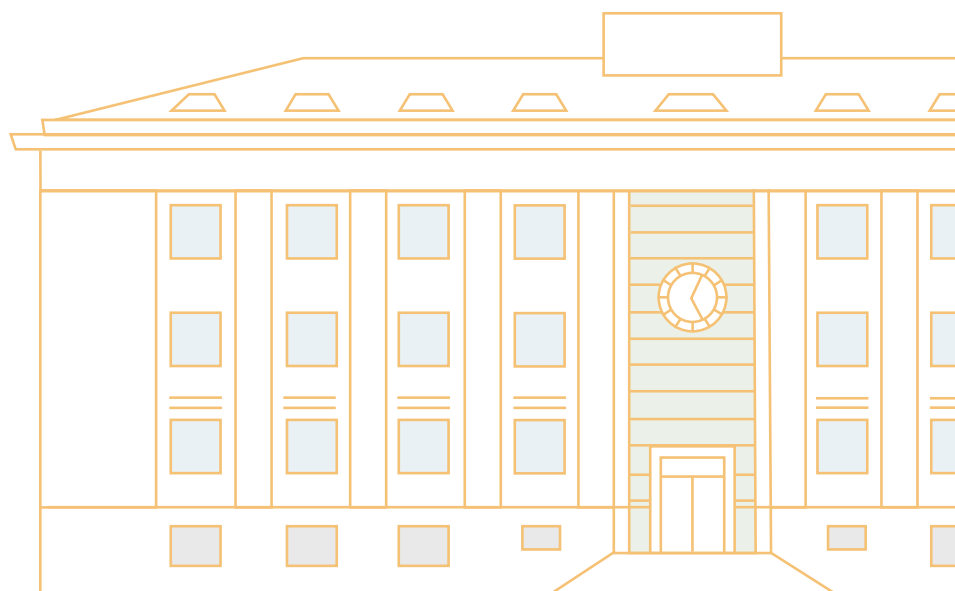




Some implications of the new agreement on the distribution of SNB profits

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Most recent version on: github.com/dankaufmann/snb_profits

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I simulate the distribution of SNB profits to the Confederation and Cantons under a hypothetical scenario, in which the new agreement between the Swiss National Bank and the Federal Department of Finance would have been in place from 2005-2019. All else equal, the new agreement leads to

- a higher average profit distribution;
- larger annual fluctuations of profit distributions, potentially complicating fiscal authorities' budget planning;
- pro-cyclical profit distributions (lower [higher] distributions during economic recessions [booms]).

Still, the SNB's profit distributions account for a relatively modest share of total government expenditures. In addition, to offset the volatile and pro-cyclical profit distributions, fiscal authorities may borrow on capital markets.

Introduction

On 29 January the Swiss National Bank (SNB) and the Federal Department of Finance (FDF) announced a new agreement on the distribution of SNB profits to the Confederation and Cantons (see FDF, 2021). According to Art. 31 of the National Bank Act (NBA, 2020), 1/3 of net profits (after distribution of a dividend to stock holders) accrue to the Confederation and 2/3 to Cantons. However, the SNB and the FDF must set up rules to curb excessive annual fluctuations in profit distributions.² Presumably, this requirement aims at facilitating fiscal authorities' budget planning. In practice, such an agreement usually fixes the distribution rule for five years.

¹ I thank Fabio Canetg, Reto Föllmi, Sarah Lein, Carlos Lenz, and Dirk Niepelt for invaluable comments and discussions.

² NBA (2020) Art. 31. al. 2: "*The Department and the National Bank shall, for a specified period of time, agree on the amount of the annual profit distribution with the aim of smoothing these distributions in the medium term. The cantons shall be informed in advance.*"

In the wake of the large expansion of the SNB's balance sheet, and amidst political discussions about SNB's profits, several articles emerged that shed light on different aspects of the SNB's profit distribution.

