Bloomberg Markets
VOLUME 29 ISSUE 3 JUNE / JULY 2020
The Fear Issue

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Bloomberg
Markets

VOLUME 29
ISSUE 3
JUNE / JULY 2020

The Fear Issue

9	**What Has Changed Forever?**	Business leaders, economists, academics, and policymakers share their forecasts *By Bloomberg News*
13	**Dollar Dilemma**	Two opposing views of how this crisis will affect the U.S. currency *By Joe Weisenthal and Shawn Donnan*
50	**A Shocked Economy**	Graphics depict the economic destruction, energy market convulsions, and consumption changes we've seen *By Zoe Schneeweiss, Dan Murtaugh, and Bloomberg Economics*
56	**The New Normal**	As Israel, Denmark, and South Korea open up, the emerging reality looks unusual *By Griffin Higher Photos, Rasmus Degnbol, and Jun Michael Park*
62	**This Time Really Is Different**	Carmen Reinhart and Kenneth Rogoff showed us that financial crises tend to fit a pattern—but not this one *By Simon Kennedy*
68	**The Crisis Beaters**	These funds reaped huge profits in the historic market meltdown *By Bloomberg News*
74	**Now What?**	Even the most experienced investors and economists are struggling to agree on where we go from here *By Edward Robinson*

COVER ARTWORK BY
LAUREN TAMAKI

I approached "fear" academically, topically, and personally. Ultimately a symbolic image was most effective: Being ensnared by an oppressive force is a terrifying and relatable sensation. I used acrylic ink's denser properties and tense, thick mark-making to support the concept.

Contents

6
QuickTake
Buzzwords for a market gripped by fear

16
<GO>
London Awakens
A thermal photograph captures the sparse human presence

18
Counting Cash
Balance sheets matter more than ever—these tools can help you analyze them

22
Risk Tamer
Dan Galai is a pioneer in the science of measuring and managing volatility

24
Mr. VIX
Robert Whaley, who built the Cboe's VIX, shares his concerns about markets

26
Survival Story
Fixed-income ETFs passed their first big test—with help from the Fed

28
Pandemic Portfolio
Stress-test your holdings for a shock like the 1918 flu

30
Birth of the Virtual IPO
How a Chinese company's bankers took it public as everything shut down

32
Social Cachet
The "S" in ESG is attracting attention from bond investors

34
Be Forewarned
These signals can help you stay ahead of the fear in the markets

37
Equity Insights
Bloomberg Query Language can help answer your trickiest questions

40
Front-Run the Fed
Use FIW to figure out what the central bank will be buying

44
Feel the Fear
Charting and volatility analysis can show you the path ahead

46
Viral Tweets
Cut through the noise and see the social media posts that matter

48
Real Revolution
Here's how investors and landlords are preparing for the offices of the future

78
Living Through a Pandemic
Three leaders share how they've been coping

79
Cheat Sheet
The most important functions you should know about right now

80
FFM Quiz
Test your market smarts

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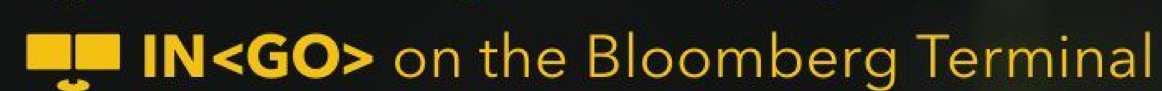

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The Fear Issue

Fear defeated greed in the first few months of 2020. And for good reason: Covid-19 had claimed roughly 290,000 lives worldwide by the middle of May, and efforts to combat the spread of the coronavirus were driving the global economy into its worst decline since the 1930s.

In "A Shocked Economy" (page 50) we present the scope of that economic fallout, as well as the bizarre gyrations in energy markets, in graphics. To gain additional perspective, Bloomberg Economics' **Simon Kennedy** spoke with professors Carmen Reinhart and Kenneth Rogoff, authors of the 2009 book *This Time Is Different: Eight Centuries of Financial Folly*. In "This Time Really Is Different" (page 62), they explain what they're looking out for now.

London-based wealth reporter **Edward Robinson** tried to get a sense of what's next. His essay, "Now What?" (page 74), describes how even the most seasoned market veterans are finding themselves flummoxed by this crisis.

But of course, there are always winners. In "The Crisis Beaters" (page 68), Bloomberg News reporters in Asia, Europe, and the U.S. provide a roundup of the investors who managed to profit when everyone else was suffering.

Want to see what the new fear-tainted reality might look like? Check out our photo essay, "The New Normal" (page 56). For those of us who were cooped up indoors in May, Griffin Higher Photos, Rasmus Degnbol, and Jun Michael Park captured how different the world looks from what we left behind.

In these uncertain times, we hope our magazine engages, informs, and entertains. As always, we welcome your feedback. Stay safe.

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The Vocabulary Of Fear

LOVE HAS ITS OWN language and, in the markets, so does fear. As the global spread of the novel coronavirus triggered lockdowns and massive economic disruption, the terminology of bad news came back in vogue. Here are some useful phrases for parsing a catastrophe.

Force majeure

Force majeure, French for "superior force," refers to clauses in many contracts that let a party off the hook in the event of an act of God—an unexpected, external event that makes it impossible for a party to fulfill its obligations. After much of the world's economy temporarily shut down, companies began invoking force majeure to reject unneeded supplies or get out of leases. Such moves, though, often end up in court. Many U.S. states offer similar relief even for contracts without such a clause. —*Bob Van Voris*

Term premium

A term premium is the difference between what you're paid for locking up your money for an extended period and what you'd get for simply rolling over short-term instruments. Traditionally, it was a bonus for investors willing to accept the risk of lending for a longer term. But since early 2016, it's been a term discount—investors have been paid less. When coronavirus fears sent investors seeking safety, the gauge slid further with long-term yields, to an all-time low of -1.29 percentage points in March. —*Liz McCormick*

The VIX

Traders like it when markets go up and down. Betting on volatility—the size of market swings—is a market of its own. The Cboe Volatility Index, or VIX, is referred to as the "fear gauge," because it tends to rise when stocks fall. It's compiled from bets on options that reflect traders' estimates of future volatility. The VIX's long-term average is about 19.3; on March 16, it closed at a record-high 82.69. Turmoil caused by the pandemic forced holders of volatility-linked assets to sell, creating a "correlated asset-market crash." —*Joanna Ossinger, Cecile Vannucci, and Yakob Peterseil*

OIS spreads

The overnight index swap rate is calculated from contracts that swap fixed- and floating-rate cash flows, most commonly using swap rates related to the Federal Reserve's main interest-rate target. It's regarded as a proxy for risk-free borrowing. Investors closely follow the spread between OIS and the Libor benchmark rate (the estimate of what banks charge to lend to each other) and between OIS and forward rate agreements involving Libor futures. Libor-OIS and FRA-OIS measure sentiment about credit risk, and both widened sharply in March. —*Alexandra Harris*

Recession vs. depression

When global economic activity halted, talk shifted from recession to depression, a term that evokes the bread lines and political upheaval of the 1930s. The National Bureau of Economic Research defines a recession as a significant and widespread decline in economic activity which lasts more than a few months. A depression is generally interpreted as a severe downturn that lasts years, not quarters. In the U.S. there's been just one in the last century, the Great Depression, when unemployment peaked at about 25%. —*Reade Pickert*

Kurzarbeit

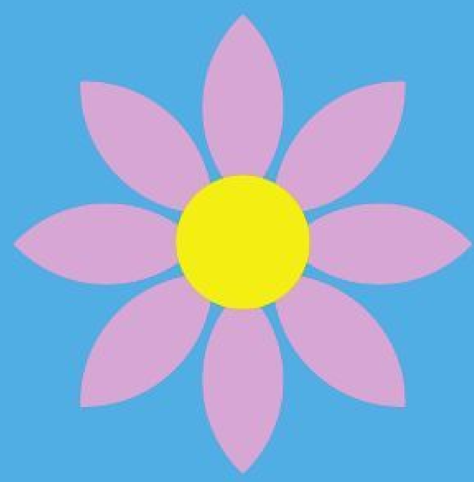
The state-funded German safety net known as Kurzarbeit (pronounced KUHRTS-ahr-bite) keeps salaries flowing to workers even when business dries up. Loosely translated as "short-time working," it typically covers 60% of lost net wages, or 67% for people with children. Belgium, France, Italy, and the Netherlands allow distressed companies to tap government funds to pay salaries in downturns. Sweden and Denmark introduced support measures during the pandemic, and the U.K. made an unprecedented move to cover as much as 80% of workers' salaries. —*Carolynn Look*

The CLO CCC trap

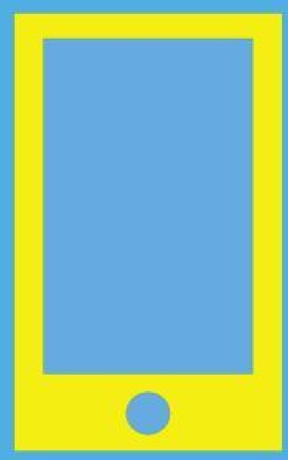
Collateralized loan obligations are securitized bundles of leveraged loans—the debt of companies with less-than-stellar credit scores. Securitizing turns a pile of junk debt into tranches that are mostly investment-grade. CLOs can withstand the default or downgrade of a few loans, but a deluge—as in March and April—can cause turmoil. Most CLO structures limit loans rated CCC or below to a maximum of 7.5% of the portfolio. But when downgrades cause that bucket to overflow, the CLO manager may be forced to sell the bonds in a falling market or cut off payments to some investors. —*Lisa Lee*

McCormick and Harris report on FX and rates markets in New York, where Van Voris reports on court cases and Lee covers leveraged finance. Ossinger and Peterseil are cross-asset markets editors in Singapore and London, respectively. Vannucci is a senior editor for equities in Hong Kong. Pickert and Look report on economics in Washington and Frankfurt, respectively.

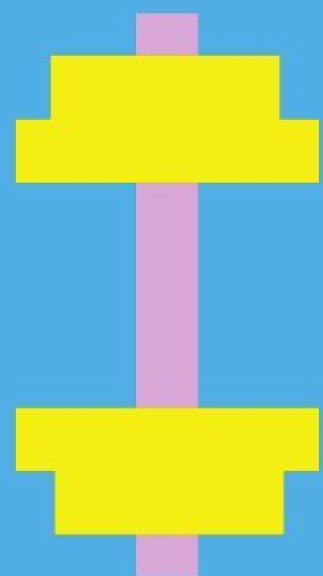
We may be keeping our distance, but we are in this together.



Stay Calm.



Stay Connected.



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By BLOOMBERG NEWS

THE CORONAVIRUS PANDEMIC has forced policymakers, businesses, and economists to jettison or quickly revise their forecasts for 2020. What will the future really look like? We asked a variety of leaders from around the world for their best guess on how our life will be fundamentally altered.

What will the virus change forever?

"We're relatively quickly going to come to a point where we have more patients and not enough doctors. **We're going to have to shift to where the first point of care is artificial intelligence.** If you have a symptom, you go online to an AI program. Everybody will have a home kit of a thermometer and a scale and a blood pressure cuff and a few other simple things. You'll put in your symptoms and your readings from home, and you'll get a differential diagnosis. If you just have to stay home and have chicken soup and liquids and rest, the AI will tell you that. If you need to be escalated, the AI will refer you to a telemedicine general consult, and then perhaps to a specialist telemedicine consult, and only then to a human."

Jamie Metzl

SENIOR FELLOW
THE ATLANTIC COUNCIL

"A lesson of the crisis would be to increase resilience of all economies and entities, public and private, and prepare for what we're seeing now—namely a sudden stop of part of both production and demand in many economies of the world. We shouldn't be depending on only one source for any particular service or manufactured good just because it keeps down costs. The idea of risk management and **risk diversification at the level of the planet will be a key part of the concept of sustainable globalization.** It will not be anti-globalization—it would be much better globalization."

Jean-Claude Trichet

FORMER PRESIDENT
EUROPEAN CENTRAL BANK

"It's forever going to change the perception that financial centers need all these people packed into skyscrapers. It's just not necessary to maintain this office space. We're certainly thinking differently about real estate and geographic distribution. It's going to democratize this whole thing, because **there's talent spread all over the U.S. that maybe we wouldn't have considered.** We will look to reduce our physical space. It's slapping me in the face. The markets have continued to operate during absolute peak activity. The decades of investment in technology, electronic trading—that's what saved this market during the pandemic."

Ari Rubenstein

CO-FOUNDER AND CEO
GTS

"Does this change how we hire around the world? Unfortunately, **it probably pushes outsourcing a lot more for certain types of jobs** in the U.S., because you can hire someone just as well who doesn't have to necessarily live in your town. So in some ways it's positive for the world, creating a more dynamic economy. In other ways it could be another pressure on the middle class, which I'm a little bit worried about."

Joe Lonsdale

PARTNER, 8VC
CO-FOUNDER, PALANTIR TECHNOLOGIES INC.

"**We're going to become more and more nationalistic.** We're becoming more isolated and less globalist. It comes at a time when we need cooperation for the climate. There will be less importing, more of a trend to manufacture at home and not depend on other people, whether it's [for] oil or electronic components."

Alan Patricof

MANAGING DIRECTOR
GREYCROFT

"I can't imagine companies are going to go back to spending as much on **business travel**."

Susan Lyne

MANAGING PARTNER
BBG VENTURES

"It reminds us that global supply chains, personal relationships, everything is connected. We don't win alone. We don't even win as small groups or nations. We win more broadly than that. **We start to think a little more broadly about problems like global warming**, like income inequality, and other things that dog society."

Stanley McChrystal

FORMER FOUR-STAR U.S. ARMY GENERAL OVERSEEING
BOSTON'S VIRUS RESPONSE

"**I wonder if this will change how families communicate.** Every weekend now we're on with both my husband's family and my family for an hour and a half, doing a Zoom call. We never did that before!"

Meg Whitman

CHIEF EXECUTIVE OFFICER OF VIDEO STREAMING SERVICE QUIBI AND FORMER CHIEF OF EBAY INC. AND HEWLETT-PACKARD CO.

"We have to **reinvigorate the mental health conversation** around the world as we look to manage the long-term implications of loss, loneliness, and financial strain. It will take time, but we will come through this stronger together."

Jennifer Morgan

FORMER CO-CEO SAP SE

"There will be a vast tangle of unpaid debts that cannot be cleared, and—what is different from 2008-09—the model of foreclosures, evictions, and repossessions to deal with them is going to be absolutely unacceptable. People sheltering at home without income are in no way responsible for their circumstances and will refuse to accept the terms of those contracts. So the contracts will have to be suspended and the debts cleared away, or there will be a confrontation on a vast scale.

"This is similar to the farm foreclosure confrontations of the 1890s and 1930s in this country, but on a much larger scale, and in many cases urban and suburban. The right model is that of the treatment of inter-Allied war debts after WWII: They were canceled, because dealing with the common enemy was a common effort. So **the whole financial system will have to be reset.** This is not an ideological point but a practical necessity for reestablishing a functioning economic system."

James Galbraith

PROFESSOR OF GOVERNMENT UNIVERSITY OF TEXAS

"The pandemic has proved the extent to which we can still be effective and create value away from our office desks. For a country like Japan, where there is still a tendency to measure performance by hours spent at the office, I believe **there could be important implications for gender diversity in the workplace.** If Japan embraces greater flexibility in working styles, and if the unprecedented amount of time some Japanese men are currently spending at home encourages them to take on a greater share of housework, then I hope we will see more women being liberated to pursue full-time careers. These are big ifs, but the economic boost could be substantial. At Goldman Sachs we estimate that closing the gender employment gap could lift Japan's GDP by 10%, and in a blue-sky scenario, where the ratio of female vs. male working hours rises to the OECD average, the GDP boost could expand further to 15%."

Kathy Matsui

CHIEF JAPAN EQUITY STRATEGIST GOLDMAN SACHS GROUP INC.

"After the pandemic stabilizes, the new cold war will be more visible between China and the U.S.-led West. The blame game has already started for the pandemic but will get worse once the economic hardship from the pandemic materializes in the coming months or years. As a result of the crisis, **China will shift further back to its Communist roots** and the Maoist era in terms of worldview and policy mindset."

Chen Zhiwu

DIRECTOR OF THE ASIA GLOBAL INSTITUTE AND FORMER ADVISER TO CHINA'S CABINET

"You're going to see fever checks in all airports. Certain jurisdictions are going to ask you to download an app to track where you are. **People may have to give up some of their privacy** if they want to go to certain countries that are going to be more hesitant about letting people in."

Glenn Fogel

PRESIDENT AND CEO BOOKING HOLDINGS INC.

With contributions from Enda Curran, Jason Kelly, Annie Massa, Carol Massar, Lananh Nguyen, Hema Parmar, Jana Randow, Jennifer Surane, and Sarah Syed

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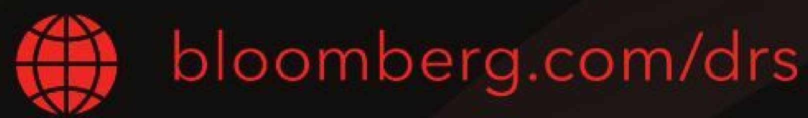

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Dollar Dilemma

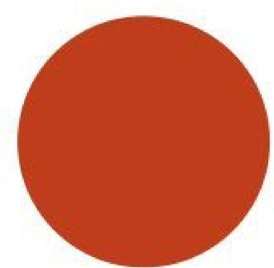
ILLUSTRATION BY MATT CHASE

The Dollar's Power Is Starting to Ebb

► p 14

Dollar Dominance Is Here to Stay

► p 15



A Fractured World Ushers In the End of Dollar Dominance

By JOE WEISENTHAL

BACK IN AUGUST, Bank of England Governor Mark Carney gave a speech in Jackson Hole, Wyo., about the problem of the U.S. dollar. The issue, as he identified it, was not that the dollar's fundamentals are weak, but that they're too strong. Even as the U.S.'s share of worldwide gross domestic product steadily shrinks, the dollar's share of global transactions has only grown. This mismatch proves dangerous when, in the process of fulfilling its domestic mandate, the Federal Reserve makes moves that have huge ripple effects around the world.

Why is the dollar so popular? For years people have been crying about how U.S. policymakers have abused its strength and unique global position. They point to the burgeoning Fed balance sheet, the massive national debt, or the huge trade deficit that the U.S. has run with the rest of the world. But the simple fact is that people use the dollar because other people use the dollar. As fund manager Eric Lonergan has argued, a currency is like a social network or a language. People learn English because other people speak English. People use Facebook because their friends and family use Facebook. And if you're doing business around the world, there's a good chance you're using dollars because that's what other people are using.

Of course, nobody has to do any of these things. There are movements made up of people who proudly reject linguistic monoculture, who focus their efforts on preserving endangered languages rather than accepting the inevitability of English. There are those who don't use Facebook (or any social media) and instead communicate and socialize in other ways. To make these choices means giving up some efficiency in favor of some other value.

This trade-off—giving up efficiency in exchange for something else—is precisely what people are talking about as they discuss what a post-Covid-19 society will look like. The failure of rich countries (notably the U.S.) to source basic equipment has increased calls for domestic manufacturing and placed a renewed focus on the resilience of supply chains instead of their optimization or efficiency.

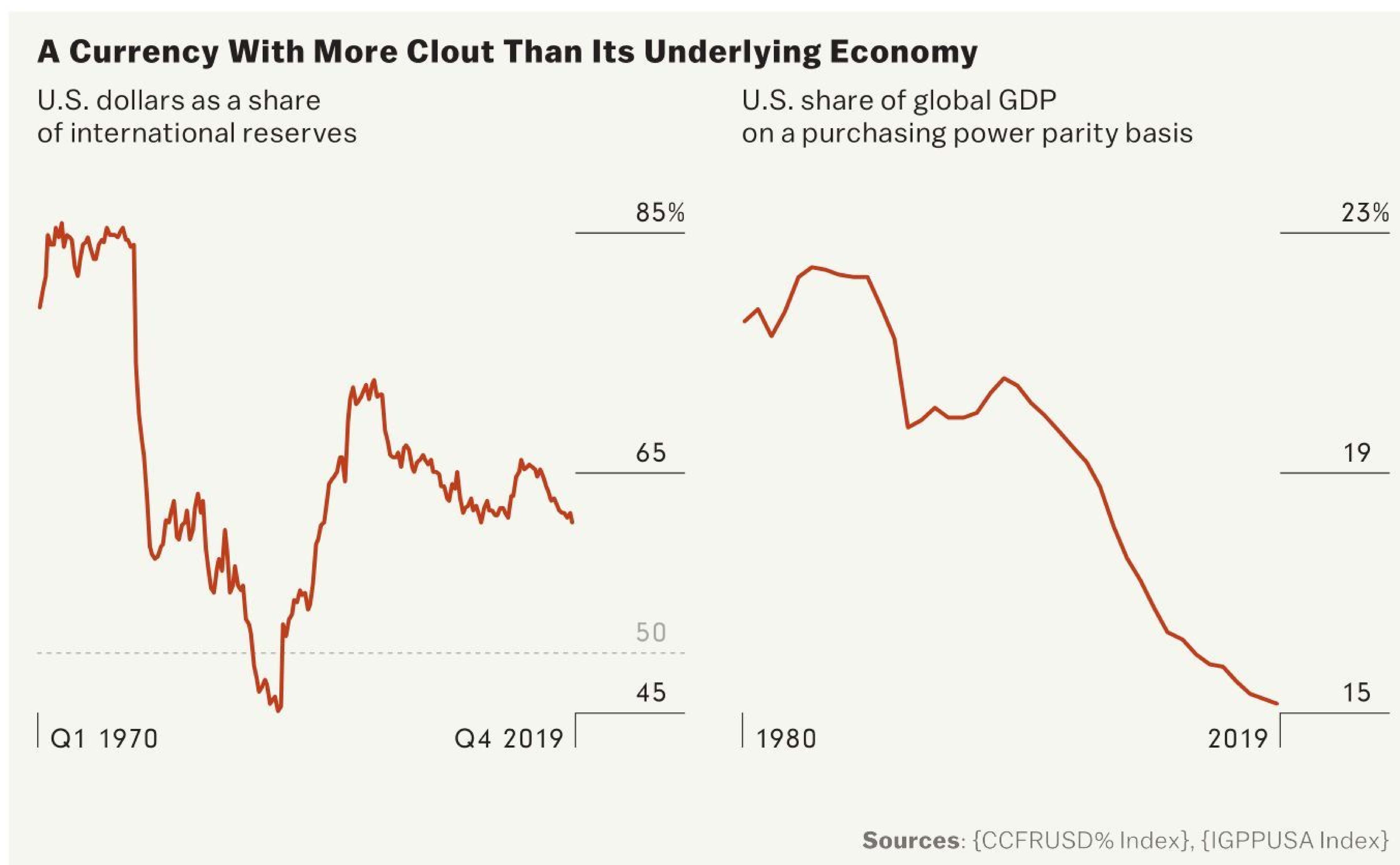
We can begin to see how the dollar may slowly cede its dominant role. An inward turn by the U.S. in manufacturing goods would deprive export-oriented economies around the world of a supply of dollars. Those economies, having seen their access to dollars evaporate in the blink of an eye during the pandemic, will come out of this crisis with a new understanding that the U.S. won't always be the consumer of last resort.

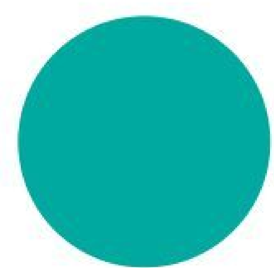
More countries may decide that participating in the existing, highly efficient, dollar-dependent global trade model isn't worth the risk if those dollars can disappear in an instant. (And it's not just manufacturing—tourist dollars will almost certainly be scarce for a long time.)

Ultimately, the fate of the dollar is unlikely to be binary. Thanks to its liquidity and universal recognition as a stable standard of value, its dominance won't disappear overnight. And there's nothing ready to take its place. Other major currencies, such as the euro, the yen, and the yuan, all have their own structural flaws. Some people hope that some neutral currency such as Bitcoin or gold will reemerge. But since nobody's expenditures are denominated in these assets, it's doubtful that people want to collect revenue in them.

And so the solution to Mark Carney's dilemma may be a gradual receding of the dollar on the world stage. More countries may opt to fund themselves in their own currency, seeking stability from global volatility instead of optimizing for growth. Regional currency blocs may become more popular. In the end, if countries prioritize resiliency over scale and efficiency, all sorts of new options will emerge that depend less on the dollar. ●

Weisenthal co-hosts Bloomberg TV's *What'd You Miss?* and is news director for the Americas at Bloomberg.





A Crisis Only Reinforces the Dollar's Dominance

By SHAWN DONNAN

THERE IS SOMETHING about America that tends to shed fear. Its citizens occasionally tremble, but America as a whole exploits fear. It may do anger or retribution, or internal divisions built on personal fears. It doesn't suffer from collective angst—or never for long. America is too big and brash. It does strength. It does hope and revival.

That's a cliché, of course. But it's why—when the global economy started its pandemic-driven collapse—the world's investors flocked into dollars. America is that confident neighbor with the basketball court and pool out back as well as the high fence and well-stocked wine cellar/bunker. In a crisis, you want to know that neighbor. It's safe at his place. Even if you don't particularly like him.

Every economic crisis brings a new belief that foundational change is upon us. We haven't been through an economic contraction quite like this one since the 1930s. It's fair to argue that this might change everything from our personal behavior to what we demand of governments and how we conduct commerce.

Some things, though, are only reinforced in a crisis. And that's where the dollar's primacy on the world stage stands now, whatever discomfort over imbalances may have preceded this or however intellectually compelling the contrarian argument may have been before Covid-19.

The first reason: The response to the crisis has reinforced the role of the dollar as the world's reserve currency of choice and of the Federal Reserve as the globe's most powerful central bank. If the world has been clamoring for anything—other than a cure—it's been dollars. And the Fed has been handing out plenty, reinforcing its standing as the de facto guardian of both its own currency and the functioning of global financial markets.

The second reason: the persistent absence of an alternative. For years pundits have predicted the rise of a challenger to dollar supremacy. Those forecasts came with the launch of the euro in 1999 and with the global financial crisis a decade later. They accompanied the 2016 inclusion of China's renminbi in the basket that makes up the International Monetary Fund's own de facto currency, its special drawing rights. Bitcoin and other cryptocurrencies have even laid a claim. None, though, has ever truly taken off. The dollar has, at the very least, maintained its place.

It's evident in what central banks around the world have chosen to hold as reserves. More than $6.7 trillion, or 60%, of nations' collective $11 trillion in sovereign foreign exchange reserves were parked in dollars at the end of last year, according to data from the IMF. China's RMB, by contrast, accounted for $217.7 billion, or just under 2%.

Is some bigger trend afoot that could change that? A rewiring of globalization that might reduce demand for dollars, perhaps? The argument is that the crisis has triggered an existential unease about sprawling supply chains, particularly when it comes to medical supplies, and that now a great manufacturing homecoming is likely. But that discomfort has been focused primarily on authoritarian China's growing place in the global economy. Even if U.S. or European companies were willing to give up on the enormous Chinese domestic market, it's hard to see how a move toward more diversified supply chains undermines the dollar's standing, even if it leads to less commerce. It certainly wouldn't strengthen the case for the renminbi.

The argument also represents a common misdiagnosis of a longer-term trend that may indeed accelerate with the current crisis, but in far subtler ways than even the economic nationalist now in the White House might want.

Peak globalization has been falsely diagnosed many times over the past decade. A move toward shortening global supply chains has been under way since at least 2011, when the tsunami in Japan and floods in Thailand put a new premium on managing risks to production and diversifying suppliers. The "China + 1" sourcing strategy adopted by many non-Chinese companies accelerated during the recent trade wars. Those trends—and even a rebirth of American protectionism—have proven how enduring globalization has become. Factories left China, but they moved to such places as Vietnam or Mexico rather than "reshoring" to America's industrial heartland.

EVEN IF ALL medical products such as respirators and medicines were made in the U.S. it would represent a small share of world commerce. Global trade in medical products was worth roughly $2 trillion in 2019, about 5% of the total, according to the World Trade Organization. America's imports represented less than $200 billion of that. By comparison, when the Bank for International Settlements last measured the daily turnover in global foreign exchange markets last April, it put it at more than $6.6 trillion in transactions, $5.8 trillion of which involved the U.S. dollar.

There's a reason that America doesn't do fear, at least not when it comes to the dollar. Even in a crisis, its place is just too big for anybody to mess with. ●

Donnan covers global trade in Washington.

London Awakens

AS LONDON emerged from lockdown and took its first steps toward an uncertain future, a pale glimmer of hope competed with frustration and confusion—frustration that the U.K. had racked up the highest death toll in Europe, confusion over what a return to work would look like. The bells of St. Paul's mingled again with the din of construction machinery in the City. The one constant was the occasional doleful wail of ambulances heading to hospitals across the metropolis.

As the government's instruction shifted in mid-May from "Stay at Home" to "Stay Alert," little changed at first. Trundling into the financial district from affluent boroughs to the east and west, the District Line remained almost empty. With time, the ranks of lower-paid workers would swell as more of them returned to work—part of the same cohort who've been among those worst hit by Covid-19 fatalities. Slowly, embankments along the Thames stirred to life, as shown here in the shadow of City Hall by a thermographic camera that detects infrared light—radiant energy that's invisible to human eyes—and displays different levels of heat in various colors. —*Neil Callanan*

PHOTOGRAPH BY GILES PRICE

The One Thing You Need to Look for Now Is Cash

By CONSTANTIN COSEREANU

COMPANIES WITH STRONG balance sheets are back. Over the past few years, many investors have focused mainly on "income statement investing," which looks at indicators such as earnings per share (EPS) guidance numbers, sales, and general revenue items. The Covid-19 pandemic put at least a temporary hold on that as companies stopped issuing ballpark earnings estimates, laid off their workers, and started borrowing heavily.

Investors have now turned their attention to debt levels, asset quality, liquidity of a company's assets, loan levels, covenants, and, most important, strong cash flows. We can already see how this strategy might play out. The 20 companies on exchanges in the U.S., Canada, the U.K., and western Europe that have performed the best on these criteria far outpaced the MSCI World Index in the 10 years to the end of April. Those companies, combined into a single index, returned 419.8%, vs. 143.1% for the global benchmark.

TO TAKE A LOOK FOR YOURSELF, run **{EQS <GO>}**. In the amber box under Add Criteria, type "United States" and choose United States-Exchanges from the autocomplete. Repeat the same thing for Canada and click on Canada-Exchanges, United Kingdom to get United Kingdom-Exchanges, and Western Europe to select Western Europe-Exchanges. This will narrow your universe to a little more than 29,000 companies.

Now we can start to find out more about each company's debt and liquidity. In the amber box under Add Criteria, type "total debt to total assets" and select the option from the drop-down menu. Change the time period in the amber drop-down box to Latest Filing. In the amber drop-down box on the next line, change the criteria to Has Data. Then hit enter. Repeat these steps to set up other criteria: Sales to Total Assets, Net Debt/EBITDA, and Current Ratio.

There are two other items we need to add that require a little extra work to create. Click on Formula on the red toolbar. A new window will appear. In the amber box next to Field, type "working capital" and choose the first item from autocomplete. Select Latest Filing from the next drop-down menu and then hit <GO>. In the large amber box below, you should see: $RR150[LF]. After that equation, add a division symbol /. Then go back to the amber box next to Field and type "total assets." Select the first item from the autocomplete. Choose Latest Filing and hit <GO>. In the large amber box you should see: $RR150[LF]/$BS035[LF]. Click the Save & Use gray button at the bottom. Give the Formula a name such as Working Capital to Assets and press the Name button. Now you can add this to your EQS criteria. Working Capital to Assets should automatically appear in the amber box under Add Criteria. In the amber drop-down box, choose Has Data and hit <GO>.

You now need to create one more formula. Click on Formula on the red toolbar again. In the amber box next to Field, type "operating income" and choose the first item in the autocomplete (Operating Income or Losses). Select Latest Filing and then hit <GO>. In the large amber box, you should see: $IS033[LF]. After that, add a division symbol /. Then go back to the amber box next to Field and type "total assets." Select the first item from the autocomplete. Choose Latest Filing and hit <GO>. This should appear in the large amber box: $IS033[LF]/$BS035[LF]. Click the Save & Use gray button at the bottom. Give the Formula a name, such as Operating Income/Assets, and hit Name. Now you can add

Fig. 1 Run **{EQS<GO>}** to find companies with strong cash flows.

this to your EQS criteria. Operating Income/Assets should automatically appear in the amber box under Add Criteria. In the amber drop-down box, choose Has Data and hit <GO>.

We've saved the crucial bit to add for last. In the amber box under Add Criteria, type "cash from operations" and select it from the autocomplete box below. Next, click the gray Growth button to the right of the amber boxes. A new window will pop up. On the right side, tick the radio dial to the left of Number of Positive Growth Periods. Then click Next. Change the Sampling Frequency at the top to Yearly by choosing it from the amber drop-down menu. To look at growth over the past five years, use the first drop-down to the right of Custom Time Frame to select Y-5. Finally, at the bottom, tick the box to the left of Save as Custom Field. In the amber box, name it Number of Positive Growth Periods CFO. Click Update.

You'll now be back at the EQS screen. You should see Number of Positive Growth Periods CFO in the amber box under Add Criteria. In the amber drop-down menu below, choose = Equal to. Then in the amber box to the right of the % sign, type "5" and hit <GO>.

In the red toolbar, click Actions. From the drop-down menu, select Save As. Name the file Balance Sheet and hit Update. Click the gray See Results | WATC >> button at the bottom of the screen. This will bring up about 250 companies, depending on what day you run the results. (Use the Group By menu to select Securities if it's not selected already.) Let's rank them based on the criteria we've set.

Go to the top of the screen, click on Actions, then EQS Report, and then tick the box to the left of Report Layout. Now find the column named Debt/Assets LF, right-click on it, and choose Insert Combined Column from the drop-down menu.

In the new window that appears, click on Sum of Percentile on the left-hand side. Under the Select Columns section, tick the boxes to the left of each item, except for Number of Positive Growth Periods. (You don't need to include this item because the value is the same for all the companies.)

