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Climate risks and central banks: an SNB perspective
Money Market Event

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Ladies and Gentlemen

I wish you a warm welcome to the Swiss National Bank's second Money Market Event in 2019.

The SNB's monetary policy continues to evolve in a particularly dynamic context. The global growth outlook is clouded by considerable uncertainty – principally of a political, geopolitical and economic nature. This general environment is reflected in the Economic Policy Uncertainty Index developed by Baker, Bloom and Davis. As you can see in **chart 1**, this index hit a new high in August 2019. The level of uncertainty captured in the index is currently almost three times above its historical average. Among other things, this context has exerted strong downward pressure on long-term interest rates – indeed, this pressure has been stronger than macroeconomic indicators have suggested in recent months.

Our monetary policy has to navigate these obstacles in order to ensure appropriate monetary conditions for the Swiss economy. At our September monetary policy assessment, we decided to leave our expansionary monetary policy stance unchanged. The SNB policy rate is unchanged at -0.75% and we remain willing to intervene in the foreign exchange market as necessary.

At our quarterly monetary policy assessment, we also adjusted the method we use to calculate the negative interest rate we charge on banks' sight deposits at the SNB. This adjustment takes into account the fact that interest rates could remain low around the world for a long time to come. We want to limit the burden our negative interest rate represents for banks and the economy, as long as this is compatible with steering monetary conditions in Switzerland.

Climate change: a major economic challenge

In addition to these economic and political uncertainties, the global environment faces other longer-term challenges, such as those relating to climate change. This evening, I'd like to focus on the economic and financial risks that emanate from global warming and associated climatic events on the one hand, and from measures implemented to support the transition to a low-carbon economy on the other. I shall also explain how, within the scope of its monetary policy mandate, the SNB factors these risks into its deliberations and actions.

Economists began to view climate change as a major challenge in the 1970s and this topic has since been the subject of numerous studies.¹ Furthermore, in 2018, the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, the equivalent of the Nobel Prize in economics, recognised William Nordhaus for his work on integrating climate change into long-run macroeconomic analysis.

¹ Nordhaus, W.D. (1977), 'Economic growth and climate: The carbon dioxide problem', *American Economic Review* 67(1), pp. 341–346.

It may seem obvious, but it is worth reminding ourselves that our planet has undergone numerous climatic changes throughout history. However, in the past, these changes have essentially been the result of natural forces. Today, global warming is largely attributable to human activity – and the rate of warming is faster than it has been in the past.²

Climate change is a negative side-effect of economic activity – what economists call a ‘negative externality’. The externality arises because the costs caused by the emission of CO₂ and other greenhouse gases are not borne by the emitters. When economic agents emit CO₂, they do not internalise the effect of these emissions on the planet or on future generations. This is a classic ‘tragedy of the commons’ scenario:³ the atmosphere – a shared or ‘common’ resource that is available to us all but belongs to no one – is being overexploited and degraded.

The mechanism underlying the ‘tragedy of the commons’ is well understood and documented by economic theorists. Yet, in the case of global warming, several factors are in play that make the phenomenon difficult to grasp and remedy. First, both climate change and its effects on the economy are hard to estimate with any degree of accuracy.⁴ Second, the impact of climatic phenomena is transnational and this complicates efforts to respond appropriately. Third, the effects of climate change are felt incrementally and over a very long timescale, which includes future generations. The needs, precise aspirations and technical capabilities of these future generations are, by definition, unknown and therefore difficult to integrate into the analysis. And finally, the effects of climate change are potentially irreversible.

How can this problem be solved? When economic agents fail to take sufficient account of the cost of their actions, economic theory recommends introducing a tax which incentivises them to adapt their behaviour. In the case of climate risks, a carbon tax can be used to incentivise individuals and organisations to reduce their emissions of CO₂, the main greenhouse gas.⁵ The theory may be clear; however, important considerations, such as setting and realising an overarching objective, require political dialogue. These considerations are not part of the SNB’s mandate.

The SNB contributes to the stability of the economy as a whole, and it is not within its legal remit to promote or hinder any particular economic or societal development. The SNB can only credibly and effectively fulfil its mission of maintaining price stability if it concentrates on the monetary policy tasks assigned to it by law.

² Hsiang S. and R.E. Koop (2018), ‘An economist’s guide to climate change science’, *Journal of Economic Perspectives* 32(4), pp. 3–32.

³ Hardin, G. (1968), ‘The tragedy of the commons’, *Science* 162(3859), pp. 1243–1248.

⁴ Nordhaus, W.D. (2018), ‘Projections and uncertainties about climate change in an era of minimal climate policies’, *American Economic Journal: Economic Policy* 10(3), pp. 333–360.

