

# **The COVID-19 Crunch**

# Lockdowns, leverage and losses

- Hopes of a "V-shaped" rebound could be dashed...
- ...as financial strains emerge...
- ...threatening a worldwide repeat of Japan's "lost decades"

#### The epidemiology of the economic outlook

With COVID-19 apparently in abeyance in parts of Asia and Europe, hopes that we could be on the verge of a V-shaped recovery have risen. For the world as a whole, however, the virus continues to spread at a rate of knots. While encouraging reports have emerged regarding both vaccines and anti-viral treatments, no country has yet established herd immunity. This paper addresses a key question. What happens if future lockdowns or diminished confidence put paid to a V-shaped recovery?

#### Income lower, debt too high

An end to lockdown inevitably leads to stronger economic activity. As yet, however, there is no reliable evidence to suggest that any country has enjoyed a return to "business as usual". Levels of activity – in both real and nominal terms – are in danger of being persistently lower than anticipated before the advent of COVID-19. By implication, relative to (now lower) income, existing levels of debt now threaten to be persistently too high.

#### The Japanese trap

In normal circumstances, the easy answer is to cut interest rates. A higher ratio of debt to income is then offset by lower debt service costs. Yet, like Japan by the mid-1990s, interest rates are already at (or marginally below) the zero lower bound. There are two key implications. First, those who are now faced with permanently depressed income will be keener to pay off existing debts than take on new ones. Second, those who have lent the money in the first place are having to steel themselves for a sustained increase in non-performing loans. Under these circumstances, the financial system is in danger of ossifying.

#### Planning the escape

One way around this is simply to boost the growth rate of nominal GDP through the launch of so-called helicopter money. Yet evidence to date – linked in part to how markets have reacted to central bank support for additional government borrowing – suggests that additional liquidity may only serve to ramp up the value of risky financial assets even as the broader financial system stagnates. A better bet – one that is already being sensibly discussed in Europe – is the creation of a "bad bank" in a bid to return the financial system to health as quickly as possible.

This is a redacted version of the report published on 23-Jul-20. Please contact your HSBC representative or email <u>AskResearch@hsbc.com</u> for information.

#### **Disclosures & Disclaimer**

This report must be read with the disclosures and the analyst certifications in the Disclosure appendix, and with the Disclaimer, which forms part of it.

Issuer of report: HSBC Bank plc

Economics Global

Stephen King Senior Economic Adviser HSBC Bank plc

View HSBC Global Research at: https://www.research.hsbc.com



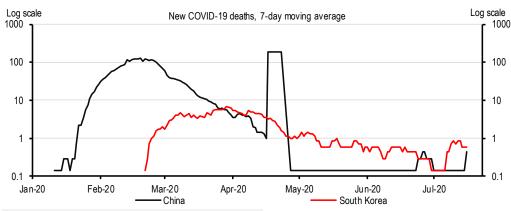


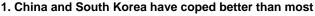
# **The COVID-19 Crunch**

- Hopes of a "V-shaped" rebound could be dashed...
- ...as financial strains emerge...
- ...threatening a worldwide repeat of Japan's "lost decades

# Lockdown lottery

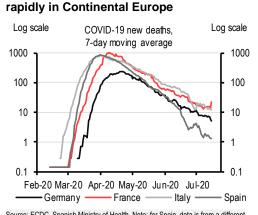
If you happen to live in China or South Korea, you might be tempted to think the nightmare is over. New COVID-19-related deaths have tumbled since the highs recorded earlier in the year and are now down to fewer than one a day. If, alternatively, you live in Germany, France, Italy or Spain, you might finally believe that the sacrifice was worth it. Daily deaths from COVID-19 are still tragically too high but they are very much heading in the right direction (in Germany, they're now much lower than those caused by accidents at home). This is one reason why lockdowns in much of Europe have been eased in recent weeks. Even in the UK – which was, for a while, the world's worst COVID-19 performer – the daily death toll is on an encouraging downward trajectory. And, as the UK's lockdown has eased, so policymakers have attempted to "talk up" the economy. Andy Haldane, the Bank of England's Chief Economist, noted at the end of June that "it is early days, but my reading of the evidence is so far, so V".



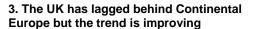


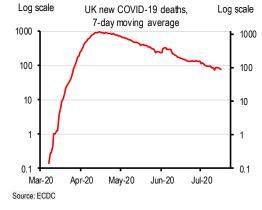
Source: ECDC. Note: Chinese data authorities published a data revision on 17 April 2020.





