Fritz Zurbrügg: The Swiss National Bank's investment policy – options and limitations

Speech by Mr Fritz Zurbrügg, Member of the Governing Board of the Swiss National Bank, at the Money Market Event, Zurich, 27 March 2014.

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Accompanying charts can be found at the end of the speech or on the Swiss National Bank's [website](#)

The speaker would like to thank Dirk Faltin and Adriel Jost for their valuable support in preparing this speech. He is also indebted to Erich Gmür, Marco Huwiler and Sandro Streit for their insightful comments.

Ladies and Gentlemen

I would like to welcome you to our traditional Money Market Event in Zurich. I am delighted that so many of you have responded to our invitation. The focus of my comments today will be the investment policy of the Swiss National Bank (SNB), since it is now exactly ten years since the new National Bank Act (NBA) came into force, opening up new options for the SNB in the management of its foreign exchange reserves. Today I want to take the opportunity of presenting an assessment and acquainting you with the most important aspects of our investment policy. One of the most important and striking changes since 2004 has been our investments in equities and I will therefore focus particularly on our equity investments in my remarks. Following my presentation, my colleague Dewet Moser will take a closer look at developments on the foreign exchange and money markets.

Monetary policy conditions

Our investment policy differs in a number of ways from that of other large investors, whether they be private sector investors or sovereign wealth funds. This is due to the SNB's special role. As an independent central bank, the SNB conducts Switzerland's monetary policy. Our investment policy is always subordinated to monetary policy and can only be understood in the context of this policy, which is currently shaped by the minimum exchange rate of CHF 1.20 against the euro. We introduced the minimum exchange rate in September 2011, and since then we have enforced it consistently. You will recall how, at the time, the debt crisis in the euro area was threatening to deteriorate. The upward pressure on the Swiss franc was immense. For the SNB, it was important to ensure price stability and avert serious damage to the Swiss economy. Seen from the current perspective, this was certainly achieved.

Two and a half years after its introduction, the minimum exchange rate remains a key element in the SNB's monetary policy, and just last week, at our monetary policy assessment, we decided that it should be maintained. Although the recovery of the global economy continued in the fourth quarter of 2013, substantial risks remain. In addition, the conditional inflation forecast for Switzerland has been adjusted downwards in comparison to December. Internationally declining inflation rates and the slightly stronger Swiss franc are delaying the rise of inflation into positive territory. The SNB is now expecting inflation of 0% in the current year and 0.4% in 2015. In 2016, inflation should increase to 1.0%. Furthermore, the value of the Swiss franc is still high. With the three-month Libor close to zero, the minimum exchange rate continues to be the right tool to avoid an undesirable tightening of monetary conditions in the event of renewed upward pressure on the Swiss franc.

Through the minimum exchange rate, therefore, we are in a position to fulfil our price stability mandate. However, the consistent enforcement of the minimum exchange rate has contributed to the substantial increase in our currency reserves. Slide 1 shows that, since 2009, our currency reserves have increased by a factor of about six, and the foreign exchange reserves are almost ten times higher. Our foreign exchange reserves, that is, currency reserves excluding gold, currently amount to almost CHF 450 billion, which is over 70% of Switzerland's annual economic output. The expansion of our foreign exchange reserves means that our balance sheet is more exposed to the volatility of the financial markets than it used to be. Even slight price changes can have a strong influence on our investment performance. This has made our investment policy even more challenging. However, thanks to established processes and a high level of expertise, we are in a position to meet these demands.

History of investment policy at the SNB

At the SNB, the move towards a sustainable investment policy aimed at optimising risk and return began as early as the 1970s. At that time, the management of foreign exchange reserves focused exclusively on the highest possible level of security and liquidity. Imagine a situation whereby, until 1978, a residual term of only three months was a legal requirement. As a result, foreign exchange reserves consisted primarily of short-term US dollar investments, particularly US treasury bills. This led to considerable concentration risk. At the same time, the potential return was extremely low.

