TBTF: Do increased capital requirements, bail-in powers and resolution authority solve the problem?

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In the wake of the financial crisis of 2008, governments across the world decided that it was time to end the bail-out of too-big-to-fail financial institutions. This article considers the strategies deployed in Switzerland to solve the problem: increased capital requirements, including leverage ratios and liquidity requirements, funding of the resolution in the event of a gone-concern, resolution measures, through bail-in powers and the authority to transfer assets, liabilities and live agreements to another financial institution, as well as the resolution stay, and finally, organizational measures, which were not imposed through rules, but rather implemented through a carrot-and-stick approach using positive incentives and regulatory sanctions, to nudge financial institutions to improve their resolvability. In conclusion, we take stock by looking back at what was achieved, but also consider the risks that come with the increased powers granted to regulators and supervisory authorities following the crisis.

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I. Looking back: from bail-outs to bail-ins

1. Bailing out UBS AG

Ten years ago, on 16 October 2008, the Swiss Government and the Swiss National Bank (SNB) bailed out UBS AG. The bank had already gone through two rounds of capital increases. However, in the aftermath of the failure of Lehman Brothers, most global financial institutions incurred large losses and their capital melted. UBS AG needed to be recapitalized otherwise it would have probably faced a bank run.

The transaction was structured in two steps: first, the Swiss government subscribed a CHF 6 billion mandatory convertible subordinated note with a coupon of 12.5% per annum, thus recapitalising UBS AG.[1] Then, the SNB set up a "bad bank",[2] SNB Stab Fund limited partnership for collective investments (SNB Stab Fund), to acquire up to USD 60 billion of illiquid assets from UBS AG. UBS AG financed 10% of the consideration paid by SNB Stab Fund to purchase

[1] Verordnung über die Rekapitalisierung der UBS AG, 15 October 2008, AS 2008 4741; Botschaft zu einem Massnahmenpaket zur Stärkung des schweizerischen Finanzsystems, 5 November 2008 ("Botschaft zum Massnahmenpaket 2008"), BBl 2008 8961.

[2] Botschaft zum Massnahmenpaket 2008, BBl 2008 8962. Formally, SNB StabFund was not a bank, but a collective investment scheme. Initially, the SNB planned to establish an offshore special purpose vehicle for this purpose. Eventually, it settled down for a Swiss law collective investment scheme, a limited partnership for collective investments. *See* Swiss National Bank, Annual Report 2008, 79; SNB, press release of 26 November 2008, (available at <*https://www.snb.ch/en/mmr/reference/pre_20081126_2/source/pre_20081126_2.en.pdf*>).

the illiquid assets, whereas the remaining 90% were financed by the SNB, which extended a secured credit facility to SNB Stab Fund.[3] Keeping to central bank regulations, the purpose of this second step was not to recapitalise a financial institution, but only to provide liquidity in extremely difficult circumstances as a lender of last resort.[4] A key element in the process was therefore a prudent valuation of the illiquid assets.[5] As an additional loss protection, the SNB received a warrant to purchase hundred million UBS shares at the nominal value of CHF 0.10 if the loan was not repaid in full.[6] Eventually assets worth USD 39 billion based on a valuation the end of September 2008 were transferred to SNB Stab Fund in three tranches that were carried out between December 2008 and April 2009.[7]

In August 2009, the Swiss government exercised its conversion rights and sold its shares in UBS for CHF 5.48 billion. Taking into account interest payments of approximately CHF 1.8 billion, the Swiss government could close this chapter after earning a net amount of CHF 1.2 billion.[8] The realisation of the portfolio illiquid assets of the SNB Stab Fund took somewhat more time. Eventually, on 15 August 2013, SNB Stab Fund was able to repay its loan from the SNB and, in November 2013, UBS AG took the residual assets back on its consolidated balance sheet by buying out the SNB from the SNB Stab Fund for USD 3.67 billion. Overall, the SNB earned USD 1.6 billion in interest.[9]

At the end of the day, this transaction was a success: UBS was able to weather the financial crisis and the Swiss financial system was stabilized.[10] The Swiss government and the SNB made a sizeable profit, at least in absolute terms.[11] The stakes, however, were high: the overall exposure of the SNB amounted to approximately 10% of the Swiss GDP. The mandatory convertible note alone was worth 1% of the Swiss GDP.[12]

2. The State as an Investor of Last Resort?

Looking only at this case, it would be tempting to conclude that bailouts are ris ky but profitable investments.[13] Some academics even go so far as to conceptualise the role of government in bailouts as "investors of last resort." They capitalise financial institutions, purchasing equity at a discount in situations where market participants are afraid of investing in financial institutions and can as distressed-situation investors earn additional returns on investments,[14] the same way central banks, acting as lenders of last resort, provide liquidity at a surcharge, when liquidity

3 Swiss National Bank, Annual Report 2008, 77–78; Press release of the Federal Department of Finance of 16 October 2008 (available at <*https://www.efd.admin.ch/efd/en/home/dokumentation/nsb-news_list.msg-id-22019.html*>); SNB, Press release of 16 October 2008 (available at <*https://www.snb.ch/en/mmr/reference/pre_20081016_1/source/pre_20081016_1.en.pdf*>); *Thomas Jordan,* StabFund – Preparation and Set-up phases, main features and challenges of operation, 8 November 2013, 11 (available at <*https://www.snb.ch/en/mmr/reference/pre_20131108/source/pre_20131108.en.pdf*>). See also *Christine Kaufmann,* SNB und FINMA in neuen Rollen, SZW 2009, 418, 422; *Diego Haunreiter,* Die Krisenabwehr im Bankgesetz, Berne 2011, N 1218–1220.

4 *See* Article 5 (2)(e) and 9 (1)(f) of the Federal Act on the Swiss National Bank of 3 October 2003, (National Bank Act, NBA, SR 951.11); Swiss National Bank, Annual Report 2008, 80; Swiss National Bank, Annual Report 2013, 90.

5 *See* Swiss National Bank, Annual Report 2008, 83.

6 *See ibid,* 89.

7 *See* Swiss National Bank, Annual Report 2009, 85; Swiss National Bank, Annual Report 2008, 79; *Jordan* (fn. 3), 18.

8 Federal Department of Finance, Press Release of 19 August 2009 (available at <*https://www.efd.admin.ch/efd/de/home/dokumentation/nsb-news_list.msg-id-28519.html*>); UBS, Press release of 19 August 2009, (available at <*https://www.ubs.com/global/en/about_ubs/media/switzerland/releases/news-display-media-switzerland-ndpen-20090819-ankuendigung_der_schweizerischen_eidgenossenschaft.html*>).

9 Swiss National Bank, Annual Report 2013, 92–94; SNB Press Release of 8 November 2013 (available at <*https://www.snb.ch/en/mmr/reference/pre_20131108/source/pre_20131108.en.pdf*>); *Thomas Jordan/Marcel Zimmermann,* StabFund – winding up the SNB StabFund transaction, 8 November 2013, 3.

10 SNB, Press Release of 8 November 2013; *Jordan* (fn. 3), 14.

11 A more thorough analysis would be required to determine whether the risk-return-ratio was appropriate. This would, however, require access to more data.

12 SNB, Financial Stability Report 2018, 22.

13 *See* Botschaft zur Änderung des Bankengesetzes (Stärkung der Stabilität im Finanzsektor; too big to fail, 20 April 2011 ("Botschaft TBTF"), BBl 2011 4726.

14 *See Gérard Hertig,* Governments as Investors of Last Resort: Comparative Credit Crisis Case-Studies, Theoretical Inquiries in Law 13.2 (2012), 385 and 404.

dries up on the market.[15] Indeed, bailouts were profitable not only in Switzerland but also in the USA, who took on the largest exposure.[16] However, the experience was not as positive in Europe: Belgium, Germany Greece, Ireland, the Netherlands, and Spain have incurred losses of bailouts.[17] In the United Kingdom, the sale of Lloyds TSB brought the profit of GBP 500 million. In contrast, HM Treasury still holds 73% of RBS and according to the UK National Audit Office: "*it is likely that a substantial proportion of the schemes and investments will be with us for some time.*"[18]

3. Ending Bailouts: Regulatory Strategies to Solve the TBTF-Problem

Unsurprisingly, bailouts drew a lot of criticism in the wake of the financial crisis of 2008.[19] There was a political desire to prevent further bailouts.[20] However, bailouts were not a problem in 2008; they were a necessity. Governments did not decide to capitalise banks as a financial investment, but because this was in the public interest.[21] The bailouts aimed at maintaining and restoring the stability of the financial system. The failure of Lehman Brothers can serve as a backdrop to a counterfactual of the bailouts of 2018: Lehman Brothers was not central. It was "only" a broker-dealer in the substantial derivatives business, but it was not the largest investment bank at the time.[22] It was not a deposit-taking credit institution. Yet, its failure sent a shockwave throughout the financial system. It is hard to imagine what would have happened if one of the larger pure-play investment banks, Goldman Sachs, Morgan Stanley or Merrill Lynch, without even mentioning universal banks, had failed. Beyond the stability of the financial system, the purpose of bailing out large financial institutions is to ensure the stability of the economy at large by shielding the real economy from the consequences of the failure of large financial institutions.[23]

This does not mean however that bailing out too big to fail ("TBTF") financial institutions, or more prosaically systemically important financial institutions, should not be a source of concern. From an *ex ante* perspective, if the TBTF financial institutions are likely to be bailed out, they enjoy an implicit government subsidy[24], which in turn distorts competition:[25] large financial institutions can benefit from cheaper funding. This creates an environment that leads to further concentration in the financial industry, which

15 *See* generally *Xavier Freixas/Curzio Giannini/Glenn Hoggarth/Farouk Soussa,* Lender of Last Resort: a Review of the Literature, Financial Stability Review 1999, 151; *Walter Bagehot,* Lombard Street: A Description of the Money Market, London 1873, who is generally credited for establishing the modern lender of last resort theory. *Haunreiter* (fn. 3), N 1218–1220.

16 *Hertig* (fn. 14), 392 and 394.

17 *See Hertig* (fn. 14), 395–403*; Alan Smith/Stephen Foley,* Bailout costs will be a burden for years, Financial Times, 8 August 2017 (available at <*https://www.ft.com/content/b823371a-76e6-11e7-90c0-90a9d1bc969*>).

18 *See* National Audit Office – Report by the Comptroller and Auditor General HC 676, Session 2010–2011, Maintaining the financial stability of UK banks: update on the support schemes, adopted 15 December 2010, 10.

19 *See, e.g.,* The G20 Toronto Summit Declaration, Toronto, 27 June 2010, section 21 (available at <*http://www.g20.utoronto.ca/2010/to-communique.html*>).

20 *See, e.g.* Administration of Barack H. Obama, 2010 Remarks on Signing the Dodd-Frank Wall Street Reform and Consumer Protection Act, 21 July 2010, (available at <*https://www.gpo.gov/fdsys/pkg/DCPD-201000617/pdf/DCPD-201000617.pdf*>): *"And finally, because of this law, the American people will never again be asked to foot the bill for Wall Street's mistakes. There will be no more tax-funded bailouts, period. If a large financial institution should ever fail, this reform gives us the ability to wind it down without endangering the broader economy*."

21 *See,* for Switzerland, Botschaft zum Massnahmenpaket 2008, BBl 2008 8967.

22 *See Viral V. Acharya/Christian Brownlee/Robert Engle/Farhang Farazmand/Matthew Richardson,* Chapter 4: Measuring Systemic Risks, in: Viral V. Acharya/Thomas F. Cooley/Matthew Richardson/Ingo Walter, Regulating Wall Street: the Dodd-Frank Act and the New Architecture of Global Finance, Hoboken (NJ), 2011, 104 and Table 5.

