BIS

BIS Bulletin

No 12

Effects of Covid-19 on the banking sector: the market's assessment

Iñaki Aldasoro, Ingo Fender, Bryan Hardy and Nikola Tarashev

7 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 would like to thank Claudio Borio, Christian Cabanilla, Stijn Claessens, Marc Farag, Tanguy Faure-Jarrosson, Jon Frost, Ulf Lewrick, Ilhyock Shim, Agustín Villar and Egon Zakrajšek for helpful comments; Bilyana Bogdanova, Giulio Cornelli, Nicolas Lemercier, Antonio Perrella and Jhuvesh Sobrun for help with the data; and Louisa Wagner for administrative support.

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

This publication is available on the BIS website (www.bis.org).

ISSN: 2708-0420 (online)
ISBN 92-9197-379-7 (online)

Iñaki Aldasoro
inaki.aldasoro@bis.org

Ingo Fender
ingo.fender@bis.org

Bryan Hardy
bryan.hardy@bis.org

Nikola Tarashev
nikola.tarashev@bis.org

Effects of Covid-19 on the banking sector: the market's assessment

Key takeaways

- *Banks' performance on equity and debt markets since the Covid-19 outbreak has been on a par with that experienced after the collapse of Lehman Brothers in 2008.*
- *During the initial phase, the market sell-off swept over all banks, which underperformed significantly relative to other sectors. Still, markets showed some differentiation by bank nationality, and credit default swap (CDS) spreads rose the most for those banks that had entered the crisis with the highest level of credit risk.*
- *The subsequent stabilisation, brought about by forceful policy measures since mid-March, has favoured banks with higher profitability and healthier balance sheets. Less profitable banks saw their long-term rating outlooks revised to negative. And the CDS spreads of the riskiest banks continued increasing even through the stabilisation phase.*

Banks have been harder hit than most sectors since the unsettlingly rapid global spread of Covid-19 sent financial markets into a tailspin. This Bulletin examines markets' assessment of banks' performance thus far. The focus is on stock prices, credit default swap (CDS) and bond spreads, and credit ratings.

The price dynamics have been similar across equity and fixed income markets. Following generally contained declines during the early stages of the crisis, prices fell dramatically after 5 March, in a manner comparable to the immediate post-Lehman bankruptcy period. A stabilisation and partial recovery set in shortly after the middle of the month, on the back of unprecedented policy measures taken by central banks and other authorities.

The policy measures also marked a turning point in terms of the extent to which investors were differentiating across banks according to their pre-pandemic characteristics. During the initial period (from mid-February to mid-March), the sell-off was broad and quite indiscriminate, even though Chinese banks remained relatively unscathed and the riskiest banks experienced the largest increase in CDS spreads. The differentiation became more pronounced during the stabilisation phase (from mid-March onwards), when profitability and balance sheet strength – as reflected in capitalisation, stable funding and credit ratings – became particularly good indicators of developments in bank stock prices, CDS spreads and rating outlooks. The importance that markets attribute to strong balance sheets is likely to increase in an environment that sees a further weakening of borrowers' financial health.