Despite narrow statutory provisions and market-related limitations, the SNB tried to make use of the existing room for manoeuvre as regards returns. However, it was not until after the partial revision of the NBA in 1997 that strategic importance was attached to the generation of returns. This became possible because of the abolition of the maximum residual term of one year for foreign exchange reserves, which had applied until then.

A further important step towards a sustainable investment policy was the entry into force of the fully revised NBA in 2004. Although, at the time, the changes to investment policy did not attract much public attention, they were very important for the SNB's investment activities. Within the monetary mandate, investment policy was defined as one of the SNB's core tasks for the first time. Moreover, most statutory restrictions with regard to investment instruments were removed. And so the foundation was laid for a modern investment policy whose aim is to optimise the risk/return relationship for assets. However, this was only possible to the extent allowed by monetary policy, which has always had priority over investment policy considerations.

In addition to expanding the SNB's freedom of action, investment and risk control processes were fundamentally adapted and adjusted to the new requirements from 1997 onwards. As a result, the SNB frequently found itself in the role of central bank pioneer, not only as regards the choice of investment instruments, but also in the area of investment processes. It is with some pride that I can report how, in recent years, we have received enquiries from other central banks about our investment processes. The SNB has also played a pioneering role with regard to transparency. The composition of our investments is, to a large extent, accessible to the public. Indeed, the SNB is one of the few central banks which publishes both its investment allocation and the net result on foreign currency positions on a quarterly basis.

Investment policy committed to security, liquidity and return

Nowadays, therefore, when investing our currency reserves, we base our decisions on the criteria of security, liquidity and return. The currency reserves of a country serve primarily as a means to prevent and overcome crises. In order to fulfil this function, they must, in essence, be liquid. In the past, the SNB defined liquidity by specifying the term of the bonds. The shorter the residual term, the more liquid the investment appeared to be. Consequently, until well into the 1990s, the SNB's foreign exchange reserves consisted almost exclusively of government paper with very short terms.

With time, the concept of liquidity has changed. For a long time now, we have been defining liquidity according to the potential for a rapid sale with the minimum possible impact on the market, rather than as a function of the terms of our bonds. In this case, minimum impact on the market means that, essentially, we wish to avoid significant price movements. In order to guarantee this, we hold a substantial portion of the currency reserves in liquid government bonds, in the most important global currencies. Together with our deposits at other central banks, these investments presently account for some three-quarters of our foreign exchange reserves. You can see the current breakdown of our foreign exchange reserves on the left-hand side of slide 3.

For the criterion of security, the focus is on limiting market and credit risk. In this case, the decisive role is played by diversification across different currencies and instruments. We engage in currency diversification by holding our foreign exchange reserves in the currencies of all large advanced economies; the highest percentages are accounted for by the euro (48%) and the US dollar (27%), as you can see from the chart on the right-hand side of slide 3. Looking at the individual currencies, diversification occurs via the different investment instruments. As I have already mentioned, since the full revision of the NBA in 2004, additional bond categories such as corporate bonds and the bonds of foreign authorities, as well as equities, have been available.

The diversification effect of equities versus government bonds can be seen in slide 4. For this chart we divided up the distribution of all daily returns on the US S&P 500 stock market index since 1999 into ten equally large groups or deciles. Then we ordered the deciles according to size of returns. The decile with the worst returns is on the left-hand side and that with the best returns is on the right. Subsequently, we assigned the associated US government bond returns to these deciles. As you see, there was a good diversification effect between equities and government bonds. This result is not hard to understand intuitively. During the cyclical upswing, when interest rates are increasing, prices of government bonds come under pressure, while equity prices benefit from the improvement in the economy and the better profit outlook for companies. Last year, this negative correlation was very clear and the diversification effect between equities and government bonds was particularly strong.