23 *See* Schlussbericht der Expertenkommission zur Limitierung von volkswirtschaftlichen Risiken durch Grossunternehmen ("Schlussbericht TBTF"), 30 September 2010 (available at <*http://www.sif.admin.ch/dokumentation/00514/00519/00592*>)*,* 12–13; BSK BankG-*Bahar/Peyer,* article 7 N 14. This aim is at the heart of the definition of a TBTF-financial institution pursuant to article 8 (1) of the Federal Act on Banks and Saving Banks of 8 November 1934 (Bundesgesetz über die Banken und Sparkassen vom 8. November 1934 [BankG], SR 952.0).

24 Botschaft TBTF, BBl 2011 4788 (valuing the subsidy between CHF 2.3 and 21 billion per year); *Urs Hofer,* Too Big to Fail and Structural Reforms, Zurich 2014, 66.

25 *See* Botschaft TBTF, BBl 2011 4727; *Haunreiter* (fn. 3), N 923–924; *Hofer* (fn. 24), 134–136; *Peter V. Kunz,* Too Big to Fail (TBTF): Konzept der Gefahrenabwehr sowie der Rettung von systemrelevanten Finanzinstituten, Jusletter 21 November 2016, n 19.

further exacerbates the TBTF problem.[26] Furthermore, the TBTF problem leads to moral hazard: financial institutions and their directors and officers have an incentive to take excessive risks, knowing that the government would step if they run into trouble. For the same reason, creditors will not monitor and sanction such behaviour.[27] From an *ex post* perspective, bailouts are not innocuous. They can exert fiscal pressure on the government budget, which may lead to a downward spiral from a financial crisis into a fiscal crisis and ultimately economic crisis. The downturn leading to deficits which may in turn trigger downgrades and ultimately in a worst-case scenario defaults.[28]

In other words, it is neither realistic nor desirable not to bail out TBTF financial institutions unless better alternatives are available, which is easier said than done. Therefore, the question is how to solve the TBTF problem without a bail-out. The solution consists to wind them down in an orderly manner, without any contribution from the taxpayers, while preserving their function and avoiding any contagion to the broader financial system.[29] Following the financial crisis, bail-outs had become a major issue for governments and regulators around the world and various initiatives tackled this problem. At the international level, the Financial Stability Board ("FSB") took the lead and published a number of standards to address the problem posed by global systemically important banks ("G-SIBs") with instruments such as the *Key Attributes on Effective Resolution Regimes for Financial Institutions*,[30] and, more recently, the *FSB Principles on Loss-Absorbing and Recapitalisation Capacity of G-SIB in Resolution*.[31]

More generally, many solutions were sketched: one strategy consists of making banks safer, for example by banning proprietary trading[32] or ring fencing the domestic deposit taking activities and isolate them from the risks posed by investment bank.[33] Another one aims at keeping them simple, for instance by requiring them to focus on the domestic business

[26] BSK BankG-*Bahar/Peyer,* article 7 N 6. *See* Botschaft TBTF, BBl 2011 4789; *Christine Kaufmann,* SNB und FINMA in neuen Rollen?, SZW 2009, 418, 419; *Joseph Noss/Rhiannon Sowerbutts,* The implicit subsidy of banks, Financial Stability Paper No. 15 – May 2012, Bank of England, 4 (available at <*http://www.bankofengland.co.uk/publications/Documents/fsr/fs_paper15.pdf*>); *Maureen O'Hara/Wayne Shaw,* Deposit Insurance and Wealth Effects: Measuring the Value of Being "Too Big to Fail", Journal of Finance 1990, 1587. *But see* Global Markets Institute, Goldman Sachs Group, Inc., Measuring the TBTF effect on bond pricing, 22 May 2013 (available at <*https://www.goldmansachs.com/insights/archive/measuring-tbtf-doc.pdf*>), 14.

[27] BSK BankG-*Bahar/Peyer,* article 7 N 6; *see* Schlussbericht TBTF (fn. 23), 127; Botschaft TBTF, BBl 2011 4727 and 4788*; Haunreiter* (fn. 3)*,* N 924; *Hofer* (fn. 24), 129–134; *Simon Jäggi,* Einführung in die Too-big-too-fail-Problematik, Die Volkswirtschaft, 12/2010, 4, 6–7; *Frederic S. Mishkin,* The Economics of Money, Banking and Financial Markets, 6th ed., San Francisco 2001, 279 ff.; *Noss/Sowerbutts* (fn. 26), passim. See also on the economic role of bank insolvency, *Haunreiter* (fn. 3), N 793.

[28] This cycle of financial crisis, deficit, fiscal crisis and economic crisis was highlighted at length by *Carmen Reinhart/Kenneth Rogoff,* This time is different: eight centuries of financial folly, 2009, *passim*. *See also* BSK BankG-*Bahar/Peyer,* article 7 N 2; *Haunreiter* (fn. 3)*,* N 924; *Hofer* (fn. 24), 138; *Stijn Claessens/Richard J. Herring/Dirk Schoenmaker,* A Safer World Financial System: Improving the Resolution of Systemic Institutions, International Center for Monetary and Banking Studies (ICMB)/CEPR 2010, 13 *et seq*.

[29] *See* G20 Leaders Statement: The Pittsburgh Summit, 24–25 September 2009, Pittsburgh, section 13 (available at <*http://www.g20.utoronto.ca/2009/2009communique0925.html*>); *Haunreiter* (fn. 3)*,* N 927; *Hofer* (fn. 24), 183–184.

[30] FSB, Key Attributes on Effective Resolution Regimes for Financial Institutions, 15 October 2014 (available at <*http://www.fsb.org/what-we-do/policy-development/effective-resolution-regimes-and-policies/key-attributes-of-effective-resolution-regimes-for-financial-institutions/*>).

[31] FSB, Principles on Loss-Absorbing and Recapitalisation Capacity of G-SIB in Resolution – Total Loss-absorbing Capacity (TLAC) Term Sheet, 9 November 2015 (available at <*http://www.fsb.org/2015/11/total-loss-absorbing-capacity-tlac-principles-and-term-sheet*>).

[32] Botschaft TBTF, BBl 2011 4734; Schlussbericht TBTF (fn. 23), 48–49. *See also Hans Caspar von der Crone/Lukas Beeler,* 192–193; *Hofer* (fn. 24), 252. This strategy was at the heart of the Volker Rule that was introduced by the § 619 of the Dodd–Frank Wall Street Reform and Consumer Protection Act (12 U.S.C. § 1851). *See also Paul Volker,* N.Y. Times, 30 January 2010, (available at <*https://www.nytimes.com/2010/01/31/opinion/31volcker.html?pagewanted=all*>).

[33] Botschaft TBTF, BBl 2011 4734; Schlussbericht TBTF (fn. 23), 48–49. *See also von der Crone/Beeler* (fn. 32), 192–193; *Hofer* (fn. 24), 222–235. This approach was advocated by the *Vickers* Report and subsequently implemented by the Financial Services (Banking Reform) Act 2013. *See* Independent Commission on Banking, Final Report: Recommendations, September 2011 (available at <*http://webarchive.nationalarchives.gov.uk/20131003105424/https:/hmt-sanctions.s3.amazonaws.com/ICB%20final%20report/ICB%2520Final%2520Report%5B1%5D.pdf*>).

environment rather than engaging into investment banking.[34] A further approach consists in making financial institutions small enough to fail, e.g., by restricting the size of their exposure[35] or even by breaking them up.[36] These strategies may be implemented directly through regulation or indirectly through incentives, such as taxes, surcharges, or rebates.[37] However, they must remain within the overall constitutional framework: they must be appropriate to reach their goal and remain proportionate.[38] This also implies a cost-benefit analysis: if the strategies are too strict, they may affect the availability of credit.[39] In a global financial system, moreover, too harsh regulations may impact international competitiveness adversely.[40]

In Switzerland, the Federal Act on the Reinforcement of Stability in the Financial Sector, Too Big to Fail, of 30 September 2011, which amended the Federal Act on Banks and Savings Banks of 8 November 1934 ("TBTF Act"),[41] was the cornerstone of the efforts to solve the TBTF problem and avoid any future bailouts. The TBTF Act was implemented by amending a number of ordinances, including the Capital Adequacy Ordinance,[42] the Liquidity Ordinance,[43] the BIO-FINMA.[44] A key feature of the TBTF Act was introducing a requirement imposed on the Federal Council to prepare a report to the Federal Assembly on the measures comparing them with international standards three years after the entry into force of these provisions and every other year thereafter[45]. Five years later, the Federal Council adopted a second TBTF package ("TBTF 2") consisting mainly of amendments to the Capital Adequacy Ordinance, which will be phased in until the end of 2019.[46] After the second review of the TBTF regime,[47] further

34 *See* Botschaft TBTF, BBl 2011 4734. *See also von der Crone/Beeler* (fn. 32), 192–193.

35 *See* Botschaft TBTF, BBl 2011 4734; *Haunreiter* (fn. 3), N 963; *Hofer* (fn. 24), 243–248. *But see, e.g.,* Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, Pub. L. (1994) 103–328, which limited mergers among banks, which would result in the acquirer controlling more than 10% of the total deposits of insured depository institutions in the United States, or section 622 of the Dodd-Frank Act a new cap at 10% of consolidated liabilities of all financial companies; Financial Stability Oversight Council Study & Recommendations regarding Concentration Limits on Large Financial Companies, January 2011 (available at <*https://www.treasury.gov/initiatives/fsoc/studies-reports/Documents/Study%20on%20Concentration%20Limits%20on%20Large%20Firms%2001-17-11.pdf*>); *Hofer* (fn. 24), 8–9.

36 *See* Botschaft TBTF, BBl 2011 4734; Schlussbericht TBTF (fn. 23), 48–49; *see also von der Crone/Beeler* (fn. 32), 192–193; *Haunreiter* (fn. 3), N 978–979 and 992; *Hofer* (fn. 24), 8–9 and 248.

37 *See Hofer* (fn. 24), 213–216. *See, e.g.,* the surcharge on market share provided for by article 129 (3) Ordinance on the Capital Adequacy and Risk Distribution of Banks and Securities Dealers of 1 June 2012 (CAO), SR 952.03 or the rebates offered for resolvability pursuant to article 10 (3) BankA and article 125 CAO.

38 *See von der Crone/Beeler* (fn. 32), 182–185. *See also* Botschaft TBTF, BBl 2011 4734. *But see Hofer* (fn. 24), 274–280 (criticial of the restrictions imposed on structural measures on the basis that they would have been proportionate).

39 *See* Botschaft TBTF, BBl 2011 4733–4734; Schlussbericht TBTF (fn. 23), 23 ff.; *Haunreiter* (fn. 3), N 1002.

40 *Haunreiter* (fn. 3), N 1002. *But see* Änderung des Bankengesetzes (too big to fail, TBTF), Erläuternder Bericht zur Vernehmlassungsvorlage, 26–27.

41 Bundesgesetz über die Banken und Sparkassen (Bankengesetz, BankG) (Stärkung der Stabilität im Finanzsektor; too big to fail), Änderung vom 30. September 2011, AS 2011 811.

42 CAO; *see Haunreiter* (fn. 3), N 1010–1017 and 1039–1045; *Hofer* (fn. 24), 309–312.

43 Ordinance on the Liquidity of Banks of 30 November 2012 (LiqO), SR 952.06. *See Haunreiter* (fn. 3), N 1062–1069; *Hofer* (fn. 24), 313.

44 Ordinance of the Swiss Financial Market Supervisory Authority on the Insolvency of Banks and Securities Dealers of 30 August 2012 (BIO-FINMA), SR 952.05.

45 Article 52 BankA.

46 *See* Bericht des Bundesrates "Too big to fail" (TBTF) Evaluation gemäss Artikel 52 Bankengesetz und in Beantwortung der Postulate 11.4185 und 14.3002, 18 February 2015 ("Bericht TBTF 2015"), BBl 2015 1793, 1794. *See also* Schlussbericht der Expertengruppe zur Weiterentwicklung der Finanzmarktstrategie, 1 December 2014 ("Schlussbericht TBTF 2014") and its annex Anhang zur Überprüfung des Schweizer "Too-big-to-fail"-Regimes im internationalen Vergleich – Grundlage für die Evaluation gemäss Artikel 52 BankG (<*www.news.admin.ch/NSBSubscriber/message/attachments/37585.pdf*> and <*www.news.admin.ch/NSBSubscriber/message/attachments/37589.pdf*>).

