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Negative interest rates: necessary from a monetary policy perspective – but with what risks for the banks?

Volkswirtschaftliche Gesellschaft des Kantons Bern

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Ladies and gentlemen

Thank you for inviting me to speak at your annual general meeting. It has become something of a tradition for members of the Governing Board of the Swiss National Bank to appear before your society, the Volkswirtschaftliche Gesellschaft des Kantons Bern, and I am honoured to continue this tradition. In November 2012, my colleague Thomas Jordan began his speech by citing a few figures to underline just how much the world had changed since the financial crisis. The Swiss franc exchange rate to the euro had fallen from 1.65 to 1.20, short-term interest rates had decreased from 2.5% to almost zero, and the yield on ten-year Confederation bonds was just 0.5%. Who would have thought that, four years later, we would be confronted with an even stronger franc and even lower – indeed negative – short and long-term interest rates?

These extraordinary developments are ultimately a consequence of the global recession which hit the economy after the credit bubble on the US real estate market burst in 2007. As slide 1 shows, the banks around the world were, and continue to be, especially hard hit by this crisis and its consequences; since then, their share prices have performed significantly worse than those of other companies.

This is principally due to the fact that many banks are still engaged in cleaning up their balance sheets and, where necessary, adopting costly restructuring measures.

Furthermore, banks have been obliged to implement stricter regulatory requirements in the wake of the financial crisis. These requirements, which are needed to ensure systemic stability, are aimed at curbing excessive risk-taking. From the banks' point of view, however, today there are lower potential returns in areas which were previously often lucrative but also highly risky.

Banks are also faced with structural challenges. The accelerated pace of change in information technology and altered customer behaviour require high levels of investment. At the same time, the increasing digitalisation of distribution channels has stiffened competition, since it is easier for new rivals to enter the market.

Another significant challenge for banks is the current economic environment. Weak global growth and persistently low interest rates in recent years are weighing on profitability in the banking sector.

What repercussions does the latter aspect – low interest rates – have on banks in Switzerland in this generally difficult environment?

This is the question that I would like to address in detail this evening.

I will begin by briefly explaining why the negative interest rate in Switzerland is currently necessary from a monetary policy perspective. I will then show the extent to which this interest rate environment has influenced the profitability of Swiss banks. I will conclude with a discussion of the associated risks to financial stability, which require special attention.

Negative interest rate as a monetary policy imperative given low rates worldwide

To answer the question of why the negative interest rate in Switzerland is currently necessary from a monetary policy perspective, it is worth looking somewhat further into the past.

The last 30 years have seen interest rates around the globe trending downwards, as illustrated by the rates on ten-year government bonds in Switzerland, Germany and the US (slide 2). A key explanation for this downward trend is that both inflation rates and their volatility have declined worldwide. Consequently, investors require less compensation for the risk of a fall in the value of money due to inflation. The literature gives further reasons for the general decline in interest rates since the mid-1980s.¹ The propensity to save has increased overall, while at the same time the demand for investment capital has receded. This combination of higher supply of and lower demand for capital exerts downward pressure on interest rates. Since the onset of the financial crisis in 2007, the prolonged slump in global growth and valiant efforts by central banks have pushed interest rates even lower.

As a small open economy, Switzerland cannot decouple itself from these global developments. On the contrary, exceptionally low interest rates around the globe have far-reaching consequences for our economy.

In the past, Switzerland has invariably had lower interest rates than its trading partners, namely the euro area countries, as shown in slide 3, where the blue shaded area depicts the difference between short-term interest rates in euros (yellow) and Swiss francs (red). This interest rate advantage primarily reflects the lower average inflation rate in Switzerland compared to other countries, although political stability, sustainable fiscal policy and credible monetary policy also play a role. Investors have therefore traditionally been willing to hold Swiss franc investments at lower yields. This interest rate advantage was for a long time the 'natural' state of things in Switzerland.

However, in the wake of the financial crisis, this advantage came under mounting pressure. Monetary policy easing on the part of the European Central Bank resulted in a narrowing of the EUR/CHF interest rate differential. In 2014, yields on short-term government bonds in Switzerland were, at times, even higher than in Germany. This caused upward pressure on the Swiss franc to intensify.²

From a monetary policy perspective, Swiss franc appreciation calls for monetary policy easing, since the exchange rate has a substantial influence on inflation and economic developments in Switzerland. Initially, appreciation places downward pressure on prices of imported goods and services, which account for around 25% of the basket of commodities

¹ Cf. Bean, Charles et al. (2015), *Low for long? Causes and consequences of persistently low interest rates*, Geneva Reports on the World Economy 17, BIS (2015), *85th Annual Report*, Chapter I: Is the unthinkable becoming routine?

² Another important reason for the upward pressure of recent years is the generally higher level of uncertainty in the financial markets, manifesting in a greater desire for safe investments. The Swiss franc – along with the US dollar and the yen – are commonly considered safe haven currencies – cf. Ranaldo, Angelo and Paul Söderlind (2010), *Safe haven currencies*, *Review of Finance*, 14, pp. 385–407.

used to calculate the Swiss consumer price index. An appreciation of the Swiss franc therefore translates into a decline in the inflation rate. Furthermore, appreciation impairs the price competitiveness of the domestic export industry and dampens foreign demand for Swiss goods and services. This, in turn, adversely affects domestic growth and therefore also indirectly weighs on inflation.

As you are aware, the SNB has a statutory mandate to ensure price stability while taking due account of economic developments. Thanks to the introduction of the negative interest rate in Switzerland, the original interest rate differential to the euro area could at least partially be restored. This – along with the SNB’s willingness to intervene in the foreign exchange market – has helped to relieve pressure on the Swiss franc. The effect of the negative interest rate on the exchange rate is currently playing a decisive role in enabling the SNB to fulfil its monetary policy mandate. It allows the SNB to counter the aforementioned consequences of the Swiss franc appreciation on economic developments and inflation. Without the negative interest rate, inflation and economic growth in Switzerland would be lower.³

Low interest rates and Swiss banks’ profitability

The negative interest rate thus remains indispensable from a monetary policy perspective, and has, as explained, achieved the desired effect. A monetary policy geared to price and economic stability is also a precondition for a profitable, stable financial system. An environment of decreasing prices and low growth would lead to reduced demand for banking business and increased credit defaults, losses and write-downs.

