BIS

BIS Bulletin

No 11

Releasing bank buffers to cushion the crisis – a quantitative assessment

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5 May 2020

BIS Bulletins are written by staff members of the Bank for International Settlements, and from time to time by other economists, and are published by the Bank. The papers are on subjects of topical interest and are technical in character. The views expressed in them are those of their authors and not necessarily the views of the BIS. The authors are grateful to Louisa Wagner for administrative support.

The editor of the BIS Bulletin series is Hyun Song Shin.

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ISSN: 2708-0420 (online)
ISBN: 978-92-9197-378-0 (online)

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Releasing bank buffers to cushion the crisis – a quantitative assessment

Key takeaways

- *Banks globally entered the Covid-19 crisis with roughly US$ 5 trillion of capital above their Pillar 1 regulatory requirements.*
- *The amount of additional lending will depend on how hard banks' capital is hit by the crisis, on their willingness to use the buffers and on other policy support.*
- *In an adverse stress scenario such as the savings and loan crisis, banks' usable buffers would decline to US$ 800 billion, which could support US$ 5 trillion of additional loans (6% of total loans outstanding). Yet in a severely adverse scenario, similar to the Great Financial Crisis, the corresponding figures would be only US$ 270 billion and US$ 1 trillion (1.3% of total loans).*

Banks' ability and willingness to lend to the real economy has taken centre stage again. Following the outbreak of the Covid-19 crisis, corporate debt issuance has been impaired and other forms of external financing have dried up. Many firms have thus turned back to banks to seek credit. And for small and medium-sized enterprises, bank loans often represent the only source of funding.

Whether banks can prudently meet the demand for credit hinges on the strength and usability of their capital buffers (Drehmann et al (2020)). Regulatory reforms implemented after the Great Financial Crisis (GFC), notably Basel III, have spurred the build-up of bank capital (Graph 1, left-hand panel). For most banks, whether from advanced economies (AEs) or emerging market economies (EMEs), the ratio of Common Equity Tier 1 (CET1) capital – ie capital that can immediately absorb losses – to risk-weighted assets (RWA) at end-2019 was well above their regulatory minimum requirements (right-hand panel).

This Bulletin assesses how much lending bank capital buffers can support, taking into account possible Covid-19-induced losses. The analysis proceeds in three steps. The first step is to document the amount of banks' current CET1 capital above minimum regulatory requirements and assess the amount that banks could be willing to use under exceptional circumstances: their "potential buffer". The second step is to estimate how much of these potential buffers would be eroded in an adverse or a severely adverse macro-financial scenario: this yields the amount of "usable buffers". The third step is to approximate by how much banks could expand lending depending on how much of their usable buffers they allocate to loans.

How much capital could be released to support lending?

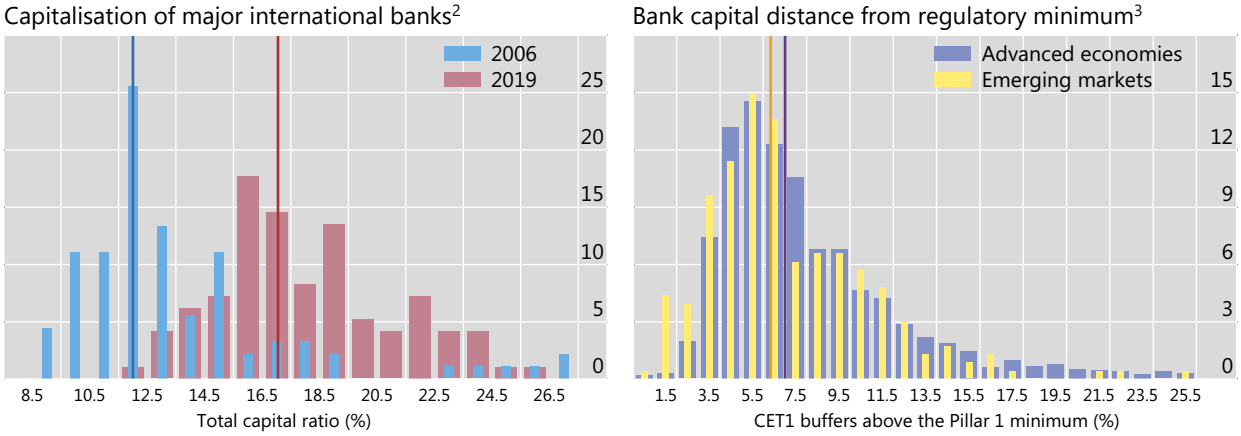
Bank capital requirements can be grouped into different pillars (Table 1). For internationally active banks, Pillar 1 comprises the Basel III minimum requirement, which amounts to 4.5% CET1 as a share of the bank's RWA. This requirement is complemented by two buffers. First, the capital conservation buffer (CCoB), (2.5%), which, if used by a bank, triggers restrictions on the bank's distributions. Second, capital surcharges for systemically important banks (SIBs). These "SIB buffers" account for the bank's contribution to systemic risk. National authorities set these buffers for domestic SIBs (D-SIBs), whereas a common methodology