47 Bericht des Bundesrates zu den systemrelevanten Banken (Evaluation gemäss Artikel 52 Bankengesetz), 28 June 2017 ("Bericht TBTF 2017"), BBl 2017 4847.

amendments are still being rolled out,[48] proof, if any was necessary, that the TBTF problem is not yet solved.

Overall, the strategy is built on a policy mix[49]: On the one hand, Swiss regulation seeks to improve the resilience of systemically important banks through stringent capital and liquidity requirements.[50] The capital requirements became more demanding in general and systemically important banks in particular[51]. Risk-weighted-assets capital requirements were increased[52]. A leverage ratio was introduced to cap the total exposure and serve as a backstop to the risk-weighted ratios[53]. Furthermore, new liquidity requirements were developed[54]. These measures were coupled with incentives for financial institutions to de-leverage and de-risk their balance sheet as well as raise more capital.[55]

On the other hand, Swiss regulations aim to make it possible to let systemically important banks fail without putting the financial system at risk.[56] Rather than prescribing a specific approach, Swiss law requires financial institutions to tailor their own emergency plans to avoid impending insolvency[57]. These plans were complemented by recovery (out of insolvency proceedings) by the banks[58] and resolution planning (using insolvency proceedings) by resolution authorities,[59] who were equipped with new instruments to facilitate the resolution, such as the resolution stay authority[60]. Furthermore, financial institutions were incentivised to take organisational measures such as setting up a holding company and outsourcing the procurement of business services to dedicated service companies to support these plans.[61]

The cornerstone of the regulatory action plan to put an end to all bailouts is private sector financing of resolutions the goal being that shareholders and creditors, and not taxpayers, bear the costs of resolving financial institutions.[62] The move from bail-ins to

48 *See, e.g.,* Federal Department of Finance, Consultation on amendments to Capital Adequacy Ordinance, 23 February 2018 *(<https://www.efd.admin.ch/efd/en/home/dokumentation/nsb-news_list.msg-id-69898.html>);* Federal Department of Finance, Erläuternder Bericht zur Änderung der Eigenmittelverordnung (Gone-concern-Kapital, Beteiligungsabzug und weitere Anpassungen), 23 February 2018 ("Erläuternder Bericht TLAC"), (available at *<https://www.newsd.admin.ch/newsd/message/attachments/51425.pdf>)*.

49 Botschaft TBTF, BBl 2011 4728 and 4731; Schlussbericht TBTF (fn. 23), 50.

50 *Haunreiter* (fn. 3), N 949.

51 *See* article 9 (2) (a) BankA; article 124–136 CAO (providing additional capital requirements for TBTF financial institutions); *see also* Schlussbericht TBTF (fn. 23), 39; *René Bösch,* Grossbankenregulierung: Status – Quo Vadis?, in: Thomas Reutter/Thomas Werlen (eds) Kapitalmarkttransaktionen VIII, Zurich 2014, 255, 262; *von der Crone/Beeler* (fn. 32), 194; *Kunz* (fn. 24), n 19.

52 *See* articles 129–131 CAO (version in force on 1 January 2013, AS 2012 5441), which correspond to articles 128–131 CAO. *See also* Botschaft TBTF, BBl 2011 4731.

53 *See* articles 133–135 CAO (version in force on 1 January 2013, AS 2012 5441).These requirements are currently required by article 128 et seq. (for systemically important financial institutions) CAO and article 46 CAO for other financial institutions. *See also* Botschaft TBTF, BBl 2011 4731.

54 The core principle was to ensure that systemically important banks would have sufficient liquidity to ensure that they can bridge a crisis until measures can be initiated; *see also* Botschaft TBTF, BBl 2011 4731. In practice, this was implemented through new enhanced liquidity ratios. *See* article 9 (2) (b) BankA; articles 19–29 LiqO (version in force on 1 January 2013, AS 2012 7251). *See also* article 12 LiqO, which introduced a *liquidity coverage ratio* first for systemically important financial institutions and phased them in progressively for other financial institutions pursuant to article 31*a* LiqO, and articles 19 ff. LiqO which provide for additional liquidity requirements for systemically important financial institutions. The Net Stable Funding Ratio was not yet introduced in line with international developments.

55 *See* article 10 (3) BankA and articles 65 and 55 BankO. *See also von der Crone/Beeler* (fn. 32), 194.

56 *See* Bericht TBTF 2017, BBl 2017 4847, 4853; *Kunz* (fn. 25), n 33.

57 *See* articles 9 (2) (d) and 10 (2) BankA; article 60 BankO; *see also von der Crone/Beeler* (fn. 32), 196–197.

58 *See* article 64 (1) BankO.

59 *See* article 64 (2) BankO.

60 *See* article 30*a* BankA.

61 *See* article 10 (3) BankA. *See* Bericht TBTF 2017, BBl 2017 4847, 4859; *See also von der Crone/Beeler* (fn. 32), 198–199.

62 *See generally Avdjiev/Anastasia Kartasheva/Bilyana Bogdanova,* CoCos: a primer, BIS Quarterly Review, September 2011, 43, 44–45; *Tobias Tröger,* Too Complex to Work: A Critical Assessment of the Bail-In Tool Under the European Bank Recovery and Resolution Regime (20 August 2017), Journal of Financial Regulation, Vol. 4, Issue 1; SAFE Working Paper No. 179; European Banking Institute Working Paper No. 12 (available at SSRN: *<https://ssrn.com/abstract=3023184>* or *<http://dx.doi.org/10.2139/ssrn.3023184>*), 30; *Jianping Zhou/Virginia Rutledge/Wouter Bossu/Marc Dobler/Nadege Jassaud/Michael Moore,* From Bail-out to Bail-in: Mandatory Debt: Restructuring of Systemic Financial Institutions, IMF Staff Discussion Note, 12 April 2012 (available at *<https://www.imf.org/external/pubs/ft/sdn/2012/sdn1203.pdf>*), 14–18.

bailouts was implemented on the one hand through the development of dedicated capital market instruments such as contingent convertible bonds[63] and more recently Total Loss Absorbing Capital ("TLAC") instruments[64] and, on the other hand, by granting the resolution authority statutory authority to bail in existing creditors.[65]

II. Who is TBTF?

Taking a step back, it is important to consider which institutions are too big to fail. Historically, the idea that some institutions were too big to fail was coined in the USA, when the Federal Deposit Insurance Company intervened to assist the Continental Illinois National Bank and Trust Company in 1984, which was at the time the seven largest banks in the USA.[66] Although this doctrine was not formalized in Switzerland, policy makers were keenly aware that its big banks were "too big to fail" and that, if all else failed, the Federal Council could need to intervene to rescue a bank.[67] In the financial crisis of 2008, the doctrine was refined to cover not only institutions that are too large for the economy to withstand a failure, but also those institutions that play a central role in the financial system or the economy at large, making them too interconnected to fail.[68]

Globally, the BCBS developed a methodology to assess which institutions are globally systemically important as well as a framework to identify domestic systemically important banks.[69] Using this methodology, the Financial Stability Board identified thirty G-SIBs from the European Union, the USA, China, Japan, Canada, and Switzerland, including Credit Suisse and UBS, and put them in five buckets based on their importance (the fifth bucket remains empty).[70]

63 *See* articles 11 (b) and 13 BankA. The idea to use contingent capital was popularised by two Credit Suisse bankers in the Econnomist. *See Paolo Caello/Wilson Ervin,* From bail-out to bail-in, The Economist, 28 January 2010 (available at <*https://www.economist.com/finance-and-economics/2010/01/28/from-bail-out-to-bail-in*>).

64 *See* FSB, Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution – Total Loss-absorbing Capacity (TLAC) Term Sheet, 9 November 2015 (available at: <*http://www.fsb.org/2015/11/total-loss-absorbing-capacity-tlac-principles-and-term-sheet/*>).

65 *See* article 31 (3) BankA. *See also* article 77 of Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, (Bank Recovery and Resolution Direct, "BRRD"), which relies to a larger extent on this instrument to ensure private sector financing of the recovery and resolution of financial institutions.

66 *See, e.g., Renee Haltom,* Failure of Continental Illinois, (available at <*https://www.federalreservehistory.org/essays/failure_of_continental_illinois*>); *Hofer* (fn. 24), 117.

67 Botschaft zur Änderung des Bundesgesetzes über die Banken und Sparkassen vom 20. November 2002, BBl 2002 8060, 8104: *"Zusammengefasst lässt sich feststellen, dass sich das Liquiditätsproblem bei Systemkrisen nicht durch im vornherein getroffene Regelungen, sondern nur pragmatisch lösen lässt. In solchen ausserordentlichen Krisenfällen sind massgeschneiderte Lösungen gefragt, welche von Fall zu Fall zu finden sind. (…) Ob und in welcher Form sich ein Mitwirken des Staates an der Lösung einer Solvenzkrise überhaupt rechtfertigen lässt, wird allerdings auch im Extremfall sorgfältig zu prüfen sein. Der Bundesrat verzichtet hier demzufolge auf eine Regelung für Einlagen über der Systemgrenze."* This approach was in line with global policy in this area. *See* FSF Working Group of Deposit Insurance, International Guidance on Deposit Insurance, A Consultative Process and Background Paper, June 2000 (available at <*http://www.fsb.org/2000/06/r_0006/*>), 16. This approach has been likened to "constructive ambiguity" in international relations. *See Hans Caspar von der Crone/Isabelle Monferrini,* Kapital und Notfallplanung – Standortbestimmung zur Regulierung systemrelevanter Finanzinstitute, SZW 2012, 494, 498 et seq.*; Hofer* (fn. 24), 152–153; *Kunz* (fn. 25), n 19.

68 *See Acharya/Brownlee/Engle/Farazmand/Richardson* (fn. 22), 96; *Jean-Charles Rochet,* "Too interconnected to fail"? Regulating crucial utilities, SFI Practitioner Roundups n°7, 1; Schlussbericht TBTF (fn. 23), 10; *Hofer* (fn. 24), 112–113.

69 BCBS, Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement, 3 July 2013; BCBS, Global systemically important banks: revised assessment methodology and the higher loss absorbency requirement, 5 July 2018.

70 FSB, 2017 list of global systemically important banks (G-SIBs), 21 November 2017, 3.

Table 1: Global systemically important banks in 2017	
Bucket 5	—
Bucket 4	JP Morgan Chase.
Bucket 3	Bank of America; Citigroup; Deutsche Bank; HSBC.
Bucket 2	Bank of China; Barclays; BNP Paribas; China Construction Bank; Goldman Sachs; Industrial and Commercial Bank of China Limited; Mitsubishi UFJ FG; Wells Fargo.
Bucket 1	Agricultural Bank of China; Bank of New York Mellon; **Credit Suisse (downgraded from Bucket 2 in 2016)**; Groupe Crédit Agricole; ING Bank; Mizuho FG; Morgan Stanley; Nordea; Royal Bank of Canada; Royal Bank of Scotland; Santander; Société Générale; Standard Chartered; State Street; Sumitomo Mitsui FG; **UBS;** Unicredit Group.

