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Does the Swiss National Bank need equity?

Thomas J. Jordan*

Vice Chairman of the Governing Board

Swiss National Bank

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Introduction

The financial market turmoil in summer 2007 quickly gave rise to one of the most severe financial and economic crises of modern history. A major reason for this escalation was that banks had insufficient equity capital. Therefore, an important lesson from this recent crisis is that banks require more capital. Consequently, regulatory authorities and central banks around the world have worked hard to bring about stricter capital regulations. Switzerland, too, reacted quickly to these events and adopted specific measures to strengthen financial stability.[1]

Meanwhile, the Swiss National Bank (SNB) itself had to report heavy losses for 2010 and the first half of 2011 due to the strength of the Swiss franc – or, more precisely, due to valuation changes on its foreign currency reserves. Consequently, it suffered a substantial reduction in its equity. At times, there was even media speculation that the SNB would soon be reporting negative equity levels. Understandably in such a situation, concerns began to be voiced in public. Might the SNB lose its capacity to act as a result of a negative equity level? And, if its equity were negative, would the SNB have to be recapitalised, or might it even have to go into administration?

These are all very legitimate questions and I intend to talk about them in detail today. However, I will start right away by saying that the short answer to all these questions is 'No', because the SNB cannot be compared with commercial banks or other private enterprises. For one thing, a central bank cannot become illiquid. This means that a central bank's capacity to act is not constrained if its equity turns temporarily negative. Moreover, unlike other enterprises, it is not forced to implement recovery measures or go into administration. For another, central banks enjoy a funding advantage over conventional companies, owing to their banknote-issuing privilege, and, in the long term, they are able to rebuild their equity after suffering losses.

At the same time, I would like to point out that, even for a central bank, a persistently negative equity situation is not without its problems, as it can undermine the bank's

[1] For the big banks, capital regulations were already tightened in 2008, and a new liquidity regime was introduced in 2010. In addition, on 30 September 2011, the Swiss Parliament will hold its final vote on a bill designed to address the 'too big to fail' issue.

credibility and its independence in the longer term. For these reasons, it is important for a central bank to maintain a sufficient level of equity, or rebuild its equity following a loss. The SNB sees this as a key aspect.

Companies need positive equity

Let me now examine in greater depth the question of whether the SNB needs equity. In order to illustrate the concepts involved, I will briefly review what equity actually is. Generally speaking, equity represents the owner's claim to the assets remaining in a company once all debts have been paid off. Here is an example: In its balance sheet, a company reports assets (credit balances, claims, financial investments, etc.) to the value of CHF 1 million. At the same time, it owes its bank and its suppliers a total of CHF 600,000. These liabilities represent borrowed capital, or debt. If we deduct the liabilities from the assets – in other words, if the company pays off its debts – we are left, on the assets side of the balance sheet, with net assets of CHF 400,000, and, on the liabilities side, with the equity.

Equity is subscribed and paid in when a company is first set up. But equity can also be generated by the company itself. If the company's activities generate a profit, it can either pay that profit back to the owners (i.e. the shareholders in the case of a limited company) or it can retain it. If it decides to retain the profit, the company's equity is increased. By the same token, losses result in a reduction of equity. So equity levels are mainly dictated by economic success.

But why does a company need positive equity? On the one hand, equity provides protection for creditors. As long as a company has more assets than liabilities – i.e. positive equity – it can, in principle, meet all its obligations. If, however, a company's liabilities exceed its assets, it can no longer meet all its obligations – there are not enough assets available for it to do so. The company is overindebted, and thus insolvent. It needs to be either restructured or wound up.

But even before a company actually becomes overindebted, it can run into difficulties simply as a result of doubts being expressed about its solvency. In any company, short-term payment difficulties can arise, for example because it has insufficient liquid funds (cash, bank deposits). In order to remedy this so-called illiquidity, the company must either negotiate a payment deferral or borrow money. If it cannot do so, then the company will have to sell some of its assets. Depending on what caused the temporary lack of liquidity, a downward spiral can develop, eventually leading to insolvency, even though the company's equity was positive to start with.

Let's take a closer look at a downward spiral: By being forced to sell its assets, the company may deprive itself of operating equipment it needs; alternatively, the price it receives for these assets may be far too low. This is what happens with 'fire sales' in the banking sector when, in order to obtain liquid funds, illiquid financial assets have to be sold off as fast as possible, and thus practically at whatever price they will fetch. Forced sales usually result in losses on such assets. They also limit the future profit potential, which can often lead to insolvency.