2. COVID-19 new daily deaths falling



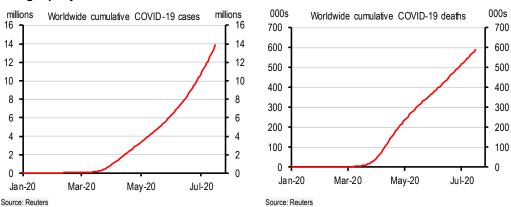


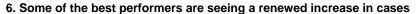
Source: ECDC, Spanish Ministry of Health. Note: for Spain, data is from a different source due to revisions before 3 July 2020

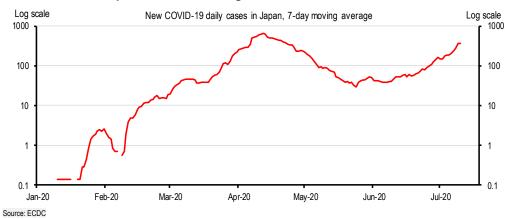
What may be true of East Asia and much of Europe is not, however, true of the world as a whole. At the beginning of March, there were around 90,000 confirmed cases of COVID-19 worldwide. At the time of writing, that number had risen to around 14 million, with no sign of peaking (chart 4). There have also been approaching 600,000 deaths (chart 5). And the virus has a nasty habit of making unwelcome reappearances. Chart 6, for example, shows new daily infections in Japan, a country that earlier was hailed as a poster child for its management of the disease.

#### 4. Number of recorded COVID-19 cases worldwide now around 14 million and rising rapidly

#### 5. COVID-19 cumulative deaths rising rapidly









It's impossible to escape the fact that, as initial lockdowns have eased, the virus has threatened to spread again, in turn prompting renewed lockdowns and, in many cases, a persistent shortfall of business and consumer confidence.

Yes, there has been significant progress in confronting the disease: *dexamethasone*, a widely available and cheap steroid, cuts the risk of death by between a third and a fifth for those COVID-19 patients receiving oxygen or on ventilators: and a series of candidate vaccines have emerged which could potentially lead us permanently back to the social intercourse of old, with the possibility of a very substantial rebound in economic activity in the early months of next year.

For the time being, however, our best hopes are "track and trace" in conjunction with populations willing to take their social responsibilities (social distancing, mask-wearing) seriously. In the absence of these two factors, the risk is that COVID-19 reappears with alarming speed, as is now the case across a large number of US states. Admittedly, should the disease be largely transmitted among younger people, and if the older and more vulnerable are better able to self-isolate where necessary, it may be that the mortality rate associated with the disease will decline (it is difficult to believe that care homes in Lombardy, England or Washington State, for example, will repeat the social distancing mistakes made earlier in the year). That is, however, cold comfort for those whose loved ones succumb to the disease.

### Economic projections assume the best, ignore the worst

Almost all economic projections are based on the idea that there will be neither a second wave of COVID-19 nor, indeed, an extended first wave: put another way, from now on, things can only get better (even if many forecasters are willing to accept that the risks around their "central views" are unusually large). Yet epidemiologists have repeatedly warned of either a second wave and or an extended first wave. If these are credible possibilities – as it seems – how should we rethink the economic and financial outlook in the event that COVID-19 cannot be contained without persistent lockdowns or, alternatively, if the *threat* of COVID-19 leads to a sustained loss of business or consumer confidence?

The answer depends in part on the severity of future lockdowns. It is not so much the disease itself that causes the economic damage but, instead, the health protocols adopted to combat the virus's spread (alongside the nervousness of households and businesses). Lockdowns, however, will be partially determined by their economic "affordability". Any assessment of the future economic outlook thus suffers from innate circularity.

One way around this problem is to argue that a failure to get to grips with the virus will primarily delay any sustained recovery in economic activity, suggesting either a "U-shaped" economic path or, alternatively, a truncated "V-shaped" path (in which the "upward" leg is nothing like as strong as the "downward" leg) irrespective of any additional "official" lockdowns. In other words, the presence of the virus alone is enough to constrain economic activity through its impact on consumer and business confidence. The period during which activity would be sustainably below where it would be in the absence of COVID-19 would thus be extended considerably. Critically, such a period would begin to threaten financial stability in ways that, to date, have not been particularly visible.



