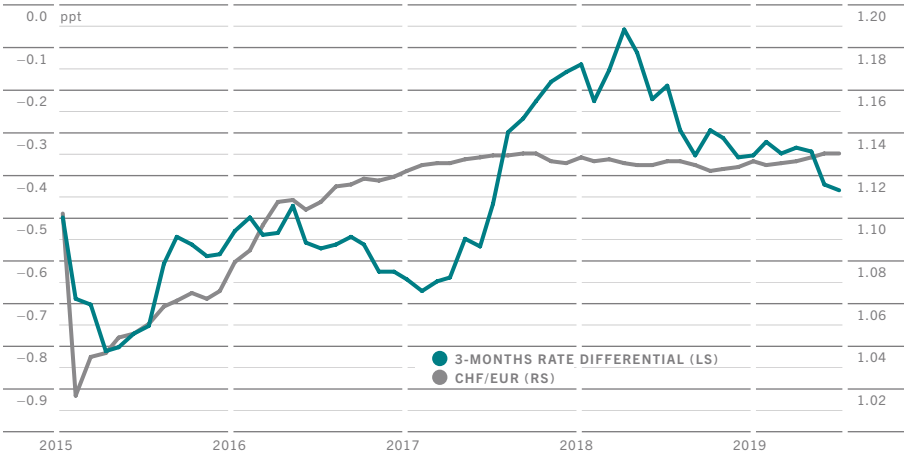
3 Yesin P. (2016), Capital Flows and the Swiss Franc, Swiss National Bank Working Paper.

4. Interest rates differential and exchange rate

The uncovered interest rate parity theory states that the interest rate differential between two countries should correspond to the expected movement in their respective exchange rate. In the Swiss case, the transmission mechanism of NIRP would in theory be the following: when Swiss rates are lower than the Eurozone rates, any further widening of this differential should reduce the relative attractiveness of Swiss franc investments. This, in turn, should ease pressure on the domestic currency. A weaker Swiss franc would boost net exports growth which, through the trade channel, would lead to stronger GDP growth. This better economic environment would result in tighter labour market conditions, stronger wage growth and ultimately higher consumer price inflation. This transmission mechanism ultimately helps the SNB deliver on its price stability objective.

FIG. 7

INTEREST RATE DIFFERENTIAL EU / CH AND EXCHANGE RATE EUR / CHF



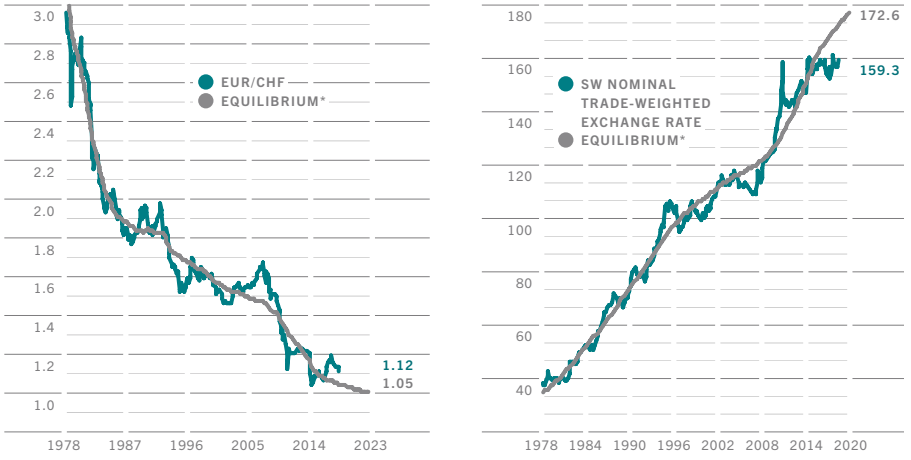
Source: Pictet Asset Management, Refinitiv & CEIC

FIG. 7 displays the differential between Swiss and Eurozone three-month interbank rates alongside the CHF/EUR

exchange rate. It shows that this mechanism does not seem to work properly. We find that the evolution of Swiss franc is influenced by factors other than interest rate differential. Our valuation model of the Swiss franc against the Euro shows good predictive ability of the long-term exchange rate movements. As shown in FIG.8 the long-term appreciation of the CHF reflects a number of secular trends: the evolution of the country's real productivity growth relative to other economies, its inflation differential and its net foreign asset position. These factors point to a continued appreciation of the CHF that will be difficult to halt or reverse with lower interest rates. The model shows that the CHF is undervalued against the EUR by 4.4%. The fundamental exchange rate amounts to 1.04 as of the end of August 2019 and is expected to decline further to parity in the coming four years. The right hand chart below shows that the CHF is also undervalued by 6.5% in trade-weighted terms at the end of August 2019.