In Switzerland, the SNB has the authority to determine after hearing FINMA which financial institutions are systemically important.[71] Article 8 of the Bank Act defines four criteria that should serve as the basis for this determination: (a) the market share in systemically relevant financial services such as domestic deposits, credit and payment services; (b) whether the financial institutions holds privileged deposits in excess of the threshold for the deposit protection system, which is currently set at CHF 6 billion;[72] (c) the ratio of assets/total exposure to GDP; and (d) the overall risk profile of the bank considering its business model, balance sheet structure, asset quality, liquidity and average.[73] Although Switzerland is a committed member of the FSB and the BCBS, the terms of the Swiss regulation is resolutely focused on the domestic economy, rather than the global financial system.[74] This is a further testimony to the fact that, as *Mervyn King,* the former Chairman of the Bank of England once quipped, "global financial institutions live globally but die nationally"[75] notwithstanding the global efforts to coordinate the actions of national regulators. Based on this determination, the SNB designated UBS AG and Credit Suisse AG as G-SIBs and, later on, Postfinance AG, Zürcher Kantonalbank and Raiffeisen Group as D-SIBs.[76]

III. Increased Capital Requirements

1. Increased Equity Requirements and Leverage Ratio

The first step to avoid bail-outs consists in ensuring that a systemically important bank has sufficient capital and liquidity to weather a crisis[77] and making it less likely to fail.[78] Therefore, the first TBTF package increased the risk-weighted capital requirements for systemically important banks.[79] It introduced new liquidity requirements[80] and a leverage ratio based on the non-risk-weighted total exposure, including off-

71 Article 8 (3) BankA; Memorandum of Understanding in the field of financial stability between the Financial Market Supervisory Authority and the Swiss National Bank SNB (available at <*https://www.snb.ch/en/mmr/reference/mofu/source*>), 2. *See also* Botschaft TBTF, BBl 2011 4746; *Haunreiter* (fn. 3), N 935.

72 Article 37*h* (3) (a) BankA.

73 Article 8 (2) (a)–(d) BankA; *see also* Schlussbericht TBTF (fn. 23), 14–15.

74 BSK BankG-*Bahar/Peyer,* article 7 N 19; *Hofer* (fn. 24), 237. *See* article 8 (1) BankA, which refers to the Swiss financial system and the Swiss economy.

75 *See* Speech by *Mervyn King,* Governor of the Bank of England – Banking : from Bagehot to Basel, and Back Again – The Second Bagehot Lecture, Buttonwood Gathering, New York City, 25 October 2010, 14 (available at <*https://www.bankofengland.co.uk/speech/2010/banking-from-bagehot-to-basel-and-back-again-speech-by-mervyn-king*>). *See also Hofer* (fn. 24), 108–110 and 237; *Oliver Wünsch,* Die Quadratur des Kreises: Rechtliche und ökonomische Aspekte der Abwicklung von Banken, SZW 2012, 523, 434.

76 *See* SNB, Financial Stability Report 2018, 13.

77 *See e.g. Bösch* (fn. 51) 262; *Kunz* (fn. 25), n 19.

78 *Haunreiter* (fn. 3), N 949.

79 *See* references cited at fn. 43.

80 *See* references cited at fn. 44.

balance-sheet liabilities.[81] These requirements were applied, in connection with the subsequent revisions introduced by the TBTF 2 package, both at group level and at the level of the entity exercising a systemically relevant function.[82] The next revision of the TBTF framework will extend these requirements one step further to cover holding company, including parents of sub-group including an entity exercising a systemically relevant function[83] and important entities within the group, even if they are not designated as exercising a systemically relevant function.[84]

Furthermore, the first TBTF package, in line with the revised Basel III principles,[85] aimed to shortcomings of hybrid capital instruments. Indeed, during the crisis, regulators in Switzerland and elsewhere were wary of writing down hybrid capital instruments to recapitalise financial institutions.[86] Aiming to replace bail-outs by bail-ins, the new regulations introduced two types of hybrid capital instruments:[87] first, high-trigger contingent convertible instruments ("CoCo", which would be converted into capital or written off early on to recapitalise the going concern[88] and, second, low-trigger contingent convertible instruments, which would be recognized as for regulatory purposes as additional tier 1 and tier 2 capital and would be converted into capital written off at a later stage when the regulator determined that the point of non-viability is reached.[89] The purpose of these second type of instruments was somewhat unclear since they could be used both to recapitalise a going concern in connection with insolvency measures and to finance the resolution of a systemically important financial institution.[90]

2. TLAC: Funding the resolution

The introduction of **Total Loss Absorbing Capital ("TLAC")** requirements for G-SIBs aimed at resolving this contradiction.[91] Based on the FSB's *Key attributes of Effective Resolution Regimes for Financial Institutions,* TLAC should serve as a source of capital for loss absorption and recapitalization in resolution. It should ensure that sufficient capital is available to allow *"the resolution of financial institutions ... without exposing taxpayers to loss while protecting vital economic functions"* in addition to capital risk-weighted capital and leverage ratio requirements.[92] Swiss law set the TLAC

81 *See* article 128 (2)(a) and 129 (2)(a) CAO. *See also* Botschaft TBTF, BBl 2011 4750; *Haunreiter* (fn. 3), N 1046–1047; *Hofer* (fn. 24), 311–312.

82 Article 124 (2) CAO.

83 Article 124 (2) Draft CAO.

84 Article 124 (2) Draft CAO.

85 *See* BCBS, Basel III, A global regulatory framework for more resilient banks and banking systems, revised 1 June 2011 (available at <*https://www.bis.org/publ/bcbs189.htm*>).

86 Federal Department of Finance, Erläuterungsbericht Änderung Eigenmittelverordnung (ERV) und Ausführungsbestimmungen, 24 October 2011, 22 (available at <*https://www.admin.ch/ch/d/gg/pc/documents/2119/111024_ERV_Anh_Bericht_de.pdf*>).

87 Federal Department of Finance, Erläuterungsbericht zur Änderung der Bankenverordnung und der Eigenmittelverordnung, Umsetzung der Änderung des Bankengesetzes vom 30. September 2011 (Stärkung der Stabilität im Finanzsektor; "too big to fail"), 5 December 2011, 20–21 (available at <*https://www.admin.ch/ch/d/gg/pc/documents/2161/111205_Anh.bericht_de.pdf*>); *See generaly Stefan Avdjiev/Anastasia Kartasheva/Bilyana Bogdanova,* CoCos: a primer, BIS Quarterly Review, September 2011, 43–45.

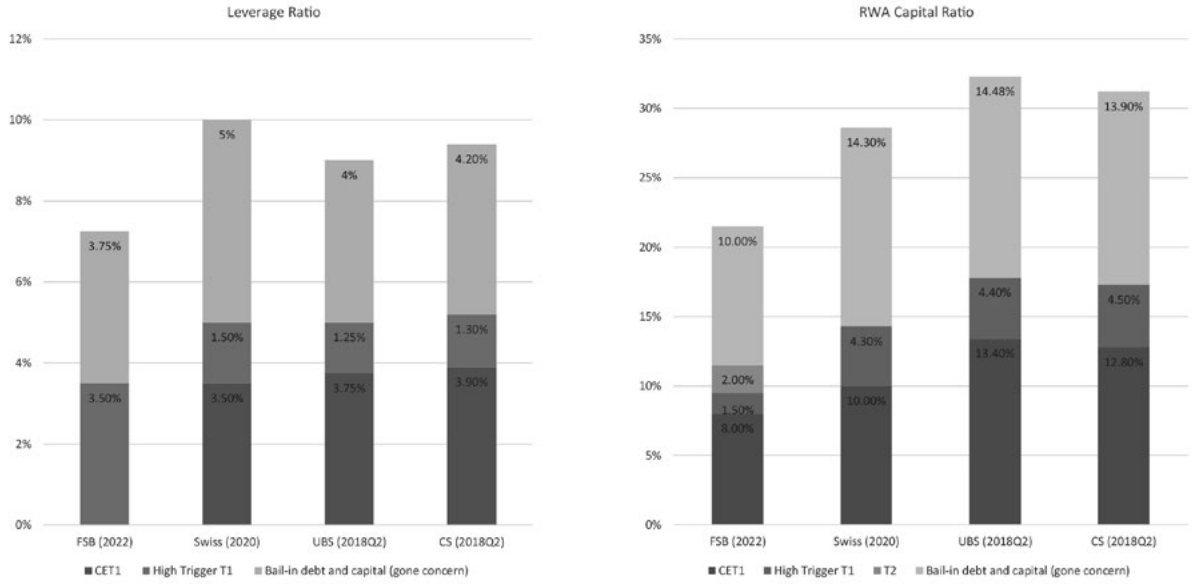
88 *See* article 129 (2) CAO (2012), which corresponds to the current article 131 (b)(1) and (2) CAO.

89 Article 27 (3) CAO for additional tier 1 instruments, and article 29 (1) and (2) CAO *cum,* for tier 2 instruments, article 30 (1) (a) CAO*; See also von der Crone/Beeler* (fn. 32), 205; *Reto Schiltknecht/Christopher McHale,* Erste Erfahrung mit dem bedingten Wandlungskapital (CoCos), GesKR 2012, 507, *passim; Reto Schiltknecht/Christopher McHale,* Entwicklungen des regulatorischen Bankenkapitals, GesKR 2015, 8, 9. *But see Peter Böckli,* CoCos, Write-Offs: Eigenkapitalschaffung mit dem Zauberstab, SZW 2012, 181 *passim.*

90 *See Hans Kuhn,* TLAC – letzter Mosaikstein zur Lösung des TBTF-Problems?, GesKR 2016, 80, 83. See also Federal Department of Finance, Erläuterungsbericht zu Änderungen der Eigenmittelverordnung und der Bankenverordnung (Eigenmittelanforderungen Banken – Rekalibrierung TBTF und Kategorisierung) (available at <*https://www.newsd.admin.ch/newsd/message/attachments/42412.pdf*>), 22 December 2015, 6–7; Botschaft TBTF, BBl 2011 4751; FINMA, Resolution of global systemically important banks: FINMA position paper on Resolution of G-SIBs, 7 August 2013 ("Position paper on resolution") (available at <*https://www.finma.ch/en/~/media/finma/dokumente/dokumentencenter/myfinma/finma-publikationen/diskussionspapiere/diskussionspapier-20130807-sanierung-abwicklung-global-systemrelevante-banken.pdf?la=en*>), 9.

91 *See Kuhn* (fn. 90), 83.

92 FSB, Principles on Loss absorbing and Recapitalisation Capacity of G-SIBs in Resolution: Total Loss-absorbing Capacity (TLAC), Term Sheet, 9 November 2015 (available at <*http://www.fsb.org/wp-content/uploads/TLAC-Principles-and-Term-Sheet-for-publication-final.pdf*>), 5.



Source: FINMA, Quarterly reports UBS, CS.
Notes: Does not include effects of countercyclical buffers, add-ons and rebates. FSB requirements are simplified.