However, these interrelationships apply for returns in local currency, while for us, what is critical is – ultimately – the return in Swiss francs. Here the situation looks somewhat different. This is because equity prices often correlate negatively with the external value of the Swiss franc. You can see this relationship in slide 5. The chart is based on the same approach as in the previous slide. It is easy to see that periods of poor stock market performance correspond to an appreciation of the Swiss franc, and vice versa. When equities lose value, this generally occurs in an environment of increased uncertainty in the economy and on the financial markets. In such situations, demand for the Swiss franc is particularly strong due to its character as a safe haven. The value of our equity positions is then subjected to a double loss, first the price loss and second the appreciation of the Swiss franc against the foreign currencies in which the equities are denominated. So the diversification effect of our equity investments is diminished, to some extent, by this currency effect. We cannot safeguard ourselves by hedging an appreciation in the Swiss franc because this would be tantamount to selling foreign exchange reserves against Swiss francs, and an investment decision could thus have a monetary policy effect. This example shows how monetary policy considerations limit investment policy's room for manoeuvre.

A certain diversification effect can also exist between equities and gold. In times when uncertainty is high, the gold price often increases, while equity prices come under pressure. The opposite can occur when uncertainty decreases significantly. This was particularly evident last year, when the gold price underwent a significant correction after climbing for many years. Of course we cannot rely on this kind of diversification effect always holding. However, when it does, it is very welcome.

Returns important for preservation of real value

That brings me to the third criterion for our investment activity – return. I would like to stress that the SNB is not concerned with maximising return for its own sake. Rather, return is inextricably linked to the criterion of security. Our goal is to ensure that the purchasing power of the currency reserves at least is maintained over time. That, in turn, presupposes that the long-term return we earn on our investments is equal to or greater than the average rate of inflation. Bear in mind that we are aiming to preserve real value in Swiss francs, not in local investment currencies. This means that a certain amount of positive return in local currencies is needed, if only to balance out the currency losses incurred in periods when the Swiss franc is appreciating.

To improve the long-term relationship between risk and return, government bonds in our portfolio are supplemented by the additional investment categories I have already mentioned. Generally, the potential returns on equities are greater than those on government bonds issued by the major advanced economies. They can therefore make a contribution to preserving the real value of the currency reserves. To be more precise, equities increase the probability of preserving the real value of the currency reserves. This applies, in particular, in view of the current low (or negative) real returns on government bonds in core markets. So it is not surprising that equity investments have become more important for central banks in recent years.[1]

How high should the equity share be?

I will now talk in more detail about our investments in equity. So far I have explained why the SNB invests in equity. In the next few moments, I would like to explore two questions: first, how high should the equity share in our portfolio be, in rough terms? Second, how are investments carried out on the stock market? Slide 6 shows that, between 2005 and 2010, our equity share was around 10%. Furthermore, you will see that, since 2011, we have gradually increased the share so that it now amounts to 16% of foreign exchange reserves**.**

When determining the equity share, the challenge is to optimise the risk/return relationship in the portfolio. As the saying goes among investors: if you want to eat well, buy shares, if you want to sleep well, buy bonds. The idea behind this old stock market saying is that, compared to most government bonds, equities have a higher potential return but are generally more risky. Nevertheless, we need to begin by taking account of the diversification effect of the equity investments. The interrelationships can be seen if we look at the stylised efficient frontier path shown in slide 7. We start with a portfolio consisting solely of government bonds (point A in the chart), and then start adding equities to the portfolio. In the initial stages the risk and returns structure of the portfolio improves. The expected return increases and the expected risk decreases. However, once a given equity share is exceeded, at point B, a trade-off between risk and return begins. At this stage, each further increase in potential return has to be ‘bought’ at the cost of increased risk. In the extreme case, we reach the situation of a portfolio consisting solely of equities (point C). The equity share we are aiming for is obtained by weighing up additional risk against higher potential return.