FIG.8

CHF EXCHANGE RATE AGAINST THE EUR AND IN TRADE-WEIGHTED TERMS



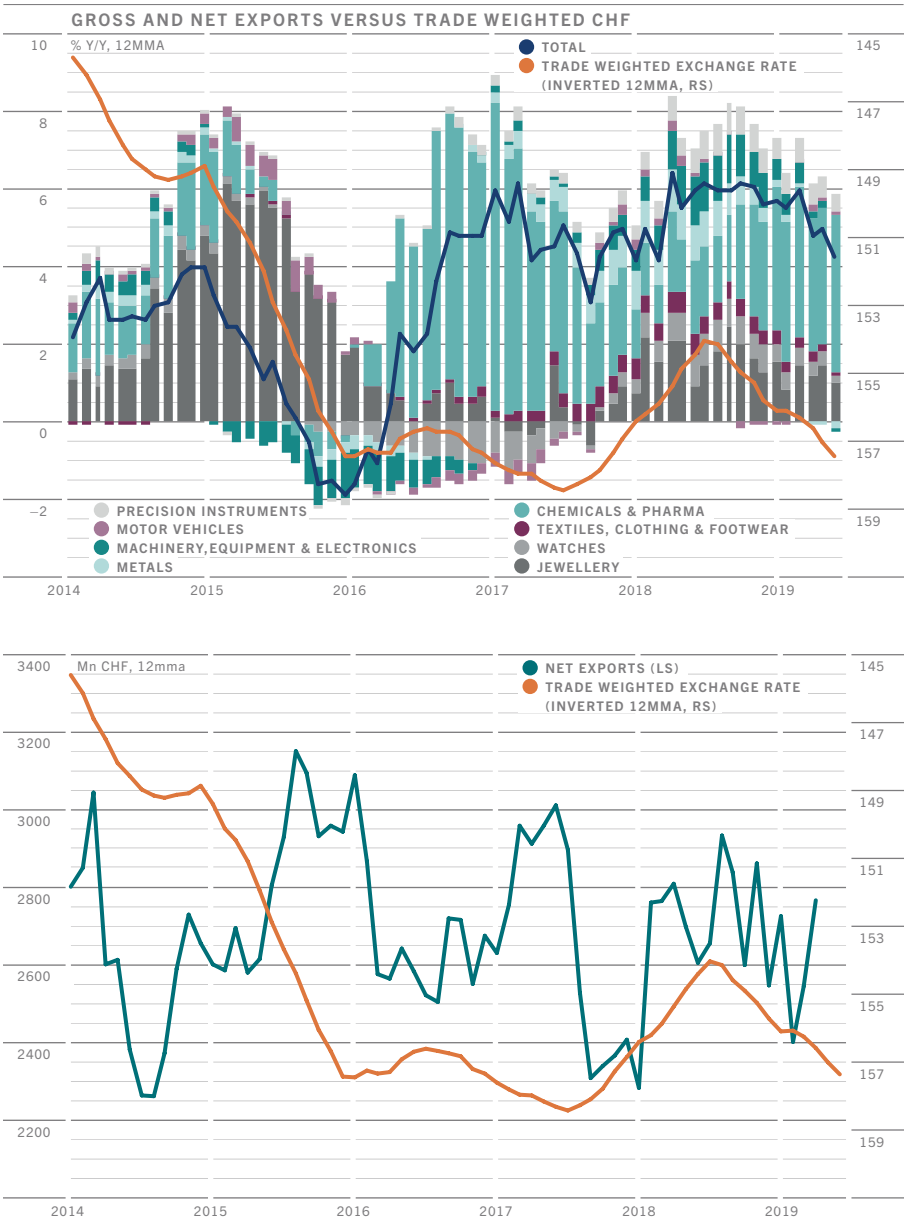
* Long-term fundamental value based on NFA, relative prices, relative productivities

Source: Pictet Asset Management, Refinitiv & CEIC

5. Exchange rate and exports

Another way of assessing the NIRP's effect on the real economy is to look at how net exports and labour market developments have behaved since the introduction of the policy. Our analysis shows that the historically negative relationship between the exchange rate and exports has not held in this instance. The appreciation of the CHF has not led to a decline in external demand for Swiss goods. Net exports, which account for only around 10% of Swiss GDP, have been surprisingly less responsive than expected to fluctuations in CHF, as evidenced in FIG.9. Indeed, Swiss export growth has quickly recovered despite the appreciation of CHF over the past four years. One explanation for this is that half of Swiss exports come from the chemicals and pharmaceuticals sectors – industries where price elasticity of demand is low thanks to strong appetite for drugs from an ageing population, high quality standards and falling import prices. Another explanation for the success of Switzerland's exports is the economy's high productivity, competitiveness and wage flexibility. Overall, Swiss exports do not seem to be sensitive to exchange rate movements, neither in gross (left-hand chart) nor in net terms (right-hand chart).

FIG.9



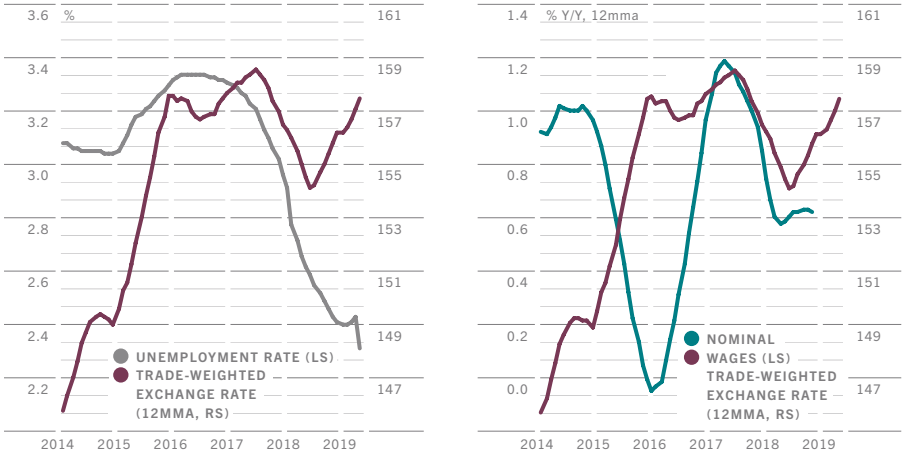
Source: Pictet Asset Management, Refinitiv & CEIC

6. Exchange rate, unemployment and wages

As FIG.10 shows, labour market developments don't appear to be strongly influenced by exchange rate movements. As the chart on the left shows, a rise in the CHF's trade-weighted exchange rate did not lead to deterioration in labour market conditions; unemployment has fallen steadily since 2017. The chart on the right hand side, which displays the evolution of nominal wages along with

