Jean-Pierre Danthine: Credit – is the sky the limit?

Introductory remarks by Mr Jean-Pierre Danthine, Vice Chairman of the Governing Board of the Swiss National Bank, at the International Center for Monetary and Banking Studies, Geneva, 16 April 2013.

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1. Introduction

The Swiss Federal Council has recently decided to activate the countercyclical capital buffer (CCB) acting on a proposal by the Swiss National Bank (SNB). The key feature of this new tool is to counter the "pro-cyclical" behavior of financial institutions whose collective action can be a source of systemic risk. To this end it requires banks to temporarily increase the level of capital they must hold as a backing for mortgage loans on residential property. In doing this, Switzerland is one of the first countries to make effective use of a tool advocated by the international community as a means for preemptively dealing with cyclical risks to financial stability.

What was the motivation for activating this instrument? The main goal of the CCB is to increase the resilience of financial institutions against the background of imbalances in the domestic mortgage credit and housing markets that have been building up gradually over the last several years. In 2012, these imbalances intensified further reaching levels that pose a risk to the stability of the banking sector, and hence to the Swiss economy. Here, two facts stand out.

First, real estate prices in Switzerland have been persistently increasing since 2000, at accelerated speed since 2008, reaching levels estimated to be 40 to 60% higher than 12 years ago (see Figure 1).[1] Second, the growth of credit volumes has been significant with the consequence that credit volumes relative to gross domestic product (GDP) have reached new historical peaks (see Figure 2a and 2b). The fact that these two developments have progressed hand in hand spells out conditions that may lead to subsequent financial instability. Indeed, historical evidence – widely documented by the Bank for International Settlements (BIS)[2] – shows that such a twin development – elevated residential prices and dynamic credit growth – constitutes the prime advance indicator of financial instability. We only have to look outside our borders, to the US and various regions of Europe, or back through Switzerland's own past to get a feel for the devastating consequences on the real economy of financial crises originating in real estate excesses.

2. Credit: is the sky the limit?

Today I would like to focus on one of the two critical elements mentioned above, the growth of credit volumes. Figure 2b easily explains the question asked in the title: is the sky the limit? The answer is just as easy. Clearly the credit-to-GDP ratio cannot grow indefinitely because otherwise the cost of servicing the debt would end up exhausting the whole of GDP. In other words: What we observe here cannot be the manifestation of a secular trend! As we

[1] Since 2000, average growth rates of real supply prices for single-family houses and owner-occupied apartments come to 2.5% and 3.7%, respectively (annual growth rates based on quarterly data provided by Wüest&Partner).

[2] Borio, C. (2012); see also Schularick, M. and Taylor, A. (2012)

will see, making sense of this development is less trivial. To get a broader perspective on this question let us enlarge the picture shown in Figure 2b.

Figure 3 provides the international dimension. As is clearly visible, there has been a substantial built-up of credit relative to GDP on a global scale over the last decades. There are some notable differences in the size, timing and scope of this development between individual countries but the general direction is the same. Ominously the upward trend was particularly steep in the run-up to the recent financial crisis in those countries that were subsequently most heavily affected (US, Ireland, Spain, UK).

Figure 4 looks at the Swiss data from an earlier starting point. Here one is struck by the fact that the recent significant upward trend in the credit-to-GDP ratio has been preceded by an even more spectacular jump during the 1970s and 1980s, pushing the ratio to about 150% – a high level in international comparison. During the 1990s, it then fluctuated around this mark. From 2000, we again observe an increase in the ratio[3], at accelerated speed since 2009, such that, as of today, the ratio has reached about 170%.[4] This more recent upward trend seems to be continuing unabated.

How can we understand these developments? And can this understanding form a basis for predicting the likely future evolution of this variable in Switzerland? These are the questions I would like to focus on in this speech.

