

Switzerland: Selected Issues Paper

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SWITZERLAND

Selected Issues

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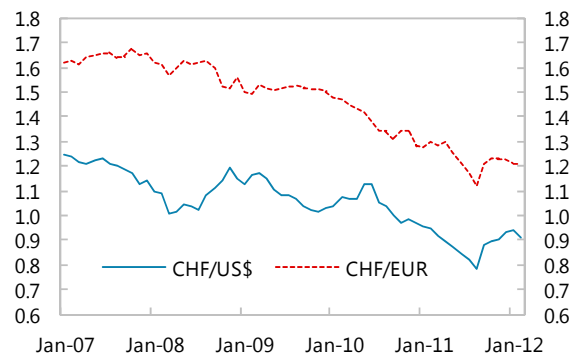
I. UNPRECEDENTED CURRENCY APPRECIATION AND POLICY RESPONSE

A. Introduction

1. **Last year saw an unprecedented appreciation of the Swiss franc and a series of policy actions by the SNB to stem it.** This annex gives a detailed account of the SNB's policy response, which has put a halt to the appreciation, and sheds lights on its impact and implications.

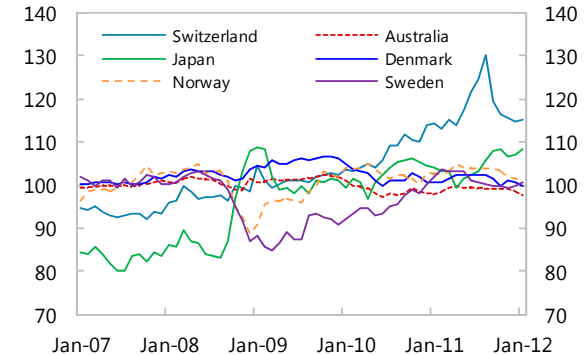
2. **The Swiss franc has appreciated significantly since 2008, with a sharp acceleration last summer.** The appreciation began as nominal interest rates in other advanced countries declined and the positive differentials with Swiss rates shrank, which reduced the appeal of the Swiss franc as a funding currency for carry trades. As the euro area sovereign crisis developed, safe haven flows added further upward pressure on the currency. The SNB intervened in foreign exchange markets in 2009 and 2010 to slow down the appreciation. By July 2011, the appreciation reached 50 percent vis-à-vis the euro, 47 percent vis-à-vis the dollar, and 33 percent in real effective terms. The Swiss franc became one of the most appreciated currencies among advanced economies.

Exchange Rates
(Units)



Source: International Financial Statistics.

Real Effective Exchange Rate
(Index)



Source: Information System Notice.

B. The Policy Response of the SNB

3. **In response to the appreciation and looming growth and deflationary risks, in August 2011 the SNB engaged in quantitative easing and foreign exchange intervention, but failed to weaken the currency.** On August 3, 2011, the SNB eased monetary policy by lowering the target range for the policy rate from 0–0.75 percent to 0–0.25 percent, specifically targeting it “as close to zero as possible.” On the same day, SNB announced that bank sight deposits would be expanded from CHF 30 billion to CHF 80 billion by not renewing repos and SNB bills and by purchasing outstanding SNB bills. In the following weeks, the central bank announced progressively increasing targets for bank sight deposits to CHF 120bn on August 10 and to CHF 200 billion on August 17, bringing the monetary base to over CHF 160 billion (about 30 percent of GDP) by the end of August. As rolling all the repo transactions and buying back all the debt certificates outstanding would not have been enough to bring the sight deposits to the new target level announced in August, the SNB engaged in a substantial amount of FX swaps. The SNB short forward positions surged from less than CHF 1 billion last July to CHF 82 billion last August. The maturities of these positions were equally distributed between less than one month and between one month and three months. As a result of these measures, the currency weakened temporarily, but in early September pressures returned after a new bout of turmoil in the euro area.

4. **On September 6, 2011, the SNB surprised the market by explicitly committing to defending a floor of 1.20 on the exchange rate of EUR/CHF.** The bank stated that it would enforce the floor through unlimited foreign currency buying and indicated it would take further measures if needed. Echoing previous statements, the SNB also affirmed that, at its floor level, the franc was still high and further depreciation was expected. In the subsequent public communications and the Monetary Policy Assessment in December 2011 and March 2012, the central bank reiterated its commitment and determination.