FIG.10

SWISS LABOUR MARKET INDICATORS AND TRADE-WEIGHTED CHF



Source: Pictet Asset Management, Refinitiv & CEIC

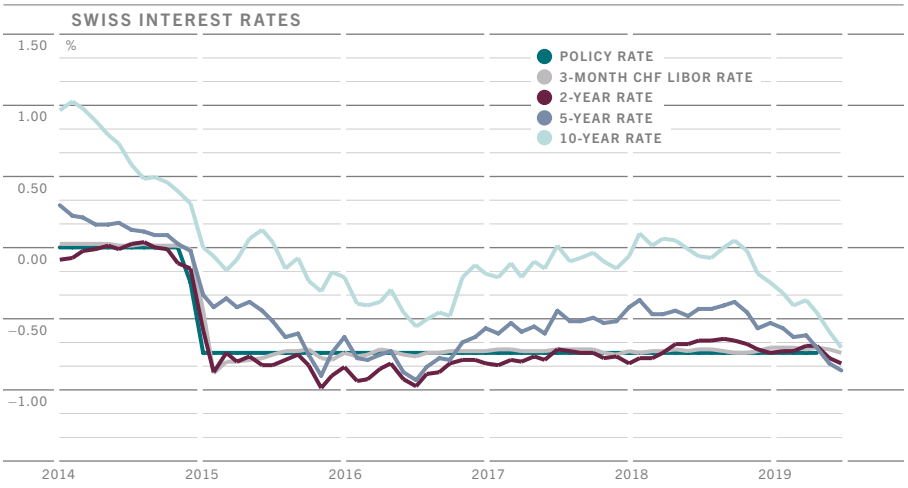
the exchange rate, shows a weak relationship between nominal wage growth and exchange rate movements. The sensitivity of wages to currency is low as nominal wage growth didn't go into negative territory during the currency appreciation phase and hasn't risen massively during the currency depreciation period. Summing up, there is mixed evidence about the transmission of NIRP to labour market conditions, wages and ultimately inflation. A puzzling result is that the improving labour market has not transmitted into higher consumer price inflation yet, mainly explained by low wage growth.

7. Yield curve

NIRP has been very effective at influencing the shape of the yield curve. FIG.11 shows the SNB's policy rate cut has been fully transmitted along the entire yield curve. For fixed income maturities ranging from three months to 10 years, bond yields have dropped into negative territory. The three-month market Libor rate and the two-year government bond yield dropped to -0.9% on average in February 2015.

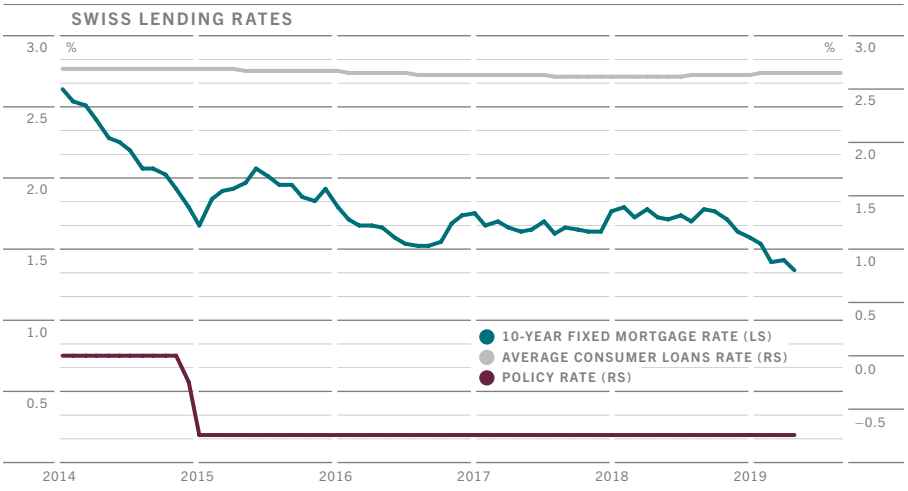
FIG.12, which shows the evolution of the 10-year mortgage lending rate and the average lending rate applied to consumer loans, provides mixed evidence on the transmission of NIRP to commercial interest rates. While NIRP had no impact on the average consumer loan lending rate, it did have some downward effect on mortgage rates. The 10-year fixed average mortgage lending rate has declined since the summer of 2015 from 2.0% to 1.4% in early 2019. Intense competition in the mortgage lending market led to a sustained decline in the average mortgage lending rate. Overall, bank lending rates show evidence of a partial transmission of the SNB's NIRP through the banking channel.

FIG.11



Source: Pictet Asset Management, Refinitiv & CEIC

FIG.12



Source: Pictet Asset Management, Refinitiv & CEIC

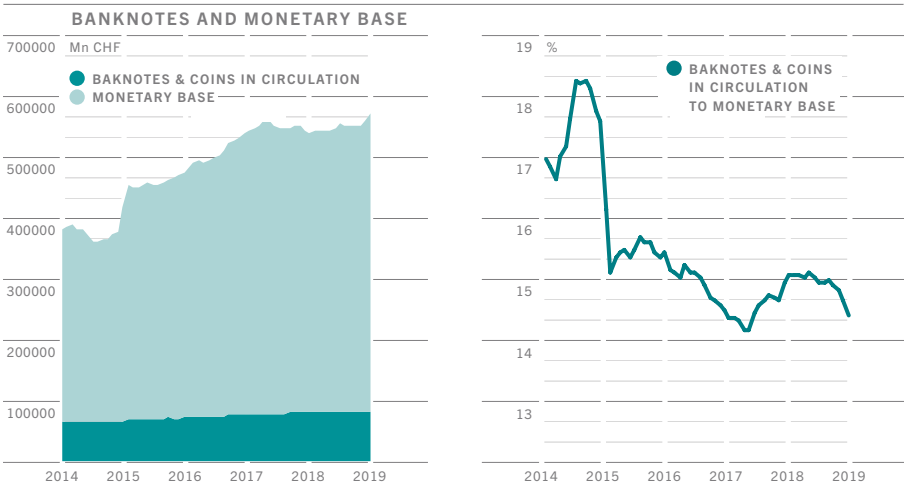
8. Monetary aggregates and inflation

As previously discussed in the theoretical framework, NIRP should increase the demand for cash provided rates on bank deposit accounts also turn negative. This has not occurred in Switzerland, primarily because the zero lower bound is the effective lower bound on rates for the median depositor[4]. As seen in FIG.13, there is no evidence that the demand for cash has increased in Switzerland since the introduction of negative rates in January 2015.