After potential return and risk have been weighed up in this way at the SNB, what does the final result look like? Fundamentally, our efficient frontier presents less attractive risk/return combinations than in the case of many other investors. That means our efficient frontier tends to look more like the right-hand curve in slide 7. In addition, the point at which a further

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1 According to a survey published in early 2013, only eight of 60 central banks worldwide held equities as part of their currency reserves at that time. A further six central banks stated that they intended to diversify into equities in the future (cf. Pringle, Robert and Nick Carver, eds. 2013, *RBS Reserve Management Trends 2013*, London, Central Banking Publications).

increase in the equity share means a rise in total risk (point B') is reached earlier than in the left-hand curve. I have already talked about the reasons for this. First, we can naturally only hold currency reserves in foreign currencies and not in Swiss francs. Second, the Swiss franc has the character of a safe haven at times of increased uncertainty in the economy and on the financial markets. Thus I have shown how there is a frequent negative correlation between equity prices and the external value of the Swiss franc. Third, I have also drawn attention to the fact that we have to carry the currency risk against the Swiss franc, since for monetary policy reasons we cannot hedge it. These factors constitute significant limitations on the diversification effect of our equity investments. Ultimately, they mean that the SNB's equity share is fundamentally lower than in the case of many other investors. The point at which we wish to position ourselves on the efficient frontier between B' and C' depends on how we weigh up additional risk and higher return. At present, this weighing-up produces the equity share of 16% which I mentioned before.

The SNB as a passive investor

How does the SNB carry out its equity investments? In brief, the SNB is a passive investor in the stock market. In other words, the SNB basically does not select individual equities. Instead, we use rule-based procedures to invest in a very broad equity universe. At present, the SNB holds some 6,000 securities in more than ten currencies. The equity universe on which our equity investments is based covers some 90% of global market capitalisation. We mainly invest in mid and large cap companies. This makes sense, particularly in view of the special liquidity requirements I have already mentioned. In addition, we also place funds in small cap companies. In terms of market capitalisation these holdings only account for a small portion of our equity portfolio, but in numbers they make up about three-quarters of all the securities we hold. This, too, shows the breadth of our equity universe. When selecting our equities, we use a benchmark. This is a combination of various commonly used indices, assembled by us. As soon as we have determined the benchmark, equity investment becomes a largely automatic process.

Why does the SNB not make targeted investments in individual companies or sectors where an above-average return can be expected? In other words, why do we not engage in stock picking? Warren Buffett is quoted as having said, wide diversification is only required when investors do not understand what they are doing. I can assure you that our investment specialists have an excellent understanding of what they are doing. However, we choose to have recourse to a broad equity universe for the following four reasons. First, we achieve a greater diversification effect within the equity segment by investing as widely as possible, across both regions and sectors. Second, it should not be our objective to enforce strategic or, indeed, political interests by means of our investments in individual companies. This could limit our monetary policy room for manoeuvre and would also make our position vulnerable. Due to the size of our foreign exchange reserves, the SNB could quickly acquire large shares in companies, and this might be misconstrued as strategic participations in the event of active management of our equity holdings and corresponding overweightings in some areas. Our strategy ensures that holdings in individual companies remain low. Third, through a passive strategy we can minimise our market influence, since our policy does not cause us to give preference to individual securities or sectors. Fourth, our investment horizon is very long-term, that is, it spans several business cycles. The academic literature shows that, taking account of the costs, it is almost impossible to beat a broad stock index in the long term and systematically.[2]

[2] Cf. Carhart, Mark M. 1997. On Persistence in Mutual Fund Performance. *The Journal of Finance* 52 (1): 57–82; also Fama, Eugene F. and Kenneth R. French. 2010. Luck versus Skill in the Cross-Section of Mutual Fund Returns. *The Journal of Finance* 65 (5): 1915–1947.

However, there are two areas in which we limit our investment universe in a selective manner. First, we exclude mid and large cap banks from our portfolio in order to avoid conflicts of interest. Second, we do not include companies that are in gross violation of ethical principles. I will explain these two points in more detail.

Conflicts of interest with regard to investments in mid and large cap banks can come about because, according to its mandate, the SNB is also required to contribute to the stability of the financial system. Under certain circumstances, this can mean that the SNB has an information edge over the market with respect to the financial situation of individual banks. In order to avoid any suspicion that the SNB might make use of this information edge in its position as an investor, we completely exclude all investments in equities of such banks. Moreover, by doing so, we prevent market participants from attributing any signal effects to our transactions. On the question of conflicts of interest, I would also like to stress that, as a matter of principle, the SNB does not own equities in any Swiss companies for investment purposes.