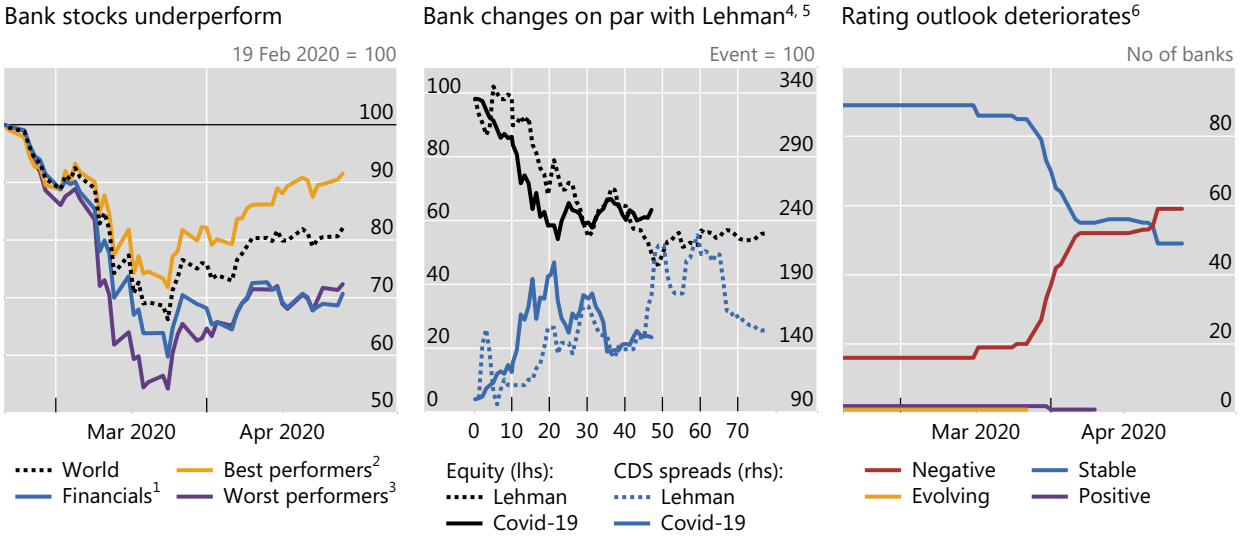
Market prices and bank funding costs: time patterns

While markets were generally stable during the first seven weeks of the year, things changed quickly thereafter. When market stress set in around 19 February, bank stock prices fell in lockstep with the overall market. But from the onset of a generalised and severe stock market sell-off on 5 March, banks joined the

worst performers (Graph 1, left-hand panel). As a result, by the last week of April, banks' stock price declines were even deeper than those of the hardest-hit sectors of the real economy. Price-to-book ratios fell together with stock prices, from significantly below one for European banks and dropping below one for US banks on average.

Banks have suffered more not only relative to other sectors, but also in comparison with previous crises. In particular, despite the recent partial recovery, the decline of bank stock prices is currently on a par with that over an equal period following the collapse of Lehman Brothers in 2008 (Graph 1, centre panel). The same is true for the increase in CDS spreads. In line with these developments, banks' long-term rating outlooks have begun to deteriorate, reflecting concerns over the impact of Covid-19 on bank earnings.[1]

Banks underperform relative to the market; rating outlooks deteriorate — Graph 1



[1] Average of Banks and Financial Services global equity indices, based on market value. [2] Average of Health Care and Technology global equity indices, based on market value. [3] Average of Energy and Basic Resources global equity indices, based on market value. [4] Covid-19: 19 Feb 2020 = 100; Lehman Brothers: 12 Sep 2008 = 100. Scaling preserves unit changes. [5] The horizontal axis indicates number of trading days since the start of the relevant episode. [6] Fitch long-term rating outlook for a constant sample of 108 banks. Rating outlooks were fairly stable in the months leading up to March 2020.

Sources: Datastream; FitchRatings; JPMorgan Chase; authors' calculations.

As market conditions deteriorated, indicators of banks' funding costs rose sharply. After the first week of March, spreads on bank bond indices widened substantially across different maturities and currencies. They narrowed down somewhat in early April, following decisive policy actions by the Federal Reserve and the ECB (Graph 2, first two panels).[2] Nonetheless, funding conditions remained tight up to the end of April, with most spreads about twice as wide as they had been in February.

Contingent convertible (CoCo) debt spreads reacted in the same fashion as most other bank funding spreads.[3] This pattern stood in sharp contrast to that seen during other notable historical episodes of rapid CoCo repricing. For example, as bank capital ratios dropped towards relevant distribution triggers in

[1] Rating agencies have issued many outlook warnings. Bank ratings have been stickier, although this too has recently started to change (Graph 5).