At the same time, the exceptionally low interest rates are fraught with significant challenges. Above all, over time they can have economically undesirable consequences for financial stability.

We have arrived at the main topic of my remarks today, namely, how does the SNB assess the effects of low interest rates on financial stability?

The answer to this question largely depends on the extent to which low interest rates affect banks’ profitability. If the impact on profitability is substantial, it can over time undermine the robustness and integrity of the banking system as a whole, since only a banking system that is profitable in the long term can maintain and further build up its resilience. And only a resilient banking system is capable of seamlessly fulfilling its core economic functions. Furthermore, a decline in profitability could lead to banks taking excessive risks in an attempt to reach earnings targets, which – again – is undesirable from a financial stability perspective.

To assess the impact of low interest rates on the Swiss banks, it is useful to start by considering the business activities with which banks generate their income and how these activities are impacted by exceptionally low interest rates.

³ For an extensive discussion of the effects of the negative interest rate, cf. Jordan, Thomas (2016), Monetary policy using negative interest rates: a status report, Speech at Vereinigung Basler Ökonomen, 24 October 2016, www.snb.ch/en/mmr/speeches/id/ref_20161024_tjn.

First, let us consider the earnings. There are three key ‘pillars’ or sources of income in banking: interest business, commission business and trading business.

In simple terms, interest business consists of granting interest-bearing loans and financing them with lower-interest deposits or by issuing debt certificates, such as bonds. This is classic banking business.

Commission business principally stems from fees charged for the provision of services, such as asset management or advising companies on bond or share issues. Trading business mainly consists of purchasing and selling securities on behalf of clients or for the bank’s own account.

The current low interest rate environment can affect these three pillars in different ways.

On the one hand, lower interest rates could plausibly benefit commission and trading business. Customers might be inclined to shift their portfolios into riskier investments, which would be conducive to earnings in these business areas. At the same time, a decline in interest rates leads to one-off valuation gains on securities in the balance sheet.

On the other hand, it is likely that exceptionally low interest rates negatively impact banks’ interest rate margins. Put simply, the interest rate margin is the difference between banks’ interest income and interest expense, shown as a percentage of banks’ assets.

To better understand the relationship between the interest rate level and interest rate margin, it is worth looking at the composition of the latter. The interest rate margin can be divided into three components, namely the asset, structural and liability margins (slide 4).

The asset margin is the difference between the interest rate charged on loans and a market interest rate of equal maturity. The liability margin is the difference between a short-term market interest rate and the interest paid on deposits and other sources of financing. And finally, the structural margin is the difference between longer and short-term market interest rates – essentially the compensation the bank receives for maturity transformation.

Exceptionally low rates weigh on interest rate margins largely as a result of liability margins coming under pressure, as slide 5 illustrates.⁴ This is because deposit rates (yellow) that are already close to zero react less strongly to an interest rate cut than market rates (red) – indeed, in extreme cases, deposit rates do not react at all. The main reason for this is that in such cases, banks do not pass on lower interest rates to private customers, or only to a very limited extent, since doing so would expose them to the risk of customers withdrawing deposits and investing them at another bank, or hoarding them as cash. Banks wish to avoid this, because otherwise they stand to lose a source of financing for their business activities which is stable and convenient in the long term.

⁴ Furthermore, past experience has shown that the interest rate curve tends to flatten in periods of falling interest rates. This, in turn, weighs on structural margins. Cf. Borio, Claudio et al. (2015), The influence of monetary policy on bank profitability, *BIS Working Paper*, 514 and Claessens, Stijn et al. (2016), Low-for-long’ interest rates and net interest margins of banks in Advanced Foreign Economies, IFDP Notes.

The negative interest rate has put renewed pressure on liability margins, which have since even turned negative, as shown in the blue shaded area on this slide.

To sum up, it is conceivable that banks could profit from the low interest rate environment in commission and trading business. However, earnings on interest business are expected to come under pressure, especially if interest rates are below zero. Therefore, the extent to which the current interest rate situation weighs on profitability depends not least on the degree to which a bank or banking system is geared towards interest business.

In practical terms, what does this mean for the Swiss banks?

For the Swiss banking sector as a whole, interest and commission business are of roughly equal importance as sources of revenue, with both contributing around 35% to net earnings in recent years (slide 6). In comparison, as this table shows, banks in the euro area generate more than half of their earnings from interest business. The banking system in Switzerland is thus generally less dependent on interest business than elsewhere. This is a consequence of the comparatively greater importance of commission and trading business at the big international banks and the asset management-focused private banks.

Then there are the domestically focused banks – essentially the regional, cantonal and Raiffeisen banks. As is clear from their income statements, these institutions are principally active in interest business. Net interest income – i.e. the difference between interest income and interest expenses – accounts for almost 70% of their earnings. It is therefore to be expected that the impact of low interest rates on profitability will, on average, be greater for these banks than for others with a different business focus.

Stabilised interest margins of domestically focused banks

I shall therefore concentrate on domestically focused banks in the following remarks.

The profitability of these institutions has fallen – in some cases significantly – since the beginning of the low interest rate period, primarily due to declining margins on interest business. The average interest rate margin fell substantially between 2008 and 2014, as this chart illustrates (slide 7).

However, the chart also shows that interest rate margins have stabilised since the introduction of negative interest. Furthermore, current business figures from domestically focused banks suggest that they have absorbed the negative interest rate relatively well to date, despite growing pressure on their liability margins. Negative interest has thus so far not caused a further erosion of banks' profitability.

At first sight, this result seems remarkable. How can it be explained?