Now, let's change the Sort Order. For Debt/Assets LF and Net Debt to EBITDA LF, select Lower Value Is Better from the drop-down menu. For the rest, keep Higher Value Is Better. This will give us six ratios to consider, and we want them to all be considered equally in our ranking. Change the number in the Weight column for each to 0.166. Add a name in the amber box next to Column Title. For this example, let's use Balance Sheet Rank (%). Then hit Insert.

You can now see Balance Sheet Rank (%) as one of the columns. Right-click on the column header to Insert Derived Column. Choose Rank. A new window will appear. Hit Insert. This will now rank the companies from the first to the last.

Now that we know the top names, let's do a backtest to see how they've performed over the past 10 years against other publicly traded companies.

Run **{EQS <GO>}** again. On the top left side you should see Balance Sheet. Click it. Now scroll down to the bottom of the screen under Selected Screening Criteria. Click on Rank: Balance Sheet Rank (%). This will allow us to edit the screen.

After the long formula in the amber box, type " <=20"; make sure to include the space before the less than symbol. Click Save and Use at the bottom. Name it Top 20, and click Name. If you ►

Fig. 2 Once you build your security universe, click on Backtest in the red toolbar at the top of the screen to go to an equity backtesting model builder.

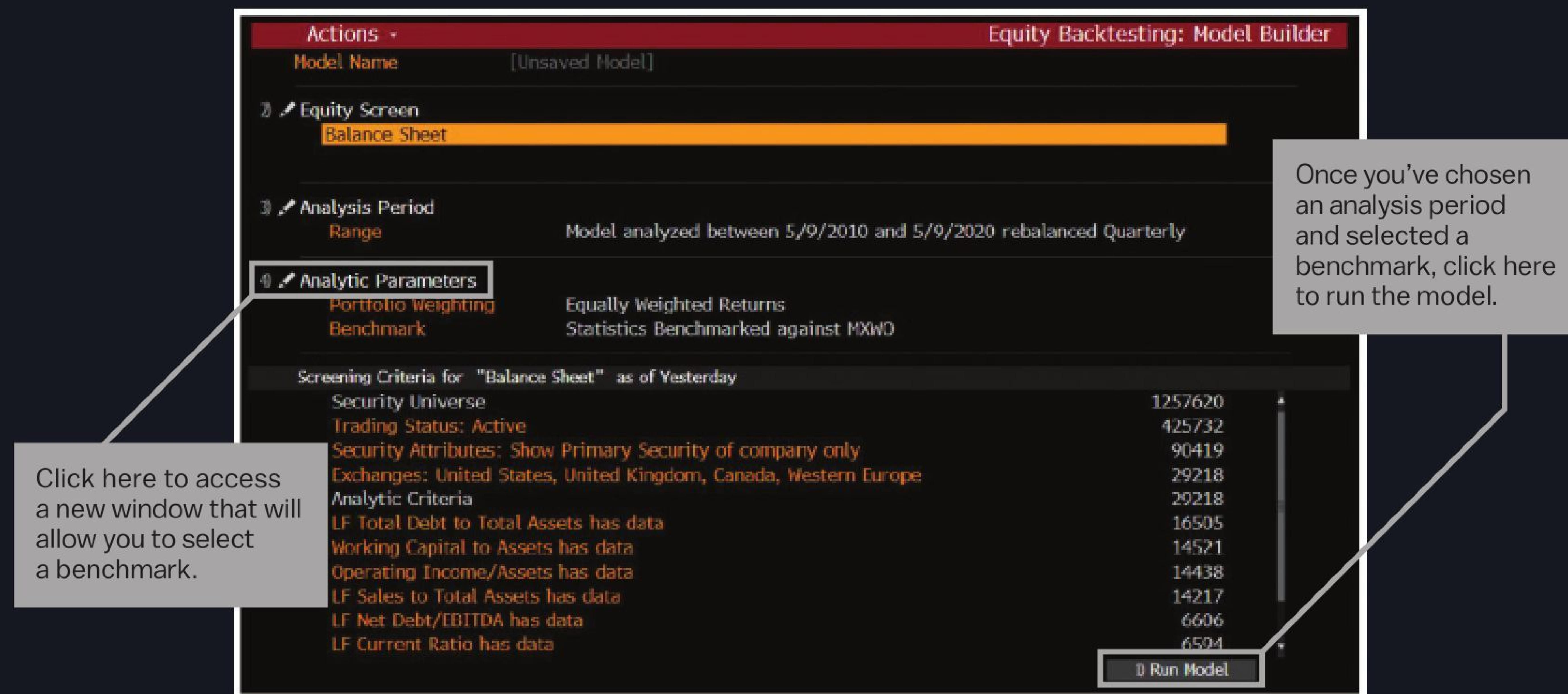
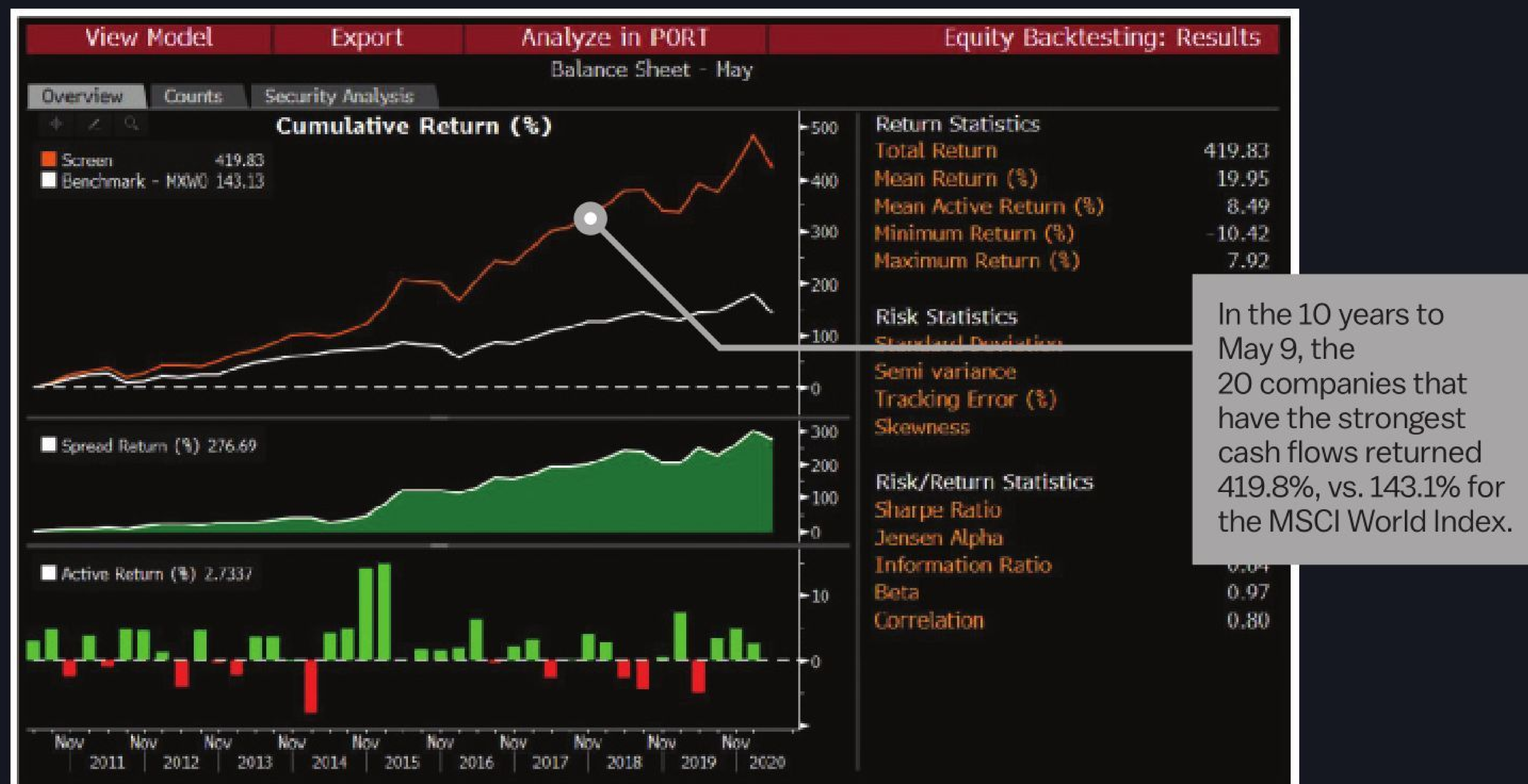


Fig. 3 Run **{EQBT<GO>}** to monitor the results of your backtesting model.



happen to get a message saying "Unable to save field as formula. Save as new formula?" simply click OK and try again.

Once you're back to the EQS screen, click on Backtest in the red toolbar at the top. Then click Update. A new screen will appear.

Click Analysis Period. A new window will appear on the screen. Change the first number across from Start Date to 10. Make sure Years is selected in the amber box next to it. In the drop-down menu across from End Date, choose Last Week End, and in the drop-down menu next to Rebalance Frequency, choose Quarterly. Click Update.

Once back at the main screen, click on Analytic Parameters. A new window will pop up. Tick the box to the left of Use Benchmark. Then type "MXWO" in the amber box next to it and choose MSCI World Index from the drop-down menu below. Keep everything else the same, and hit Update.

Go to Actions in the top left of the screen, click Save As, call the model Balance Sheet, and hit Save. Then click Run Model in the bottom right. The system will take about three to four minutes to crunch the numbers. The results will be emailed to your inbox. You can also check the status of the report by running **{EQBT <GO>}**.

Once you receive the email, click on the attachment and compare the figures. As you will see, companies that have the strongest balance sheets are winning. In a world full of uncertainty, cash is king. ●

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A Passion for Taming Uncertainty

By YAKOB PETERSEIL

ILLUSTRATION BY JACK HUGHES

Galai

COURTESY DAN GALAI

VOLATILITY HAS ALWAYS been a feature of markets. In a 1989 research paper, Dan Galai, along with Menachem Brenner, proposed creating an index—which they called Sigma—to track the volatility of stocks. That research eventually helped inspire Chicago Board Options Exchange (now Cboe Global Markets Inc.) to create the VIX, known as Wall Street's "fear gauge." (There remains disagreement over how much credit their research deserves for the index.) Born in Jerusalem, Galai earned his Ph.D. at the University of Chicago before embarking on a career in academia and investing. In April he spoke to Bloomberg about his career, the research around volatility, and what interests him today.

YAKOB PETERSEIL: What sparked your interest in finance?

DAN GALAI: I got my undergraduate degree in economics and statistics. When you engage in statistics and economics, you have the basic tools to deal with uncertainty. For my master's degree, I was very much interested in papers on portfolio selection, on the capital asset pricing model, on the whole issue of selecting and balancing portfolios. At the same time, I was also doing my master's thesis on the pharmaceutical industry and their investment decisions—the uncertainty of developing new drugs and launching new products in the medical field. I define myself as having two heads. Financial innovation and technological innovation. On top of both of them is dealing with uncertainty.

YP: How did you become interested in options?

DG: I came to Chicago in September 1970. Myron Scholes and Fischer Black joined the faculty. I was exposed to the option pricing theory before it was published.

Even before I started my dissertation, I was working with a faculty member on a paper on options, on the put-call parity. That was before options started to trade in April '73 on the CBOE. I got data from a professor who collected data from the OTC [over-the-counter] market at that time.

YP: What happened after you finished your Ph.D.?

DG: In ’75, I went to the CBOE as an adviser for two months during the summer. My project was to create an index for options, which they named GOI—the Galai Option Index.

YP: You continued pursuing the idea?

DG: In the beginning of the ’80s we started trading options on indexes. It took quite a few years for the SEC [Securities and Exchange Commission] to approve it, because at that time there was no underlying instrument.

Once we started trading options on indexes, the idea was to use the same concept of a synthetic option that is always 30 days at-the-money, so we don’t have effects of skew and time effect. It was created by interpolation. It’s a pure play. The only thing you are left with is standard deviation.

We had a working paper that we offered in ’86 to the American Stock Exchange to launch it as a product. But they decided at that time not to go ahead.

In August ’87 we visited the CBOE to present the idea. They seemed to like it, but then came the crash in October ’87. They were not looking for new ideas or products, but to recuperate from the crash.

YP: CBOE went on to develop the VIX. Are you satisfied that your contribution was recognized?

DG: Not exactly. We were in touch with them, but we weren’t sure what was going on until we saw the announcement in the *Wall Street Journal* that they launched the VIX.

YP: Do you think investors have an understanding of volatility and the impact on their portfolios?

DG: No, absolutely not. Not many understand statistics. I don’t want to generalize, but many don’t have the know-how. People are aware of the uncertainty, but I don’t think they know all the tools they can use to understand it and to control it.

YP: Do you believe volatility can be traded like any other asset class?

DG: Yes and no. It’s no different from oil prices. It’s not that people are interested in oil as a commodity. It’s just speculation. In this respect it’s an asset class. Do I personally use it or advise my clients to invest in it? Rarely. But again, you can have interesting trading strategies. You look at the term structure of volatility—short-term options and long-term options on the VIX—usually it’s not a flat function. Very often the short-term will be lower than the long-term. But during the pandemic, we see that short-term options on volatility are much more expensive than long-term ones. The market expects volatility to go down sometime in the future. So if you want to bet on it, sell the short one and buy the long one.

YP: What is the biggest source of uncertainty right now?

DG: For me, a major indicator of the economic recovery is when the airlines will get back to 80% of where they were before the crisis. We have a huge uncertainty about the tourism industry and all the related industries. I’m less concerned about the oil collapse and more concerned about air travel. It will be very costly, and I’m not sure how many of them will survive.

Usually when we do projections into the future, we look at past history. But the problem is all data concerning 2018-2019 is completely irrelevant. You can’t do any extrapolation. The VIX is important because the VIX is ex ante, forward-looking.

YP: What interests you right now?

DG: I just completed a joint paper on fintechs that have emerged over the last 20 years or more. Do they have a more symbiotic relationship? Or are they going to disrupt the banks?

Another piece of research I’ve been pursuing for a couple of years is applying the concept of options to corporate finance, in estimating costs of capital and capital structure. In my view, most estimations of cost of capital are completely wrong. Equity is like a call option on the corporation. If you ignore it, you misevaluate the cost of capital in a substantial way. ●

Peterseil is an editor on the cross-asset markets team at Bloomberg News in London.

Derivatives

The Father of the Fear Gauge Says He's Getting Assurance From the VIX

By JON ASMUNDSSON

ILLUSTRATION BY JACK HUGHES

ROBERT WHALEY SPENT the last four months of 1992 in a small town near Dijon, France, with a set of large hard drives containing what was then the entire series of index option prices from the Chicago Board Options Exchange. On sabbatical from Duke University, he'd been commissioned by the exchange to create a volatility index. With two powerful PCs, he worked out the formula for the CBOE Volatility Index. The VIX was unveiled in Chicago on Jan. 19, 1993.

Now the Valere Blair Potter Professor of Management at Vanderbilt University in Nashville, Whaley connected for an interview via videoconference on April 21, the day after crude oil futures traded at negative prices for the first time.

JON ASMUNDSSON: In the early '90s, you were teaching finance at Duke and the CBOE hired you as a consultant in some litigation. Then the exchange asked you to create a volatility index. Can you tell me the story of how that came about?

ROBERT WHALEY: Sure. The CBOE introduced index options early on—I think it was 1983. At that time they were S&P 100 options. And during the October '87 crash, what had happened was the implied volatility of some put options got to extraordinarily high levels—172%, I think, was the highest one that I saw. And there was a class-action suit against the CBOE for sponsoring a market that essentially had these inordinately high levels of volatility. It was eventually settled. The bottom line was I'd done some litigation support work for them. In those discussions, the focus was completely on volatility, and the conversation really went toward, "Well, it would really be interesting to have an index on volatility." So that was the seed for moving ahead with a volatility index.

JA: Was the idea that the VIX would track the buying of puts by institutions to hedge portfolios?

RW: No. As it turned out, that's the way it is used. In theory, what the index should be doing is giving you an expectation of the future realized volatility over the next 30 days. People get a little bit confused about it in the sense that they want to tie VIX to how volatile the market is today. That's comparing apples and oranges. VIX is telling you about the average volatility over the next 30 days as opposed to what the volatility is today.

JA: How do you feel about the VIX's popularity?

RW: I'm quite happy. I follow that number each and every day. I mean, it's as meaningful to me as looking at the level of the dollar or the SPX, because it's telling me how anxious people are about the next 30 days. But I also view VIX in conjunction with the VIX futures prices. I'm going to pay 47 for my insurance policy today. But if I go out 30 days, for the same 30-day policy, I'm going to pay 42.

So what does that tell me? That tells me I'm really anxious over the next 30 days, but I'm anticipating there's going to be a lot of resolution of the uncertainty when 30 days is up.

JA: I'm going to shift over toward leveraged and inverse exchange-traded products. Years ago you calculated that investors at that point had lost some $4 billion on VIX products. Is that something you've continued to track?

RW: Absolutely. I don't have a new estimate, but all you have to do there on your Bloomberg machine is type in the symbol SPVXSP. That index began reporting on Dec. 20, 2005. At that time, the level of that index was 100,000. And what is it today? 67.

JA: Yeah. So the total return is -99.93%.

RW: Ha. That's what VXX [iPath Series B S&P 500 VIX Short-Term Futures ETN] provides you. So if you buy and hold that over that period, that would be your generous rate of return. And this happens because these things are essentially futures indexes. And what happens through time is the futures prices move down toward the spot price, and you lose money.

XIV [VelocityShares Daily Inverse VIX Short-Term ETN] was the opposite of it. I don't know if you remember XIV?

JA: I was going to ask you about that.

Whaley

RW: Yeah, it was a -1x. That was a more sensible product. And what happened was there was one event. Given the distribution of that VIX futures index, the probability of a 100% event was not a zero, and they observed a 100% event where the VIX spiked up on Feb. 5. And if it spikes up by 100% and you're promising -1x that, you're in a little trouble. You can't deliver.

JA: So you're not a fan of leveraged or inverse ETPs. What's the main thing that's wrong with them?

RW: By trading these things, you're allowing people who can't get into the futures market access to strategies they shouldn't have in the first place. All of the restrictions on the futures market were put there for a purpose: to protect the integrity of the markets and avoid the disasters that are currently happening in the leveraged and inverse markets. These things trade enormously. USO [United States Oil Fund LP] traded 373 million shares today. Is that reasonable? This is a casino.

What you see in instruments like these ETNs, you're not buying anything but a futures position. What you've done is you've provided a form for people to take daily wagers on price movements.

That's not to say I haven't traded these things. I do it.

JA: I was going to ask if you've used any of these products.

RW: Sure. Absolutely. But I think I know what I'm doing.

JA: It seems like there's plenty to fear these days. Is there anything in particular that worries you?

RW: The VIX itself gives me assurance from day to day. I'm comforted by the fact that smart institutional money, the people trading VIX futures, is telling me the price of insurance a month from now is going to be considerably less than it is now. The people setting the prices of those VIX futures contracts are telling me that, in their best judgment, things are going to get better. And that gives me a good deal of assurance, to be quite frank. ●

Asmundsson is <GO> editor for *Bloomberg Markets*.

COURTESY VANDERBILT UNIVERSITY

Fixed-Income ETFs Survive Their Big Test

By CLAIRE BALLENTINE and KATHERINE GREIFELD

SAM HUSZCZO had long been a skeptic. Exchange-traded funds, already wildly popular among equity investors, were emerging as a cheaper, easier way to build a fixed-income portfolio than investing in a mutual fund. But after a decade-long bull market, no one could be sure how the new products would perform in a downturn. Would they exacerbate turmoil in their underlying markets?

Finally, near the end of 2018, the founder of SGH Wealth Management in Southfield, Mich., decided to give them a try, investing about 27% of the firm's assets in the funds. Throughout 2019, things seemed to be working well, Huszczo says. Then the coronavirus became a global pandemic, plunging stock and bond markets into a downturn.

Huszczo, like so many other money managers who overcame trepidations and piled into the new market, could only watch as the record volatility that plagued U.S. bond markets in March led to share prices of bond ETFs trading at deep discounts to the value of their underlying assets. On March 23 the Federal Reserve said it would buy corporate debt and eligible ETFs and then expanded the program weeks later to high-yielding securities to keep credit flowing.

"Everything was in a free fall until the Fed stepped in," says Huszczo, who turns 39 in July. "No one likes to see their bond portfolio go down like that."

By early May, with that big assist from the U.S. central bank, the consensus was that fixed-income ETFs had—for the most part—passed their first big test. But it was a roller-coaster ride along the way.

After years of sluggish growth, ETFs that track corporate or government debt last year took in more than $150 billion in the U.S., the most on record and just short of the sum attracted by equity ETFs. That's boosted total assets to about $858 billion, or roughly 21% of U.S. ETF assets, data compiled by Bloomberg Intelligence show.

Critics and regulators have long voiced concerns that fixed-income ETFs, because they're much more liquid than their underlying assets, would exacerbate price declines when investors scramble to redeem their holdings during periods of market stress. Mohamed El-Erian of Allianz SE and Scott Minerd at Guggenheim Partners are among veteran investors who have suggested ETFs could act as a destabilizing force in illiquid credit markets where they have an outsize trading share. (El-Erian is a Bloomberg Opinion contributor.)

When U.S. stocks fell more than 30% in March during the worst sell-off in history, bond ETFs showed signs of liquidity stress. Some of the hardest-hit were the Vanguard Total Bond Market ETF, or BND, and iShares iBoxx $ Investment Grade Corporate Bond ETF, or LQD.

In one notable example, on March 12, Vanguard's BND was down 3.8% year-to-date, while its mutual fund counterpart—the Vanguard Total Bond Market Index Fund—was up 2.7%. The prices have since reunited, with both funds up about 3.7% so far this year as of May 11.

Dorian Garay, a New York-based portfolio manager for NN Investment Partners, says that such a divergence in prices during a period of stress limits the value of fixed-income ETFs for some investors. "The potential problems of investing in ETFs are related to risk management, as you cannot actively manage your risk exposures," he says.

Investors were still able to trade through the market turmoil, just not at the prices they might have hoped for. "If investors wanted that liquidity, they basically had to pay for it," says Ryan Sullivan, senior vice president of Brown Brothers Harriman's global ETF services. "They were able to access it. It certainly was not an ideal trade, but all things equal, the funds held up."

In the underlying markets that the ETFs track, trading essentially froze in many debt securities. That spooked the specialized traders—known as authorized participants—who normally keep a fund's price

aligned with its net asset value. Typically, those market makers will buy shares of a falling ETF to redeem in return for the underlying bonds, which they then can sell. That process reduces the number of shares outstanding and keeps the ETF in lockstep with its holdings. But in March appetite for that arbitrage trade soured as those traders became wary of getting stuck with hard-to-unload bonds.

"They're not doing this out of the goodness of their hearts," David Perlman, an ETF strategist at UBS Global Wealth Management, says about the authorized participants. "They don't jump in until they think they can execute the redemption and make a profit from doing so."

As the individual securities stopped trading, fixed-income ETFs served as a price discovery tool instead.

"ETFs were actually showing the true value of where fixed income was priced real time," says Will McGough, chief investment officer of retirement strategies at Stadion Money Management in Watkinsville, Ga. "Because the bonds don't price themselves—they only price when they trade—they [ETFs] were effectively the supermarket for pricing bonds for a week or two."

There's debate within the industry over how to accurately value fixed-income ETFs and their holdings during such a period of stress: Is the true price the net asset value of the underlying securities or the cost at which you can execute trades?

Huszczo compares it to real estate websites that calculate "what our house is worth based off algorithms and comparables." In reality, he says, "nobody believes that is the actual number. The actual number is just, 'What is some other person willing to pay for this?' "

Opinions about the performance of debt ETFs come down to how investors understand the structure, explains Sue Thompson, who leads distribution of State Street Corp.'s SPDR ETFs in the Americas. "The dislocations happened first in the underlying market," she says. "If there were not disruptions in the underlying markets, there would have been no disruptions in the ETFs, period," she says.

Few market participants expect a slowdown in the momentum fixed-income ETFs have developed. The perks simply outweigh the dangers, they say.

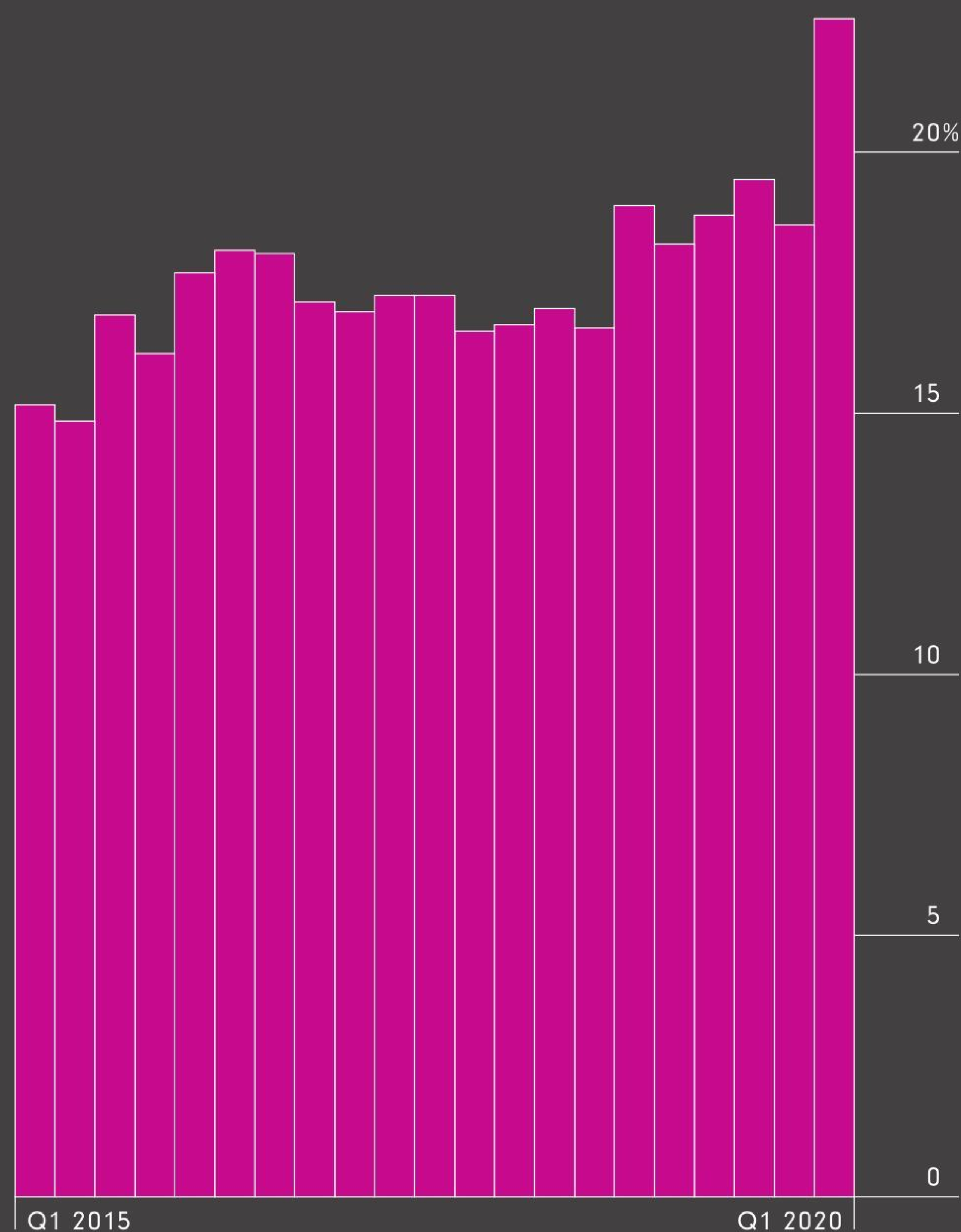
For instance, ETFs allow asset managers faced with client redemptions that once would have forced them to sell their most liquid bonds to instead sell a slice of a group of bonds in the form of ETF shares. Their portfolio won't look drastically different afterward. And ETFs, because they're so liquid, can be used to park cash until it's needed to purchase new bonds.

These funds can also make portfolio trading more efficient. When an asset manager wants to offload a bunch of bonds, intermediaries are willing to purchase them as a whole package because they can turn around and sell the inventory into ETFs. Last year, Wall Street's bond desks executed at least $88 billion worth of such trades, according to an analysis by Morgan Stanley. That's compared with virtually none two years ago.

"This may be—while a large blip on the radar—a blip on the radar," Sullivan says. "I don't think anyone is running for the hills from ETFs."

Huszczo certainly isn't. "We're not going to rush to judgment over a couple of days. Investing for our purposes is long term," he says. "ETFs did what we expected them to do." ●

Ballentine and Greifeld are reporters on Bloomberg News' cross-asset markets team in New York.



Build Custom Scenarios for Insight Into How Your Portfolio May Perform

By MIHAI STEFANITA, CONSTANTIN COSEREANU, and STEVEN IOANNOU

HOW DID STOCKS PERFORM as the Spanish flu ran its course a century ago? At the beginning of 1918, the Dow Jones Industrial Average stood at 76. Although the pandemic emerged in the early months of the year and World War I raged in Europe, the benchmark rose 17% to a high in October. The end of the war was nearing that month, but it was also when the virus's lethal second wave crested.

IN THE CURRENT environment, many firms are building historical or hypothetical scenarios to get insight into how to position their portfolios. The Portfolio & Risk Analytics (PORT) function enables you to conduct deep analysis of a portfolio's performance under different stress scenarios and then share your analysis across your firm or with other sets of users.

You can use PORT, for example, to build a custom scenario based on how markets behaved in the era of the Spanish flu and use that to stress-test your portfolio. Here's how.

To start, let's take a look at the Dow back then. To chart the index over the five years from the beginning of 1918, run **{INDU <Index> GP <GO>}**, set the date fields at 01/01/1918 – 12/29/1922, and press <GO> (**FIG. 1**). After declining some 10% from October 1918 to February 1919, the market took off, with the index rising 50% to a high in November 1919. That was when the big drop started, however: From that point until September 1921, the Dow fell 47%.

That can be a starting point for building your scenario. The Spanish flu era and this one are not exact analogues, of course. For one thing, there's no world war going on now. What's more, with today's scientific understanding of viruses, modern technology, and advances in health care, you might expect the market impact of Covid-19 to be less severe. So perhaps create a custom scenario with a market downturn of, say, 35%.

To do that, run **{PORT <GO>}** and load your portfolio. Click on the Scenarios tab and then the Main View subtab. To create your custom scenario, click the drop-down menu to the right of Scen and select [Edit / Create New ...]. In the View Manager screen, click the gray Create New button, and the Scenario Manager screen will appear. Give your scenario a name such as Spanish Influenza (-35%). Click the MacroFactor tab and then Indices to expand the list. Use the scroll bar to go down in the list to DOW equity (INDU Index). Click on it to select it, and then click the >> button so it appears in the Risk Factors column. Then type "-35" in the % change field. That's it. Click the Actions button and select Save.

The Scenario Manager also lets you create more targeted scenarios. You can shock specific countries, industries, or style factors within the models. To do that, click on the ModelFactor tab. You could, for example, create different shocks for specific sectors such as global air and transportation and global lodging (**FIG. 2**).

Once you've created and saved a scenario, press <Menu> to return to the View Manager screen. The scenario you created will be listed in the Available Scenarios section under My Custom Scenarios. Click the plus icon to add it to Selected Scenarios. Then click the Run button on the red toolbar to run your custom scenario on your portfolio and benchmark. The Scenario tab in PORT will display the results given the shock in the Dow macro factor and the other industry model factors (**FIG. 3**). ●

Additional tools that may be helpful

BI COVID	Bloomberg Intelligence's Covid-19 industry outlooks
VRUS	Monitor market impact of Covid
LQA	Displays a security's liquidity profile
LQAP	Evaluate the liquidity of a portfolio
WCDS	Track credit-default swaps
NT LIQUIDITY	See news trends on liquidity
N CORONAVIR CHARTBOOKS	*The Coronavirus Visualized*

Stefanita is an equity and credit workflow specialist, Cosereanu is a portfolio and risk specialist, and Ioannou is a sales manager for Americas buy side ERM at Bloomberg in New York.

Fig. 1 To chart the Dow during the era of the Spanish flu a century ago, run **{INDU <Index> GP <GO>}** and set the date range at 01/01/1918 – 12/29/1922.

Fig. 2 The Scenario Manager in PORT lets you build scenarios that shock specific countries, industries, or style factors.

Fig. 3 Once you run your custom stress test, the Scenarios tab in PORT lets you analyze its impact on your portfolio and its benchmark.

Portfolio & Risk Analytics — Scenarios — Main View

EQUITY_LONG vs Default (SPX I by GICS Sectors in USD — As of 05/04/20 — Model Bloomberg Risk — Scen Spanish Influ

Name	P&L% (Spanish Influenz.. (-35%)) Port	Bmrk	+/-	Stress MV (Spanish Influenza (-35%)) Port	Mkt Val Port	% Wgt Port	Bmrk	+/-
EQUITY_LONG	-7.07	-5.61	-1.47	620,451,739.44	667,669,050	100.00	100.00	0.00
Communication Services	-22.75	-9.22	-13.52	44,768,695.91	57,952,500	8.68	10.98	-2.30
Consumer Discretionary	-40.86	-55.64	14.78	34,061,998.35	57,591,300	8.63	10.28	-1.65
Consumer Staples	4.00	10.78	-6.78	43,513,157.24	41,839,200	6.27	7.50	-1.23
Energy		59.93	-59.93				2.94	-2.94
Utilities		44.82	-44.82				3.28	-3.28
Financials	33.31	16.14	17.17	23,640,885.72	17,734,000	2.66	10.55	-7.89
Health Care	-44.38	-24.63	-19.75	58,783,777.83	105,690,600	15.83	15.47	0.36
Industrials	1.54	-25.77	27.31	111,997,246.67	110,296,100	16.52	7.92	8.60
Information Technology	3.56	1.56	2.01	206,539,889.54	199,434,950	29.87	25.68	4.19
Materials	20.72	2.94	17.78	67,950,802.38	56,286,400	8.43	2.51	5.92
Real Estate	40.07	26.20	13.87	29,195,285.79	20,844,000	3.12	2.90	0.22

The Just-in-Time IPO

By LULU YILUN CHEN, CATHY CHAN, and JULIA FIORETTI

WHEN MA CUNJUN strapped on his face mask and boarded a nearly empty flight to New York from Hong Kong, the most important deal of his life was at risk of unraveling.