Monetary aggregates are another channel through which monetary policy is transmitted. Assuming a constant money velocity rate and real GDP growth in the economy, the rate of change in the monetary aggregate should correspond to the rate of inflation. Our analysis shows there is not a strong link between the quantity of money supply and inflation. Despite the pick-up in M3 growth rate since 2015, which was boosted by banks' sight deposits at the SNB, the rate of inflation has remained subdued (FIG.14). That said, the relationship is verifiable only in the long-term, which means it is probably too early to assess NIRP's effects through this channel.

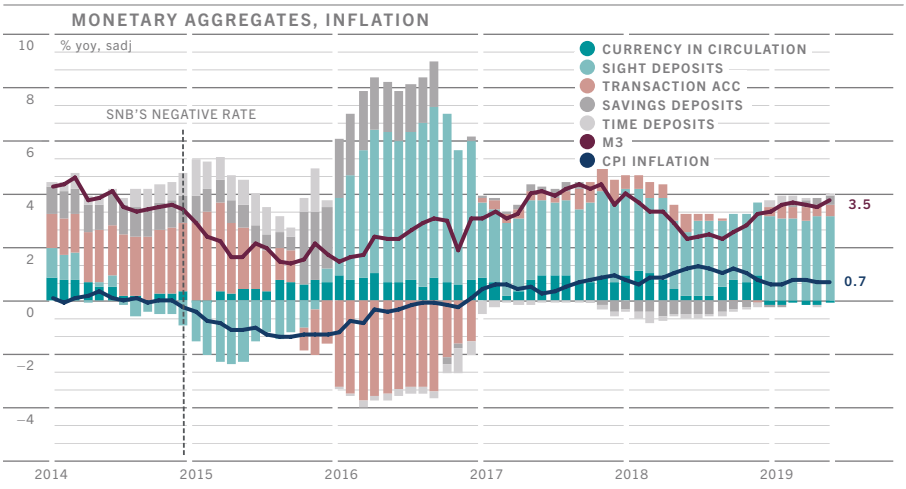
4 The SNB's deposit rate of -0.75% has been transmitted to retail deposit rates only for customers with large deposits.

FIG.13



Source: Pictet Asset Management,
Refinitiv & CEIC

FIG.14



Source: Pictet Asset Management,
Refinitiv & CEIC

4

Side-effects of NIRP

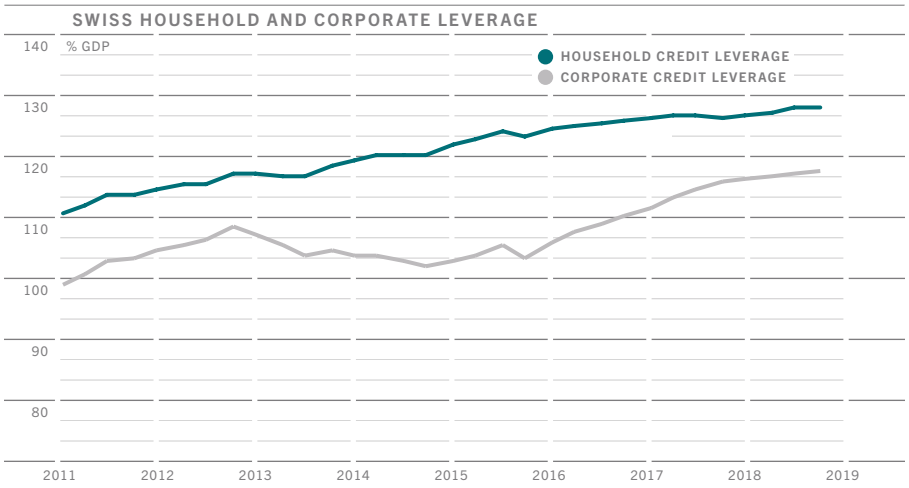
Unconventional monetary policies of all stripes come with side-effects and critics of NIRP have compiled a long charge sheet. So far, the doomsayers' worst fears have failed to materialise. But we believe that the longer NIRP remains in place, the more the policy's costs will outweigh the benefits.

Banks

Negative rates affect the banking system in several ways.

For commercial banks, NIRP translates into a charge that is levied on the excess reserves they hold with the central bank. To its credit, the SNB has sought to reduce this cost by introducing a tiering system – the charges it levies vary according to the amount of excess reserves deposited. Deploying NIRP this way means that banks on average

FIG.15



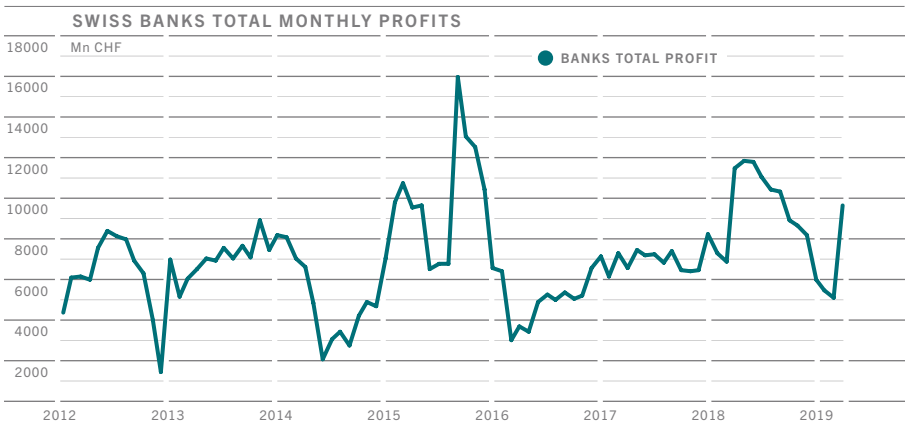
Source: Pictet Asset Management, Refinitiv & CEIC

pay a more manageable rate of 0.3% rather than the official 0.75%. This translates into an estimated amount of CHF 2.5 billion of total cost across all Swiss banks, or 2.2% of Swiss banks' profits over the past twelve months as of the end of April 2019, which is not material in our view. Although we should not underestimate that negative yields apply as well to other assets (such as other liquid assets used for the banks' liquidity risk management), the costs on liquid assets cannot be considered a game changer for banks profitability when they are offset by other benefits.

