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The Credit Issue


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The Credit Issue

COVER ARTWORK BY
ARMANDO VEVE

"For this issue, I developed an atmospheric representation of credit, which can be empowering but can also lead to ruin. A meteor shower raining over a fragile ecosystem seemed to provide a visual that's spectacular and energizing, yet potentially catastrophic."

Contents


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The Credit Issue

What a difference a pandemic makes. The bull market for stocks and credit ended abruptly in March as investors witnessed the spread of Covid-19 and how it depressed economic activity. Governments and central banks are less coordinated than when they battled the 2008 financial crisis. Adding to the chaos, an oil price war slammed energy company debt.

Bets against energy sector bonds have been a focus for Knut Kjaer, who was the first chief executive officer of Norway’s massive oil fund and is now trying to protect the climate. In “From Black Gold ... to Brown Bonds” (page 58), Stockholm bureau chief **Charles Daly** profiles Kjaer and his effort to punish climate-damaging companies by driving up their borrowing costs.

In Barbados, Prime Minister Mia Mottley is also trying to prepare for climate change. After choosing to default on the island nation’s debt in 2018, she’s negotiated with creditors to gain some leeway in paying debt interest if Barbados is hit by a hurricane. In “ ‘Nature—and What It Brings With It—Was Our Greatest Threat’ ” (page 64), reporter **Ezra Fieser** describes how Mottley’s effort could be a template for other vulnerable borrowers around the world.

The credit business has changed since 2008 as direct-loan funds such as Owl Rock Capital were created to replace banks. **Kelsey Butler**, a New York-based reporter who covers private credit, spoke with Marc Lipschultz, one of Owl Rock’s three founders, about the challenges and opportunities of the new landscape in “Not Your Father’s Banker” (page 70).

Amid fast-moving markets, we try to bring some long-term perspective. As always, we appreciate your feedback.

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Private Credit: A User's Guide

FINANCE HAS SEEN vast changes in the past decade, nowhere more so than in the realm of private credit. As traditional lenders stepped back from providing capital, and central banks worked to keep the market music going, private firms have pooled money to issue ever-increasing amounts of debt, driving the sector's total global assets to $812 billion last year. That rise was welcomed by yield-hungry investors eager to cash in on the asset class's returns, private equity firms looking to finance buyouts, and borrowers who struggled to drum up capital elsewhere. It also fueled anxiety among regulators worried that borrowers, as well as investors ranging from mom and pop outfits to big private equity firms, were taking on more risk than they could handle in a downturn. Here's a look at the transformed landscape. —*Kelsey Butler, Rachel McGovern, and Paula Sambo*

Business Development Companies

The roots of the closed-end investment firms known as BDCs date to a 1980 U.S. law meant to boost Main Street businesses deemed too small or risky for Wall Street banks. The law offered investors significant tax advantages that fueled comfortable dividends. Retail investors still make up a large swath of the equity holders for these types of private credit vehicles. But some of those—such as Ares Capital Corp., a behemoth BDC with $15 billion in assets—are anything but small.

Covenants

Preparing for things that can go wrong is part of the job for credit investors. Covenants, important tools for limiting risk, are items written into bond agreements that can, for instance, require borrowers to meet certain financial measures. In the 2019 rush to lend, according to data compiled by Bloomberg, covenant protections were eroded across private and public markets. In private credit, covenants are more common, but many investors worry they've become riddled with loopholes.

Direct Lending

Direct lending is essentially traditional bank lending but provided by nonbanks. The firms that do the lending pool money from investors such as insurers, pension funds, and family offices, all itching to make more money in a low-interest-rate environment. Direct lenders, also known as shadow banks, charge a premium to provide the debt to borrowers that likely wouldn't be able to get financing elsewhere. That can make it a win-win—as long as nothing goes wrong.

Lending Clubs

When a middle-market borrower—typically bringing in $100 million or less in Ebitda (earnings before interest, taxes, depreciation, and amortization)—wants to arrange financing, it often turns to a "club" of lenders. A club loan is typically smaller than those seen in the broader leveraged-loan market—averaging $139 million in the U.S. last year, compared with $213 million for syndicated deals to similar borrowers, according to research firm Covenant Review.

Mezzanine

In bankruptcies or distressed situations, mezzanine lenders are paid after all other lenders get the collateral they were promised but before anything goes to equity shareholders. In return for the increased risk, mezzanine loans, typically unrated, promise bigger payoffs: Preqin data show mezzanine private credit funds returned just more than 10% annually over a five-year period ended March 2019. By comparison, direct lending funds' five-year annualized return was just under 7%.

Recurring Revenue Loans

It may seem shocking that asset managers such as Ares Management Corp. and Vista Equity Partners Management make loans to borrowers that don't have any earnings, but the business is a growing part of the debt landscape. This type of debt, known as a recurring revenue loan, is in some ways a credit market parallel to venture capital equity investments in startups.

Senior Stretch

As the name implies, this type of loan combines senior debt entitled to first call on collateral with debt that's lower in the payment hierarchy and so "stretches" past the typical senior debt. The lender gets compensated handsomely for the extra risk.

Unitranche

Private equity firms are increasingly turning to an obscure type of loan called a unitranche to fund larger and larger buyouts. Like a senior stretch, unitranches blend first-priority and subordinated loans into a single facility, but it's one that's usually shared among a handful of lenders. They've been surging as borrowers bypass conventional sources of financing. Sponsors and borrowers find them appealing because they can be put together faster than other syndicated debt.

Venture Debt

Venture debt is normally used by early-stage companies and startups as either an alternative or a complement to equity venture financing. This financing is considered founder-friendly; that's because it prevents further dilution of the equity stake held by the company's existing investors. Some startups opt for venture debt for their long-term financing to retain control of the business for a longer period of time than would otherwise be possible.

Butler in New York, McGovern in Dublin, and Sambo in Toronto cover private credit for Bloomberg News.

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By TRACY ALLOWAY

LONG BEFORE THE NOVEL CORONAVIRUS appeared, Olga Jonas was fretting about the next global health crisis. As a World Bank macroeconomist in 2005, she was in the department that helped coordinate the response to avian flu and saw how ill-equipped the poorest countries were to fight a serious epidemic. When an Ebola outbreak afflicted West Africa in 2014, she hoped it would fuel a global consensus behind building local capacities to intervene early. Instead, she says, she was disappointed that the World Bank opted to issue "pandemic bonds" designed to bring in investors to bear some of the cost of containing future outbreaks. The 2017 sale of $320 million of the bonds offered premiums of 11.5% or 6.9%, depending on the risk investors were willing to bear, with the cost borne by Japan, Germany, and funds from the International Development Association. In this edited excerpt of their February discussion on the *Odd Lots* podcast, Tracy Alloway spoke with Jonas, now at the Harvard Global Health Institute, about the idea behind the bonds and the damage pandemics can wreak on economies. (Run BPOD <GO> to find *Odd Lots* and other Bloomberg podcasts.)

Do pandemic bonds work?

So how exactly are these bonds supposed to work? How does the money get to the World Bank?

► There are parametric triggers, but it proves to be very challenging to define the triggers because it's very difficult to anticipate how an epidemic starts. That's why in designing it they chose triggers that are much later. It has to be at least 12 weeks after the beginning of the outbreak before anything can be triggered, as well as a high number of deaths and the growing rate of the outbreak. So that means it's triggered much too late. But if it's triggered earlier, the price of the insurance would be much higher because there is just **so much uncertainty** in the modeling. Much of the uncertainty is due to the lack of data on these kinds of events. The lack of data is due to the lack of public-health systems in developing countries, which is what is needed to invest in. And that's not very expensive. It is, in fact, highly affordable compared to the benefit. And that's what's been sidelined.

Who's the arbiter of when these bonds pay out? How do they verify that the triggers have been met?

► Verification of the triggers is spelled out in the prospectus for the bonds, which is 386 pages long, and there is a verification agent [AIR Worldwide Corp.]. It's a **commercial contract** between the World Bank and the verification agent, and they are going to ascertain whether all the triggers have been met. This is not a trivial exercise to verify these triggers, because it's really quite complex. So when the verification agent notifies the World Bank that the triggers have been met, then the World Bank would get the money from the bonds, because it's holding that money.

What's the maximum payout the World Bank could get?

► That's the other issue that's very disappointing in this whole experience. For coronavirus, when you look at it, the first payout—if it happens, there's no way of telling at least from where I sit whether it will happen—it will be $131 million, and the maximum payout is $196 million. And that will have to be divided among the 76 poorest countries. So you can see if the poorest countries in the world—with a bigger population than China all together—they will get only a fraction of what China is already spending.

One of the sort of **tragic** aspects of this is, in fact, that the payment for the cost of the bonds, the premiums and the interest and the fees that were associated with this pretty complicated transaction, that those add up to $115 million. And those funds actually came from funds that were intended for the poorest countries. They came from IDA [International Development Association], which is money that donors give to the World Bank to finance productive projects in the poorest countries. So that was $50 million from IDA. Then $50 million was donated by Japan, but I'm sure the Japanese government intended that their donation of $50 million benefit the developing countries, benefit the poorest countries, and protect them from pandemics. And then $15 million was donated by Germany. Taxpayers in Germany, taxpayers in Japan. So all together $115 million has been paid for premiums and for interest and for the fees to recipients who are not poor, who are in high-income countries—these are investors who, of course, they invest their funds and they are at risk of losing some of this money because of the triggers, but that is a very high return. The idea was that investors or the private market would share some of the risks of a pandemic and thereby contribute. When a pandemic worsens, the **markets will decline** and the prices of assets fall, so investors are already going to be losing a lot of money just because there is a pandemic.

So these were pitched as something that should be uncorrelated with the broader market, but if they trigger, it would probably be because something quite serious was happening and therefore markets around the world would be falling anyway.

► Exactly.

Do you think there's any way to structure a bond that would be attractive to investors but also get extra money to the World Bank when it's needed?

► The World Bank does not need extra money to respond to pandemics. The World Bank is not a budget-constrained entity. It's a bank. And IDA, the fund for the poorest countries, is the largest multilateral public fund to support development in poor countries, which includes—for the last 50 years—responding to emergencies. IDA has very ample liquid assets, reserves. It makes new loans now worth $27 billion every year. The **money is not the issue**, it's the preparedness of the World Bank to respond, deliver the financing on the ground, and the preparedness of the country to implement the activities that are necessary to control the outbreak. But money is not, has never been, the issue. So this was more a sort of attention-getting initiative to try to innovate in this space, but it was not needed and it did not work.

What lessons did you learn as an economist dealing with those sorts of epidemics?

► What is astonishing is how underappreciated the economics of epidemics were or still are. There's very little realization that if you act early, if you are prepared to stop the outbreak when it's just a few cases, before it spreads, then in fact you are avoiding a huge cost due to the exponential growth that can happen with these diseases. That is **not understood** by the sort of bureaucratic processes that we have in place. Usually it is a disaster that occurs, and then there is an estimate of the cost of rebuilding like in a hurricane or an earthquake, but in this case you are averting something that hasn't happened yet. So that's why there's this repetition of panic, and then it's forgotten, because in the health sector there are so many unmet needs that people's attention shifts somewhere else. So that accounts for the high costs of responding next time.