It was Jan. 29, and in less than two weeks Ma was supposed to take his Shenzhen, China-based online insurance platform public on the Nasdaq stock exchange in New York. Preparations for Huize Holding Ltd.'s initial public offering, which in September had targeted $150 million, had been in the works since 2018. But now China's coronavirus outbreak was bringing Asia's largest economy to its knees and threatening to cause havoc around the world. Ma, 48, had to decide whether to push ahead.

His bankers were offering conflicting advice. Morgan Stanley was suggesting a delay, arguing Ma's company should wait to report a full year of earnings. Shortly after the founder and chief executive officer arrived in New York, Chinese share prices suffered their biggest one-day tumble in almost five years. But Citigroup Inc. was saying the window for a deal was still open—if Ma was willing to raise less money, cut the valuation, and move quickly.

On a Feb. 3 conference call, with Ma dialed in from the Manhattan Club hotel and many of his bankers joining from their home offices, he gave the green light. The next week would be a race to complete one of the world's first all-virtual IPOs, a deal that's since become a template of sorts for stock market debuts in the age of coronavirus. "We were asking ourselves a lot of questions regarding what was going to be the probability of success," says Bruce Wu, the Hong Kong-based banker who led the Huize offering for Citigroup, where he's worked since 1994. "Once we made that judgment call, it was full steam ahead."

Citigroup bankers—Morgan Stanley, having disagreed about the timing, had by now resigned from the offering—started dialing institutional investors across Asia and the U.S. that had shown interest in the 14-year-old platform, which makes money by taking a cut from helping sell life and health coverage for insurance companies. In-person meetings were out of the question, even in New York, where a lockdown wouldn't begin until the following month: Ma says he was self-isolating in his hotel.

By this stage, the coronavirus death toll in China was inching closer to the scale recorded during the global SARS outbreak almost two decades earlier—and would eclipse it before the roadshow ended on Feb. 10. On Feb. 2 the U.S. had closed its borders to foreigners who recently visited China, and governments everywhere were tightening quarantine rules. Fortunately for Huize's prospects, the Nasdaq seemed immune to the gathering storm, climbing to new records.

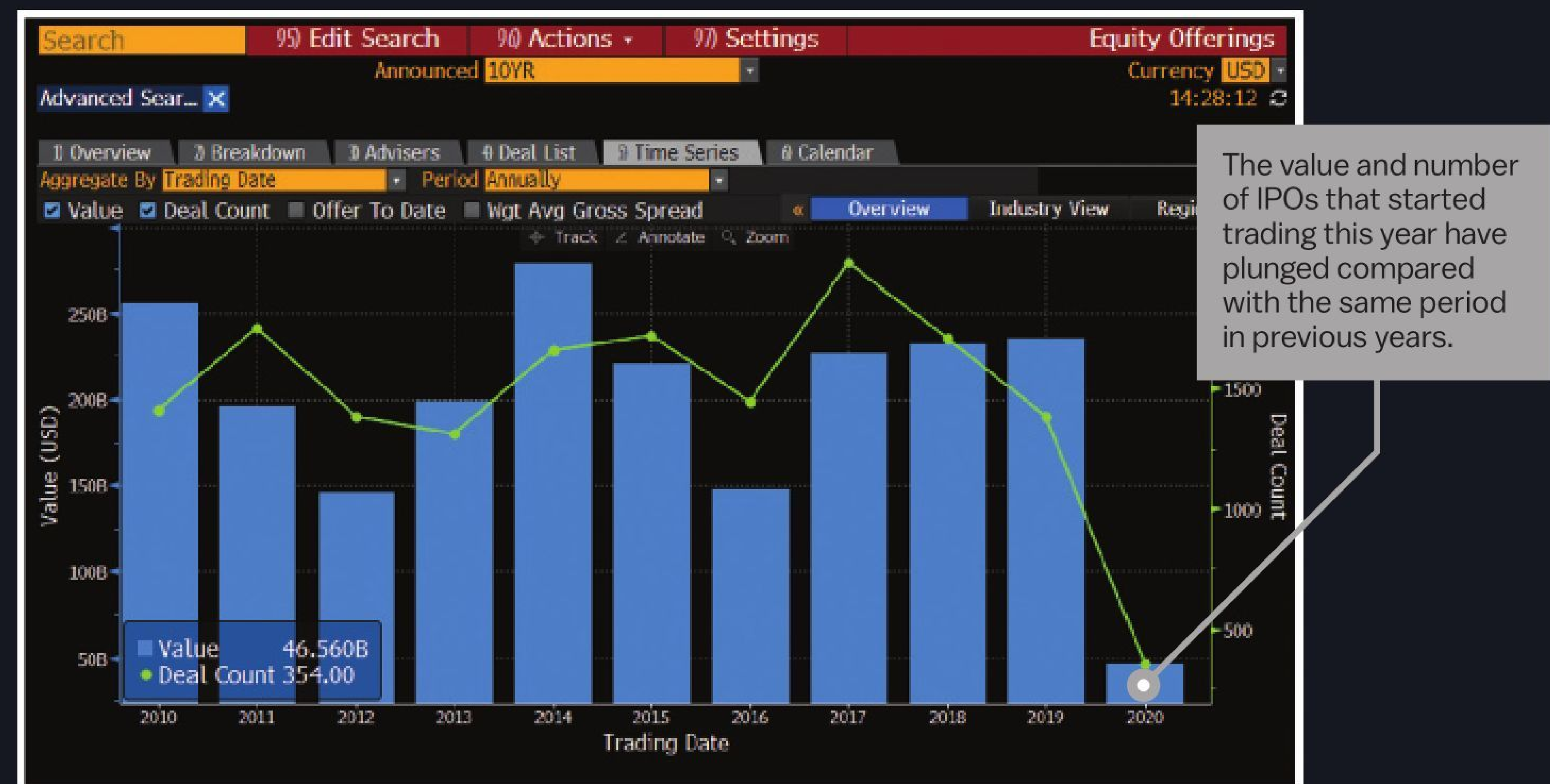
With his team of IPO bankers and Huize executives, Citigroup's Wu mapped out the first entirely digital roadshow of his more than two-decade-long banking career. They put together more than 30 telephone and videoconference calls over four days, packing in work that would usually have taken six days and numerous flights. In one particularly intense 60-hour stretch, Ma held 15 back-to-back calls with investors in China and elsewhere. "It was a huge challenge physically," he says. "I'm just glad that I work out regularly. Otherwise, it would have been very tough to maintain a clear mind."

Needless to say, many of the merits of in-person meetings were lost: How do you read a room or decipher clues from a participant's body language? In this instance, Ma's team focused on investors who were familiar with the insurance industry and knew him or his company, at least by reputation.

In the end, the deal was oversubscribed by about two times and the offering upsized by 600,000 shares, a mild success. It priced Feb. 11 in the middle of the range and raised $55 million, about a third of the amount targeted in the September filing.

By the end of March, Huize's share price had dropped 23%, along with declines in the handful of Chinese companies that listed on the Nasdaq following the virus outbreak. By April, Chinese

Fig. 1 To see companies that went public this year, run **{IPO <GO>}** and click on the Advanced Search button. Click Date Range and select Year-to-Date. Tick the box for Trading Date, then click Update. Click on Offer Type, select Initial Public Offering, and click Update. Click Result.



listings on the exchange had largely dried up. The index had collapsed by as much as 30% at its low point on March 23. Investor sentiment was hammered further after an accounting scandal at Luckin Coffee Inc., a Chinese challenger to Starbucks Corp.

Ma seems unfazed by all the turmoil. "After listing," he says, "we've received a lot of interest from institutional investors. Looking back, I think we were a bit too conservative."

IN HONG KONG, investors have been even more stoical. Chinese biotech companies InnoCare Pharma and Akeso Inc. made their debuts on the Hong Kong stock exchange in March and April, respectively, after the World Health Organization declared the spread of coronavirus to be a pandemic as it ripped through the U.S. and Europe, sending markets swooning. Both offerings priced at the top of their proposed ranges, with shares snapped up by a long roster of cornerstone investors; 12 such investors absorbed about 60% of InnoCare shares on its launch.

Like Huize, the InnoCare IPO was buffeted by the coronavirus. The Beijing-based company, which develops treatments for cancer and autoimmune diseases, postponed plans to sound out investors in early February as markets grew volatile and restrictions on travel to and from China made it harder for bankers, investors, and company executives to meet.

A month later, the spreading virus had dramatically altered the math for InnoCare's bankers, including Morgan Stanley. On March 11, with U.S. markets in free fall, Morgan Stanley dealmakers sat through more than a dozen conference calls involving company executives and investors. On the first day, Morgan Stanley sealed commitments that went beyond the planned issuance, says one banker familiar with the deal. The team worked from 9 a.m. until midnight, talking to twice as many investors as they'd tap during a regular day, the banker says.

Adjusting to the new realities, a relentless schedule of meetings that followed the sun from Asia to the U.S., was crucial in reducing market risk, says Shane Zhang, co-head of Asia-Pacific investment banking at Morgan Stanley. "We shortened the marketing window," he says, "but were able to facilitate more meetings per day.''

VIRTUAL DEALMAKING may outlast the virus in an industry that's long mythologized the handshake. Travel and entertainment expenses will shrink, and bankers will find they can seal deals from the comfort of their living rooms, without battling jet lag and spending so much time on the road. Meanwhile, investors and clients are becoming more attuned to pitches made over videoconference, though there will always be some business that's best done in person.

For Ma, the Nasdaq building in Manhattan's Times Square had a distinctly impersonal feel on Feb. 12, the day of Huize's listing ceremony. Flying to New York just four days before the U.S. tightened immigration procedures had paid off for him. But other Huize executives and Citi's Asia team weren't so lucky: The exchange barred entry to anyone who hadn't been in the country for 14 days.

This day was the culmination of a journey that began for Ma in the 1990s when he started as a 24-year-old with a Shenzhen-based unit of Ping An Insurance (Group) Co., China's largest insurer by market value. Dressed in a sapphire blue suit with a bright red scarf around his neck, Ma stood alone in front of the giant Nasdaq screen in anticipation of the iconic bell-ringing ceremony.

The experience left him with mixed feelings of regret and satisfaction. "Of course it was a pity that I was the only person representing the company at the IPO," he says. "But the fact we were able to go public during such a trying time was no easy matter." ●

Chen covers asset management for Bloomberg News in Hong Kong, where Chan covers investment banking and Fioretti equity markets.

In the Year of Social Distancing, The 'S' in ESG Attracts Attention in the Bond Market

By CALEB MUTUA

THE CORONAVIRUS pandemic is making a big mess of the global economy as corporations go bankrupt and millions lose jobs. It may also be fueling the growth of the sustainable finance market.

This year has seen a boom in issuance of social bonds whose proceeds are applied exclusively to projects intended to help society. Borrowers globally have raised about $21.1 billion through social bonds from the start of the year to May 11, surpassing the close to $18 billion issued the whole of last year, according to data compiled by Bloomberg. Meanwhile, total sales of sustainability bonds, which aim to provide positive outcomes for both people and the planet, reached $11.8 billion over the same period, compared with $37.4 billion borrowed last year.

As governments, multilateral organizations, development banks, and companies look for billions of dollars to alleviate the impacts of the coronavirus pandemic, one of the top underwriters of social and sustainability bonds, HSBC Holdings Plc, has revised its expectations for issuance. In April the London-based lender boosted its social and sustainability bond forecast by $25 billion, to as much as $125 billion for this year, adding that the proceeds from many of the bonds would be suitable for providing emergency funding during the pandemic and its aftermath.

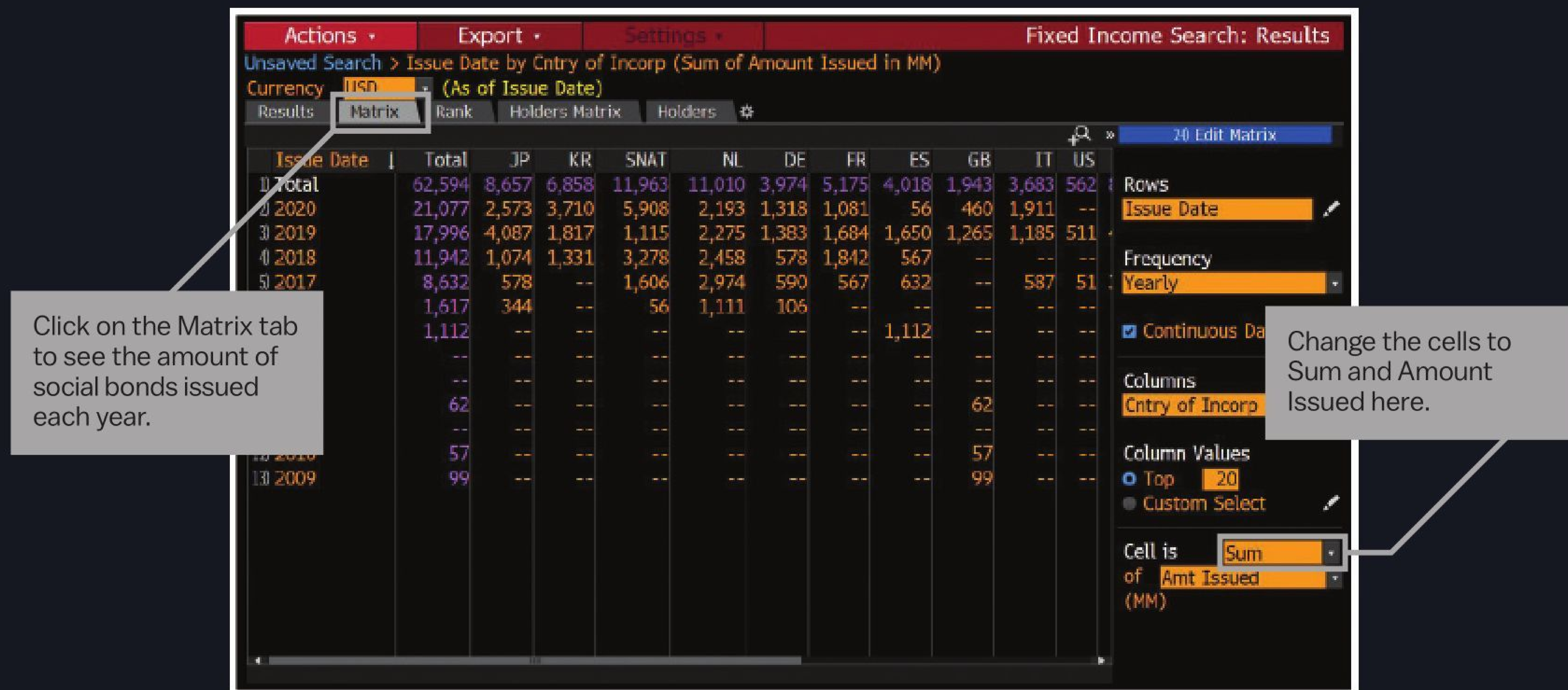
The African Development Bank says it issued the world's biggest dollar social bond in March by selling $3 billion of notes to fight the impact of the coronavirus on the continent. That same month, International Finance Corp., a member of the World Bank Group, sold 3 billion Swedish kronor ($295 million) in social bonds linked to its $8 billion financing package to support countries affected by the disease. It also sold an additional $1 billion of U.S. dollar-denominated debt labeled for social purposes as part of the effort.

Corporate issuance of sustainability bonds is also ramping up. Pharmaceutical giant Pfizer Inc. issued in March a $1.25 billion sustainability bond to address various global public-health issues, including those related to the Covid-19 pandemic and the fight against antimicrobial resistance, the company said in a statement. The offering was almost 10 times oversubscribed. And USAA Capital Corp. issued an $800 million sustainability bond in April. Among the list of projects the proceeds could fund is Covid-19 relief for customers facing financial burdens related to the virus.

What's in a Name

Borrowers that label their offerings as social or sustainability bonds should as a best practice follow principles from industry group International Capital Market Association. Among other things, ICMA guidelines say issuers should show how proceeds will be used and commit to reporting the impact of the projects to bondholders. Although that may come at an extra cost, it makes offerings more attractive to a wider array of investors, and that may mean better pricing conditions, says Hervé Duteil, chief sustainability officer, Americas, at BNP Paribas SA, who spoke in an interview in April.

Fig. 1 Run **{SRCH <GO>}** to search for social bonds.



USAA Capital's two-part sustainability bond was more than 14 times covered at the peak, with no new issue concession.

Nuveen, which is currently snapping up bonds earmarked for relief efforts, is avoiding offerings that are not labeled as social or sustainable and focusing on issuers "that commit to providing impact reporting," says Stephen Liberatore, head of the responsible fixed-income strategy team at the Chicago-based asset manager. Nuveen, overseeing around $1 trillion in assets, is expecting more pharmaceutical companies to issue social and sustainability bonds. Personal protective equipment manufacturers and financial-services companies may also join in, Liberatore said in an interview in April.

Even without the current virus crisis, any issuance of social and sustainability bonds from a company could be viewed as a good long-term signal, says James Rich, senior portfolio manager and chair of the sustainable investment committee at Aegon Asset Management, which has about $395 billion in global assets. It could mean companies are "taking more seriously the need to transition their business models to become more sustainable, which could indicate there is incremental value," he said in an interview in April.

Even though many investors may be in a hurry to sell assets for cash in the face of extreme market uncertainty, there appears to be some resistance to letting go of sustainable commitments. Randy Brown, chief investment officer for Sun Life Financial Inc., says "the last thing" he would sell would be the green, sustainable, or social bonds in his portfolio. "Focusing on E, S, and G will lead to better long-term performance," he says. "It's not just about being a good corporate citizen, it's about providing better returns."

Tracking the Bonds

You can use Bloomberg tools to track issuance of social and sustainability bonds globally. Type "fixed income search" in the command line of a terminal screen and click on the SRCH item in the list of matching functions. The shortcut is **{SRCH <GO>}**. In the amber field to the right of And, enter "social bond indicator" or "sustainability bond indicator" and click on the matching item. Select Yes and press <GO>. Click the Asset Classes button under Select Universe, and make sure Corporates and Governments are selected, as well as Consolidate Duplicate Bonds, then hit Close.

Click Actions to save and hit Results. Choose the gray Matrix tab. Set Rows to Issue Date; Frequency to Yearly; Columns to Country of Incorporation; and Cell is to Sum and Amount Issued. Make sure Currency in the top left is set to USD. Hit <GO>.

For Bloomberg Intelligence research related to environmental, social, and governance issues, go to **{BI ESG <GO>}**. Finally, for in-depth research on sustainable finance from BloombergNEF, Bloomberg LP's primary research service on the energy transition, run **{BNEF <GO>}**. ●

Mutua covers corporate finance at Bloomberg News in New York.

Track Fear in the Market With These Signals

By STEVEN GEE, DAVID CROEN, ANNA YASS, and NICHOLAS SULLIVAN

ON JAN. 21, Paul Tudor Jones gave a television interview in Davos, Switzerland. U.S. monetary and fiscal conditions reminded him of early 1999, he said, and markets could still have a year or 14 months to run before a blowup. But he had a caveat: "I would say we've got a curveball with this coronavirus, I think that's a big deal." If he were an investor, instead of a trader, Tudor Jones said, he'd be really nervous.

That kind of "Spidey sense" for identifying risk is important for market professionals. We're supposed to know how to spot meltdowns before they happen, to smell fear in the market. Stocks, bonds, commodities, currencies, and derivatives all respond quickly to fear. Market participants hold global multiasset portfolios that are managed around the clock. With greater market transparency, more data and news, and sophisticated quantitative models, investors can implement risk-off strategies to liquidate marketable assets and preserve capital.

These workflows will alert you about important market-moving signals so you can position yourself against downturns. And maybe identify some opportunities to profit.

1. First, consider what fear looks like on a chart of the U.S. Dollar Index, the S&P 500 index, and the 10-year Treasury. Run **{DXY Index GP <GO>}**, and you can see how much the Dollar Index moved around in February and March. Then click Chart Content and add lines for **{SPX Index}** and **{GT10 Govt}**. In a flight-to-quality scramble, such as in February–March 2020, the S&P 500 falls, the 10-year Treasury yield plunges, and the dollar gains.

2. Next, let's look at short-term rates. Go to **{LOIS <GO>}** for a menu of charts of the relationship of various interbank offered rates to overnight index swaps. Click on LOIS USD for the U.S. spread (**FIG. 1**). With the London interbank offered rate as a proxy for credit risk in AA-rated companies and OIS representing expectations of Federal Reserve rates, the spread shown in the lower section of the screen suggests worry about short-term lending markets. In March the U.S. Libor-OIS spread widened the most since the financial crisis: Banks have loans that might not get repaid. But is it the same fear as in 2008, that banks will fail to meet their obligations? No. Banks appear to be in relatively good shape now compared with then.

3. How about credit markets? To get a sense of the impact, go to **{FICM <GO>}** for the Fixed Income Credit Monitor. FICM shows changes in the cash bond markets, letting you assess overall sector movements measured on an average option-adjusted spread basis. To take a look at the U.S. dollar high-yield market, use the drop-down in the upper left corner of the screen to select USD US Dollar if it isn't already selected. Then click the High Yield tab (**FIG. 2**). To delve further into a particular sector, click on it to see the underlying constituent issuers with summary-level information on each issuer's bonds.

Since the Covid-19 outbreak began, central banks around the world have embarked on unprecedented bond buying. The Fed bought almost $2.5 trillion of Treasuries and other securities this year as of early May. While the central bank is engaged in an effort to get markets going again, its actions may cause investors to conclude that it "has their backs"—creating what economists call moral hazard.

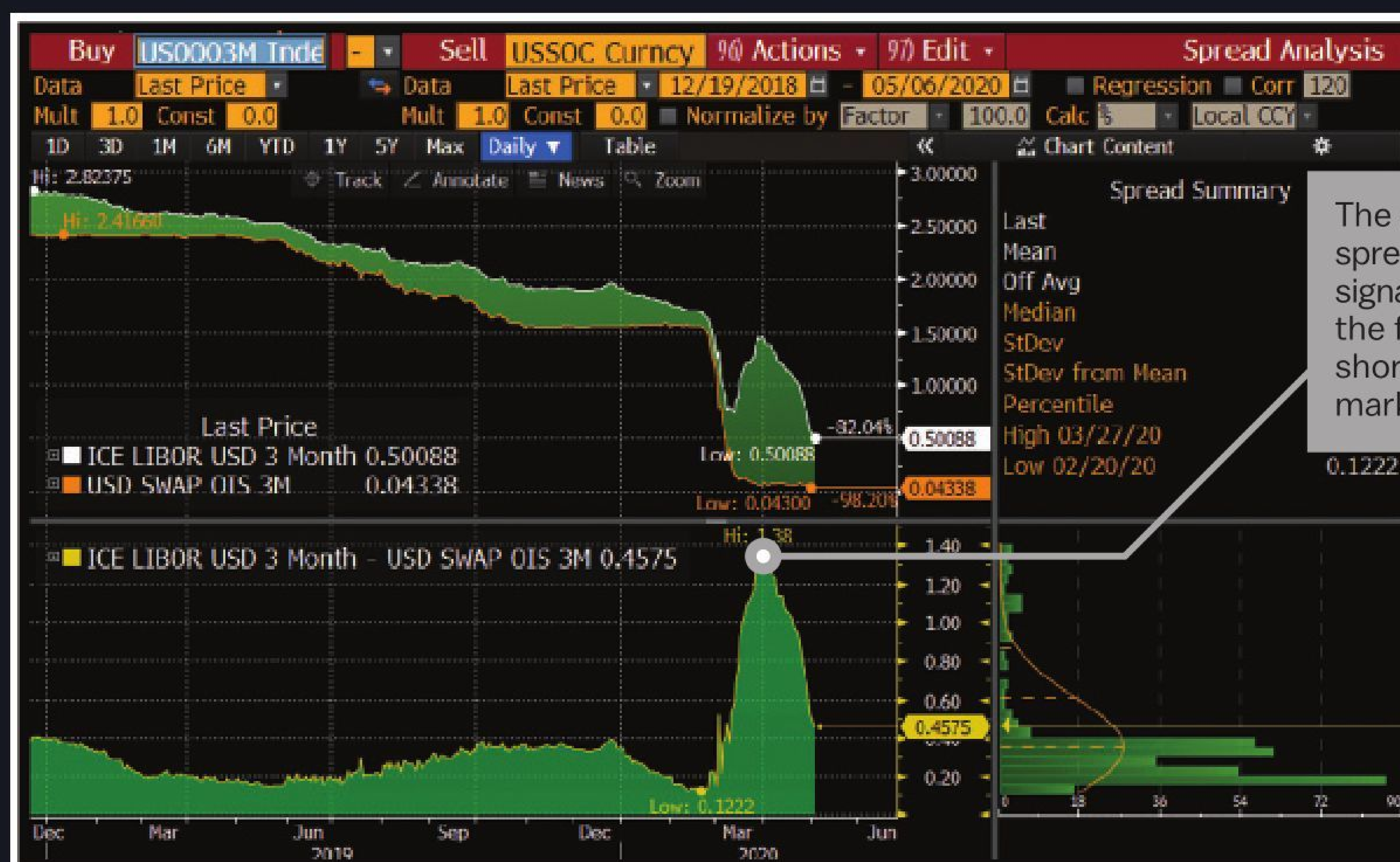
Has the Fed's intervention been successful? Junk bonds have recovered a significant portion of the losses from the recent sell-off. Speculative-grade bond issuers sold $29 billion of debt in April, and investment-grade issuers sold $326 billion, making for the enormous total of $355 billion of issuance. The Fed's signaling may have sent a powerful message to markets that it will continue to support them.

4. What about credit derivatives? FICM monitors the spread on the relevant CDX index, shows how the spread has changed, and displays historical range data. CDX indexes are one of the most effective hedges for spread moves, so monitoring market movements in these indexes along with the bond sector movements can help you evaluate whether the credit derivatives market is anticipating higher credit risk and market stress.

From the High Yield screen in FICM, click on CDX High Yield to dig into what's driving the index. That will open the index in the World CDS Monitor (WCDS) function showing the underlying movers in the benchmark. Untick the Movers box to see all of the constituents. Click on the Change column heading to sort the CDS so you can gauge which companies are affecting the index most (**FIG. 3**). As you might expect, retailers and oil and gas explorers were among the companies whose spreads had widened the most this year through early May.

5. To take a closer look at the credit risk of a company, you can use the Bloomberg Default Risk (DRSK) function. DRSK provides daily analytics with data transparency for more than 385,000 companies globally. Run **{DRSK <GO>}** for a selected company to see the one-year probability of default, a quantitative estimate of credit-default swap spreads, and comparative analytics across ►

Fig. 1 Go to **{LOIS USD <GO>}** to chart the spread of three-month U.S.-dollar Libor against the overnight index swap.



The spike in the spread in March signaled worry about the functioning of the short-term lending market.

Fig. 2 To monitor the U.S.-dollar high-yield market, run **{FICM <GO>}**, select USD US Dollar, and click on the High Yield tab.

FICM lets you compare a selected fixed-income ETF.

Click on a sector to see data on the underlying issuers in a particular industry.

Fig. 3 Click through the index name below Markit Indices in FICM to see the data on the underlying constituents of the relevant CDX index.

Untick the Movers box to see all of the index constituents.

Click here to sort the list by the biggest change over the selected period.

Fig. 4 Go to **{DRSK <GO>}** to run the Bloomberg Default Risk function on a selected company.

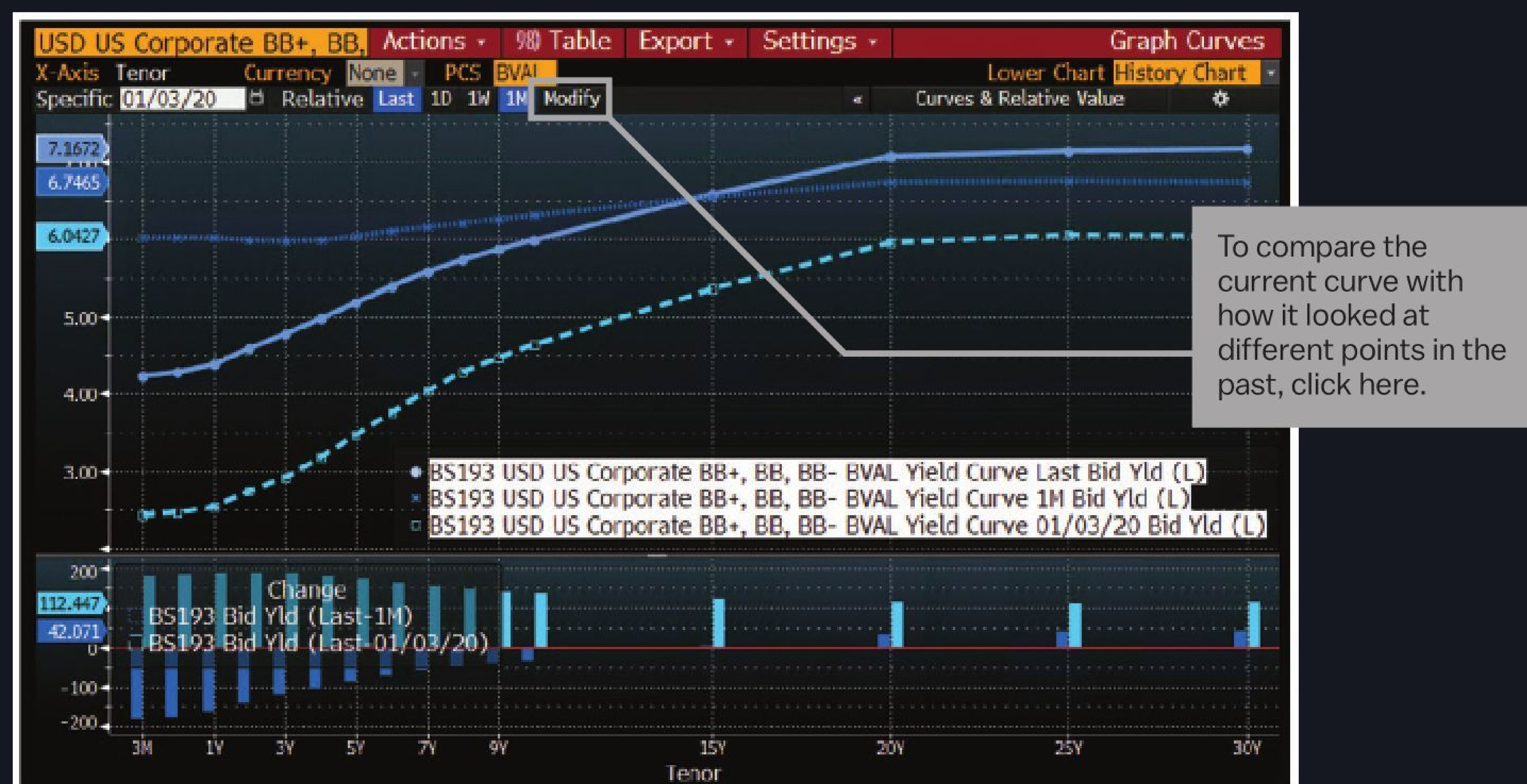


Fig. 5 Go to **{GC <GO>}** for the Graph Curves function. Click on Browse | CRVF to use the Curve Finder function to select curves such as the USD US Corporate BB+, BB, BB- BVAL Yield Curve.

the region and industry in which the company operates (**FIG. 4**). DRSK uses a hybrid model approach to allow you to assess the default risk of individual credits using fundamental and market data. That data is then calibrated with the market's credit movements so it takes into account changes in the perceived credit risk of that sector. To explore sector peers and the range of default risk relative to your target company, click on the Sector Comparison | DRAM link in the lower panel. The shortcut is **{DRAM <GO>}**. In addition, you can view DRSK metrics in the Watchlist Analytics function by going to **{WATC DRSK <GO>}**.

6. Finally, stay up to date on the shifting credit curve of indexes such as the USD US Corporate BB+, BB, and BB- by keeping apprised of the curve movements over various periods. Run **{GC <GO>}** for the Graph Curves function. To find curves, click on the Browse | CRVF link. For the U.S. BB corporate curve, for example, click on the Credit tab in the Curve Finder screen and then on BB under Rating. In the Curves section of the screen, click the USD US Corporate BB+, BB, BB- BVAL Yield Curve to select it. Then type "1" in the command line and hit <GO> to graph it in GC. You can use the Relative buttons to see how the curve looked at selected points in the past (**FIG. 5**). Market changes in this curve could alert you to opportunities to cap downside risk or to make attractive profits. ●

Gee is a credit market specialist, Croen is the business manager for credit risk, and Yass and Sullivan are fixed-income advanced specialists at Bloomberg in New York.

Gaining Insights Into Equities During the Covid-19 Crisis Just Got Easier

By OWEN MINDE and FAIZAN CHAUDHRY

AS THE CORONAVIRUS outbreak began ripping through parts of the U.S., the stock market plunge was sharp and short. By early May the recovery had been almost as dramatic.

If stocks were to take another leg down, just how low could they go?

To answer a question like that, you might want to start by finding the maximum drawdown of the S&P 500 during the global financial crisis. How does that compare with the drop triggered by the Covid-19 pandemic?

With Bloomberg Query Language, it's possible to get the answer with a simple query. BQL is a new, more powerful version of Bloomberg's Excel application programming interface that allows for more advanced manipulation of data. BQL has been enhanced with an easy-to-use wizard to help you construct queries.

To start, open Excel and click on Bloomberg. For the wizard, click on the BQL Builder icon on the Bloomberg ribbon. (The enhanced BQL Builder has two tabs—Basic View and Advanced View—at the top of the window. If you don't see that, contact your Bloomberg representative to be enabled for the new BQL Builder.) At the top of the Basic View, there are two boxes: Securities and Fields. In the Securities box, type "S&P 500" and click on the SPX Index match. Here we want to look at the level of the index rather than at its constituents, so if the box says fx Members of, click on the drop-down menu and select None.

Next, in the Fields box, type "max drawdown" and click on the matching item. To specify the parameters for your formula, click on Edit Defaults in the parentheses. To cover the period of the financial crisis, enter a start date of 01/01/2008 and an end date of 01/01/2010. Click Save. Then tick the box for Edit Display Options and tick Show Dates. Click Preview, and you can see the answer: The S&P 500 fell 52% to a low on March 9, 2009.