Chart 1: Capital and eligible debt requirements

requirements for Swiss G-SIBs at 100% of the RWA ratio and 100% of the leverage ratio as of 2020, subject to certain rebates for financial institutions that took effective measure to facilitate their resolution.[93]

TLAC consists, in addition to excess regulatory capital,[94] of **debt instruments** that can be used to cover gone-concern requirements. Practically speaking, they will consist of a new class of bail-in bonds.[95] These bail-in bonds are unsecured,[96] fully paid-in,[97] long-term instruments (perpetual instruments or instruments with a residual maturity of more than 1 year)[98] that were not funded by the resolution entity or a related party.[99] Furthermore, they must be contractually or legally subordinated to other liabilities of the resolution entity and structurally to other obligations of the group[100] and convertible to equity or liable to be written off entirely in resolution proceedings.[101] Swiss regulations require that they be issued by the parent or, subject to FINMA's approval, an SPV.[102] In any event, to ensure their enforceability and minimize potential conflicts of law, they must be issued by a Swiss entity, subject to Swiss law and jurisdiction (to minimize conflicts of laws and ensure that any order of FINMA will be enforceable).[103]

Currently, D-SIBs are not subject to TLAC requirements. However, they will be phased in in the

93 Article 132 CAO.
94 Article 132 (5) CAO. *See also Kuhn* (fn. 90), 85.
95 Article 132 (3) CAO; *See* FSB, Term Sheet (fn. 92), Section 6; *see also Urs Bertschinger,* Das Finanzmarktaufsichtsrecht vom vierten Quartal 2015 bis ins vierte Quartal 2016, SZW 2016, 621; *Kuhn (fn.* 90), 84–85; *Lee Saladino/Benjamin Leisinger,* TLAC and Bail-in, GesKR 2/2015, 226; *Schilknecht/McHale* (fn. 89), 14–15.
96 *See* article 126*a* (1) (g) CAO; FSB, Term Sheet (fn. 92), Section 9.
97 *See* article 126*a* (1) (a) CAO; FSB, Term Sheet (fn. 92), Section 9.
98 *See* article 127 (1) CAO; FSB, Term Sheet (fn. 92), Section 9. With a residual maturity of less than two years, only 50% of the principal is recognized. *See* Article 127 (1) CAO.
99 *See* article 126*a* (1) (j) CAO; FSB, Term Sheet (fn. 92), Section 9.
100 *See* article 126*a* (1) (e) CAO; FSB, Term Sheet (fn. 92), Section 11. *See also Kuhn* (fn. 85), 86.
101 *See* article 126*a* CAO; FSB, Term Sheet (fn. 92), Section 11.
102 *See* article 126*a* (1) (d) CAO. *See also Kuhn* (fn. 90), 83.
103 *See* article 126*a* (1) (c) CAO. *See also Kuhn* (fn. 90), 85.

near future.[104] Based on the drafts that were circulated in the hearing process in 2018, this TLAC requirement for D-SIBs will be set at 40% of risk-weighted capital ratio and 40% of the leverage ratio.[105] Additional discounts cutting the requirements to 20% are being discussed to account for the peculiarity of the legal status of the two D-SIBs which are wholly owned by the federal respectively cantonal government if they benefit from an explicit cantonal guarantee like ZKB or a similar mechanism (such as an explicit capital commitment which is being discussed for Postfinance AG).[106] A complete exemption is also possible, provided the unsecured funds are made available to FINMA irrevocably at the shortest notice in the event of a crisis.[107]

Overall, following the crisis, the capital requirements (including the TLAC requirements) have substantially increased. Admittedly, yet more capital could be required to improve further the resilience of Swiss financial institutions, as some critics have posited.[108] Practically speaking, however, this raises another issue: whether investors would be willing to provide such additional capital at sufficiently low yield so as not to compromise the funding of the financial institution.[109]

IV. Resolution of SIBs

1. Objective of Resolution Proceedings

While sufficient capital and liquidity should avoid the failure of systemically important banks, a central aspect of the policy to avoid a bail-out is ensuring that if a bank reaches such a point, it can be resolved without putting the financial system at risk. At an international level, the FSB defines resolution proceedings as proceedings to wind down the operations in an orderly manner while maintaining the critical functions, without exposing taxpayers to a loss or systemic disruption.[110] The Swiss statutory and regulatory framework does not define this concept any further, but makes several instruments available to enable FINMA to have the sufficient authority to conduct the resolution. The first instrument consists of a resolution plan prepared by FINMA, [111] acting as resolution authority, which sets forth how it would conduct the reorganization or liquidation of a systemically important bank. It is coupled with further more operative instruments, such as the bail-in of CoCos and TLAC by declaring that the point-of-non-viability is reached[112] as well as the statutory bail-in,[113] the power to order a transfer of assets, liabilities and contracts to a third party or a bridge bank[114] and to ensure that the going-concern can be maintained throughout the process the power to order a resolution stay on termination of contracts.[115]

2. Bail-in: Re-Capitalisation of Resolution

The first condition for an effective resolution plan is ensuring the main challenge available to secure funding for the resolution. The new regulatory capital framework and TLAC requirements aim to do just this. Loss absorption should be provided by regulatory capital including CET1, high trigger CoCos if they were not already used to absorb first losses as well as low trigger CoCos. Furthermore, this is also where

104 Bericht TBTF 2017, BBl 2017 4847, 4857; SNB, Financial Stability Report 2018, 34.

105 *See* article 132 (2)(b) P-CAO and Federal Department of Finance, Erläuternder Bericht TLAC; Bericht TBTF 2017, BBl 2017 4847, 4858; SNB, Financial Stability Report 2018, 34.

106 *See* article 132 (a) P-CAO and Federal Department of Finance, Erläuternder Bericht TLAC; Bericht TBTF 2017, BBl 2017 4847, 4859; SNB, Financial Stability Report 2018, 34.

107 *See* article 132 (b) P-CAO and Federal Department of Finance, Erläuternder Bericht TLAC; Bericht TBTF 2017, BBl 2017 4847, 4859; SNB, Financial Stability Report 2018, 34.

108 *See Anat R. Admati/Martin Hellwig,* The Bankers' New Clothes: What's Wrong with Banking and what to Do about it, Princeton 2013, 98. *Marc Chesnay,* Lehman Brothers: der Bankrott einer Bank und derjenige eines Systems, NZZ of 11 September 2018 (available at *<https://www.nzz.ch/meinung/lehman-brothers-der-bankrott-einer-bank-und-derjenige-eines-systems-ld.1417617>)*.

109 *See Schilknecht/McHale* (fn. 89), 21. *But see Admati/Hellwig* (fn. 108), 100 f. considering this should not be an issue.

110 *See* FSB, Key Attributes, 3.

111 Article 64 (2) BankO.

112 *See* article 29 CAO on the point-of-non-viability. *See also* article 63 BankO.

113 Article 31 (3) BankA; article 48 and 49 BIO-FINMA.

114 Article 30 (2) BankA; article 51 BIO-FINMA. *See also Saladino/Leisinger* (fn. 95), 229; Article 52 BIO-FINMA also confers to FINMA the power to authorise a bridge bank.

115 Article 30*a* BankA; *Saladino/Leisinger* (fn. 95), 230.

TLAC should make their entrance on the recovery and resolution scene: unlike other capital instruments, TLAC will be triggered only to absorb losses in a resolution process and, thus, should provide sufficient equity to fund the resolution.

If, notwithstanding TLAC requirements, there would not be sufficient loss-absorbing instruments, article 31 (3) BankA and articles 47 ff. BIO-FINMA confer on FINMA the statutory authority to bail in other claims. The bail-in authority must respect a strict hierarchy of claims: before it can be used, all existing shares must be written off and CoCos as well as bail-in bonds must be completely converted in equity or written off.[116] Furthermore, if it is applied, subordinated claims written off or converted before ordinary claims and the latter must be hit before unprivileged deposits.[117] Finally, secured and privileged claims are completely excluded from the scope of the statutory bail-in.[118]

The statutory bail-in is a powerful instrument, which allows regulators to restructure easily the balance sheet of institutions in resolution proceedings by converting debt into equity or writing it off entirely.[119] It is not subject to the approval of the general meeting of shareholders or a specific basis in the articles of incorporation.[120] Existing shareholders do not have a preferential subscription right.[121] The main challenge to this instrument stems from its very nature: it is a remedy of Swiss insolvency law and, hence, its enforceability beyond the borders national boundaries is at best questionable.[122] Nevertheless, unlike European law under the BRRD[123] or the regime applicable to the resolution stay,[124] Swiss law does not require financial institutions to ensure the contractual recognition of bail-in, which is a testimony to the fact that Swiss regulators probably do not treat this instrument as a critical tool for resolution. Indeed, beyond the practical limitations that arise in an international context, triggering a statutory bailing may lead to a range of additional problems: first, it is most likely to affect unsophisticated retail creditors, who were not quick enough to withdraw their funds or were simply unaware of the impending risk.[125] Second, converting debt to equity may raise a problem for a number of regulated creditors, who will be required to dispose quickly of the newly acquired shares, to comply with the investment regulations.[126] This may exercise a downward pressure on the share price, which is admittedly a lesser evil, but nonetheless can lead to additional complexity in what is bound to be already a troubled environment.[127]

In conclusion, the most effective means to ensure an effective resolution is to trigger insolvency measures early enough, when sufficient capital and "bail-in-able" instruments are available to fund the resolution, and a statutory bail-in should be relied only as a backstop should the TLAC prove to be insufficient to fund a resolution.

3. Transfer to a Bridge Bank

Although the strategy of FINMA focused on a single-point-of-entry approach, where the resolution will affect primarily the holding company, which will be recapitalised through a bail-in, which will in turn permit to provide assistance to subsidiaries without

116 Article 48 (1) (b) and (c) BIO-FINMA; *Hans Kuhn,* Der gesetzliche Bail-in als Instrument zur Abwicklung von Banken nach schweizerischem Recht, GesKR 2014, 443, 447; *Saladino/Leisinger* (fn. 95), 230; BSK BankG-Bauer, article 31 N 19.

117 Article 48 (1) (d) BIO-FINMA; *Kuhn* (fn. 116), 447; *Saladino/Leisinger* (fn. 95), 230; BSK BankG-*Bauer,* article 29 N 21 and article 31 N 19.

118 Article 49 (1) (a) and (b) BIO-FINMA; *Kuhn* (fn. 116), 451–452; *Saladino/Leisinger* (fn. 95), 230; BSK BankG-*Bauer,* article 29 N 21 and article 31 N 19.

119 *See also* BSK BankG-*Bauer,* article 31 N 19, pointing out that FINMA can order such measures pursuant to article 50 BIO-FINMA even if they are not part of the plan; *Hofer* (fn. 24), 389–390.

120 BSK BankG-*Bauer,* article 31 N 17.

121 BSK BankG-*Bauer,* article 29 N 22 and article 31 N 19.

122 *See Hofer* (fn. 24), 390. *See generally Zhou/Rutledge/Bossu/Dobler/Jassaud/Moore* (fn. 62), 14–18. *But see Kuhn* (fn. 116), 461.

123 Article 55 BRRD.

124 *See* article 12 (2[bis]) BankO and article 56(1) BIO-FINMA (requiring financial institutions to ensure contractually that certain financial contracts will be subject to a resolution stay ordered by FINMA).

125 In the U.K., the FCA banned the distribution of CoCos to retail investors. *See* FCA Press Release: FCA restricts distribution of CoCos to retail investors, 5 August 2014 (available at <*https://www.fca.org.uk/news/press-releases/fca-restricts-distribution-cocos-retail-investors*>); *See, e.g., Tröger* (fn. 62), 30.

126 *See, e.g., Tröger* (fn. 62), 31; *Zhou/Rutledge/Bossu/Dobler/Jassaud/Moore* (fn. 62), 14–18.

127 *See, e.g., Tröger* (fn. 62), 31.

entering into formal insolvency proceedings,[128] this step may not be sufficient to maintain the bank without taking more structural measures. Under a single-point-of-entry strategy, the recapitalisation may be sufficient to carve out systemic functions, while disposing of the remaining business without needing to use insolvency powers. However, this is far from certain and the resolution of a systemically important bank, while maintaining systemic functions, is likely – if only as a back-up or as a second step – to require a transfer to a bridge bank, which will act as an intermediate stage to maintain the functions live, until they can be either sold to another financial institution or spun-off as a newly stabilized bank.[129]

A substantial part of the groundwork to enable such a transfer must be laid down as part of the preparatory organizational measures under an emergency plan or a resolution plan.[130] However, the support of FINMA, as a resolution authority, may be needed to transfer of certain assets, liabilities, and contractual relationships under a restructuring plan. In this context, FINMA has the power to transfer assets, liabilities and contractual relationships under a restructuring plan.[131] It is effective upon the approval of the plan by FINMA.[132] FINMA enjoys a substantial discretion in determining the scope of the transfer: the restructuring plan only needs to ensure that legal and economic connections between assets, liabilities and contractual relationships are maintained.[133] By contrast, individual creditors or counterparties do not have a right to be transferred.[134] At an operational level, the plan must determine which systems and applications will be jointly used, which banking services are to be continued by a bridge bank, and how the latter will be guaranteed access to payment transaction and financial market infrastructure.[135] Moreover, the restructuring plan must, among others, list corporate actions that are necessary (although shareholder approvals are not necessary) and stipulate further actions that are necessary to ensure that all assets and other items are transferred.[136]

At another level, to ensure that no creditor suffers from the transfer, the restructuring plan must determine what consideration will be paid to the estate.[137] The plan must therefore determine how it is calculated and whether it is capped at a maximum amount. Furthermore, FINMA must order an independent valuation[138] and arrange compensation between the entities[139].