5. **The SNB charted similar waters in the late 1970s, when an exchange rate floor succeeded in weakening the franc but created excessive inflation.** In October 1978, at the culmination of a series of failed efforts to weaken the franc through negative interest rates and capital controls, the SNB introduced a floor on the exchange rate of deutschmark/ CHF. Both the macro fundamentals and degree of currency appreciation at that time were similar to the current ones. However, the monetary policy framework was different, the SNB’s balance sheet was much smaller, and so was the share of FX reserves. The franc depreciated by 5 percent one month after the floor was introduced and continued to weaken in the following 18 months, ultimately reversing the bulk of the appreciation from the preceding two years. However, inflation spiked from less than one percent to 5 percent a year, peaking at around 7 percent in 1981.¹

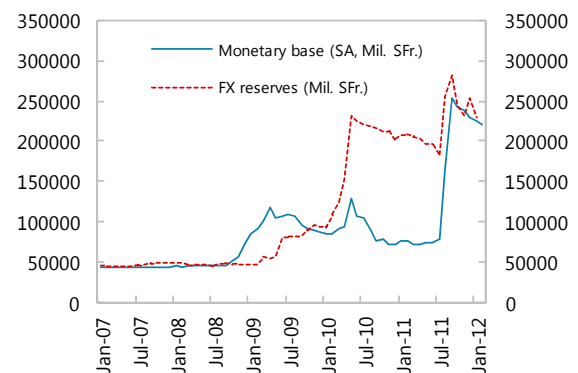
¹ There was also an oil price shock in 1979.

C. Impact on the Balance Sheet of the SNB

6. **The policies of the SNB have led to a rapid and massive expansion of its balance sheet.** The SNB's balance sheet, which had already grown following the interventions in 2009 and 2010, ballooned by 50 percent in one month as a result of the August liquidity expansion, reaching the unprecedented level of 70 percent of GDP last September. Although the balance sheet has started to shrink since then, the SNB remains the central bank with the largest balance sheet among advanced economies.

7. **The policy response has also transformed the structure of the SNB's assets and liabilities.** As the monetary and liquidity expansion was carried out largely through an increase in SNB's foreign assets, foreign exchange reserves accounted for 80 percent of the SNB's assets last September. As of end-2011, 57 percent of reserves were in euros and 23 percent in U.S. dollars. On the liability side, the SNB had CHF 30 billion of sight deposits, CHF 26 billion of outstanding repo liabilities, and CHF 110 billion of SNB debt certificates outstanding last July. The SNB closed all repos by last August and bought back 87 percent of outstanding bills by the end of 2011. Bank sight deposits were boosted six times to over CHF 200 billion by last September. Despite the subsequent decline, they accounted for over 50 percent of SNB's liabilities by end-2011.

Switzerland: The Monetary Base and Foreign Exchange Reserves



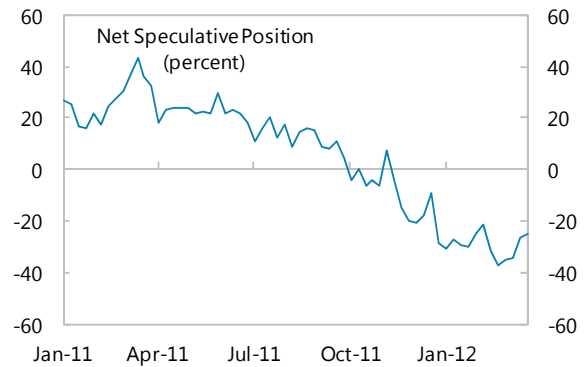
Source: Swiss National Bank.

8. **Since the floor was introduced, foreign exchange reserves have declined and the SNB balance sheet has contracted.** Between September and December 2011, the SNB's balance sheet shrank by CHF 35 billion while FX reserves fell by CHF 28 billion and swaps dropped by a much larger amount (CHF 56 billion). The SNB's 2011 Annual Report pointed out that the bank purchased about CHF 17.8 billion equivalent of foreign currency to combat the overvaluation and enforce the floor.

D. Market Impact

9. **The currency floor has turned the tide against the franc.** When the floor was announced, the currency immediately snapped back to just above 1.20 CHF/EUR, a depreciation of over 9 percent relative to the euro and about 8 percent against the dollar. It has remained above that level since. The Swiss stock market also got an immediate boost, led by exporters. The volatility of EUR/CHF, which had surged since July, dropped off sharply from around 23 percent to 8 percent in less than 24 hours.

10. **Speculative positions on the franc in derivative markets have reversed².** Before the move, speculators expected a continued appreciation of the franc and built up net long positions in derivative markets. Supporting the view that the floor is seen as credible by foreign exchange traders, speculators have slashed long positions and boosted short positions. The net short positions in USD/CHF derivatives reached over 35 percent of open interests in February 2012, a reversal of the net long positions observed one year ago.