To begin with, let me argue that if the dynamics in credit-to-GDP observed since the 1970s cannot be construed as an ongoing trend, the recent development must either be viewed as a structural adjustment to a new plateau – which seems to have been the case until 1990 – or as a cyclical upswing to be followed by a later correction. Schematically one can describe these possibilities in terms of Figure 5.[5] In the first case, the implication is that at some point, credit volumes will be growing in line with GDP again. This could be either the result of an acceleration of nominal GDP growth at constant credit volume growth, or of a moderation of credit growth to adapt to the long run growth rate of nominal GDP. In the second case, that is if the situation is rather one of a cyclical upswing, then clearly credit growth will have to undershoot nominal GDP growth for many years in the future. In both cases the present situation with credit growth significantly exceeding nominal GDP growth is not sustainable. However, the challenge to the financial industry to adapt to a much lower growth of credit is clearly larger in the second. This holds even if a harsh backlash in the form of an outright crisis can be avoided.

Unfortunately it is not possible to precisely ascertain where we stand and what the future holds in store. Nevertheless, I will try to bring some clarity to the issue by examining – first – possible explanations for an increasing credit-to-GDP ratio (section 3), then by assessing their explanatory power in the Swiss case (section 4). Section 5 will conclude.

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[3] Between 2006 and 2008, the ratio temporarily decreased, as a result of the strong growth of GDP in this period.

[4] In this context, it is important to note that a vast majority of outstanding loans in Switzerland are granted as mortgages (mortgage volume to GDP: approx. 140%). The discussion of the Swiss situation will thus focus mainly on mortgage loans.

[5] As a third scenario it is also conceivable that there is a structural shift during which credit overshoots temporarily. This would also imply a certain correction down the road. However it would be clearly a less pronounced one than in the pure cyclical case.

3. Possible explanations for increasing credit-to-GDP ratios

3.1. Supply side considerations: Financial liberalization, the likely explanation for the 1970s and 1980s

A first important reason for an increase in credit volumes can be found in an improved availability of credit. It is well recognized that quantity rationing is prevalent in credit markets.[6] Technical innovation and regulatory changes have an impact on the extent of credit rationing and thus very directly on the volume of allocated credit. The financial liberalization of the 1970s and the 1980s and technical innovation in financial services that resulted are therefore natural and plausible explanations for the spectacular credit development observed internationally in the later part of the last century. Here, a permanent adjustment to a new plateau seems to be a viable explanation. This does not mean that such an adjustment process is innocuous from the perspective of financial stability, nor does it imply that the adjustment process cannot overshoot. Indeed, a higher credit-to-GDP ratio means a higher degree of leverage which, in all cases, is likely to increase the fragility of the financial system.

3.2. Demand side developments

Second, structural changes in the demand for credit are also a conceivable driver of an increasing credit-to-GDP ratio. For example, an economy-wide perception of improved growth opportunities justifies a broad increase in borrowing to finance investment projects. One can thus rationalize an increase in the credit-to-GDP ratio in economies in the process of catching up with advanced economies. This is a plausible element of explanation for credit developments in the case of a country such as Japan in the 1960s and 1970s. It is, however, much less plausible in the case of mature countries such as Switzerland in the latter part of the period of observation (Figure 3).

Other structural changes in credit demand are also conceivable. For instance, it can be argued that the financial liberalization of the 1970s and 1980s (together with related sociological developments) has significantly affected the public attitude towards indebtedness making it much more socially acceptable, in particular with regard to consumption financing. Further structural changes on the demand side, such as demographic transitions or an increase in idiosyncratic income risk could lead to an increase of credit demand for consumption smoothing purposes. It is difficult, however, to connect these theoretical considerations with the realities of developed economies in the last decades. In particular the demographic trends observed in advanced countries (also in Switzerland) would imply a structural shift towards less rather than more borrowing.

3.3. The role of the interest rate

Third, the role of the interest rate deserves special attention when thinking about credit developments. The interest rate is of course an endogenous variable when examining the demand and supply for credit. Yet additional insights are possible when considering it separately. For instance, a structural low interest rate level such as typically observed in Switzerland can help explain a relatively high credit-to-GDP ratio in international comparison. Similarly a prolonged period of exceptionally low rates such as the one we are currently experiencing is a potential explanation for an increase in credit volumes.