Brunetti and Föllmi (2021) explain how, why, and to whom the SNB distributes profits. In addition, they discuss general principles of a rules-based distribution scheme. Canetg (2020, 2021) highlights that the SNB's net profits, and therefore profit distributions, fall due to provisions for currency reserves. These provisions are not subject to the agreement between the SNB and the FDF. Rather, the SNB decides on how much profit it needs to retain to ensure an adequate level of capital.³ Finally, Niepelt (2020b) argues that the size and timing of SNB's profit distributions does not matter, at least if fiscal authorities can finance current expenditures by borrowing on capital markets.

To the best of my knowledge no study analyses the impact of the new SNB-FDF agreement on the size and volatility of profit distributions. This note aims to fill this gap. I compute the distributed profits under the new agreement and the evolution of the SNB's financial statements over the past 15 years. I then discuss to what extent these insights are relevant going forward. Importantly, this study assumes that changes in profit distributions do not have an impact on future profits of the SNB. This implies that profit distributions have no impact on the value of SNB's assets or on its provisions for currency reserves.

Key financial statement items

For understanding the size and timing of profit distributions we must discuss the SNB's financial statement.⁴ How much the SNB can distribute depends on the level of *net profits* (*Bilanzgewinn*). Table 1 shows that net profits comprise the SNB's *distributable annual result* (*ausschüttbares Jahresergebnis*) and the *distribution reserve* (*Ausschüttungsreserve*). The distributable annual result depends on the value of the SNB's assets,⁵ its monetary policy operations,⁶ and on operations to bolster its capital (*provisions for currency reserves*).⁷

The distribution reserve allows to smooth profit distributions over time. If net profit is exceptionally large, the SNB attributes the part that exceeds the agreement with the FDF to the distribution reserve. Meanwhile, if net profit is exceptionally low the SNB may still distribute a profit if the distribution reserve is sufficiently large.

The new agreement

The new agreement implies that the SNB can distribute CHF 2 bio., if net profits amount to at least CHF 2 bio. This ensures that the SNB does not make a net loss after profit distribution. This rule resembles previous agreements.⁸ The new agreement adds that the

³ See NBA (2020), Art. 30: "*The National Bank shall set up provisions permitting it to maintain the currency reserves at a level necessary for monetary policy. In so doing, it shall take into account the development of the Swiss economy.*"

⁴ See also SNB (2021) for a useful Q&A on the distribution of profits.

⁵ E.g. changes in the value of stocks, bonds, gold, mostly denominated in foreign currency.

⁶ E.g. asset purchases or sales that increase or lower the monetary base, and/or charging or paying interest on SNB liabilities.

⁷ Therefore, even if the SNB has a positive annual result, the net profit may be negative depending on how much the SNB allocates to provisions for currency reserves. See Canetg (2020) for a discussion of the SNB's allocation rule. In a previous version, net profits (*Bilanzgewinn*) were falsely translated as distributable profits. I thank Carlos Lenz for pointing this out.

⁸ There were supplementary agreements amending past five-year agreements (see e.g. FDF, 2020). All simulations are based on actual profit distributions, and therefore, account for these amendments.

SNB distributes CHF 3, 4, 5, or even 6 bio., if net profits reach CHF 10, 20, 30, or 40 bio., respectively.

Because the four additional thresholds allow higher distributions, the SNB will distribute more profits on average than under the old agreements (more precisely, it will not distribute less). If net profits change over time, however, the various thresholds imply larger annual fluctuations in profit distributions.

To support these two arguments more formally, I apply the distribution rule of the new agreement to the evolution of SNB's past distributable annual results. The data stem from public annual reports available on the SNB's website (see, e.g., SNB, 2020). I assume that the amount distributed does not impact the performance of the SNBs portfolio.⁹ Under this assumption, we can calculate a hypothetical path of the distribution reserve by adding the actual past distributions and subtracting the distributions implied by the new agreement. We then obtain a hypothetical path of net profits by adding the actual distributable annual result.¹⁰

Table 1: Profit distribution and distribution reserve (Source: SNB, 2020)