Does the economic recovery after a pandemic look different from the economic recovery after an earthquake or a hurricane?

► Macroeconomically, it's a temporary shock that passes through disruptions of travel and trade and supply chains. And when that comes to an end, things return to normal, and there is no permanent effect. However, when this happens in very poor countries—like what happened in West Africa in 2014 to 2016, the Ebola outbreak had **a very severe effect** on the health-care system. A large number of doctors and nurses died. It takes many years and is expensive to train new doctors and nurses, so there you would see development set back by a decade. Losing a decade of growth in very poor countries is very serious.

Alloway is an executive editor at Bloomberg News in Hong Kong and co-host of the Odd Lots *podcast with Joe Weisenthal.*

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Get Ready, A Bigger Disruption Is Coming

By PANKAJ MISHRA

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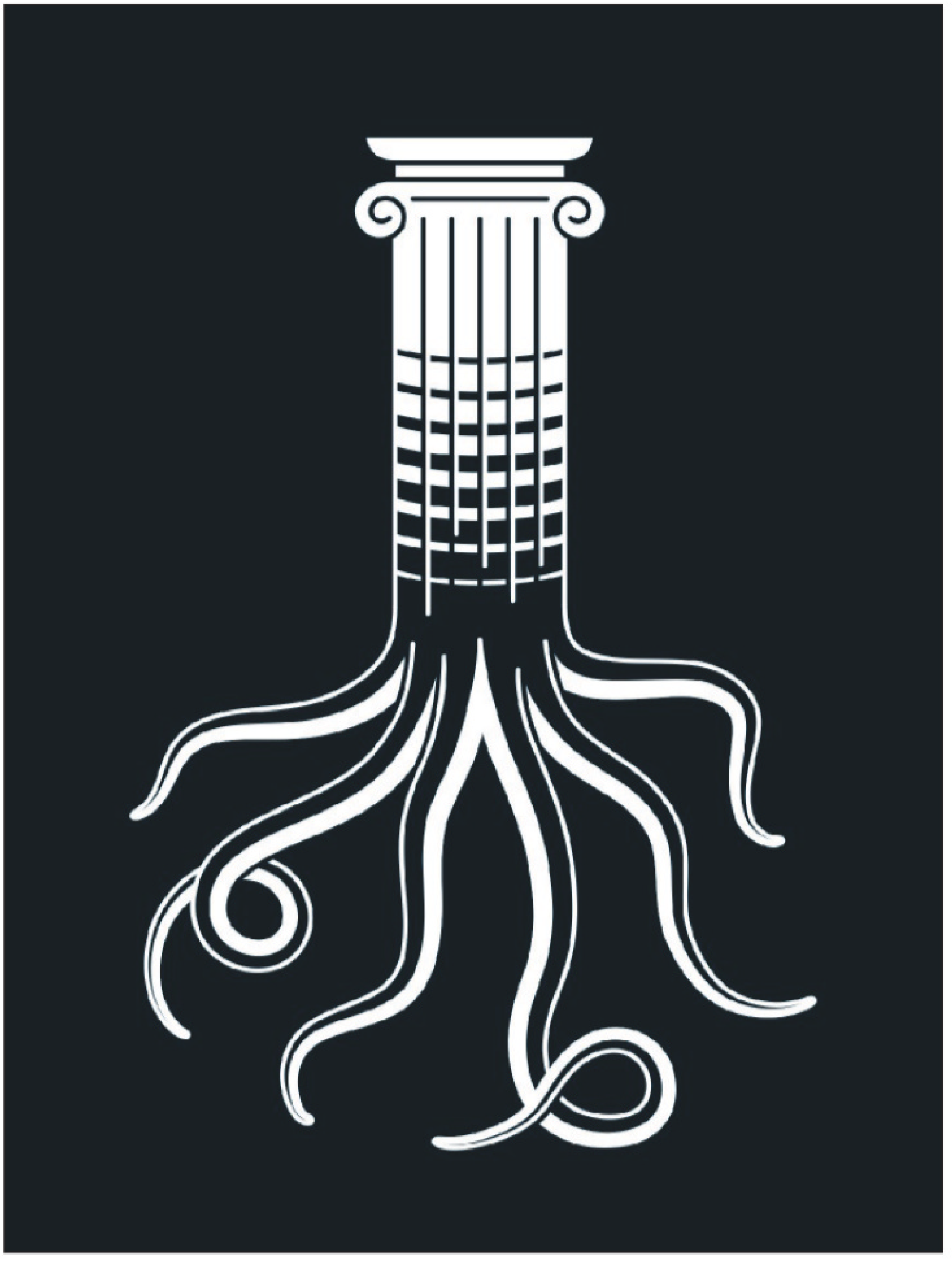


AS GLOBAL SUPPLY chains break, airlines slash flights, borders rise within nation-states, stock exchanges convulse with fear, and recession looms over economies from China to Germany, Australia to the U.S., we can no longer doubt that we're living through extraordinary times.

What remains in question, however, is our ability to comprehend them while using a vocabulary derived from decades when globalization seemed a fact of nature, like air and wind. The novel coronavirus signals a radical transformation of the kind that occurs once in a century, shattering previous assumptions.

The last such churning occurred almost exactly a century ago, and it altered the world so dramatically that a revolution in the arts, sciences, and philosophy, not to mention the discipline of economics, was needed even to make sense of it.

The opening years of the 20th century, too, were defined by a free global market for goods, capital, and labor. This was when, as John Maynard Keynes famously reminisced: "The inhabitant of London could order by telephone, sipping his morning tea in bed, the various products of the whole earth."

This maker, as well as consumer, of global capitalism could invest "his wealth in the natural resources and new enterprises of any quarter of the world," according to Keynes. He could also "secure forthwith, if he wished it, cheap and comfortable means of transit to ►

any country or climate without passport or other formality."

Such an economically enmeshed world seemed to many the perfect insurance against war. A contemporary version of such optimism is Thomas Friedman's Golden Arches Theory of Conflict Prevention, according to which no two countries with McDonald's restaurants would go to war.

World War I not only brought the period of friction-free globalization to a gruesome end. It also cruelly exposed an intelligentsia who'd believed in irreversible progress and now was forced to acknowledge that, as an embittered Henry James wrote to a friend in August 1914, the "tide that bore us along was then all the while moving to *this* grand Niagara."

As with our own crisis, the seminal crashes of the 20th century—the First World War, followed by the Great Depression—were harder to grasp because their principal causes were set in motion decades before and largely neglected by mainstream politicians and commentators.

Democracy, whether as an emotive ideal of equality or as representative institutions based on a widening adult male suffrage, had steadily become the central principle of the modern world, especially as industrial growth generated new inequalities.

Repeatedly frustrated, the aspiration for democracy helped fuel the rise of both left and far-right political movements, pitting them against established ruling elites. The firebrands found their most committed supporters in the exploited populations of then-rapidly growing cities. Filled mostly with people freshly uprooted from the countryside, sundered from traditional livelihoods, and forced to live in urban squalor, the world's great cities had started to become hotbeds of discontent in the late 19th century.

The problems of how to accommodate rising aspirations for equality through inequality-generating economies were particularly acute for nation-states such as Germany, Italy, and Japan that were trying to catch up with economically advanced Western countries.

Once the series of economic shocks that began in the late 19th century climaxed in the Great Depression, the elevation of the far-right to power and intensified conflicts between states were all but guaranteed.

In our own conjuncture, all ingredients of the previous calamity are present, if ominously on an unparalleled scale.

For decades, deindustrialization, the outsourcing of jobs, and then automation have deprived many working people of their security and dignity, making the aggrieved in even advanced Western countries vulnerable to demagoguery. At the same time, stalled economic modernization or a botched process of urbanization in "catch-up" powers like India and Russia has created, in almost textbook fashion, the political base for far-right figures and movements.

The financial crisis of 2008, which has caused deeper and longer damage than the Great Depression, may have discredited the globalizing elite that promised prosperity to all, creating broad scope for opportunistic demagogues such as President Trump. Yet few lessons were learned from the collapse of global markets as the tide moved faster to Niagara. This is why the crisis of our time is as much intellectual as it is political, economic, and environmental.

One sign of analytic deficiency is that the prescriptions for multiple malaises have remained the same in much mainstream politics and journalism: more economic "reforms," largely in the direction of global free markets; reheated Cold War slogans about the superiority of "liberal democracy" over "authoritarianism"; and aspirations for a return to "decency" and "global leadership."

These hopes for a return to the pre-2008 political and ideological status quo are often leavened with a heightened, if ineffectual, concern about climate change. The inadequacy of such hopes will become clearer in the months to come when afflicted nations, as much as individuals, are tempted to self-isolate, sacrificing many holy cows to the existential urgency of survival. The coronavirus, devastating in itself, may prove to be only the first of many shocks that lie ahead.

THREATENING THE WORLD with a long recession, the virus looks set to inaugurate a turbulent political and economic era. Its main tendencies will become visible over the months and years to come. But the most revolutionary shift is already in sight.

The state, much maligned in recent decades, is back, and in its fundamental role: as Leviathan, the preventer of anarchy, and the ultimate insurance against an intolerable human condition in which, as Thomas Hobbes described it, life is "solitary, poor, nasty, brutish, and short."

In all countries where the coronavirus first spread—China, Hong Kong, Iran, Italy, Singapore, South Korea, Taiwan, and Thailand—the state leads the war against it, imposing draconian lockdowns on entire populations, ruthlessly sacrificing personal liberty to security. Whether such heavy-handed interventions will eventually succeed—they seem to be working in Singapore and China, countries with great state capacity—is still unclear. Nevertheless, in many other countries, ruling politicians seem to realize they'll be judged by their administrative capacity to check the spread of the virus.

Hence Trump's fumbling responses, which attest as much to the American state's incapacity for mass testing as to his much-noted personal inadequacies. Britain's Conservative government in mid-March announced a massive upgrade of public services, radically breaking with Anglo-America's libertarian orthodoxy of recent decades.