To compare that fall with this year's drop, click the Fields box again, change the dates to 01/01/2020 and today's date, and hit Save. Click Preview again, and you have the answer: The index dropped 34% to a low on March 23. OK, pretty simple stuff. But what if you wanted to also compare the S&P 500 with other indexes? Just enter them in the Securities field and hit Preview again (**FIG. 1**). Here you can see that Germany's Dax Index had a maximum drawdown of 39% this year—more than the S&P's—while China's CSI 300 Index fell only 16%. Typically when you use the wizard to build a formula, you'd click the Execute button to display the results in your worksheet. But in this case we can see the results in the preview, so let's just close the BQL Builder.

NEXT, LET'S TRY something a little more complicated. Analysts have been aggressively revising earnings estimates downward. Has the flurry of downward revisions peaked? Which sectors are analysts most bullish or bearish about? Is there a relationship between earnings revisions and stock performance at the aggregate level? To dig into this, open the BQL Builder again and click the Advanced View tab. Click on Examples and tick the box next to Estimates under Workflow. To select it, click on Upgrades Minus Downgrades for the B500 Over Time. Then click Load to view the query (**FIG. 2**). What does this query do? For each month starting at the beginning of 2019, it displays the total number of upward annual earnings per share revisions minus the downward ones during the preceding 13 weeks. You can see in the "for(" clause section that it's calculating those numbers for the companies in the B500 Index—the Bloomberg US Large Cap Price Return Index, which is a benchmark of the 500 most highly capitalized U.S. companies. You can easily edit the code to focus on your universe or on any index for which you have access to constituent-level data. Click Insert and Run to see the results.

HOW CAN YOU USE this kind of query? Run **{DOCS 2093752 <GO>}** and click on the Download Document button to open a spreadsheet that we've built with BQL queries. Click the 2008 tab to analyze data from the financial crisis era. Here the query calculates again the sum of raised estimates minus lowered ones. The time frame is a little different here: The query is looking for revisions for the next quarter made in the four weeks prior to each monthly date. The chart graphs that number vs. the Bloomberg 500 index. ►

Fig. 1 In Excel, click on Bloomberg and then on the BQL Builder icon on the Bloomberg ribbon to open the new wizard for creating BQL formulas.

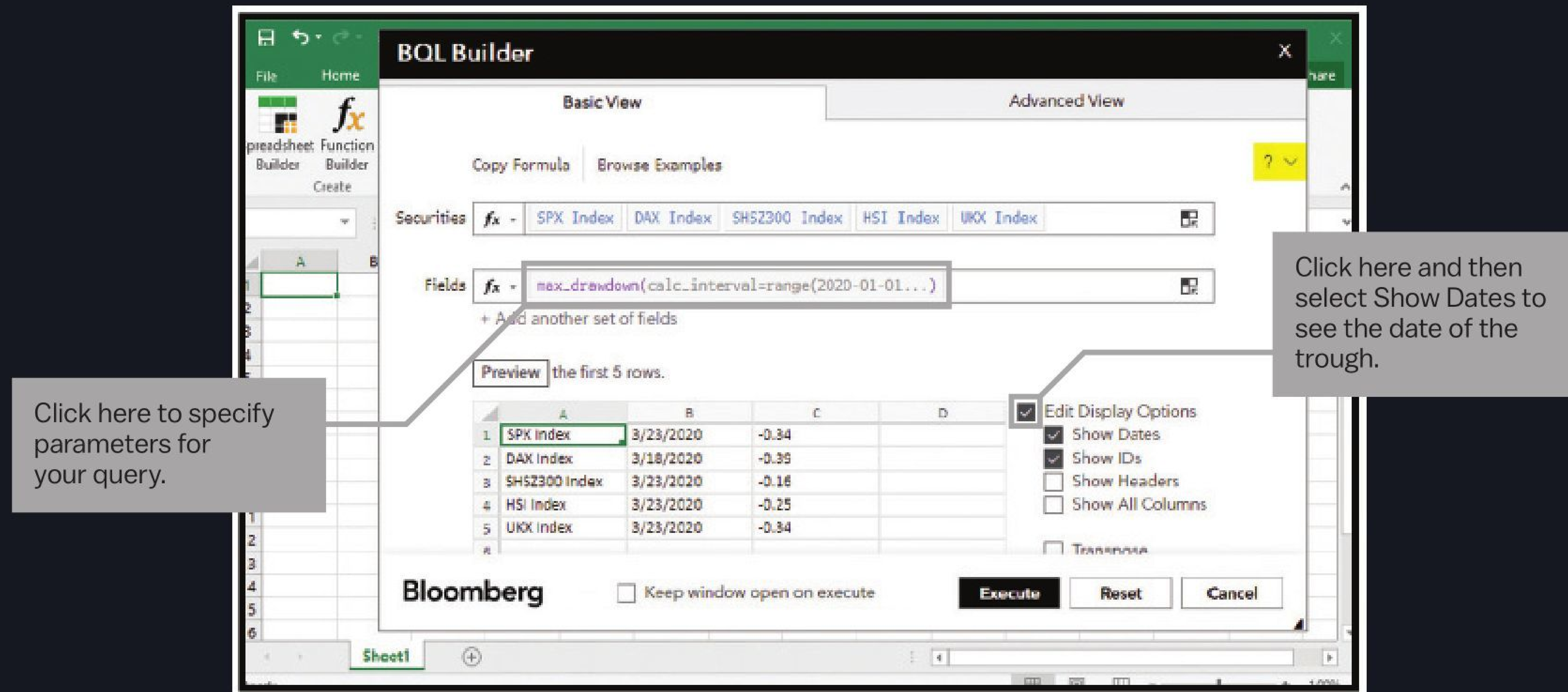
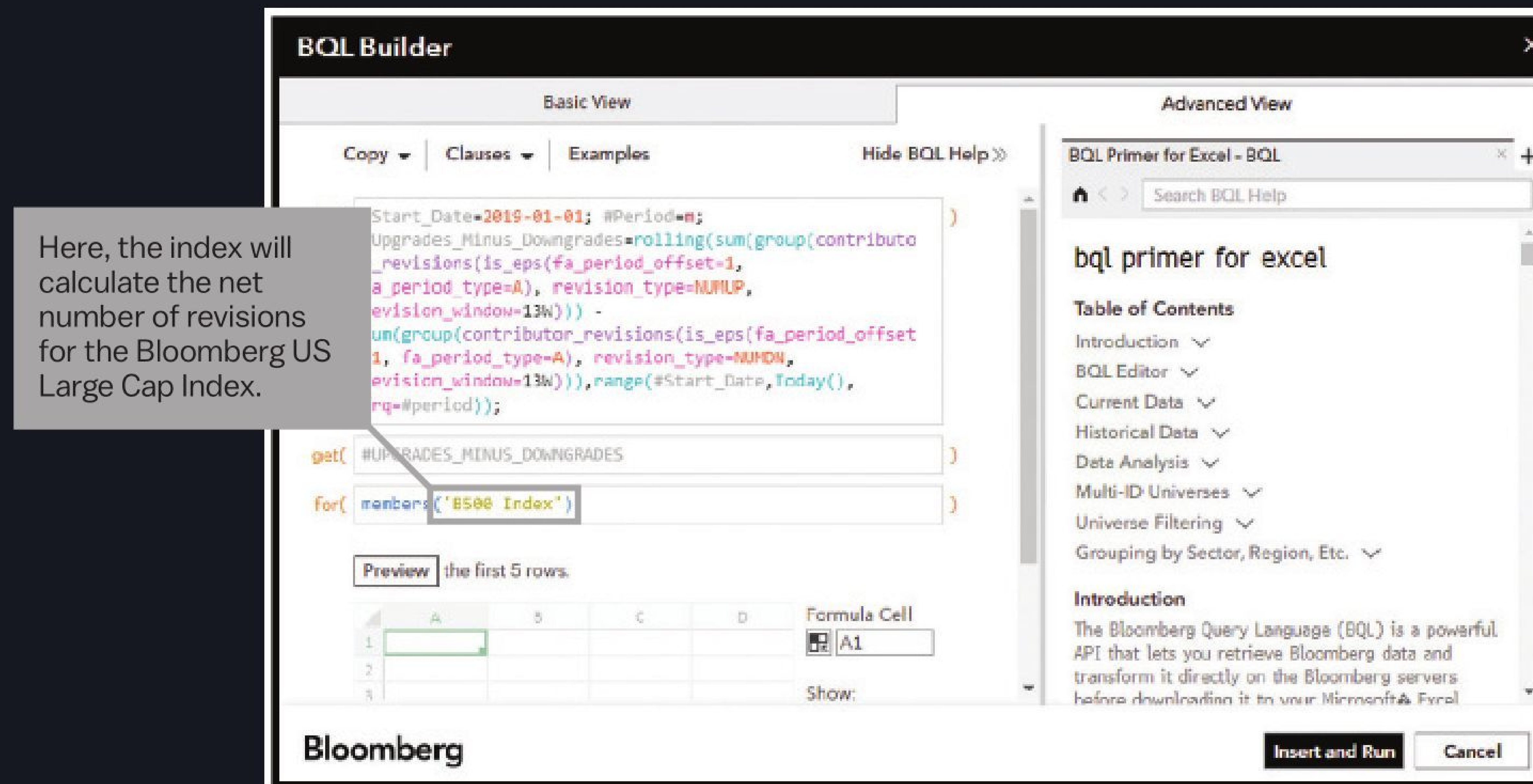


Fig. 2 For each month, this example formula calculates the total net number of upward minus downward annual EPS revisions over the preceding 13 weeks.



Analysts became most bearish about the following quarter's earnings in October 2008, well before the low in the benchmark in March 2009.

Next, click the 2020 tab. Here we've increased the frequency, so we're looking each day at the net sum of revisions over the preceding four weeks. This method smooths the data a bit, but it's clear that analysts have become increasingly bearish since the beginning of the year.

Click the Revisions by Sector tab. Here we've broken out the changes in analysts' ratings by sectors of the Bloomberg 500, comparing the global financial crisis with the Covid-19 pandemic (**FIG. 3**). In the earlier crisis, downward revisions were concentrated in the financials sector in October and November 2008—before analysts in the technology sector began to lower estimates significantly in February 2009. By contrast, during the Covid-19 crisis in April, analysts' net downward revisions were spread fairly evenly across all sectors except consumer staples and utilities.

PERHAPS YOU WANT to avoid or sell short certain stocks that may not make it through the pandemic. BQL lets you quickly retrieve a list of companies with the highest estimated probability of default according to the Bloomberg Default Risk (DRSK) model. (For more information on the model, go to **{DOCS 2070973 <GO>}**.) Here's how:

Open a blank workbook in Excel and click Bloomberg to open the Bloomberg ribbon. This time, click the Spreadsheet Builder icon to open that wizard. Select Equity and Fund Screening and click the Next button. As the universe for this query, let's use

Fig. 3 Go to {DOCS 2093752 <GO>} and click on the Download Document button for a sample spreadsheet showing what you can do with these queries.

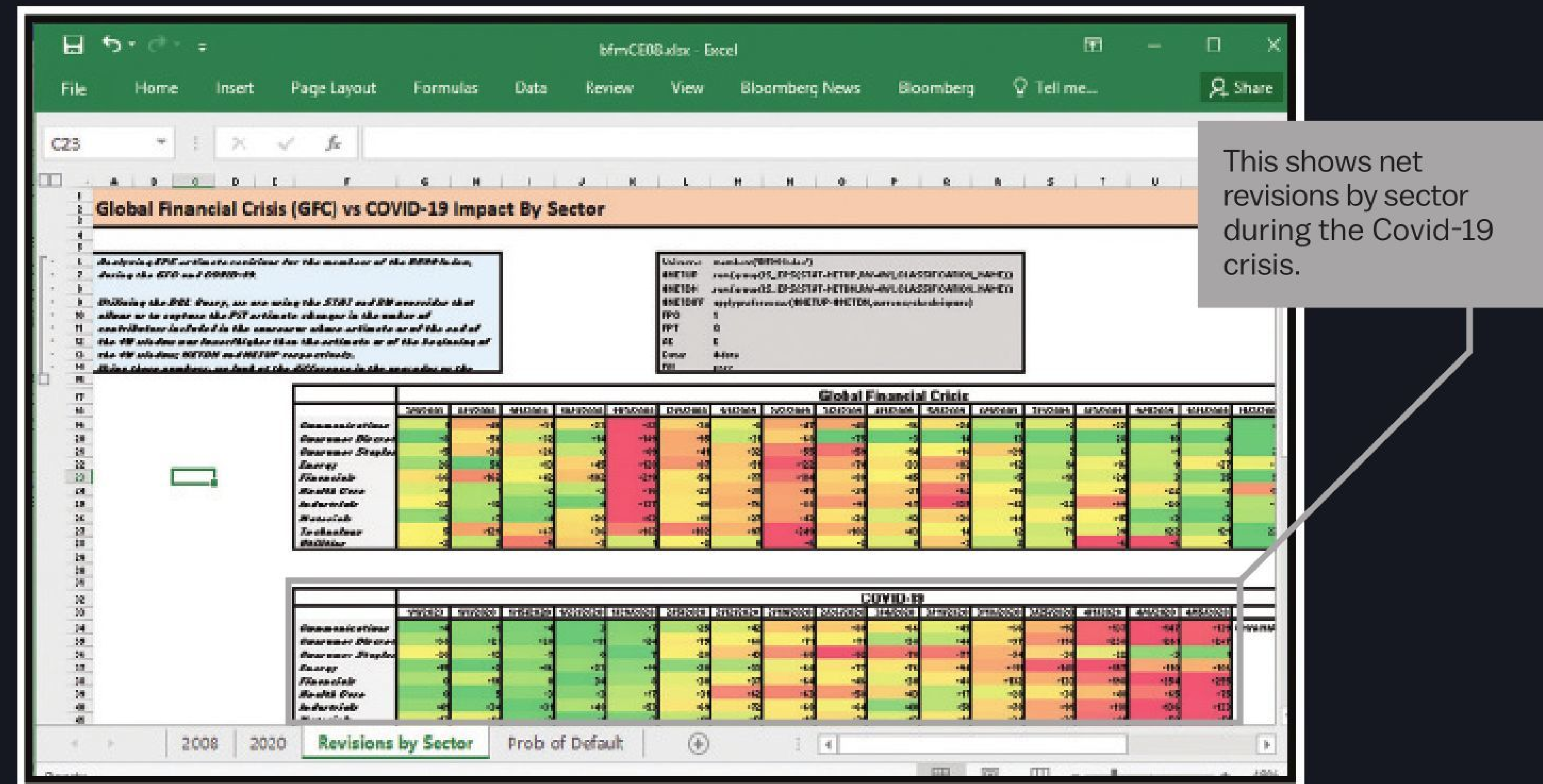
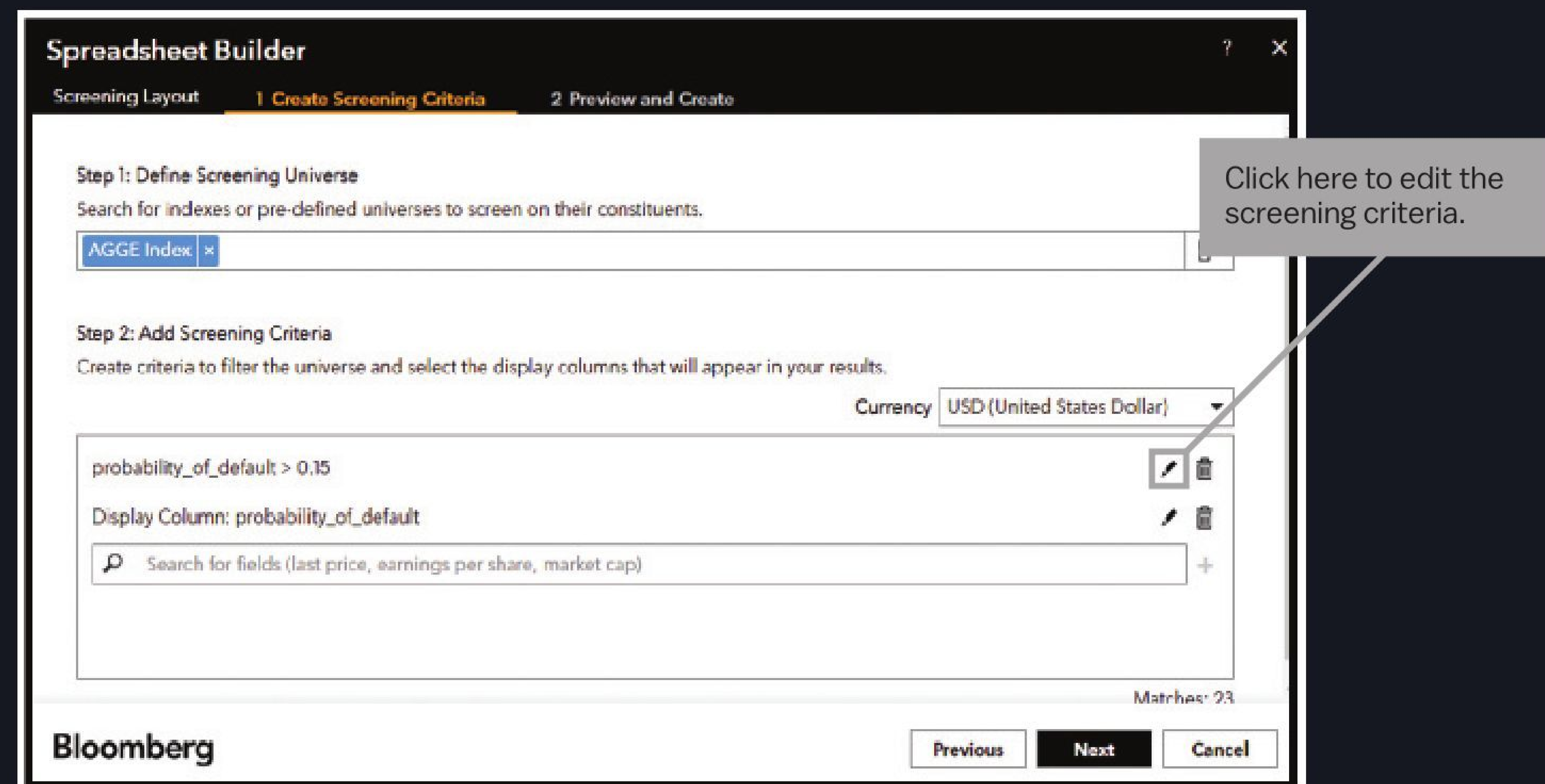


Fig. 4 Use the Spreadsheet Builder wizard to create equity screens such as this one that identifies companies in the Bloomberg US Aggregate index that have an estimated probability of default greater than 15%.



the stocks in the Bloomberg US Aggregate Equity Price Return Index, which is a float market-cap-weighted benchmark that represents approximately 99% of the U.S. market. In the box below Step 1, remove All Active Primary Equities by clicking the x. Enter "AGGE" and click on the matching item. In the Step 2 section, click on the pencil icon to the right of cur_mkt_cap. Delete cur_mkt_cap, type "probability of default," and click on the matching item. Select > Greater than. Delete whatever number is in the next box. Enter "0.15" and click on the 0.15 Literal number match. This will find companies whose estimated one-year probability of default is greater than 15%. Similarly, click the pencil icon to the right of Display Column: cur_mkt_cap and replace it with probability_of_default (**FIG. 4**). Click Next to view a preview of the output. To display the highest default values at the top, use the drop-down menu below Apply Sort to the First Column to select Descending. Click Finish to display the results.

WHAT CAN YOU DO with the probability of default data? Go back to the example spreadsheet you downloaded and click the Prob of Default tab. This lists Bloomberg US Aggregate index members whose probability of default has increased the most in 2020. Unsurprisingly, 11 of the top 50 were in the energy sector as of early May, and 12 were financial companies. Yet consumer discretionary, health care, industrials, information technology, and real estate also turn up, showing how widely this crisis has affected the economy. ●

Minde is an FX and macro market specialist and Chaudhry is an advanced specialist in data analytics at Bloomberg in New York.

The Fed Is an Axed Buyer—Use FIW To Analyze Which Bonds It May Purchase

By STEVEN GEE and GEORGE OOMMAN

ON APRIL 9 the U.S. Federal Reserve announced it was taking action to provide as much as $2.3 trillion in lending to support the economy. One part of the plan called for expanding three programs so they would support $850 billion in credit. These facilities are the Primary Market Corporate Credit Facility (PMCCF), the Secondary Market Corporate Credit Facility (SMCCF), and the Term Asset-Backed Securities Loan Facility (TALF). Under the SMCCF the Fed plans to purchase in the secondary market corporate bonds that meet the facility's specific eligibility requirements. (A link to the SMCCF's full term sheet is available on the Fed's website at federalreserve.gov/monetarypolicy/smccf.htm.)

You can use the Fixed Income Worksheet (FIW) to find bonds that meet the Fed's investment criteria, in the same way you might identify securities for a portfolio manager who allocated a new sleeve of funding (though the number of zeros for the Fed is larger, of course). FIW enables you to quickly analyze large universes of securities to find the best value. (This article is the seventh in a continuing series on FIW. Type {NSN Q8S981T0AFBQ <GO>} to see the others.)

For U.S. clients, FIW comes preloaded with LBUSSTAT, the Bloomberg Barclays US Aggregate Bond Index, a broad-based benchmark of investment-grade, U.S.-dollar-denominated bonds. To find bonds that match the SMCCF criteria, a logical place to start is LBUSSTAT with its more than 11,000 securities. You could also use other indexes or even exchange-traded funds.

The Fed's SMCCF program will buy bonds only from issuers that meet a number of conditions. First, the issuer's operations and most of its employees must be in the U.S. Second, the bonds must have been rated at least BBB-/Baa3 as of March 22 by a major rating company—or by two or more if rated by multiple firms. If it was subsequently downgraded, the bond must be rated at least BB-/Ba3 on the day the Fed buys that bond. Third, the issuer can't be a bank. Fourth, the issuer must not have received support from the Cares Act, which provides Covid-related relief, or any subsequent federal legislation. Fifth, the bonds must mature in five years or less.

1. To start looking for SMCCF-eligible bonds, run **{FIW <GO>}** and load LBUSSTAT or your universe of bonds. If the Facets panel isn't open on the left side of the screen, click Show Facets.

Let's choose the filters closest to the Fed's investment criteria. Under asset class, tick only Corporates. For Country/Region, select United States. Under BCLASS Level 3, click the More… link. In the window that appears, select all. Then untick Banking to remove banks and click the Update button. Under Years to Maturity, select 1 to 2, 2 to 3, and 3 to 5 yrs. To see a list of the bonds that meet these criteria, click on the Bond List tab and then on the Pricing subtab (**FIG. 1**).

Fig. 1 Run **{FIW <GO>}** to use the Fixed Income Worksheet function to screen your universe of bonds for those that match the Federal Reserve's bond-buying criteria.

Click here to add more columns, such as Option Adjusted Spread, or additional rating agencies, such as Fitch or DBRS Morningstar, so you can see if the bond has multiple ratings.

Use the Facets panel to narrow your list to bonds with criteria that approximate the Fed's requirements.

To screen out outlier bonds that may be under stress, you can use proxy filters, such as eliminating bonds trading under $80.

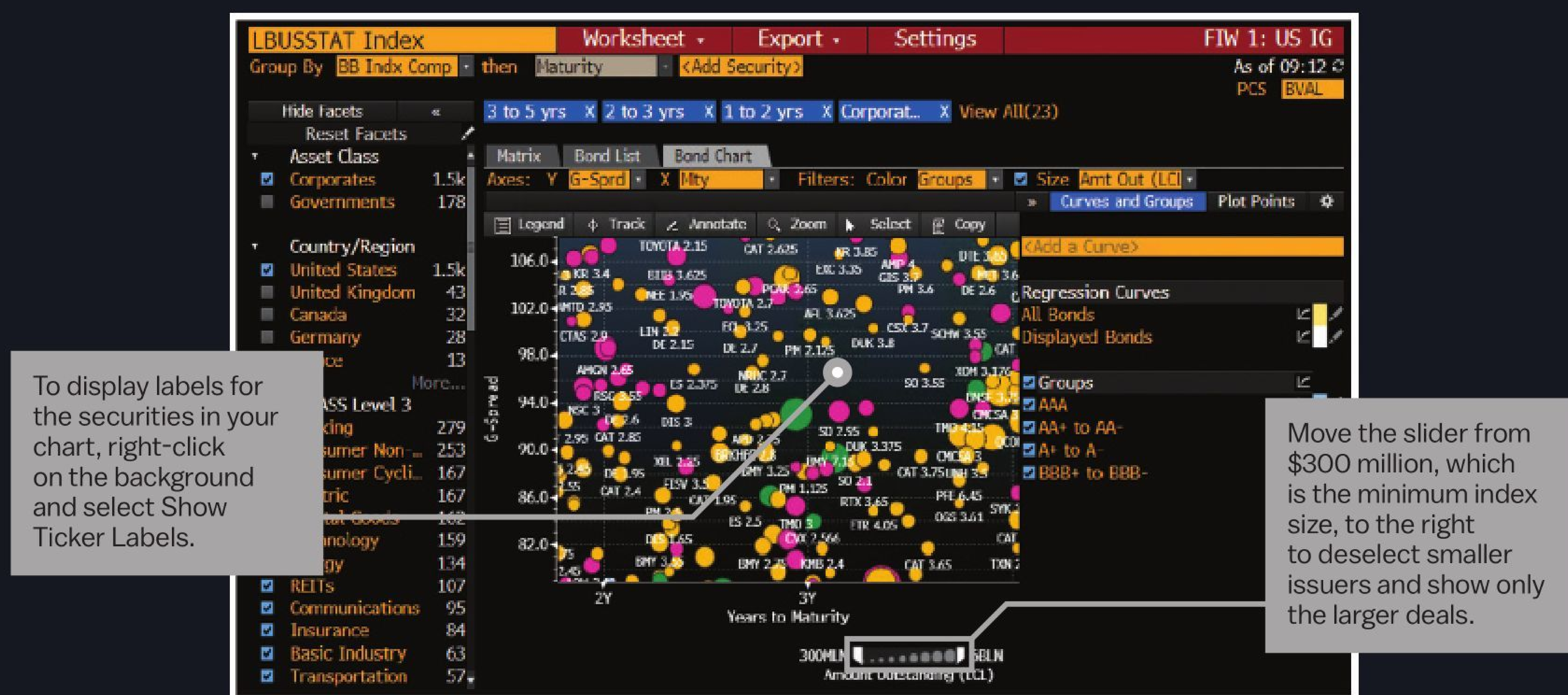
2. For the heavy lifting, click on the Relative Value subtab on the Bond List tab. To analyze the option-adjusted spread over the latest one-month period, use the first drop-down at the top of the table to select Option Adjusted Spread. Then you can select 1 Month or a Custom period to analyze. A comparison of spreads in mid-March with those in early May lets you see how OAS has moved since apocalyptic fear dominated the market. Spreads generally appear tighter in May: The blue dot that represents the current level is generally to the left of the orange diamond that indicates the period average (**FIG. 2**).

Click on the column headings to sort your bond list. Analyze those with the highest OASs, G-spreads, yields, or lowest price. Use the amber filtering fields below the column headings to narrow your list further. If you want to compare several securities on your list, click on the graph icons to chart OAS movements of those securities over a selected period.

Fig. 2 Click on the Relative Value subtab to perform relative value analysis on your list of bonds.

3. To chart your entire universe of bonds, click on the Bond Chart tab. The chart lets you plot relative spreads, yields, or bond prices by maturity and find outliers. The color of each bond is determined by the grouping you've selected (**FIG. 3**). In this case we've grouped by Bloomberg Index Composite Ratings: Green, for example, represents bonds rated AA+ to AA-.

Fig. 3 Click on the Bond Chart tab to visualize your universe, spot outliers, or zoom in on areas of interest.



4. For a sense of the overall differences between the ratings buckets, right-click on the black background of the chart and select Collapse All Groups. That will display icons representing the average spread and maturity of each group. To extend this analysis, you can also look at how the average spreads of each group have changed over a specified period. Use the Y drop-down and select More… In the Customize Spread window that appears, use the drop-downs to select G-Spread and Change and then specify a time period such as the past month or custom dates. Click on the Close button and you can see how these rating groups have moved (**FIG. 4**). In the month through April 16, for example, the highest-quality groups seemed to snap back tighter than the BBBs. As a starting point to find interesting value, maybe those BBBs are offering the most attractive spreads relative to higher-quality bonds.

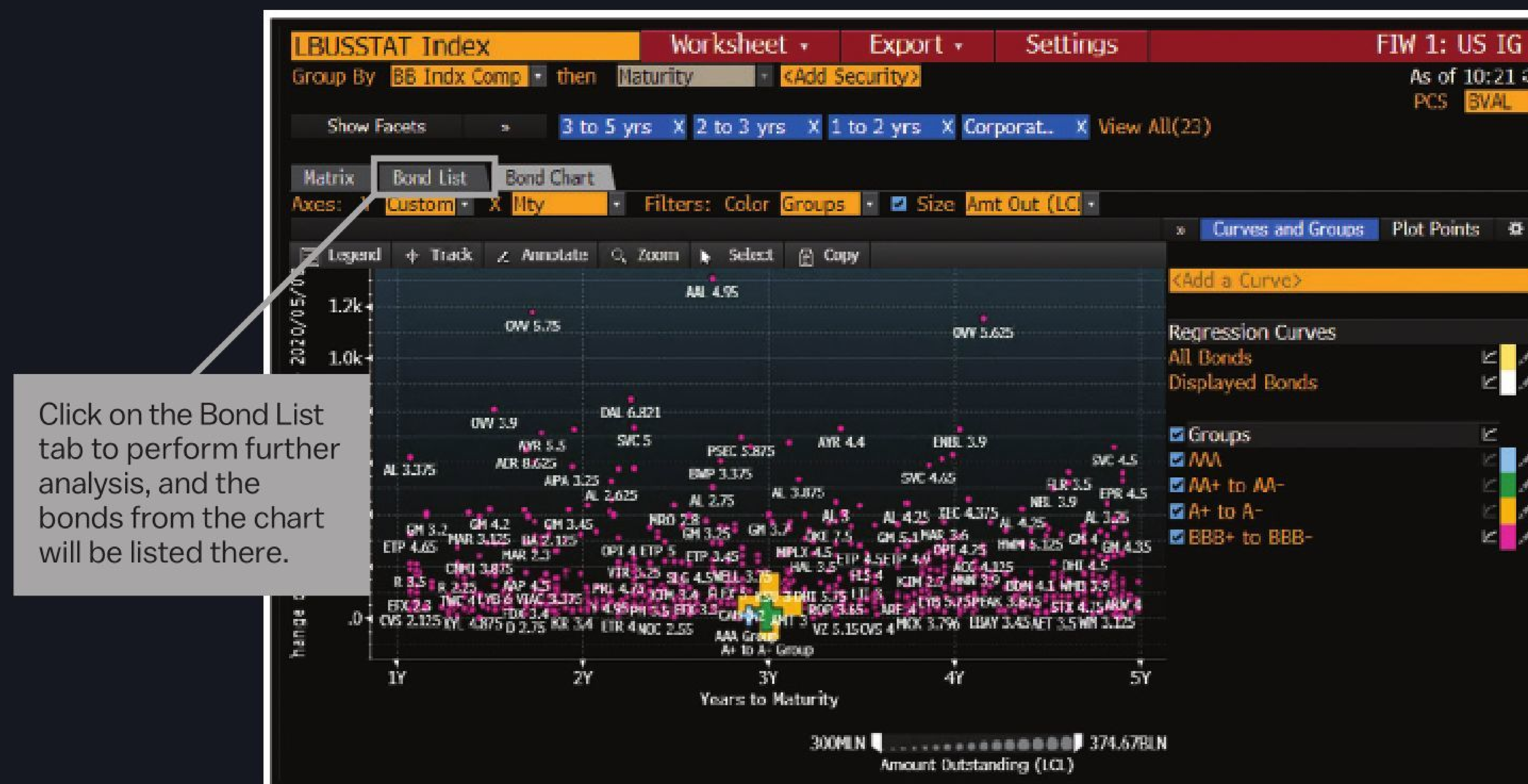
Fig. 4 Here we've grouped the bonds by rating bucket and then plotted the change in G-spreads in the month through April 16.

5. To display all the bonds in the BBB+ to BBB- Group, right-click on its icon and select Expand Group (**FIG. 5**). You can then analyze those bonds further. Click the Bond List tab and then the Relative Value subtab. The bonds from the BBB+ to BBB- Group will be listed there—you can sort by spreads, yield, or price data.

This methodology can help identify a large list of eligible bonds the Fed may purchase. Apply your analysis to gauge which securities might be most attractive to the Fed.

Finally, keep in mind that the SMCCF terminates at the end of September. According to the term sheet, purchases of eligible bonds will be limited to 1.5% of the total combined primary and secondary facilities and 10% of an issuer's maximum bonds outstanding on any day between March 22, 2019, and March 22, 2020. ● —*With Nicholas Sullivan*

Fig. 5 Here we've expanded the BBB+ to BBB- Group to chart the bonds in it.



Gee is a credit market specialist and Oomman is a fixed income business manager at Bloomberg in New York.

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Use Volatility and Charting to Get a Handle on the Level of Anxiety

By KYLE WALKER and MARK JORDAN

THE CHICAGO BOARD Options Exchange Volatility Index, or VIX, is often called the "fear gauge" because it tends to spike when the S&P 500 index plunges.

When worries about the Covid-19 pandemic hit the U.S. markets in February, the S&P 500 plummeted an astounding 35% from its intraday high to its low in only 23 days. The VIX shot up to levels not seen in more than a decade. On March 16 fear became so extreme that the VIX closed at an all-time high of 82.69.

That degree of panic is comparable only to the global financial crisis of 2008-09. A G chart of the VIX starting in 2007 shows how March compares with levels after Lehman Brothers Holdings Inc. collapsed in 2008 (**FIG. 1**). (Note: When launched in 1993, the VIX was calculated from S&P 100 index options, which the Cboe OEX Volatility Index, or VXO, continues to track. VXO has price history that covers Black Monday, the day in October 1987 when the Dow Jones Industrial Average plunged 22.6%. VXO's close that day: 150.19.)