⁵ Böhringer, C., J.C. Carbone and T.F. Rutherford (2016), ‘The strategic value of carbon tariffs’, *American Economic Journal: Economic Policy* 8(1), pp. 28–51. For a critical assessment of the significance and effectiveness of a carbon tax and other instruments, see IMF Fiscal Monitor ‘How to mitigate climate change’, October, pp. 3–13.

But if it is not part of the SNB's remit to intervene in these issues, why are central banks interested in climate risks?

Why are central banks interested in climate risks?

To fulfil their mandate, central banks must understand how climate change risks influence the functioning of the economy and the financial system – and hence price stability and financial stability.

Economists classify climate risks into two categories: physical risks and transition risks.

Physical risks include the direct material effects of climate change on income and production capacity. For example, severe storms can damage factories and transport infrastructure and disrupt value chains that are essential to international trade.

In the first instance, physical risks cause supply shocks. These shocks result in a drop in production in the affected sectors and tend to engender temporary price increases. However, the overall impact of such events on economic activity is not obvious, as spending on reconstruction stimulates growth in the short term.

Certain physical risks can also affect the functioning of the economy on a longer-term basis. In particular, measures taken to mitigate the effects of climate change mobilise resources that could otherwise be invested more productively. For instance, rising water levels may mean that dams have to be reinforced and maintained. In Switzerland, milder winters are reducing snow cover, which in turn is causing perennial problems for winter tourism, especially in low-lying areas.⁶ Furthermore, uncertainty about the frequency and intensity of extreme weather events in the future may affect companies' confidence levels and reduce their willingness to invest, thereby weighing on longer-term growth prospects. And finally, physical risks associated with climate change impact the financial system. Insurers are, of course, the first to be exposed to property damage in the wake of extreme and ever more frequent events such as floods, landslides and fires. These same events could also hamper the functioning of financial market infrastructures. In Switzerland, however, the practice of mandatory redundancy (e.g. multiple data centres with different risk profiles) should ensure business continuity even in the event of major natural disasters.

With respect to commercial banks, these types of event increase credit risk as they can cause the value of assets pledged as collateral to decline and cause debtors' earnings to fall (e.g. loss of rental income following damage to a residential property). Given our country's climate risk profile and the fact that the bulk of these risks is insured, a climate-related natural disaster is unlikely to threaten the stability of the entire banking system in Switzerland, even if some individual institutions could be affected.

⁶ According to the National Centre for Climate Services (2018), the number of days with snowfall at altitudes below 800 metres has halved since 1970. For a simulation of the implications of the various modalities for introducing a carbon tax on the Swiss economy, see Marcucci, A. and L. Zhang (2019), 'Growth impacts of Swiss steering-based climate policies', *Swiss Journal of Economics and Statistics* 155(9), pp. 1–13.

Let's now move on to the second category of climate change risks, transition risks. These include the economic costs and benefits resulting from adjustments to regulations and government policies aimed at decarbonising the economy. Examples are the scrapping of polluting production processes, the growth of investment into researching and developing green technologies, and an unanticipated adoption of new taxes or subsidies. As with any other tax, the introduction of a carbon tax could change the sectoral composition of domestic production in a way that is significant but hard to quantify.

That being said, transition risks are above all likely to impact the financial system – through the revaluation of assets. A sudden shift in climate and energy policy could reduce the value of assets in the sectors most affected by the new regulations (e.g. commodities, automotive, heavy industry). For banks, this would erode the creditworthiness of debtors. In the area of mortgage lending, the adoption of stricter environmental standards could also diminish the collateral value of non-compliant real estate.⁷

As you can see, climate risks may be of interest to central banks on a number of fronts.

Each central bank tackles these challenges in its own way, depending on the profile of the economy in question and the institutional framework within which it operates. Countries are affected differently by climate risks due to their geographic location and economic structure. I am thinking in particular of countries that are partially below sea level (e.g. the Netherlands), those that are highly exposed to extreme weather events (e.g. droughts, storms, floods) and economies in which carbon-intensive industries (e.g. steel and cement) are strongly represented.

Similarly, the institutional framework of each central bank will determine its room for manoeuvre in discussions on climate change. Some, for example, are responsible for microprudential supervision and also function as bank resolution authorities. They have to evaluate the soundness of each bank's balance sheet, and this includes assessing banks' exposure to climate risks. In Switzerland, this role is assigned to the Financial Market Supervisory Authority (FINMA). Other central banks advise the government and are expected to take a position on issues that go beyond pure monetary policy (e.g. fiscal or energy policy). This is not the case at the SNB.