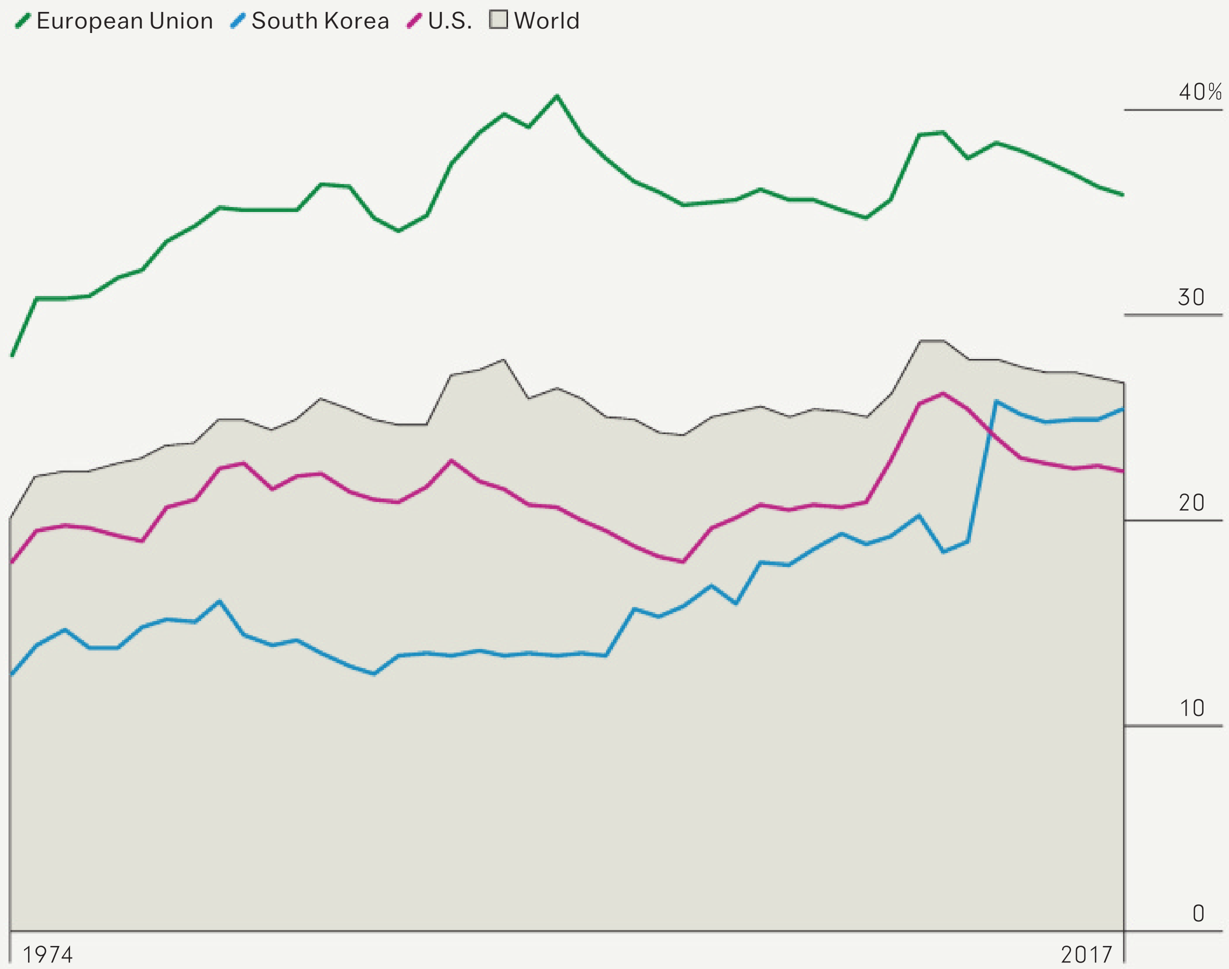
Italy has asked the European Union for more leeway as it prepares to disregard the latter's fiscal rules to shield its aging population from the virus. Even Germany, the EU's inflexible enforcer of austerity, seems ready to trash its dogma of keeping the budget balanced, as more than two-thirds of its population confronts the possibility of infection.

It's taken a disaster for the state to assume its original responsibility to protect citizens. It's time to remember that another calamity, easily the biggest of the last two centuries, was what first established the modern state as an able-bodied protector of the population.

After the First World War, governments, trying to restore economic and living conditions and fight off mass unemployment, boosted their intervention in the economy and accelerated their building of social

Government Before the Virus

Expenses* as a share of GDP



*Cash payments for operating activities of the government in providing goods and services, including compensation of employees, interest and subsidies, grants, social benefits, and other expenses such as rent and dividends.
Source: World Bank

insurance systems and public services in health, education, and housing. The state's planning capacity had been enhanced during the extensive conflict. Afterward, such newly developed powers were reoriented from war-making to the realm of social security, to the building of large-scale relief and compensation systems. As free markets suffered broader discredit after the Great Depression, the warfare state mutated faster into a welfare state in European countries on both sides of the war.

There was a corresponding intellectual and ideological shift, best signaled by Keynes. As this former partisan of free markets put it in 1933, "The decadent international but individualistic capitalism" inherited from the past is "not a success. It is not intelligent, it is not beautiful, it is not just, it is not virtuous—and it doesn't deliver the goods. In short, we dislike it, and we are beginning to despise it."

Even in the U.S., where hostility to Keynes-style state intervention was deeply ingrained, social policies during the war created the basis of the New Deal's path-breaking protections for labor.

In our own era, we've been stumbling from crisis to crisis toward an enhanced savior role for the state. In the 1990s, the debate about the state's correct role and size appeared to have been settled. Centrist leaders such as President Bill Clinton and British Prime Minister Tony Blair didn't fundamentally depart from President Ronald Reagan's conviction that government is a "problem" rather than a solution as they hectically privatized and deregulated.

It was also easier then to trust in the wisdom of the markets. Innovatively locating different parts of the process of production and the gains from it among citizens of many different countries and making quick decisions on the basis of financial calculation, the market seemed smarter, more agile, and more resourceful than the old deliberative state.

As before, some unexpected calamities undermined its hegemony. President George W. Bush presided over a massive expansion of government bureaucracy in response to the Sept. 11 attacks. In 2008, as global markets collapsed, the U.S. as well as communist-ruled China injected liquidity into national economies on an unprecedented scale. The American government controlled, albeit briefly, General Motors Co. as well as Chrysler.

After the financial crisis, quasi-Keynesian doubts about economic internationalism began to surface even among such architects of globalization as Lawrence Summers, who exhorted politicians to recognize that "the basic responsibility of government is to maximize the welfare of citizens, not to pursue some abstract concept of the global good."

Today the coronavirus has elevated that responsibility into a life-or-death imperative. And, as happened in the interwar era, the state's deep penetration into economic and social life to counteract a disaster is likely to endure.

For the popular tendency to regard at times of extreme vulnerability the state as a savior won't disappear in less perilous times. Nor will politicians forget to base their appeal on a promise of collective security.

But there should be no illusions about the dangers in the profound transformations ahead. In the interwar era, an expanding state assumed unprecedented powers over its citizens, metamorphosing in some countries into outright fascism. The history of war and genocide in the first half of the 20th century tells us that the accumulation of biopower—the technology of control and manipulation over large groups of human beings—can enable horrific crimes.

Certainly, the techniques of surveillance available to the contemporary state, starkly evident in China today, can only further restrict human rights and liberties. Leviathan is back in a stunning revolution hardly anyone foresaw, and though undoubtedly welcome in the short term, it should be feared in the long run. ●

Mishra is a Bloomberg Opinion columnist. His books include *Age of Anger: A History of the Present*, *From the Ruins of Empire: The Intellectuals Who Remade Asia*, and *Temptations of the West: How to Be Modern in India, Pakistan, Tibet and Beyond*. This column doesn't necessarily reflect the opinion of Bloomberg LP and its owners.

Dairy Downturn

ADDING A SPLASH of milk to a morning cup of coffee was once the simplest of routines. Until soy, almond, oat, and an array of other plant-based milks started competing for the cups of environmentally and health-conscious consumers.

Dairy companies feel the pain. Two of America's biggest, Dean Foods Co. and Borden Dairy Co., went bankrupt in late 2019 and early 2020. In its bankruptcy petition, Borden disclosed that its annual interest cost was about $21 million, and that was on top of quarterly debt payments totaling $2.35 million. Dean listed debts of more than $1 billion.

While consumption of cheese and yogurt continues to grow, demand for milk fell more than 25% from 2000 to 2018, according to U.S. Department of Agriculture data. Dairy companies have also lost sales to retailers such as Walmart Inc., which now produces its own milk.

To find news about the dairy industry, run {NI DAIRY <GO>}, and for news on distressed companies, go to {NI BFWDISDUS <GO>}. To track global agriculture prices, run {GLCO AGS <GO>}. For Bloomberg Intelligence analysis of the agriculture industry, run {BI AGRI <GO>}. —*Olivia Rockeman*

PHOTOGRAPH BY JAMIE CHUNG

JPMorgan's Aronov Expects 'Incredible Opportunity'

By JAMES CROMBIE

PHOTOGRAPH BY GUERIN BLASK

OKSANA ARONOV KNOWS how it feels to lose everything. In 1991 her family moved to the U.S. after the Soviet Union fell. They were allowed to take only $360, so they left behind the wealth and property her parents had accumulated over their combined 50 years of work. That experience informs Aronov's view of what's at the heart of credit portfolio management: risk. Now a 21-year veteran of financial markets, Aronov leads market strategy for the $16 billion absolute return fixed-income platform at J.P. Morgan Asset Management in New York. Fascinated by the mathematical bounds of bond markets, she says fixed-income investors need to learn the value of cash in this latest crisis. She spoke to *Bloomberg Markets* about the opportunities and hazards she sees ahead.

JAMES CROMBIE: In the eye of the credit market storm, what do we know?

OKSANA ARONOV: There's a fair amount of complacency around the breadth and the depth of the impact that an extended economic shutdown will have on businesses, particularly in the lower-rated part of high yield. These are smaller businesses likely to have the most difficult time. We can't really manage something that we can't yet measure. That's the big difference between 2008 and today. We've never been in a situation like this, where the economy is effectively shut down.

In terms of the pandemic, we are still in the very early stages of the escalation phase. As testing ramps up and the number of cases continues to explode, and unfortunately we see more fatalities from the disease, it's hard to imagine that there will be anything constructive priced into the market.

JC: You were already very worried at the start of this year, when most others weren't. Why?

OA: The lower yields went, the more bullish the consensus sounded. That's really kind of astounding given that in Europe, if you're buying a negative-yielding bond, you're locking in a loss. We were bearish because everything was priced for perfection. The moment anything less than perfection materializes, you have very violent price discovery.

JC: What were the biggest signs of excess?

OA: We were absolutely looking at a bubble in sovereign bonds. Not in emerging markets, though there were definitely pockets there. Central banks are not omnipotent. There's a limit to how much people will believe in their ability to deliver returns. In Europe savings rates were on the rise, telling you that people were really concerned about their financial future. That telegraphs probably a reduced amount of belief in what the ECB [European Central Bank] can do. The spreads looked like 2007; the euphoria felt like 2007. When I went to Europe—the land of negative rates—and I sat with investors there, and they told me they need 5%, and I thought about how much risk they have to take to get to that—I got palpitations! This is how things go wrong: There's no appreciation for the underlying risks of what you're buying. You're just following the herd.

Look at junk bonds that were trading with negative yields in Europe, Swiss bonds trading at $150 above par, the 1,000-year junk bond in Europe at sub-2% yields. The writing was on the wall.

We saw the return of enhanced cash. It was all the rage. There were a lot of these short-term portfolios out there that were being marketed as cash alternatives, but when you looked under the hood, there were things like collateralized loan obligations. That's something we saw a lot of in 2007, when there were all these enhanced cash strategies that eventually did very poorly.

JC: Was there more leverage coming into this crisis?