At a superficial level this relation is obvious. Low interest rates reduce the cost of servicing a given credit which becomes affordable for a broader range of households. Alternatively, borrowers can afford higher credit lines. Moreover, low interest rates translate into higher asset prices and higher notional wealth. The increased collateral values support higher credit lines and decrease the amount of credit rationing. This is, in particular, relevant with

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[6] Stiglitz, J. and Weiss, A. (1981)

reference to the real estate market where higher house prices imply higher mortgage volumes to finance the same stock of housing.

The rationality of this explanation has to be relativized, however. This is certainly the case if we think of credit financing long run projects such as real estate. Here the average interest rate over the life-time of the credit must be relevant for investment decisions. An exceptional, prolonged period of low rates might imply a decrease in the lifetime average rate, a form of "window of opportunity". However, the very fact that interest rates must – eventually – rise again implies that credit expansion based on low interest rates cannot be viewed as a shift to a permanent higher credit level. At higher interest rates, credit demand will decline once again. To the extent that the credit expansion was driven by miscalculations on credit affordability, this may even lead to a crisis.

3.4. Behavioral biases

The latter remark leads to a fourth potential explanation, that is, credit expansion driven by behavioral biases. As highlighted by Hyman Minsky[7], the credit cycle appears to be driven by "waves of optimistic and pessimistic sentiment"[8]. In an upswing, expectations about future developments may turn erratically exuberant. Observing a long period of price increases, investors tend to believe that new circumstances justify the perpetuation of the upward trend and act on this belief. Overconfident lenders and borrowers are increasingly ready to take higher risks. Ever increasing prices become a necessary condition to enable borrowers to service their debts. Then the tide turns. A few investors fail to meet their obligations, confidence crumbles, asset prices stop increasing or begin to fall and optimism turns into a wave of pessimism. Clearly, credit expansion driven by such erratic beliefs is a cyclical phenomenon and no viable explanation for a sustainable increase in the credit-to-GDP ratio.

As we have seen, there are various potential explanations for an increase in the credit-to-GDP ratio, some suggesting a permanent, structural increase in this ratio, others hinting at a temporary, cyclical upswing. Which of those explanations can plausibly contribute to explain the remarkable development of credit-to-GDP ratio in Switzerland highlighted before?

4. A plausible explanation for the current Swiss developments

As already hinted at, the review of possible structural drivers of an increase in credit volumes does not seem to provide solid support for arguing in favor of a recent permanent shift in the case of Switzerland. Switzerland has a highly developed financial system. Economic stability, a high wealth level – Swiss households' stock of financial assets amounted to about 3.5 times GDP in 2011 (Figure 6) – a high savings rate and structurally low interest rates are probable reasons for high credit volumes, possibly even a high credit-to-GDP ratio, in international comparison. It is not clear, however, how one could argue that significant changes in these structural factors are currently at work.[9] By contrast, many of the cyclical drivers that we have discussed appear highly plausible in the current circumstances. Specifically, the prolonged current period of ultra-low interest rates feeding into and being reinforced by rising real estate prices, combined with the potential for some of the above-mentioned behavioral biases, have a higher explanatory power. These developments bear clear risks for financial stability. Let me go into more detail.

We are currently experiencing a prolonged period of low interest rates (Figure 7a). This holds globally as well as in Switzerland; it is one of the key consequences of the financial crisis of

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[7] Minsky, H.P. (1982)

[8] Keynes, J.M. (1936)

[9] For instance, wealth of Swiss households relative to GDP, measured in terms of financial assets, shows no clear trend over the last decade (Figure 7).

2008–09 and the sluggish recovery recorded since 2009. In the fall of 2008, the SNB lowered the policy rate significantly to counter unwarranted tightening of financial conditions and the risk of deflation and recession. Since then, the policy rate has been kept close to zero and, in September 2011, the SNB set a minimum exchange rate for the euro against the Swiss franc to ensure appropriate monetary conditions for the Swiss economy. In this environment the interest rate is not available as an instrument for influencing developments in the credit market. As a consequence of this exceptional period of low rates, Swiss mortgage rates have fallen substantially over this time period, with advertised rates for 10 year mortgage credits hitting all-time lows in 2012 at 2.1%, substantially below the pre-crisis average of 4.7% (Figure 7b).