The SNB's mandate is clearly defined. Its principal mission is to ensure price stability in the medium term, while contributing to the stability of the Swiss financial system as a whole – two key conditions for our country's prosperity. After all, can economic agents be expected to plan their spending, savings and investments sensibly and manage their liabilities if prices fluctuate widely? If they go up, the value of savings goes down. If they go down, debt suddenly becomes more costly to service, especially as wage levels tend to move in line with prices. In short, a financial system that can withstand shocks is essential for a well-functioning economy and the successful implementation of monetary policy.

⁷ Bank of England (2018), 'Transition in thinking: The impact of climate change on the UK banking sector', September, pp. 27–29.

Measures taken by the SNB

In its assessment of the economic and monetary situation, the SNB endeavours to take into account all relevant risks, including those linked to the climate. Economic forecasts for both the international and Swiss economies factor in the effects of climate events that depart from the norm. More broadly, the SNB regularly updates the tools and methods it uses to analyse monetary developments and financial stability, in terms of both data sources and the structure of the models. We continually adapt our models to integrate new economic realities and structural changes, particularly those induced by climate change.

The monetary policy response to climate change will depend on the nature of the shocks, their intensity and their expected duration.⁸ According to our assessment, the overall threat posed by climate risks that are capable of affecting Switzerland's economic and financial stability appears to be moderate at present. Nevertheless, these risks and the assessment of associated exposure could change, which is why the SNB remains vigilant. This is all the more important as our country is not an island – Switzerland's economy and financial system are closely interconnected with the rest of the world.

The SNB participates in dialogue at both national and international level. The SNB and FINMA regularly discuss climate risks of relevance to the Swiss financial sector. In addition to this, in April 2019, the two institutions joined the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). This network, which currently has 46 members, was set up to promote the sharing of best practice in handling climate issues and support the development of climate risk management in the financial sector. It also aims to enhance the role of the financial system in enabling the transition to a low-carbon economy.

The NGFS's work is carried out in three dedicated workstreams.

- The first, in which FINMA participates, looks into the implications of climate risks for the microprudential supervision of the financial system, and banks in particular.
- The second focuses on the effects of climate risks on the economy and the financial system as a whole. This workstream aims to promote the modelling of and economic research into specific climate issues and to draw up global stress scenarios that can be used as a basis for monetary policy and macroprudential supervision. The SNB is a member of this workstream. It is particularly interested in contributing to this group's activities as it wishes to explore ways to refine and augment its own analyses and tools.
- The third workstream, in which the SNB also participates, examines developments in sustainable finance and the role of central banks and supervisory authorities in promoting socially responsible investment within the scope of their mandates. The

⁸ Climate change could also impact productivity, potential growth and, ultimately, the long-term natural rate of interest. For more on this subject, cf. Brainard, L. (2019), 'Why climate change matters for monetary policy and financial stability', remarks at conference on 'The economics of climate change', San Francisco, 8 November, as well as Weidmann, J. (2019), 'Climate change and central banks', introductory remarks at the Deutsche Bundesbank's second 'Financial Markets Conference', Frankfurt am Main, 29 October.

SNB is well placed to contribute here by sharing its experience as a global investor, a subject that we will investigate in more detail in a moment.

As you can see, the SNB is keen to deepen its understanding of the potential implications of climate risks for its work, and it is actively engaged at the international level to achieve this goal.

Beyond its prerogatives with respect to monetary policy and financial stability, the SNB integrates its thinking on environmental sustainability into its operational activities.

Environmental management at the SNB

For many years now, the SNB has been fully meeting its sustainable development responsibilities in its day-to-day operations. Since 1996, the SNB has applied a systematic environmental management concept aimed at reducing its energy consumption. We publish annual reports detailing the environmental impact of our operational activities and the progress being made on this front.⁹ Our strategy for reducing CO₂ emissions is based on four pillars: first, avoid; second, reduce; third, replace existing solutions with cleaner energy sources; and, finally, offset. For the past eight years, the SNB's operational activities have been carbon neutral. In other words, it offsets all unavoidable CO₂ emissions by investing in a range of climate protection initiatives around the world, including wind farms, geothermal projects and photovoltaic plants. But the SNB's commitment does not end there: we have also done pioneering work in introducing the first environmental impact assessment for banknotes. This work allows the SNB to assess the environmental impact of a banknote over its entire life cycle, and it has inspired other central banks to do likewise.

Balance sheet management

Within the scope of its mandate, the SNB is also committed to sustainable development in the management of its balance sheet.

The SNB differs from other asset managers in several respects. First, we manage foreign exchange reserves.¹⁰ As these reserves perform a monetary policy function, they must remain subordinate to monetary policy goals at all times. These considerations determine the framework of our investment policy. As **chart 2** shows, our foreign exchange reserves (represented by the area in blue) have increased substantially since the 2008 global financial crisis. This increase is mainly due to the SNB's interventions in the foreign exchange market to counter excessive appreciation of the franc and stabilise price developments. The expansion of foreign exchange reserves has also caused an increase – on the liabilities side of the balance sheet – in the volume of sight deposits that banks hold with the SNB (area in red).