OA: What 2008 exposed was that you had plain-vanilla core bond portfolios that were all of a sudden falling 10% to 20%, and in one case 80%, because these investors were taking on an increasingly large amount of risk to maximize that yield. To generate 7% or 10% of return, you just need to take a lot more risk. And [before this recent crisis] you were starting to see a lot more leverage in portfolios as a result. Leverage is what inevitably gets investors into trouble. We were in that part of the cycle where leverage was very popular.

JC: What's your view of negative-yielding debt?

OA: These are fixed-loss investments unless you can sell them to a central bank or another greater-fool buyer. It's a price-only game. Fixed income is a mathematically bound asset class, and that's a dangerous place to be.

JC: How are you positioned as of March 23?

OA: Nearly half of our portfolio is completely liquid. How do we rate the value of the liquidity in the market right now? We would rate it as a seven, not yet a 10. Ten signifies "let's start deploying

liquidity." Ideally, you want to start getting involved when sentiment is at its worst, when sentiment has priced in the absolute worst-case scenario.

JC: Will Federal Reserve purchases of corporate debt provide support?

OA: It probably helps at least symbolically and psychologically. I do not believe that it will actually prevent the cascade of downgrades we're going to see in the triple-B part of that market. We do have the experience of the ECB in Europe, which has been doing that for years, and it's created a somewhat zombified corporate landscape. But it hasn't prevented them from going through the same spread dislocation that we're going through here.

Markets will go back to reckoning with how fundamentals are impacted by everything that's going on. A lot of these companies in the lower part of investment-grade and below just won't be able to survive.

JC: When would you buy back into credit?

OA: There will be incredible opportunities as a result of this. If we can pick up our eyes and look out over the horizon of just over the next few months, the opportunity on the back of this will be phenomenal, and high yield especially generates great returns for those who judiciously put capital to work during times like this.

The credit market hasn't yet gone far enough to price in the types of defaults that we will likely see on the back of this. The ►

"Investors and portfolio managers get into trouble the same way every time, which is reaching for yield and overlevering. ... Cash is a fixed-income asset class, and sometimes that is where you need to be"

cascade of downgrades we're going to see will be pretty dramatic, and considering that triple-Bs are $2 trillion-plus at this point, even 20% of downgrades is a lot of debt falling into the high-yield market. There's more pain to be had. We're getting close to that 1,200 [basis points high-yield spread] frontier where it will start to get interesting—we'll potentially get involved in something. We have to see significant discounts in areas like closed-end funds. That's another sign of capitulation, when you start to see discounts that are 10% or 15%, and we're just not there yet either.

JC: What's your outlook for defaults?

OA: We haven't seen the kind of defaults on the scale that we're going to see. I'm not saying we need to wait for them to peak, because by the time they peak, spreads will be probably halfway in already. But you do need to start to see those defaults start to come in regularly.

Before the Fed and central banks began essentially supporting markets, the average default in high yield used to be 6%. Prior to 2008, if you had a high-yield manager who was operating at half that rate, that was a pretty good track record. Now [that] we've been at 1% to 2% for a number of years, that's going to go up. Eventually, we could get to 10% [default rate]. That's not unreasonable at all.

JC: What flaws has this crisis exposed?

OA: Every fixed-income portfolio out there is run with the same mantra of being fully invested across the cycle because the idea is to maximize yield. That's how the fixed-income industry has always evolved. We're in a different paradigm now, where maximization of yield means you are essentially subjecting yourself to these types of periods of no liquidity, where the yield is simply not enough, because it's so skinny, and you're left with having to sell something when you're hit with redemptions, or sell something to buy something when you see opportunities—and that's the problem.

Liquidity has shifted to the buy side, and the buy side has not retooled to really recognize that. It's really hard to tell an investor you're going to keep up to 50% in cash because you think there will be better buying opportunities. That's why every income strategy out there is getting hit with outflows.

JC: What are the long-term lessons we can learn?

OA: There is a point in time when things get rich, and that point in time is fairly easily identifiable in fixed income. There's that natural mathematical bound, and the closer you get to it, you know you're in a very richly valued and a highly correlated market. When you reach for yield, you're making your portfolio vulnerable to shock. If it comes, you have no cushion to protect you. When things get highly rich and highly correlated, it's always the same story. The tougher part of this picture is that you don't have the interest rate bailing you out anymore.

JC: What does it mean for credit investing more broadly?

OA: The fixed-income industry will absolutely have some very tough questions to answer, especially when you think about where has all the money gone in recent years. It has gone to strategies that have been entirely interest-rate-driven. More recently it's gone to strategies in that ultra-short space. The ultra-short space has been canceled, because short rates are at zero effectively.

[The industry is] going to muddle through here somehow, and then we're going to get back to the point where perhaps yields are higher and the whole merry-go-round begins again. It would be nice that they retooled and actually invested based on value, as opposed to a market risk-driven benchmark, particularly the passive part of the fixed-income market. I never really understood why you would want to just let a passive index drag you through the market cycle, which is clearly headed for zero rates.

JC: What needs to change?

OA: We have to stop answering the question of what are the best opportunities in fixed income from a long-only standpoint. We have to also try to answer it by broadening our view across not just traditional but also alternative instruments. Investors and portfolio managers get into trouble the same way every time, which is reaching for yield and overlevering—they need to rethink portfolio construction. Cash is a fixed-income asset class, and sometimes that is where you need to be in order to preserve capital and have an optionality hedge. That option is really valuable during periods like this.

We have to, as an industry, really embrace that and improve outcomes. As a fixed-income manager, your No. 1 job is capital preservation. There are periods when you have to be brave enough to be in cash—and we are in a period like that right now.

Crombie is a senior editor for the Bloomberg News global credit team in New York.

Welcome to the $1.5 Trillion Minefield Of Defaulted Chinese Debt

By DENISE WEE and REBECCA CHOONG WILKINS

IT'S TOUGH TO FIND a bigger bull on delinquent Chinese debt than Benjamin Fanger. The Mandarin-speaking founder of ShoreVest Partners, a Guangzhou-based asset manager, built his firm around the idea that there's money to be made from the nation's growing pile of distressed credit. He says the opportunity is larger now than at any time in the 15 years since he started analyzing China's nonperforming loans, or NPLs. He predicts it will only get bigger.

Fanger also says the $1.5 trillion-plus market is full of pitfalls. "If you don't have experience, it can be very risky," says the 43-year-old University of Chicago Booth School of Business alum, whose team has purchased more than 15,000 Chinese NPLs since 2004.

Distressed Chinese debt is attracting increased global attention, with defaults soaring even before the coronavirus pandemic and with President Xi Jinping's government peeling back restrictions on international investors. "In an era that could prove to be another global economic crisis, Chinese debt is counterintuitively looking more safe," Fanger says.

Oaktree Capital Group, the credit-investing behemoth led by Howard Marks, in February opened a wholly owned unit in Beijing to buy NPLs. The potential rewards are juicy. Fanger's team has generated double-digit internal rates of return on all of its NPL portfolios, according to a ShoreVest offering document seen by *Bloomberg Markets.* By comparison, Bloomberg's benchmark index for junk bonds in the U.S. yielded about 6% before a virus-induced spike in late March. In Europe, rates on some corporate bonds are negative.

Global money managers desperate for yield have a growing universe of beaten-down Chinese debt to choose from. The country had $1.5 trillion of NPLs and other stressed assets at the end of 2019, according to PricewaterhouseCoopers. And S&P Global Ratings estimates that past-due loans could jump by $800 billion if the coronavirus epidemic turns into a prolonged health emergency.

Even if China's economy bounces back quickly, delinquencies may continue to rise. The country's ruling Communist Party, which enabled one of the biggest credit booms in world history over the past decade by providing implicit guarantees for corporate borrowers, is now trying to tap the brakes. Policymakers have made it clear that bailouts are no longer a given; even some state-owned companies are defaulting on their bonds.

But buyer beware. Veterans of distressed investing in the West may find their playbooks of little use in China. So *Bloomberg Markets* asked Fanger, Marks, and other specialists how to navigate the minefield. Below are some of the key takeaways.

Avoid social unrest

This is one of Fanger's guiding principles, and it applies to more than just layoffs and idled factories. When considering real estate debt, for instance, he avoids situations that might force people from their homes. "If a developer got into a cash-flow bind and has contractual purchase and sale agreements with families who think they are buying units, when you go to the court to enforce, the court is likely to delay," he says.

Another tricky area: companies that issued debt to individual savers through asset management products or peer-to-peer lending platforms. "If retail investors invest in mezzanine debt sold through these products and you buy a senior loan, there could be social unrest if retail investors know they are going to be wiped out," Fanger says. The upshot: Think twice before buying that senior loan. While China's government has shown an increased willingness in recent years to let its citizens bear the brunt of poor investment choices, authorities are still loath to make decisions that might send angry people out into the streets.

State support matters

One of the biggest challenges of buying Chinese corporate debt is working out the borrower's ties to the government, says Soo Cheon Lee, chief investment officer at SC Lowy, a credit-focused banking and investment firm. "China is not about the financials, it's about relationships," Lee says. "That's driving a lot of the liquidity available to a company. You really need to understand the local landscape, and it's difficult for foreign players to understand who has that connection or support from the state."

Sometimes a Chinese company will appear to be in dire straits, only to come up with the cash for a debt payment at the last minute, Lee says. "For most of the companies in Asia, we know two weeks before whether they have financing or if they are going to restructure," he says. "I think it's very unique for China to not be able to predict a default."

Some firms are not what they appear to be, Lee says. "If you are truly a state-owned enterprise," he says, "you will continue to get support from the government or state-owned banks. But when we look at companies that claim to be SOEs but aren't really SOEs, we see they're having some difficulties."

Develop local expertise

For CarVal Investors, which oversees about $10 billion in credit and alternative assets, getting comfortable with China meant tapping the local knowledge of Shanghai Wensheng Asset Management, a distressed debt specialist. The two firms have teamed up to purchase two portfolios of NPLs since 2018.

"Today there are domestic investors and servicers that have experience, and that leads to a much better opportunity if you can team with a smart local investor," says Avery Colcord, a Singapore-based managing director at CarVal who's spent about two decades in China. He says the firm would like to buy more NPLs but has taken a cautious approach after "aggressive" bidding by some domestic managers pushed up valuations. At Oaktree, Marks says the firm has also been moving slowly as it builds local expertise. "We're feeling our way and getting used to a new market," he says.

Sweat the details

One major advantage of having a strong local team is that it's more likely to notice the little things that can make or break an investment, says Ron Thompson, managing director of Alvarez & Marsal Asia, who leads the firm's restructuring practice. Property-related deals in particular often require extreme levels of due diligence. "If you have the whole building, it's easier, but if you have just the third floor, you have to figure out who owns everything else," Thompson says. "You have the third floor, but the elevator might be controlled by the debtor, or the mafia. Will you be able to access the floor? Who else can buy it?"

Savvy borrowers will frequently structure their debt in ways that give them leverage. "For instance, you take a block of land, divide it into five, and deliberately default on the middle piece first," Thompson says. "That's really worth nothing, because there's no access. And then the debtor will buy it back, gradually aggregate it, and they'll only pay market value on the last piece."