applies for global SIBs (G-SIBs). Moreover, several jurisdictions had activated the countercyclical capital buffer (CCyB) before the Covid-19 crisis. This buffer is meant to be activated during excessive credit expansions and released during stress periods to safeguard bank resilience and support lending.

Bank capitalisation increased compared with the mid-2000s[1]

In per cent

Graph 1



[1] The vertical lines indicate the median for the year/region shown. [2] Based on a sample of 135 large banks. [3] Based on a sample of some 3,600 banks (roughly 3,400 in AEs and 200 in EMEs) at end-2019. The graph shows the difference between the current Common Equity Tier 1 (CET1) capital ratio and the minimum Basel III requirement, the capital conservation buffer and, as applicable, the bank-specific capital surcharge for global and domestic systemically important banks and the countercyclical capital buffer.

Sources: FitchConnect; authors' calculations.

Supervisory (Pillar 2) buffers are set by national supervisors to account for risks not explicitly captured by the Pillar 1 framework (eg interest rate risk in the banking book) and, more generally, for risks not covered by stress tests (BCBS (2019)). Supervisory buffers vary across banks and are usually not disclosed, unless they have implications for capital distribution (BCBS (2019), Federal Reserve Board (2020)).

Composition of CET1 capital requirements and release potential[1]

Table 1

Component	**Level** (CET1/RWA)	**Release potential** (US$ trillions)
Minimum Basel III requirement	4.5%	n/a
Capital conservation buffer (CCoB)	2.5%	Used only temporarily to cope with stress
G-SIB and D-SIB buffer (SIB buffer)	0.6%	Used only temporarily to cope with stress (G-SIB); design-dependent (D-SIB)
Countercyclical capital buffer (CCyB)	0.2%	0.1
Supervisory and management buffers[2]	6.2%	5.0
CET1 capital ratio (end-2019)	14.0%	5.1

[1] Based on 5,598 banks with total assets of US$ 165 trillion at end-2019; averages are weighted by total assets. [2] Comprise (undisclosed) Pillar 2 buffers and capital in excess of supervisory requirements ("management buffer").

Sources: FitchConnect; authors' calculations.

Finally, banks hold CET1 capital in excess of regulatory requirements ("management buffers") for a variety of reasons. Stronger capitalisation goes hand in hand with a better credit rating, thereby reducing the cost of funding and often raising profitability (Gambacorta and Shin (2018)). Management buffers also allow banks to pursue new business opportunities without having to raise capital externally. In general, there is great reluctance to approach regulatory minima, since these are associated with the point of non-viability, which may trigger resolution (Drehmann et al (2020)).

At end-2019, ie before the Covid-19 shock, the average CET1 capital ratio was 14.0% for a global sample of about 5,600 banks from 142 countries (Table 1).[1] Of this, the Pillar 1 requirements – ie the minimum Basel III requirement, the CCoB and the SIB buffers – accounted for about 7.6 percentage points (ppts) for SIBs and 7.0 ppts for the other banks. The remainder comprised the CCyB (0.2 ppts) – before its recent release in several countries – and other supervisory and management buffers (6.2 ppts).

How much capital would be available globally?

Macroprudential authorities have already responded swiftly to the Covid-19 crisis by deactivating the CCyB. Prudential authorities, in turn, have relaxed other supervisory requirements to provide banks with greater flexibility in supporting lending. If we were to consider the Pillar 1 requirements, at around 7.6% on average, to be the lower bound to ensure banks' solvency, banks in the data set (a proxy for the global banking system) would have at most US$ 5.1 trillion (6.4 ppts of their CET1 ratio) available.