In sum: At private companies, negative equity is never a viable situation. A robust equity position does more than offer protection in the event of losses – it is also essential for ensuring the company's capacity to act, even during normal times. It sends an important signal to the various creditors, and to potential lenders, that the company is healthy and therefore able to meet its outstanding obligations even during a temporary liquidity shortage.[2] By law, companies and commercial banks that do not have sufficient capital must either be restructured, i.e. provided with new equity, or – in the worst case – wound up.[3]

Central banks can continue to operate, even with a negative equity position

So what about central banks? Can these same arguments be applied to the SNB?

The answer is 'No'. A central bank, for a number of reasons, cannot be compared to a company from the private sector, or indeed to another bank. The problems associated with an insufficient equity base do not arise, or at least not in the same way. First, a central bank cannot run into liquidity problems. Second, in the long term, it will always return to a profit-making position, with which it can build up an adequate equity base after a period of losses. I would now like to take a closer look at these aspects.

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[2] Thus, it is no coincidence that equity plays a central role in the analysis of company and counterparty creditworthiness (ratings).

[3] Cf., for instance, the provisions of art. 725 CO.

Central banks do not have liquidity problems

The first reason why a central bank is in a special position is that it cannot experience liquidity shortages. It can always meets all its payment obligations, because it can itself create the necessary liquidity.[4]

This is the decisive difference between a central bank and a private company. But how does it come about?

If a private company takes out a loan, the interest rate, term and amount of the loan are contractually defined. The times and amounts of the interest payments and the principal are set obligations. When a payment falls due, the borrower must have sufficient liquid funds at its disposal to meet the obligation. If it does not have liquid funds, it will – as I mentioned before – have to either sell shares or take out a loan.

With a central bank like the SNB, the financing works differently. First, the SNB's borrowed capital is largely made up of banknotes in circulation and banks' sight deposits at the SNB.[5] Together, these two components form the monetary base. This cannot be compared to borrowing by conventional companies. The SNB pays no interest on these liabilities, they have no fixed term, and the 'loan amount' can in principle be set by the SNB.[6] Thus, there are no obligations comparable to those under a loan agreement for private companies. Since, moreover, banknotes and sight deposits are legal tender, these liabilities are also not callable in the strict sense, but can only be swapped against each other – as legal payment instruments of equal value.

For example: If one of you wants to return a banknote to the SNB (i.e. your 'loan' to the National Bank) and redeem the corresponding countervalue, we will simply give you a new banknote of the same face value. Or another example: If a bank wants to redeem its banknotes, it will only receive a credit on its sight deposit account in return. The monetary base remains unchanged.

Second, the SNB is legally entitled to settle outstanding claims by creating Swiss francs 'out of thin air', so to speak. In this connection, people also say that a central bank can 'print

[4] By contrast, settlement of foreign currency payment obligations is not automatic, and cannot be performed at any time. What is critical here is whether the central bank can obtain the foreign currency on the foreign exchange market or through other channels.

[5] These sight deposits represent a loan from the commercial banks to the SNB.

[6] However, the general public makes its own decisions on preferences with regard to holding cash.

money'. Thanks to this autonomy – the 'banknote-issuing privilege' – the SNB never suffers from a liquidity shortage. If the SNB has to repay an SNB Bill – its own debt certificate – that falls due, it simply credits the sight deposit account of the commercial bank in question. Vice versa, it can always issue securities such as SNB Bills in order to reduce liquidity in the system.

Since it is impossible to have a liquidity shortage in one's own currency, even a negative equity position for a central bank does not present a problem for its counterparties. For, unlike other companies and banks, the central bank would always be able to meet its future obligations in its own currency. Counterparties of a central bank with a temporarily negative equity position are, therefore, no worse off than those of a central bank with a large equity buffer. For this reason, creditors' confidence in the central bank's ability to meet its financial obligations is not diminished. Moreover, the central bank does not have to hold 'fire sales' to obtain more liquidity, and thus the downward spiral associated with private companies does not begin.

A central bank's ability to continually service its obligations has far-reaching consequences:

First, the SNB retains its capacity to act even when it has to report a negative equity position for a short period.[7] 'Capacity to act' means that the central bank is fully capable of implementing its monetary policy decisions and carrying out its monetary policy mandate at all times.