WHILE THE VIX MEASURES implied volatility, an examination of realized volatility in the S&P 500 shows that the pronounced level of fear was justified. Ten- and 30-day realized (or historical) volatility also eclipsed levels recorded in 2008. You can chart the S&P 500's realized volatility by running **{SPX <Index> HVG <GO>}** (**FIG. 2**). It's not surprising that realized volatility was higher this year than in 2008 given how precipitously markets fell in February and March.

Since the market tested lows around 2,200 on March 23, fear has begun to dissipate. As of April 27 the market had rallied more than 25%, reaching the 2,800 level and technically creating another bull market. Technical analysis suggests that 2,800 is a significant value for the S&P 500. Over the past two years, that level has provided multiple instances of demonstrating both support and resistance. This is true using both simple annotation methods and Fibonacci Retracements, which are used to measure support and resistance levels.

You can find technical studies by running the Technical Study Browser function. For a study that marks the maximum drawdown in a chart, go to **{TECH <GO>}**. In the Find a Study field at the top of the function, type "maximum" and click the MAXDD – Maximum Drawdown item. To open a historical chart, click the GPO MAXDD link in the lower right corner of the screen. The shortcut is **{SPX <Index> GPO MAXDD <GO>}**.

Next, to add a Fibonacci Retracements study, click Chart Content to expand the panel. In the <Add> field, type "Fibonacci" and click the GPF – Fibonacci Retracements study in autocomplete (**FIG. 3**). Both studies will automatically adjust to the period on your chart.

The theory of percentage retracements is based on the observation that after a period when the market is trending in one direction, prices tend to retrace a portion of the move before resuming the trend in the original direction. Such countermoves tend to end at predictable percentage levels calculated from the Fibonacci sequence, the number series identified by the 13th century mathematician Fibonacci. The 50% retracement level, while not a Fibonacci ratio, is used because markets typically continue their direction if this level is exceeded or retreat if not.

This explains why the level of 2,800 is key for market technicians: At the 50% retracement level, it has the potential to be either a floor to support a continuation of the recent rally or a resistance level preventing a move higher.

As of late April the financial effects of the pandemic and lockdown on U.S. companies' earnings remained a bit unclear. If the market interprets unfolding events negatively, charting analysis suggested the S&P 500 could drop to as low as 1,850, based on a comparison with the 2008 bear market. If fear continues to dissipate, on the other hand, charts predicted a move up to the 61% and 78% retracement levels was possible (levels of about 2,950 and 3,150, respectively).

This uncertain outlook was also supported by the volatility market. Run **{VCA <GO>}** for the Volatility and Correlation Analysis function and click on the Impl Vol tab if it isn't already selected. VCA shows that while volatility has dropped, it's still unusually high. Indeed, as of April 27 implied volatility on the S&P 500 was at the 95th percentile when compared with levels over the past three years.

Through a combination of charts and volatility analysis, you can see that the markets have breathed something of a sigh of relief from the extreme fear that gripped them in March. A high level of fear still exists, though. ●

Walker is an advanced specialist for charting and technical analysis and Jordan is an equity derivatives market specialist at Bloomberg in New York.

Fig. 1 To chart the VIX with a study that shows the average level and standard deviation bands, run **{VIX <Index> GP RAVG <GO>}**.

Fig. 2 To chart the S&P 500's historical volatility, run **{SPX <Index> HVG <GO>}**.

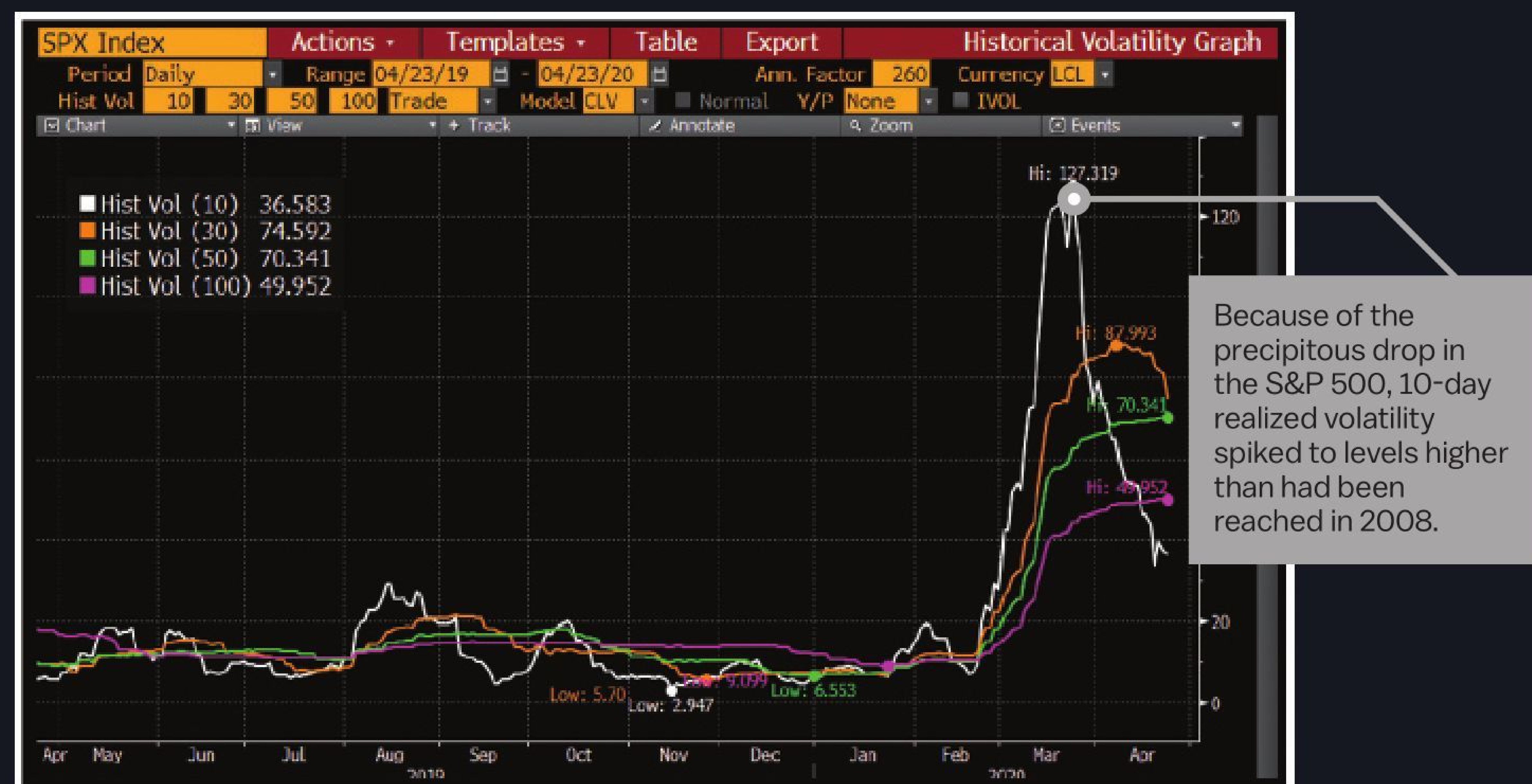


Fig. 3 A one-year chart of the S&P 500 with the Maximum Drawdown and Fibonacci Retracements technical studies shows that the index plunged 35% from intraday high to low.

As News Goes Viral, Bloomberg Spots, Sorts, and Reports

By ALEX WISCH

PRESIDENT TRUMP ISN'T the only leader bypassing traditional media to engage with audiences on Twitter. Billionaires Bill Gates and Ray Dalio have also embraced social media platforms, and they've been actively tweeting during the coronavirus pandemic.

"If everything goes well," Gates tweeted on April 2, "there might be an effective vaccine in less than 18 months—the fastest a vaccine has ever been developed. That will depend on decisions we make today, including the federal government investing in building up manufacturing capacity."

Dalio announced on Twitter that he would take questions in a Reddit Ask Me Anything on April 7. At this event he declared that "cash is trash," because central banks are printing money to alleviate the economic pain from Covid-19.

You can set an alert to notify you when Gates or some other newsmaker sends a tweet. Type "tweets by Bill Gates" on the command line and press <GO>. Click the Actions button on the red toolbar, select Set Alert Delivery, and choose how you want to be alerted.

GATES AND DALIO have long been part of the selective list of major social media accounts that Bloomberg clients can see through news searches or social monitors in Launchpad. Here's a bit of perspective: Bloomberg has selected about 55,000 Twitter handles as influential in the finance world; they generate about 400,000 tweets a day. Bloomberg also incorporates tweets from other accounts—including central bankers and activist investors—when they comment on relevant topics or companies. Total? About 600,000 tweets cross the Bloomberg wires every day. That's a big number, but it's still a small subset of the more than 500 million tweets fired off daily around the world.

People and Machines

The breaking news desk and social media editors at Bloomberg News work with algorithms to deliver this content in a way that provides insight. For the recently enhanced social media portal, run **{SOCI <GO>}**. The function, which now incorporates relevant Facebook posts, enables you to create a customized monitor of social media posts. You can include the monitor in your Launchpad, share it with colleagues, or save it and come back later to tweak it further.

Take the coronavirus pandemic. Run **{SOCI <GO>}** and select one of the lists of Twitter handles that Bloomberg identifies as influential. For example, select Major News in the list under Featured. The SOCI calculator estimates these news organizations generate about four posts per minute. To focus on news related to the coronavirus, type "coronavirus" in the amber field at the top of the screen and select the matching topic. Coronavirus will appear in the Search Terms box in the lower section of the screen. Click the Within button if it isn't already selected. Adding that criteria reduces the flow to 1.5 posts per minute. Still too many? You can narrow further by selecting additional topics, industries, or a security list. If you limit the search to posts that refer to S&P 500 companies, for example, that reduces the flow to three posts per hour (**FIG. 1**). In addition you can use the amber search field to focus on words such as "cure" or "profits." For a monitor you can incorporate into your Launchpad view, type {**LLP <GO>**} (**FIG. 2**).

SOCI also lets you adjust the universe of sources to scrape. Click the Display button on the red toolbar to see the options. By default, Bloomberg social media searches focus on the 55,000 most influential accounts, but you can unselect Selected Sources to display a broader, busier flow of posts.

Fig. 1 Go to **{SOCI <GO>}** for the Social Monitor function. The enhanced social media portal, which now includes Facebook, lets you keep up with the sources that are most important to you.

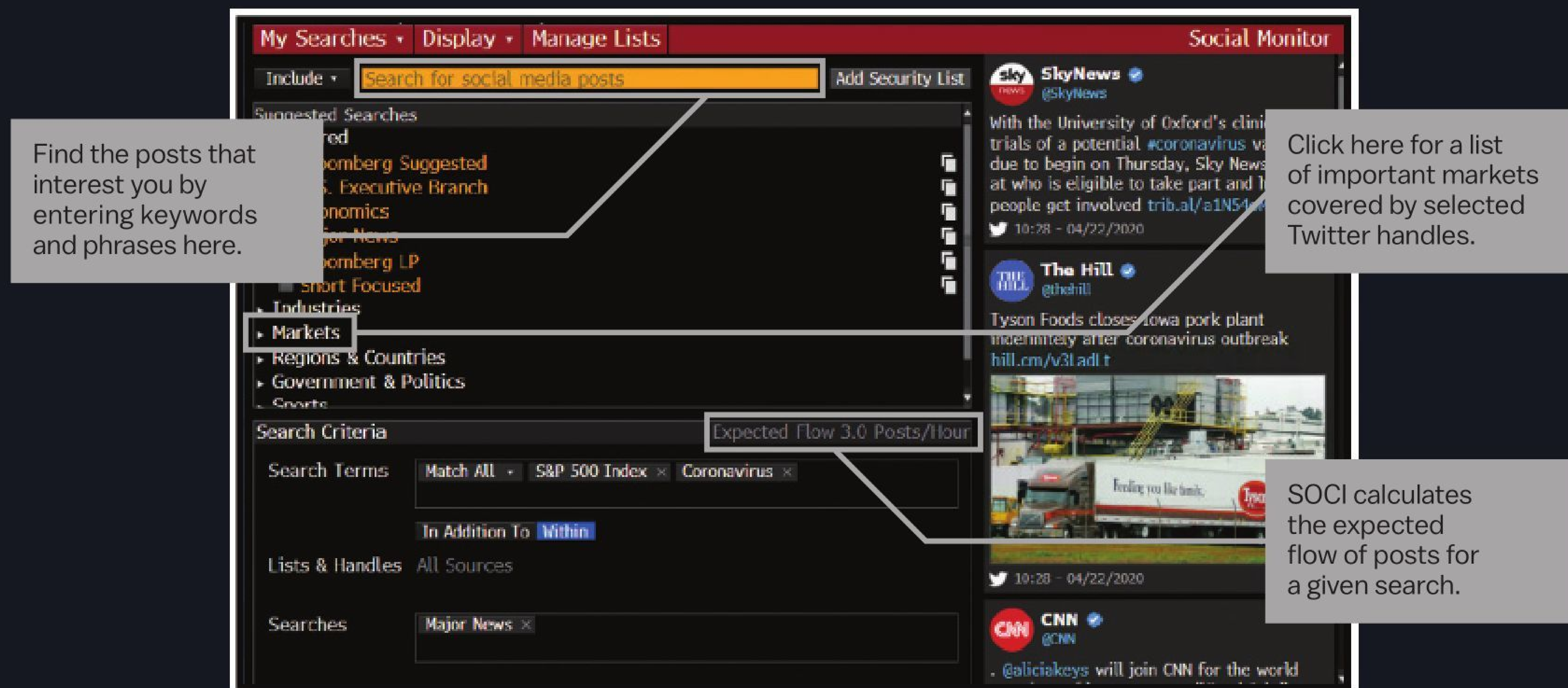
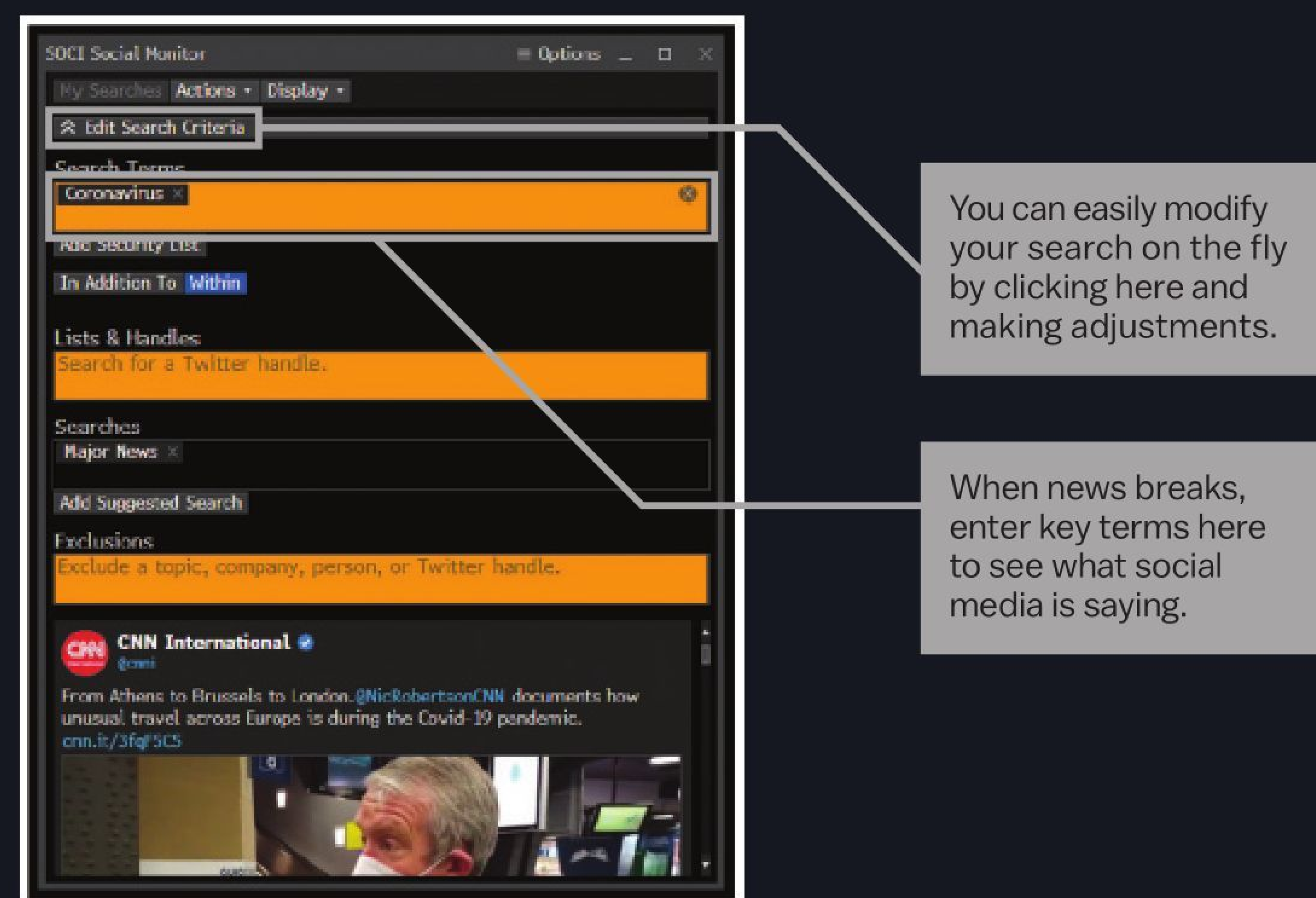


Fig. 2 Once you've set up a search, run **{LLP <GO>}** to open a monitor you can incorporate into your Launchpad view.



Editorial Insight

Every day, editors on Bloomberg News' breaking news desk go through the most important handles and topics to find those likely to have a major impact. Sure, some are so important—the president of the U.S., for instance—that we carry them on all major searches. A team of editors also combs through posts by Gates, Dalio, and other newsmakers to find breaking news. Shortly after Dalio's session on Reddit, Bloomberg provided a digest. To see it, type "news on Ray Dalio and coronavirus from Bloomberg" on the command line, press <GO>, and scroll back to April 7.

For a list of the tweets deemed relevant by the Bloomberg breaking news desk experts, run **{NI VELOCITY <GO>}**. For a monitor that displays these tweets, click the Actions button and select Open Social Monitor in Launchpad. You can also access these tweets in SOCI by typing "velocity"in the amber box. You can then use SOCI's filters to narrow these tweets further according to asset class, security list, or topic.

Maybe you just want the lowdown in one email per day? Go to **{NSUB <GO>}**, type "social media buzz" in the Search All Subscriptions field, and press <GO>. Click on the Subscribe button, and you'll receive Bloomberg's daily summary of what's buzzing on social media every morning before the New York trading day opens.

On April 17, for example, Social Media Buzz included an item about how false stories about Gates and the coronavirus vaccine had become the most widespread misinformation on social media. ●

Wisch is a market specialist for news at Bloomberg in New York.

Will Commercial Real Estate's Survival Plan Look Like WeWork?

By JACK SIDDERS and NATALIE WONG

NESTLED IN A BEND of the River Thames between London's twin financial districts, Canada Water is about to become a testing ground for the future of real estate in a post-Covid-19 world.

After more than a decade assembling a parcel of land almost double the size of New York's Hudson Yards, developer British Land Co. expects to start construction this year on a multibillion-pound neighborhood of office buildings, homes, and shops at a time of dramatic change in how people work, live, and buy.

"The pattern of work—how we work, when we work—you have got to feel there is going to be a shift at a much greater pace," says Emma Cariaga, co-head of the Canada Water project at British Land. "We are going to have to be much more nimble."

It didn't take a virus to force developers to think about a different way of operating. But now the future of real estate is on fast forward.

With commercial real estate no longer a passive investment in which landlords could sign up long-term tenants and then sit back and collect rent, investors and developers are being pushed by a series of disruptions to become much more active. Amazon.com Inc. has stolen footfall from malls. WeWork Cos. redefined the office. Airbnb Inc. challenged the very idea of hotels. Now the Covid-19 pandemic is leading companies to rethink their need for communal workspaces.

In London's commercial real estate market, an early adopter of long leases to appeal to investors, the length of office rental agreements had already been falling steadily for two decades. Average lease terms declined from 21.7 years in 1996 to about 5.5 years in 2017 and 2018, according to data compiled by Colliers International Group Inc. In Canary Wharf, the East London financial district that's home to the European headquarters of several global banks, the average lease is still about 10 years.

The pandemic forced employees to stay away from those headquarters and work at home instead. Many companies found the transition surprisingly smooth, and executives have publicly questioned how much real estate their companies need. Can modern office towers be adapted without forcing thousands of employees to share elevators? When will it be safe for workers to commute together into major metropolises? These questions are increasingly urgent for real estate investors.

Before the coronavirus crisis, "tenants were asking for more flexibility and service, but most landlords refused to give tenants what they wanted," says Dror Poleg, author of *Rethinking Real Estate* and co-chair of the Urban Land Institute's New York Real Estate Technology and Innovation Council. "Landlords will now be willing to take on more of this risk, because they simply no longer have a choice. When your building is suddenly 20% to 30% empty, you become much more open-minded about a lot of things."

This change could mean landlords will offer smaller so-called core offices on long leases, topped up with additional space that can be rented for shorter periods as needed, Cariaga says. For stores and restaurants, landlords may begin to calculate rents based on the turnover generated by each unit, rather than insisting on fixed leases.

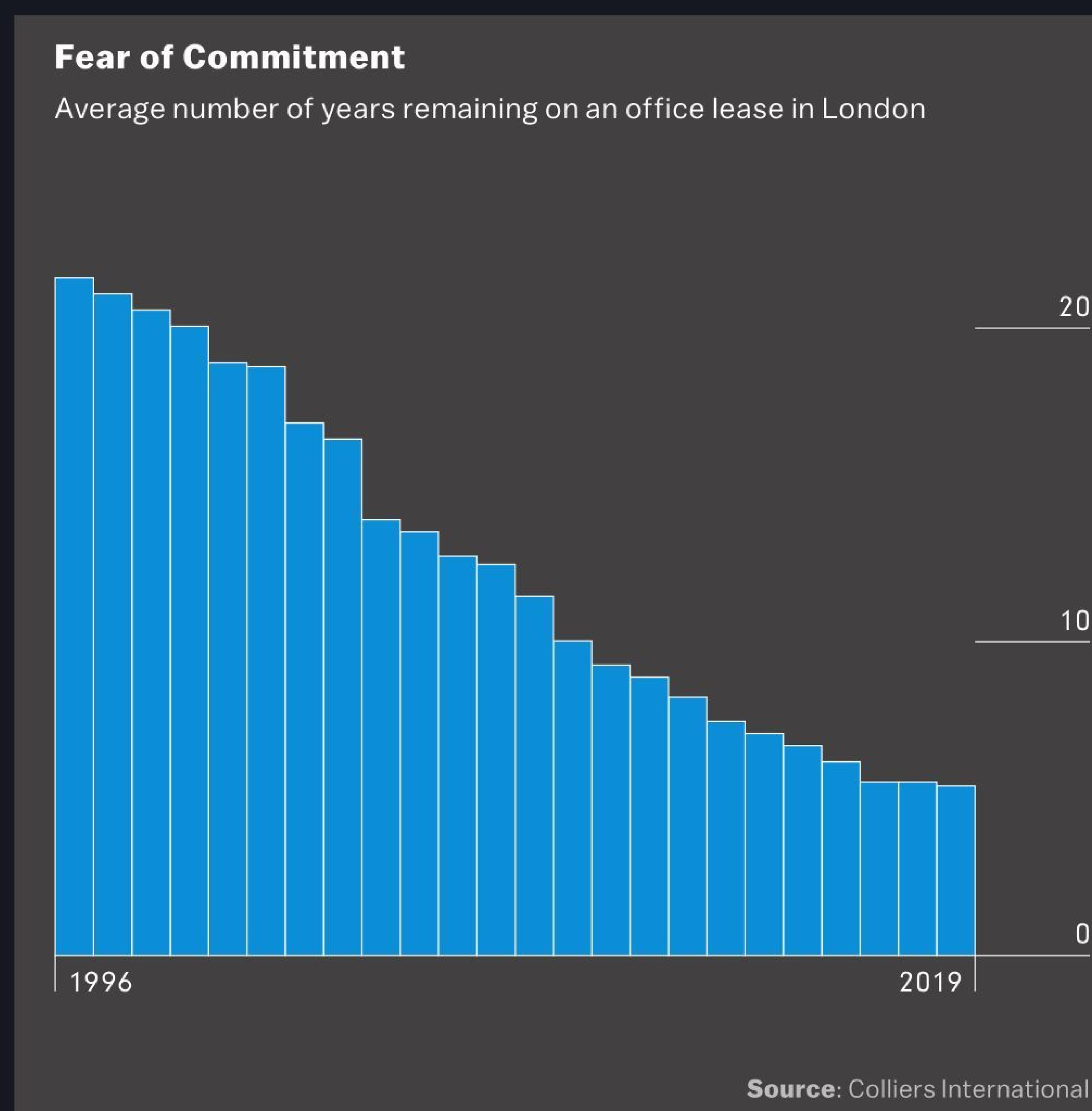
Rework the Plan

In the office market, WeWork introduced some of the changes likely to become more widespread: flexible rents, shared resources, advanced technology, design, and customer service. Plagued by questions about its management and financing, WeWork had to call off an initial public offering, and the company is likely to be tested further by the economic fallout from Covid-19. But there's a growing sense among real estate investors that elements of its model point the way to the future, offering customers a cheaper and more convenient product.

"The fallout of WeWork doesn't mean the business model isn't entirely viable. There are other operators coming that I think

could get it right," says Hugo Machin, co-head of global cities at Schroders Plc. He uses an analogy from the early days of mobile phones: "Is WeWork the Nokia of the office world, and an Apple product is just around the corner?"

British Land has already moved to embrace more WeWork-like flexibility, offering short-term offices within small parts of its large London campuses. That's likely to be a prominent feature of Canada Water, too. The project's master plan includes a traditional town center with about 50 potential store and restaurant units. "Do I think we're going to offer 50 leases to businesses that are all going to take a five-year term and be happy to be on their way? Not a chance," Cariaga says. "We are going to have to become almost a department store-type operator, allowing retailers and restaurateurs to come and go much more than we have historically. Our role as landlords is going to be a much more intensive one than it has been before."



Location, Location, Dislocation

This new way of doing business will require more operational skill and risk and a different approach to financing and underwriting property. "When I arrived here, I was used to thinking about credit risk," says Chris Grigg, a former banker who became British Land's chief executive officer in 2009. "Yet people seemed very content that if they had a 20-year lease, that it was good for 20 years. That is OK until the [tenant] company goes bust."

Contrary to previous crises, the pandemic has affected all real estate investors, not only those with too much leverage or properties leased to high-risk companies. The widespread shut-downs have imperiled corporations with strong credit ratings and buildings rented on long leases.

That's a shock for investors who've allocated growing shares of their portfolios to real estate because the asset class supposedly provided secure income and diversification from the stock market.

"Covid-19 is going to highlight to investors and managers that their ability to underwrite isn't purely governed by location, location, and a bit of income risk," says Adrian Benedict, head of real estate solutions at Fidelity International. "If real estate is not seen as a stable source of income, you question the rationale for holding it." ●

Sidders and Wong report on real estate for Bloomberg News in London and New York, respectively.

A Shocked Economy

The Most Optimistic Scenario Is Still Bad

The virus recession is expected to outstrip even the most pessimistic of early forecasts. With strict lockdowns in place across many major economies and a growing recognition that it will be a long path back to normality, Bloomberg Economics has revised its estimate for global contraction in 2020 to -4%, from earlier forecasts of -0.2% in March and growth of 3.3% at the start of the year.

Circle size indicates value of 2019 GDP*

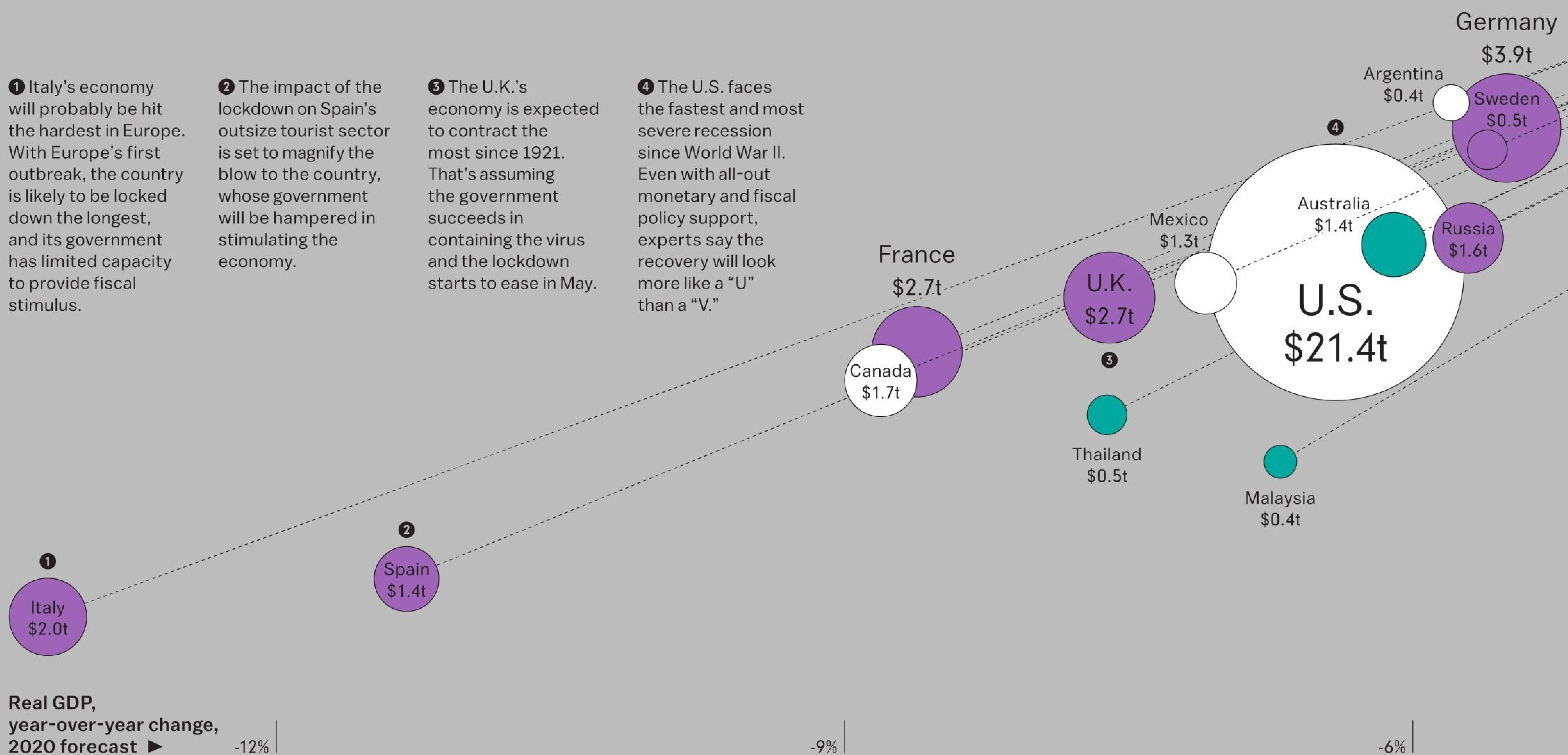
● Asia and Pacific ● Europe and the Middle East ○ Americas

❶ Italy's economy will probably be hit the hardest in Europe. With Europe's first outbreak, the country is likely to be locked down the longest, and its government has limited capacity to provide fiscal stimulus.

❷ The impact of the lockdown on Spain's outsize tourist sector is set to magnify the blow to the country, whose government will be hampered in stimulating the economy.

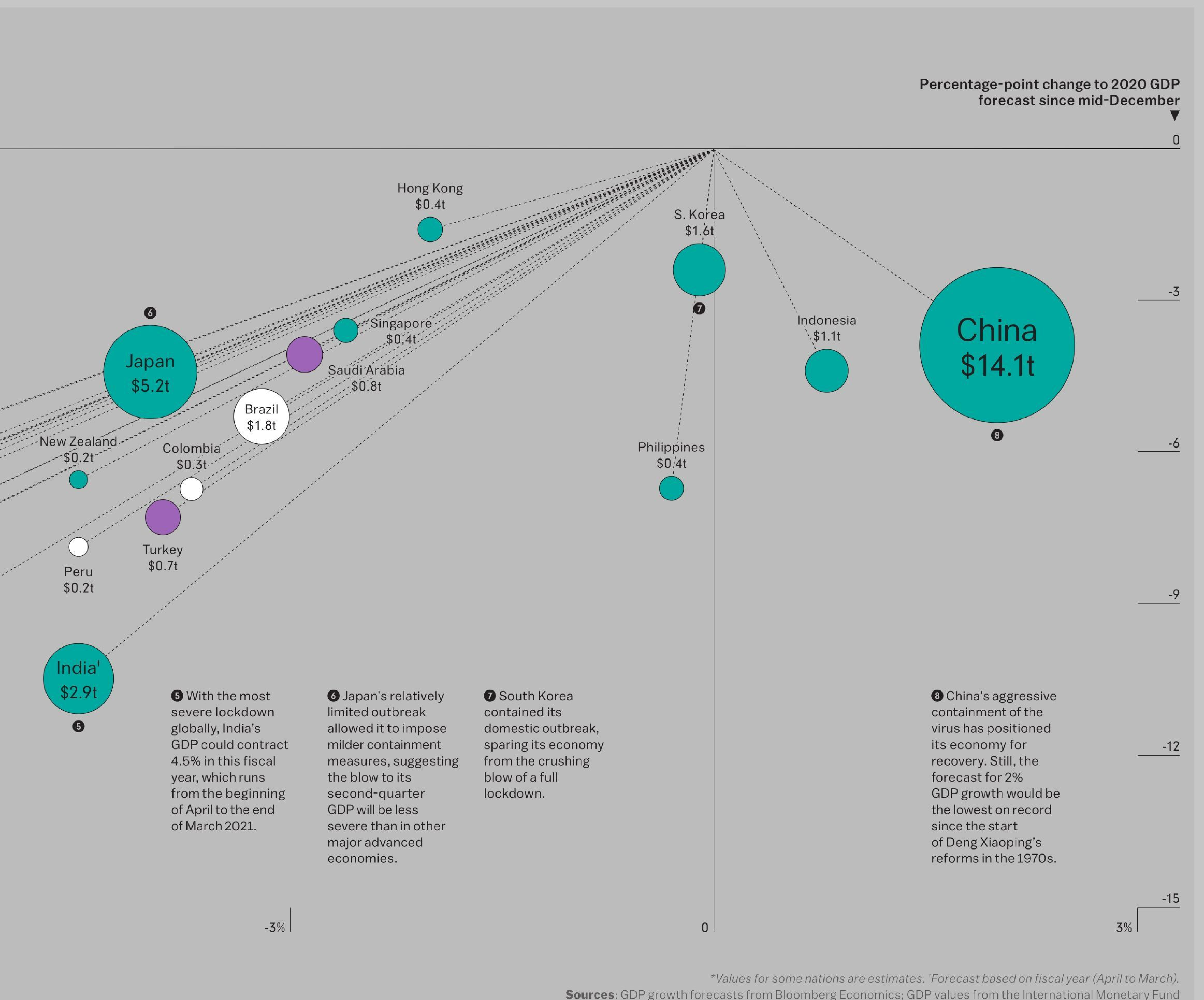
❸ The U.K.'s economy is expected to contract the most since 1921. That's assuming the government succeeds in containing the virus and the lockdown starts to ease in May.