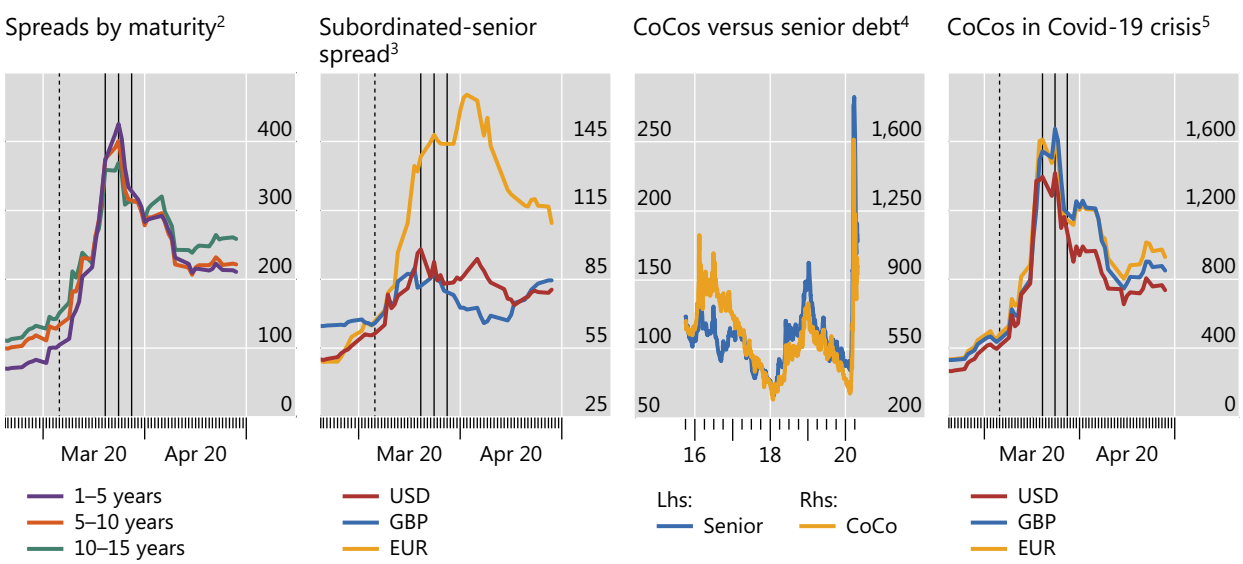
[2] The first two solid lines in the first, second and fourth panels of Graph 2 denote the announcement of the €750 billion Pandemic Emergency Purchase Programme (PEPP) by the ECB and multiple simultaneous announcements by the Federal Reserve.

[3] CoCos are hybrid capital instruments that are eligible as Additional Tier 1 (AT1) capital under Basel III regulations (Avdjiev et al (2020)). In addition to their conversion to equity, the risk of the issuing bank ceasing to pay AT1 coupons is investors' primary concern, as such cancellations are non-cumulative (ie cancelled coupons are lost). The effect of coupon cancellations on CoCo pricing can be substantial even if banks remain well away from their conversion trigger (ie the point at which the AT1 instrument would convert to equity or be written down).

early 2016, uncertainty about the way in which these triggers would be calculated pushed CoCo spreads up to nearly 1,000 basis points. Other bank funding spreads, in contrast, remained broadly contained back then (Graph 2, third panel). During the current market turmoil, CoCo spreads shot up to 1,600 basis points, but this jump did not stand out from that of spreads on other debt (third and fourth panels). While European authorities – such as the ECB and the Bank of England – did issue recommendations at end-March that banks restrict dividend payouts, these recommendations were not a regulatory response to low or declining capital ratios.[4] Rather, they were the authorities' attempt to increase retained earnings in order to preserve banks' ability to lend in the face of the Covid-19 crisis.[5] This may explain why CoCo spreads did not spike more than spreads on other debt claims.