When it comes to bank lending, lowering interest rates to negative should, in theory, dent banks' net interest income. The assumption is that bank lending rates decline but deposit account rates hold at or just above zero. The empirical evidence paints a different picture. In both Switzerland and the Eurozone, the gap between lending and deposit rates (the net interest margins or NIMs) has not markedly narrowed (Jobst and Lin, 2016). Moreover, in Europe, banks' NIMs have shown only a modest sensitivity to policy rates: for every 0.5% reduction in the policy rate, NIMs fall only by 0.07% on average. The authors explain the resilience of NIMs stems from a number of factors, including banks' low funding costs, higher lending volumes, higher fees and commissions, decreasing provisioning expenses and a fall in non-performing loans.

In Switzerland, after the introduction of NIRP, households and corporations are more leveraged and banks have increased their lending volumes. Nevertheless, so far, we

FIG.16



Source: Pictet Asset Management, Refinitiv & CEIC

see no evidence that this has led to an increase in non-performing loans. At the same time banks have responded to higher lending risks by boosting their capital buffers in line with regulatory requirements.

The future is uncertain. As central banks have less ammunition to boost lending, conditions for banks' profitability might worsen. The evolution of Swiss banks' total profits shown in FIG.16 gives first signals of a downturn.

Recent academic research suggests there is a point at which negative interest rates could become counterproductive and hurt the economy. Brunnermeier and Koby (2018) introduce the concept of the Reversal Interest Rate (RIR), which is the rate of interest at which monetary policy

ceases to be expansionary; the RIR becomes the effective lower bound on interest rates. More precisely, according to the authors, the RIR occurs when the gains are more than offset by decreases in banks NIMs. In their calibrated new Keynesian model, the authors estimate that the RIR is around -1% in Switzerland. They argue that RIR rises naturally with tighter regulation, higher quantitative easing, less passthrough from policy rates to deposit rates and lower bank capitalisation rates.

We do not expect the Swiss RIR to rise. With banks taking greater risks in their balance sheets, regulations will probably remain tight. As for the quantitative easing, the potential additional size is lower in the future than in the last easing cycle. However, less quantitative easing prevents banks from capital gains, which puts pressure to their capital ratios. So the benefits of current policy rates cannot be extrapolated in the long run, despite less room for RIR to rise.

Cutting policy rates further after scaling down quantitative easing can even be counterproductive since banks have exchanged their long-term assets with short-term reserves at the central banks. Hence policy rates cuts no longer lead to capital and net worth gains which generates a decline in lending. In addition of cutting back lending, banks might increase their low yielding safe holdings. This makes banks' profits decline further (M.K. Brunnermeier and Y. Koby, (2018).

Moreover, banks with higher deposits apply lower lending risk premia (mostly in longer maturities) which leads to an automatic risk enhancement as the compensation per risk unit declines (Schelling and Towbin, 2018). In addition to a parallel downward shift of lending margins curve, the curve also flattens as shorter maturities are charged closer to longer maturities. This highlights an additional mispricing of risk. A special attention in this regard, is to be given to banks with a higher share of variable rate loans to households.

Discrepancies in the way charges are levied on bank reserves have also introduced differences in lending conditions among banks. Banks whose reserves incur higher charges have sought to offset these costs by relaxing for instance the loan terms for less creditworthy borrowers (Schelling and Towbin, 2018). This effect fades away in the long run as banks with charged reserves replace these with an increase of net interbank positions which leads to a rebalancing of reserves from charged to non-charged banks (Schelling and Towbin, 2018). The dissipation of this distortion has a cost though: it ensures less transmission of negative rates.

Furthermore, NIRP harms competition in the banking sector. Banks with low minimum reserve requirements have been disproportionately affected by the cost of negative yields compared to commercial banks, whose deposits with the SNB are larger (Swoboda, 2017). Private banks have also experienced a loss of asset management business to the benefit of commercial banks who attracted clients with better deposit conditions helped by their lower charges at the SNB. The distortion of competition occurs not only among banks but also between banks and insurers. Banks' lending margins tend to rise to offset charges on reserves with the SNB, while other lenders' margins decrease (Swoboda, 2017). As insurers are less regulated than banks, the shift in lending activities from regulated to unregulated entities becomes a risk for the financial system.

On a more global basis, there is another group of NIRP-related distortions, most specifically via asset prices, market liquidity, market volatility and corporate default rates. Some of the effects are linked to the central banks' asset purchase programs and are not entirely due to negative rates. However, if real borrowing rates drop below the zero lower bound, NIRP delays corporate restructuring in countries or companies with high debt level, especially if inflation does not pick up (Jobst and Lin, 2016). Globally, asset impairments decline, giving a misleading signal of financial stability.