Second, given a situation of negative equity, there is no legal obligation to restructure the central bank, let alone wind it up, unlike the procedure prescribed by the Swiss Code of Obligations (CO) and the Debt Collection and Bankruptcy Act (DCBA) for private companies that find themselves in such a situation.

The SNB performs a public-law mandate, which has been conferred upon it by the Swiss Federal Constitution. For the SNB – as a body with a constitutional mandate – to be wound up and the Swiss franc to be replaced, a constitutional amendment would be required. Moreover, winding up the SNB would have to be done by means of federal legislation. The

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[7] In the SNB's case, equity is made up of provisions for currency reserves, the distribution reserve and share capital. Annual losses are covered from the distribution reserve, which can be negative. If the negative amount of the distribution reserve is greater (in absolute terms) than the amount of provisions for currency reserves and the share capital, the SNB reports a negative equity position in its balance sheet.

bankruptcy provisions of the DCBA thus do not apply; indeed, their application would be in direct contradiction to the Constitution.

Logically, therefore, neither the National Bank Act nor the Code of Obligations nor the DCBA present any legal obstacle to the SNB continuing its operations with negative equity. Neither the Bank Council nor any other SNB body would be required to take legal measures in the event of negative equity. In addition, there is no obligation for either the shareholders (private individuals and the cantons) or the Confederation to make good any negative equity situation through a mandatory injection of funds or similar measures.[8]

Central banks' funding advantage leads to profits over the long term

Let me now turn to the second reason why a period of negative equity does not pose a problem for a central bank. Averaged out over the long term, central banks always make profits, which are often referred to as 'seigniorage'. With these profits, central banks can always rebuild their equity levels after losses. The main reason for their ability to achieve profits is that central banks – unlike private companies – can normally finance their assets virtually for free, thanks to their banknote-issuing privilege.

How do long-term profits come about?

Just as with a private company, central bank assets generate income. However, a central bank does not usually have to fund itself via interest-bearing borrowed capital, since the monetary base mentioned earlier is a very special form of funding, which carries a minimal cost. For example, the SNB pays no interest on banks' sight deposits, and the cost of banknote production and cash distribution is negligible compared to the nominal value. So this funding is practically free, resulting in a structural profit for the central bank.[9] According to the National Bank Act, profits must first be used to set aside sufficient provisions (for currency reserves). In this way, the equity is increased – or rebuilt following a loss – since provisions for currency reserves must be counted towards equity regardless of

[8] Here, current earnings such as interest income and dividends should be differentiated from mere changes in valuations and exchange rates. Current earnings on securities generally occur periodically and are always positive. By contrast, valuations on securities and gold, as well as exchange rates, can be subject to large fluctuations in both directions.

[9] The second way of funding central bank assets is through equity. No interest has to be paid on equity; only if profits are earned is it remunerated. This remuneration can take the form of dividends and, in the case of the SNB, profit distributions to the Confederation and the cantons. SNB Bills can also be an important form of funding for the SNB under certain circumstances. Although interest has to be paid on them, the level is generally below the long-term yield on assets.

their designation. If there is a surplus, that amount – minus the dividend to the shareholders, which is limited by law – is distributed to the Confederation and the cantons.

In a long-term perspective, therefore, there is the potential for the SNB to achieve a profit, thanks to the banknote-issuing privilege. This applies even though the SNB's consistent exercise of its monetary policy mandate might at times result in substantial losses, which cause equity levels to become negative temporarily. While such losses may appear alarming, we should always remember that the SNB's annual results are, by their very nature, subject to considerable fluctuations. This has always been the case, and never more so than in the current period of exceptional monetary policy measures.

But why is it possible for the SNB to sustain losses? This usually occurs when the Swiss franc appreciates strongly. I would like to explain this to you, using two examples.