Thompson stresses the importance of hiring lawyers who know their way around the domestic court system. While Chinese authorities have pledged to move toward a more efficient and predictable process for dealing with defaults and restructurings, judges in small, poorer provinces are more inclined to help out down-on-their-luck entrepreneurs. "Going more for local insight is critical in China," Thompson says. "There are things you could miss without it."

Liquidity is key

Distressed debt managers in China sometimes overestimate the liquidity of a loan's collateral, says James Dilley, a Hong Kong-based partner at PricewaterhouseCoopers. It's crucial because selling assets is often the only way for creditors to get repaid quickly.

Many distressed situations involve real estate, which requires understanding local property markets. It might be easier, for example, to find buyers for a building in more developed provinces on China's eastern seaboard, such as Jiangsu and Zhejiang, than in less populated inland cities. Some investors have seen their returns suffer because property sales took longer than expected, Dilley says, and "getting that right is key."

Wee and Choong Wilkins are credit market reporters for Bloomberg News in Hong Kong.

Track the Extent of Economic Damage From Coronavirus In U.S. Import Data

By JAMES BATTY

TRADE BETWEEN THE world's two largest economies fell to the lowest level in years in February as the coronavirus outbreak stalled Chinese factories.

U.S. imports from China that month totaled 4.2 million metric tons, according to IHS Markit data compiled by Bloomberg. That's the smallest tonnage of goods since 2015, when the dataset begins.

February marked the peak of coronavirus cases in China. Although the number of new cases there declined after mid-February, the outbreak hit the country's trade in the first two months of the year. In January and February, China's exports dropped 17.2% in dollar terms from the same period a year ago, according to a statement from Chinese customs published on March 7. That was a bigger decline than economists had expected.

Bills of lading filed with U.S. Customs and Border Protection show import volumes into the country from all its trade partners. To dig into the data on the Bloomberg terminal, start by typing "US bills of lading" in the command line and select AHOY USBOL – Global Commodities Trade Flows: US Customs Bills of Lading from autocomplete. (The shortcut is **{AHOY USBOL <GO>}**.) Choose Metric tons in the View drop-down and By Monthly farther along that row. In the next row, choose Import in the first drop-down, then China, Any Padd, and Any State.

Select the radio button for Data if it isn't already selected, and the monthly totals will be displayed across the top of the table. U.S. imports from China were 4,201,395.35 metric tons in February. That's the lowest since the beginning of 2015 and 17% lower than last February.

To graph the data, click on the radio button for Chart. Click the Line option above the Chart (**FIG. 1**). The next lowest monthly readings had previously come in March 2016 and March 2019.

TO FURTHER ANALYZE the data in Microsoft Excel, first set the Date Range to 01/01/19 to 02/29/20 and hit <GO>. Click the Export button in the red toolbar. In the worksheet that opens up, find the columns for 02/29/20 and 02/28/19. Delete all the other columns, apart from the description column, and create a new one called "% Change." Insert this formula to calculate the change: "=(B3-C3)/C3" and press <GO>. Click into the cell again and press Ctrl-Shift-% to style the number as a percentage. Then auto-populate the rest of the column by dragging the square icon in the bottom right of that cell to the bottom of the list of data.

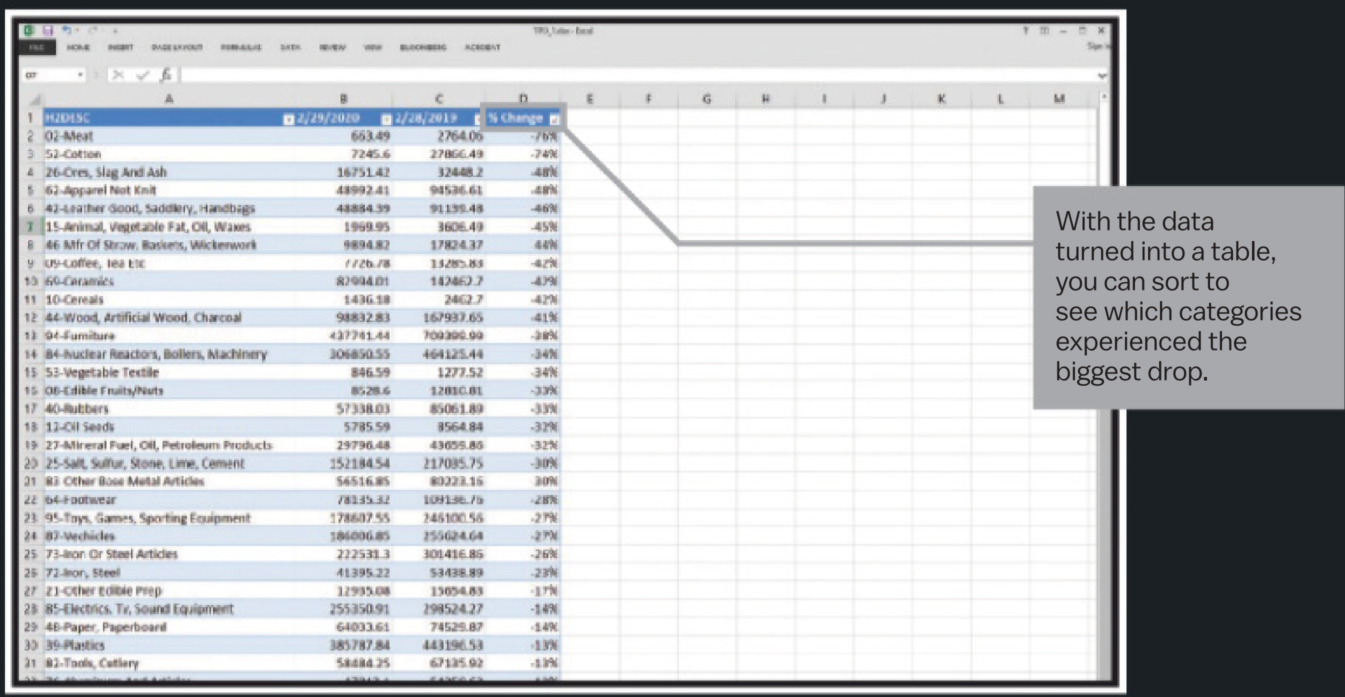
Next, turn the cells into a table. Select all the rows of data. Click on the Insert tab, select Table, and press OK in the window that appears. Click the % Change column header and sort by Smallest to Largest (**FIG. 2**). Of the 98 categories in this list, 38 are lower than the year-ago level. The largest drops were recorded in the meat and cotton sectors, both of which were about 75% lower. Ores, Slag and Ash; Apparel Not Knit; and Leather Good, Saddlery, Handbags imports dropped roughly 50%.

Back on the terminal screen, extend out the time period by putting 01/01/15 as the start date. Hit <GO>, then uncheck the Total box, scroll down, and select Meat (02) and Cotton (52) to chart historical data for the categories. Both were at lows for this period (**FIG. 3**). ●

Batty is a Functions for the Market editor at Bloomberg in London.

Fig. 1 To track data on U.S. imports from China, go to **{AHOY USBOL <GO>}**.

Fig. 2 Once you've downloaded data into Excel, you can compare the change from last February with this February.



	HZDESC	2/29/2020	2/28/2019	% Change
2	02-Meat	663.49	2764.06	-76%
3	52-Cotton	7245.6	27866.49	-74%
4	26-Ores, Slag And Ash	16751.42	32448.2	-48%
5	62-Apparel Not Knit	48992.41	94536.61	-48%
6	42-Leather Good, Saddlery, Handbags	48884.39	91139.48	-46%
7	15-Animal, Vegetable Fat, Oil, Waxes	1969.95	3606.49	-45%
8	46 Mfr Of Straw, Baskets, Wickerwork	9894.82	17824.37	44%
9	09-Coffee, Tea Etc	7726.78	13285.83	-42%
10	69-Ceramics	82994.01	142462.7	-42%
11	10-Cereals	1436.18	2462.7	-42%
12	44-Wood, Artificial Wood, Charcoal	98832.83	167937.65	-41%
13	94-Furniture	437741.44	709306.99	-38%
14	84-Nuclear Reactors, Boilers, Machinery	306850.55	464125.44	-34%
15	53-Vegetable Textile	846.59	1277.52	-34%
16	08-Edible Fruits/Nuts	8528.6	12810.81	-33%
17	40-Rubbers	57338.03	85061.89	-33%
18	12-Oil Seeds	5785.59	8564.84	-32%
19	27-Mineral Fuel, Oil, Petroleum Products	29796.48	43655.86	-32%
20	25-Salt, Sulfur, Stone, Lime, Cement	152184.54	217035.75	-30%
21	83 Other Base Metal Articles	56516.85	80223.16	30%
22	64-Footwear	78135.32	109136.76	-28%
23	95-Toys, Games, Sporting Equipment	178607.55	246100.56	-27%
24	87-Vechicles	186006.85	255624.64	-27%
25	73-Iron Or Steel Articles	222531.3	301416.86	-26%
26	72-Iron, Steel	41395.22	53438.89	-23%
27	21-Other Edible Prep	12935.08	15654.83	-17%
28	85-Electrics, Tv, Sound Equipment	255350.91	298524.27	-14%
29	48-Paper, Paperboard	64033.61	74529.87	-14%
30	39-Plastics	385787.84	443196.53	-13%
31	82-Tools, Cutlery	58484.25	67135.92	-13%

Fig. 3 Back on the terminal, you can chart monthly data for particular categories such as meat and cotton, both of which dropped to the lowest levels since the dataset began in 2015.

Stocks

Tips on Finding the Entry Point in A Bear Market Drop

By LI ZHAO and OLIVER WOOLF

WHEN IS THE RIGHT TIME to invest in stocks in a bear market? A comprehensive study of S&P 500 index performance following 20% drawdowns in the past century shows positive 12-month returns three quarters of the time.

Use Bloomberg charting and custom trading signals to analyze similar trading patterns over the past century.

The S&P 500's 27% decline from its 2020 high in three weeks was the fastest in its history. The VIX gauge of equity volatility surged to its highest since 2008. Rising Covid-19 cases in Europe and the U.S. prompted authorities to tighten travel bans and to shut down many activities. While such draconian measures are aimed at slowing the spread of the outbreak as they did in China, the costs of those steps have clouded the long-term global economic outlook.

To visualize the worst historical bear markets over the past 50 years:

- Type "S&P 500" in the command line and select SPX Index - S&P 500 Index from autocomplete.
- Type "logarithmic" and select GPL - Logarithmic Chart. The shortcut is SPX Index GPL.
- Click the Periodicity tab to the right of the word "Max" and select Quarterly 50Y.
- Right-click anywhere on the chart, hover over Annotate, and select %Change.
- Select the high of September 2007 and low of March 2009. Repeat the process to measure the March 2000 to December 2002 and March 1973 to December 1974 bear markets.

In the past 50 years, there were three crises in which the S&P 500 dropped about 50%: the 2008 global financial crisis, the bursting of the 2000 dot-com bubble, and the 1973 oil shock.

Let's use Trading Signals to analyze bear markets in a more quantitative way.