Should equities of individual companies be excluded from the investment universe on the basis of ethical criteria? We have been discussing this question for a considerable time and last year we made a fundamental decision. We do not invest in companies that blatantly infringe certain ethical principles. This decision was already implemented in the fourth quarter of 2013. To be specific, we do not hold equities in companies which produce internationally banned weapons, seriously violate fundamental human rights or systematically cause severe environmental damage. We believe that it is in the best interests of monetary policy if the SNB achieves sound investment returns through the widest possible diversification. Consequently, for us it is not a matter of excluding entire sectors or industries. On the contrary. We simply wish to exclude those companies for which there is clear evidence of a serious violation against the principles mentioned. Therefore the number of companies involved is very limited.

How do we implement this? We are convinced that it would not be practicable for the SNB to examine the conduct of dubious companies itself. In our view, the SNB's tasks and competences do not include the filtering-out of such companies. For the implementation, we therefore use analyses by established institutions with relevant experience. These help us to constantly review which companies fulfil the predefined exclusion criteria.

You will understand that we do not provide any detailed information on the exclusion procedures or the equities involved. As I mentioned at the beginning, the SNB always endeavours to maintain a high degree of transparency and, in this respect, goes further than other central banks, especially when it comes to its investment policy. Nevertheless, it is also an established principle that we do not reveal any details about the various external providers whose services we employ in our operations. The same applies to details about the indices we use, or, indeed, the individual securities. Such information could trigger undesirable movements in the market, which would go against our principle of ensuring the minimum possible impact on the market. In addition, this information could also limit our investment policy room for manoeuvre and thereby have a negative impact on the investment results.