It thus comes as no surprise that credit growth, mainly driven by the growth of residential mortgage loans, accelerated from 2009 onwards (as shown before in Figure 2a). Given the rather rigid Swiss rental market, the decrease in mortgage rates has not been, until recently, accompanied by a similar decrease in rental rates. This has led to a situation where it may seem relatively more attractive to buy than to rent.

Such a prolonged period of ultra-low rates is also fertile ground for behavioral biases. It is, for instance, tempting to compute the cost of home ownership on the basis of a permanently low rate, a practice which can lead to grossly overestimating the cost advantage of home ownership. The persistent real estate price increases reported in Figure 1 are also relevant in this context. This can lead to an overestimation of housing wealth, on the one hand, or to an underestimation of the riskiness of mortgages granted on the basis of these elevated housing prices, on the other. A long period of rising prices also tends to feed beliefs that prices can only go up, contrary to all historical experience ("this time is different"-argument[10]). At the same time the low interest rates put pressure on the margins of lenders. This increases their propensity to compensate lowered margins with increased volumes. All this leads to increasing fragility and added riskiness. For Switzerland, indications of such a high risk appetite are found in recent survey data.[11]

Summing up, the analysis of the Swiss situation suggests that although structural factors can possibly explain a high level of credit-to-GDP in Switzerland in international comparison, they are unlikely to rationalize the most recent upward move in this ratio. The latter is likely to be a cyclical movement that could reverse when interest rates themselves return to more normal levels at some point in the future.

5. Conclusion: Fasten your seatbelts!

What does this analysis imply for market participants? As observed earlier, credit volume has gone from around 150% to around 170% of GDP in the past few years. This is the result of an average growth of credit of nearly 4%, while nominal GDP growth has averaged slightly above 1% over the same period. For this movement to be fully reversed, credit growth would have to significantly undershoot nominal GDP growth. The critical question is: could such a reversal happen smoothly, or in other words, is a soft landing possible? International experience (Figure 3) suggests this is a significant challenge. Credit-to-GDP ratios often fall in the wake of a severe crash, with pronounced falls in property prices and large increases in credit default rates; but this is exactly what we aim to avoid.

While the diagnosis cannot be totally certain until history has run its course, the lessons from the analysis are, in my mind, crystal clear. The large increase in leverage, presumably of a

[10] Reinhart, C. and Rogoff, K. (2009)

[11] According to SNB survey data, about 20% of new mortgages are granted for investments with a loan-to-value ratio above 80%, and 25% of newly originated mortgages are granted to lever existing mortgages. Moreover, in the case of 40% of new mortgages the imputed costs would exceed one-third of gross income at a mortgage interest rate of 5%.

cyclical nature, the elevated property prices and the evidence of high risk appetite translate for the Swiss economy into a state of high vulnerability requiring caution and the exercise of responsibility by all concerned. The activation of the CCB and the adoption of other prudential measures have to be seen in this perspective.

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Dynamic Swiss real estate markets

(Figure 1)