⁹ Cf. the SNB's *Environmental report*, which is now called the *Sustainability Report*.

¹⁰ For more information on the specific characteristics of a portfolio composed of foreign exchange reserves ('policy portfolio') compared to other portfolios, cf. NGFS (2019), 'A sustainable and responsible investment guide for central banks' portfolio management', October, pp. 7–10. On this subject, cf. also remarks by Matsen, E. (2019), 'US Senate Democrats' Special Committee on Climate Crisis', 17 October, pp. 2–3.

Our reserves could decrease in the future, however. If monetary conditions in Switzerland called for it, the SNB could sell some of its reserves in order to shorten its balance sheet. Although we have not yet reached this point, such an eventuality should not be ruled out.¹¹ The SNB must be able to deploy its balance sheet at all times, quickly and without restriction. These reserves therefore have to meet stringent security and liquidity requirements. Consequently, as **chart 3** shows, we invest a very large proportion of our reserves in government bonds denominated in the major currencies, such as the euro, the dollar, the yen, pound sterling and the Canadian dollar. Holding liquid investments that can be mobilised rapidly allows the SNB to use its balance sheet at any time, should monetary policy require it.

A second aspect that differentiates us from other investors is that we remain as neutral as possible vis-à-vis the market. In other words, we must be able to move large volumes without unduly influencing prices. This neutrality ensures that the SNB is able to build up and scale back its investments quickly and efficiently, while avoiding conflicts of interest with its mandate. Neutrality also guarantees that the SNB's investment policy remains independent of all political considerations. In this sense, neutrality is an essential condition for the optimal fulfilment of our mandate.

Finally, at the operational level, the SNB differs from other investors in that it cannot protect itself against the greatest risk to these reserves – currency risk. Any attempt on the part of the SNB to hedge this risk would increase the demand for francs, which would run counter to its monetary policy objectives. The SNB's risk profile therefore differs significantly from that of other institutional investors. While the currency risk (orange shading in **chart 4**) represents 78% of the total risk exposure of our investments, in the case of a representative Swiss pension fund, this proportion is only 16%. Due to its particular risk profile, the SNB is exposed to significant fluctuations in its investment result from one quarter to the next.

Given these fluctuations, we exploit all available room for manoeuvre in order to diversify our investments. This allows us to optimise our risk/return profile and maintain the value of our reserves over the long term. To do this, we invest in equities and corporate bonds. Equities are an attractive asset class for the SNB. Their high degree of liquidity ensures the necessary flexibility in monetary matters, while their higher return potential helps to improve the risk/return profile. The SNB differs from other central banks in that it has a relatively high equity exposure (currently 20%, cf. **chart 3**). Our equity portfolio, which is worth more than CHF 150 billion, is highly diversified. We invest in some 6,700 corporate securities from more than 40 countries. We hold shares in companies which together account for more than 95% of global market capitalisation. Overall, our investments are denominated in some 30 currencies around the world, including those of emerging economies.

Beyond its need for diversification, the SNB must identify and understand all the risks to which its balance sheet is exposed and assess their potential impact. Climate risks feature

¹¹ This could happen if pressure on the Swiss franc were to ease due to a significant reduction in global uncertainty or a widening of the interest rate differential versus foreign countries.

among the principal risks along with market, liquidity and credit risk. From a financial point of view, climate risks are not fundamentally different from other risks. They can also amplify market fluctuations and affect the quality of interest-bearing investments. Ultimately, they could impact the risk/return profile of our assets and hence the strength of our balance sheet.

How does the SNB handle ESG (environmental, social and governance) risks in its portfolio, while retaining the room for manoeuvre needed to conduct its monetary policy?

My colleague Thomas Moser will answer this question. The floor is yours, Thomas.

Focus on SNB's investment policy

As part of its monetary policy mandate, the SNB has put in place a professional and modern portfolio management system. The SNB has often played a pioneering role among central banks. For example, it was one of the first central banks to establish its own in-house portfolio management set-up (in 1984) and to invest a proportion of its reserves in equities and corporate bonds (in 2004).¹² The vast majority of our investments are managed internally. External asset managers are used to benchmark internal portfolio management and obtain more efficient access to certain asset classes.

The SNB was also among the first central banks to adopt a structured approach to managing non-financial aspects, such as ESG risks. How does the SNB factor ESG risks into its balance sheet management?