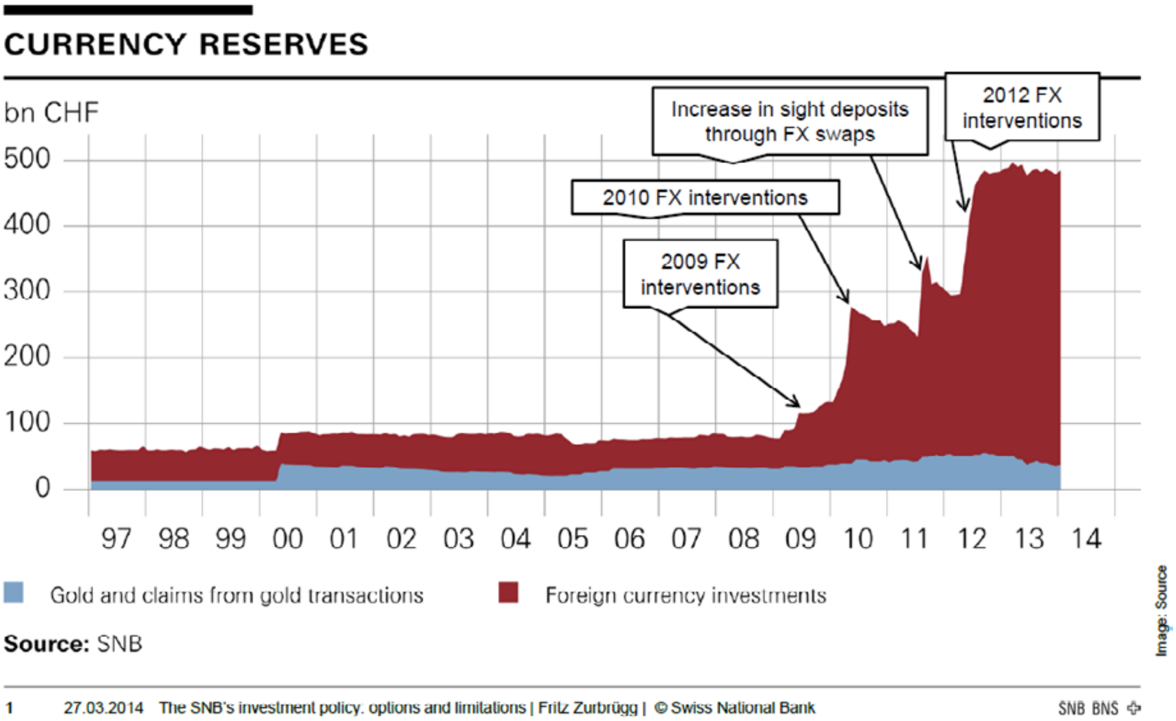
Final considerations

The NBA of 2004 gave the SNB new options in investment policy. We used these for a consistent and comprehensive further development of our investment policy. In particular, we significantly improved the risk/return profile of our foreign exchange reserves through a number of diversification measures. As I have shown, our equity investments played an important role in this process.

However, although the SNB is a large global investor, its main task is monetary policy in the service of the Swiss economy. Consequently, monetary policy affects both the size of our investments and the criteria and principles we apply in managing them. My comments have shown that the options available to our investment policy are limited in several areas by the primacy of monetary policy. This includes the fact that we cannot hedge currency risks with respect to the Swiss franc.

These limitations are sometimes reflected in the annual results. Even though we have continually extended our investment policy, thereby improving our return options, there have occasionally been years in the past with negative results. This may be repeated in the future. Given the current level of our foreign exchange reserves, a small loss in percentage terms can mean a high figure in Swiss francs.

That is why it is all the more important for me to stress, once again, the SNB's main task, which is monetary policy. The success of the SNB cannot be measured in terms of our annual results but by whether we fulfil our mandate, which is to ensure price stability while taking account of the development of the economy. In order to fulfil this task, the minimum exchange rate remains necessary for the foreseeable future. And so we return to the starting point of my presentation. I will repeat what I said before, that only the minimum exchange rate can prevent an undesired tightening of monetary conditions, should the upward pressure on the Swiss franc increase once again. Should it become necessary, we will therefore enforce the minimum exchange rate by buying foreign currency in unlimited quantities.



Milestones in the SNB's investment policy

1978: PARTIAL REVISION OF NBA

- Maximum residual term of foreign exchange reserves up from 3 to 12 months

1997: PARTIAL REVISION OF NBA

- Maximum residual term abolished
- Generating returns becomes a criterion

2004: FULL REVISION OF NBA

- Most restrictions on investment abolished

Table: Source

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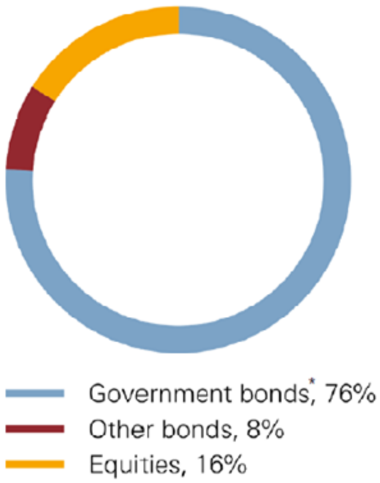
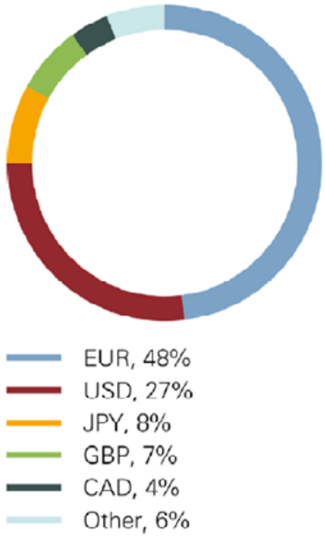
INVESTMENT CATEGORIES
Q4 2013