In CHF millions

	2015	2016	2017	2018	2019 ²
Annual result	-23 250.6	24 476.4	54 371.6	-14 934.0	48 851.7
- Allocation to provisions for currency reserves	-1 362.2	-4 649.7	-5 021.7	-5 423.4	-5 857.3
= Distributable annual result	-24 612.8	19 826.7	49 349.9	-20 357.4	42 994.4
+ Distribution reserve before appropriation of profit ¹	27 518.8	1 904.5	20 000.0	67 348.4	44 989.5
= Net profit	2 906.0	21 731.2	69 349.9	46 991.0	87 983.9
- Payment of a dividend of 6%	-1.5	-1.5	-1.5	-1.5	-1.5
- Profit distribution to Confederation and cantons	-1 000.0	-1 729.7	-2 000.0	-2 000.0	-4 000.0
= Distribution reserve after appropriation of profit	1 904.5	20 000.0	67 348.4	44 989.5	83 982.4

¹ Year-end total as per balance sheet.

² In accordance with proposed appropriation of profit.

⁹ This assumption may be violated, for example, if higher distributions lead to a more expansionary fiscal policy which impacts the monetary policy stance, the Swiss franc exchange rate, and/or the value of domestic assets.

¹⁰ This also implies that allocation to provisions for currency reserves remain unchanged in these simulations.