❹ The U.S. faces the fastest and most severe recession since World War II. Even with all-out monetary and fiscal policy support, experts say the recovery will look more like a "U" than a "V."



In early 2020 a deadly microscopic predator sent humans into hiding and slammed the brakes on global commerce. Economic destruction like this hasn't been seen since the Great Depression. In the following pages we illustrate the new coronavirus's effects on basic metrics such as gross domestic product and unemployment, the collapse in demand for fuel, the rapid adoption of telehealth, and the surge in liquor purchases. This is a new economy built on fear.

By ZOE SCHNEEWEISS, DAN MURTAUGH, and BLOOMBERG ECONOMICS
With ANDREW ATKINSON and AKSHAT RATHI



❺ With the most severe lockdown globally, India's GDP could contract 4.5% in this fiscal year, which runs from the beginning of April to the end of March 2021.

❻ Japan's relatively limited outbreak allowed it to impose milder containment measures, suggesting the blow to its second-quarter GDP will be less severe than in other major advanced economies.

❼ South Korea contained its domestic outbreak, sparing its economy from the crushing blow of a full lockdown.

❽ China's aggressive containment of the virus has positioned its economy for recovery. Still, the forecast for 2% GDP growth would be the lowest on record since the start of Deng Xiaoping's reforms in the 1970s.

*Values for some nations are estimates. †Forecast based on fiscal year (April to March).
Sources: GDP growth forecasts from Bloomberg Economics; GDP values from the International Monetary Fund

Labor

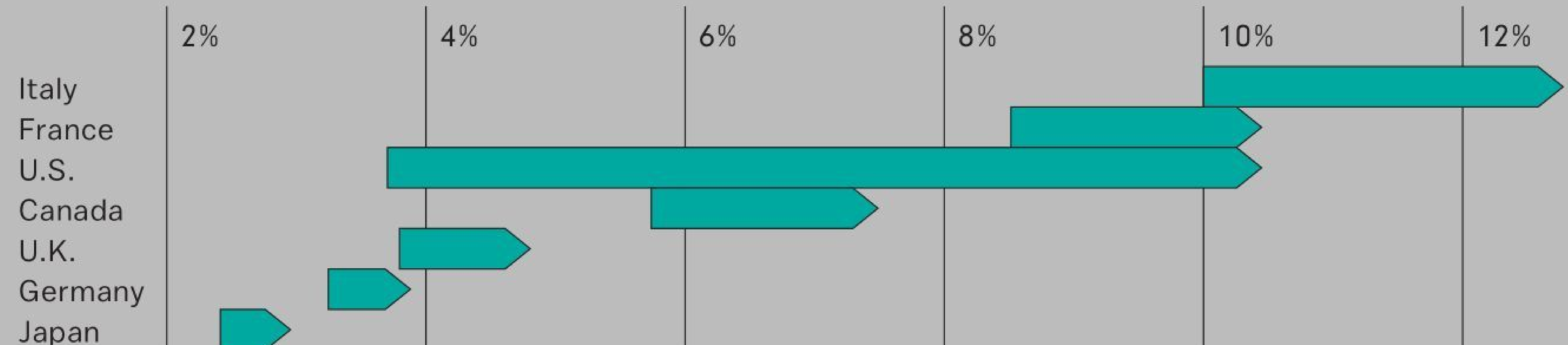
■ As the global economy contracts, businesses are reducing costs through temporary and permanent job cuts. In the U.S., the world's biggest economy, the percentage of people who are unemployed exploded from a 50-year low in February to the highest level since the Great Depression in April. Furloughs in Europe are helping limit job losses. But the outlook remains bleak for the world's workers.

Unemployment Rises Around the World

■ The International Monetary Fund forecasts a surge in the annual unemployment rates of developed economies, including the U.S. Expected to fare better: Germany and Japan.

Unemployment Rates in the Group of Seven

2019 rate to forecasts for 2020, IMF estimates



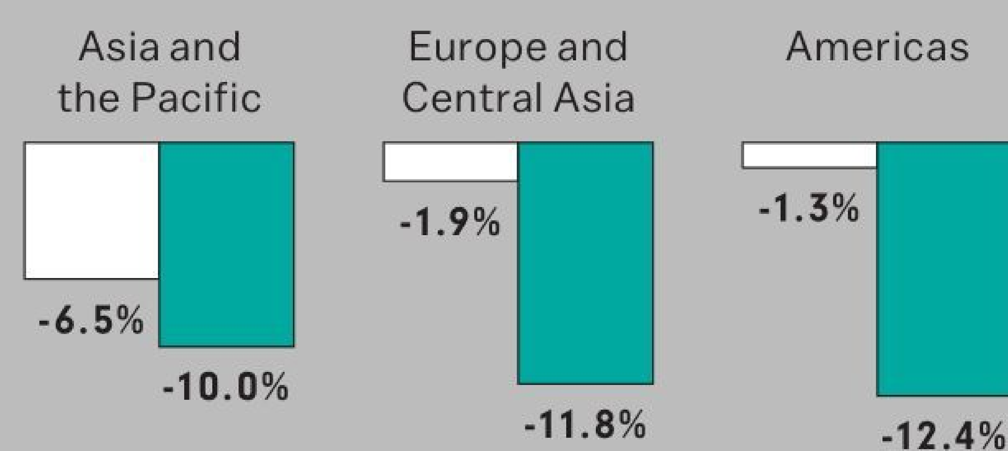
Source: International Monetary Fund

Off the Clock

■ The UN projects a widespread decline in hours worked as businesses shutter.

Estimated Change in Working Hours

□ Q4 '19 to Q1 '20 ■ Q4 '19 to Q2 '20



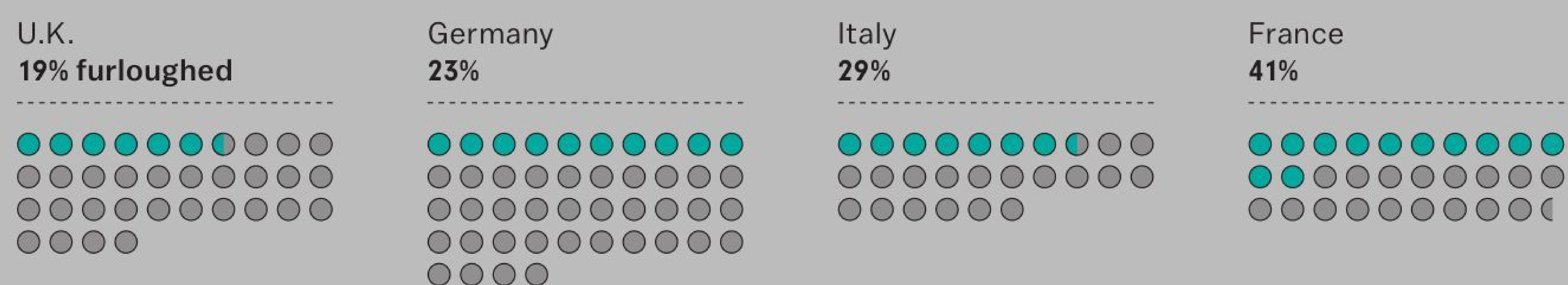
Source: International Labor Organization

Europe Furloughs Huge Swaths of Its Workers

■ Millions have been temporarily laid off in Western Europe. The furloughs are designed to preserve jobs over the long run.

Labor Forces of Large European Economies

○ = 1 million workers ● Furloughed* ● Not furloughed



*As of May 8. German furlough figure is the number of applications.

Sources: OECD, Government statistics offices

Women Will Suffer From the Gender Divide in Labor

■ Among workers in the informal economy, women hold a disproportionately large share of jobs in the fields most at risk of being affected by the pandemic, according to the International Labor Organization. The disparity exists in high- and low-income nations.

Gender of Workers in Sectors of the Informal Economy by Economic Exposure to the Pandemic

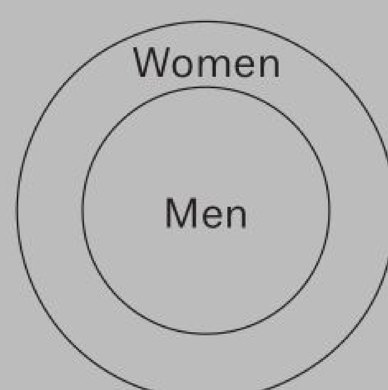
Sectors, by impact of the crisis on output

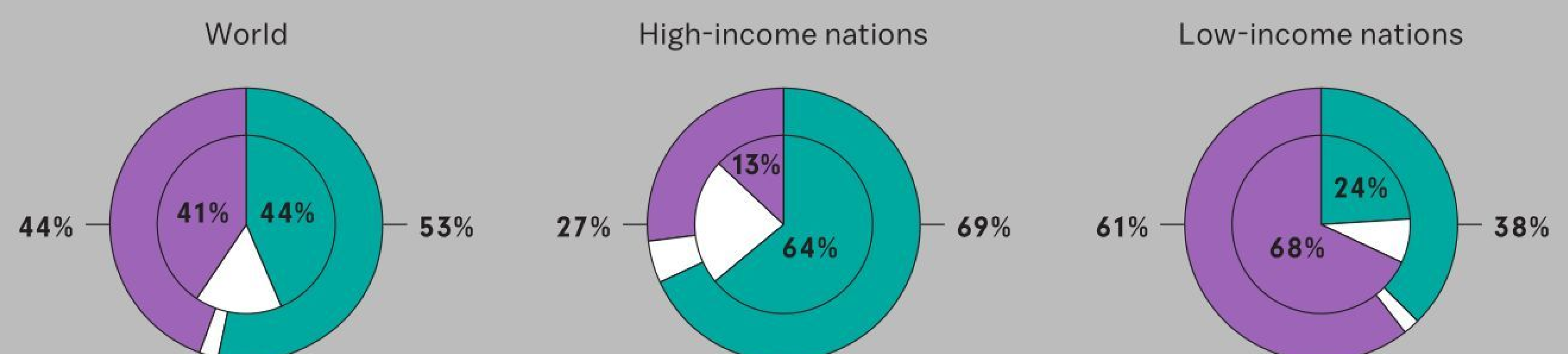
■ High to medium-high*

□ Medium†

■ Low-medium to low††

Distribution by gender





*Trade; manufacturing; auto repair; accommodation and food services; real estate; business; arts, entertainment, and recreation; transport, storage, and communication. †Construction; financial and insurance services; mining and quarrying. ††Agriculture, forestry, and fishing; health and social work; education; utilities; public administration and defense; compulsory social security

Source: International Labor Organization

Pocketbook Voters

■ Workers in U.S. swing states have been hit hard before the election.

Swing State Jobless Claims

Share of labor force submitting an initial jobless claim in the six weeks ended on April 24

Source: U.S. Department of Labor

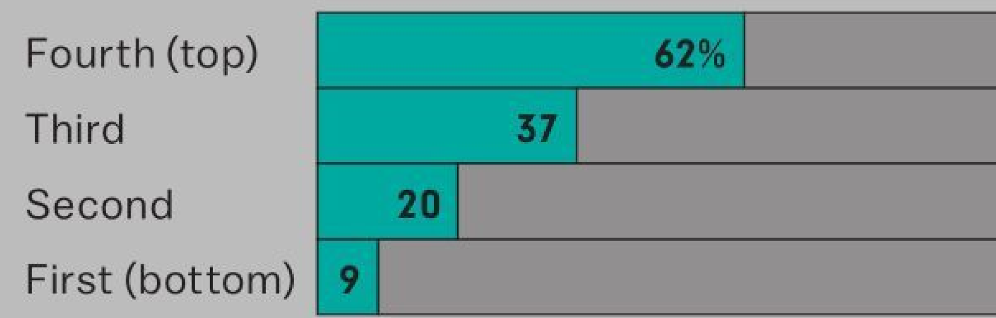
WFH Is for Top Earners

■ A majority of only the highest-paid U.S. workers can do their jobs remotely.

Who Can Work From Home in the U.S.

Share of income quartile

■ Actual or potential home workers ■ Other



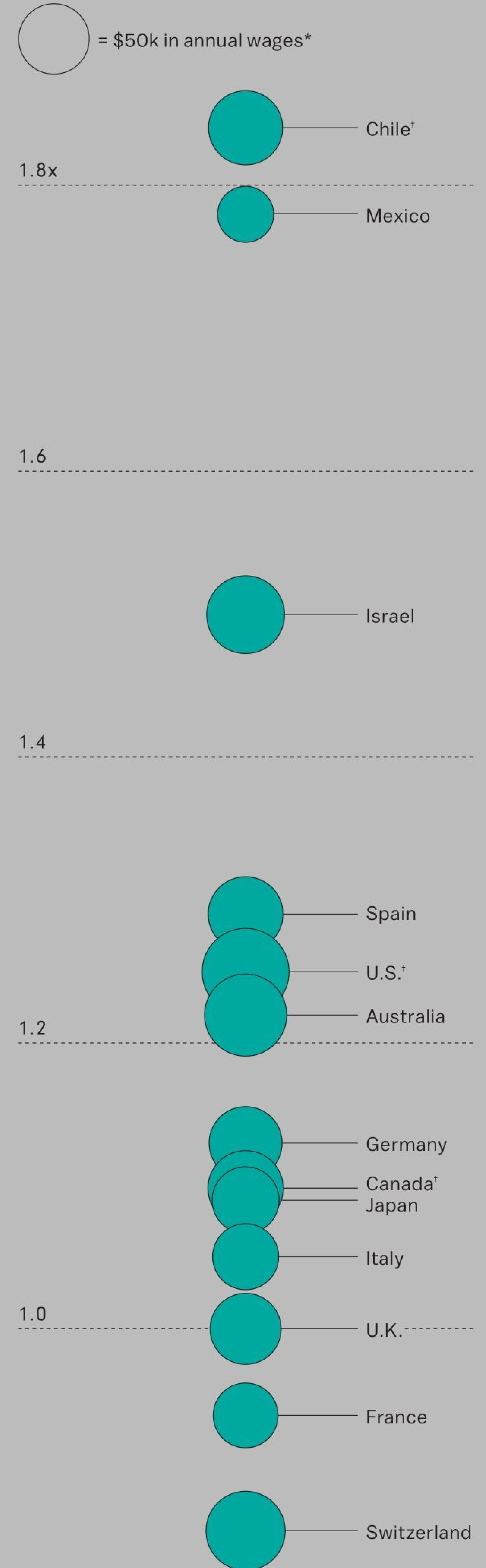
Source: U.S. Bureau of Labor Statistics

Varying Value of Care

■ Nurses face peril everywhere but are compensated differently around the world.

Where Nurses Are Best Paid

Ratio of hospital nurses' wage to average wage in selected nations in 2017 or nearest year available



*Wages converted to U.S. dollars using purchasing power parity. 'Figures refer to registered nurses, resulting in an overestimation.
Source: OECD

Where Robots Could Seize the Moment

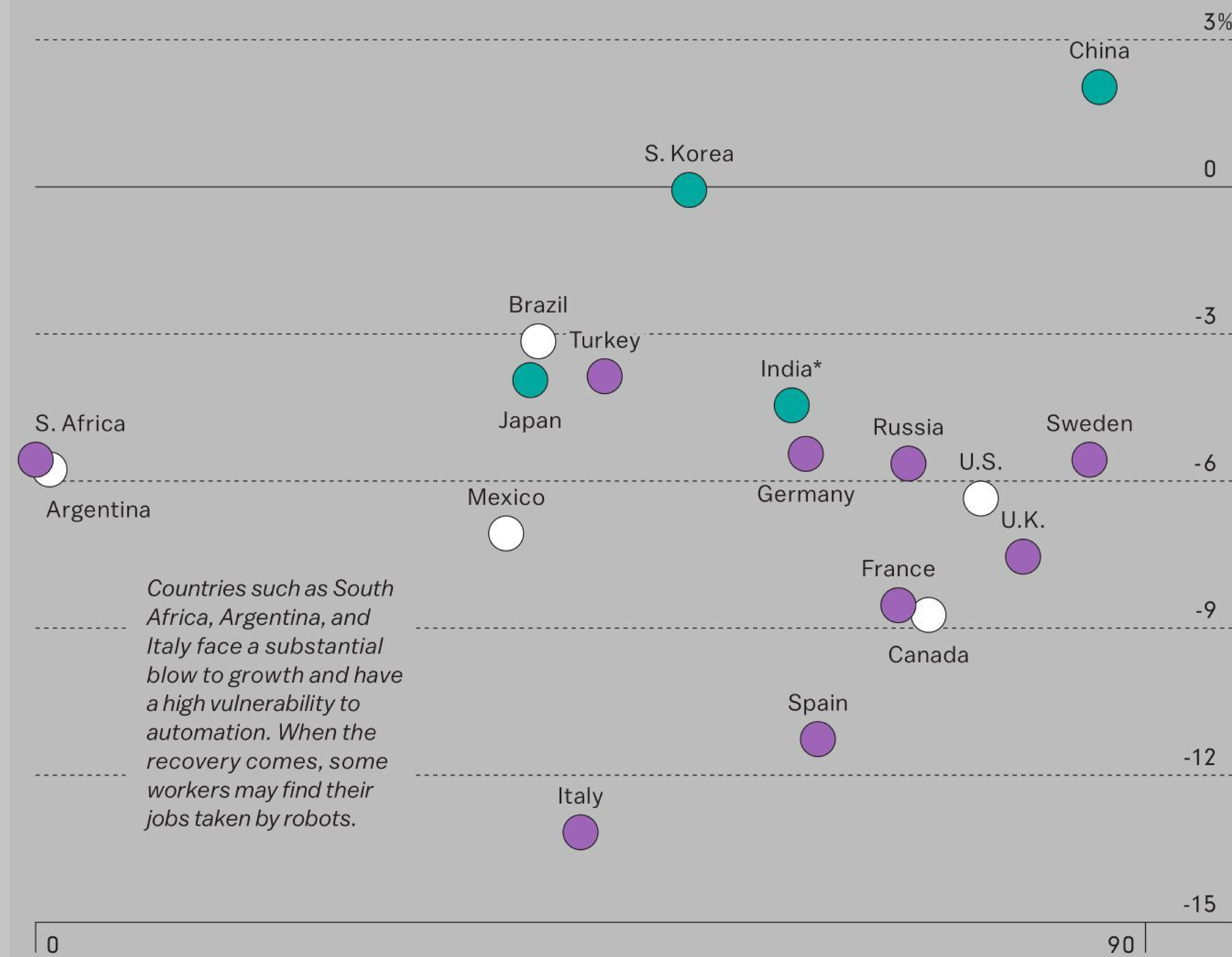
■ When the global recovery begins, some businesses will automate operations, leaving workers in the lurch.

Jobs Vulnerability to Automation and Economic Impact of the Virus

By nation

● Asia ● Europe and Africa ○ Americas

Real GDP growth, 2020 forecast



Bloomberg Economics automation score'

*Fiscal year forecast. 'A measure of a nation's ability to deal with disruption from automation. Lower scores mean more risk.
Source: Bloomberg Economics

Energy

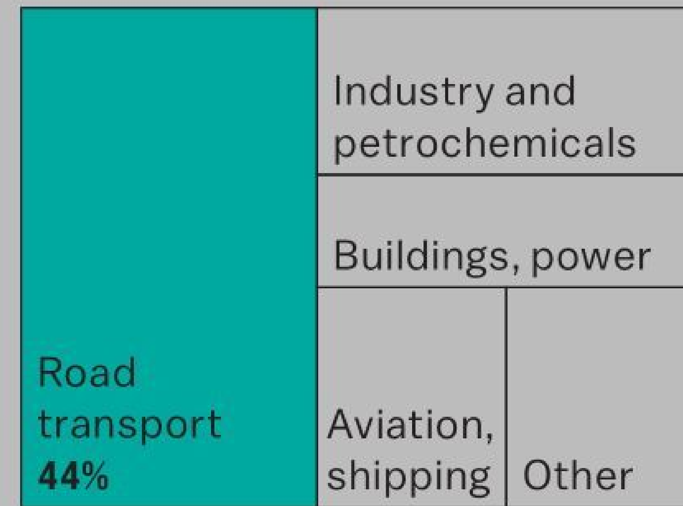
■ Lockdowns gutted demand for fuel, and a price war between Saudi Arabia and Russia flooded the market, leading oil futures to turn negative in April. The historic move had dramatic consequences for companies and government balance sheets. Much now depends on whether the extreme changes to work, travel, and commerce are brief, temporary shifts or permanent readjustments.

Wipeout

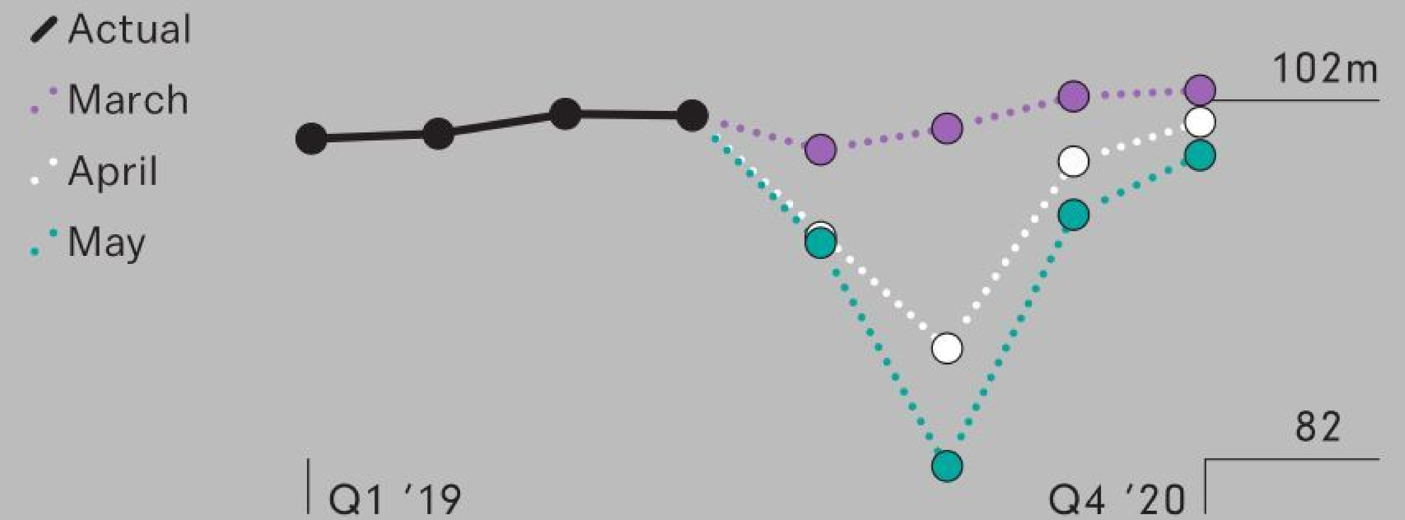
■ Government efforts to keep people at home and slow the spread of the disease have stripped global oil demand.

Crude Oil Demand

By sector in 2018



Level and projections by month of EIA forecast, in barrels per day



Sources: International Energy Agency, U.S. Energy Information Administration

Bottom of the Barrel

■ Excess crude drove U.S. futures into negative prices for the first time ever.

Crude Oil

West Texas Intermediate, price per barrel

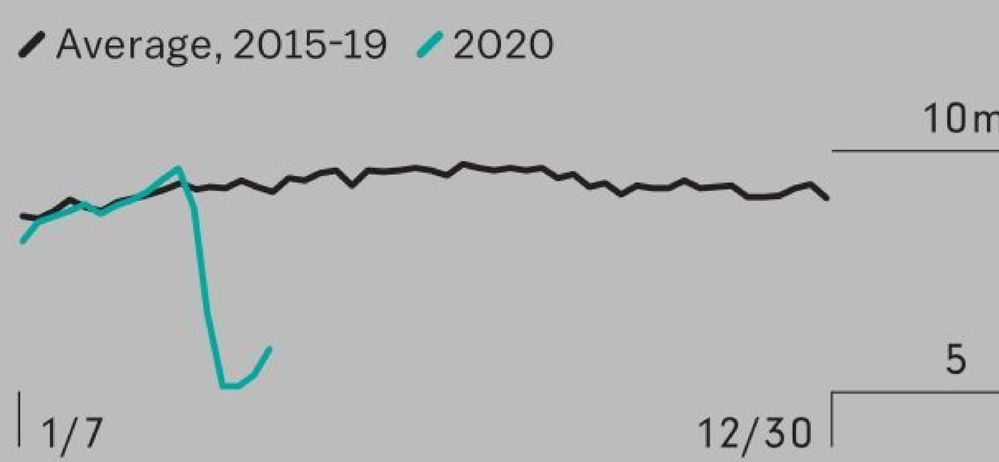
Source: {CL1 Comdty}

U.S. Drivers in Park ...

■ Americans stopped driving to the office and regularly filling up their tank.

U.S. Gasoline Demand

Barrels per day



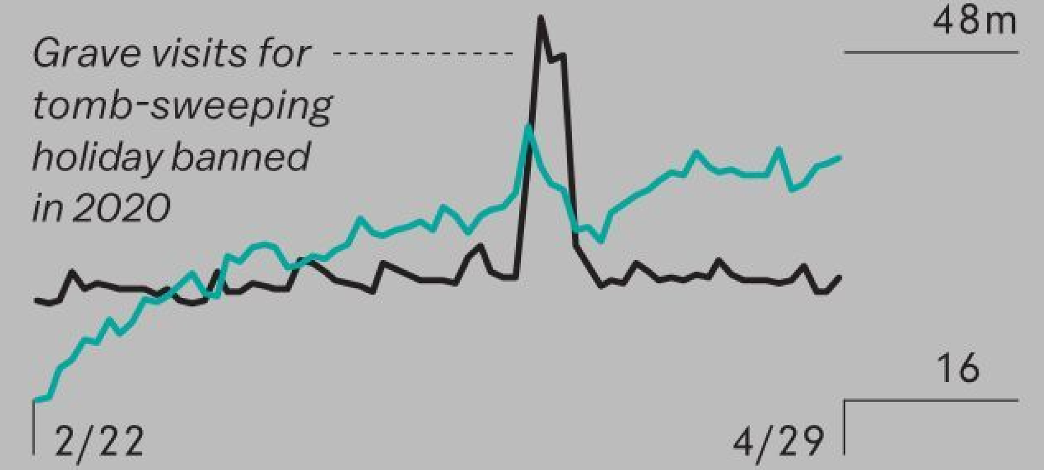
Source: U.S. Energy Information Administration

... Chinese in Gear

■ In China, people are driving more instead of taking public transportation.

Vehicles on Highways in China

2019 2020

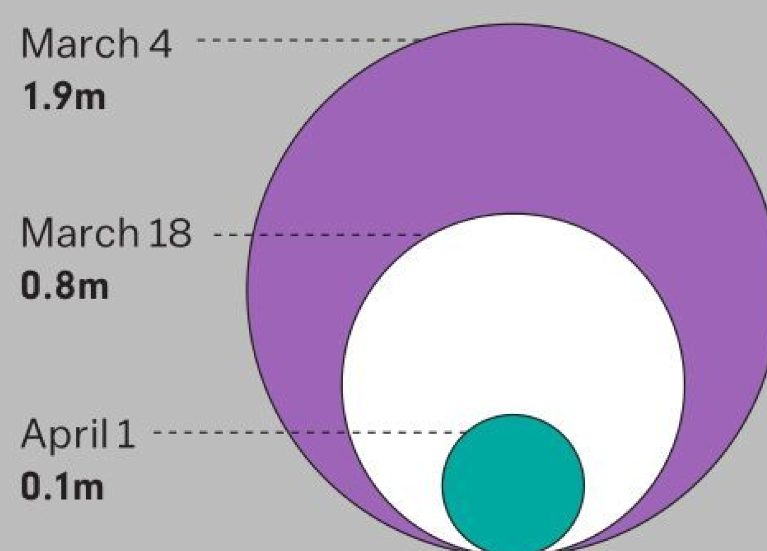


Sources: Ministry of Transport, BloombergNEF

Flyers Are Grounded

■ The number of U.S. airline passengers plummeted as the virus spread.

U.S. Daily Airline Passengers in 2020



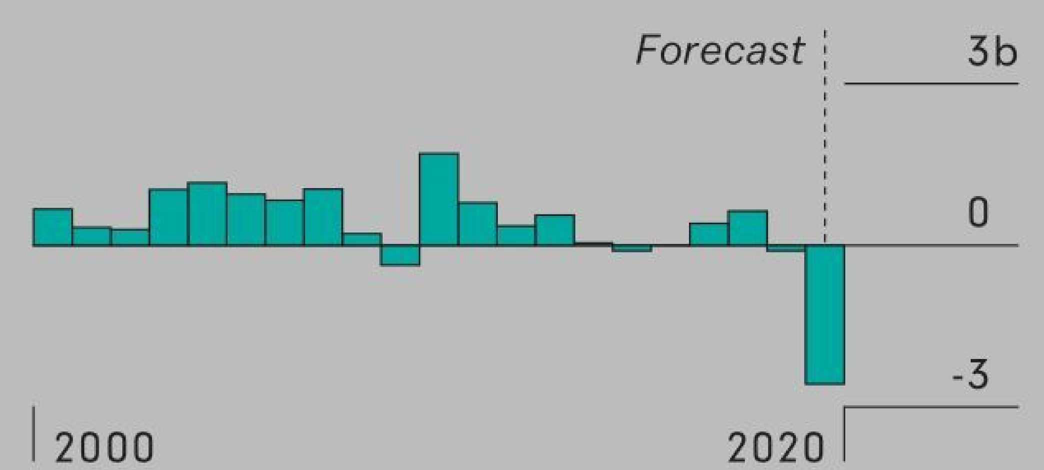
Source: Transportation Security Administration

Earth Catches a Break

■ With oil use down, global emissions are forecast to fall (but rally with the recovery).

Change in Energy-Related Emissions

In metric tons of carbon dioxide



Source: International Energy Agency

Consumption

■ The pandemic has transformed the way we spend money. At the beginning of April, U.S. consumer confidence suffered a record weekly decline. Stores and malls are empty or closed, and online retailers are struggling with shortages. Instead of risking a visit to the doctor's office, patients are starting to seek virtual advice. And many are self-medicating: Sales at U.K. alcohol stores jumped more than 30% in March.

Feeling Uneasy

■ Sentiment about the U.S. economy, buying climate, and personal finances fell.

Bloomberg Consumer Comfort Index

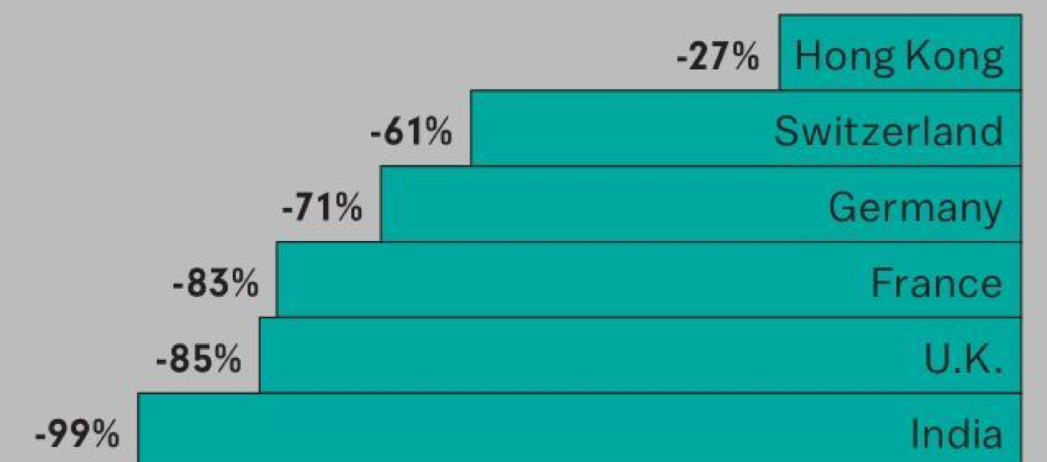
Source: {COMFCOMF Index}

Drop in the Shop

■ Lockdowns and social distancing rules kept consumers home.