Indicators of bank funding costs point to sharp tightening

Option-adjusted spreads, in basis points[1] Graph 2



The vertical dashed line indicates the worsening of market conditions (5 Mar), while the vertical solid lines indicate central bank announcements (19 Mar: ECB announces the PEPP; 23 Mar: Fed announces a series of measures; 27 Mar: ECB issues a recommendation to suspend dividend distribution).

[1] Weighted average option-adjusted spread (OAS) of all constituent bonds in a specific index. [2] OAS for the following indices: *iBoxx $ Banks 1–5Y, iBoxx $ Banks 5–10Y* and *iBoxx $ Banks 10–15Y*. [3] Difference between the OAS of *iBoxx $ Banks Subordinated* and *iBoxx $ Banks Senior* (respectively, EUR and GBP). [4] OAS for the following euro indices: *iBoxx € Banks Senior* and *Markit iBoxx EUR Contingent Convertible Liquid Developed Market AT1*. [5] OAS for the following indices: *Markit iBoxx (USD/EUR/GBP) Contingent Convertible Liquid Developed Market AT1*.

Sources: Markit iBoxx; BIS calculations.

Market reactions across banks differ

Have recent market developments resembled an indiscriminate tsunami, or have market participants differentiated across banks?

Even though the initial market turmoil (mid-February to mid-March) engulfed many banks, there were still some signs of differentiation according to bank nationality. For example, the CDS spreads and stock

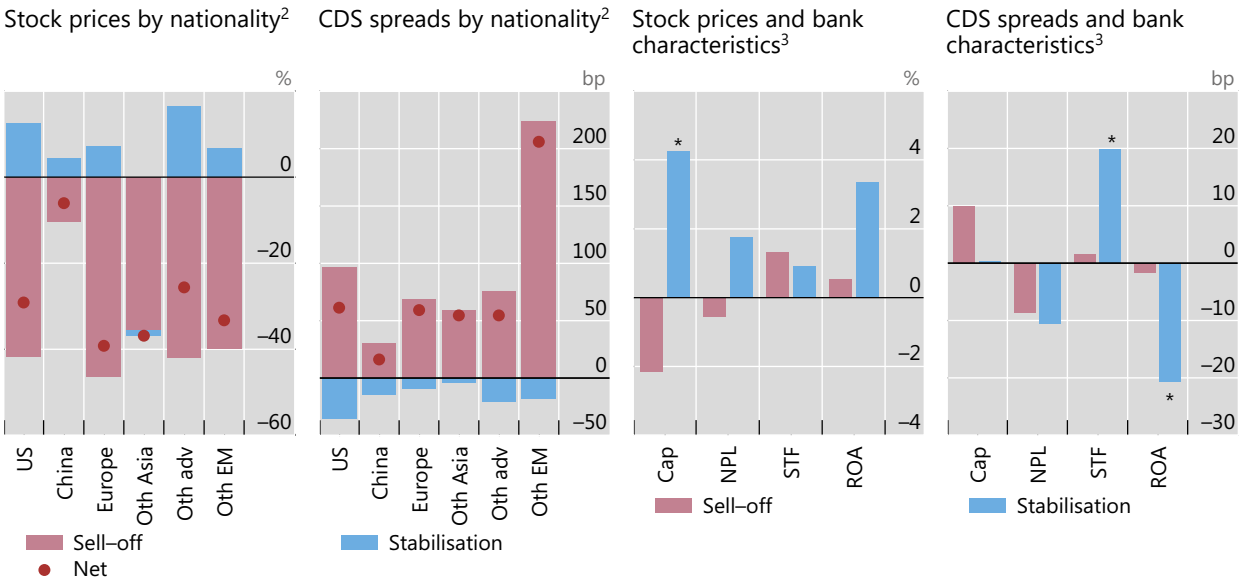
[4] As of end-2019, Common Equity Tier 1 (CET1) ratios of banks issuing AT1 instruments were well above the thresholds that would trigger conversion into equity. In our sample of 52 CoCo issues by European banks, the average trigger threshold was 5.45%, whereas the corresponding average CET1 ratio across issuers was 14.27%. Moreover, the minimum gap between CET1 ratios and trigger thresholds was 6.62 percentage points.