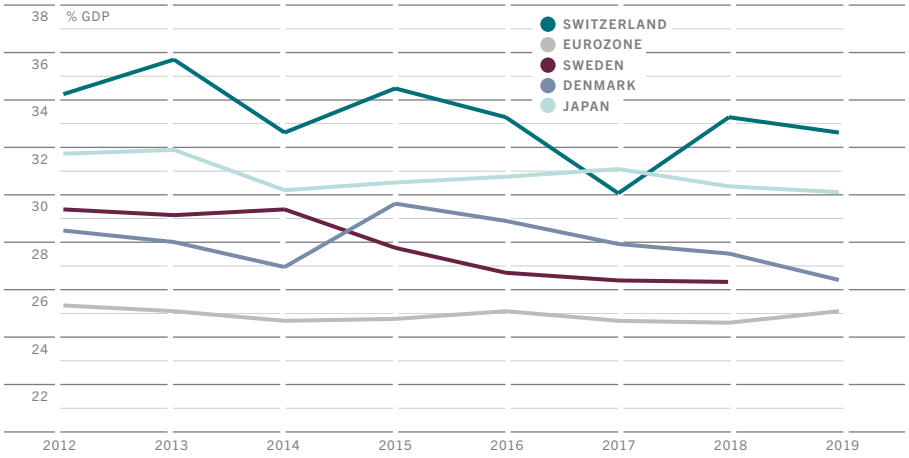
Savings

So far, in those countries that have deployed NIRP, saving rates have not materially changed. But we believe that if the policy remains in place, precautionary savings will rise and consumption growth will weaken.

NIRP has lowered the expected returns on financial assets by boosting their valuations to historic highs. In absence of capital gains, negative yields will induce a long-

FIG.17

SAVINGS IN NIRP ECONOMIES



Source: Pictet Asset Management, Refinitiv & CEIC

term negative sentiment. This might lower growth which is the opposite of what monetary easing is aiming at.

As for pension funds savings, we observe various dynamics.

The yearly study published by Swisscanto in 2018 shows that capital gains that resulted from a decrease in interest rates have been strong across most asset classes. As not all returns have been distributed, pension funds have increased their reserves and improved their coverage ratios

during the period 2015-2017 from 110% to 114% for private pension funds and from 92% to 97% for public pension funds. But the picture probably won't remain healthy for long.

By the end of 2018, the coverage ratio for pension funds had begun to fall: to 109% for private funds and 93% for public funds. Furthermore, the conversion ratio has been declining during the period of 2014-2018 from 6.3% to 5.7% and is expected to go to 5.5% by 2023.

Swiss pension funds did not lower their cash allocations in response to NIRP: it was stable at 5.6% from 2015 to 2018. The cost of cash has been rising though. At the end of 2018, 65% of pension funds were charged negatively for their cash holdings and that figure has risen by 10% since 2015.

Even with stable cash holdings, in the process of avoiding low returns, the level of risk in pension funds' holdings has kept rising. CHF Bonds allocation has decreased though from to 28 to 20% from 2009 to 2018. The search for yield has seen pension funds raise their illiquid holdings in an attempt to benefit from the liquidity risk premium.

With large swaths of the financial market trading at historically high valuations future investment returns are likely to be lower than those of the past. The combination of lower capital gains and persistently low interest rates would be bad news for pension funds as it would squeeze their funding ratios. Although asset-liability management measures are taken to mitigate the effects of these trends, NIRP will simply add to the forces of wealth redistribution that threaten to leave younger savers at a disadvantage to those already approaching retirement.

5

Exit from NIRP

We believe there are several routes for the SNB to reverse NIRP. And although this seems unlikely, the SNB should act before the ECB. The SNB has currently two main instruments of monetary policy easing: the policy rate and foreign currency reserves.

Theoretically, moving the level of foreign currency reserves offer the possibility of influencing the shadow rate (the rate that would prevail without the fixed lower bound and that is dependent on the level of central bank liquidity provided to the financial system). The shadow rate can be increased by entering into repo contracts with commercial banks or by increasing interest rates on banks reserves (IOR).

There is also a way to remove market liquidity via the issuance of SNB bills with higher yields. The SNB bills yield would in this instance become the lower bound rate because it would disincentivise banks to accept lower yields on their reserves. The advantage of this option is that interest rate hikes would also be transmitted to non-banking sectors.

In practice, we are not particularly enthusiastic about these measures as they lower money supply growth, endanger the reflation of the economy and threaten investors' sentiment. We think that the least disruptive way to start exiting from ultra-loose monetary policy in the current economic and market environment is through the first channel, the policy rate. Moreover, there is also value in reviewing the SNB communication policy stance and analysing if monetary policy can be complemented by fiscal policy. In the following sections, we discuss these options in detail.

Normalizing the policy rate

Technically the SNB could increase the policy rate by removing the tiering system and charging all excess bank reserves with -0.3% instead of -0.75% before reaching 0%. Practically, this step embeds the risk that banks start charging all deposits (including retail deposits) with negative rates. The outcome is less certain as either the negative rates will discourage consumers from keeping current accounts and increase spending or the charges of negative rates could be perceived as a 'tax' that would dampen consumption. Hence, we think it would be better to implement a gradual policy rate increase while keeping the tiering system in place. This should be accompanied by a clear communication that the starting point of the negative deposit rate for the banking system is actually -0.3% instead of -0.75%.

It will not be easy for the SNB to engineer a smooth exit while the ECB maintains a negative deposit rate or keep policy rate unchanged while the ECB cuts rates further down in negative territory. Simply lowering the interest rates differential would probably cause volatility in bond and foreign exchange markets. The SNB has the tools to engineer a smooth transition but it just needs to deploy them.

During this process, it is important to continue using some currency interventions to smooth the transition in the short-term. While gradually lifting the policy rate towards zero, the SNB could prevent a rapid short-term CHF appreciation via targeted interventions in the currency market. Any appreciation should be counteracted only if the currency moves beyond its long-term trajectory, which the SNB could determine using a long-term valuation macro model. A long-term valuation model would provide an estimate of the 'natural' rate of appreciation, which would then serve as the threshold level beyond which the SNB would need to intervene in the foreign exchange market.

Structural currency appreciation should be tolerated allowing time for the economy to adjust naturally (through labour productivity, ongoing innovation, structural reforms, etc.).