- While still in the SPX Index ticker, type "trading signals" in the command line and select TSIG - Trading Signals. The shortcut is SPX Index TSIG.
- Click the red Create tab and select New Trading Signal.
- In the left-hand menu, scroll down to pick Maximum Drawdown and give it that name in the amber box.
- In the Rules section, click the amber box under Factor 1 and select Max Drawdown. For Condition, choose Crosses Below. Click the box under Factor 2 and choose Value. Type "-20" for the final box.
- Give the Signal a name by typing "SPX Max Drawdown" in the Signal Title box at the top left. Hit <GO>.
- Click on Save in the red toolbar and Analyze.
- Click the Daily amber box and change it to Weekly.
- Change the start date to "3/14/1920."
- Change the Impact boxes to -5 and 52. Hit <GO>.

In the 52-week period after each of the 40 previous 20% drawdowns, there were 30 gains and 10 losses. The mean performance was a 9.2% gain. The maximum gain was 48% and the maximum loss almost 49%. Note that some of the signals may reference the same period of stock market fluctuations.

Click the gray Market Impact tab and look at the yellow average line. The market impact analysis shows that, on average, it took several weeks before the market began to recover.

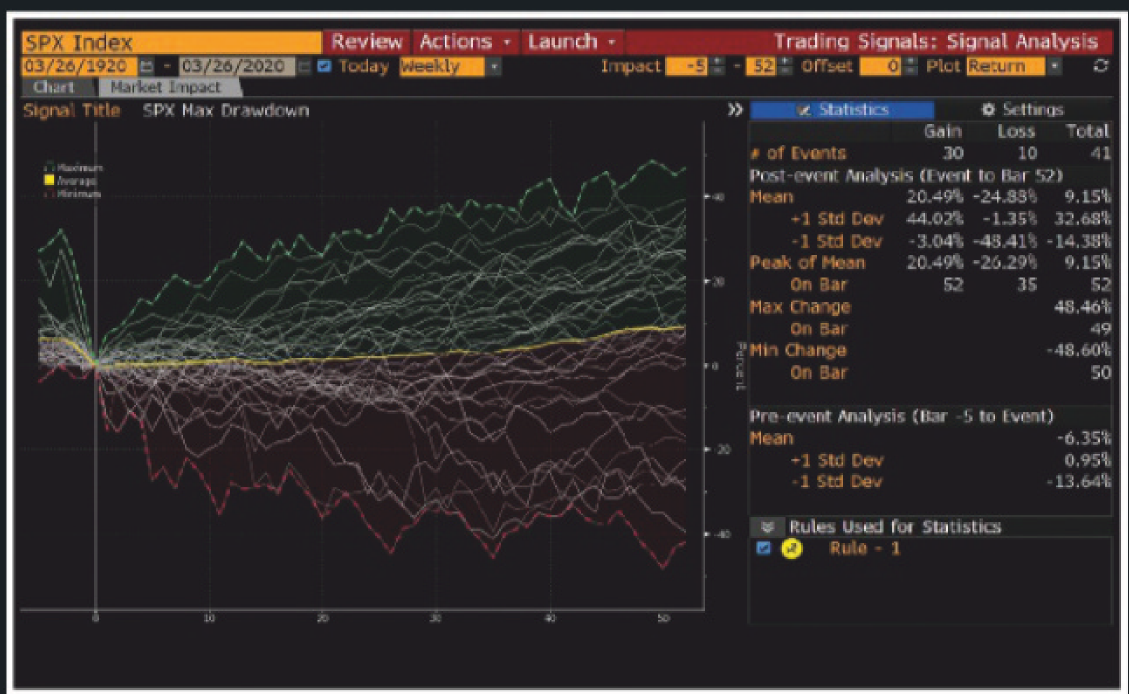
Obviously this bear market, with its backdrop of a global war on a deadly virus, has unique characteristics. ●

Zhao is a charting market specialist at Bloomberg in Hong Kong.
Woolf is a data viz/technical analysis product manager.

Fig. 1 Run {GPL<GO>} to create a logarithmic chart.

Fig. 2 Run {TSIG <GO>} for trading signal analysis.

Fig. 3 Click the Market Impact tab to visualize recovery time after past drawdowns.



Working From Home or Remotely? Stay Connected With This Workflow Collaboration Tool

By STEVEN GEE, MARC KATCHAY, and PRANAV THAKKAR

WHEN THE SEPT. 11, 2001, tragedy occurred, one of us was responsible for a credit derivatives team at a major global investment bank in New York. In the days following the attack, the team returned to work in offices south of Manhattan's Canal Street and later at our disaster recovery site across the river in New Jersey. With five of us huddled around a desk with one phone and one computer, we lacked the ability to look at the markets and analyze opportunities—or even have a productive discussion.

Today, with the Covid-19 pandemic circling the globe, many companies are still not fully equipped to handle an emergency that is requiring many of us to work from home.

IF YOU NEED TO WORK remotely, we have a solution for you. You can use this approach in your existing workflow, whatever that may be, but to get a sense of how it works, download our Launchpad "2020 FI Credit" template to test-drive it. You can customize the template, loading it with your portfolio names or another list of bonds, and focus on market analysis and making investment or trading decisions.

The template includes a number of everyday credit-related functions. And thanks to a recent enhancement of Bloomberg's note-taking, sharing, and Research Management Solutions (RMS) tools, the template can also empower portfolio managers, credit analysts, salespeople, and traders to effectively collaborate without being in the same office. For example, when you're looking at a bond, jot down notes or your strategy on that security, highlight your views on the credit, share recent market color and flows, and supplement these ideas with information from Bloomberg and external research. You can even include information you've received via email—and make it available to colleagues so they can take those valuable nuggets of information into account in their decision-making processes.

NOTE's single-security rollup enhancement means that when you share your view on a particular bond, the information will automatically be tagged to all the other securities throughout the issuer's capital structure and shared with your team. Each time an analyst, trader, or other team member provides market commentary or color on a specific bond—either from mobile or from the terminal—the team will be alerted to that recent note when they look at any bond issued by the same company. Your colleagues will all be on the same page: No one will have to dig through emails and other communications to find out what you've said about an issuer or whether you had a view on the '45s—or was it the '48s? In other words, NOTE provides the best way to know what your colleagues are saying about a security in the context of all the issuer's securities.

Here's a brief guide that will walk you through how to create notes and specify the team or community you want to share them with. It'll then show you how to get started with the Launchpad template and help your team share ideas when you analyze bonds on your focus list or portfolio.

1. How do you capture information in notes? It's incredibly easy. First, you can create a note from almost any Bloomberg screen. Let's say you've run **{CVS 5.05 03/25/48 Corp DES <GO>}** to look at the CVS 5.05s, 30-year bonds issued in 2018 by pharmacy company CVS Health Corp. On the DES page, the notes icon is just below the red toolbar to the left of the Buy and Sell buttons. The icon will be white and say "Notes" if you have a note on that instrument. If there are no notes yet, it will say "No Notes."

If you already have notes on the security, click on the icon and a NOTE window will appear that lets you access them. To create a new note, simply click the Create button. If you have no notes yet on this security, then all you need to do is click the icon, type in your observation, and either save it as a note for yourself or share it with colleagues (**FIG. 1**). (In section 4 below, we'll show you how to make sure all your notes go to everyone on your team.)

In addition to **{DES <GO>}**, the note icon is available in other key analytic functions you already use in your workflow: Yield & Spread Analysis **{YAS <GO>}**, Yield Table **{YT <GO>}**, and Quick Yield Analysis **{QY <GO>}**. You can even chart the price of a selected security and see the related notes by running **{GP NOTE <GO>}**. To see shared notes across all the bonds you're tracking, add a "Note

Fig. 1 You can see and create notes in functions you use in your analysis such as **{DES <GO>}** and **{YAS <GO>}**.

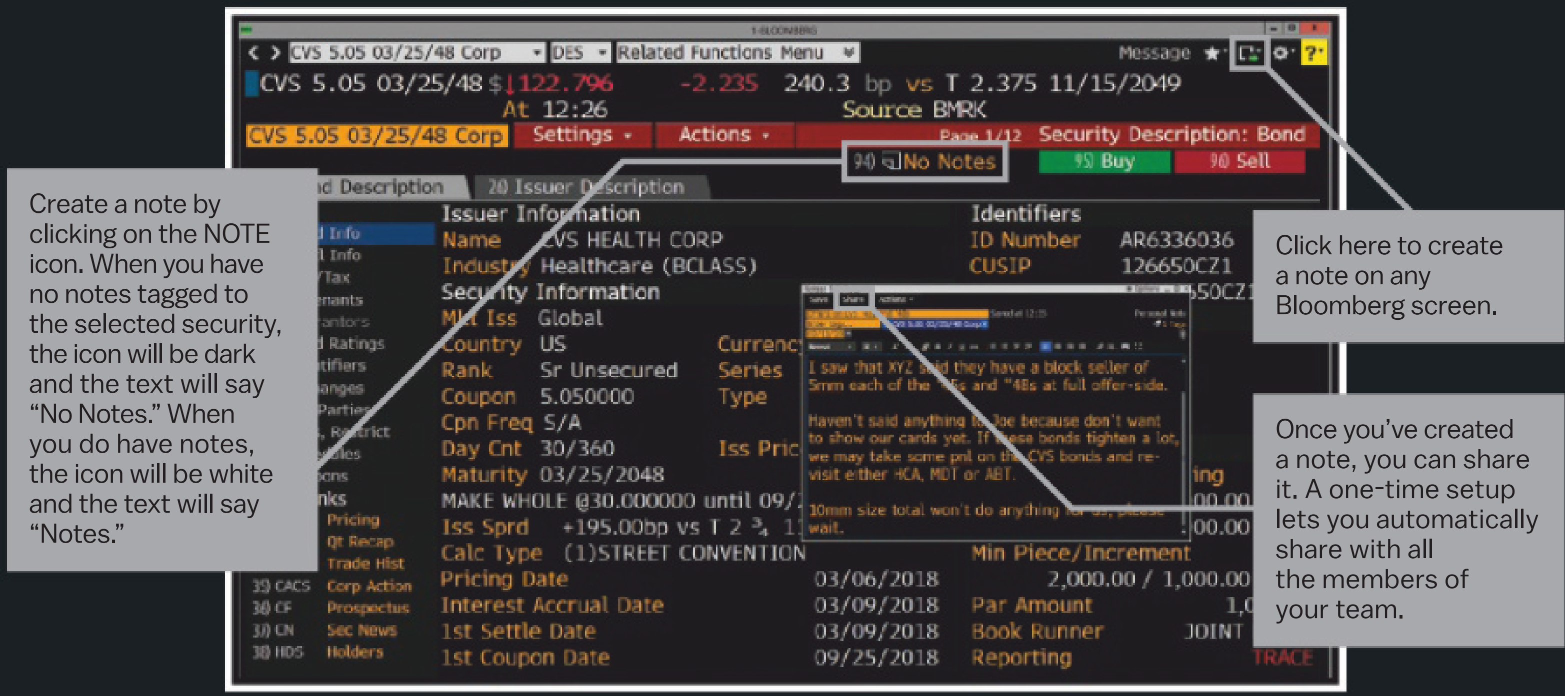
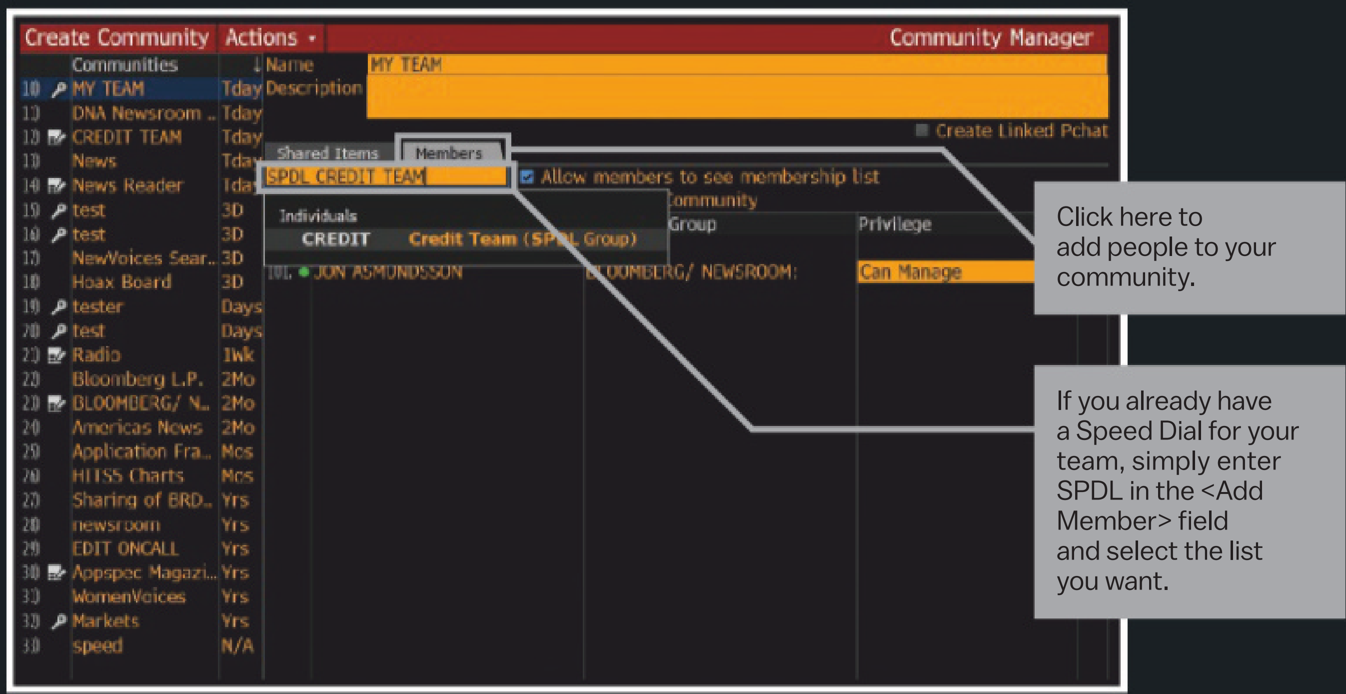