[5] In this case, there is no automatic link to coupon restrictions. In addition, there is an incentive for both bank managements and supervisors to continue making coupon payments to avoid (further) disruptions to bank funding markets. Dividend restrictions now would help shore up banks' capital positions, making future AT1 trigger events less likely. See Drehmann et al (2020).

prices of Chinese banks were the least affected during the sell-off,[6] probably due to the strong liquidity support provided by the People's Bank of China to financial institutions and markets in early February (in addition to any implicit state safety nets). At the same time, CDS spreads for other emerging market (OEM) banks rose the most, from a level that was already higher than for any other country group (Graph 3, second panel, red bars). This was consistent with fixed income prices being more sensitive to news about riskier entities. However, it seems that there was little reassuring news about OEM banks during the subsequent stabilisation phase (from mid-March), as the recovery of their CDS spreads was quite subdued (blue bars and dots).[7]

Individual banks' market prices in sell-off and stabilisation phases

Average by bank nationality, difference between above/below median by bank characteristics[1] Graph 3



[1] The graph splits responses in stock prices and CDS spreads by bank nationality (first and second panels) and by balance sheet characteristics (third and fourth panels). The sample consists of 118 banks from 28 jurisdictions, and is split between the sell-off period, from 19 Feb to 19 Mar 2020, and the stabilisation period, from 19 Mar to 7 Apr 2020. [2] By country (or country group) of headquarters. Europe = AT, BE, CH, DE, DK, ES, FI, FR, GB, IT, NL, (NO); Oth Asia = (ID), IN, [JP], [KR], SG; Oth adv = AU, (CA); Oth EM = (AR), BR, (MX), RU, SA, TR, ZA; ( )/[ ] indicates only for stock price/CDS panels. [3] Difference between the market performance of high and low banks (ie banks above vs below the sample median of the given indicator) as regards stock price growth or CDS spread change. Results control for bank nationality fixed effects and log assets. * denotes a statistically significant difference (at at least the 10% level) between the effects on high and low banks. Cap = total capital ratio; NPL = non-performing loans/gross loans; STF = short-term funding/total funding; ROA = return on average assets. Balance sheet variables as of Q3 2019 (Q4 data not yet fully reported).

Source: Bloomberg; Datastream; Fitch; Markit; authors' calculations.

As regards pre-Covid-19 bank characteristics, differentiation patterns in the stock market became more pronounced after the initial sell-off (Graph 3, third and fourth panels). Notably, well capitalised banks saw a much stronger recovery relative to poorly capitalised ones. Thus, markets rewarded bank robustness.