Figure 1: Distribution reserve (before distribution) and net profit

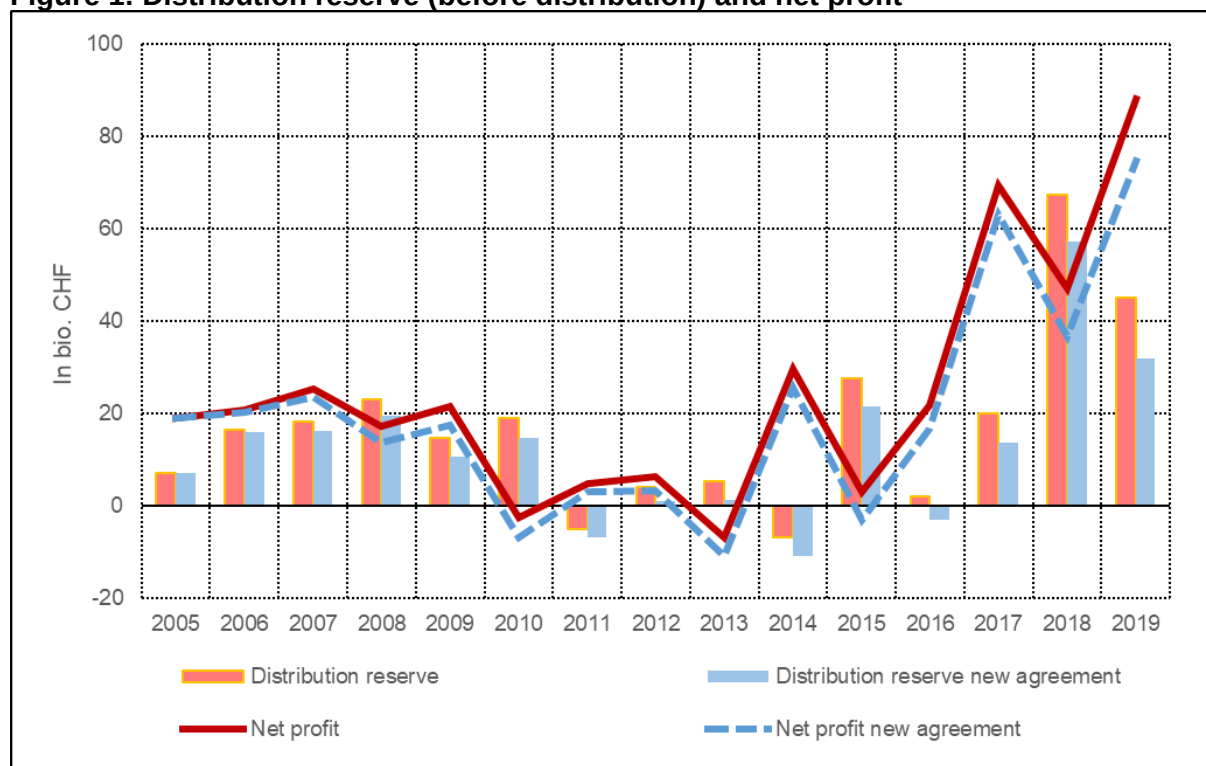


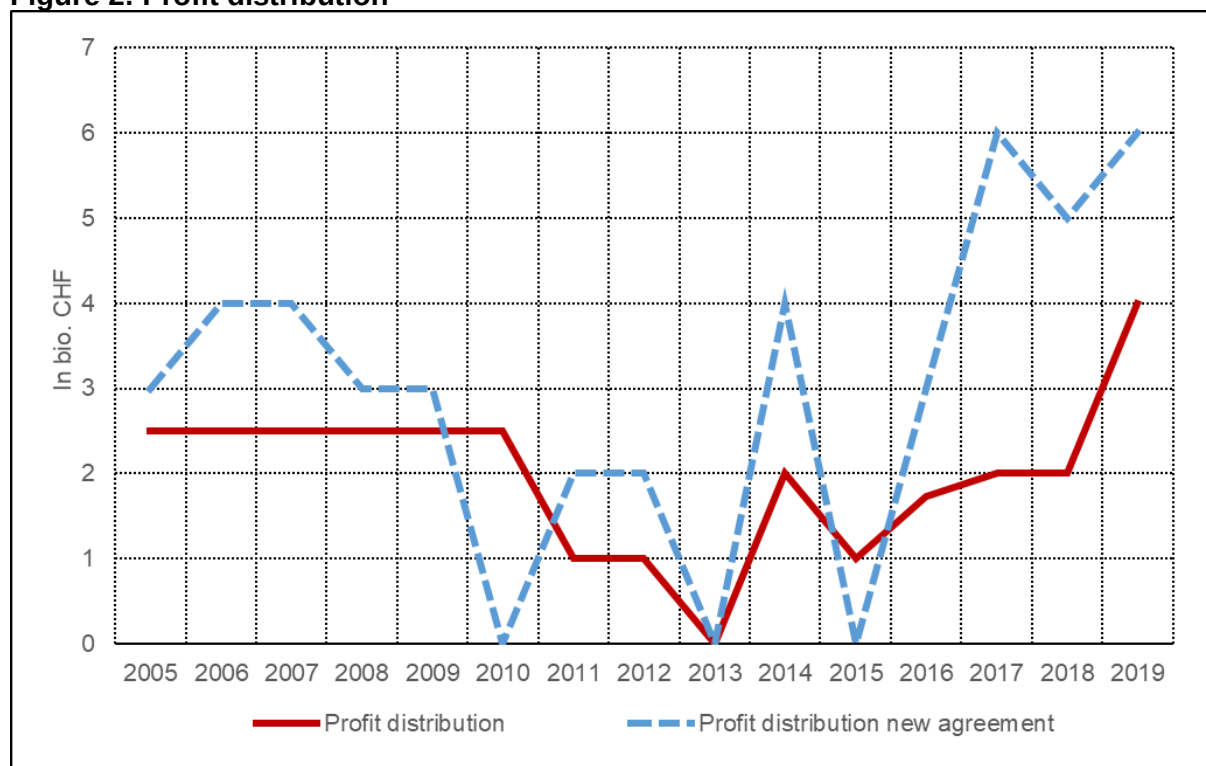
Figure 1 shows the actual net profit (solid and dashed lines) and the distribution reserve before distribution (bars). Actual figures are shown in red; hypothetical figures under the new agreement are shown in blue. Recall that the difference between net profit and the distribution reserve is the distributable annual result.

Two observations are in order. First, net profits started to fluctuate more strongly in the wake of the global financial and euro area debt crises. This is a consequence of the increase in the SNB's balance sheet and fluctuations in the value of the Swiss franc. Second, under the new agreement, the distribution reserve and net profits are lower. This is a result of higher profit distributions.

