

## **Jean-Pierre Danthine: Market volatility, Swiss National Bank liquidity measures and foreign exchange reserves**

Introductory remarks by Mr Jean-Pierre Danthine, Member of the Governing Board of the Swiss National Bank, at the end-of-year media news conference, Berne, 15 December 2011.

\* \* \*

I would like to address three main issues today. These are the acute market volatility experienced this summer, the impact of the Swiss National Bank's (SNB) liquidity measures and minimum exchange rate upon our money and foreign exchange (FX) markets, and the management of our FX reserves.

### **Acute market volatility**

The second half of 2011 has, until now, been marked by an extraordinary degree of uncertainty. Volatility on the equity, bond and foreign exchange markets has increased markedly, reflecting investors' concerns about the softening of global growth, the European sovereign debt crisis, the US debt ceiling crisis and the resilience of the international banking system.

Signs of this acute volatility abound. Allow me to highlight three recent examples. Firstly, between July and early August, the VIX Index, a measure of the volatility of the S&P 500, abruptly doubled. Secondly, the MSCI World Index, a measure of the state of global equity markets, decreased by almost 20% between early July and late September, rebounding in October, only to fall again afterwards. As concerns about bank solvency and credit risk increased banks being at the heart of the crisis the benchmark MSCI World Banks Index also fell by over 25% between early July and late September. Thirdly, as concerns over the security of corporate and government bonds grew, the premia investors have had to pay against bond defaults have increased very significantly. The perceived decrease in the creditworthiness of key European companies and Western European sovereign bonds was highlighted by the very sharp rise of several benchmark credit default swap (CDS) indices for these markets.<sup>1</sup>

The foreign exchange market has been of particular concern to the SNB, as the Swiss franc's safe haven properties and the growing dearth of alternative "safe" assets led to massive movements in our currency, which required the SNB to act.

In early August, the real effective exchange rate of the Swiss franc peaked at an estimated level of almost 40% above its post-1990 long-term average.<sup>2</sup> The extent of this deviation was very rare, in historic terms, as the previous high point, at the end of 1995, was only 12% above the same long-term average. Since the introduction of the euro in 1999, the volatility of the EUR/CHF exchange rate has averaged approximately 5%.<sup>3</sup> In August it rose to almost 30%. As chart 1 shows, three of the largest ever daily negative movements in the EUR/CHF exchange rate also occurred in this period. Since the introduction of the minimum exchange

---

<sup>1</sup> The Markit iTraxx Europe Index, for example, which is composed of 125 investment grade entities from six sectors (auto, consumer, energy, financial, industrial and TMT), more than doubled between July and September. Likewise, the iTraxx Sovereign Western Europe Index, consisting of 15 sovereign CDS across Europe, rose by approximately 70% in the same period.

<sup>2</sup> This is an approximation of the real effective exchange rate, assuming constant weights and inflation differentials.

<sup>3</sup> Annualised volatility computed over one calendar month on the basis of daily movements.

rate on 6 September, EUR/CHF volatility has fallen below 10%, though it remains high from a historical perspective.

The introduction of the minimum exchange rate also had an impact on some of the dynamic properties of the Swiss franc. As the red bar on the left side of chart 2 suggests, there was previously a positive correlation between the movements of the Swiss franc and those of risk indicators such as the VIX Index, i.e. investors tend to buy Swiss francs when perceived risk increases. In the same vein, the blue bar on the left of the chart shows that the correlation between the movements of the Swiss franc and those of risky assets, such as the equity shares on the MSCI World Index, has historically been negative. In other words, negative market developments have often been accompanied by a rising Swiss franc. Intriguingly, as the right side of chart 2 shows, the introduction of the minimum exchange rate appears to have had a significant impact on these correlations.