First, let's look back at the foreign currency losses of the 1970s. Following the collapse of the Bretton Woods monetary system, the SNB suffered huge valuation losses on its foreign currency positions. Over the next five years, the SNB's financial situation redressed itself, as a result of valuation gains and current earnings. Then, in 1978, the SNB once again reported foreign currency losses. And, once again, the SNB's balance sheet recovered, without a new injection of funds being needed. [10]

Second, let's take a look at the current situation, which, from a monetary policy perspective, is anything but normal. The financial, economic and debt crisis inflicted shock-like disruptions on the financial markets and the global economy. Switzerland was not left unscathed. In order to fulfil its mandate under these exceptional circumstances, the SNB had to implement a broad range of monetary policy measures, sometimes on a huge scale. These began with the stabilisation of the interbank market in August 2007, followed by the provision of US dollars to the market from December 2007 onwards. Then, in October 2008, interest rates were slashed and the stabilisation fund was set up. Finally, between March 2009 and mid-2010, the SNB intervened on the foreign exchange market. This year, to counter the strength of the Swiss franc, we have massively increased the supply of liquidity

[10] In both cases, the SNB had a negative equity position, which was not reported as such: in 1971, because of a guarantee from the Confederation – entered in the SNB balance sheet as a federal government debt obligation, although the SNB never needed to invoke it – and in 1978, because the loss was covered from undisclosed reserves. In contrast to the 1970s, today the SNB would report a negative equity situation openly and transparently.

to the money market, and on 6 September we set a minimum exchange rate of CHF 1.20 against the euro. This extensive use of monetary policy tools was, and remains, necessary to ensure the fulfilment of our legal mandate. In contrast to a private company or a commercial bank, the SNB's monetary policy decision-making is always driven by motives other than profit, and will continue to be so in the future. The motives that guide the SNB are the requirements that it ensure price stability while taking due account of the development of the economy. Occasionally, the SNB is obliged to substantially lengthen its balance sheet and thereby take on risks, in order to fulfil its mandate.

So far, the extensive use of its monetary policy toolkit has enabled the SNB to weather the effects of the recent crisis relatively successfully. But these measures have taken a considerable toll on our balance sheet and our income statement.

The most significant change in the balance sheet is doubtless the massive expansion in foreign currency investments. In times of high global uncertainty, the Swiss franc tends to strengthen, which results in valuation losses on foreign currency investments. The SNB's equity may decrease as a result, and in some circumstances can even turn negative. In particular, in such an environment, the interest income and dividends on foreign currency investments are nowhere near enough to offset the exchange rate losses. Thus the SNB – as I mentioned at the start of my speech – had to report heavy losses for 2010 and the first half of 2011. As a side-effect of setting a minimum exchange rate against the euro, part of the foreign currency losses were reversed. Yet, even with the minimum exchange rate, our balance sheet remains vulnerable to valuation changes; unfortunately, the risks have not disappeared. Losses could still occur on other currencies, or on gold. The amounts involved can build up rapidly, owing to the size of our balance sheet.

In the medium to long term, however, the interest income and dividends will gradually offset the exchange-rate-related valuation losses on foreign currency investments suffered to date.[11] Even if the exchange rate losses are substantial, the SNB's long-term structural profit potential will hardly be affected.[12] Consequently, despite the exceptional situation with a hugely inflated balance sheet, much more volatile positions and greater risks, the SNB can still achieve a structural surplus over the long term.

[11] Further valuation losses could result in the offset being slower and more difficult.
[12] Strictly speaking, the interest income on foreign currency positions is also limited by the exchange rate.

To recap: As regards the consequences of thin capitalisation, a central bank cannot be directly compared with a private company. First, even in the event of temporary negative equity levels, a central bank cannot get into a situation in which it is no longer able to fully settle its debts. It thus capable of operating without any restrictions. Second, in normal times the SNB achieves a surplus, which can be used to regularly top up or rebuild equity levels. So, as a rule, the question of whether the SNB's equity is too low does not arise. True, in a crisis the fulfilment of its monetary policy mandate can result in losses, and even in a situation in which equity is negative for a short period. Yet, because of the structural profit potential, this kind of situation is only likely to be temporary. Thus, a central bank can usually restore a positive equity position all on its own. So there is no requirement, or need, to actively restructure.

Robust equity basis ensures credibility in the long term

Even though the SNB would remain fully capable of operating even with a negative equity position, and legal recapitalisation measures would be unnecessary, we should not make light of the recent losses. Two considerations are of key importance here.

First, central bank losses can clearly have a substantial economic impact. Thus, regulatory specifications set out that, in the event of annual losses, the profit distribution to the Confederation and the cantons must be reduced or, indeed, discontinued altogether if a positive distribution reserve or a positive balance sheet profit is not available.[13] The SNB is aware that this can give rise to distressing shortfalls in Confederation and cantonal finances. At the same time, however, we should not forget that without the SNB's decisive monetary policy over the past few years, Switzerland might possibly have endured considerably greater economic damage. In this respect, it is important to recognise that the SNB's earnings performance can never be regarded as the yardstick by which the success of its monetary policy is measured, and that the SNB does not have a mandate to make profits.