First: Overall, negative interest has hitherto had no material direct cost implications for domestically focused banks. This is due to the fact that the SNB grants an exemption threshold before the negative interest rate is applied. In practice, negative interest is only

charged on sight deposits that exceed 20 times the minimum reserve requirement. The sight deposits of most domestically focused banks are below or at this threshold.

A second – and important – explanation can be seen in the red shaded area of this chart (slide 8). Domestically focused banks have reacted to the decline in liability margins by increasing asset margins by around 50 basis points. Specifically, following the introduction of negative interest, they raised rates for long-term mortgages (shown here in blue), while returns on long-term market investments (illustrated here using the ten-year swap rate in yellow) continued to fall. The banks have since managed to keep asset margins high, notwithstanding the fact that market rates have continued to decline.

But there is another, equally important explanation for the limited impact of the low interest rate environment on the profitability of domestically focused banks: these institutions have increased their risk appetite. This applies particularly to affordability risk (typically measured using the loan-to-income ratio) in lending and to interest rate risk from maturity transformation.

Let's take a closer look at the current risk situation with respect to domestically focused banks in Switzerland.

Affordability risk refers to cases in which a borrower can no longer afford to make interest and amortisation payments for a loan under unfavourable conditions.⁵ A representative quarterly survey conducted by the SNB indicates that a substantial share of new mortgages exhibit high loan-to-income ratios. Moreover, this share has been rising since 2013.⁶

Put simply, interest rate risk is the risk that banks will suffer losses as a result of rising interest rates. Such risk results from the maturity transformation process mentioned above – that is to say, from the fact that loans extended by banks are typically tied up for longer than customer deposits. Banks can increase interest rate risk exposure by, for instance, extending repricing maturities.⁷

This chart illustrates how the banks' appetite for interest rate risk has increased since the beginning of the low interest rate period (slide 9). It shows the net present value loss which the domestically focused banks would incur on average if the interest rate level were to rise by 200 basis points. This loss is considered in relation to the banks' equity capital. The chart underlines that this loss potential has been very high for several years. It also makes clear that these banks have taken on additional interest rate risk since the introduction of negative interest.

⁵ In the case of mortgages, the affordability assessment typically also includes assumptions on maintenance costs.

⁶ Cf. SNB (2016): *Financial Stability Report 2016*, www.snb.ch/en/mmr/reference/stabrep_2016/source/stabrep_2016.en.pdf. In a supplementary survey on the mortgage market which the SNB has been conducting since 2011, the 25 largest banks with a cumulative share of the domestic mortgage market of over 80% are asked to provide information about loan-to-value and loan-to-income ratios for new mortgages in the following segments: owner-occupied residential real estate, and residential investment property held by commercial borrowers and private individuals. For the purposes of the survey, new lending comprises both refinancing of an existing mortgage from another lender and newly granted loans for the purchase or construction of real estate.

⁷ Equally, actual interest rate risk increases if banks stop – or scale back – hedging activities for such risk to reduce costs.

The SNB regularly conducts simulations to gauge the significance of this interest rate risk exposure for financial stability.

As set out in this year's *Financial Stability Report*, these simulations suggest that the Swiss banking system is well positioned to absorb a gradual normalisation of interest rates under current conditions.⁸ Indeed, the banks even stand to benefit from such a scenario, as a moderate interest rate rise would relieve pressure on interest rate margins. This is due to the fact that the first effect of a moderate rise in interest rates would likely be a normalisation of liability margins.

If, on the other hand, we assume a scenario in which interest rates rise very sharply, this would have a significant adverse impact on the banks. This outcome is attributable to the fact that, in such circumstances, structural margins would decline substantially – in other words, losses associated with maturity transformation would materialise. It would not be possible to offset this effect with improved liability margins.

In this context, I should emphasise that the domestically focused banks have been accumulating capital in recent years and now hold sizeable capital surpluses that significantly exceed regulatory minimum requirements. Currently, they could even absorb the kind of losses that a sharp rate rise would entail. The introduction of the countercyclical capital buffer – which requires banks to hold capital beyond minimum requirements if momentum on the Swiss mortgage and real estate markets is deemed excessive – has played a role here. A capital buffer of this kind has been in place – specifically with respect to mortgage-backed loans for financing residential real estate in Switzerland – since the end of September 2013.

So overall, as things stand today, we may draw three conclusions. First, exceptionally low interest rates are putting pressure on interest rate margins and this is weighing on the profitability of Swiss banks. This is particularly true of the domestically focused banks, whose operations are heavily geared towards interest business. Second, the negative interest rate *per se* has not thus far caused an additional erosion of these banks' profitability. This is due in part to the fact that, thanks to the exemption thresholds granted by the SNB, for most domestically focused banks negative interest has not yet resulted in any material direct costs. At the same time, these banks have responded to profitability pressure by raising asset margins. Third, they have further increased their risk appetite. The risk exposure of the Swiss banking system is nevertheless manageable at the moment, thanks to the capital surpluses currently available.

⁸ Cf. SNB (2016): *Financial Stability Report 2016*, www.snb.ch/en/mmr/reference/stabrep_2016/source/stabrep_2016.en.pdf. The simulations show how the banks' net interest income – aggregated over the next five years – would develop under various interest rate scenarios.

Low interest rate environment – all players should be cautious and alert

So much for the current situation. But how does the SNB see low interest rates affecting the banking system in the future?

First, it is worth reminding ourselves that the authorities, the SNB and the commercial banks jointly adopted a balanced package of measures back in 2012 to help mitigate the financial stability risks associated with persistently low interest rates.

Alongside the countercyclical capital buffer referred to above, adjustments to the self-regulation rules for banks in the area of mortgage lending are particularly worthy of mention. Banks now require of borrowers that at least 10% of the loan value be provided from funds that do not stem from the second pillar. Furthermore, borrowers must gradually pay down the mortgage to two-thirds of the loan value within 15 years.

As interest rates will have to be kept low for the foreseeable future for reasons of price stability, all players should remain especially cautious and alert.