11. **Implied volatilities of the exchange rates have fallen sharply.** The EUR/CHF volatility term structure was heavily inverted in the months leading up to the floor (Figure 1). The one-month EUR/CHF implied volatility peaked at 27 percent in early August and hovered around 20 percent while the five-year implied volatility peaked at 19 percent in early August and hovered around 16 percent before the floor was introduced (Figure 1). The one-month EUR/CHF implied volatility tumbled to around 5 percent while the five-year one slipped to about 12 percent afterwards despite some recent uptick, leading to a normalization of the term structure. The upward volatility slope suggested the floor may be viewed as temporary and the SNB may be challenged down the road. The implied volatility of CHF/USD showed a similar pattern despite a narrower gap across maturities, pointing to more residual uncertainty in the long end.

12. **Demand for upside protection against the franc has abated.** The risk reversals of the EUR/CHF reached record lows across maturities before the policy action, reflecting huge demand for protection against an appreciating franc. The one-month 25 delta and 10 delta risk reversals surged to broadly neutral levels immediately after the floor and continued to rise to positive levels afterwards, pointing to an increased positioning in favor of a depreciating franc. The risk reversals of other maturities also saw a significant tightening after the floor. In addition, the more out of the money the option is, the steeper risk reversals are. However, recent weeks saw some widening in the risk reversals, possibly indicating some emerging skepticism over the continued depreciation of the franc. The dynamics of the volatility smile of CHF/USD mirrored that of the EUR/CHF.

² Speculative positions refer to positions taken by institutions for non-commercial purpose as defined by the U.S. Commodity Futures Trading Commission.

E. Assessment

13. **The introduction of the floor was appropriate in light of the growth and deflationary risks and limited alternative policy options.** With interest rates at zero and evidence that the effects of the August liquidity expansion on the exchange rate were waning, quantitative easing and unilateral intervention were clearly no longer capable of containing currency appreciation. A large scale discretionary fiscal expansion to bolster growth would have been difficult, as fiscal policy is bound by the “debt brake rule” at the federal level and similar rules in the cantons. Capital controls would likely have been difficult to enforce given the sophisticated financial sector, and would have hurt Switzerland’s reputation as a global financial center.

14. **The floor should contain mounting contractionary and deflationary pressures in Switzerland.** The adjustment of the Swiss economy to the current higher level of the exchange rate will entail slower growth and a declining current account balance, especially given the less favorable global environment. Had the SNB not acted to curb further appreciation, however, there was a considerable risk of a sharp contraction accompanied by deflation.

15. **Defending the currency floor may require further, large monetary expansion with possible implications for inflation and asset price bubbles.** The persistently large current account surplus and further unwinding of legacy carry trades will likely continue to put some upward pressure on the franc, while safe haven flows may resume despite the lack of appreciation prospects (partly because of the negative inflation differentials with the main trading partners) if the euro area crisis deepens. More generally, the lingering uncertainty in the FX markets, especially on the long end, and latest change in dynamics indicate that the SNB’s resolve may be tested in the future. Should additional, large-scale monetary expansion be needed to defend the exchange rate floor, excessive inflationary pressures may emerge if the economy is also on a rebound, though Switzerland’s long track record of price stability should help anchor expectations. A related concern is that further monetary expansion may heighten the risk of a bubble in the housing market, where conditions are already frothy in some localities. The monetary effects of intervention could be sterilized at no quasi-fiscal cost, but such a policy would attract more inflows.