Fig. 2 To create a community, go to **{CMTY <GO>}** and click on Create Community on the red toolbar. Name your community, and hit Save.



Indicator" column in the Fixed Income Worksheet **{FIW <GO>}** and Security Worksheet **{W <GO>}** functions.

2. Email to NOTE. Here's another important way to create a note: If you have an email in your corporate inbox that you want to turn into a note and tag to the appropriate securities, simply send it to me@notes.bloomberg.net. (To set up this feature, run **{NOTE <GO>}**. Click on Settings and then on the Email to NOTE tab. Follow the instructions there to validate your corporate email address.)

3. Word and Excel. You can also create notes from Microsoft Word and Microsoft Excel documents. In the file, click on the Bloomberg tab and then click on Create New Note.

4. Community. To create a community with whom to share notes, run **{CMTY <GO>}**. Click the Create Community button on the red toolbar, give your community a name, and hit Save. Click on the Members tab and it's easy to specify exactly who you want to share notes with. If you have a Speed Dial (SPDL) set up for your team, for example, simply enter SPDL in the <Add Member> field and click on your team Speed Dial (**FIG. 2**).

Once you've set up your community and saved it, there's one more thing to do. In settings you can specify that you want to automatically share all of the notes you create with your team. Run **{NOTE <GO>}**, click Settings, and then the General tab. Use the drop-down to the right of Share All Notes With to select your community.

5. Tagging Bonds Across the Capital Structure. One of the ►

Fig. 3 Run {NOTE <GO>}, click on the Settings button on the red toolbar, then in the Notes Settings window, click on the Search tab.

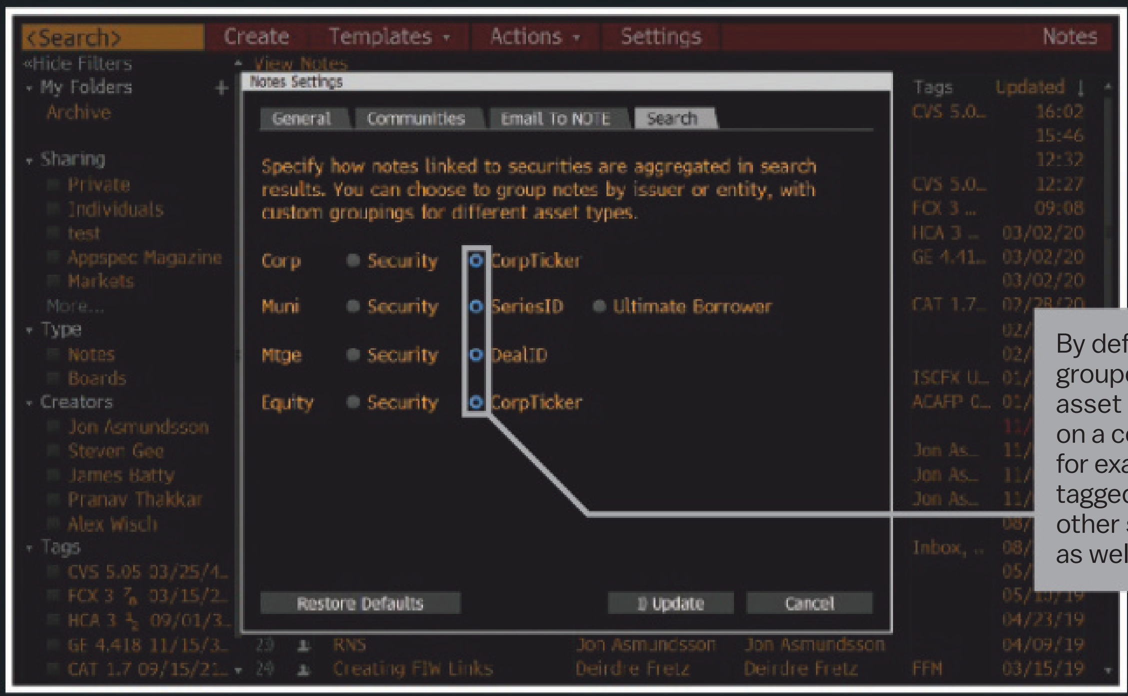
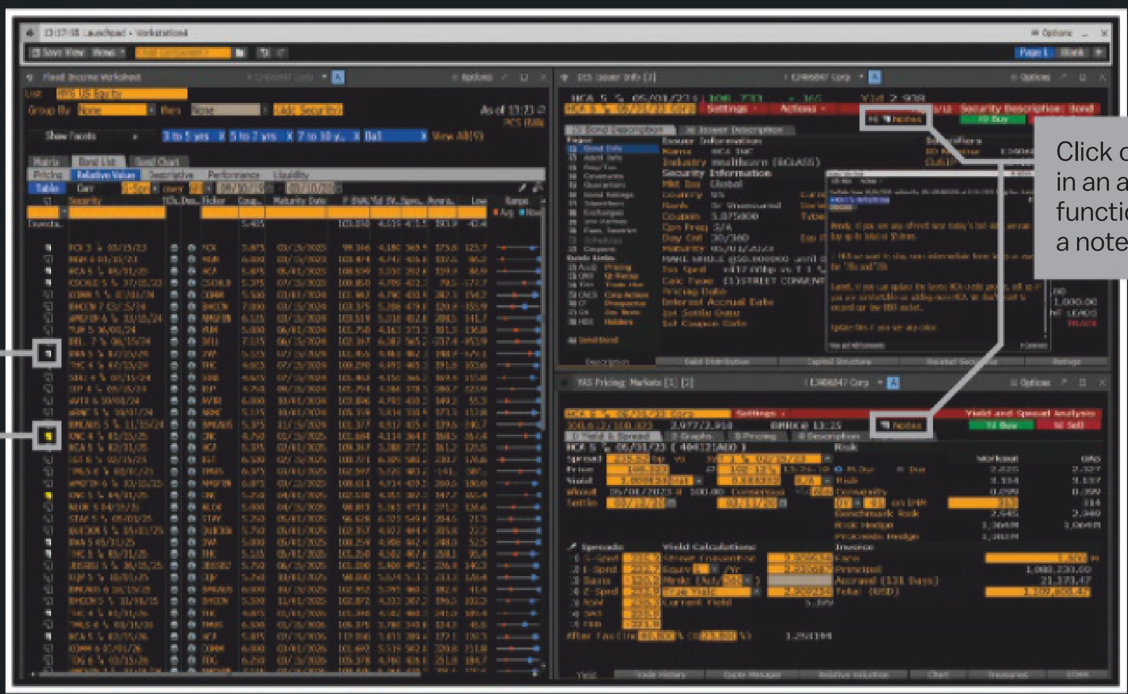


Fig. 4 This Launchpad template includes a Fixed Income Worksheet (FIW) component that's linked to a Description page component and other analytical components such as Yield & Spread Analysis (YAS).



key features of the NOTE function is that when you create one on a single bond, that information can propagate across all of the issuer's securities. If you make a note on the CVS 5.05s maturing in 2048, it will show up when your trader is pricing the CVS 4.3s that mature in 2028—in effect, adding human color throughout the capital structure. Here's how to make sure that's set up for your team (**FIG 3**).

6. Finally, to download the sample Launchpad view that will let your team work together on a list of bonds—for example, the debt your portfolio manager wants to start allocating to—go to **{LPSV 204 <GO>}**. Click OK in the Save As window to save it as a Launchpad view called 2020 FI Credit (**FIG. 4**). On the left side of this Launchpad is a Fixed Income Worksheet (FIW) component you can use to examine the focus list of bonds your portfolio manager has created. The leftmost column of this FIW displays "Note Indicator" icons that let you know when someone on your team has created a note. White indicates you've already opened it; yellow indicates you haven't read it yet.

The FIW component is linked to the analytical components on the right side of the view: DES, YAS, Trade History (TDH), Quote Manager (QM), Relative Value (FIRV), and so forth. For a demo, contact your Bloomberg representative. Look for further articles in this series in the future. ● —*With Nick Sullivan*

Gee is a credit market specialist, Katchay is a product manager for contact management and collaboration, and Thakkar is a product manager for core fixed-income analytics, all at Bloomberg in New York.