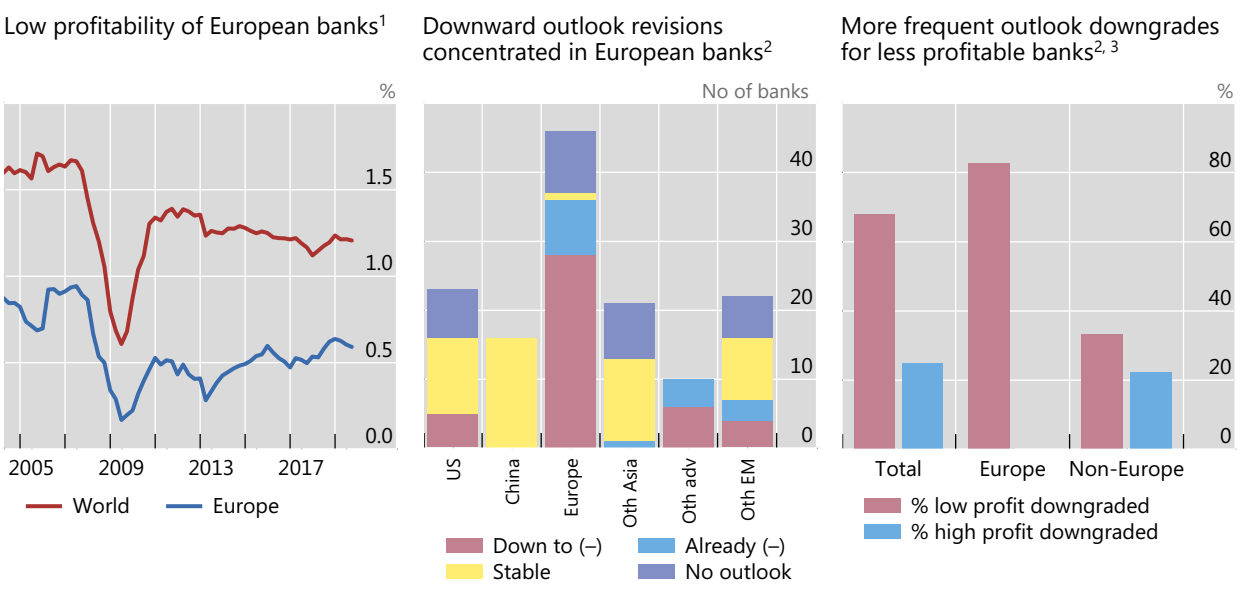
In turn, CDS markets responded strongly during the stabilisation period to banks' pre-Covid-19 profitability and reliance on short-term funding. CDS spreads fell by more for banks that were more profitable before the crisis, as measured by return on assets (ROA). And they increased more for those that were more reliant on short-term funding.

[6] The main outbreak in China occurred earlier, in January. However, the largest market reactions for Chinese banks were observed in late February and March, as with banks from other jurisdictions.

[7] The stabilisation period began on 19 March, following the ECB's announcement of the first major financial market policy response (the PEPP programme) late in the evening of 18 March.

Concerns about banks' profitability were reflected also in recent credit rating activity. European banks, in particular, have long been plagued by low profitability: their ROA has hovered significantly below that of banks from other jurisdictions (Graph 4, left-hand panel; see also Bogdanova et al (2018)). In our sample of 108 rated banks, there are 28 European institutions among the 44 that saw a negative outlook revision from the start of March 2020 to 27 April (centre panel).[8] Over three quarters of the European banks in the sample received negative outlooks. More generally, less profitable banks were more likely to have their outlook revised downwards (right-hand panel), suggesting scope for outright downgrades going forward. Indeed, while bank ratings themselves have been largely sticky in our sample, Fitch downgraded 11 banks over the same period (Graph 5, left-hand panel). This may be a prelude to more widespread downgrades going forward.[9]

Low profitability of European banks is a concern as ratings deteriorate — Graph 4



[1] Four-quarter rolling average of ROA for each bank; simple average across banks. [2] Based on count of banks that experienced a downgrade in their Fitch long-term rating outlook during or after Mar 2020, and outlooks for non-downgraded banks as of 27 Apr 2020. The one bank in the Oth Asia group which already had a negative outlook received a rating downgrade and saw its outlook subsequently revised to stable. No other banks had their outlooks revised upwards during this period. The sample consists of 108 banks with Fitch rating outlooks. Europe = AT, BE, CH, DE, DK, ES, FI, FR, GB, IT, NL, NO; Oth Asia = (ID), IN, JP, KR, SG; Oth adv = AU, CA; Oth EM = AR, BR, MX, RU, SA, TR, ZA. [3] Low profit indicates that Q3 2019 ROA was below the sample median. Ninety-three banks in the sample have both rating outlook and ROA data.

Sources: FitchRatings; Markit.