Higher, but more volatile profit distributions

Indeed, Figure 2 shows that the profit distributions are higher on average under the new agreement (blue dashed line). Under the old agreement, the SNB distributed CHF 2 bio. per year on average. The new agreement implies an average distribution of CHF 3 bio. In addition, the new agreement leads to higher annual fluctuations in profit distributions. There are some years (2010, 2015) without distribution. These years were characterised by a substantial strengthening of the Swiss franc. Intuitively, an appreciation of the Swiss franc erodes SNB's net profits due to book losses on foreign assets. Then, there are years with substantially higher distributions (e.g. 2011, 2014, 2017, 2018, 2019). Not surprisingly, perhaps, these were years with a stable or weakening Swiss franc and/or good stock market performance. Finally, the distributions are particularly high from 2016-2019. During this period, the SNB made high net profits, which also led to a substantial increase in the distribution reserve (see Figure 1). This high distribution reserve ensures persistently high profit distributions.

Figure 2: Profit distribution



Distributions tend to be pro-cyclical

SNB profits depend to a substantial degree on the Swiss franc exchange rate (an appreciation implies book losses, a depreciation book gains on foreign assets), as well as on the performance on (foreign) stock exchanges and (foreign) bond markets. Because Switzerland is a small open economy, its real economic performance also depends on foreign developments and on the strength of the Swiss franc. This implies that the distribution of SNB profits may be higher in an economic boom and lower in a recession. In other words, the distribution of SNB profits tends to be pro-cyclical.

Figure 3 shows a scatter plot of the distribution of profits against the SNB's business cycle index, an indicator measuring the Swiss business cycle (see Galli, 2018). The profit distributions under the old agreements (red dots) are slightly pro-cyclical (the trend line has a positive slope; the correlation amounts to 0.19). Under the new agreement, the distribution of profits becomes more pro-cyclical (the slope is steeper; the correlation amounts to 0.25). Therefore, fiscal authorities receive more profits when the economy is doing well, and less if the economy is doing badly. However, the estimate of this correlation is very uncertain. With a one-sided test (alternative hypothesis that the distributions are pro-cyclical), we reject the null hypothesis only at the 20% level.

The pro-cyclicality of SNB distributions may be a challenge for budget planning because tax receipts also tend to fall during recessions. If fiscal authorities are not willing or able to borrow the necessary funds to keep spending stable during a recession, the pro-cyclicality of SNB profits may make fiscal policy more pro-cyclical. This implies that fiscal authorities spend more during economic booms than during recessions, exactly the opposite of what would be desirable to stabilize the business cycle.