I would like to start with our bond portfolio, which accounts for 80% of our foreign exchange reserves. Most of this portfolio is made up of government bonds. Other bonds, such as corporate bonds, represent 12% of our reserves. Our bond portfolio is actively managed in terms of country selection and weighting. In other words, while we use a combination of broad bond indices, we deviate from these – within pre-set limits – in order to generate a higher return. Our portfolio managers use all the information at their disposal to guide their investment decisions. This comprehensive assessment essentially includes all types of financial risk that may arise in one form or another. Factoring climate risks into risk assessment is therefore an integral part of good portfolio management. In this context, it is worth mentioning that, for some years now, the SNB's bond portfolio has included green bonds. As their name suggests, these are bonds whose proceeds are used to finance environmental projects.

What about our equity portfolio? In our equity investments, we pursue a passive and neutral approach (index-linked management). This means that we replicate a combination of representative market indices to determine the size of each holding of securities in our portfolio. Index-linked management ensures that the SNB acts as neutrally as possible in the markets without engaging in 'stock picking'. It also prevents some sectors and companies

¹² For more details on the characteristics of the SNB's investment policy, cf. Maechler, A.M. (2017), 'The SNB's investment policy and its distinctive features', 'Money Market Event', 23 March.

from being over or under-represented. Besides these advantages, the choice of the passive management approach is based on political considerations. A more active management of our equity investments would be tantamount to indirectly pursuing a structural policy. The SNB could quickly acquire significant stakes in select companies – and these could be construed as strategic participations. Clearly, it is not part of the SNB’s mandate to promote or disadvantage certain companies or sectors. The aim is to avoid such conflicts of interest at all costs, not least in order to preserve the SNB’s independence and credibility.

The SNB only departs from the principle of neutrality in certain, very specific cases. This is illustrated in **chart 5**. On the one hand, the SNB refrains from investing in shares of systemically important banks and medium and large-cap banks in the advanced economies in order to avoid any real or perceived conflict of interest. For the same reason, it does not hold shares in Swiss companies.

On the other hand, the SNB employs ESG criteria in the management of its equity portfolio via a selective exclusion policy. Since 2013, it has refrained from acquiring shares in companies whose products or production methods seriously violate ethical principles – notably, firms that produce internationally condemned weapons, seriously violate fundamental human rights or systematically cause severe environmental damage. Such exclusions, which also apply to our corporate bond portfolio, enable the SNB to align its asset management with the fundamental values and norms of our country.

How does the SNB go about identifying the companies to be excluded? It follows a clear and structured process, in which it draws on the knowledge of external experts. With respect to the environment and human rights, we regularly evaluate our investments in a two-step process. First, an expert consultancy collects all publicly available information and then draws up a warning list containing high-risk companies (i.e. companies that most likely meet our exclusion criteria). In a second step, another specialist firm evaluates these allegations in detail and prepares a full report for each high-risk company, accompanied by a recommendation. The final decision on whether or not to exclude a company is taken by the SNB.

In addition, the SNB exercises its voting rights for a portion of the shares in its portfolio. It focuses on aspects relating to good governance. Good governance contributes to the positive development of a company, which ultimately improves the return on our investments.

Ladies and gentlemen, we are convinced that our approach to managing our foreign exchange reserves is appropriate given the requirements of our mandate. More active management in the environmental field would severely limit our investment options. It could further accentuate the fluctuations in our results – fluctuations that are already significant as our balance sheet has to absorb exchange rate movements without recourse to hedging. Besides, it is not clear that an investment strategy based on ESG criteria would generate superior risk-

adjusted returns.¹³ In addition to this, given the particular profile and size of our portfolio, a more targeted selection of our investments would increase concentration risk, which would compromise our neutrality in the markets and hinder the implementation of monetary policy.

Our approach is therefore the result of a careful weighing-up of interests. The benefits of more active management in terms of superior returns, risk management and climate risk impact are still highly uncertain. On the other hand, the costs of such an approach are very considerable indeed, particularly with regard to market neutrality, concentration, and – above all – the politicisation of our portfolio management.

Let me illustrate this last point with an example. As I mentioned earlier, we invest a portion of our reserves in environmentally-friendly investments. Now imagine if our portfolio were overweight in this segment and the SNB had to shrink its balance sheet. To accomplish this, it would have to sell a significant proportion of its socially responsible investments. Such a sale could prove to be doubly problematic. Due to the limited size and relatively low liquidity of the market, the SNB would scarcely be in a position to shorten its balance sheet quickly and efficiently without influencing prices. Its market neutrality would no longer be guaranteed. Moreover, such a sale could well expose the SNB to substantial political pressure.

Conclusion

Ladies and gentlemen, to conclude:

Climate risks are an important issue for our country's population and economy. However, the objectives and solutions associated with transitioning to a low-carbon economy must be the fruit of a political dialogue and agenda. These questions are not part of the SNB's remit.