Second, even for a central bank, a negative equity situation is not without its problems, especially if it persists. Long-term structural balance sheet problems might appear contradictory; are we not in a position to create our own money at all times? How is it possible that the capacity to act on monetary policy matters can still be constrained?

[13] Art. 31 para. 2 NBA.

Once again I would like to illustrate this with an example. A central bank's profit potential can be limited by certain kinds of crises; In extreme situations, even the emergence of a structural expenditure surplus is possible.[14] Given such a condition of sustained negative seigniorage, the central bank is forced to create money in order to cover running costs.[15] In doing so, however, it will lose control over monetary policy and the danger of inflation will arise. If a central bank is no longer able to ensure price stability, in other words, to secure the value of the means of payment, it will ultimately lose its credibility – and perhaps also its independence. And, as I am sure you know, credibility and independence are the most important prerequisites for a central bank's capacity to act.

However, I don't want you to misunderstand me here: In our case, we consider a development of this kind to be extremely unlikely, particularly since the SNB's current losses have arisen out of a position in which Switzerland – or rather its institutions and its currency – is strong.[16] It is precisely because of the high level of trust enjoyed by Switzerland throughout the world, and the strong demand for the Swiss franc that arises from this, that we have been forced to accept such large valuation losses on our currency reserves.

Nonetheless, I would again like to draw attention to the fact that the SNB is not managing its balance sheet carelessly. We consider it extremely important that everything be done to ensure that structural balance sheet problems do not arise in the first place, and that the balance sheet returns to normal, with an adequate level of equity.

Conclusion

I now turn to my final remarks and would like to come to a conclusion. Even though it is in a position of short-term negative equity, a central bank retains full capacity to act because it cannot become illiquid. Even with a negative equity position, legal measures do not need to be taken, in contrast to the situation for a private company. In addition, because of its

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[14] For example, valuation losses on currency reserves and low interest rates, in general, may sharply reduce the value of a central bank's income-generating assets and their earnings will decline accordingly. If, at the same time, high rates of interest have to be paid on borrowed capital, for instance because of liquidity-absorbing operations (SNB Bills, reverse repos), an expenditure surplus may emerge which further reduces equity.

[15] These are operating expenses and interest costs.

[16] There would have to be a substantial discrepancy between return on assets, on the one hand, and interest paid on borrowed capital as well as operating expenses, on the other, for a central bank to earn no profits over the long term.

banknote-issuing privilege, the central bank generates surplus income in normal times. This helps to gradually rebuild equity after losses have been sustained. However, in the long term, a sustained state of negative equity may undermine a central bank's credibility and independence. It is therefore vital that the SNB rebuild its equity as soon as possible after losses have been sustained, and that it maintain a strong balance sheet in the long term.

Just the same as for private companies, profits are required to rebuild equity, since 'printing money' does not lead to sustained augmentation of equity, as I explained before. Money creation merely allows the central bank to meet its payment obligations in full. Given its current balance sheet structure, the SNB clearly has no structural balance sheet problem. A gradual rebuilding of equity is to be expected. Nevertheless, considerably greater fluctuations in the annual result are likely in the near future. The certainty of profit distribution to the Confederation and the cantons will decline accordingly. There may be years in the future in which no distribution can be made. The prerequisites for a distribution are, first, sufficient equity and second, positive profits, or, in other words, a positive distribution reserve or a positive balance sheet profit. If distributions were to be made without taking account of the result, existing capital – already weakened by the SNB's losses to date – would be increasingly eroded. These aspects are also reflected in the National Bank Act and in the new profit distribution agreement which the Federal Department of Finance and the SNB will conclude before the end of the year.

We are aware that the volatile annual results are neither simple nor pleasant for the Confederation and the cantons, as recipients of the profit distributions, to deal with. To ensure that the SNB can carry out its monetary policy mandate without restriction, also in the long term, in the interests of the country as a whole, it is essential for the time being that its capital base be adequately rebuilt. This means that the necessary profits must be earned, and retained. In the long run, the entire economy will benefit.