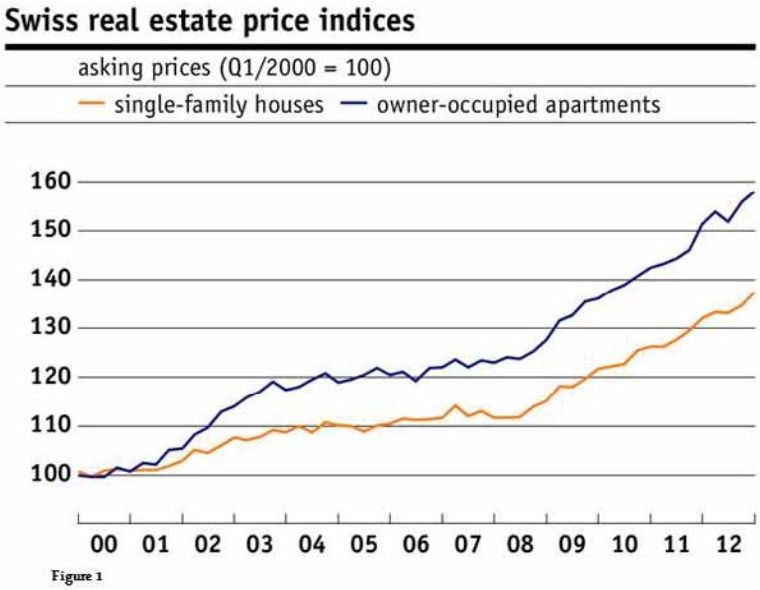


Figure 1

Sources: SNB, W&P

Substantial increase in credit-to-GDP ratio driven by persistent strong credit growth

(Figures 2a and 2b)

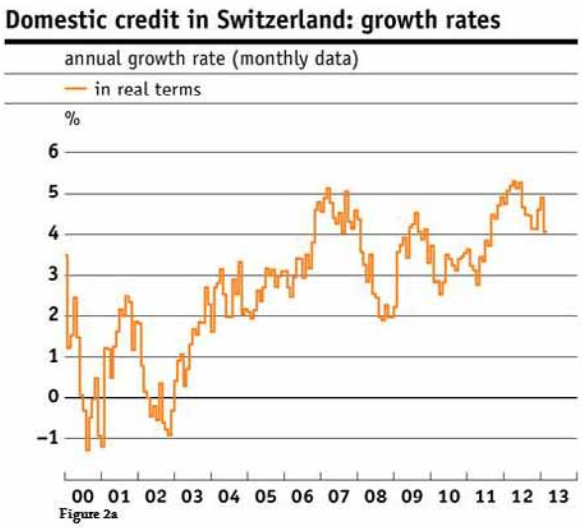


Figure 2a

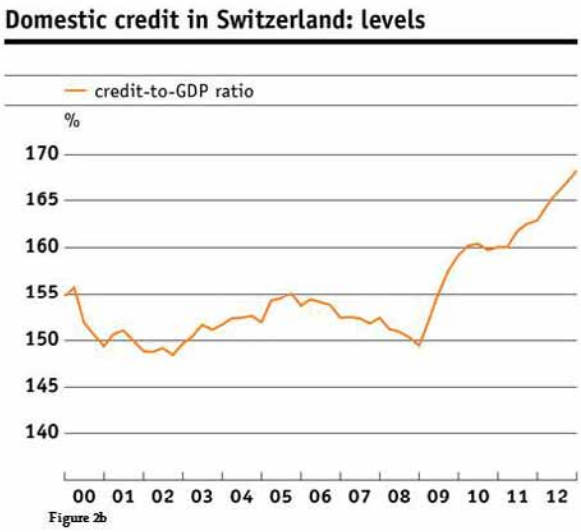
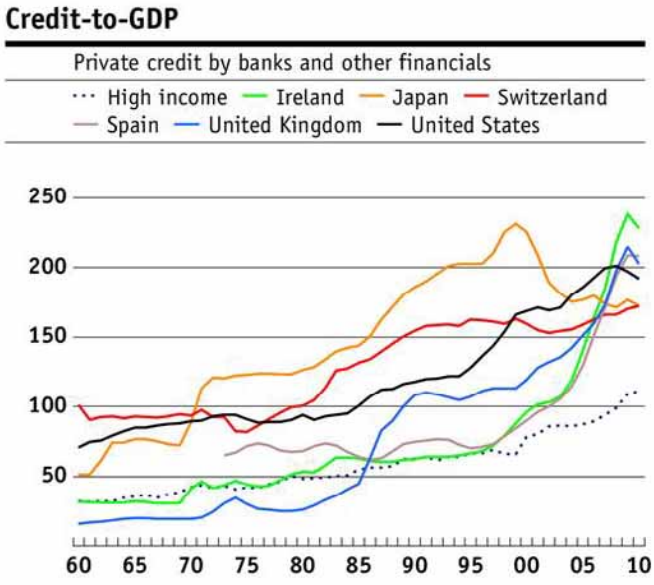