Let's not forget that the SNB has a clear mandate: to ensure price stability. By fulfilling this mandate, it is making a crucial contribution to balanced economic development and a stable financial system – and it is doing so against an international backdrop freighted with uncertainty. Broadening this mandate to pursue other objectives, such as promoting a green economy, would pave the way for conflicts of interest and politicise monetary policy. This would affect the very essence of the SNB's independence and thus its ability to make decisions that are occasionally difficult but absolutely necessary in order to fulfil its mandate and support Switzerland's economy.

The SNB takes environmental issues that fall within its mandate very seriously. It is constantly developing its skills to understand and assess the impact of relevant risks – including those linked to climate change – on the economy and the stability of the financial system. It also integrates these considerations into its balance sheet risk management in order to guarantee the value of its reserves over the long term. Here, the SNB applies ESG criteria to its asset portfolio, while respecting the requirements of monetary policy. Given the rapid

¹³ IMF Global Financial Stability Report (2019), October. Cf. also Krüger, P., Z. Sautner and L.T. Starks (2019), 'The importance of climate risks for institutional investors', *Finance Working Paper No. 610/219*, September.

pace of developments in environmental economics, the SNB is closely monitoring developments at both national and international level.

Ladies and gentlemen, it is now my pleasure to invite you to a round table. This will give us a chance to broaden the debate beyond central banking and to hear what other players have to say about the impact of climate risks on the economy and the financial system.

Climate risks and central banks: an SNB perspective

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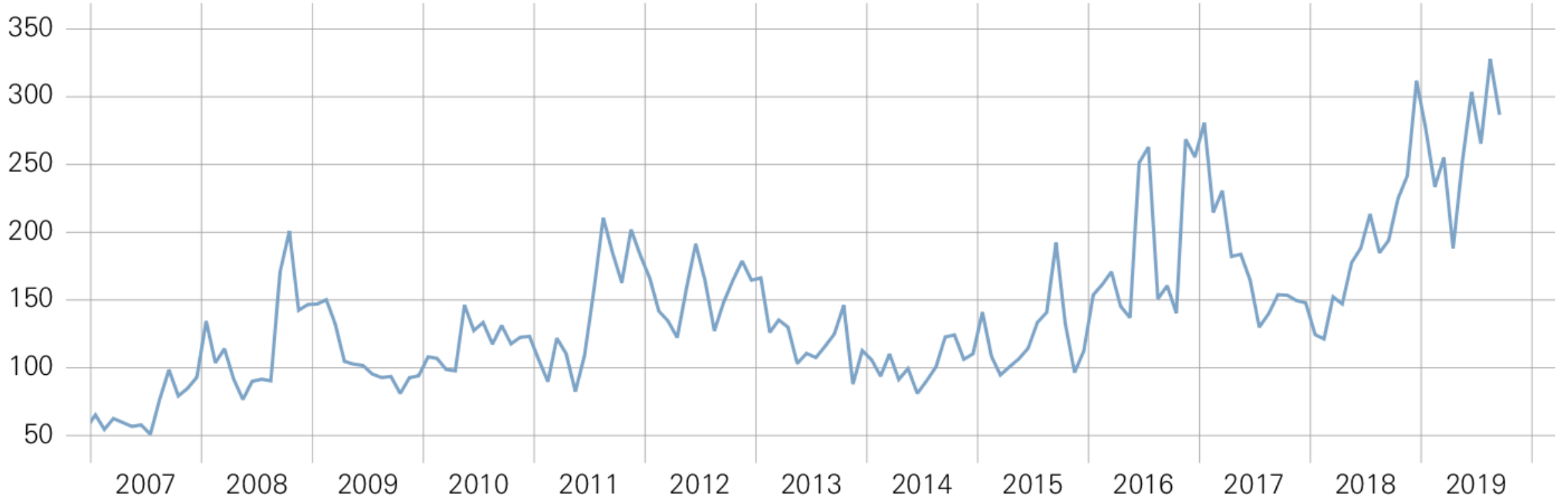


Economic policy uncertainty hit a record high in August 2019

ECONOMIC POLICY UNCERTAINTY

Baker-Bloom-Davis Index

Index (long-term average = 100)