## **Lessons from Japan**

To understand why, it's worth travelling back to the 1990s when Japan's economy entered its lost decades. Table 7 shows average nominal GDP growth and real per capita GDP growth in Japan alongside inflation. The table also contains a ratio for the 1990s and beyond, calculated by comparing the actual nominal path of the economy with the path that would have been taken had the economy continued to expand at the nominal rate enjoyed in the 1980s. By 1995, nominal GDP was already 20.7% below where it would have been under the old trend: the gap thereafter widened dramatically, as the lower compound growth rate took its toll.

#### 7. How Japan's economy was turned upside down

	Decade ending in 1990 (%yr)	Decade ending in 2000 (%yr)	Decade ending in 2010 (%yr)	Decade ending in 2020 (%yr)
Nominal GDP (average annual growth)	8.9	3.4	2.8	2.0
Real GDP Per Capita (annual average growth)	4.0	1.0	0.6	0.5
Inflation (CPI)	2.1	0.8	-0.3	0.6
Nominal GDP "Gap" (% shortfall compared with pre-1990s trend)	0.0	40.6	66.8	82.8

Source: IMF World Economic Outlook Database, Bank of Japan

The gap is important because, by the mid-1990s (let alone later on) its size – cumulatively – began to match the gap that has opened up under lockdown. Admittedly, the Japanese gap occurred because growth was lower than expected – not because there was a COVID-19 collapse in economic activity – but the distinction is not terribly important from an economic point of view. What matters is that seemingly sensible decisions taken during the good times, particularly regarding leverage, can subsequently lead to years of regret, a reaction that, in turn, profoundly alters economic and financial dynamics.

Imagine, for example, that a business takes on JPY1000 of debt in the expectation that its revenues will rise at around 9% per year in nominal terms, in line with Japan's economic expansion during the 1980s. Imagine, thereafter, that actual revenue growth is only 2 or 3 per cent, as it was during the lost decades. This would mean that the ratio of debt to revenue would be higher than predicted or, put another way, that the business would be left with too much debt.

## The zero-rate bound

In normal circumstances, a mechanism exists to deal with this problem. Interest rates decline in line with a slower economy, implying that the higher ratio of debt to revenue is offset by a lower interest payment on the debt. What's taken with one hand is given back with the other. When, however, interest rates approach the zero-rate bound – as they did in Japan in the mid-1990s and as they have across the developed world since the Global Financial Crisis – that compensation mechanism no longer works.

At that point, the economy is in danger of stagnating. The dawning recognition that debt is too high relative to lower-than-expected levels of income persuades those with debt to repay more quickly than they otherwise would. Their repayments, in turn, drain demand from the economy and, as such, nominal economic activity surprises even more to the downside, with the result that debt remains stubbornly high relative to (now lower) income.

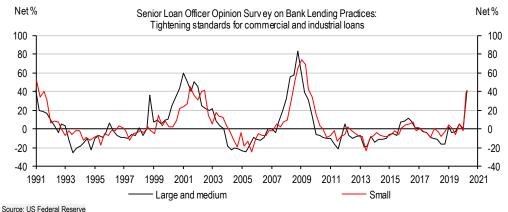
There are other awkward implications. Those who would like to lend discover there is a shortage of willing borrowers (or, if they are to find willing borrowers, lenders may have to accept a reduction in credit quality, as arguably occurred in the run-up to the sub-prime crisis).



Alongside the impact of the zero-rate bound on the slope of the yield curve, the profitability of banks is, thus, inevitably reduced, lowering their share prices and reducing their ability to tap markets via rights issues should they eventually need to shore up their capital. Meanwhile, as the economy weakens, non-performing loans rise, leading to more company failures, even lower bank profitability and the threat of ratings downgrades.

### Credit conditions not what they were

Using this approach, it becomes a little easier to assess the risks associated with a second wave (or, just as worrying, an extended first wave) of COVID-19. It's an approach that, usefully, can be backed up by recent data. Charts 8 and 9, for example, show the latest results from the Federal Reserve Senior Loan Officer Survey: by April, it was clear that, as far as commercial and industrial loans were concerned, banks operating in the US were tightening their lending standards and widening their loan spreads over the cost of funds. Charts 10 and 11, for the Eurozone, show a slightly different set of results, seemingly a reflection of the impact of various government loan guarantee schemes. On the whole, there has not yet been an equivalent tightening of lending standards. Nevertheless, certain sectors within the Eurozone – notably retail and real estate – have fared considerably worse than the average, a reflection of the lopsided economic impact of COVID-19 and its associated lockdowns. More importantly, Eurozone banks fully expect a severe tightening of lending standards later in the year as the various government guarantee schemes expire (although, in current circumstances, regulators may actively attempt to discourage such tightening).