Stock markets did not differentiate across banks according to their pre-Covid-19 ratings (Graph 5, centre panel). Equity investors seemed to be concerned primarily about a general deterioration in banks' performance outlook that was not specific to any credit rating. Thus, stock prices have moved broadly similarly across rating categories since mid-February.

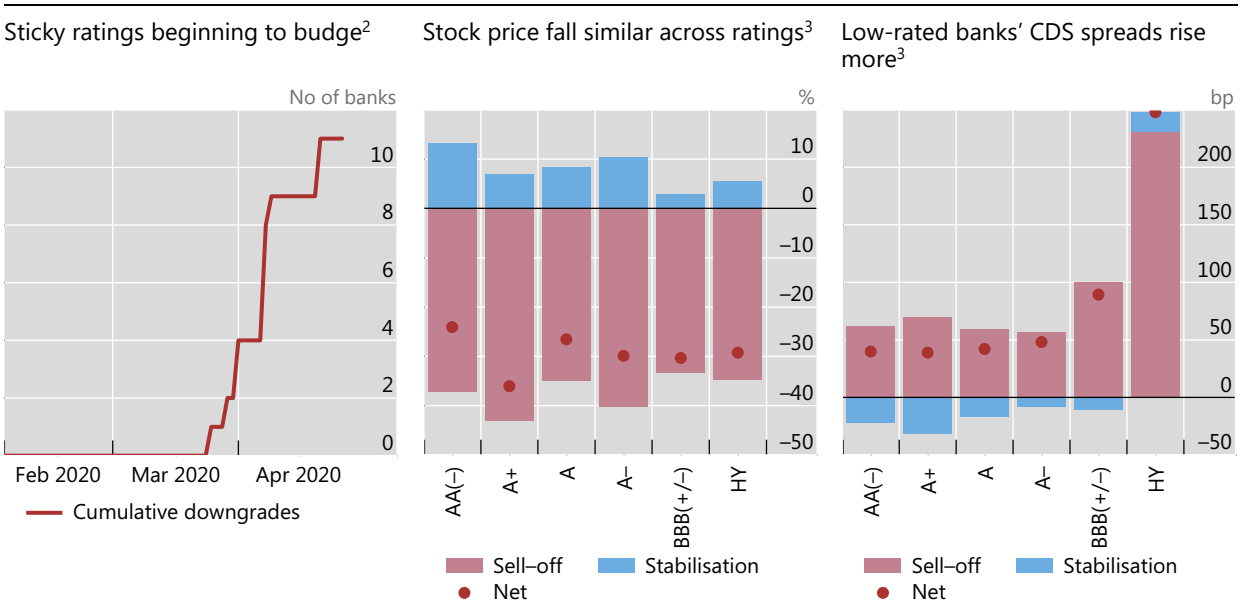
CDS markets, by contrast, strongly penalised lower-rated banks (Graph 5, right-hand panel, red bars). Banks rated BBB+ or worse – especially those with high-yield ratings – saw their CDS spreads rise the most during the initial turmoil. This is in line with the tight link between ratings and default thresholds: an entity further down the credit rating spectrum is likely to be closer to its default threshold. For such an entity, the CDS spread – and the price of any debt instrument – is more information-sensitive. The policy

[8] There were no downward outlook revisions in 2020 before March. Two thirds of the global systemically important banks in the sample (20 out of 29) suffered a downgrade. Downward revisions outside Europe included country-wide actions not linked to current profitability, such as for Canadian and Saudi Arabian banks. The collapse in oil prices played a role in these revisions.

[9] Japanese banks have also suffered from chronic profitability issues. Of the four banks with credit ratings in the sample, one has seen its credit rating downgraded by a notch and another its rating outlook revised to negative during the pandemic.

measures in March, which targeted mostly liquidity conditions, did not help reverse markets' perceptions of high-yield banks' credit risk: those banks' CDS spreads kept increasing during the stabilisation phase (blue bars).