* Including deposits at central banks and the BIS

CURRENCY ALLOCATION
Q4 2013



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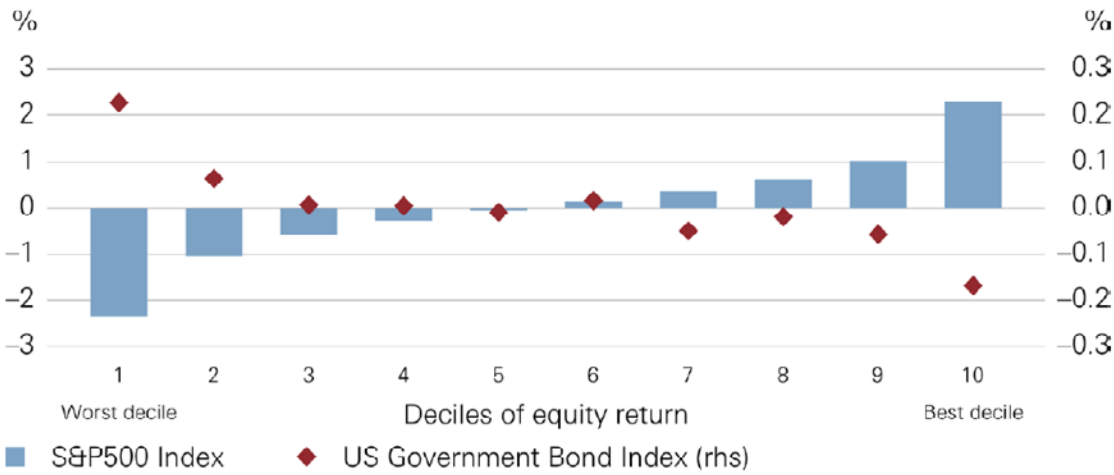
When equity performance is poor, bonds gain in value

EQUITY VS. BOND RETURNS
Since 1999 (daily returns)



Sources: SNB, Datastream

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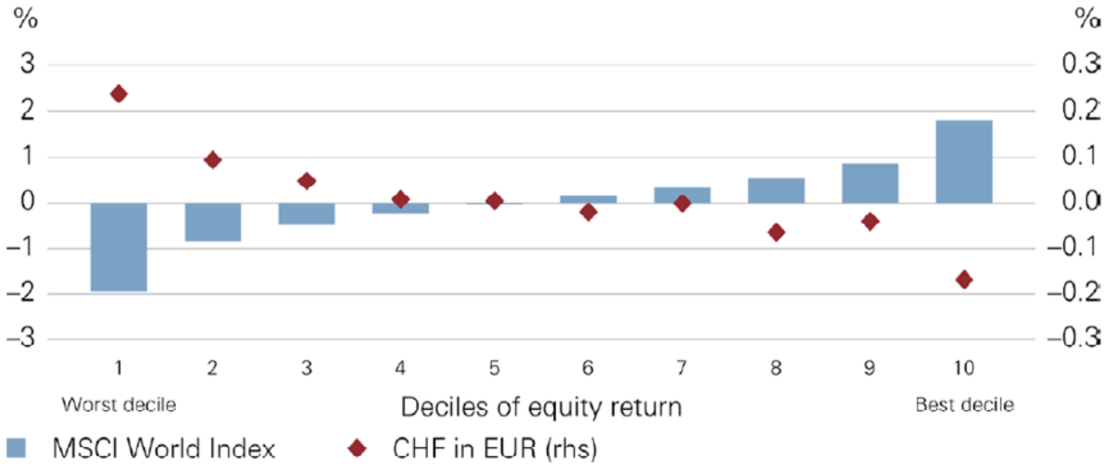
The SNB's special situation: Swiss franc as a safe haven