Yet the amount of capital that banks would be able and willing to use for lending is likely to be substantially lower. Drawing down capital ratios by exhausting all buffers would expose banks to significant risks. Likewise, it is in the public interest to ensure that banks are sufficiently capitalised so that they can support sustainable economic growth (Borio and Restoy (2020)). Clearly, banks and supervisory agencies differ in terms of their risk tolerance. The analysis here thus necessarily requires some judgment.

We assume that banks and supervisory agencies would not be willing to see banks' CET1 ratio fall below 10%, while SIBs would also maintain their SIB buffers on top of that. The capital ratio would thus need to remain at least 3 ppts above the Pillar 1 requirements. We refer to the amount of CET1 capital in excess of this benchmark as the banks' potential buffers, roughly US$ 2.7 trillion in total at end-2019 – before crisis-related losses occurred.

How much capital could the crisis deplete?

History does not repeat itself, but it often does rhyme – as Mark Twain reminisced. Even though the Covid-19 crisis is exceptional in many ways, the GFC and other banking crises since the 1990s provide some guidance on the capital depletion that banks could suffer over the coming years as the crisis unfolds.

We consider two stress scenarios. The approach builds on Hardy and Schmieder (2013), who propose "rules of thumb" for robust bank stress tests based on banking crises since the 1990s.[2] The first scenario, referred to as the *adverse scenario*, assumes losses on existing loans comparable to those resulting from the savings and loan crisis in the United States. The second one, the *severely adverse scenario*, considers losses roughly equivalent to those observed for the GFC.

Capital ratios are projected to fall substantially in both scenarios (Graph 2, left-hand panel). Specifically, the average capital ratio would fall from the current 14% CET1/RWA to 10.9% and 6.5% in the adverse and severely adverse scenario, respectively.[3] The two main drivers of the decline in capital ratios are losses related to credit exposures and rising risk weights on banks' assets to account for the increase in the riskiness of the balance sheet.[4] The simulated decline in capital ratios in the GFC-like scenario is

[1] The sample comprises consolidated bank balance sheets from Fitch Connect, excluding banks with total assets of less than US$ 200 million. Total loans (assets) amounted to US$ 83.5 (165) trillion at end-2019, close to the global aggregate.

[2] The scenarios play out from peak to trough (historically just over three years on average) in order to enable us to capture the full trajectory of profit before losses, losses, and increases in risk weights. This is also consistent with the public supervisory stress tests of major authorities. The rules account for non-linear responses to large shocks, differences in RWA modelling (through-the-cycle parameters for banks using internal models vs the use of the standardised approach for other banks), and distinguish between AE and EME banks.

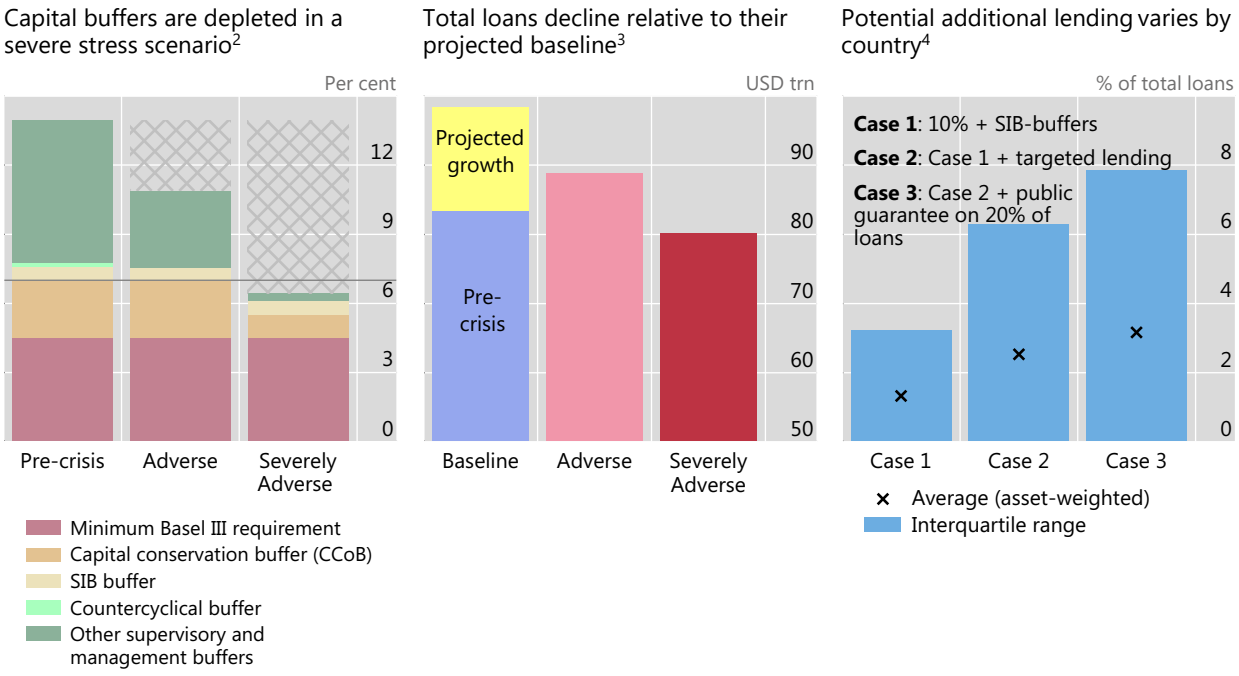
[3] In the severely adverse scenario, CET1 capital ratios drop, on average, by about 7.5 to 6 ppts for banks from AEs and 14 ppts for EME banks (compared with 3.0% and 3.3%, respectively, in the adverse scenario).