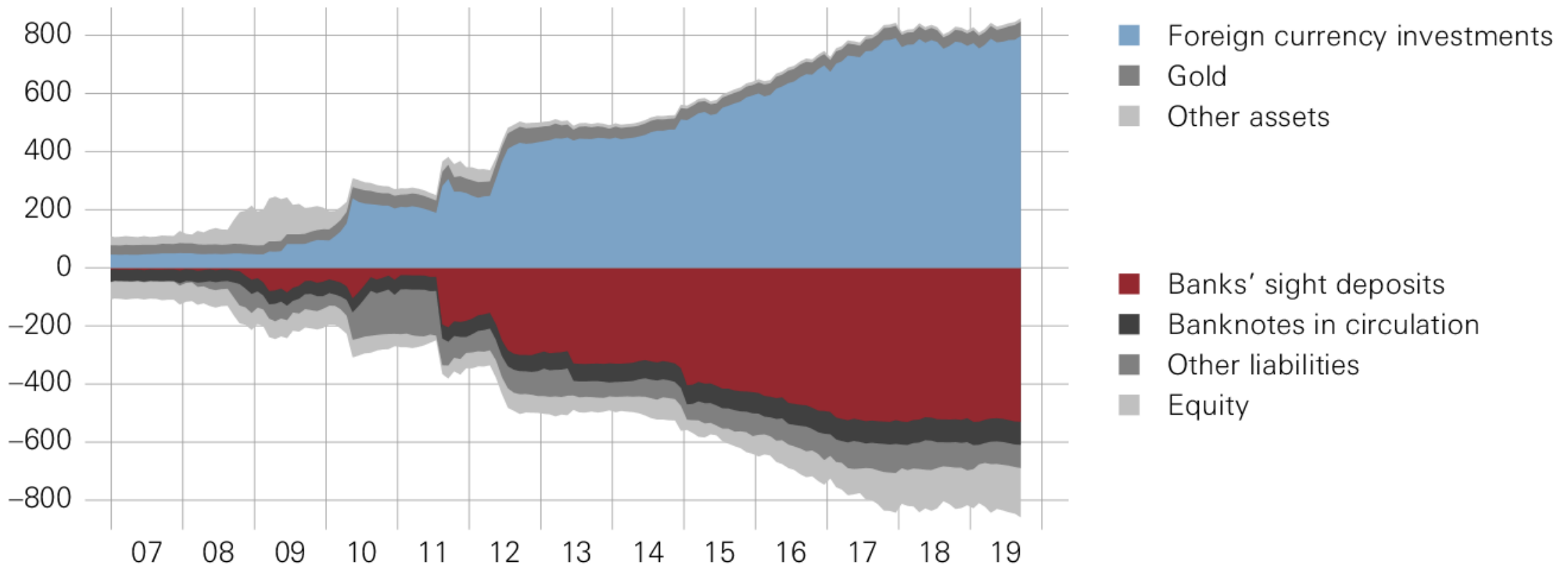


Sources: SNB, Baker, Bloom and Davis.

The SNB's balance sheet mainly comprises foreign exchange reserves – a key tool of our monetary policy