4. Limited Rights of Shareholders and Creditors

Transfers provided for by a resolution plan are not subject to the Merger Act and its provisions on the protection of shareholders and creditors.[140] More generally, neither a bail-in nor a transfer are subject to the approval by the general meeting of shareholders.[141] Creditors generally do not have a say either,[142] since they do not have the right to refuse reorganisation plans of systemically important banks pursuant to article 31*a* (3) BankA.

Furthermore, the legal remedies of creditors and shareholders in resolution proceedings are limited.

128 Bericht TBTF 2015 (fn. 46), 9. *See,* e.g., Credit Suisse, 2018 US Resolution Plan, Public Section, (available <*https://www.fdic.gov/regulations/reform/resplans/plans/creditsuisse-165-1807.pdf*>); 7; UBS Group AG, 2018 US Resolution Plan, Public Section (available at <*https://www.fdic.gov/regulations/reform/resplans/plans/ubs-165-1807.pdf*>), 5.

129 FINMA, Position paper on resolution, 5; *René Bösch,* FINMA favours Single Point of Entry Bail-in as Optimal Resolution Strategy, CapLaw 2014-4; *Haunreiter* (fn. 3), N 1053–1054; *Hofer* (fn. 24), 385. *But see Kuhn* (fn. 90), 80–82 (suggesting that this step is perceived as not being feasible).

130 Article 10 (2) and 10 (3) BankA; article 60; article 64 (1) and (2) BankO; *See also* Schlussbericht TBTF (fn. 23), 39; FINMA, Position paper on resolution, 9; *Bösch* (fn. 129), 4; *Haunreiter* (fn. 3), N 1060.

131 Article 30 (1) and (2) BankA and article 45 BIO-FINMA. *See Haunreiter* (fn. 3), N 808.

132 Article 51 (2) BIO-FINMA. *See* Botschaft TBTF, BBl 2011 4768; *Haunreiter* (fn. 3), N 810; *Hofer* (fn. 24), 390.

133 Article 31 (d) BankA and article 51 (1) (h) BIO-FINMA. *See* Botschaft TBTF, BBl 2011 4768; *Haunreiter* (fn. 3), N 808.

134 BSK BankG-*Bauer,* article 30 N 17.

135 Article 51 (1) (g) BIO-FINMA.

136 Article 51 (1) (d) and (e) BIO-FINMA.

137 Article 31*b* BankA and 51 (1)(f) BIO-FINMA. *See Hofer* (fn. 24), 392

138 Article 31*b* (1) BankA BIO-FINMA.

139 Article 31*b* (2) BankA. *Daniel Roth,* "Too big to fail" – Stärkung der Stabilität im Finanzsektor, SJZ 2012, 285, 288.

140 Article 31 (2) BankA. *See* Botschaft TBTF, BBl 2011 4766; *Haunreiter* (fn. 3), N 808.

141 BSK BankG-*Bauer,* article 29 N 22.

142 *See Tatiana Ayranova,* Die Wahrung der Gläubigerinteressen im bankenrechtlichen Sanierungsverfahren, Diss. Geneva 2017, 241–242; *Hofer* (fn. 24), 388.

They can appeal against the approval of the restructuring plan, but not other actions or orders of FINMA.[143] Even then, the appeal does not have a suspensive effect, including on request to the court,[144] meaning that the plan will be carried out anyway and, practically, the only remedy available to shareholders and creditors is a compensatory payment.[145]

5. Resolution Stay

The power to transfer assets, liabilities and contractual relationships would be of little use considering the volatile nature of financial services. Termination rights and close-out netting have become a mainstay of most financial contracts over the last quarter of a century, which *de facto* can jeopardize a transfer of live agreements. The introduction of a resolution stay was, therefore, a key element to override these arrangements: pursuant to article 30*a* BankA, FINMA has the power to order a stay of the termination of contracts and exercise of netting, and realization and porting rights for two business days,[146] in connection with measures under chapter 11 of the Banking Act.[147] After the deadline expires, the stay is lifted automatically. However, it may have long lasting effects: if the bank complies with the licensing requirements, the counterparty no longer has the right to terminate, exercise netting, realization or porting rights in connection with the measures.[148] Practically speaking this right will give FINMA four days (including a weekend) or, even 6 days if the resolution is to happen over Easter to transfer the agreements to a bridge bank and cure any event of default allowing the counterparty to terminate or exercise netting, realization and porting rights.[149]

The Swiss version of the resolution stay is extremely far reaching, since it extends to any agreement entered into by a Swiss financial institution, and not only certain financial contracts.[150] It can, thus, also apply to service agreements, contracts with IT-service providers, lessors and any other contract that may be needed to maintain the operational continuity of the bank.[151] Moreover, it applies to automatic termination as well as termination rights and to irrespective of whether they are specifically tied to insolvency measures. However, the Bank Act tempers this by providing that the stay does not apply if the **termi-**

143 Article 24 (2) BankA. *See Ayranova* (fn. 142), 243–254; *Hofer* (fn. 24), 388; *Kuhn* (fn. 116), 457; *Roth* (fn. 139), 288. Theoretically, the rights of the affected bank are not limited. However, it is unlikely that the directors and officers will be entitled to initiate litigation against FINMA since the latter can also appoint new officers and limit the power of officers. *Kuhn* (fn. 116), 457.

144 Article 24 (3) BankA. *See Kuhn* (fn. 116), 456.

145 Article 24 (4) BankA. *See Kuhn* (fn. 116), 456–457.

146 Article 30*a* (3) BankA. This power was initially only introduced in article 57 BIO-FINMA, without relying on specific statutory basis.

147 Article 30*a* (2) BankA. This covers not only restructuring measures but also protective measures or even insolvency proceedings. *See Janusz Marty/Seraina Tsering/Dominic Wyss,* Temporary Stay on Termination of Contracts, GesKR 2016, 348, 350.

148 Article 30*a* (5) BankA. *See Marty/Tsering/Wyss* (fn. 147), 351.

149 Botschaft zum Finanzmarktinfrastrukturgesetz (FinfraG), 3 September 2014 ("Botschaft FinfraG"), BBl 2014 7483, 7606. *See also Marty/Tsering/Wyss* (fn. 147), 351.

150 *See* Botschaft FinfraG, BBl 2014 7483, 7605. Comp. article 30*a* BankA with section 210(c)(8)(D) of Title II of the Dodd-Frank Act, which applies only to "Qualifying Financial Contracts"; *see also,* on the scope of the U.S. regulations, Restrictions on Qualified Financial Contracts of Systemically Important U.S. Banking Organizations and the U.S. Operations of Systemically Important Foreign Banking Organizations; Revisions to the Definition of Qualifying Master Netting Agreement and Related Definitions, 82 FR 42882 (13 November 2017) (available at <*https://www.federalregister.gov/d/2017-19053*>); Restrictions on Qualified Financial Contracts of Certain FDIC-Supervised Institutions; Revisions to the Definition of Qualifying Master Netting Agreement and Related Definitions, 82 FR 50228 (30 October 2017), (available at <*https://www.federalregister.gov/d/2017-21951*>); Restrictions on Qualified Financial Contracts of Certain FDIC-Supervised Institutions; Revisions to the Definition of Qualifying Master Netting Agreement and Related Definition, 82 FR 61443 (28 December 2017) (available at <*https://www.federalregister.gov/d/2017-27971*>); Mandatory Contractual Stay Requirements for Qualified Financial Contracts, 82 FR 56630 (29 November 2017) (available at <*https://www.federalregister.gov/d/2017-25529*>); article 69–71 BRRD also provide for a broad authority; *See also* Erläuterungsbericht zur Verordnung über die Finanzmarktinfrastrukturen und das Marktverhalten im Effekten- und Derivatehandel (Finanzmarktinfrastrukturverordnung, FinfraV), 57; FINMA Bericht über die Anhörung vom 27. September bis zum 8. November 2016 zur Teilrevision der BIV-FINMA, 9 March 2017 (available at <*https://www.finma.ch/de/~/media/finma/dokumente/dokumentencenter/anhoerungen/laufende-anhoerungen/biv-finma/20170309-ab-biv-finma.pdf?la=de*>), 8–9.

151 Botschaft FinfraG, BBl 2014 7483, 7605 *Marty/Tsering/Wyss* (fn. 147), 351.

nation is not related to the measures and can be attributed to the behavior of the bank or the acquirer,[152] although as a practical matter it may prove difficult to draw the line.

Finally, to ensure the effectiveness of the resolution stay in a cross-border context, Swiss entities are required to obtain **the contractual recognition of the resolution stay** in connection with certain financial arrangements.[153] Article 56 BIO-FINMA substantially limited the scope of this requirement by focusing it on certain financial arrangements.[154]

V. Organisational Measures

1. The Carrot and the Stick

Notwithstanding the resolution stay, bailing-in a global bank and even more transferring systemically relevant functions to a bridge bank within two business days remains a daunting task, which needs to be prepared well in advance. Beyond adopting an emergency plan, a recovery plan and a resolution plan,[155] Swiss law does not formally prescribe any organisational measures, such as ring fencing the domestic retail business from the global wholesale activities,[156] setting up a bank holding company,[157] or carrying out certain activities exclusively through dedicated entities:[158] It relies instead on a "carrots and sticks" approach to nudge banks to take appropriate measures.

Fundamentally, it lets the financial institution determine, within the framework of the emergency plan, how it intends to proceed.[159] FINMA acts in this context only to review the feasibility of the plan and ensure that the bank "walks the talk" and does what it needs to do, according to its own analysis, to ensure that the plan can be implemented.[160] However, the Bank Act gives FINMA, on the one hand, a stick by empowering it to order necessary measures, if the bank does not evidence that the emergency plan can be implemented immediately upon the threat of insolvency.[161] On the other hand, the main carrot is a rebate on capital requirements, if a systemically important bank improves its resolvability in Switzerland and abroad beyond the statutory requirements.[162]

152 Article 30*a* (4) BankA. *See Marty/Tsering/Wyss* (fn. 147), 351.

153 Article 12 (2[bis]) BankO and article 56(1) BIO-FINMA (requiring financial institutions to ensure contractually that certain financial contracts will be subject to a resolution stay ordered by FINMA). This requirement is implemented among others by the ISDA 2015 Universal Resolution Stay protocol published on 4 November 2015 by International Swaps and Derivatives Association, Inc. *See generally Reto Schiltknecht/David Billeter,* Ergänzung des ISDA-Rahmenvertrages um ein Protokoll zur Vermeidung möglicher Destabilisierungen des Finanzsystems, SZW 2015, 108, 111; *Stefan Krammer/Andreas Josuran,* Stay Recognition Clauses in Financial Contracts, Caplaw 2017–18; *See Marty/Tsering/Wyss* (fn. 147), 352; *Vaik Müller,* Clauses de reconnaissance d'ajournement: quelques considérations sur l'article 12 al. 2[bis] OB, GesKR 2018, 363–364.

154 *See* FINMA Bericht über die Anhörung vom 27. September bis zum 8. November 2016 zur Teilrevision der BIV-FINMA, 9 March 2017 (available at <*https://www.finma.ch/de/~/media/finma/dokumente/dokumentencenter/anhoerungen/laufende-anhoerungen/biv-finma/20170309-ab-biv-finma.pdf?la=de*>), 12. *See also* FINMA Guidance 01/2018 Implementing the requirement for amending financial contracts (Art. 12 para. 2[bis] BO in conjunction with articles 56 and 61a BIO-FINMA), 21 March 2018 (available at <https://www.finma.ch/en/news/2018/03/20180321-aufsichtsmitteilung-01-2018/>); *Krammer/Josuran* (fn. 153).