[4] The main drivers for bank solvency are as follows: (i) losses (particularly on credit exposures) and the decline in non-impairment income lower the CET1 ratio; (ii) risk weights rise (especially for banks using internal models) and thereby

similar to the results of recent supervisory stress tests in major AEs (eg Bank of England (2019), European Banking Authority (2018), Federal Reserve (2019)).

A "repeat" of the GFC would wipe out a substantial portion of banks' potential buffers in most economies (see also Graph 1, right-hand panel). From the US$ 2.7 trillion of potential buffers at end-2019, the projected capital depletion would imply that in total only US$ 270 billion would remain usable to support lending (compared with US$ 800 billion in the adverse scenario). In the severely adverse scenario, most banks would not have any usable buffers left.

Macroeconomic scenarios and additional lending supported by usable buffers[1] Graph 2



[1] Based on a sample of 5,598 banks at end-2019. [2] The horizontal line represents a CET1 capital ratio of 7% (Basel III minimum requirement and CCoB). [3] The panel depicts the amount of total loans for three scenarios: the baseline (first bar) is equal to the pre-crisis level of loans (ie at end-2019) to which we add the projected increase in loans over three years (the stress horizon) using the pre-crisis trend growth. The second and third bars present the level of total loans under adverse and severely adverse stress. Credit grows more slowly than in the baseline scenario and banks write off loans based on the trajectories in Hardy and Schmieder (2013). The additional loans that banks could extend based on their usable buffers are considered separately (Table 2; and Graph 2, right-hand panel). [4] The graph shows the amount of additional loans in the severely adverse scenario (centre panel) that banks could issue as a percentage of total loans at the country level. The graph compares three cases: banks running down their CET1 ratios to 10% + SIB buffers (Case 1); banks using all the capital released under Case 1 for lending (Case 2); and banks, on top of that, receiving a public guarantee on 20% of all additional loans (Case 3).

Sources: FitchConnect; authors' calculations.

How much additional lending can be supported?

The third and final step of the analysis assesses by how much the remaining usable buffers could be mobilised to support bank lending. The analysis considers the *change in total loans* in the stress scenario, which in turn depends on capital buffers that can be mobilised to support lending, and the amount of loans that can be supported by a dollar of capital. The latter tends to decline with the onset of crises as looming credit risk is reflected in higher risk weights (Adrian et al (2013), Hardy and Schmieder (2013)). Our baseline is the stock of loans at end-2019 to which we add the growth in loans projected over the stress horizon based on pre-crisis trends. Compared with this baseline, the amount of total loans is

increase RWA, which lowers the CET1 ratio; and (iii) banks' behavioural responses, such as dividend cuts or the reduction in the stock of loans and other assets (or reduced expansion thereof), raise the CET1 ratio.

US$ 9.6 trillion (equivalent to 11% of total loans at end-2019) lower for the adverse scenario and US$ 18.3 trillion (22%) lower for the severely adverse scenario (Graph 2, centre panel).