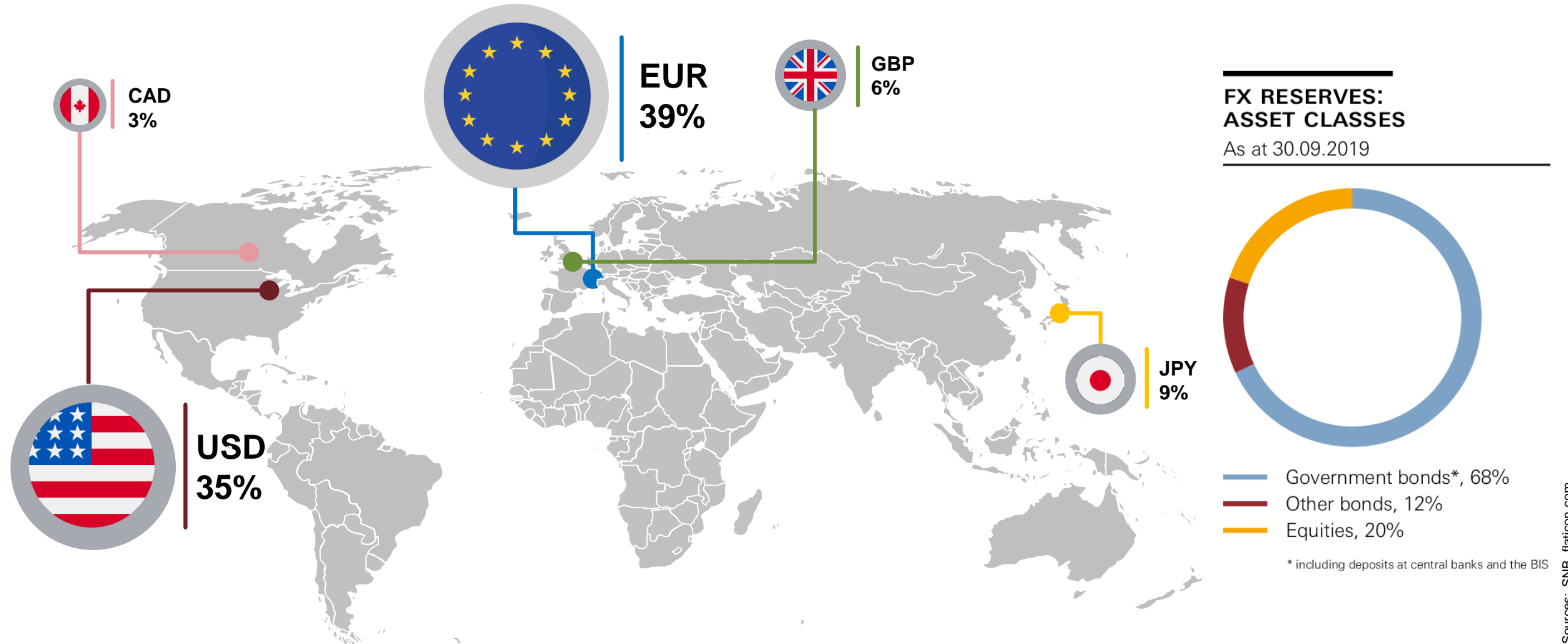
SNB BALANCE SHEET DEVELOPMENT

CHF billions



Source: SNB.

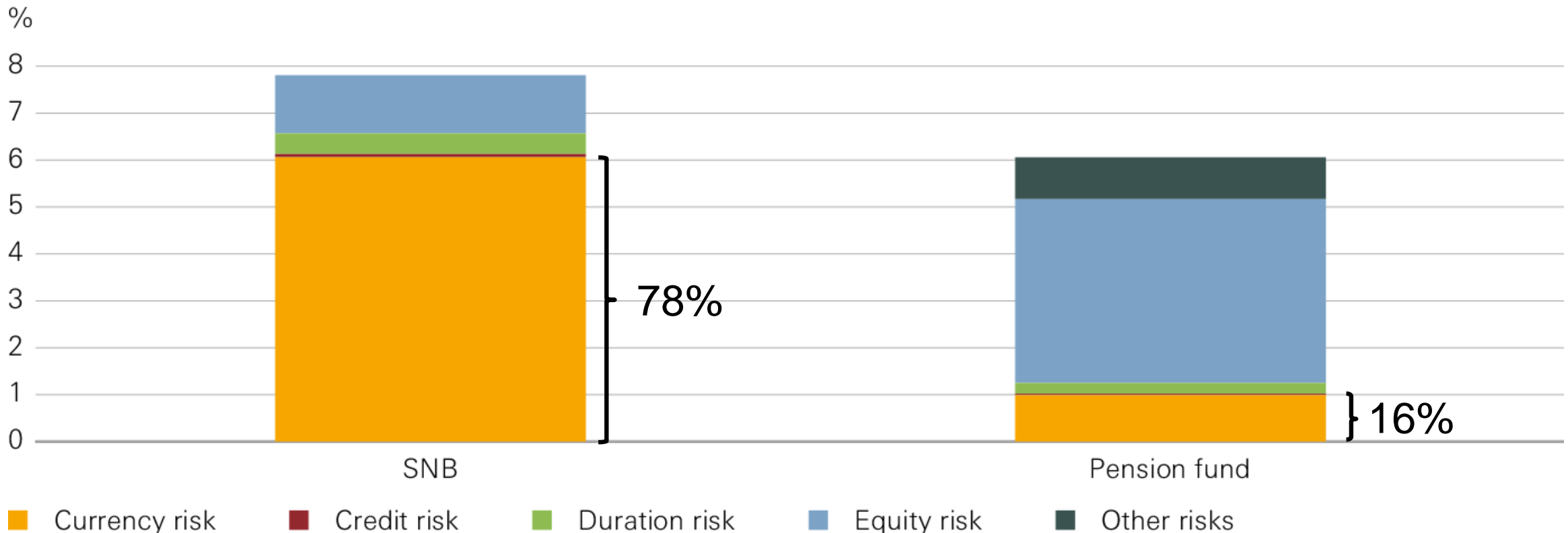
Our foreign exchange reserves are broadly diversified and meet stringent security and liquidity requirements



The SNB's risk profile is very different from that of a Swiss pension fund – a reflection of the primacy of monetary policy

RISK DISTRIBUTION

Contributions to volatility on an annualised basis, in percentage points



Source: SNB.

The SNB applies a clear and structured exclusion policy – its balance sheet reflects the fundamental values and norms of Switzerland



- **Medium and large-cap banks and other quasi-bank institutions**
- No investment in **Swiss companies**



- Internationally **condemned weapons**
- Violation of **fundamental human rights**
- Severe **environmental damage**