Figure 3: Profit distribution and business cycle fluctuations

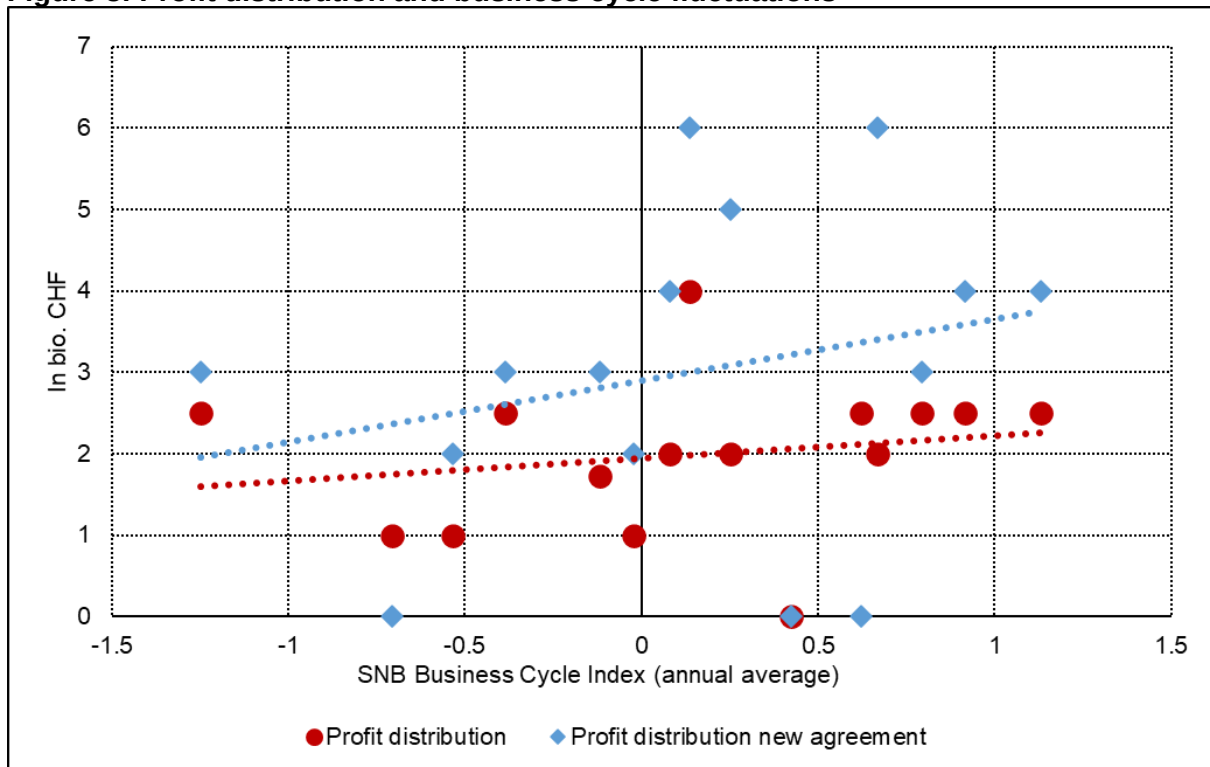
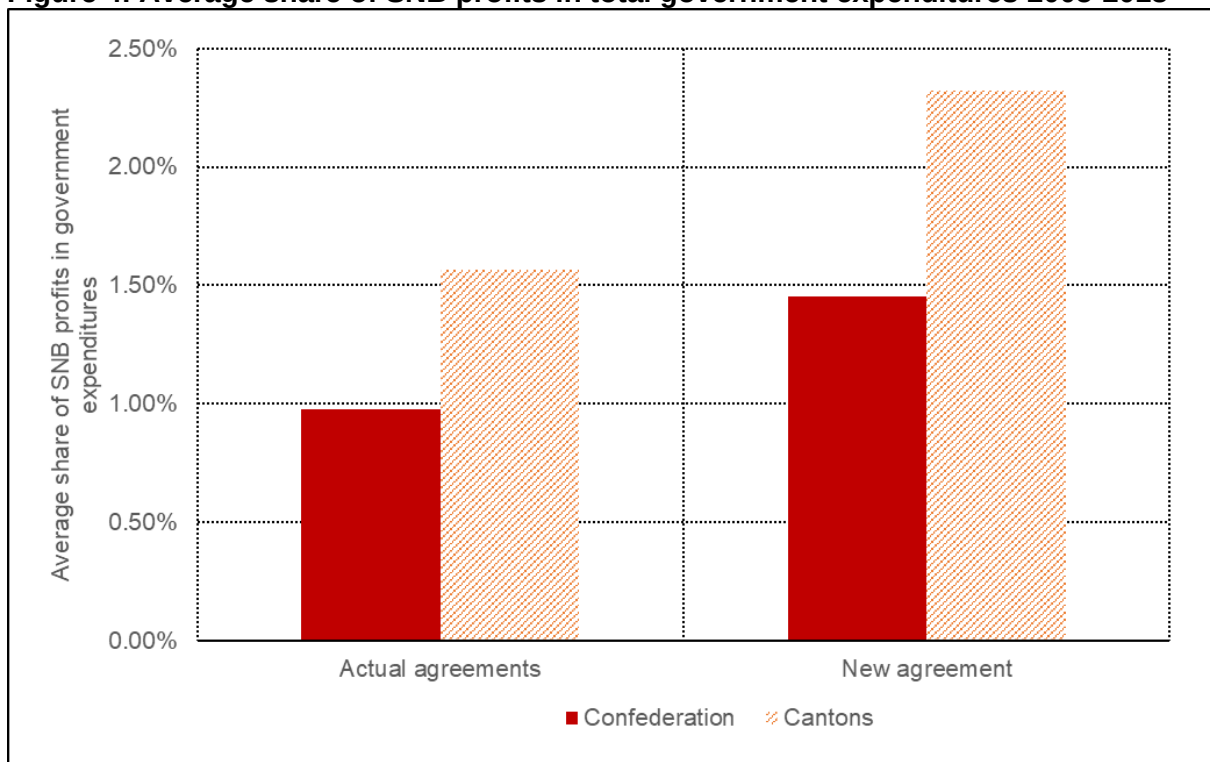