The longer the exceptional interest rate situation persists, the more likely it is that banks will experience higher profitability pressure. Over time, competition between banks may cause interest rate margins to narrow further still. Additional competitive pressure may come from insurers and pension funds, which are increasingly seeking to position themselves as direct providers on the mortgage market.

Ongoing profitability pressure creates an incentive for banks to step up their exposure to interest rate risk and adopt an imprudent attitude in their affordability assessments. Equally, banks may react to earnings pressure by expanding the volume of credit.

Together, such developments would cause prices on the Swiss real estate market to gain momentum again, following a recently slowdown. This is particularly relevant given that real estate remains relatively attractive, not just to households but to investors searching for yield.

The net result of this would be a renewed rise in imbalances on the real estate and credit markets. This would make borrowers and banks more vulnerable – to an unexpected future interest rate rise, for instance. In particular, it would increase the magnitude and overall economic impact of a price correction on the real estate market.

In the spirit of a cautious, forward-looking approach, it is essential given the current interest rate environment that banks apply conservative principles in their lending activities.

This is particularly necessary when it comes to assessing the sustainability of loans. Based on experience from the crisis in the 1990s, banks now typically assume an interest rate of 5% when assessing affordability risk; this is the approximate historical average of long-term mortgage interest rates.⁹ The level of this imputed interest rate is not set by the regulator and

⁹ Banks generally stipulate that the cost of a residential property, based on an imputed interest rate of 5% plus amortisation and maintenance costs, must not exceed one-third of the borrower's gross income. When assessing affordability risk for mortgage lending, the SNB likewise bases its calculations on an interest rate of 5%.

varies between banks. However, if this interest rate were to be lowered in the current environment, borrowers, banks and the economy as a whole would face significant risks.

It is especially important when assessing affordability and the relevant interest rate to remember that real estate is normally purchased over a long time horizon of several decades. Interest payments for a mortgage will thus be incurred for the duration of this period, in the course of which rates may well be significantly higher than they are today. While a sharp interest rate rise is unlikely in the short term, there is considerable room for a substantial upward correction in the medium term. It is worth bearing in mind that long-term interest rates are currently about 300 basis points below what was considered normal during the pre-2008 era. It is thus vital that borrowers and banks do not exclude the possibility of a sharp interest rate rise in the medium term and, that they ensure their ability to cope should such a scenario come to pass. In short, they should not assume that today's favourable financial conditions will endure for their entire planning horizon.

Concluding remarks

Ladies and gentlemen, let me now wrap up.

The negative interest rate charged on banks' sight deposits at the SNB is indispensable from a monetary policy perspective. Given low interest rates around the world and the difficult global economic situation, negative interest – coupled with the SNB's willingness to intervene in the foreign exchange market – serves to ease upward pressure on the Swiss franc. Negative interest helps to maintain price stability and support economic activity in Switzerland. Of course, the banking sector ultimately benefits if prices are stable and the economy thrives.

However, the low interest rate policy is also associated with side-effects. It can have economically undesirable consequences for financial stability. Thanks to measures taken to date and the capital surpluses that banks have in place, these risks are currently manageable for the financial system.

Looking to the future, ongoing low interest rates are likely to continue weighing on banks' profitability; this, in turn, will create an incentive for them to take on more risk. At the same time, imbalances on the Swiss real estate and mortgage markets could be exacerbated over time. Such developments would render the banking system and the economy more vulnerable.

It is thus all the more important that banks put aside sufficient capital surpluses and adopt a conservative mindset when assessing the creditworthiness of borrowers. For its part, the SNB monitors developments on the credit and real estate markets continuously and reassesses the need for an adjustment of the countercyclical capital buffer on a regular basis.

Thank you very much.

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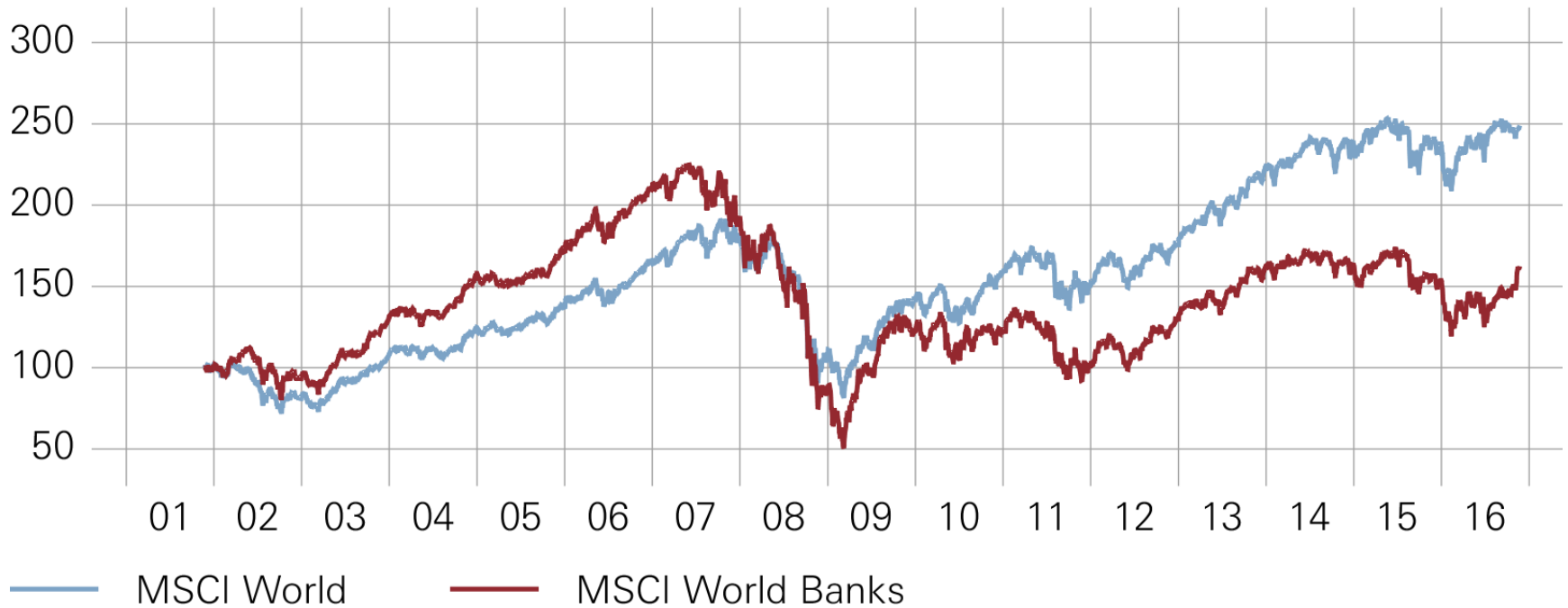