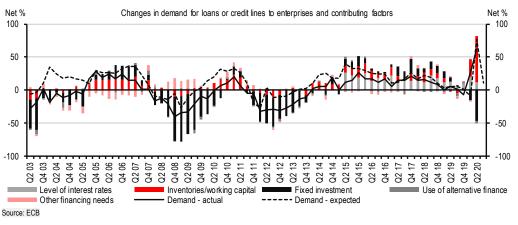
#### 8. Credit conditions are tightening in the US...

#### 9...and the cost of funds is rising

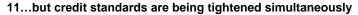


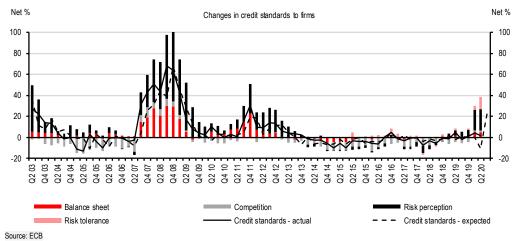
Source: US Federal Reserve





#### 10. European companies are demanding more credit during lockdown...





The same broad story emerges in the UK. The supply of, and demand for, credit within the corporate sector surged in the second quarter, a reflection of the combined effects of lockdown and government loan guarantees. For the third quarter, however, corporate defaults are expected to increase dramatically, particularly so for small and medium-sized enterprises, many of whom may ultimately decide they cannot afford to take on more debt.

Simply put, a persistent lockdown – or series of lockdowns – will turn good credits bad, leading to sustained increases in non-performing loans, weaker bank balance sheets and a gradual erosion of an economy's long-term capabilities. V-shaped lockdowns are just about acceptable from an economic and financial point of view. Truncated Vs, Us or Ls are much more problematic because of the way in which yesterday's financial decisions end up becoming tomorrow's financial regrets.



# Shrugging it off

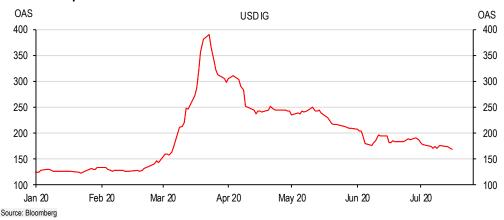
There are, however, some areas of the financial system that appear to have shrugged off these worries. In Japan's case, as the gap between 'expected' and 'actual' activity progressively widened, the stock market subsided. This was hardly a surprising result: although falling interest rates supported stock market valuations by increasing the net present value of future earnings, future earning themselves were falling so quickly that the stock market could only head lower. Worse, with masses of cross-shareholdings at the end of the 1980s, subsequent stock market declines served only to weaken bank balance sheets in what became a perfect financial storm.

To date, there is little evidence of any kind of COVID-19-related repeat. Financial markets cratered in March, with equities collapsing and corporate bond spreads widening. Since then, however, markets have surged thanks to a combination of massive policy stimulus (which never happened in the early years of Japan's lost decades) and, of course, hopes of a V-shaped economic recovery. That surge may, however, be misleading (and, in the US case, is heavily biased by the gravitational pull of tech stocks). As investors have become increasingly nervous about the consequences of huge increases in government borrowing – in many cases, seemingly underwritten by central banks – they have looked for hedging opportunities against the risk of future inflation. Equities and gold have been two of the more obvious beneficiaries. Meanwhile, we already know from earlier experiments with quantitative easing that any attempt to pump liquidity into an economy tends to have an oversized effect on the value of risky financial assets (although not bank stocks) even as it has an undersized effect on the broader economy.



#### 12. The S&P500 is almost back to where it was pre-COVID-19

Source: Refinitiv Datastream



# 13. Credit spreads have narrowed: life is OK for investment grade companies with easy access to capital markets



The apparent dichotomy between equity market performance and credit availability is a reflection of the distributional consequences of lockdowns. Plentiful liquidity lifts the value of risky assets which, in turn, improves the financial viability of large listed companies. Lockdowns, however, prevent plentiful liquidity from feeding through to the broader economy. Other things equal, many businesses will fail. To the extent that these businesses are not listed, however, their failure will have a disproportionate impact on the credit system (as opposed to capital markets) and, sadly, the labour market. By implication, those with copious amounts of financial assets tend to do well, and those just starting out in working life tend to do badly.