155 *See* article 9 and 10 BankA.

156 Unlike the U.K. under the ring fencing rules prescribed by the *Vickers* Commission (*see* fn. 33). *See also* article 62 (2) (a) BankO, which applies only if the financial institution did not implement its own measures.

157 Unlike the U.S.A. under Section 165 of the Dodd-Frank Act. *See* fn. 155. This measure can be ordered by FINMA under article 62 (2)(b) BankO, which applies only if the financial institution did not implement its own measures.

158 *See Peter Hsu,* Servicegesellschaften – eine Antwort auf "Too-Big-To-Fail" bei Finanz- und Versicherungsgruppen?, in: Rolf H. Weber/Walter A. Stoffel/Jean-Luc Chenaux/Rolf Sethe (eds), Aktuelle Herausforderungen des Gesellschafts- und Finanzmarktrechts: Festschrift für Hans-Caspar von der Crone zum 60. Geburtstag, Zurich 2017, 471–494, 477–478. *See also* article 62 (2)(c) BankO, which applies only if the financial institution did not implement its own measures.

159 Article 9 (2)(d) BankA. *See also Haunreiter* (fn. 3), N 1048, pointing out the reactive (as opposed to preventative) nature of this measure; *Hofer* (fn. 24), 318 (critical of the overall approach).

160 Article 10 (2) BankA. *See also von der Crone/Beeler* (fn. 32), 196–197. The key question in this context is the evidentiary standard to assess the proof, which is based on the materials limited to a high level of probability based on current knowledge. *See Hofer* (fn. 24), 321 and 326, 443.

161 Article 10 (2) BankA and article 61 and 62 BankO. *See Haunreiter* (fn. 3), N 1051; *Hsu* (fn. 158), 478.

162 Article 10 (3) BankA and article 65 BankO. *See also von der Crone/Beeler* (fn. 32), 198–199; *Haunreiter* (fn. 3), N 1052; *Hsu* (fn. 158), 478.

FINMA did not disclose whether it used the carrot or the stick, or both. However, the fact is that both G-SIBs reorganized their group along the following lines, which should facilitate the implementation of the single-point-of-entry resolution strategy pursued by FINMA[163]. Conceptually where groups of companies are a source of complexity requiring additional regulation, they were transformed into a technique that should be fostered to facilitate the resolution of a financial group.[164] Both G-SIBs have a non-bank holding company, Credit Suisse Group AG and UBS Group AG, which is due to be the entry point of resolution proceedings.[165] This way the resolution measures to be initiated at the holding level, possibly without even affecting the group entities. Capital created at the parent company level can then be pushed down as needed to the subsidiaries. They also separated their global banking business (Credit Suisse AG and UBS AG), from their Swiss business (Credit Suisse (Schweiz) AG and UBS Switzerland AG),[166] which presumably houses their systemically relevant functions.

To decrease the dependencies on other business lines both within the same legal entity and in other group entities, both entities also set up a service company directly held by the holding company, Credit Suisse Services AG, UBS Business Solutions AG.[167] The service company should, thus, be shielded from the insolvency of an operational entity, although it will be within the scope of the resolution plan. By outsourcing certain services to a dedicated entity, the transfer of a part of the business to a bridge bank, while liquidating the residual business, becomes a realistic option: the bridge bank will obtain the ongoing support it needs from the service company, even as the residual business is being wound down.[168]

These organizational measures suppose, however, that financial groups take the legal-entity approach seriously. It does not suffice to consider the financial group on a consolidated basis or to take a divisional view.[169] Quite to the contrary, this supposes that each legal entity has a robust governance, with a board of directors, composed of independent members and working with committees that are up and running, as well as executives with the requisite qualifications and experience.[170] Furthermore, the contractual relationships and processes need to be adequately documented to serve as a road map for a transfer under a restructuring plan.[171] Finally, taking the legal entity seriously also supposes that all legal entities, not only the regulated entities, but also non-regulated entities, such as the holding company or the service company, are appropriately capitalized

163 *Hofer* (fn. 24), 327–328, points out that the banks are free to choose but strongly encouraged. However the measures do not correspond to the initial plans that were envisaged in the consultation proceedings. *See ibid.; Roth* (fn. 139), 291–292. *Hofer* (fn. 24), 450 ff is also critical of the approach as a hidden measure, Responding to the requirements of US law, they also set up a US intermediate holding company controlling the U.S. sub-group (Credit Suisse Holdings (USA), Inc.; UBS Americas Inc.), including for UBS even a dedicated US services company, UBS Business Solutions US LLC. *See* Annual Report Credit Suisse (Schweiz) AG 2017; UBS Group AG, Annual Report 2017, 30; SNB, Financial Stability Report 2018, 18. *See also Hofer* (fn. 24), 110.

164 *Kunz* (fn. 25), n 70–71.

165 SNB, Financial Stability Report 2018, 18; Annual Report Credit Suisse (Schweiz) AG 2017; UBS Group AG, Annual Report 2017, 30.

166 *See* Annual Report Credit Suisse (Schweiz) AG 2017; SNB, Financial Stability Report 2018, 18; UBS Group AG, Annual Report 2017, 30.

167 *See* SNB, Financial Stability Report 2018, 18; Credit Suisse simplified Legal Entity Overview Chart – September 2018 (available at <*https://www.credit-suisse.com/corporate/en/investor-relations/corporate-and-share-information/corporate-information/legal-structure.html*>); UBS Group AG, Annual Report 2017, 12–13.

168 *See* FSB, Arrangements to Support Operational Continuity in Resolution, August 2016 ("Arrangements to Support Operational Continuity in Resolution"), (<*http://www.fsb.org/wp-content/uploads/Guidance-on-Arrangements-to-Support-Operational-Continuity-in-Resolution1.pdf*>); *See Hsu* (fn. 158), 474.

169 Comp. *Hofer* (fn. 24), 238–239 pointing out how permeable a financial group is from an economic and reputational point of view. *See also* BGE 116 I*b* 331, 338–339.

170 *See Hsu* (fn. 158), 479.

171 *See Hsu* (fn. 158), 479; *See also* FINMA Circular 2018/3 Outsourcing at banks and insurance companies, margin n. 14 (available at <*https://www.finma.ch/en/~/media/finma/dokumente/dokumentencenter/myfinma/rundschreiben/finma-rs-2018-03.pdf?la=en*>).

and funded to be able to withstand the resolution of the group.[172]

2. Legislative and Regulatory Support

As mentioned above, the organizational measures are largely left to the systemically important banks. However, the powers of FINMA were expanded to deal with all key stakeholders: first, FINMA received the power to subject the holding company of a financial group or conglomerate established in Switzerland as well as group entities with their seat in Switzerland that carry out important functions for supervised activities, i.e. service companies, to its resolution and insolvency authority (measures of chapter 11 and 12 of the BankA).[173] Thus, currently, four non-regulated entities are subject to resolution authority as essential group entities: ARIZON Sourcing AG, Credit Suisse Services AG, UBS Business Solutions AG, UBS Group Funding (Switzerland) AG.[174]

This power applies, however, only once insolvency measures are ordered. Out of bankruptcy, holding companies and service companies are not supervised entities and consequently not subject to supervision by FINMA. FINMA is, however, entitled to request information directly from qualified shareholders, which includes holding companies,[175] and, since 1 January 2016 from physical and legal persons to whom a bank outsourced important functions, thus capturing among others service companies.[176] Furthermore, TBTF 3 seeks to expand, indirectly, the scope of consolidated supervision by considering that essential group entities are entities in the financial sector under article 4 (1)(c) of the Draft Banking Ordinance (2018), and hence included in the scope of consolidated supervision.[177]

VI. Taking Stock:

1. What has been done?

Looking back over the last ten years, a lot of progress has been done. If we look at the Financial Stability Report of the SNB, both Swiss G-SIBs have reduced the size of their balance sheets and de-leveraged them. Credit Suisse and UBS decreased the total size of their balance sheet to 2.3 times GDP from a peak of 4.6.[178] They increased their capital base, in terms of CET1, regulatory capital and TLAC.[179] Moreover, they already satisfy the RWA requirements although further improvement is required to satisfy the going-concern leverage ratio.[180] The markets support this assessment. Credit default swap premium are at historically low levels and both in absolute terms and in relation to other G-SIBs. Rating agencies removed the government support uplift at holding level, suggesting that they do not consider that the implicit guarantee is necessary to improve the rating. At the operating company level, S&P and Fitch removed it also, while Moody continues to assume that they will benefit from government support.[181] Both Swiss G-SIBs also implemented operational measures to facilitate the resolution strategy.[182] This increased awareness of the issues along the way and all stakeholders, private and public, are better prepared should a crisis arise. This being said, completing a resolution plan over four days remains a very ambitious goal.

172 *See Hofer* (fn. 24), 333; *Hsu* (fn. 158), 480–481; FSB, Arrangements to Support Operational Continuity in Resolution; *see also* FINMA Circular 2018/3 Outsourcing at banks and insurance companies, margin n. 31 requiring that "[the] possibility of restructuring or resolving the company in Switzerland must be assured. Access to the information required for this purpose must be possible in Switzerland at all times."

173 Article 2bis BankA.

174 *See* FINMA, List of significant group companies: bank, 28 December 2017 (available at <*https://www.finma.ch/en/news/2017/12/20171228-wesentliche-gruppengesellschaften/*>).

175 Article 29 (1) FINMASA.

176 Article 23bis (1) BankA.

177 Proposed as part of the Consultation on amendments to Capital Adequacy Ordinance of 23 February 2018.

178 IMF, Switzerland: Financial Sector Stability Assessment, Country Report 14/143, 2014, p. 13; SNB, Financial Stability Report 2018, 13.

179 SNB, Financial Stability Report 2018, 14. Annual Report Credit Suisse (Schweiz) AG 2017; UBS Group AG, Annual Report 2017, 30.

180 SNB, Financial Stability Report 2018, 6.

181 *Ibid.,* 17.

182 *Idem*.

2. Where do we stand?

Nevertheless, the TBTF problem remains a concern. The total exposure of each of Credit Suisse and UBS exceeded 130% of the Swiss GDP.[183] While they comply with the capital requirements, both Swiss G-SIBs have, in comparison with other G-SIBs, a high RWA-to-total assets ratio.[184] This suggests that their balance sheets have used risk weighting to their benefit to increase their exposure. In international comparison, even the ratio of the total exposure of Raiffeisen and ZKB relative to the Swiss GDP was roughly twice the size of JP Morgan, Bank of America and Citigroup relative to the US GDP.[185] Admittedly, the comparison is not entirely fair: the U.S. banking sector has historically been extremely fragmented and the emergence of large financial institutions is a fairly recent phenomenon in the United States.[186] Overall, interconnection and interdependencies remain within the financial sector. Moreover, notwithstanding the carving out of the Swiss business and the creation of dedicated service companies, the same can be said within the financial groups.

As time flies, the memory of the crisis fades: a new generation of professionals who did not live have first-hand experience of the financial crisis have graduated from universities[187] and are rising through the ranks of management.[188] The volatility peaks from the financial crisis 2008 are slipping out of time-series used for risk-management purposes.[189] Risk appetite is increasing and growth is again on the agenda of banks[190]. In the United States, deregulations and turning back Dodd Frank is a platform.[191]

3 What still needs to be done?

Emergency plans (in addition to the resolution plans) need to be filed and approved by FINMA.[192] TLAC requirements for D-SIBs need to be defined[193] and internal TLAC requirements also need to be defined for G-SIBs.[194] Moreover, capital requirements only ensure that sufficient equity will be available to support resolution. The funding of the operations, by contrast, is not explicitly arranged in regulations. Conceptually, central banks could step in since the issue would be one of such of liquidity and not solvency. Determining whether this axiom of central banking is respected can, however, be challenging and, therefore, it would be preferable to ensure that the resolution plan can be funded without central bank support.[195]

While a lot of work has been done to maintain operational continuity in resolution, further measures remain necessarily common: in particular, ac-

183 *Ibid.* 13.