Bank ratings and market prices[1] Graph 5



[1] Sample consists of 109 rated banks. Ratings are long-term issuer default ratings. As of 19 Feb 2020, 20 banks were rated AA or AA–, 14 were A+, 19 were A, 17 were A–, 22 were BBB+, BBB or BBB–, and 17 were high-yield (HY). [2] Cumulative downgrades of Fitch long-term issuer ratings since the start of 2020. [3] Ratings as of 19 Feb 2020, simple average by group. Stock prices measured in % growth, CDS measured in basis point changes. The sample is split between the sell-off period (rise in the case of CDS), from 19 Feb to 19 Mar 2020, and the stabilisation period, from 19 Mar to 7 Apr 2020.

Sources: Bloomberg; Datastream; FitchRatings; Markit; authors' calculations.

Conclusion

The size and scope of the Covid-19 crisis, comparable so far to those of the Great Financial Crisis of 2007–09, imply that no banks will be left unscathed. The initial market reaction was a tsunami that engulfed many banks in a somewhat indiscriminate fashion. A subsequent modest stabilisation revealed stronger differentiation, benefiting mainly better capitalised and more profitable banks, thus underscoring the value of healthy balance sheets. However, funding conditions remain tight and long-term rating outlooks have been revised to negative for many banks, especially those with low profitability. Meanwhile, actual ratings are starting to catch up with this trend, with more downgrades to be expected as the financial prospects of banks' borrowers deteriorate. Despite a general price recovery in late April, markets remain wary of the longer-term prospects in the banking sector, especially its riskiest segments.

References

Avdjiev, S, A Kartasheva, B Bogdanova, P Bolton and W Jiang (2020): "CoCo issuance and bank fragility", *Journal of Financial Economics*, forthcoming.

Bogdanova, B, I Fender and E Takáts (2018): "The ABCs of bank PBRs", *BIS Quarterly Review*, March.

Drehmann, M, M Farag, N Tarashev and K Tsatsaronis (2020): "Buffering Covid-19 losses – the role of prudential policy", *BIS Bulletin*, no 9, April.

Previous issues in this series

No 11 5 May 2020	Releasing bank buffers to cushion the crisis – a quantitative assessment	Ulf Lewrick, Christian Schmieder, Jhuvesh Sobrun and Előd Takáts
No 10 28 April 2020	Covid-19 and corporate sector liquidity	Ryan Banerjee, Anamaria Illes, Enisse Kharroubi and José-Maria Serena
No 9 24 April 2020	Buffering Covid-19 losses – the role of prudential policy	Mathias Drehmann, Marc Farag, Nikola Tarashev and Kostas Tsatsaronis
No 8 21 April 2020	Identifying regions at risk with Google Trends: the impact of Covid-19 on US labour markets	Sebastian Doerr and Leonardo Gambacorta
No 7 17 April 2020	Macroeconomic effects of Covid-19: an early review	Frederic Boissay and Phurichai Rungcharoenkitkul
No 6 14 April 2020	The recent distress in corporate bond markets: cues from ETFs	Sirio Aramonte and Fernando Avalos
No 5 7 April 2020	Emerging market economy exchange rates and local currency bond markets amid the Covid-19 pandemic	Boris Hofmann, Ilhyock Shim and Hyun Song Shin
No 4 6 April 2020	The macroeconomic spillover effects of the pandemic on the global economy	Emanuel Kohlscheen, Benoit Mojon and Daniel Rees
No 3 3 April 2020	Covid-19, cash, and the future of payments	Raphael Auer, Giulio Cornelli and Jon Frost
No 2 2 April 2020	Leverage and margin spirals in fixed income markets during the Covid-19 crisis	Andreas Schrimpf, Hyun Song Shin and Vladyslav Sushko
No 1 1 April 2020	Dollar funding costs during the Covid-19 crisis through the lens of the FX swap market	Stefan Avdjiev, Egemen Eren and Patrick McGuire

All issues are available on our website www.bis.org.