Slide 1

EQUITY INDICES

Cumulative index performance, gross returns

Index (100 = November 2001)

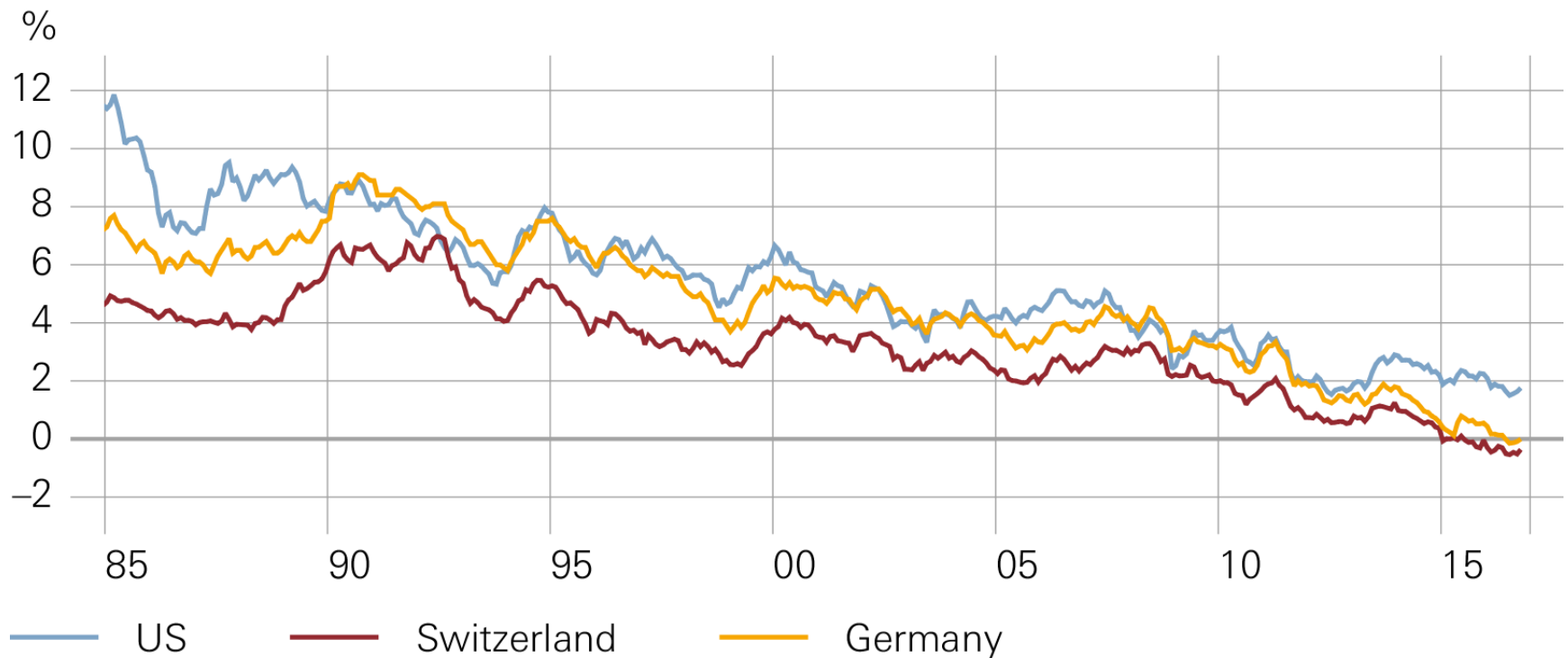


Sources: SNB, Thomson Reuters Eikon

Slide 2

10-YEAR GOVERNMENT BOND YIELDS

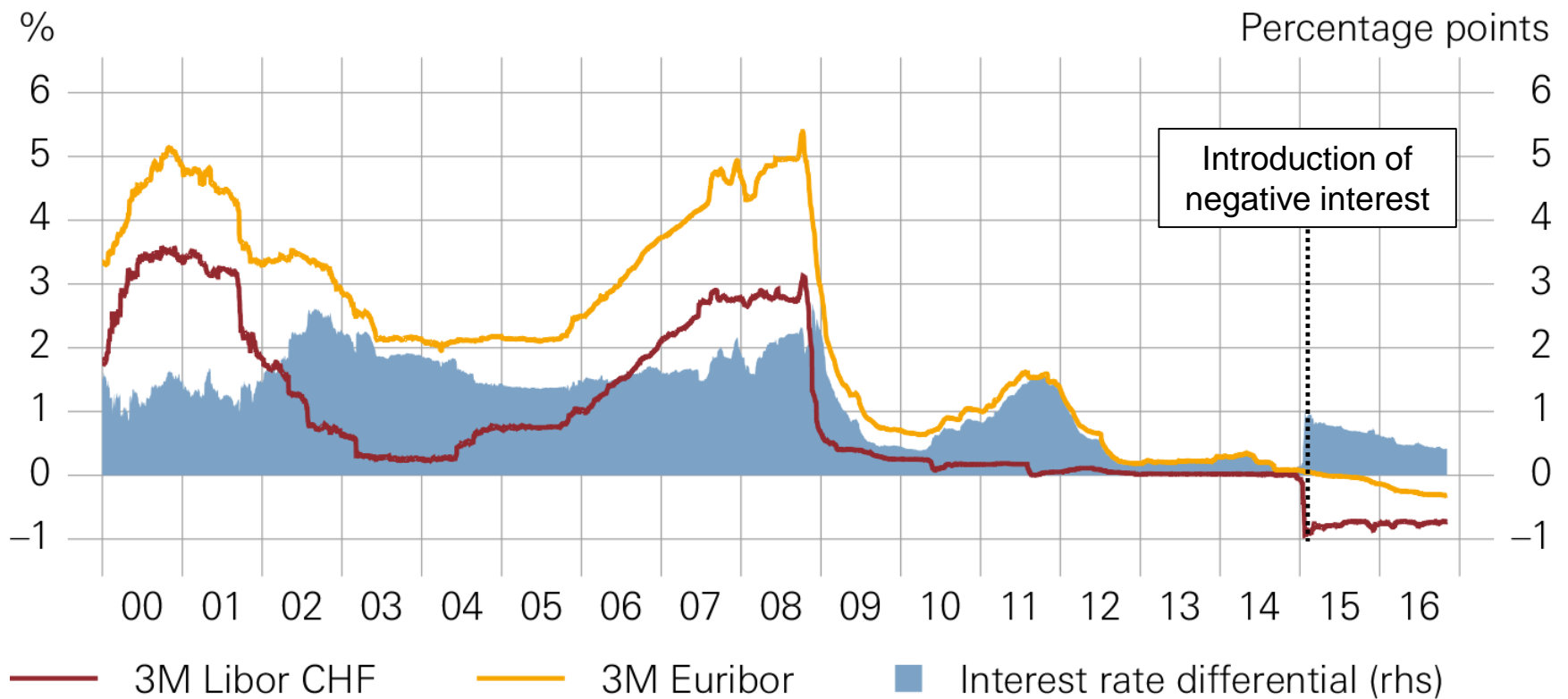
Month-end values, nominal