### **The SNB's implementation of monetary policy: liquidity measures**

On 3 August, the SNB started to implement liquidity measures against the massively overvalued Swiss franc. Let me provide some further information on these operations. That day, the SNB announced that it was narrowing the target range for the three-month Libor from 0.00–0.75% to 0.00–0.25%. It also stated its intention to expand sight deposits at the SNB. These were subsequently increased from around CHF 30 billion at the beginning of August to over CHF 250 billion by the first week of September.

The SNB used a range of well-established instruments to effect this extraordinary increase in the supply of liquidity to the Swiss franc money market, as chart 3 shows. Firstly, reverse repo operations were discontinued. As a result, outstanding reverse repos fell from CHF 26 billion on 3 August to zero a week later. Secondly, the SNB stopped renewing SNB Bills that fell due, and later started to repurchase those that remained outstanding. While these amounted to some CHF 110 billion at the end of July, this figure gradually decreased to below CHF 45 billion by the end of August, reaching some CHF 20 billion by the end of November. Thirdly, to further boost liquidity, on 10 August the SNB also started to employ foreign exchange swaps. These amounted to approximately CHF 80 billion by the end of the third quarter. Fourthly, the SNB again resorted to conducting repo operations, which provided the Swiss franc money market with approximately CHF 18 billion of liquidity in August and up to around CHF 33 billion in November.

These exceptional liquidity measures exerted downward pressure on interest rates. In line with the goals stated in the SNB's announcement of 3 August, the three-month Libor fell from 17.5 bp on 2 August to a low of 0.3 bp on 5 September, as chart 4 shows. It is now hovering around 5 bp, though it is worth noting that limited volumes of unsecured trades are being conducted in the present environment. The significance of the three-month Libor remains unchanged, however, as reflected by the fact that all money market interest rates are currently close to zero, as is the Swiss franc Libor itself.

Since early August, the Libor futures yield curve has also decreased sharply, with its March 2012 maturity reaching –0.5% on 18 August. That day, the entire curve for the period up to September 2013 also lay below zero. The three-month rate implied in the price of EUR/CHF swaps reached a low of –1.5%<sup>4</sup>. From a foreign investor's standpoint, such interest rate conditions make the Swiss franc and its money market less attractive, as intended.

The downward movement of interest rates also affected the short-term borrowing costs of the Swiss Confederation. Since the end of August, the yields from money market debt register claims<sup>5</sup> have moved into negative territory. On 23 August, the yields from six-month auctions

---

<sup>4</sup> This was computed on the basis of three-month euro-denominated overnight index swap rates.

<sup>5</sup> *Geldmarktbuchforderungen der Schweizerischen Eidgenossenschaft* (GMBF).

decreased to –1%, and on 30 August, the yields from three-month auctions went down to –0.75%. At recent auctions, both yields were still negative.

It is interesting to note that these liquidity operations may have affected more than just current and expected short-term rates. After the SNB's 17 August announcement, the rates of two-year Swiss government bonds briefly moved below zero, and the yields of longer-term Swiss government bonds also decreased significantly. While the yields on other long-term government bonds which are generally considered safe also followed similar patterns, it is nevertheless striking to observe in chart 5 that in the wake of the SNB's liquidity measures in August, ten-year Swiss government bond yields experienced their largest declines since 1995.

The interest rate and liquidity measures taken by the SNB in August naturally preceded and prepared for the introduction of the minimum exchange rate, in case it proved necessary. The SNB will continue to keep liquidity at exceptionally high levels, but has decided not to set a specific target level for sight deposits at present.

### **Management of the foreign exchange reserves**

In the context of the minimum exchange rate, there has been renewed interest in the management of our FX reserves. Let me repeat here that our investments are subject to the primacy of monetary policy and implemented according to three criteria, namely, in order of priority: security, liquidity and returns. The SNB has to bear the risk associated with exchange rate fluctuations, as any hedge would be equivalent to buying Swiss francs against foreign currencies. The SNB has therefore emphasised the importance of diversification and limiting the concentration risks of our foreign currency investments.