Figure 2b

Source: SNB

Credit-to-GDP: international comparison

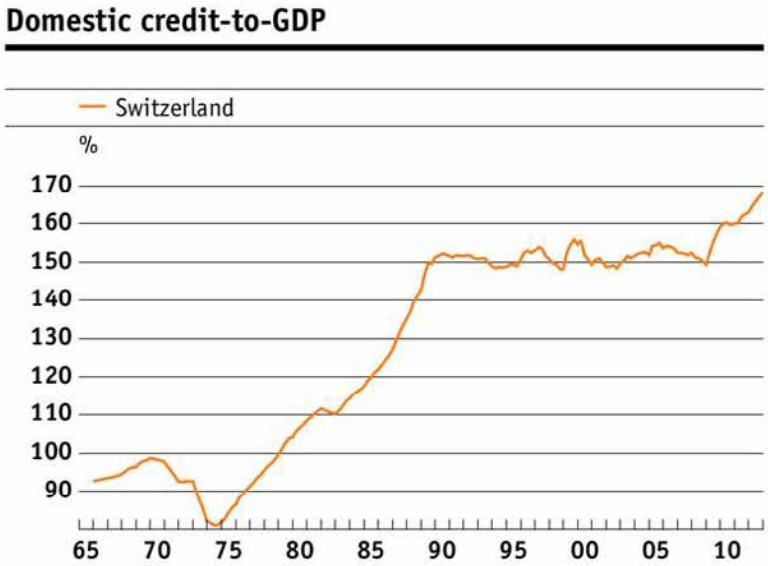
(Figure 3)



Source: Worldbank

Long-term development of credit-to-GDP in Switzerland

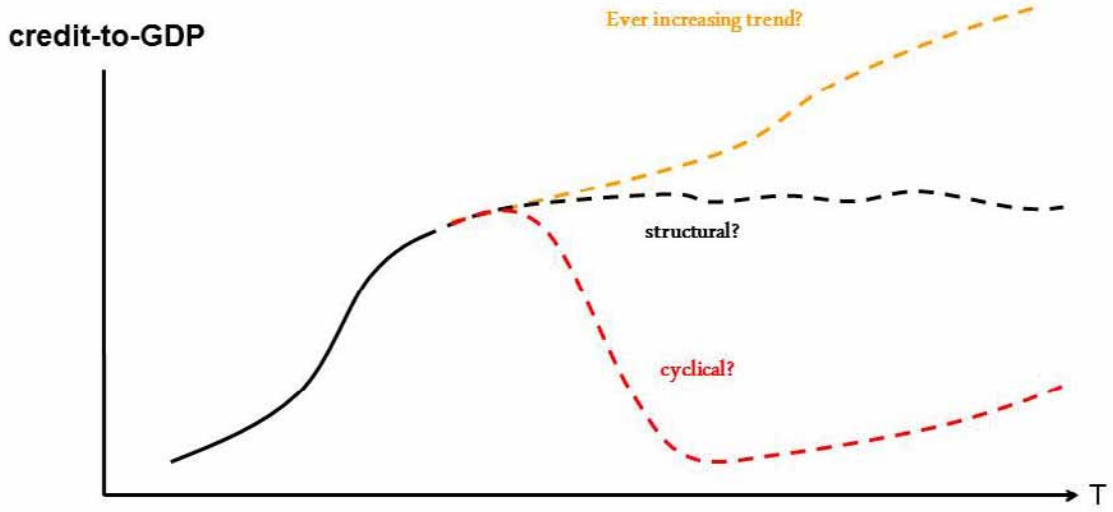
(Figure 4)



Source: SNB

Current trend in credit-to-GDP: a structural shift or a cyclical upswing?

(Figure 5)



Swiss case: structural factors may rationalize high levels of credit-to-GDP

e.g. high level of household wealth in Switzerland (Figure 6)

Source: SNB

Cyclical factors more plausible to explain recent move

extended period of low interest rates (Figures 7a and 7b)

Switzerland: Interest rates

Swiss mortgage interest rates

Source: SNB