Sources: Bloomberg, SNB

Slide 3

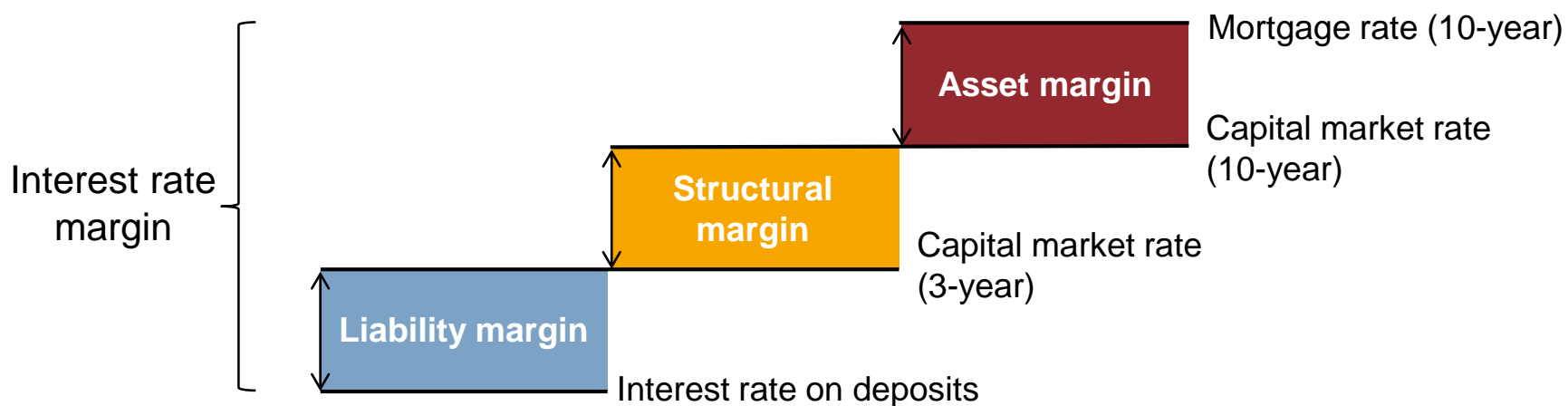
SHORT-TERM INTEREST RATES



Sources: Bloomberg, SNB

Slide 4

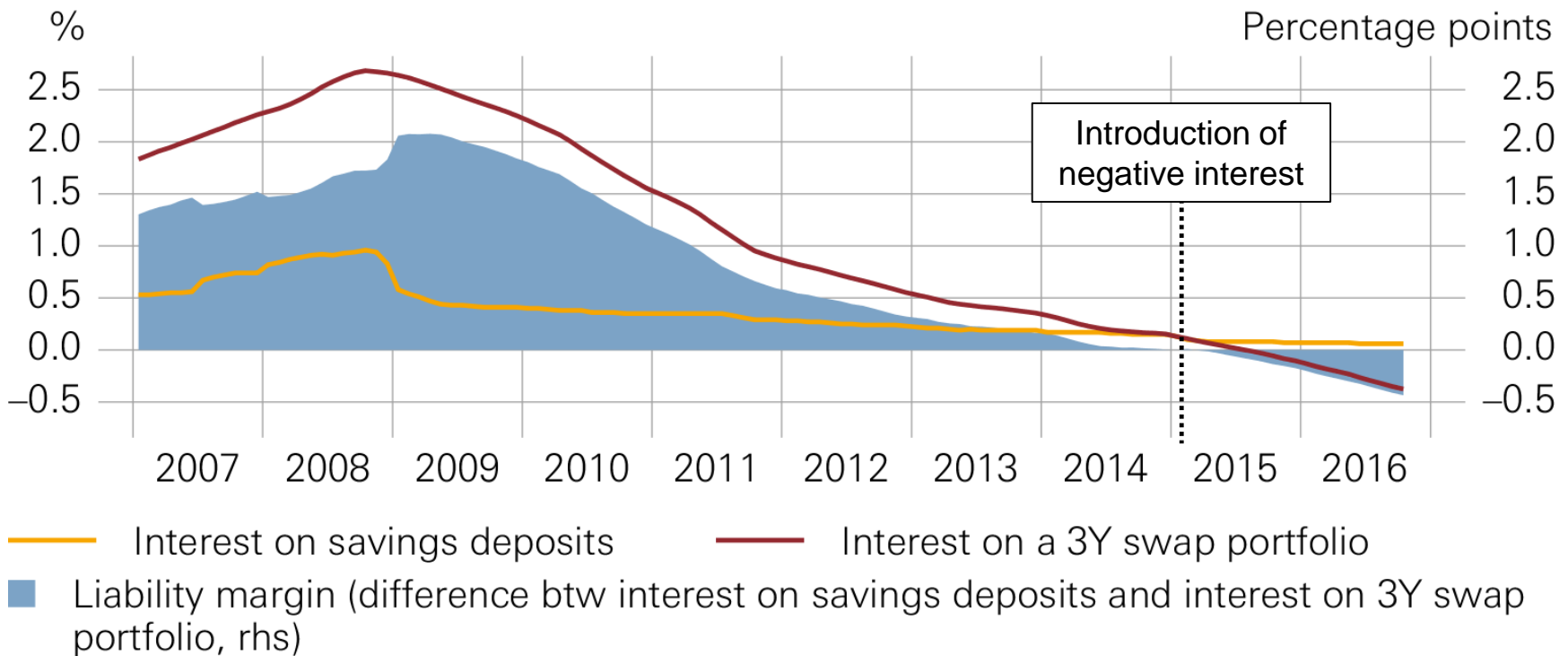
COMPOSITION OF BANKS' INTEREST RATE MARGIN (STYLISED)



Slide 5

LIABILITY MARGIN (APPROXIMATION)

Month-end values