Retail Footfall

Week of April 20, year-over-year change



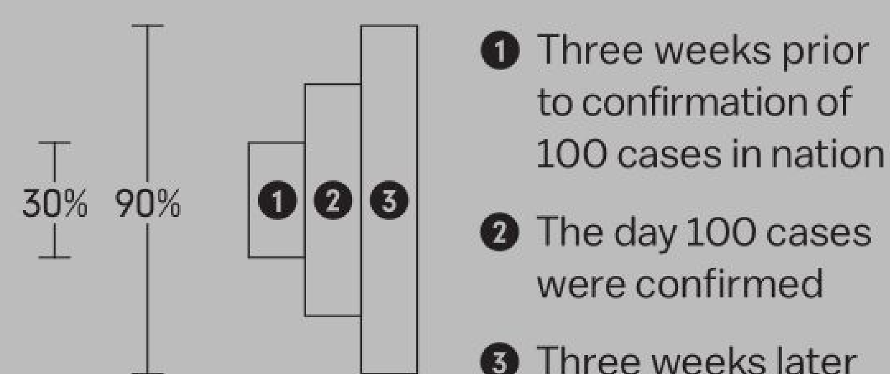
Source: {ALLX EFRS <GO>}

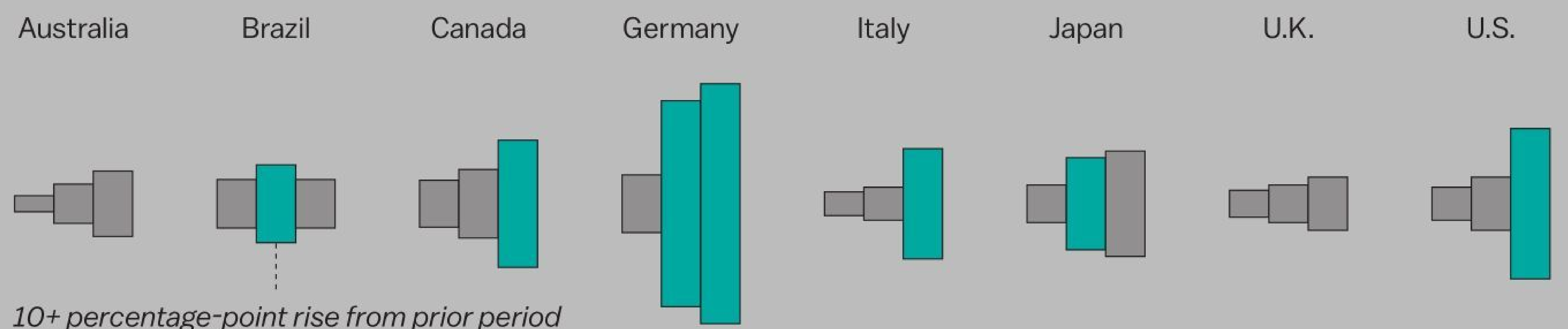
Panic-Buying Depleted Online Supplies

■ Online shopping has been plagued by shortages since the onset of the coronavirus pandemic, according to data compiled by market-research firm Euromonitor International. Inventories of disinfectants sold on e-commerce platforms dwindled as the virus spread.

Where Disinfectants Got Harder to Buy

Bars represent share of online listings of household disinfectant products labeled out of stock[1]





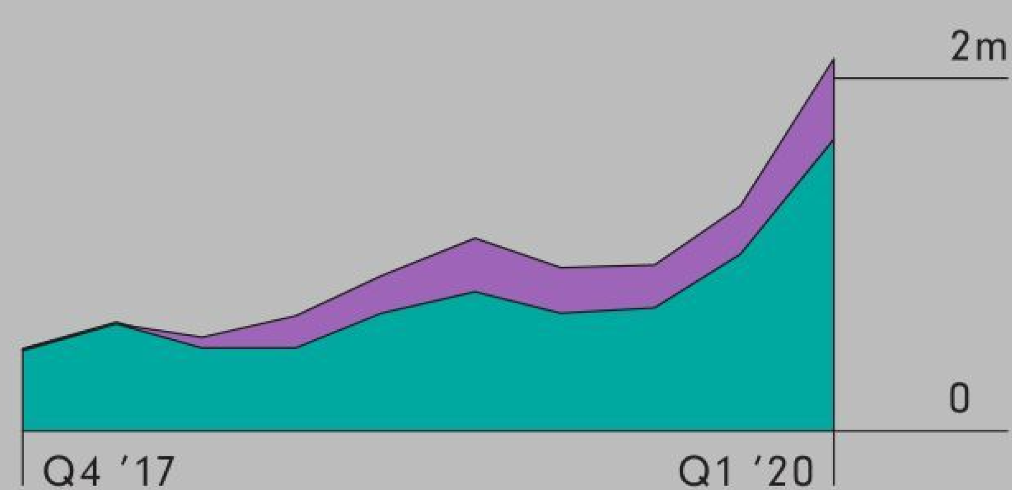
[1]The share of disinfectant products that are out of stock is the proportion of stock-keeping units labeled out of stock on retailer websites tracked by Euromonitor.

Sources: E-commerce product availability figures provided by Euromonitor's Via e-commerce intelligence platform on April 13. Covid-19 case figures compiled by Bloomberg.

The Doctor Is Online

■ The pandemic accelerated patient adoption of virtual care services.

Telemedicine Visits on TelaDoc Health



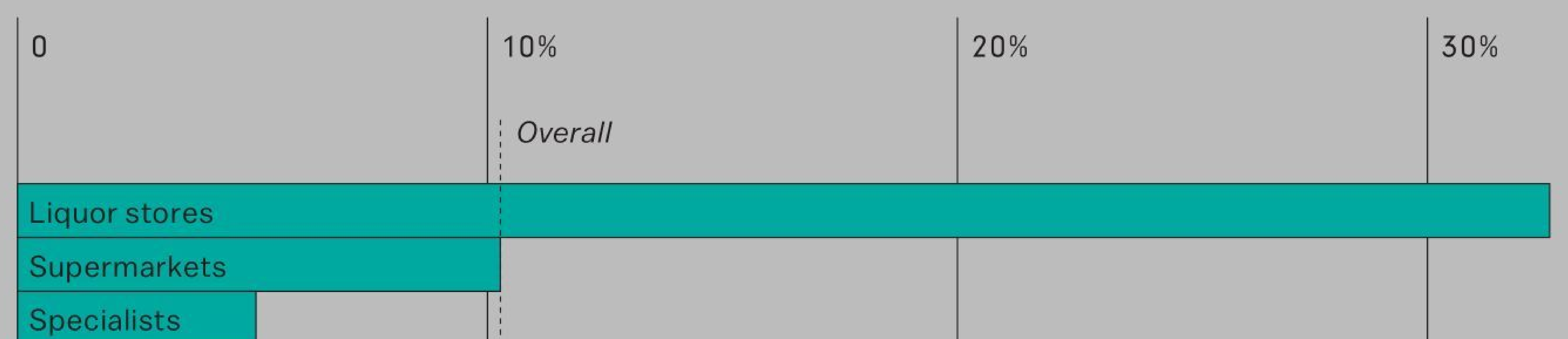
Source: Bloomberg

Drinking Alone

■ Liquor stores, one of a few retail categories open under the U.K.'s lockdown, saw sales surge almost a third in March—the biggest monthly rise since January 2011.

Sales in U.K. Food and Beverage Stores

Increase in value from February to March



Source: Office for National Statistics

The New *Normal*

In Tel Aviv's Rabin Square on April 25, thousands of protesters congregated—while maintaining social distance—to voice their opposition to the government.

As three cities begin to reopen, they provide a glimpse of our changed world

PHOTOGRAPH BY GRIFFIN HIGHER PHOTOS

PHOTOGRAPH BY RASMUS DEGNBOL

Half of the 60 children at Copenhagen's Columbus kindergarten were moved into the National Museum of Denmark to comply with social distancing guidelines. This group is using the museum's empty theater.

A worker dressed as the Genie from Disney's *Aladdin* searches for a foul ball in an empty Munhak Baseball Stadium in Incheon, South Korea.

The cheerleading squad for the SK Wyverns performs in the stadium. In South Korean baseball culture, fan-favorite players have dedicated theme songs and dances that are performed by cheerleaders throughout the game. To engage with fans, who were banned from the stadium, the Wyverns livestreamed the cheerleaders.

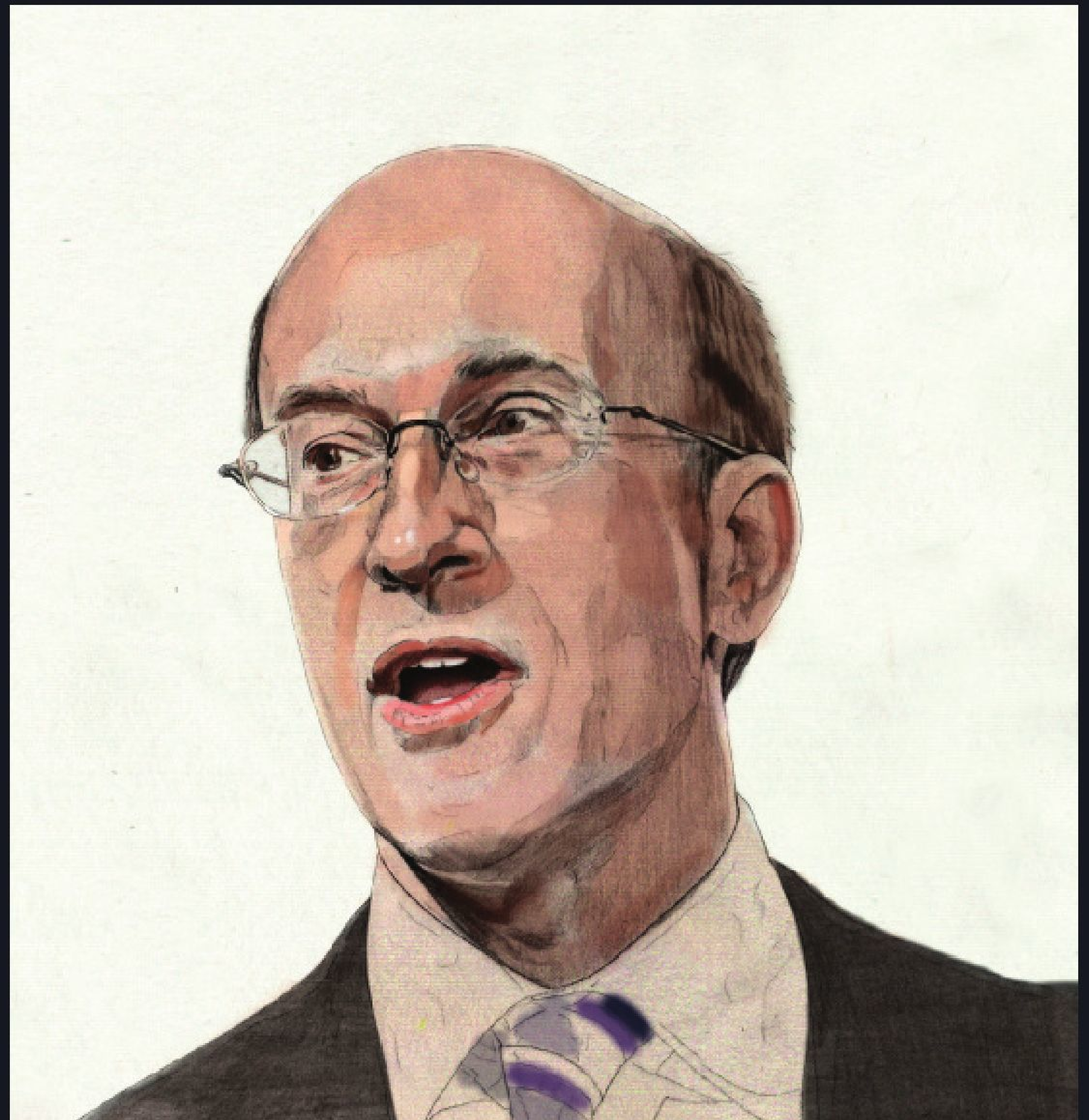
PHOTOGRAPHS BY JUN MICHAEL PARK

The home team SK Wyverns face the Hanwha Eagles in Incheon at the May 5 opening game of the South Korean baseball league. Because Covid-19 restrictions prevented spectators from attending the game, images of fans wearing masks were placed in the stands instead.

This Time

By SIMON KENNEDY

ILLUSTRATIONS BY MARTA ZAFRA



Really Is Different

CARMEN REINHART and KENNETH ROGOFF studied eight centuries of economic data to show how similar most financial crises are. We asked them what they think about 2020

When Carmen Reinhart and Kenneth Rogoff published their heavyweight history of financial crises in late 2009, the title was ironic. *This Time Is Different: Eight Centuries of Financial Folly* reminded readers that the catastrophic 2008-09 credit crisis was far from unique. The authors became the go-to experts on the history of government defaults, recessions, bank runs, currency sell-offs, and inflationary spikes. Everything seemed to be part of a predictable pattern.

And yet a little more than a decade later, we're experiencing what appears to be a one-of-a-kind crisis. The Covid-19 pandemic has catapulted the world into its deepest recession since the Great Depression, provoking an unprecedented fiscal and monetary response. To figure out what might be next, *Bloomberg Markets* spoke to Reinhart, a former deputy director at the International Monetary Fund who's now a professor at the Harvard Kennedy School, and Rogoff, a former IMF chief economist who's now a professor at Harvard. It turns out this time really is different.

BLOOMBERG MARKETS: How are you faring during the lockdown?

CARMEN REINHART: My husband and I are among the lucky ones because we can work from home. We came to Florida, where we've had a house for a decade. Our son lives in this area. Vincent's brother lives in this area. So we wanted to be close to family. It's a very busy period even though you're always at home.

KENNETH ROGOFF: I'm with my wife and 21-year-old daughter in our house in Cambridge, quarantining, so to speak. It's been a very intense period partly because I was teaching a lot. And there was the shift to Zoom, which created more work because you're trying to prepare differently and do your lectures differently. It's obviously a surreal experience overall.

BM: I will start with the clichéd question. Is this time different?

CR: Yes. Obviously there are a lot of references to the influenza pandemic of 1918, which, of course, was the deadliest with estimated worldwide deaths around 50 million—maybe, by some estimates, as many as 100 million. So pandemics are not new. But the policy response to pandemics that we're seeing is definitely new. If you look at the year 1918, when deaths in the U.S. during the Spanish influenza pandemic peaked, that's 675,000. Real GDP that year grew 9%. So the dominant economic model at the time was war production. You really can't use that experience as any template for this. That's one difference.

It's certainly different from prior pandemics in terms of the economy, the policy response, the shutdown. The other thing that I like to highlight that is very different is how sudden this has been. If you look at U.S. unemployment claims in six weeks, we've had [job losses that] took 60 weeks in terms of the runup. If you look at capital flows to emerging markets, the same story. The reversal in capital flows in the four weeks ending in March matched the decline during the [2008-09] global financial crisis, which took a year. So the abruptness and the widespread shutdowns we had not seen before.

KR: Certainly the global nature of it is different and this highlights the speed. We have the first global recession crisis really since the Great Depression. In 2008 it was the rich countries and not the emerging markets. They [the emerging markets] had a "good" crisis in 2008, but they're not going to this time, regardless of how the virus hits them.

The policy response is also different. Think about China. Can you imagine if this had hit 50 years ago? Can you imagine the Chinese state having the capacity to shut down Hubei province? To feed nearly 60 million people, give them food and water and concentrate medical attention? So there is a policy option that we have and I think most countries have. It's the choice that had to be taken to try to protect ourselves. Obviously, this has been done to differing degrees of effectiveness in different countries, with Asia reacting much quicker and with much better near-term outcomes than Europe and the U.S.

BM: How do you regard the economic policy response?

KR: It's a little bit as if you were in a war and saying, "I'm not going to grade how you're doing on the battlefield. I'm just going to grade how you're hiring extra workers at home." Obviously how you're doing on the battlefield is driving everything.

The economic policy response has been massive and absolutely necessary. You can quibble between the European style of trying to preserve firms and workers in their current jobs and the U.S. version, which is to try to address it as a natural catastrophe and try to subsidize people but allow higher unemployment. They're actually not that different. If this thing persists, a lot of those European firms will end up having to let their workers go when the crisis passes. Some of the U.S. firms will end up rehiring their workers. But certainly the aggressive crisis response reflects lessons learned in 2008.

BM: Does that explain the stock market surge, which seems at odds with the state of the economy?

CR: How much of the resilience, if not ebullience, in the market is policy driven? I think a lot of it. Let's take monetary policy before the pandemic. U.S. unemployment was at its lowest level since the 1960s. By most metrics the U.S. was at or near full employment. It's very possible that the path was toward rising interest rates. Clearly that has been completely replaced by a view that rates are zero now and that they're going to stay low for a very long, long, indeterminate period of time, with a lot of liquidity support from the Federal Reserve. So that's a big game changer, discounting futures.

Let me just point out another issue in terms of the policy response. The Fed has established a lot of facilities that are now providing support not only to corporates, but to the fallen angels, the riskier corporates that certainly were not envisioned at the outset of the pandemic. What this does mean is that the market is really counting on a lot of rescues. The blanket coverage by the Fed is broad, and that is driving the market. And expectations are that we're going to have this nice V-shaped recovery and life is going to return to normal as we knew it before the pandemic. And my own view is that neither of those are likely to be true. The recovery is unlikely to be V-shaped, and we're unlikely to return to the pre-pandemic world. Although I do think that that's part of the reason why we see this incongruence between the economic numbers and what the market is doing.

KR: Of course, the "Fed lower forever" is part of it. I also feel the markets have a very sanguine view of the virus and what's going to happen and how quickly we can return to normal or maybe how quickly we will choose to return to whatever normal is. It seems very uncertain to me. I don't know how we're coming back to 2010 levels [in the economy] in any near term. The true fall in GDP, economic historians will debate for years. It's probably much

PREVIOUS SPREAD, PHOTO REFERENCE: REINHART: ERIKA LARSON/REDUX; ROGOFF: ANDREW HARRER/BLOOMBERG

larger than the measured fall. It's not just the people not working. What's the efficiency of the people who are working? The monetary response has been done hand in hand with the Treasury. The market is banking on this V-shaped recovery. But a lot of the firms aren't coming back. I think we're going to see a lot of work for bankruptcy lawyers going across a lot of industries.

BM: So what does the economic recovery look like?

CR: There is talk on whether it's going to be a W-shape if there's a second wave and so on. That's a very real possibility given past pandemics and if there's no vaccine. One thing that's clear is the numbers are going to look spectacularly great in some months simply because you're coming out from a base that was pretty devastated. That doesn't imply that per capita incomes are going to go back in V-shape to what they were before.

The shock has disrupted supply chains globally and trade big-time. The World Trade Organization tells you trade can decline anywhere between 13% and 32%. I don't think you just break and re-create supply chains at the drop of a hat. There are a lot of geographic changes that are being necessitated because, if the economic downturn has been synchronous, the disease itself hasn't been synchronous.

Another reason I think the V-shape story is dubious is that we're all living in economies that have a hugely important service component. How do we know which retailers are going to come back? Which restaurants are going to come back? Cinemas? When this crisis began to morph from a medical problem into a financial crisis, then it was clear we were going to have more hysteresis, longer-lived effects.

KR: In our book, Carmen and I use the definition of recovery as going back to the same income as the beginning. That, by the way, is really not the Wall Street definition of recovery, where recovery is going back to where the trend was. So we use a much more modest version of recovery. And still, with postwar financial crises before 2008-09, the average was four years, and for the Great Depression, 10 years. And there are many ways this feels more like the Great Depression.

And you want to talk about a negative productivity shock, too. The biggest positive productivity shock we've had over the last 40 years has been globalization together with technology. And I think if you take away the globalization, you probably take away some of the technology. So that affects not just trade, but movements and people. And then there are the socio-political ramifications. I liken the incident we're in to *The Wizard of Oz*, where Dorothy got sucked up in the tornado with her house, and it's spinning around, and you don't know where it will come down. That's where our social, political, economic system is at the moment. There's a lot of uncertainty, and it's probably not in the pro-growth direction.

Also you probably need a debt moratorium that's fairly widespread for emerging markets and developing economies. As an analogy, the IMF or Chapter 11 bankruptcy is very good at dealing with a couple of countries or a couple of firms at a time. But just as the hospitals can't handle all the Covid-19 patients showing up in the same week, neither can our bankruptcy system and neither can the international financial institutions.

So there are going to be phenomenal frictions coming out of this wave of bankruptcies, defaults. It's probably going to be, at ►

best, a U-shaped recovery. And I don't know how long it's going to take us to get back to the 2019 per capita GDP. I would say, looking at it now, five years would seem like a good outcome out of this.

BM: I'd like to focus on the debt issue. The Group of 20 has already agreed to freeze bilateral government loan repayments for low-income nations until the end of 2020. How else do we deal with what developing and emerging economies owe?

CR: The problem in emerging markets goes beyond the poorest countries. For many emerging markets, we've also had a massive, massive oil shock. Nigeria, Ecuador, Colombia, Mexico—they've all been downgraded. So the hit to emerging markets is just very broad. Nigeria is in terrible shape. South Africa is in terrible shape. Turkey is in terrible shape. Ecuador already is in default status, as well as Argentina. These are big emerging markets. It's going to be enormously costly.

For the G-20 initiative, I indeed hope it is the G-20 and not just the G-19. China needs to be on board with debt relief. That's a big issue. The largest official creditor by far is China. If China is not fully on board on granting debt relief, then the initiative is going to offer little or no relief. If the savings are just going to be used to repay debts to China, well, that would be a tragedy.

We've not mentioned Italy, and that brings us to the euro zone. This is very, very destructive within the euro zone. If it drags on, the forces that are pulling the euro zone apart are going to grow stronger and stronger.

BM: What is the appetite at the IMF for coming to the rescue?

KR: The IMF at this point is all-in on trying to find a debt moratorium, recognizing there's going to be restructuring in a lot of places. But I don't think the U.S. is by any means all-in, and a lot of the contracts of the private sector are governed under U.S. law. And if the U.S. government is not in, if China's not in, it's not really enough. But it's far easier to go the route of the G-20. If the G-20 says it's in the global interest that debt moratoria be widely respected by all creditors for the next year, then that carries a lot of force, even in U.S. courts. But if they don't say that, and every country's left on its own to work something out, I think we get back to my Covid-19 hospital analogy where the system just gets overwhelmed.

BM: What about the debts in the major economies, given they have been run up so aggressively?

KR: It's not a free lunch, but there was no choice. This is like war. There is no debate that they should be doing all they can to try to maintain political and social cohesion, to maintain economies. But what lies at the other end? I go back to my *Wizard of Oz* analogy. The financial markets think there's no chance interest rates will go up. There is no chance inflation will go up. If they're right, and if another shoe doesn't drop, it'll be fine. But we could have costs from this. We're talking about economies shrinking by 25% to 30%. And those [declines] are just staggering compared to the debt burden costs, whatever they are. So certainly we would strongly endorse doing what governments are doing. But selling it as a free lunch, that's stupefyingly naive.

CR: I actually wanted to go back to the Italy issue. If you look back to 2008-09, nearly everybody had a banking crisis. But a couple of years later, the focus had moved from the banking problem to the debt problem. And it was the peripheral Europe debt problem with Portugal, Ireland, Iceland—most notoriously Greece—having the largest, by a huge margin, IMF programs in history. I would point out that Greece, Ireland, and Portugal combined are a little over a third of Italian GDP. And if there's a shakeout that involves concerns about Italy's growth, then we could have a transition again from the focus on the Covid-19 crisis this time to a debt crisis. But Italy, as I said, is on a different scale than the peripheral countries that got into the biggest trouble in the last crisis. It potentially also envelops Spain. So I think that if you were to ask me about an advanced economy debt issue, I think that is where it is most at the forefront.

KR: We argued at the time that the right recipe was to involve writedowns of the southern European debts. And I think that would have been cheap money in terms of restoring growth in the euro zone and would have [been] paid back. And we may be at that same juncture in another couple of years where you're looking at just staggering austerity in Spain and Italy on top of a period of staggering hardship. Advanced countries have done this all the time—finding some sort of debt restructuring or writedown to give them fiscal space again, to support growth again. If the euro zone doesn't find a way to deal with this, maybe eurobonds might be in the picture to try to indirectly provide support. Again, we're going to see huge forces pulling apart the euro zone.

BM: What about China, which also has leverage challenges?

CR: Chinese growth has always been very outward-looking, very propelled by export-led growth. You've also had much of its double-digit growth come from incredible fixed investment. So I think the settling point for Chinese growth is going to be well below 6%. I'm not saying they're not going to have a rebound after the more than 20% crash at the beginning of this year. But I'm saying that then your settling point is going to be lower than 6%. And part of the story is debt. It's hard to say in China what is public and what is private, but corporates in China levered up significantly, expecting that they were going to continue to grow at double digits forever. That hasn't materialized. There's overcapacity in a lot of industries.

China came into this with inflation running over 5% because of the huge spike in pork prices. So I think initially that the PBOC [People's Bank of China] has been somewhat constrained initially in doing their usual big credit stimulus by uncertainty over their inflation. I think that's changing because of the collapse in oil price. So I do think we are going to see more stimulus from China.

KR: There will be a pretty sustained growth slowdown in China. We were on track for that anyway. But who can they export to? The rest of the world is going to be in recession. I think if they can average 1% growth the next two, three years, then that will look good. That's not a bad prediction for China. And let's remember, their population dynamic is completely changing. So 3% growth in that, with that Europeanizing of their population dynamics, would not be bad at all. But there's a big-picture question about their huge centralization, which is clearly an advantage in dealing with the national crisis but maybe doesn't provide the flexibility over the long term to get the dynamism that at least you've got in the U.S. economy.

BM: How does central banking change worldwide? Do we see that blurring of lines with fiscal policy?

KR: It's fiscal policy that they're doing in this emergency situation. You can't imagine trying to get these same subsidies passed through the Senate and the House in real time. So central banks all over the world are using the fiscal side of their balance sheet. A lot of people don't properly understand that governments own the

central banks. And when the central bank uses its balance sheet, it's acting as an agent on behalf of the government, whether it's doing maturity transformation, which is what pure quantitative easing is, when it buys long-term debt, [or] it's doing subsidies to the private sector by buying mortgages, by intervening in corporate debt, by intervening in municipals.

Ultimately I hope we don't see a big change in central banks, but we're probably going to need an expansion in finance ministries to take on and regularize and legitimize some of these responsibilities. Lastly I think we're not in a position to use deeply negative interest rates because the preparation hasn't been done. And you have to deal with cash hoarding. That's a shame because I think that would have been a valuable instrument, and would have been helpful for some municipals and corporates, and would have reduced the number of patients going into bankruptcy court. Monetary policy is essentially castrated by the zero bound.

CR: Central banks were the arm of financing during two world wars, without question. I think you would have been laughed at if you really brought up the issue of central bank independence in the context of either world war. You really can't separate the fiscal story and the debt story from the monetary story in extreme periods. Central banks began to do fiscal policy not just this time around, but they began to do fiscal policy in the 2008-09 crisis. We really can't look independently at central banks without also looking at the balance sheet, not just of the government, but the balance sheet of the private sector, which has a lot of contingent liabilities.

On the issue of negative interest rates, I do not share Ken's views on that particular matter. When you have, as we do today, very fragmented markets, markets that became totally illiquid, I think the way I would deal with that would not be through making rates more negative, but by an approach closer to the one taken by the Fed, which is through a variety of facilities that provide directed credit. Sustained negative interest rates in Europe have led to a lot of bank disintermediation. And often bank disintermediation means that you end up with the less regulated, less desirable financial institutions.

BM: There is some question over the future path of inflation. Do you see an inflationary surge at some point?

KR: We don't know where we will come out. So the probability is, for the foreseeable future, we'll have deflation. But at the end of this, I think we're going to have experienced an extremely negative productivity shock with deglobalization. In terms of growth and productivity, they will be lasting negative shocks, and demand may come back. And then you have the many forces that have led to very low inflation maybe going into reverse, either because of deglobalization or because workers will strengthen their rights. The market sees essentially zero chance of ever having inflation again. And I think that's very wrong.

BM: And what scars are left on economies once the pandemic passes?

CR: Some of the scars are on supply chains. I don't think we'll return to their precrisis normal. We're going to see a lot of risk aversion. We'll be more inward-looking, self-sufficient in medical supplies, self-sufficient in food. If you look at some of the legacies of the big crises, those have all seen fixed investment ratchet down and often stay down. ●

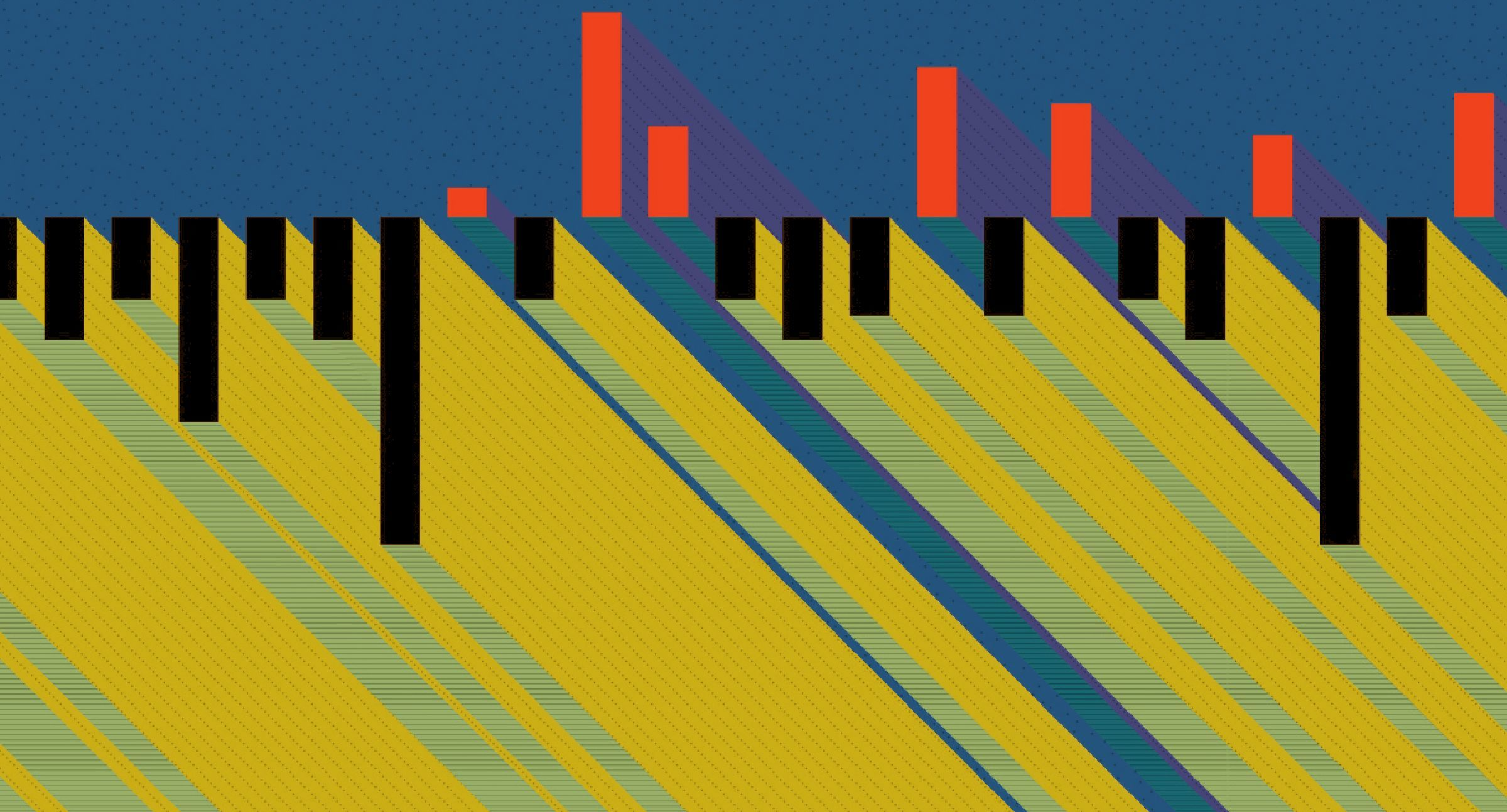
Kennedy is executive editor for Bloomberg Economics in London.

Many hedge funds, already struggling, were hit hard by the pandemic-driven market collapse.

The Crisis Beaters

By
BLOOMBERG
NEWS

ILLUSTRATION BY
STORYTK



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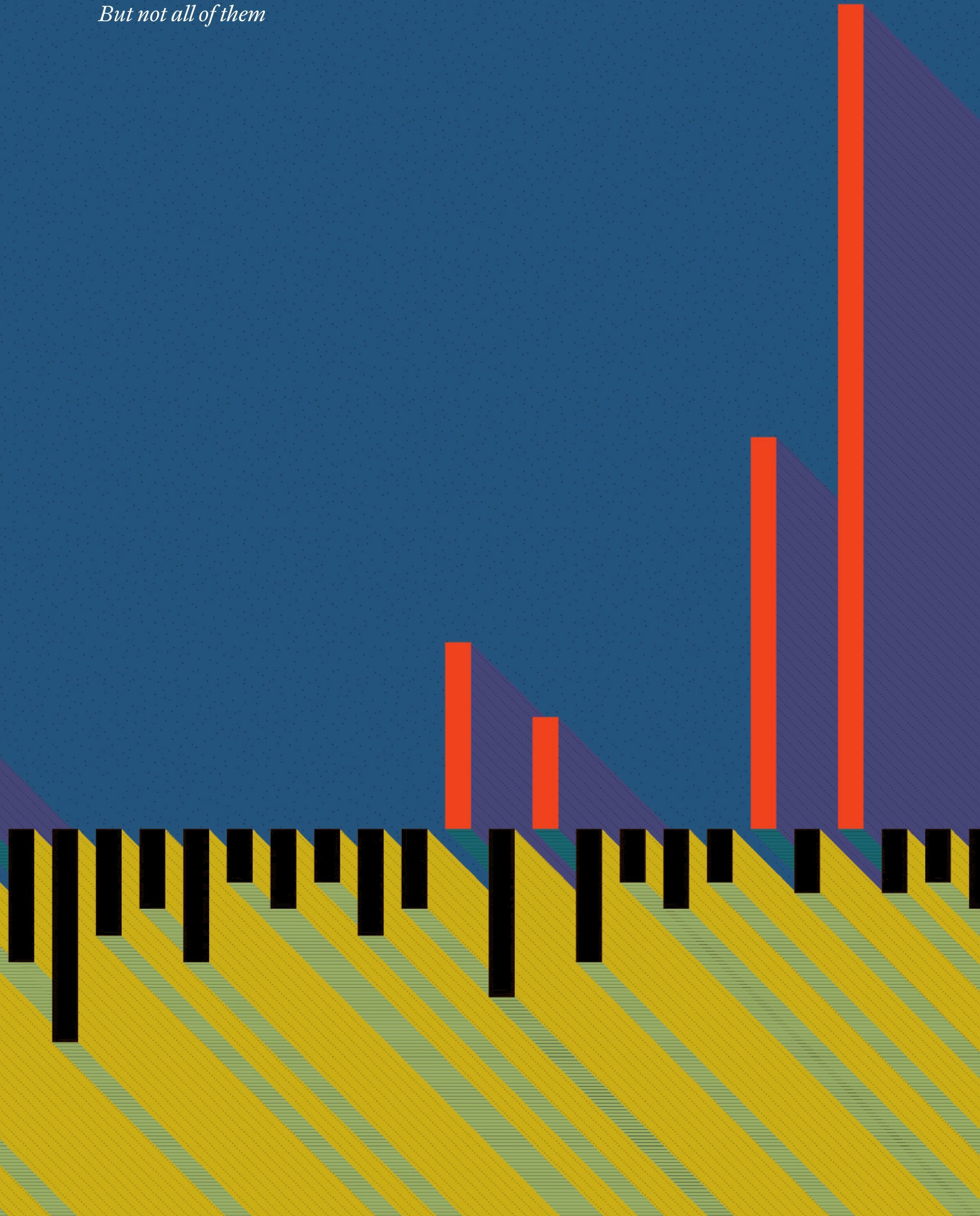

18+

WHAT IS
AVAXHOME?