# **Policy options**

To date, much of the discussion regarding policy has focused on building fiscal "bridges" between our pre- and post-virus lives, funded through huge increases in the level of government debt. These bridges mostly take the form of furlough schemes, corporate grants and loan guarantees. The idea is to allow companies to go into hibernation while keeping workers on their books in the hope that, once the virus is in retreat, there can be a great economic and financial thaw: demand rises, companies generate more output, workers become more productive and there is a return to some semblance of normality (even if no one yet knows how higher levels of government debt will eventually be dealt with).

The longer hibernation lasts, however, the greater economic and financial problems are likely to become. There are three key issues:

- First, how far and how quickly should government debt be allowed to rise?
- Second, should all companies be kept alive given that, in a typical (non-COVID) year, 350,000 businesses (mostly one-person enterprises) fail in the UK alone?
- Third, even if lockdown ends in an individual country, how much support should be given to companies headquartered in that country but which have operations all over a COVID-infected world?

#### Government debt

We argued in <u>Borrowing from the future</u>, 1 June 2020, that, ultimately, wartime levels of government debt (as, indeed, they will be in a few months' time) tend to come down when wars end. In an ideal world (as, indeed, many western nations experienced in the 1950s and 1960s), this would take the form of rapid trade-led growth as nations reduced their economic borders and became more closely integrated: debt would thus fall relative to now-higher income. With external lockdowns in danger of persisting and with deteriorating Sino-US relations casting a pall over proceedings, such an outcome now seems unlikely. Other, less palatable, options include higher taxes, public spending cuts, inflation and default. The risk of any of these is likely to shape government decisions regarding the extent to which government debt can be allowed to rise.

#### Business failures and the burden of tax

If, as seems likely, credit conditions tighten significantly later in the year, the scale of business failures is likely to far exceed the numbers witnessed in a "normal" year. Yet the policy of hibernation requires that those businesses should, ideally, be supported at their time of greatest need. The underlying problem lies in weeding out those businesses that, in a normal year, would be allowed to fail from those that, ideally, should survive but which might not make it through lockdown. Supporting all businesses will, in time, create a class of corporate zombies. These "living dead" will absorb capital that, in an ideal world, could be put to more productive use (it's worth noting that this is a potential weakness of indiscriminate central bank purchases of equities or lower-grade corporate debt). Put another way, the inability to separate the corporate wheat from the zombie chaff will lead to a lower long-term growth rate. That's particularly challenging for international companies: to what extent should the domestic taxpayer be liable for a company's losses elsewhere in the world?



#### Helicopter money

One way around all this is to deal directly with the issue of excess debt (or, seen from another angle, insufficient income) via helicopter money. The government would issue bonds that would be purchased not by the public but, instead, by the central bank using newly minted (or electronically created) cash. The funds would be funnelled into the economy at large through a monetised tax cut. This could be used either to boost demand (through, say, a reduction in VAT) or to raise corporate income directly (via a reduction in corporation tax). Either way, post-tax income would rise relative to existing levels of debt, reducing the risk of default.

Yet it is a policy that carries considerable risks. First, should any one individual country go down this path, its exchange rate might subsequently collapse. Second, it's not obvious that ageing populations with cash savings vulnerable to the ravages of higher inflation would welcome such manoeuvres. Third, helicopter money may simply boost asset markets, in effect boosting the prospects of large listed companies without creating the conditions in which start-ups are likely to flourish. That, in turn, would serve once again to reinforce a redistribution of financial wealth to those who are already financially secure. And there's a danger that creating additional liquidity does little to safeguard the solvency of companies that don't have direct access to capital markets.

#### A bad bank

Another alternative is the creation of a "bad bank", taking non-performing assets off commercial banks in the hope that (i) the banks themselves would then be free to lend without having to be weighed down by COVID-19 and (ii) companies would be able to borrow without dwelling on past regrets. The hope would be that, in time, some of the bad assets would eventually "come good". As such, they could then be sold back to the private sector. There is a precedent, most obviously the Resolution Trust Corporation which operated in the US between 1989 and 1995 to deal with the bad assets of thrifts (and, in some cases, the thrifts themselves) in a bid to rid the US economy of the shadow of debt cast by the 1980s Savings & Loan crisis. In effect, a bad bank would immunise an economy from some of the worst financial risks associated with COVID-19 by passing the burden – at least temporarily – onto future taxpayers who (in the event that the policy succeeded) would be far more capable of coping with the financial burden than their current equivalents. Indeed, the European Central Bank is already considering creating such an organisation to support economic and financial activity in the Eurozone. It would, however, be the ultimate triumph of fiscal policy over monetary support.