Figure 4: Average share of SNB profits in total government expenditures 2005-2018



SNB profits more relevant for Cantons...

Having said that, the pro-cyclicality of profit distributions may not matter if they are a small source of government expenditures. Recall that Cantons receive 2/3 and the Confederation 1/3 of profits. This allows to compute receipts of SNB profits by Cantons and the Confederation. I compare these receipts with data on total annual expenditures from 2005-2018 from the Federal Finance Administration (see FFA, 2021).

Figure 4 shows the average share of SNB profits in total government expenditures. This share is low for both, the Confederation and Cantons. SNB profits are a slightly more important source of financing expenditures for Cantons.

...but governments may smooth expenditures on their own

Even if fiscal authorities critically depend on SNB's profit distribution, it is not evident that the size and timing of these distributions, and therefore their pro-cyclicality, matter in practice (see Niepelt, 2020a, 2020b). There are mechanisms that allow governments to spend more during recessions independent of their revenues. One example is the debt break of the Confederation that allows for higher deficits (and higher debt) during downturns and higher revenues (and lower debt) during economic booms.¹¹ For such a mechanism to work, however, a fiscal authority must be able and willing to obtain funds on capital markets to smooth expenditures. The Confederation can borrow at attractive interest rates. Therefore, the pro-cyclicality of profit distributions is not much of an issue. However, some Cantons may not be willing (or able) to borrow more on capital markets to smooth volatile profit distributions; moreover, they tend to be charged higher interest rates. Therefore, they may choose to implement austerity programs during recessions (see, for example, Top Online, 2021). The pro-cyclicality of profit distributions is therefore a bigger issue for those recipients that have a less favourable access to capital markets.¹²

Two neglected factors with opposite impact on future profit distributions

Can we extrapolate these historical simulations to the future? Not quite, for two reasons. First, the SNB's distribution reserve is much higher than in 2005. A higher distribution reserve implies, for a given distributable annual result, a higher net profit and therefore higher profit distributions. Second, the SNB currently allocates more to provisions for currency reserves than in the past. This lowers its net profit (see Canetg, 2020). Currently, it allocates at least 8% of the previous years' provisions for currency reserves. The SNB can change this rule, however, without consulting fiscal authorities.

To assess the impact of these two neglected factors, I conduct an alternative simulation in which I add CHF 40 bio. to the distribution reserve in 2005, so that it amounts roughly to the level of 2019. In addition, I adjust the distributable annual result by the 8% currency reserves rule.