Sources: Bloomberg, SNB

Slide 6

CONTRIBUTIONS BY BUSINESS AREAS TO NET EARNINGS 2015

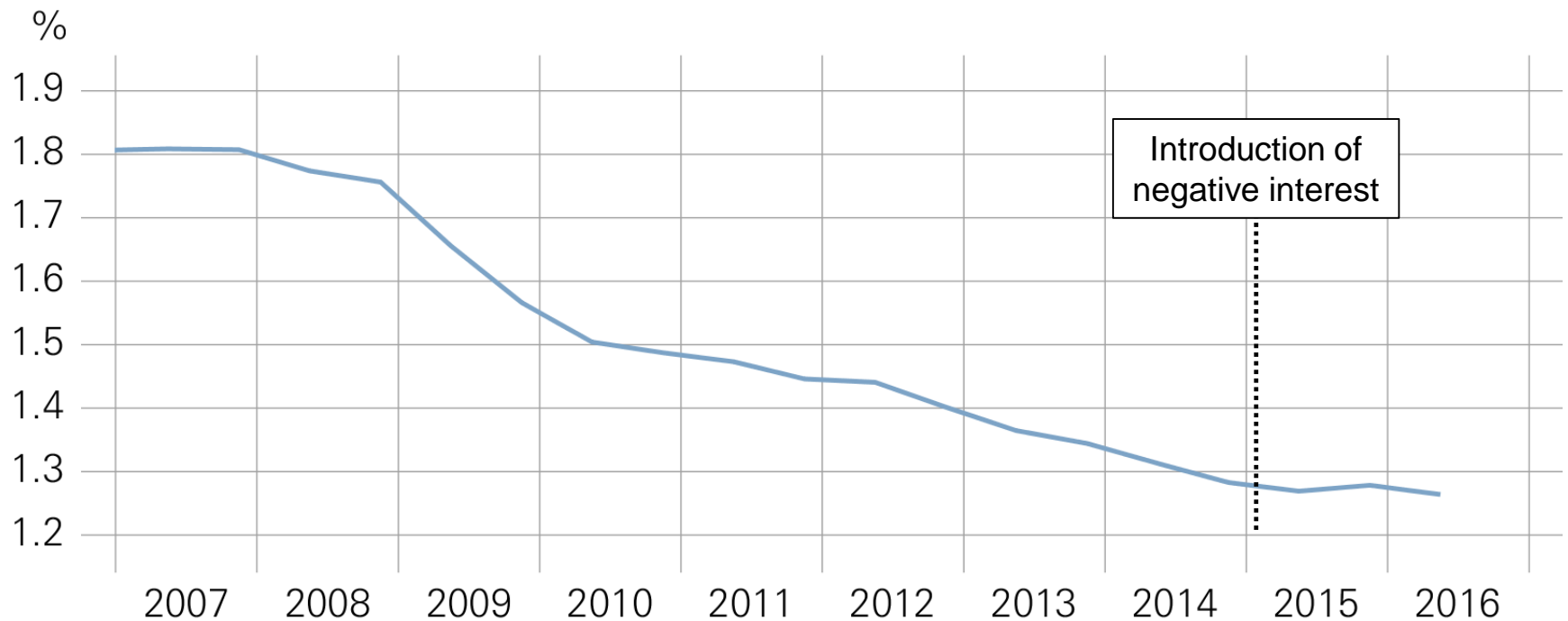
	Swiss banks	European banks	Swiss domestically focused banks
Interest business	37%	58%	67%
Commission business	35%	27%	19%
Trading business	13%	9%	9%
Other	14%	6%	5%