### Conclusions

Hopes of a "V-shaped" recovery with only modest scarring continue to shape the forecasting consensus. Yet those hopes ultimately rest on a highly uncertain epidemiology and, alongside it, a highly uncertain lockdown response. Should recovery be delayed – or, perhaps worse, should any initial recovery be aborted – the lessons from Japan's persistent economic shortfalls in the 1990s and beyond suggest that, in addition to labour market weakness, balance sheets are likely to come under enormous pressures, ultimately corroding the financial system. In an ideal world, interest rates would fall further to offer compensation to those who end up with excessive levels of debt but, in current circumstances, that option simply doesn't exist.

The next chapter in the COVID-19 crisis – at least from an economic and financial perspective – may still be a story about rising unemployment. Yet, as businesses fail and bad debts rise, the danger for the financial system is an increase in non-performing loans that threatens to paralyse the financial system. Helicopter money has its merits but, to the extent that liquidity may simply find its way into financial markets, the benefits to the broader economy may prove to be limited. A better bet is a bad bank, which would deal directly with issues of solvency as opposed to liquidity. We may not be in financial lockdown yet but, without such an institution, any future financial lockdown threatens to be a lot worse than it needs to be.

Or, put another way – and for all sorts of very good reasons – a vaccine cannot come soon enough.



# **Disclosure appendix**

#### **Analyst Certification**

The following analyst(s), economist(s), or strategist(s) who is(are) primarily responsible for this report, including any analyst(s) whose name(s) appear(s) as author of an individual section or sections of the report and any analyst(s) named as the covering analyst(s) of a subsidiary company in a sum-of-the-parts valuation certifies(y) that the opinion(s) on the subject security(ies) or issuer(s), any views or forecasts expressed in the section(s) of which such individual(s) is(are) named as author(s), and any other views or forecasts expressed herein, including any views expressed on the back page of the research report, accurately reflect their personal view(s) and that no part of their compensation was, is or will be directly or indirectly related to the specific recommendation(s) or views contained in this research report: Stephen King

#### Important disclosures

This document has been prepared and is being distributed by the Research Department of HSBC and is intended solely for the clients of HSBC and is not for publication to other persons, whether through the press or by other means.

This document is for information purposes only and it should not be regarded as an offer to sell or as a solicitation of an offer to buy the securities or other investment products mentioned in it and/or to participate in any trading strategy. Advice in this document is general and should not be construed as personal advice, given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. If necessary, seek professional investment and tax advice.

Certain investment products mentioned in this document may not be eligible for sale in some states or countries, and they may not be suitable for all types of investors. Investors should consult with their HSBC representative regarding the suitability of the investment products mentioned in this document and take into account their specific investment objectives, financial situation or particular needs before making a commitment to purchase investment products.

The value of and the income produced by the investment products mentioned in this document may fluctuate, so that an investor may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Value and income from investment products may be adversely affected by exchange rates, interest rates, or other factors. Past performance of a particular investment product is not indicative of future results.

HSBC and its affiliates will from time to time sell to and buy from customers the securities/instruments, both equity and debt (including derivatives) of companies covered in HSBC Research on a principal or agency basis or act as a market maker or liquidity provider in the securities/instruments mentioned in this report.

Analysts, economists, and strategists are paid in part by reference to the profitability of HSBC which includes investment banking, sales & trading, and principal trading revenues.

Whether, or in what time frame, an update of this analysis will be published is not determined in advance.

For disclosures in respect of any company mentioned in this report, please see the most recently published report on that company available at www.hsbcnet.com/research. HSBC Private Banking clients should contact their Relationship Manager for queries regarding other research reports. In order to find out more about the proprietary models used to produce this report, please contact the authoring analyst.