AVAXHOME -

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A SMALL GROUP OF HEDGE FUNDS managed to overcome the fast and furious market rout in March as the coronavirus pandemic sent countries around the world into a lockdown. For them, the sell-off brought riches that some haven't seen since… well, since the last financial crisis. Notably, these profits were derived from a wide variety of investment approaches, from macro and credit to long/short equity and oil. ¶ The crisis beaters were the exceptions. ¶ Most hedge funds, including those run by industry titans such as Ray Dalio and Michael Hintze, failed in their mission to protect investors from the market turmoil. Three in every four hedge funds lost money, with some down as much as 40% in March, according to data compiled by Bloomberg. ¶ The outcome threatens to further disrupt the hedge fund industry, which in March saw assets plunge below $3 trillion for the first time since 2014. Although it was too early in May to gauge the eventual damage, initial fund-flow figures painted a grim picture. Clients withdrew a net $33 billion in the first quarter, the most in more than a decade, according to Hedge Fund Research Inc. ¶ Here are some of the March winners:

U.S.

UNIVERSA

Tail risk

Miami

ASSETS UNDER MANAGEMENT: About $4.4 billion in regulatory assets (includes borrowed money) as of Dec. 31

Mark Spitznagel, who founded the firm in 2007, is known for profiting during the dot-com bust and the 2008 market meltdown.

MARCH RETURN: 3,612%

Universa Investments tells clients to think of its tail-risk hedge fund as a kind of insurance against financial catastrophe. Sure enough, the fund soared more than 4,000% through the first quarter, gaining 3,612% in March alone, according to an investor letter seen by Bloomberg News. It was able to lock in the gains by cashing in many of its holdings while at the same time having protection in place against any further plunge in stock prices.

Nassim Taleb, author of *The Black Swan: The Impact of the Highly Improbable,* is a scientific adviser to the firm. The pandemic wasn't a black swan—it was a predictable event, he told Bloomberg TV in late March. Even so, he said, insurance should always be in place since the timing of such events can't be predicted.

In an April 7 letter to investors, Spitznagel, the firm's president and chief investment officer, said central bank stimulus programs designed to counter the pandemic's economic consequences could be "destructive" and warned of trouble ahead. "The world remains very much trapped in the mother of all global financial bubbles," he wrote. *—Melissa Karsh and Erik Schatzker*

SABA CAPITAL

Credit, relative value

New York

AUM: About $2.7 billion

Boaz Weinstein, who started Saba in 2009, has made money exploiting the price differences of related credit securities and typically does best when volatility is high.

MARCH RETURN: About 36%

Weinstein, a lifelong chess master, had been positioned to capitalize on turbulence in debt markets. The former head of credit at Deutsche Bank AG has had a mixed record in his flagship fund since starting Saba. But he tends to thrive in market chaos, and this year's turmoil has proven no exception.

Saba Capital Management surged 71% in the first three months of the year in its main hedge fund, benefiting from some of the most violent market swings in almost a decade, according to a person with knowledge of the matter. Wagers on credit-default swaps and derivatives trades on companies in the retail and energy sectors helped spur the gains at the 11-year-old firm.

The bets go back to the end of last year. That's when Saba began snapping up credit-default swaps on companies including Royal Caribbean Cruises Ltd. and United Airlines Holdings Inc. This year he was able to then sell the swaps at much higher prices as the pandemic began to weigh on the global economy. *—M.K.*

HAIDAR CAPITAL — *Macro*

New York

AUM: About $900 million

Said Haidar, who founded his eponymous firm in 1997, bets on macroeconomic shifts in economies around the world.

MARCH RETURN, HAIDAR JUPITER FUND: 25%

Haidar runs one of this year's top-performing macro hedge funds. His $900 million Jupiter Fund surged 25% in March—its largest monthly gain on record—taking its returns for the quarter to 53.5%, according to an investor letter seen by Bloomberg News. He's reaped the gains by betting on haven assets such as gold, Swiss francs, the yen, and bonds.

Haidar Capital Management sifts through trends in global economies and geopolitics to bet on everything from currencies to interest rates to stock indexes. This time around, he's told investors, the market pain is only just beginning. As a result, he warned them not to buy the dip in stocks in March, as he expects the pandemic's effects to drag on.

For one thing, Haidar is conservative in his expectations about the development of a vaccine. What's more, he's said the full extent of the problem is being masked as Covid-19 cases go undetected in developing nations, with South Africa, India, and Turkey particularly exposed. *—M.K., with Ben Bartenstein*

PERSHING SQUARE — *Activist*

New York

AUM: $8.1 billion as of April 30

Bill Ackman, the firm's founder and chief executive officer, is known for amassing stakes in companies and pushing them to make changes.

MARCH RETURN: 11.1%

As markets sold off in March, Ackman was busy putting hedges in place to offset the effects of the coronavirus on his portfolio. That paid off massively as he made roughly a 100-times return, generating $2.6 billion in proceeds by the time he exited them on March 23.

It's a profit that might not have materialized at all: Ackman considered liquidating the whole portfolio before putting on the hedges—made mostly through purchases of credit protection on investment-grade and high-yield credit indexes—but then decided not to. Then in mid-March he made a "recovery bet" on the economy, investing $2.5 billion in equities after gaining confidence "that the president and his team were heading in the right direction," he said in a Bloomberg TV interview.

The moves helped Pershing Square Capital Management—known for making concentrated, often controversial bets on companies including Herbalife, Valeant Pharmaceuticals, and Chipotle—erase losses from earlier this year. Since then, Ackman has invested the capital back into some of his portfolio companies, including Lowe's Cos. and Warren Buffett's Berkshire Hathaway Inc. The fund was up 17% for the year through April.

"It would not be a surprise to see a rapid recovery in the stock market when investors have greater confidence that the risks of the virus are largely behind us," Ackman wrote in an April 6 letter to shareholders. *—M.K. and Scott Deveau*

Europe

ANDURAND — *Oil trading*

London and Malta

AUM: More than $1 billion in 2019

Pierre Andurand, who runs one of the few oil-focused hedge funds still around, has traditionally been one of the most bullish traders.

MARCH RETURN, ANDURAND COMMODITIES DISCRETIONARY FUND: 154.7%

Andurand Capital Management abandoned its bullish views to reap rich dividends in March as crude prices slumped to levels last seen decades ago. Its Andurand Commodities Master Fund was up 63.5% in March, ending the first quarter with gains of 53% and expunging all the losses from the previous two years. The main driver of the returns was the fund's long put options on both Brent and West Texas Intermediate crude, according to a person with knowledge of the matter. Energy prices plunged as the spread of Covid-19 led to the shutdown of economies around the world, destroying demand for oil as global inventories ballooned.

Andurand says he started to get worried in late January. He spent weeks studying the virus and building models before concluding that the number of cases and the fatality rate would be significantly higher than what leading epidemiologists and health organizations were saying at the time. "This was deeply concerning," he says. "It was clear from the evidence that the virus would be extremely harmful to oil demand."

In early February he established a short position in oil by buying put options and shorting futures. He maintained the exposure throughout March. The bet led to returns of 154.7% in his Commodities Discretionary Fund and more than 60% in his Andurand Commodities Fund, marking his best-ever month. *—Nishant Kumar*

CHENAVARI

Credit

London

AUM: More than $5 billion

Loïc Fery, a credit trader, co-founded Chenavari in the depths of the last financial crisis with Frédéric Couderc.

MARCH RETURN, DYNAMIC CREDIT CYCLE FUND: 73.5%

Fery seems to have learned firsthand about Covid-19. In early April he thanked his Twitter followers for their "kind messages," saying "the 10 difficult days (lung pain, short of breath) are hopefully behind" and "this virus is certainly not just a flu!" (He declined to comment further about his illness.)

By then, Chenavari Investment Managers' $400 million Dynamic Credit Cycle Fund was already a big winner, gaining an estimated 73.5% in March as credit spreads widened, according to a document seen by Bloomberg News. Amid measures to control the pandemic, a gauge of European high-yield credit risk rose in March to its highest level since 2012.

"In this environment, the many weaknesses of the over-levered credit market will be exacerbated," says Fery. A former global head of credit markets at Crédit Agricole SA's Calyon unit and president of Brittany, France-based soccer team FC Lorient, Fery founded Chenavari along with Couderc in the depths of the financial crisis. Couderc, who manages the Dynamic Credit Cycle Fund, spent most of his career at Bear Stearns and Natixis SA. *—Katie Linsell*

ODEY

Long/short equity led by macro calls

London

AUM: $808 million in main strategy as of March 31

Crispin Odey is known for making big, directional wagers against the popular view. His recent bearish bets have led to losses in four of the last five years.

MARCH RETURN, ODEY EUROPEAN INC. FUND: 21%

In March, Odey pulled off the second-best monthly gain in his hedge fund since Odey Capital Management started trading almost three decades ago. His flagship Odey European fund gained 21% as his short equity bets on companies including Lancashire Holdings Ltd. and Auto Trader Group Plc, as well as wagers against U.S. shale oil operators, paid off. The fund also made money betting long on the refiners and tanker owners who benefited as investors looked to park surplus oil.

Odey's gains came despite a number of his bets going against him. His wager on a pickup in inflation backfired. A rally in bonds and bad bets in Argentina, including on Banco Macro SA, also hurt. "It was easier to see what didn't work rather than what did work," he says, adding that money in the short term will be made through bets on rising inflation. "Insourcing will be in vogue, pointing to everything to be more expensive," Odey says. *—N.K.*

BREVAN HOWARD

Macro

Jersey

AUM: $9.4 billion as of March 31

Co-founded by billionaire Alan Howard, it's one of the best-known macro trading firms in the world.

MARCH RETURN, BREVAN HOWARD MASTER FUND: 18.3%

For much of the past decade, Brevan Howard has been in the spotlight for mediocre returns and fleeing investors. Gains in March put the macro trading powerhouse back on track, with its Master Fund surging 18.3%, the most since it began trading in 2003. Returns in the first quarter rose to almost 23%, a sharp turnaround for a firm that had assets of $40 billion in 2013.

The Master Fund's $3.8 billion in assets is divided among more than a dozen traders, some of whom also run their own hedge funds. Long bets on U.S. rates, put options on crude oil, and directional bets on interest rates boosted returns as energy prices tumbled, Brevan Howard told clients in a letter seen by Bloomberg News.

Returns of more than 35% were generated by a pool of money run by traders, including Howard. When Howard stepped down as CEO last year to focus on trading, Aron Landy, the firm's chief risk officer, took over. *—N.K.*

HORSEMAN

Equity long/short

London

AUM: $327 million as of March 31

Born and raised in the Australian capital of Canberra, Russell Clark runs the firm. He's known for his persistent bearish bets since 2012.

MARCH RETURN, HORSEMAN GLOBAL FUND: 15.2%

Clark, whose excruciating losses were the talk of the town not long ago, came bouncing back. Horseman Capital Management's Global Fund gained 15.2% in March, boosting returns for the first quarter to almost 27%. While the gains are still not enough to repair damages he suffered amid a stock market rally last year, they seem to validate some of the warning signals he'd been flagging for years.

As securities prices swung wildly in March, many of Clark's short bets paid off because they were tied to autocallables, complex equity-linked securities that aim to generate regular income for buyers betting on calm to prevail. For Clark, whose fund's assets shrank to $261 million at the end of March, down from $1.7 billion at the end of 2015, the returns during the pandemic have brought much-needed relief.

Clark has positioned his portfolio to benefit from a potential pickup in inflation as the pandemic disrupts supply chains. "Intellectually we have been in the deflation camp for 10 years," he wrote to investors on April 15. "We are now much more in the inflation camp. I will let others decide if that still qualifies me for the most bearish fund manager." *—N.K.*

A Brutal Month

Hedge funds*, by March return

■ Less than −10% ■ −10% to −5% ■ −5% to 0 ■ 0 to +5% ■ +5% to +10% ■ More than +10%

*Based on the 1,434 constituents of the Bloomberg All Hedge Index reporting returns as of April 27

Source: {BHEDGE Index}

Asia

DYMON *Macro*

Singapore

AUM: About $5 billion

Danny Yong, chief investment officer, made his name in macro trading and building a diversified firm investing in public and private markets.

MARCH RETURN, DYMON ASIA MACRO FUND: 13.9%

The success of Dymon Asia Capital (Singapore) Pte's $2 billion flagship macro fund in March boosted first-quarter returns to 37%. Since December, Yong had been decrying market complacency and the lack of preparation for major dislocations. The former Goldman Sachs Group Inc. and Citadel trader was convinced that when the market did turn, it would overshoot and catch most investors on the wrong foot.

The fund's most profitable trades in March were bearish bets against stocks and wagers that Asian currencies outside Japan would weaken against the dollar, Yong says.

Using alternative data ranging from highway congestion to Google search interest, Dymon modeled the coronavirus's spread and economic impact. He concluded that the Chinese economy would slow more than consensus expectation in February and that the U.S. market was underestimating the economic fallout from the pandemic.

Yong says many countries that put stimulus programs in place did so at the expense of their own currencies. This, he says, "does not solve the issue of a 'cliff' in consumer spending when the world is staying home for much of first quarter and most of second quarter." *—Bei Hu*

APS *Long/short equity*

Singapore

AUM: $2.14 billion

In February founder and Chief Investment Officer Wong Kok Hoi repositioned his firm to give it more of a China focus.

MARCH RETURN, ASIA PACIFIC LONG SHORT FUND: 10%

Wong was a bear before it was cool, and last year that cost him money. In June 2019 the Japan-educated founder of APS Asset Management warned that markets were overvalued and that the U.S.-China trade war was merely symptomatic of a longer-term conflict between the two superpowers. He shorted key supply chain stocks and casino operators with significantly negative net exposure going into 2020, only to watch them climb.

But Wong stayed the course and was rewarded as markets tanked. While the Covid-19 outbreak has spoiled his plans to partly base himself out of mainland China, it's rewarded his shorting of gaming operators, an Australian retailer, and a coal stock. When Wong's $260 million Asia Pacific Long Short Fund climbed in March, it took his first-quarter gains to 16%.

Wong started APS in 1995 after careers at GIC Pte, Singapore's sovereign wealth fund, and what was then known as Cititrust & Banking Corp., Japan.

With unemployment rising and poor corporate results inevitable, Wong remains pessimistic. "Government measures are disaster relief measures and not stimulus measures, which would lead to job creation or economic output," he says. "Hence, the expectation of a quick recovery at this point is way too optimistic." *—David Ramli*

Karsh covers hedge funds in New York. Schatzker is a correspondent for Bloomberg TV in New York. Deveau covers deals in New York. Kumar covers hedge funds in London. Linsell covers corporate finance in London. Hu covers hedge funds in Hong Kong. Ramli covers investing in Singapore.

By EDWARD ROBINSON

ILLUSTRATION BY MARK WANG

Now What?

REMEMBER WHEN all of this was unthinkable? More than 20 million out of work in the U.S. China seizing up. The oil market collapsing, entire industries—airlines, professional sports—shutting down.

It seems a calamity of this magnitude should have been a thing of the past. And yet here we are, confronting the reality that a virus 400 times smaller than the diameter of a human hair has exposed the weaknesses of our globalized economy with ruthless indifference. The crisis is a rupture between the world we knew and the one that's coming.

The question now is, what will this new world look like?

For all of the initial hopes that things would snap back to normal with a V-shaped recovery once the Covid-19 disease was suppressed, it's becoming more likely that a protracted, L-shaped path lies before us. Ben Bernanke, the former chairman of the Federal Reserve who managed its response to the 2008-09 crash, says the U.S. economy has little chance of truly rebounding until the virus is defeated and people feel safe enough to resume their life.

Yet he also says the swiftness and scale of Washington's reaction to the economic crisis—the Fed and Congress are on course

to deploy more than $6 trillion in support for businesses and households—should prevent it from unfolding like the Great Depression, a 10-year slog worsened by policy errors and inaction. "If we are patient and do what we should be doing, we will come out all right on the other side," Bernanke said in a webcast conducted by the Brookings Institution in April.

Michael Mandel, chief economic strategist at the Progressive Policy Institute in Washington, says the flash flood of money will accelerate the drive by industries to invest in technology and automation to improve productivity. And manufacturers will be motivated to bring home operations long outsourced to China and other cheap-labor locales in a process he calls localization. Both of these developments should lead to an increase in wages and opportunities for workers, he says. Many of these shifts were already under way before calamity struck. One of the extraordinary effects playing out is a form of "accelerated history," in the words of Richard Haass, president of the Council on Foreign Relations. We're watching developments that normally take years to unfold do so in weeks.

But many of these trends will come at the expense of swaths of society ill-equipped to participate in a more sophisticated labor market that depends increasingly on software and automation, even in blue-collar jobs. "This is going to be a painful, nasty, tragic period, but I also see an opportunity for a boom in capital investment, digitalization, and entrepreneurialism," Mandel says. "Now the benefits of technology-driven growth are going to be spread more widely, but some people will be left behind, and the need for a social safety net will become much more relevant."

This is just one of the dynamics that will play out as investors and businesses look for stability and growth. The fear, of course, is that restoring a sense of normalcy won't be possible. Too much time will have passed and too much damage will have been done. State interventions in the private sector, which make the bailouts of 2008-09 look quaint, are bound to shake up the political landscape for years to come. The prepandemic era may be unrecoverable.

Yet there's a case to be made that that's fine. It wasn't as if the world was enjoying a period of blissful calm before the novel coronavirus struck. President Trump's America with its nationalist populism; Britain and its Brexit; and Turkey, India, and other ►

countries already had upended the world order set in motion after World War II. Anxiety about a chaotic future has been running high for some time.

The twin challenges of climate change and economic inequality were galvanizing the political energies of young people and refocusing the agendas of investors and corporate chieftains. Change was in the air. Amartya Sen, the Nobel Prize-winning economist and expert on inequality, is one of many influential voices calling on leaders to seize the moment and create a new social contract that finally addresses chronic imbalances such as the lack of affordable health care in the U.S.

Pandemics do have a way of forcing radical redistributions of wealth. The historian Walter Scheidel says that disease—along with war, revolution, and state collapse—is one of the "Four Horsemen" that have flattened inequality throughout history. After the plague killed more than a quarter of Europe's population in the 14th century, real incomes in Amsterdam, London, and other cities doubled as surviving laborers and craftsmen commanded higher compensation, as well as meat and beer, for their work. In the meantime, income among the aristocracy fell, and numerous noble families, left without heirs or strategies for preserving their fortunes, disappeared, Scheidel argued in his 2017 book, *The Great Leveler: Violence and the History of Inequality From the Stone Age to the Twenty-First Century*.

Could such a moment be at hand again? Recent proposals to tax the superwealthy and adopt universal basic income for the masses were dismissed by many as nonstarters. Now such measures suddenly seem possible with a Republican president signing $1,200 checks for taxpayers and a Conservative British government covering 80% of the pay for millions of furloughed workers through at least July. Eventually, states are going to need windfalls of tax revenue simply to dent the astronomical debts incurred this year.

As terrible as Covid-19 is, it's not going to be enough to force a fundamental reordering of our economic priorities, Scheidel says. He says inequality will actually worsen as workers lose jobs and, in the U.S., access to affordable health-care insurance. Although governments may prevent a prolonged depression, he says, their efforts will ultimately fortify the status quo the way they did after the 2008 crash. It may take successive waves of crises, including climate change, to upend a world where the richest 62 people own as much wealth as half the global population. "In the 14th century you had famines, plague, and then more plague," says Scheidel, a history and classics professor at Stanford. "If you take a 50-year view, you could end up with enough dislocation to create change."

Faiza Shaheen, an economist, says the time is long past due for improving the livelihood of workers who've found themselves on the front lines of the pandemic. A U.K. Labour Party activist who narrowly lost her bid for a seat in Parliament in December, Shaheen watched with astonishment as Boris Johnson's Conservative government rushed through emergency measures that could have come right out of her own side's playbook.

Now she fears the crisis will pass, leaving unresolved long-neglected problems such as the low wages paid to those who tend to the elderly in social-care homes. In the U.K. as in other countries, those facilities were hit hard by coronavirus infections, with 8,312 deaths recorded as of May 1 in England and Wales.

Shaheen says the failure to support social-care workers is one of the legacies of the policies of austerity and privatization that successive Conservative governments pursued in the decade following the crash of 2008. "There would have to be deep changes in Tory ideology to get lasting increases in public investment," says Shaheen, director of the Centre for Labour and Social Studies in London. "We are going to have to shout really loud and build a social movement to see real change."

Shareholder activist Catherine Howarth is making some noise herself. As the chief executive officer of ShareAction in London, she's among those at the forefront of the environmental, social, and governance, or ESG, movement. Too many companies, Howarth says, use poorly paid employees, freelancers, and zero-hour contracts that don't vest workers with the benefits and security of permanent employment—all problems that the pandemic has exacerbated.

So her not-for-profit, which has long put pressure on companies over climate change, is enlisting institutional investors to use their clout, and shareholder resolutions, to get boards to adopt more progressive employment policies. More than 40 listed companies in Britain have already committed to paying a "living wage," which is 20% higher than the minimum wage, to employees and contractors. Given the growing influence of ESG funds—last year investors plowed more than $20 billion into these vehicles, four times more than in 2018—she's hopeful more firms will get on board.

But Howarth really can't say whether the crisis will be a catalyst for change. "I have no idea if this moment will dissipate or

"The benefits of technology-driven growth are going to be spread more widely, but some people will be left behind, and the need for a social safety net will become much more relevant"

The Great Intervention

Lawmakers and central bankers around the globe have raced to prevent another Great Depression by unleashing myriad stimulus and monetary responses. Here are a few highlights from some of the largest economies.

	U.S.	China	Germany	Japan	U.K.
Confirmed deaths related to Covid-19	**82,376**	**4,637**	**7,738**	**657**	**32,769**
Government spending	Washington sends $2.3 trillion in payments to taxpayers and expands unemployment and food benefits.	Beijing spends $370 billion on epidemic prevention, medical equipment, unemployment benefits, and tax relief.	Federal and state lawmakers commit $949 billion to fund state-backed loans for businesses.	Tokyo's $1.1 trillion stimulus package is equivalent to about a fifth of the nation's GDP.	The Treasury pays 80% of wages for furloughed workers through at least July and allocates $410 billion to support businesses.
Central bank action	The Fed slashes rates to 0.25% and backstops virtually the entire financial system, even purchasing junk bonds and small-business loans.	The People's Bank of China injects $470 billion in liquidity into the banking system and supports manufacturers and smaller companies.	The European Central Bank introduces an $810 billion quantitative easing program to purchase private- and public-sector securities across the euro zone.	The Bank of Japan raises its upper limit on purchases of commercial paper and corporate bonds to $186 billion.	The Bank of England cuts its benchmark interest rate to 0.10%.

Death tolls as of May 12. Policy actions current through April 30.
Sources: Bank of England, European Central Bank, Federal Reserve, HM Treasury, IMF, Bloomberg

there will be enough imagination in companies and the investment community to design a new form of capitalism that protects people from these kinds of shocks," she says. "But maybe we can build things back better than they were."

Many of the certainties we took for granted in the global economy are now up in the air. Take China. The Progressive Policy Institute's Mandel says the disruption of supply chains with the world's second-biggest economy will have far-reaching repercussions. For so long, China filled the shelves of American big-box stores. The wondrous thing about this flow was that prices held firm year after year even as average wages in China quadrupled. The anomaly speaks volumes about how China vaulted hundreds of millions of its citizens out of poverty at the same time as America savored the fruits of a consumption-led boom.

Even if Trump's trade dispute with China didn't truly blow up this cycle, the coronavirus almost certainly will, Mandel says. That means the prices of Chinese goods will probably rise just as the Fed is flooding the economy with cash and Americans become more savings-minded. Mandel says inflation, that old bugbear that last bedeviled the U.S. economy in the early 1980s, could come roaring back.

But it may take a while. When the bottom fell out of the energy market in April and the price of oil slid below zero, it became clear that disinflationary risks would affect the global economy for some time to come. Iain Barnes, the head of portfolio management at Netwealth Investments Ltd. in London, says it's hard to see exactly how demand for energy will rebound anytime soon.

Still, Ray Dalio goes so far as to say you'd have to be "crazy" to hold government bonds because central banks are willing to print money to save their economies, which will make their fixed-income obligations a poor storehouse of wealth. That's a startling opinion given that the debt of the U.S. government and other highly rated states is considered the safest bet. Moreover, Dalio, the founder of Bridgewater Associates LP, the world's biggest hedge fund, told Bloomberg News in April that the pandemic will usher in a "new world order" as leaders strive to fill what he calculates is a $20 trillion hole in the global economy. He says investors will even have to redefine "the value of money and credit."

Bernanke also sees lasting shifts in our political economy. He's been thinking about the principle of hysteresis, which in economics refers to the perception that what might at first be judged temporary eventually becomes permanent. He notes that economists have long been concerned about the rising concentration of big corporations across industries. That trend may intensify if the government cannot help smaller companies survive the crisis. Bernanke also said teleworking and doing business remotely had the potential to reshape consumer behavior and the economy.

Money manager Peter Fitzgerald has lived through a lifetime's worth of crises, from the Asian financial meltdown of 1997 through the dot-com crash of 2000, to the bust of Enron and WorldCom in the early aughts, all the way through the subprime mortgage crackup in '08 and then the European Union's 2012-15 sovereign debt crunch. Through them all, he says, you could almost always see a solution.

No matter how intractable the problem seemed—remember that tug of war between Germany and Greece over a bailout five springs ago?—you could take solace because there was a fix, no matter how unpalatable it might be. "This time we just don't have the data," says Fitzgerald, chief investment officer for multiasset strategy at Aviva Investors Global Services Ltd. in London. "I have a feeling this is still just beginning."

This loss of agency, of control, is what Fitzgerald and so many other seasoned finance pros find truly chilling. It's the virus, not the Fed's Open Market Committee or the EU's Eurogroup, that's calling the shots. Until our science gives us the upper hand, the best we can hope for is to hold the line. ●

Robinson covers wealth in London.

Living Through a Pandemic

By FRANCINE LACQUA

SABINE KELLER-BUSSE
Group chief operating officer, UBS Group

What's your best working-from-home advice?

Having a routine is vital. Alongside work, set aside time for breaks, exercise, and family and make sure you stick to it as much as possible. I also feel it's important to stay in touch with colleagues. Not just to talk about work, but also to interact on a personal level. And if you're a team leader, it's your job to keep up momentum and make sure that everyone feels included.

Which books, movies, TV shows, or games have helped you through this time?

Most of my spare time has been spent helping to home-school my two daughters. But when we do get some family time away from the computer, we've been rediscovering the joys of board games and card games that I used to play when I was a kid—like Eleven starts! And spending so much time at home has given me a green thumb—our garden has never had so much attention.

How will you be different after this pandemic is over?

I imagine we'll all cut down on business travel. The past month has shown how simple it is to work virtually if you have the right technology, at every level of the organization. And I'm looking forward to making the most of all those things we all used to take for granted: playing sports, meeting up with friends, dining out, or going to a concert.

DAVID HERRO
Deputy chairman, Harris Associates

What's your best working-from-home advice?

Keep a positive mental attitude and walk at least 2 miles per day.

Which books, movies, TV shows, or games have helped you through this time?

Of course, *Ozark* is excellent, and for a timely book, *The Body* by Bill Bryson.

How will you be different after this pandemic is over?

Be more appreciative of gathering with friends and family.

LORENZO BINI SMAGHI
Chairman of Société Générale and former executive board member of the European Central Bank

What's your best working-from-home advice?

Try to keep a regular working schedule and a different schedule during weekends. Exercise once a day (cycling or Pilates). Have video-aperitifs with friends once or twice per week.

Which books, movies, TV shows, or games have helped you through this time?

I finished *More from Less* by Andrew McAfee, which gives some optimism about how technology can address problems. I just watched on YouTube the 1971 Pink Floyd concert in an empty Pompeii. It's a reminder that art doesn't stop when public attendance vanishes.

Lacqua is co-anchor of Bloomberg Surveillance *and host of* Leaders With Lacqua.

KELLER-BUSSE: DANIEL WINKLER/REDUX; HERRO: KEVIN J. MIYAZAKI/REDUX; SMAGHI: LUKE MACGREGOR/BLOOMBERG

A Compendium of Functions— New or Featured In This Issue

FEATURED IN THIS ISSUE

Function	Description	Pages
EQS	Build a screen for stocks that are best positioned to ride out a downturn	18, 19, 20
EQBT	Backtest a strategy based on your equity screen	20
BI COVID	Bloomberg Intelligence's Covid-19 outlooks	28
VRUS	Monitor the market impact of Covid-19	28
LQA	Display a security's liquidity profile	28
LQAP	Evaluate the liquidity of a portfolio	28
PORT	Build custom historical or hypothetical scenarios you can use to stress-test a portfolio	28, 29
WCDS	Monitor credit-default swap spreads	28, 34, 35
IPO	Track initial public offerings	31
LOIS	Chart Libor-OIS spreads	34, 35
FICM	Monitor credit markets	34, 35
DRSK	Estimate probabilities of default	34, 36, 39
DRAM	Gauge default risk for a portfolio or list	36
GC	Graph curves in real time	36
FIW	Find bonds that match the criteria for the Federal Reserve's bond-buying program	41, 42
TECH	Find technical studies	44
VCA	Track volatility and correlations	44
HVG	Graph historical volatility	44, 45
SOCI	Build a custom search for social media content	46, 47
NSUB	Subscribe to news content such as Social Media Buzz, a daily digest of trending topics	47

NEW ENHANCEMENTS TO TRY RIGHT NOW

WFH Work From Home Help and Tips is a new page with information on optimizing the Bloomberg experience on your home setup. Go to {WFH <GO>}.

CVID Covid-19 Chart is a new function you can use to visualize the impact of the coronavirus pandemic. Run {CVID <GO>}. Use the Display drop-down to select cases, deaths, or recovered to chart authoritative data. Click the buttons on the red toolbar for charts and worksheets that highlight key data on the outbreak.

W Worksheets have been enhanced to display Axe flag icons, which signify that a dealer has indicated a particular interest in buying or selling a bond. To add an Axe column to a worksheet, click the Analytics menu and then the Axe menu and choose from the options.

OILS Oil Shock is a new function that provides the latest news and analytics on the oil price collapse. Go to {OILS <GO>}. Bloomberg's research analysts select the companies most affected by the plunge, and price data for those companies is shown in the top left section. The bottom section lets you track news: Click on the BNEF button for news and research from BloombergNEF. To access on-demand webinars with commentary and analysis by Bloomberg market experts, click the Market Webcast button.

DS Document Search—which enables you to quickly search through millions of company documents, research reports, and transcripts—has been enhanced to display recommended themes. Run {DS <GO>}, and a list of thematic searches related to current developments or important topics will appear on the Recommended tab. For your recent searches, click the Recent tab.

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Test Your Market Smarts

By WENDY TAN and JING GUAN

IS THE DAILY NUMBER of new confirmed Covid-19 cases around the world accelerating or slowing? How many U.S. companies has Moody's downgraded this year? Which European developed country has the highest default risk? Is the debt market showing more stress than equities? ¶ Test your knowledge with Bloomberg's Functions for the Market quiz. Then follow the steps to see if you had the correct answer. (And learn a bit in the process about how to tap into data and analytical tools.)

1. What's the trend in global confirmed Covid-19 cases? How does yesterday's change in the number of cases compare with the previous day's?

- An increase
- A decrease
- The same

Type "virus" in the command line and select VRUS – Coronavirus Market Impact. The shortcut is {VRUS <GO>}.

Click the Global Chart | CVID link in the center of the screen to open the Covid-19 Chart function. Its shortcut is {CVID <GO>}.

Use the drop-down menu to the right of Display to select Cases if it's not already selected. Click on the Net Change radio button. Then tick the box to select Worldwide. A comparatively larger bar in the chart shows cases accelerating, while a smaller one reflects slowing.

You can also track the rate of change by clicking on the Covid-19 Worksheets button on the red toolbar and selecting Covid-19 Country Statistics.

2. How many companies has Moody's downgraded so far this year in North America?

- Less than 500
- 500–1,000
- More than 1,000

Type "rating trend" in the command line and select RATT – Credit Rating Trend. The shortcut is {RATT <GO>}.

Set Agencies to Moody's, Region/Country to North America, Rating Type, Industry, and Rating Criteria to All and press <GO>.

The total number of downgrades is shown in the center of the screen. To see the latest companies downgraded, click on the number and then sort by Effective Date column.

3. Which European country has the developed world's highest default risk?

- Italy
- Greece
- Spain

Type "world countries debt" in the command line and select WCDM – World Countries Debt Monitor. The shortcut is {WCDM <GO>}.

Use the drop-down in the upper left corner of the screen to select Developed Countries if it isn't already selected. Click the CDS 5yr column heading to sort by the cost to insure against default using credit-default swaps.

4. Which fear gauge is showing the most stress based on the number of its standard deviations from the 52-week mean?

- The VIX
- The Libor-OIS spread
- The Baa/10Y spread

Type "financial conditions monitor" in the command line and select FCON – Financial Conditions Monitor. The shortcut is {FCON <GO>}.

Click the gray Market Details tab. The Z-Score column under 52-Week shows the number of standard deviations from the 52-week mean for each metric. For comparison, the pre-2008 Crisis Period section shows Z-scores in the period leading up to the global financial crisis.

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