How much of this decline could be offset benefitting from remaining usable buffers? To answer this question, we consider the amount of *additional loans* that could be supported with these buffers in both stress scenarios. The analysis considers three stylised cases (Table 2). Case 1 assumes that banks employ any usable buffers to expand their balance sheet until their capital ratio declines to 10%, while SIBs, on top of that, also maintain their SIB buffers. This case also assumes that each bank keeps the ratio of customer loans to total assets constant, preserving the general structure of its balance sheet. Since, in the adverse scenario, usable buffers remain available to a substantial number of banks (Graph 2, left-hand panel), the release of buffers frees up balance sheet capacity to issue additional loans equivalent to around US$ 5.3 trillion (6% of total outstanding loans at end-2019; Table 2, top row). In the severely adverse scenario, however, the lack of usable buffers constrains bank lending almost completely. Additional lending by those banks with remaining usable buffers amounts to a mere US$ 1.1 trillion (1.3%).

Remaining usable buffers and potential additional lending Table 2

Response		Adverse scenario			Severely adverse scenario		
		Usable buffers[1]	Additional loans[2]		Usable buffers[1]	Additional loans[2]	
		US$ trn	US$ trn	% of total	US$ trn	US$ trn	% of total
Case 1	CET1 ratios run down to 10% + SIB-buffer	0.8	5.3	6%	0.27	1.1	1.3%
Case 2	+ targeted lending[3]	0.8	9.2	11%	0.27	2.1	2.5%
Case 3	+ public guarantee on 20% of additional loans[4]	0.8	11.5	14%	0.27	2.6	3.1%

[1] Amount of CET1 capital that could be made available ("usable buffers") if banks reduced their CET1 ratio to 10% + SIB buffers; aggregated across 142 countries. [2] Additional amount of loans that could be funded by the remaining usable buffers at end-2019; total loans amounted to US$ 83.5 trillion. [3] Assumes that all remaining usable buffers are used to fund additional loans. [4] Assumes that public guarantees reduce the risk weight of 20% of all additional loans to zero.

Sources: FitchConnect; authors' calculations.

Case 2 considers the same drawdown of usable buffers, but features a more targeted use of the funds. Specifically, all remaining usable buffers are used to fund customer loans (eg in response to incentives set by central banks' targeted lending schemes), at the expense of expanding other business. This case thus implies a stronger expansion in lending than Case 1 (Table 2, second row), with additional loans of roughly US$ 9.2 trillion (11%) and US$ 2.1 trillion (2.5%) in the adverse and severely adverse scenario, respectively.

Case 3 assesses the additional lending that public support could initiate, such as guarantees on bank loans that several jurisdictions have already been introducing in response to the Covid-19 crisis (Baudino (2020), IMF (2020)). Specifically, the analysis assumes that 20% of all additional loans benefit from a public guarantee, reducing the risk weight on this share of the loan portfolio to zero. While the guarantee does not create additional buffers in the banking sector, it increases the amount of lending that a given amount of capital can support. In the adverse scenario and severely adverse scenario, additional loans rise to US$ 11.5 trillion (14%) and US$ 2.6 trillion (3.1%), respectively.

The aggregate results mask significant heterogeneity across jurisdictions. Banking sectors entering the Covid-19 crisis with strong buffers would be able to stage a quicker recovery if remaining usable buffers can be channelled to the real economy. Graph 2 (right-hand panel) depicts the range of additional lending across countries that banks could fund in the severely adverse scenario. While, on average, additional loans amounted to only about 3% of total loans at end-2019 (see also Table 2), they represent more than 7% for a quarter of the countries in the case of targeted lending and public support (Case 3).

Policy considerations

This Bulletin provides a tentative assessment of how much capital the banking sector could free up in order to support lending in the Covid-19 crisis. Clearly, this is a preliminary appraisal, as the economic impact of the crisis remains highly uncertain, with risks tilted to the downside (IMF (2020)).

Overall, the analysis shows that – despite the build-up of capital over the past years – usable buffers alone might not be enough to bolster lending should the crisis deepen to a scale comparable to that of the GFC. In such a scenario, policy faces a difficult trade-off. To sustain lending, policy would need to provide strong incentives for banks to bridge the last mile and lend to firms and households (Carstens (2020)), which appears particularly challenging for banks that were already struggling with low profitability and market valuations going into the crisis (Bogdanova et al (2018)).

Policymakers need to strike a balance. On the one hand, they need to preserve the banking sector's lending capacity throughout the crisis. Policy can support the release of buffers and contain the increase of risk weights – for instance, through credit guarantees. On the other hand, safeguards are needed to prevent capital ratios from falling to levels that could undermine the sector's resilience – for instance, through capital backstops. Moreover, policy needs to strengthen the incentives for the sector to return to a sustainable path in the medium term, which includes accelerating consolidation and balance sheet repair.

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