EQUITY RETURNS VS. EURO TO SWISS FRANC EXCHANGE RATE

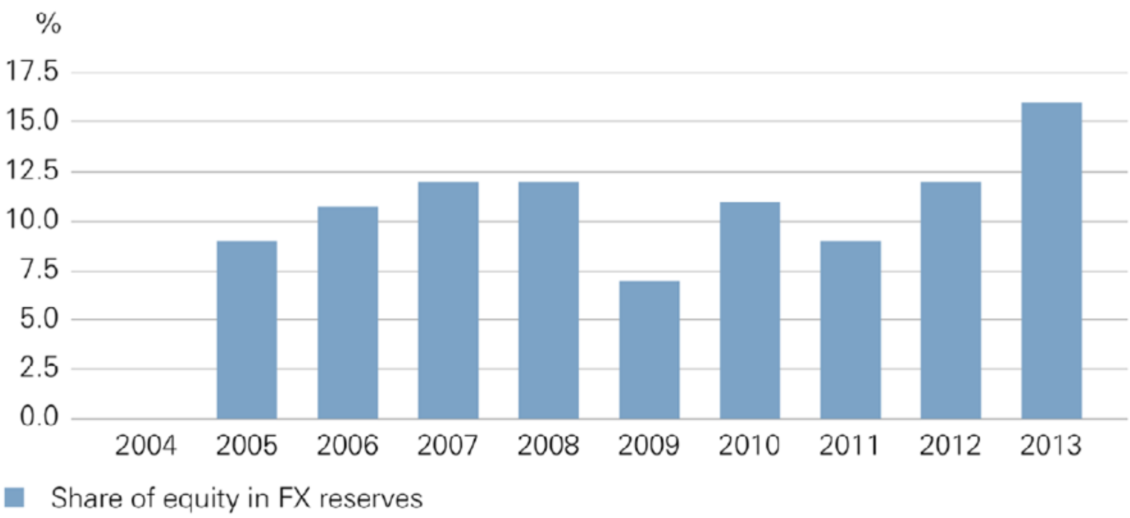
Since 1999 (daily returns)



Sources: SNB, Datastream

Equity share increasing to, most recently, 16%

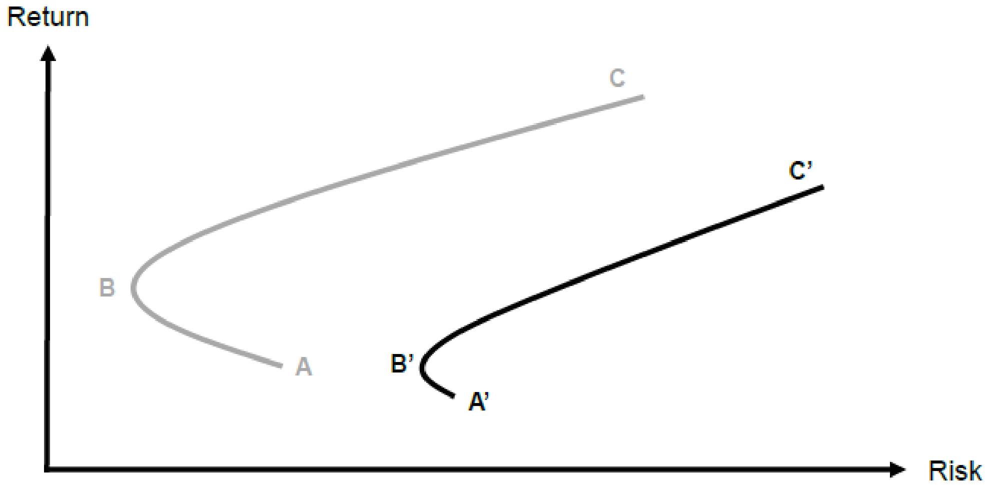
SHARE OF EQUITY IN FX RESERVES



Source: SNB

How high should the equity share of our portfolio be?

EFFICIENT FRONTIER



The SNB as a passive investor

EQUITY UNIVERSE

- Approximately 6,000 securities in over 10 currencies
- Equity universe covers about 90% of global market capitalisation

WHY DOES THE SNB NOT ENGAGE IN STOCK PICKING?

- Diversification effect greater within equity segment
- SNB not a strategic investor
- Aim is to minimise impact on the market
- Almost impossible to beat a stock index systematically

EXCEPTIONS

- Avoiding conflicts of interest: medium and large cap banks
- Companies in gross violation of ethical principles

Final considerations

- NBA 2004 gave the SNB new options in investment policy
- Risk/return profile improved thanks to various diversification measures
- But options in our investment policy limited by primacy of monetary policy
- Some years with losses can always be expected
- SNB's success measured by how it fulfils its mandate, not in terms of annual results