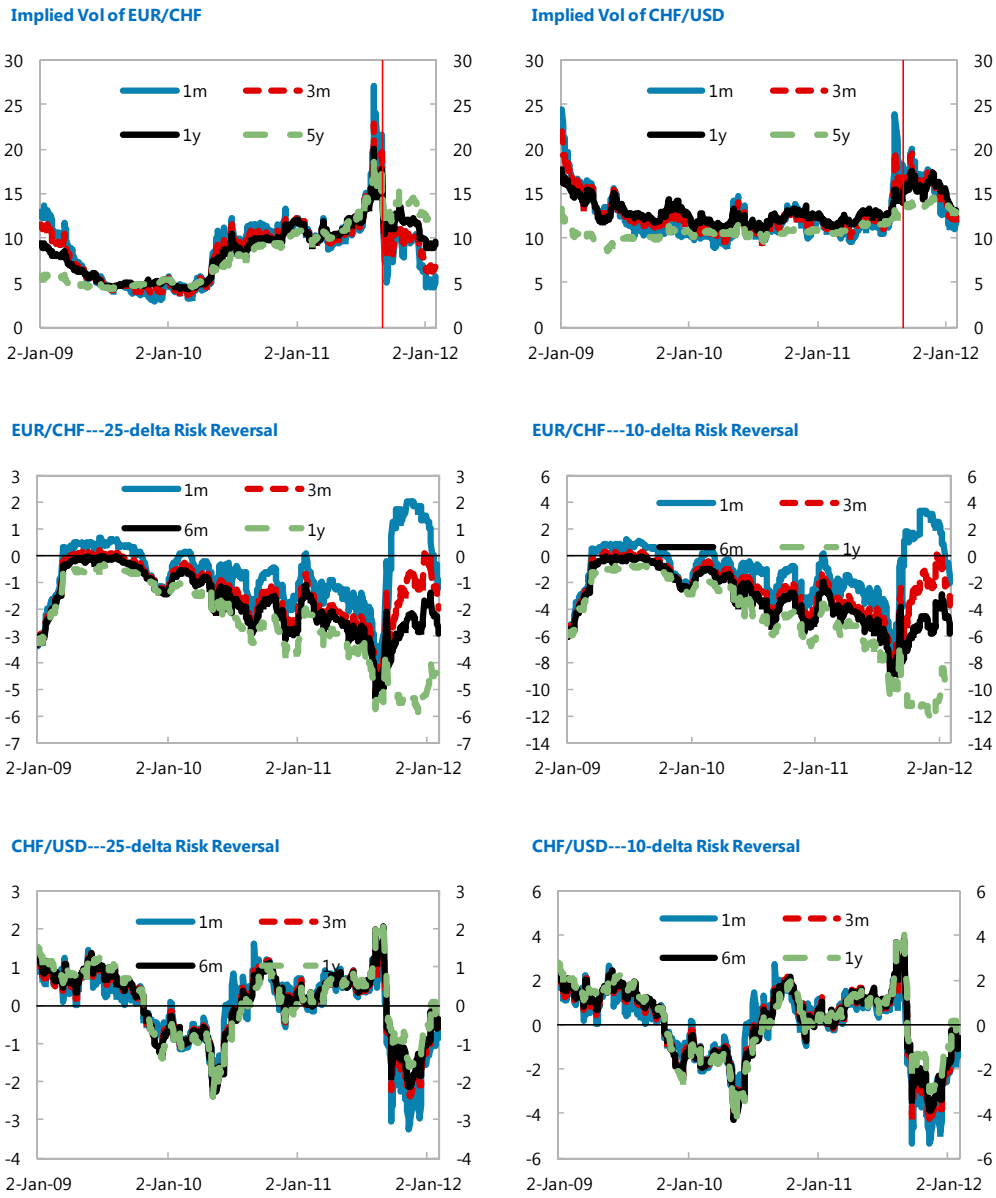
16. **These risks can be mitigated through an appropriate exit strategy and macroprudential policies.** As the 1978 episode indicates, a return to a freely floating currency would be desirable once economic conditions normalize to avoid being forced into a pro-cyclical monetary expansion. In parallel, a broad set of macroprudential instruments could be put in place to preempt the forming of a broad-based housing bubble.

17. **From a global perspective, the SNB move may spark emulation by other countries experiencing appreciation pressures, but the specific circumstances of**

Switzerland may not be present elsewhere. In countries with exchange rate pressures, macroeconomic conditions are often quite different from those of Switzerland. For example, in commodity exporting countries appreciation is often welcome as it helps offset positive terms of trade shocks. In most emerging markets, a commitment to defending an exchange rate floor through unlimited monetary expansion may not be credible, as appreciation pressures are often accompanied by above-target inflation, loose fiscal policy, and overheating, in contrast to Switzerland, where economic growth is slowing down, fiscal policy is prudent, and inflation is too low. Furthermore, most emerging markets and some advanced countries have room to lower domestic interest rates, also in contrast to Switzerland. Finally, emerging markets can resort to capital flow management policies as an alternative policy tool.

18. **The policy should help neighboring countries with sizable private sector debt denominated in Swiss francs.** In some countries in the region a large share of domestic credit is denominated in the Swiss currency (especially Austria, Croatia, Hungary, and Poland). As most borrowers are unhedged, the strength of the Swiss franc has caused strains for borrowers and banks. The SNB move should prevent a further worsening of credit market conditions in these countries.

Figure 1. Switzerland: Implied Volatility and Risk Reversals



Source: Bloomberg