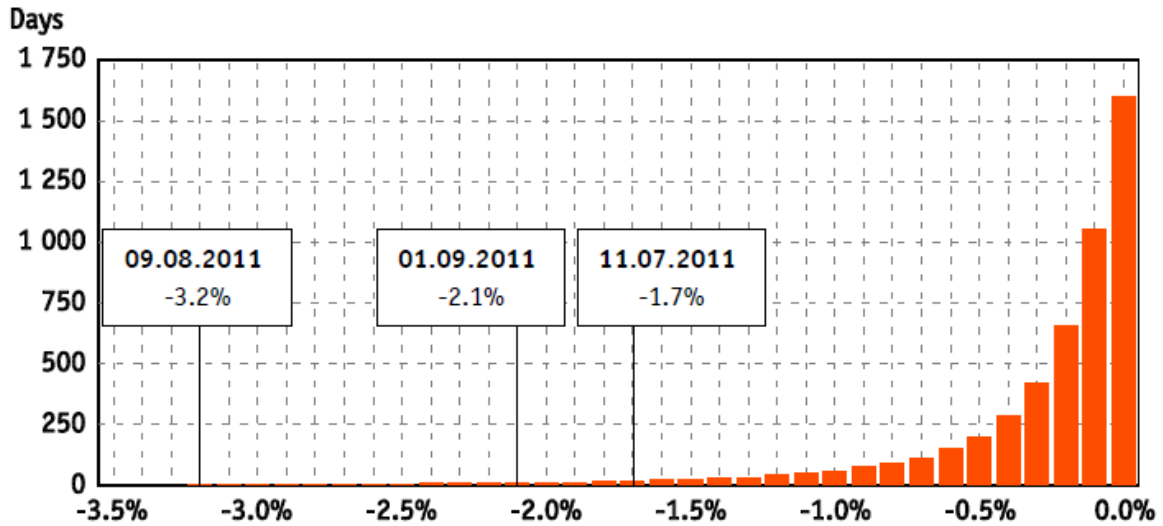
Today, 53% of the SNB's FX reserves are invested in euro-denominated securities. This is in line with the share of Swiss exports to the euro area, and only five percentage points more than our allocation three years ago, though the size of our FX reserves, excluding swaps, increased from CHF 50 billion in 2008 to over CHF 225 billion by the end of September 2011. In order to promote further diversification, in 2010 the SNB added four new currencies to its reserves, namely Australian and Singapore dollars, Danish krone and Swedish krona. As a result, in addition to euros and these four currencies, the SNB's portfolio is now composed of 26% US dollars, 9% Japanese yen, 5% pounds sterling and 4% Canadian dollars.

Central banks generally have large holdings of government bonds due to their need for liquidity. As is widely known, in recent months the ratings agencies have been reviewing or have downgraded the credit ratings of many sovereign bonds. Despite this turn of events, approximately 96% of all our investments in fixed-income assets are rated AAA or AA. In closing, I would like to emphasise that we are actively exploring and monitoring new asset classes and currencies in developed and developing markets. The aim of this process is to continually reduce concentration risks and to further diversify the SNB's FX reserves.

Chart 1:

## Appreciation of the Swiss Franc against the Euro

Distribution of negative daily EUR/CHF changes since 1999

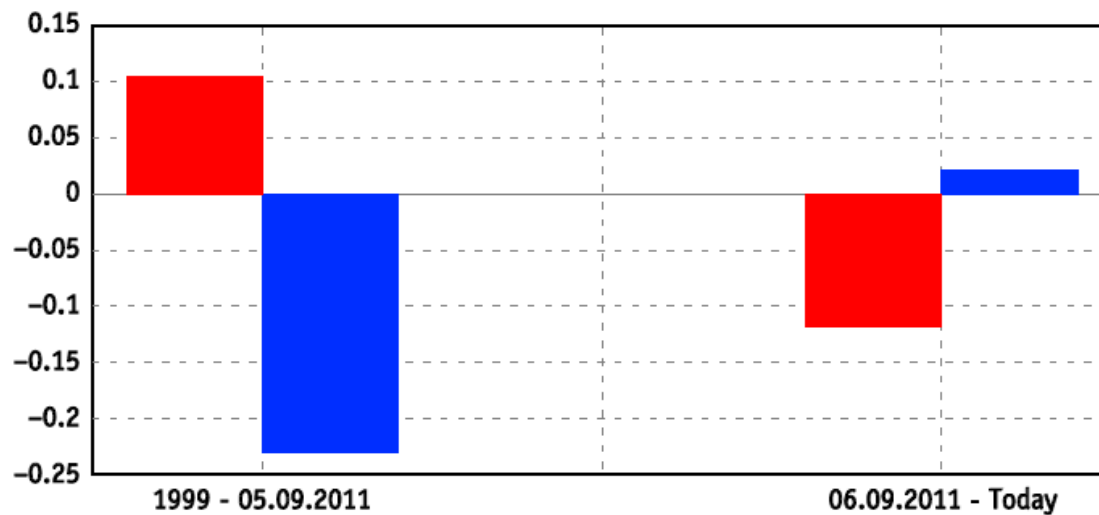


Sources: SNB Markets Analysis Platform, Bloomberg

Chart 2:

## Correlation between CHF/EUR, risk indicators and risky assets

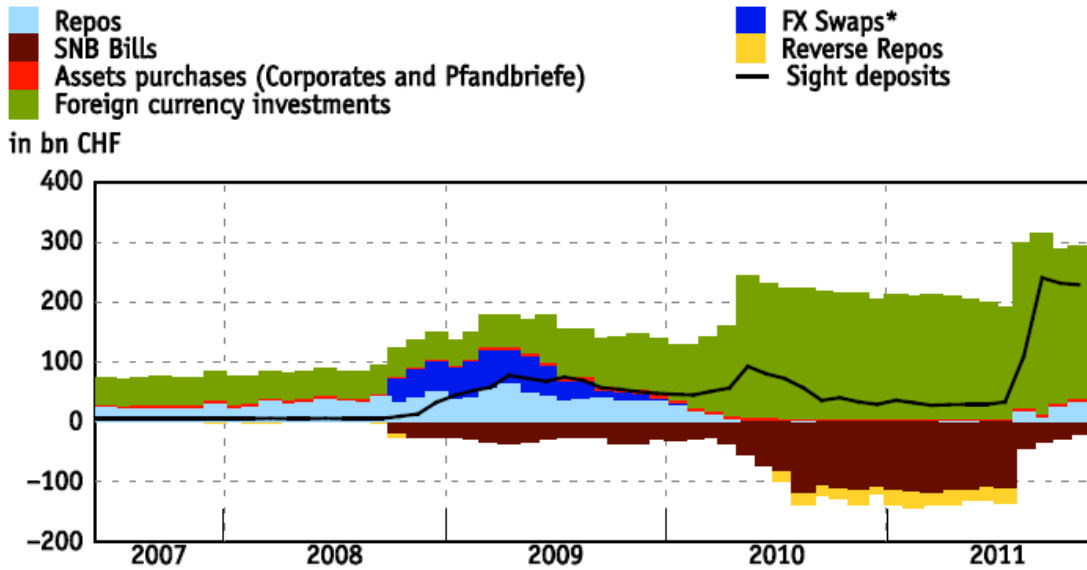
- Correlation between logarithmic changes in VIX and CHF/EUR
- Correlation between logarithmic changes in MSCI World Index and CHF/EUR



Sources: SNB Markets Analysis Platform, Datastream

Chart 3:

### SNB Monetary Operations

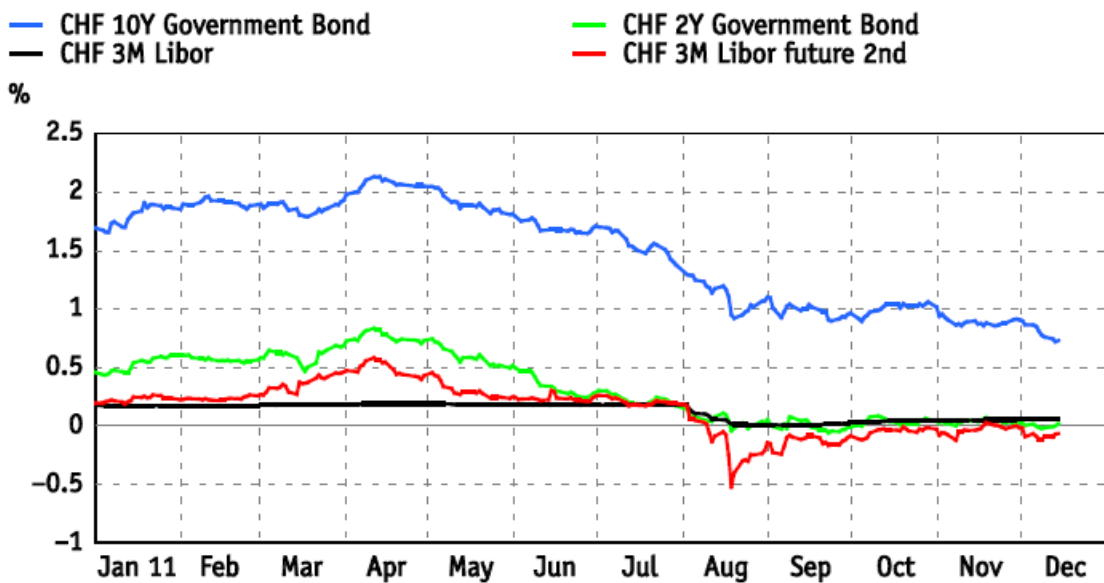


Source: SNB Markets Analysis Platform

\* Based on central banks' agreements to provide markets with Swiss franc liquidity. Other foreign currency swaps are grouped together with foreign currency investments.

Chart 4:

### Development of CHF Interest Rates

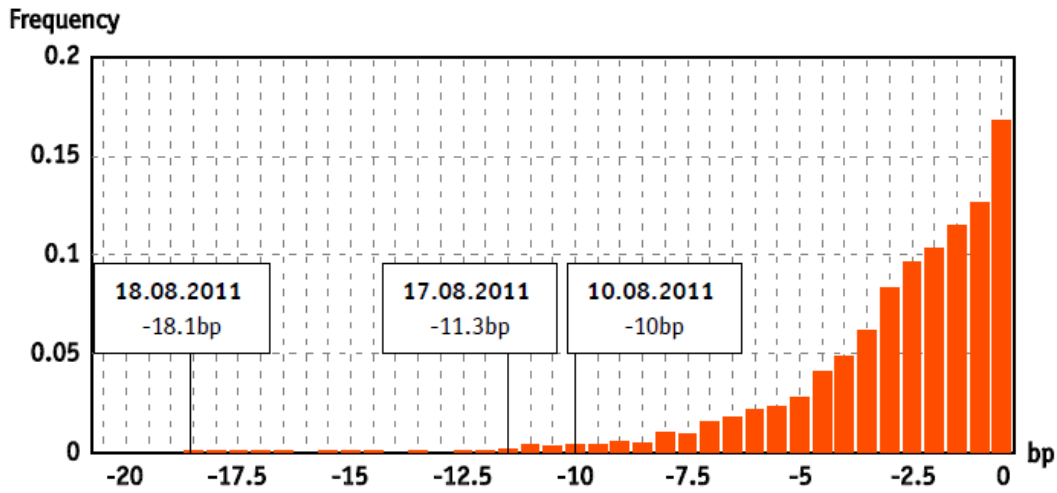


Sources: SNB Markets Analysis Platform, Bloomberg

Chart 5:

## Decrease of Swiss 10yr Government Bond Yields

Distribution of negative daily basis point changes since 1995



Sources: SNB Markets Analysis Platform, Bloomberg