In abandoning NIRP, the SNB should also change its inflation goal. As the economist Ernst Baltensperger argues, the inflation target in Switzerland should be expressed as a target range, between 1 and 3% or 0 and 2% for instance[5]. We think flexible inflation targeting would be more effective than strict inflation-targeting framework as is often proposed in academia. We also suggest that, in the long-term, central banks should intervene only if they can impact the economic factors that lead to a derailing of the inflation range. For all other factors, they should let the economy and markets use their own adjustment power.

Technically the SNB can increase the policy rate by removing the tiering system and charging excess bank reserves with -0.3% instead of -0.75% before reaching 0%. Practically, this step embeds the risk that banks starts charging all deposits (including retail deposits) with negative rates. The outcome is less certain as either the negative rates will discourage consumer from keeping cash deposits and increase spending or are the charges from negative rates perceived as a 'tax' that refrains from consumption which lowers growth prospects.

5 As for instance in Australia and New Zealand where the central banks inflation targeting framework is specified in terms of a target range.

Changing communication

The SNB should also begin providing "forward guidance" or greater detail on its forecasts for interest rates[6]. Of course, forward guidance risks promising something central banks cannot deliver (Baltensperger, 2018). Yet, clear communication brings significant benefits. For instance, the SNB can normalise policy rates from negative to zero by indicating that this is not a drastic policy change but simply the removal of extreme measures and that monetary policy remains accommodative even with a policy rate at 0%. The SNB can also use forward guidance to reassure markets that no further hikes will be undertaken without further improvements in economic data. This policy can be implemented in order to avoid market or economic disruptions.

In tandem, we would also recommend some other, more fundamental, changes to the SNB's stance.

First, the SNB and other economic actors should less support the idea that a strong currency is bad for the employment and the economy. There is no strong empirical evidence that an appreciation of CHF due to a higher interest rate represents a threat to the Swiss economy. In January 2015, after the removal of the EUR / CHF floor, the CHF appreciated by 20% against the euro. Gross exports initially declined but it took less than a year and a half for growth to resume despite the remaining currency's appreciation of 10%.

Second, the SNB should not promote the idea that a strong CHF is deflationary. Over the short-term, this can be the case. Soon after the removal of the EUR/CHF floor in

6 Similar to Riskbank and Norges Bank.

January 2015, inflation fell to -1.5%. But over time, inflation recovered. Although the CHF has appreciated by some 10% in trade-weighted terms, deflation gave way to inflation in little over two years thanks to global factors.

Finally, the SNB should emphasize that lower (negative) policy rates and large central banks' balance sheets are not optimal in the long run. As Reynard argues (2018), normalising monetary policy becomes a more complicated and protracted process in economies where central banks have built large balance sheets. While the Fed has been able to adjust its interest rates and balance sheet simultaneously, the ECB will find it difficult to follow suit. Not only is the Eurozone economy growing more slowly than the US, but some of its member states are weighed down by heavy debts and little capabilities of structural reforms. Hence, in Europe, the normalisation of interest rates comes naturally as a first choice as it carries less risk than the balance sheet size adjustment. Although the SNB inherits same ECB monetary policy constraints due to the strong economic link between Switzerland and the Eurozone, it has a slightly easier task. Switzerland can adjust more easily to higher interest rates and lower interest rates differentials given the structure of its economy and its political stability.

Coordinating monetary policy with fiscal policy

The normalisation of interest rates from negative to zero should lead theoretically to an appreciation of the currency. This can be counteracted by more accommodative fiscal policy. Switzerland has plenty of scope to boost public spending as its debt to GDP ratio is just 40%, the lowest among G-10 economies. Academic research suggests that higher public debt is needed to create safe assets that influence aggregate demand, smooth consumption and hence increase economic activity (Caballero and Fahri, 2016). Moreover, issuing public debt avoids the so-called safety trap, or the scarcity of safe assets.

In Switzerland, the decrease of the supply of government bonds has been offset by an increase in money supply as both offer similar returns. This leads either to a liquidity trap (because investors hold cash and fewer bonds putting pressure on interest rates) or to excessive risk taking (because investors flee to other riskier asset classes) or both. One way to lay the ground for higher interest rates is to start increasing the stock of government bonds (Baccheta, 2017). Moreover, public debt would increase shadow interest rates (De Long, 2015) which would make it easier for the SNB to increase the policy rate. At the same time, increasing public bonds supply would support the depreciation of the CHF (Bacchetta, 2017). In our view, this last effect is less probable when public debt is financed domestically. It is also less certain once the debt stock stabilises with higher interest rates. The attractiveness of bonds becomes stronger than before and leads to capital inflows, and a reappreciation of the currency. The US is an

illustration of this as the USD appreciated 18% in trade-weighted terms from end of 2008 to today despite a public debt to GDP ratio rising from 60% to above 100% during the same period.

We see value in coordinating monetary and fiscal policy. A better coordination within a countercyclical policy framework will help achieve a solid economic growth while keeping inflation contained. Obviously, fiscal policy should be used to promote key structural long-term developments in the economy that will enhance investment, innovation and education. However, in the short-term fiscal policy can also provide a strong support to economic activity especially when monetary policy is running out of ammunitions. This is especially the case in low-indebted countries that benefit from a large fiscal space such as Switzerland and Germany. In these countries, fiscal policy should take the lead in terms of policy actions at this juncture.

6

References

Assenmacher K., Krogstrup S. (2018), “Monetary Policy with Negative Interest Rates: Decoupling Cash from Electronic Money”, IMF Working Paper.

Bacchetta P. (2017), “Is Swiss public debt too small?”, Monetary Economic Issues Today in honor of Ernst Baltensperger, Orell Füssli.

Ball L., Gagnon J., Honohan J., Krogstrup S. (2016), “What Else Can Central Banks Do?”, Geneva Reports on the World Economy.