184 IMF, Switzerland: Financial Sector Stability Assessment, Country Report 14/143, 2014, p. 13; SNB, Financial Stability Report 2016, 14.

185 SNB, Financial Stability Report 2018, 24.

186 *See generally Charles W. Calomiris/Stephen Haber,* Fragile by Design: The Political Origins of Banking Crises and Scarce Credit, Princeton 2014, 153 ff.

187 *See, e.g., Andrew Ross Sorkin,* What *Timothy Geithner* Really Thinks, N.Y. Times Magazine, 11 May 2014, *<https://www.nytimes.com/2014/05/11/magazine/what-timothy-geithner-really-thinks.html>* (mentioning that in 2014, college students attending a lecture by Timothy Geithner were in eight grade during the crisis).

188 *See Reinhart/Rogoff* (fn. 28), *passim*.

189 The events of 2008 are now ten years old. All statistics based on time-series that are less than ten years old will disregard the volatility peaks that followed the failure of Lehman Brothers. After 30 years, these movements will disappear from the definition of "extreme but plausible market conditions", which is determined on the basis of the largest price fluctuations which have been observed over the last 30 years, or which are considered possible in the future, pursuant to article 2 (1)(s) National Bank Ordinance.

190 *See* SNB, Financial Stability Report 2018, 6 (referring to the annual reports of Credit Suisse Group AG and UBS Group AG); UBS Group AG, Annual Report 2017, 30.

191 *See, e.g.,* US Congress rolls back parts of post-crisis bank rules, Financial Times 23 May 2018.

192 SNB, Financial Stability Report 2018, 6.

193 *Idem;* Federal Department of Finance, Erläuternder Bericht TLAC.

194 SNB, Financial Stability Report 2018, 19. See FSB, Guiding Principles on the Internal Total Loss-absorbing Capacity of G-SIBs ('Internal TLAC'), 6 July 2017 (available at *<http://www.fsb.org/2017/07/guiding-principles-on-the-internal-total-loss-absorbing-capacity-of-g-sibs-internal-tlac-2/>*) FSB, Arrangements to Support Operational Continuity in Resolution.

195 See FSB, Arrangements to Support Operational Continuity in Resolution.

cess to financial market infrastructures should be maintained in resolution, since G-SIBs are often systemically relevant, because they act as gateways to FMIs for smaller financial institutions and market participants at large.[196] At the same time, the overall stability of FMI's needs to be preserved in the interest of maintaining a robust and resilient financial system.

Finally, cross-border cooperation remains essential when dealing with G-SIBs. Efforts have been made to develop international standards and coordinate the activities of regulators and resolution authorities.[197] Yet, there is a renewed trend for policymakers and supervisors alike to focus primarily on their own domestic markets. Switzerland is not alone in this respect and the UK[198] and the US[199] also have taken similar steps. More generally, the political trends in the US and Brexit in Europe are not conducive to cross-border cooperation.

Nevertheless, we should be realistic, if all fails and capital, including TLAC, is not sufficient to sustain massive losses and regulators do not believe that resolution will be effective, bail-outs are likely to occur again as last resort.[200]

4. The Role of FINMA and the SNB

An important development of the financial crisis is the increased powers of the regulators: FINMA was born in 2009 in the ashes of the crisis. Unlike many of its peers, it was not blamed for confusing its roles as prudential supervisor and conduct authority. It was not broken down. Quite to the contrary, FINMA now acts as a regulator based on it the powers to issue ordinances[201] and to codify its practice in circulars,[202] supervisor when financial institutions are alive[203] and resolution authority when they die.[204] The SNB has significant powers to identify TBTF institutions[205] and

196 *See* FSB, Guiding principles on the temporary funding needed to support the orderly resolution of a global systemically important bank ("G-SIB"), 18 August 2016 (available at <*http://www.fsb.org/wp-content/uploads/Guiding-principles-on-the-temporary-funding-needed-to-support-the-orderly-resolution-of-a-global-systemically-important-bank-"G-SIB".pdf*>) and FSB, Funding Strategy Elements of an Implementable Resolution Plan, 21 June 2018 (available at <*http://www.fsb.org/wp-content/uploads/P210618-3.pdf*>).

197 *See* FSB, Key Attributes, 14–15. *See also* Global Plan Annex: Declaration on Strengthening the Financial System, Statement Issued by the G20 Leaders, London, April 2, 2009, (available at <*http://www.g20.utoronto.ca/2009/2009ifi.html*>); G20 Leaders Statement: The Pittsburgh Summit, 24–25 September 2009, Pittsburgh, section 13 (available at <*http://www.g20.utoronto.ca/2009/2009communique0925.html*>).

198 *See* Bank of England, The Bank of England's approach to setting a minimum requirement for own funds and eligible liabilities (MREL): Statement of Policy, June 2018 (available at <*https://www.bankofengland.co.uk/paper/2018/boes-approach-to-setting-mrel-2018*>), section 7.2 which sets minimum requirements for own funds and eligible liabilities for material subsidiaries of foreign groups.

199 *See* Section 165 Dodd-Frank Act and 12 CFR § 252.153. *See generally Daniel K. Tarullo,* Regulating large foreign banking organization, New York, 27 March 2014 (available at <*https://www.bis.org/review/r140328b.pdf*>).

200 *See* Schlussbericht TBTF (fn. 23), 81; *Hofer* (fn. 24), 119. As Secretary *Timothy Geithner* told SIGTARP in December 2010, with the Dodd-Frank Act, the *"probability of failure is reduced because the banks hold more capital. The size of the shock that hit our financial system was larger than what caused the Great Depression. In the future we may have to do exceptional things again if we face a shock that large. You just don't know what's systemic and what's not until you know the nature of the shock. It depends on the state of the world – how deep the recession is. We have better tools now, thanks to Dodd-Frank. But you have to know the nature of the shock."* Special Inspector General for the Troubled Asset Relief Program, Extraordinary Financial Assistance Provided to Citigroup, Inc., 13 January 13 2011, (available at <*http://www.sigtarp.gov/Audit%20Reports/Extraordinary%20Financial%20Assistance%20Provided%20to%20Citigroup,%20Inc.pdf*>), 44. *See also* the concern formulated by the Group of 30 due to the hard-wired no-bail-out rules in certain jurisdictions, Group of 30, Managing the Next financial crisis (available at <*http://group30.org/images/uploads/publications/G30_Managing_the_Next_Financial_Crisis.pdf*>).

201 *See* article 7 (1) (a) FINMASA. *See, e.g.,* article 28 (2) and article 34 (3) of the Banking Act of 8 November 1934 (BankA) (granting FINMA the power to adopt insolvency regulations), article 36*a* of the Stock Exchange Act of 24 March 1995 (SESTA), and article 42 of the Mortgage Bond Act of 25 June 1930 (MBA).

202 *See* article 7 (1) (b) FINMASA.

203 *See* article 6 FINMASA. In particular, FINMA has the authority to determine the appropriate measures that apply to systemically important financial institutions pursuant to article 10 (1) BankA.

204 *See* article 25 BankA. *See* FINMA, Addressing "Too Big To Fail" the Swiss SIFI Policy, 23 June 2011, 16. *Haunreiter* (fn. 3), N 277–281.

205 Article 8 (3) BankA.

will be heard on the approval of emergency plans[206] and act as a lender of last resort in exceptional circumstances.[207]

However, FINMA and the SNB are also subject to limited legal constraints and controls. The monetary policy activity of the SNB is conducted largely out of the remit of formal administrative proceedings and judicial review. The regulation generally leaves room for FINMA to exercise discretion. The scope of judicial review is fairly limited in this area where technical expertise is required.[208] Furthermore, the SNB and FINMA are independent agencies[209] and their accountability to political overseers is limited.[210] Both are accountable to the Federal Council and have a general obligation to inform the public.[211] At the same time, they are one of the few public entities that benefit from a blanket exemption from the Freedom of Information Act[212].

The set-up is understandable. As far as the rule of law is concerned, this broad discretion may be a source of concern.[213] However, regulation and administration by FINMA and the SNB is preferable to action by political authorities acting on the basis of broad emergency powers.[214] Yet, to borrow a line from the Spiderman franchise, *"with great powers come great responsibility".*[215] The challenge of the TBTF system is whether this system will withstand the failure of a TBTF bank.[216]

206 Article 10 (1) BankA.

207 *See* article 9 (1)(e) NBA *cum* article 5 (2)(e)NBA. *See also* SNB, Financial Stability Report 2017, 17. This power should admittedly be used only under exceptional circumstances. However, unlike bailouts by governments, it remains a key aspect of the instruments to avoid the failure of systemic institutions. *See Haunreiter* (fn. 3), N 1202 and 1219.

208 *See, e.g.,* BGE 131 II 306, E. 3.4.1, 318; BVGer, 15.4.2018, B-3092/2016, E. 3.2.1; *Ulrich Häfelin/Walter Haller/Helen Keller/Daniela Thurnherr,* Schweizerisches Bundesstaatsrecht, 9. Aufl., Zürich 2016, N 514; *Jacques Dubey/Jean-Baptiste Zufferey,* Droit administratif général, Bâle 2014, N 427.

209 Article 21 (1) FINMASA. See FINMA, FINMA at a glance; Article 6 NBA (regarding activities on monetary policy, which include pursuant to article 5 (2)(e) NBA lending activities to monetary policy). *See also* SNB, The Swiss National Bank in Brief, 5. *Haunreiter* (fn. 3), N 290.

210 FINMA is only required to *"review reviews the strategy for its supervisory activity and current issues of financial centre policy with the Federal Council"* pursuant to article 21 (2) FINMASA. The National Council and the Council of States are responsible for its superintendence pursuant to article 21 (3) FINMASA. *See* article 7 (1) NBA which provides that *"the National Bank shall regularly discuss with the Federal Council the economic situation, monetary policy and topical issues of federal economic policy. The Federal Council and the National Bank shall inform each other of their intentions before taking decisions of major importance for economic and monetary policy. The National Bank's annual report and annual accounts shall be submitted to the Federal Council for approval before being approved by the General Meeting of Shareholders".*

211 Article 22 FINMASA; article 7 (3) and (4) NBA. See SNB, The Swiss National Bank in Brief, 5.

212 Article 2 (2) of the Federal Act on Freedom of Information in the Administration of 17 December 2004 (Freedom of Information Act, FoIA; SR 152.3). *See also Kunz* (fn. 25), fn. 146.

213 *See generally Paul Tucker,* Unelected Power: The Quest for Legitimacy in Central Banking and the Regulatory State, Princeton 2018, *passim.*

214 The recapitalisation of UBS AG was based on the emergency powers of the Federal Council pursuant to article 185 (3) of the Swiss Federal Constitution. *See* Botschaft zum Massnahmenpaket 2008, BBl 2008 8968. *See* more generally on the use of emergency powers in financial crises in Switzerland, *Andreas Kley,* Die UBS-Rettung im historischen Kontext des Notrechts, ZSR 2011, 123. *Adam Tooze,* Crashed, New York 2018, 10, stating that the interventions had *"more in common with military operations or emergency medicine than law-bound governance".*

215 Spiderman directed by Sam Rami (2002). *See Stan Lee/Steve Ditko,* Amazing Fantasy No. 15: "Spider-Man," p. 13 (1962) cited by *Kimble v. Marvel Industries,* 576 U.S., (2015). *See* for further references on this quote. <*https://quoteinvestigator.com/2015/07/23/great-power/*>.

216 *See Tooze* (fn. 214), 10, who considers that the model of independent agencies lost its credibility in the wake of the crisis.