Sources: ECB, SNB

Slide 7

INTEREST RATE MARGIN OF DOMESTICALLY FOCUSED BANKS

Weighted average

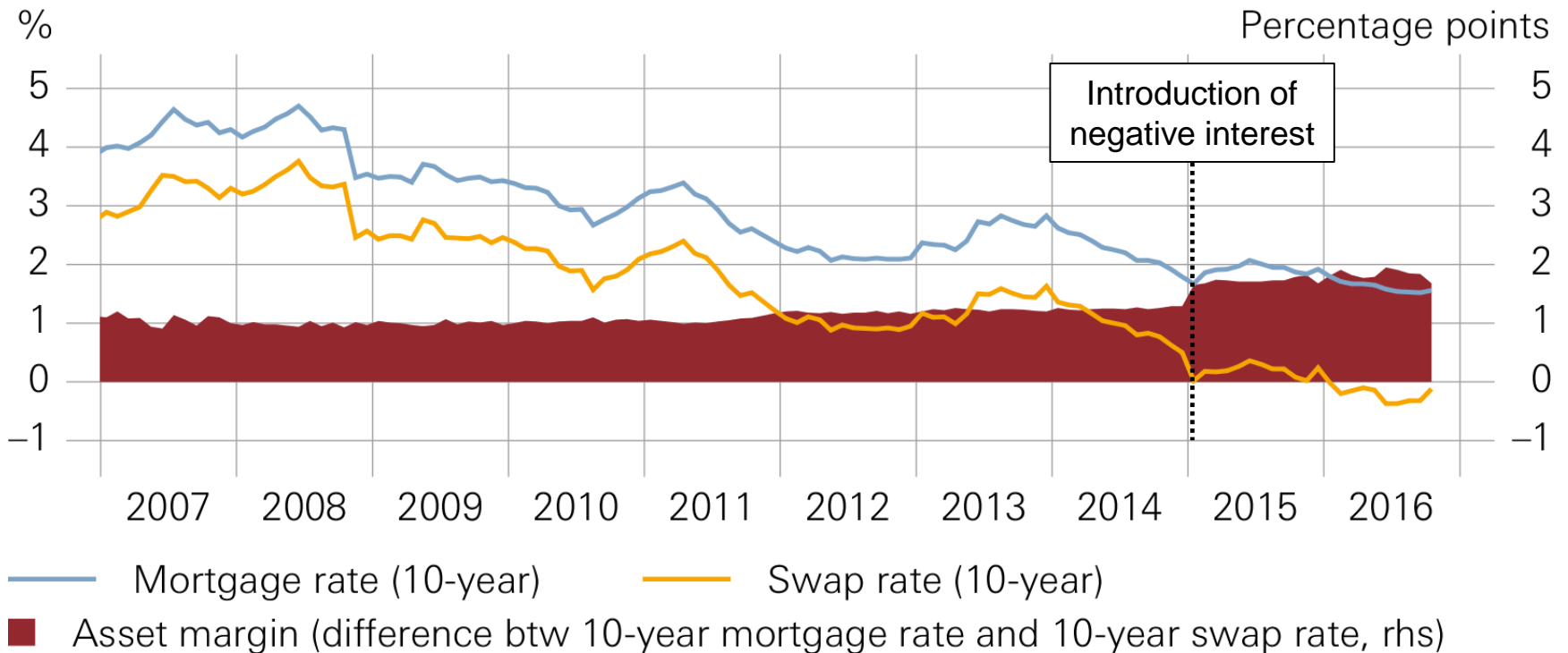


Sources: FINMA, SNB

Slide 8

ASSET MARGIN

Month-end values

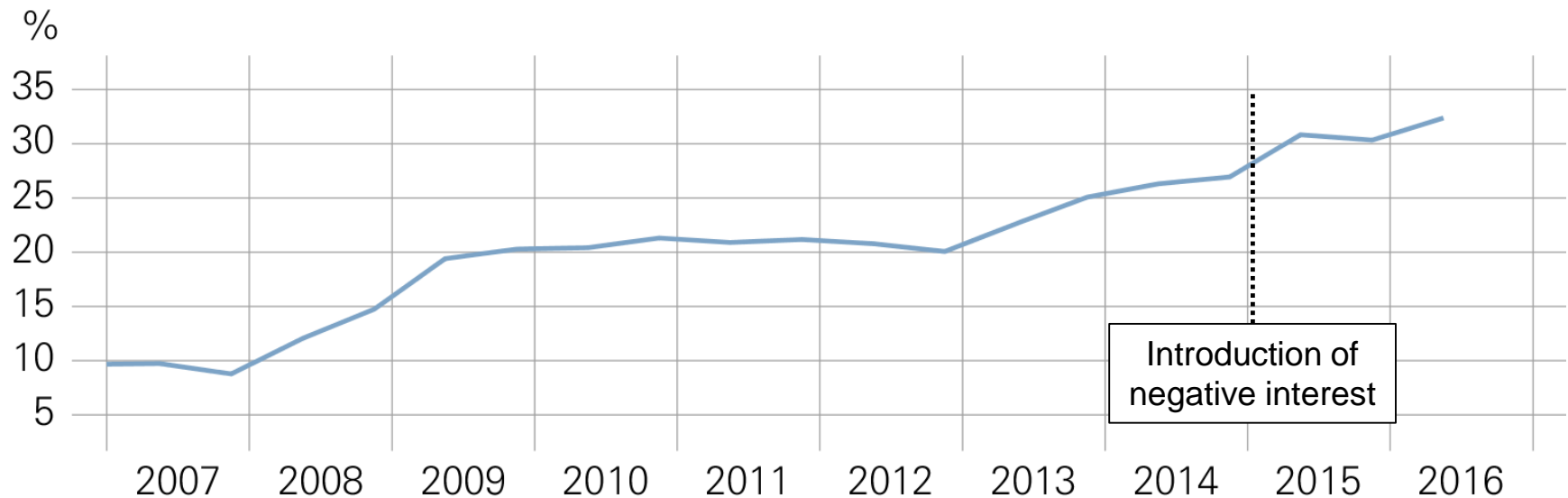


Sources: Bloomberg, SNB

Slide 9

INTEREST RATE RISK OF DOMESTICALLY FOCUSED BANKS

Net present value loss if 200 basis point interest rate rise, as percentage of Tier 1 capital



Replication assumptions: repricing maturities of 1.5 years for savings deposits and variable rate mortgage claims; 15 days for sight deposits.

Sources: FINMA, SNB

Thank you for your attention.

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