Baltensperger E. (2018, June), “Q&A on Swiss Monetary Policy with Ernst Baltensperger”, Interview with Beat Siegenthaler, UBS.

Bech M., Malkhozov A. (2016), “How have central banks implemented negative policy rates?”, BIS Quarterly Review, 31-44.

Brunnermeier M.K., Koby Y. (2018), “The Reversal Interest Rate”, University of Princeton Working Paper.

Caballero R.J., Fahri E. (2016), “Safe asset scarcity and aggregate demand”, Working Paper, National Bureau of Economic Research, Cambrigde.

Claessens, S., Coleman N., Donnelly M.S. (2017, February), “Low-for-long interest rates and banks’ interest margins and profitability: Cross-country evidence?”, International Finance Discussion Papers 1197, Board of Governors of the Federal Reserve System.

Danthine J.-P. (2017), “Les taux négatifs: made for Switzerland”, Monetary Economic Issues Today in honor of Ernst Baltensperger, Orell Füssli.

Drehmann M., Borio C., Gambacorta L., Jimenez G., Trucharte C. (2010), «Countercyclical capital buffers: exploring options», BIS Working Papers No 317.

De Long B. (2016), Panel comments at Rethinking Macro Policy III Conference, Washington Center for Equitable Growth.

ECB, 2019, “Speech by Mario Draghi, President of the ECB, ECB Forum on Central Banking, Sintra

Eggertsson G. B., Juelsrud R.E., Wold E.G. (2017), “Are negative nominal interest rates expansionary?”, NBER Working Paper 24039.

Jordan T. (2016), “Monetary policy using negative interest rates: a status report”, Vereinigung Basler Ökonomen.

Jobst A., Lin H. (2016), “Negative Interest Rate Policy (NIRP): Implications for monetary transmission and bank profitability in the euro area’, IMF Working Paper.

Kohli U. (1979), “Monnaie surévaluée et maintien du plein emploi“, Swiss Journal of Economics and Statistics, 115(4), pp.659-676.

Markov N., Nitschka T. (2016), “Semi- Parametric Estimates of Taylor Rules for a Small, Open Economy – Evidence from Switzerland”, German Economic Review, Vol. 17, Issue 4.

Markov N., Nitschka T. (2013), “Estimating Taylor Rules for Switzerland: Evidence from 2000 to 2012”, Swiss National Bank Working Paper 2013-08.

McAndrews J. (2015), “Negative nominal central bank policy rates: Where is the lower bound?”, Remarks at the University of Wisconsin (New York: Federal Reserve Bank of New York).

Reynard S. (2018), “Negative interest rate, QE and exit”, SNB Working Papers 19/2018.

Rogoff K. (2014), “Costs and Benefits to Phasing Out Paper Currency,” NBER Working Paper No. 20126.

Schelling T., Towbin P. (2018), “Negative interest rates, deposit funding and bank lending“, SNB preliminary paper.

Swisscanto (2019), “Schweizer Pensionskassenstudie 2019”, Swisscanto.

Swoboda A. K. (2017), “Negative Interest Rate Policies: The New Normal?”, Monetary Economic Issues Today in honor of Ernst Baltensperger, Orell Füssli.

Yesin P. (2016), “Capital flows and the Swiss franc“, SNB Working Paper 8/2016.

Wieland V. (2017), “Negativzinsen: Geldpolitik oder Gleichgewichtszins?”, in Monetary Economic Issues Today in honor of Ernst Baltensperger, Orell Füssli.

Wyplosz C. (2017), “Les limites des politiques monétaires non conventionnelles”, in Monetary Economic Issues Today in honor of Ernst Baltensperger, Orell Füssli.


1805


1805
PICTET
Asset Management

Disclaimer

This marketing material is issued by Pictet Asset Management (Europe) S.A.. It is neither directed to, nor intended for distribution or use by, any person or entity who is a citizen or resident of, or domiciled or located in, any locality, state, country or jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation. Only the latest version of the fund's prospectus, KIID (Key Investor Information Document), regulations, annual and semi-annual reports may be relied upon as the basis for investment decisions. These documents are available on assetmanagement.pictet or at Pictet Asset Management (Europe) S.A., 15, avenue J. F. Kennedy, L-1855 Luxembourg.

The information and data presented in this document are not to be considered as an offer or solicitation to buy, sell or subscribe to any securities or financial instruments.

Information, opinions and estimates contained in this document reflect a judgment at the original date of publication and are subject to change without notice. Pictet Asset Management (Europe) S.A. has not taken any steps to ensure that the securities referred to in this document are suitable for any particular investor and this document is not to be relied upon in substitution for the exercise of independent judgment. Tax treatment depends on the individual circumstances of each investor and may be subject to change in the future. Before making any investment decision, investors are recommended to ascertain if this investment is suitable for them in light of their financial knowledge and experience, investment goals and financial situation, or to obtain specific advice from an industry professional.

The value and income of any of the securities or financial instruments mentioned in this document may fall as well as rise and, as a consequence, investors may receive back less than originally invested. Risk factors are listed in the fund's prospectus and are not intended to be reproduced in full in this document.

Past performance is not a guarantee or a reliable indicator of future performance. Performance data does not include the commissions and fees charged at the time of subscribing for or redeeming shares. This marketing material is not intended to be a substitute for the fund's full documentation or any information which investors should obtain from their financial intermediaries acting in relation to their investment in the fund or funds mentioned in this document.

Any index data referenced herein remains the property of the Data Vendor. Data Vendor Disclaimers are available on assetmanagement.pictet in the "Resources" section of the footer.

This document is a marketing communication issued by Pictet Asset Management and is not in scope for any MiFID II/MiFIR requirements specifically related to investment research. This material does not contain sufficient information to support an investment decision and it should not be relied upon by you in evaluating the merits of investing in any products or services offered or distributed by Pictet Asset Management.

Issued in September 2019

assetmanagement.pictet