#### Additional disclosures

- 1 This report is dated as at 23 July 2020.
- 2 All market data included in this report are dated as at close 22 July 2020, unless a different date and/or a specific time of day is indicated in the report.
- 3 HSBC has procedures in place to identify and manage any potential conflicts of interest that arise in connection with its Research business. HSBC's analysts and its other staff who are involved in the preparation and dissemination of Research operate and have a management reporting line independent of HSBC's Investment Banking business. Information Barrier procedures are in place between the Investment Banking, Principal Trading, and Research businesses to ensure that any confidential and/or price sensitive information is handled in an appropriate manner.
- 4 You are not permitted to use, for reference, any data in this document for the purpose of (i) determining the interest payable, or other sums due, under loan agreements or under other financial contracts or instruments, (ii) determining the price at which a financial instrument may be bought or sold or traded or redeemed, or the value of a financial instrument, and/or (iii) measuring the performance of a financial instrument or of an investment fund.



# Disclaimer

#### Legal entities as at 22 June 2020

<sup>1</sup>UAE' HSBC Bank Middle East Limited, Dubai; <sup>1</sup>HK' The Hongkong and Shanghai Banking Corporation Limited, Hong Kong; <sup>1</sup>TW' HSBC Securities (Taiwan) Corporation Limited; <sup>1</sup>CA' HSBC Securities (Canada) Inc.; HSBC France, S.A., Madrid, Milan, Stockholm; <sup>1</sup>DE' HSBC Trinkaus & Burkhardt AG, Düsseldorf; 000 HSBC Bank (RR), Moscow; <sup>1</sup>N' HSBC Securities and Capital Markets (India) Private Limited, Mumbai; <sup>1</sup>JP' HSBC Securities (Japan) Limited, Tokyo; <sup>1</sup>EG' HSBC Securities Egypt SAE, Cairo; <sup>1</sup>CN' HSBC Investment Bank Asia Limited, Beijing Representative Office; The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch; The Hongkong and Shanghai Banking Corporation Limited, Securities Securities Branch; The Hongkong and Shanghai Banking Corporation Limited, Securities (South Africa) (Pty) Ltd, Johannesburg; HSBC Bank plc, London, Tel Aviv; <sup>1</sup>US' HSBC Securities (USA) Inc, New York; HSBC Yatirim Menkul Degerler AS, Istanbul; HSBC México, SA, Institución de Banca Múltiple, Grupo Financiero HSBC; HSBC Bank Australia Limited; HSBC Bank Argentina SA; HSBC Saudi Arabia Limited; The Hongkong and Shanghai Banking Corporation Limited, New Zealand Branch incorporated in Hong Kong SAR; The Hongkong and Shanghai Banking Corporation Limited, Bangkok Branch; PT Bank HSBC Indonesia; HSBC Qianhai Securities Limited; Banco HSBC S.A.

Issuer of report HSBC Bank plc 8 Canada Square, London E14 5HQ, United Kingdom Telephone: +44 20 7991 8888 Fax: +44 20 7992 4880 Website: www.research.hsbc.com

This document is issued and approved in the United Kingdom by HSBC Bank plc for the information of its Clients (as defined in the Rules of FCA) and those of its affiliates only. If this research is received by a customer of an affiliate of HSBC, its provision to the recipient is subject to the terms of business in place between the recipient and such affiliate. In Australia, this publication has been distributed by The Hongkong and Shanghai Banking Corporation Limited (ABN 65 117 925 970, AFSL 301737) for the general information of its "wholesale" customers (as defined in the Corporations Act 2001). Where distributed to retail customers, this research is distributed by HSBC Bank Australia Limited (ABN 48 006 434 162, AFSL No. 232595). These respective entities make no representations that the products or services mentioned in this document are available to persons in Australia or are necessarily suitable for any particular person or appropriate in accordance with local law. No consideration has been given to the particular investment objectives, financial situation or particular needs of any recipient.

The document is distributed in Hong Kong by The Hongkong and Shanghai Banking Corporation Limited and in Japan by HSBC Securities (Japan) Limited. Each of the companies listed above (the "Participating Companies") is a member of the HSBC Group of Companies, any member of which may trade for its own account as Principal, may have underwritten an issue within the last 36 months or, together with its Directors, officers and employees, may have a long or short position in securities or instruments or in any related instrument mentioned in the document. Brokerage or fees may be earned by the Participating Companies or persons associated with them in respect of any business transacted by them in all or any of the securities or instruments referred to in this document. In Korea, this publication is distributed by either The Hongkong and Shanghai Banking Corporation Limited, Seoul Securities Branch ("HBAP SLS") or The Hongkong and Shanghai Banking Corporation Limited 9 of the Financial Investment Services and Capital Markets Act ("FSCMA"). This publication is not a prospectus as defined in the FSCMA. It may not be further distributed in whole or in part for any purpose. Both HBAP SLS and HBAP SEL are regulated by the Financial Services Commission and the Financial Supervisory Service of Korea. This publication is distributed in Hongkong AR.