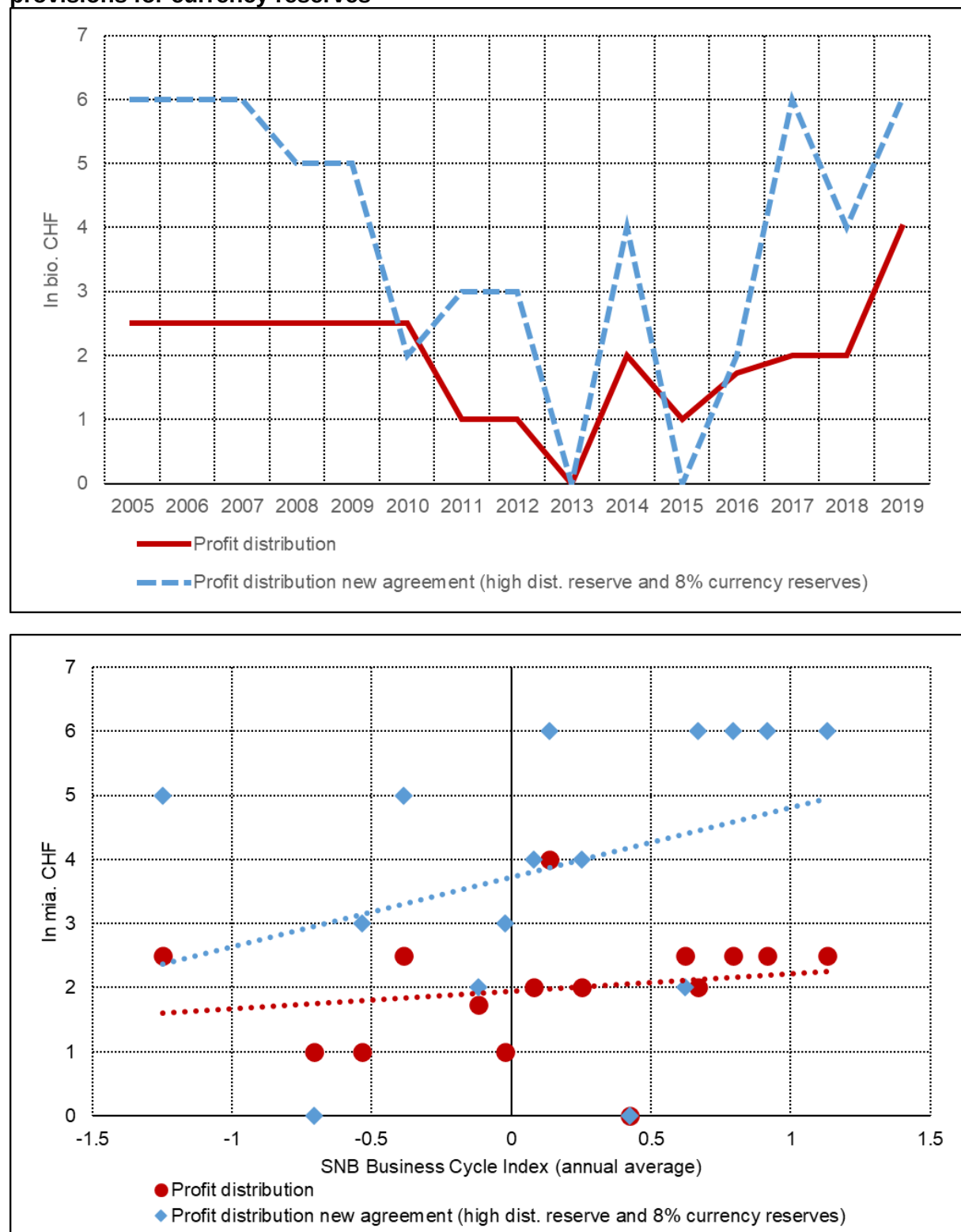
Figure 5 shows that the results are robust. Indeed, the higher level of the distribution reserve leads to even higher profit distributions at the beginning (see first panel); the average increases to CHF 3.9 bio. per year. Once the distribution reserve is depleted – because of the higher profit distributions and book losses during the global financial crisis – we enter a phase of high volatility of profit distributions. Indeed, the fluctuations are even larger than in

¹¹ I would like to thank Reto Föllmi for pointing this out. Note, that the Swiss debt break tended to be non-neutral over long time periods, that is, Swiss government debt tended to decline before the Pandemic (see Expertengruppe Schuldenbremse, 2017)

¹² By the same argument, pro-cyclicality of distributions is more of an issue when, as Brunetti and Föllmi (2021) suggest, SNB profits would be directly distributed to the Swiss population.

the previous simulation. The second panel shows that profit distributions become even more pro-cyclical. The correlation with the SNB's Business Cycle Index amounts to 0.34. Still, the estimate of this correlation is quite uncertain. With a one-sided test (alternative hypothesis that the distributions are pro-cyclical), we reject the null hypothesis only at the 11% level.

Figure 5: Alternative simulation with high distribution reserve and the new rule for provisions for currency reserves



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