The information in this document is derived from sources the Participating Companies believe to be reliable but which have not been independently verified. The Participating Companies make no guarantee of its accuracy and completeness and are not responsible for errors of transmission of factual or analytical data, nor shall the Participating Companies be liable for damages arising out of any person's reliance upon this information. All charts and graphs are from publicly available sources or proprietary data. The opinions in this document constitute the present judgement of the Participating Companies, which is subject to change without notice. From time to time research analysts conduct site visits of covered issuers. HSBC policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

This document is neither an offer to sell, purchase or subscribe for any investment nor a solicitation of such an offer. HSBC Securities (USA) Inc. accepts responsibility for the content of this research report prepared by its non-US foreign affiliate. All US persons receiving and/or accessing this report and intending to effect transactions in any security discussed herein should do so with HSBC Securities (USA) Inc. in the United States and not with its non-US foreign affiliate, the issuer of this report. In Singapore, this publication is distributed by The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch for the general information of institutional investors or other persons specified in Sections 274 and 304 of the Securities and Futures Act (Chapter 289) ("SFA") and accredited investors and other persons in accordance with the conditions specified in Sections 275 and 305 of the SFA. Only Economics or Currencies reports are intended for distribution to a person who is not an Accredited Investor, Expert Investor or Institutional Investor as defined in SFA. The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch for the contents of reports pursuant to Regulation 32C(1)(d) of the Financial Advisers Regulations. This publication is not a prospectus as defined in the SFA. The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch is regulated by the Monetary Authority of Singapore. Recipients in Singapore should contact a "Hongkong and Shanghai Banking Corporation Limited, Singapore Branch is regulated by the Monetary Authority of Singapore Recipients in Singapore should contact a "Hongkong and Shanghai Banking Corporation Limited, Singapore Branch is regulated by the Monetary Authority of Singapore. Recipients in Singapore should contact a "Hongkong and Shanghai Banking Corporation Limited, Singapore Branch is regulated by the Monetary Authority of Singapore Recipients in Singapore should contact a "Hongkong and Shanghai Banking Corporation Limited, Singapore Branc

The document is intended to be distributed in its entirety. Unless governing law permits otherwise, you must contact a HSBC Group member in your home jurisdiction if you wish to use HSBC Group services in effecting a transaction in any investment mentioned in this document. HSBC Bank plc is registered in England No 14259, is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange. (070905)

In Canada, this document has been distributed by HSBC Securities (Canada) Inc. (member IIROC), and/or its affiliates. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein or the merits of the securities described herein, and any representation to the contrary is an offense. In Brazil, this document has been distributed by Banco HSBC S.A. ("HSBC Brazil"), and/or its affiliates. As required by Instruction No. 598/18 of the Securities and Exchange Commission of Brazil (Comissão de Valores Mobiliários), potential conflicts of interest concerning (i) HSBC Brazil and/or its affiliates; and (ii) the analyst(s) responsible for authoring this report are stated on the chart above labelled "HSBC & Analyst Disclosures".

If you are an HSBC Private Banking ("PB") customer with approval for receipt of relevant research publications by an applicable HSBC legal entity, you are eligible to receive this publication. To be eligible to receive such publications, you must have agreed to the applicable HSBC entity's terms and conditions ("KRC Terms") for access to the KRC, and the terms and conditions of any other internet banking service offered by that HSBC entity through which you will access research publications using the KRC. Distribution of this publication is the sole responsibility of the HSBC entity with whom you have agreed the KRC Terms.

If you do not meet the aforementioned eligibility requirements please disregard this publication and, if you are a customer of PB, please notify your Relationship Manager. Receipt of research publications is strictly subject to the KRC Terms, which can be found at https://research.privatebank.hsbc.com/ – we draw your attention also to the provisions contained in the Important Notes section therein. © Copyright 2020, HSBC Bank plc, ALL RIGHTS RESERVED. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, on any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of HSBC Bank plc. MCI (P) 077/12/2019, MCI (P) 016/02/2020

[1151743]