Amid Corona-Cratered Markets, Use FIW To Look for Opportunities

By STEVEN GEE, MARC KATCHAY, and PRANAV THAKKAR

WE'RE ALL HUNKERED DOWN in one way or another, imagining the ways our life may be changed and wondering when—and if—things will reset. In addition to the tragic human cost, the slowdown has been devastating to most businesses. The market damage has been immense. Especially hard-hit: the travel and leisure sector.

If you live in the New York City area, you may have taken your kids for a quick thrill-filled summer afternoon at the Six Flags Great Adventure park in New Jersey. Now, of course, with Covid-19 shutting down crowd-gathering venues, that park remains closed at least until mid-May. Shares of the operator of the park—Six Flags Entertainment Corp. in Grand Prairie, Texas—have plunged because of the uncertainty about the full economic impact of the pandemic.

Let's say you wanted to dig into debt issued by companies in the leisure sector to see whether you can identify any opportunities amid the dislocations there. Here's how you can use the Fixed Income Worksheet (FIW) and some other Bloomberg tools to do that. (This article continues a series on using FIW that began with "Using the Fixed Income Worksheet in Your Analysis: An Introduction.")

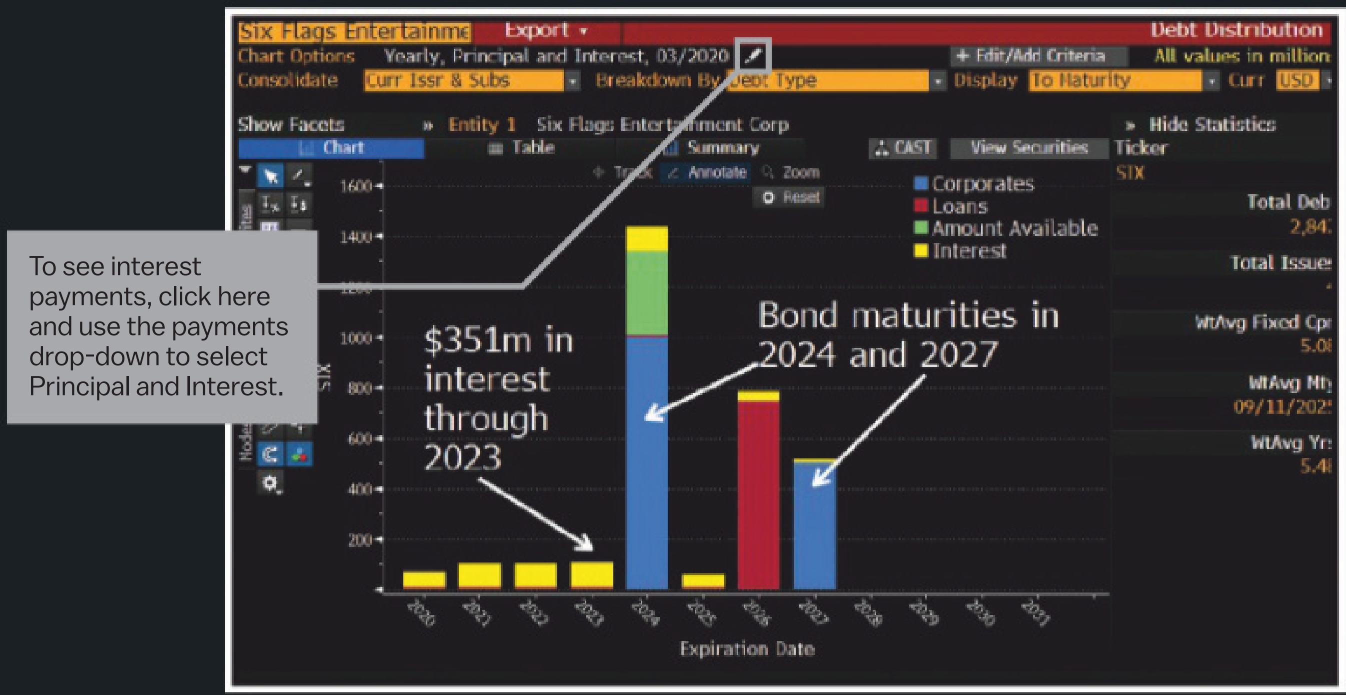
1. Your holistic credit analysis may start with a look at equity markets. To chart Six Flags' performance since last year, run {SIX US <Equity> GP <GO>}. If you're planning to share some of the relevant information and add your observations, consider using the annotation tools. Here you can add a text annotation to highlight SIX's drastic price plunge, the almost $50 drop from last August (**FIG. 1**).

Fig. 1 To chart Six Flags shares, go to {SIX US <Equity> GP <GO>}.

2. Six Flags has a strategy of focusing on membership and season-pass sales for its U.S. parks. It's an approach that racks up revenue in advance of the season—reducing exposure to inclement weather and single-day ticket sales. Six Flags tries to maximize attendance and length of stay by investing in new rides and attractions, making it a classic high-fixed-cost, low-variable-expense operating company. That contrasts with Walt Disney Co., which generates revenue from other product lines in addition to global theme parks. To a lesser extent, Six Flags' strategy is also different from that of Comcast Corp.'s Universal Studios.

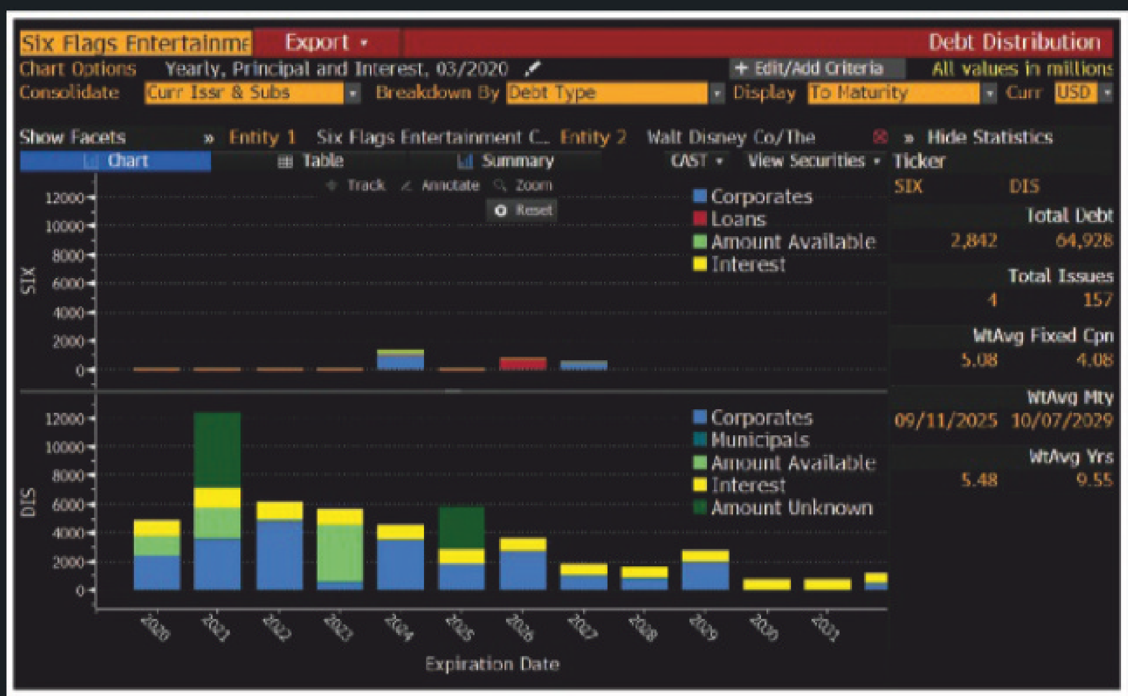
Run **{DDIS <GO>}** to use the Debt Distribution function to assess Six Flags' debt maturity profile (**FIG. 2**). Depending on when crowds will be able to return to local entertainment parks such as Six Flags, the company has time before its bond principal payments are due in 2024 and 2027 and a bank loan facility matures in 2026.

Fig. 2 To assess Six Flags' interest payments and debt maturities, go to **{SIX US <Equity> DDIS <GO>}**.



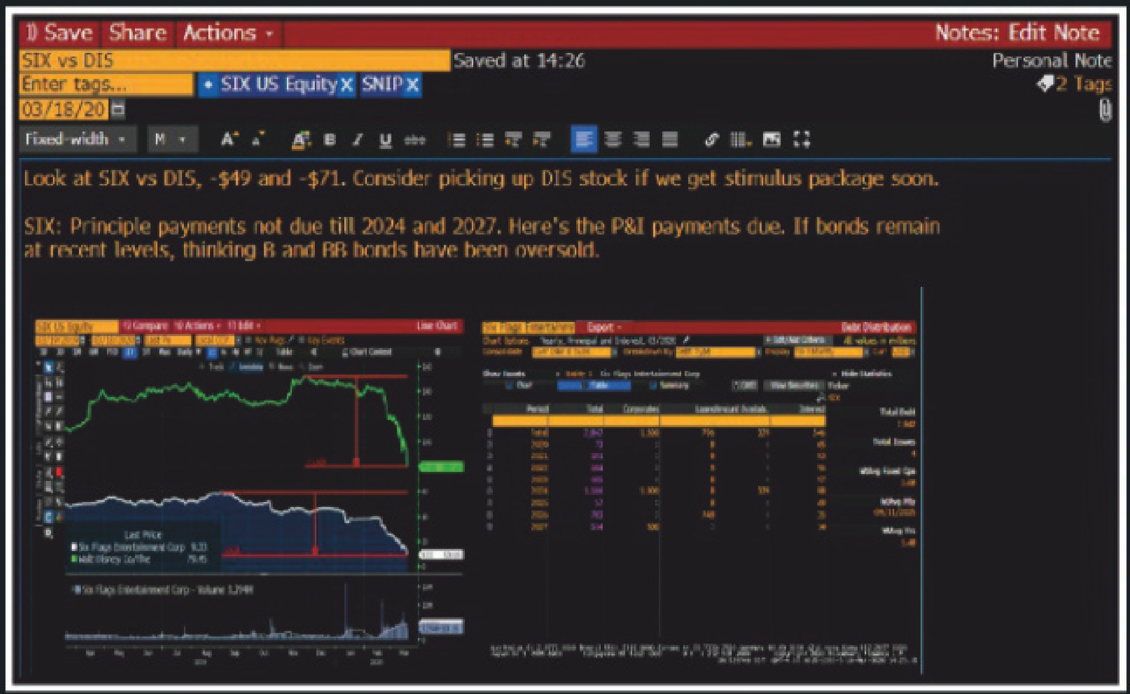
3. Six Flags and Disney have vastly different risk profiles considering their business models, revenue mixes, and operating cash flows. Yet comparing the two companies in DDIS can help you see how they stack up in terms of their debt—and how they are managing their liabilities in general. To do that, click on the +Edit/Add Criteria button. Enter "DIS" in the Entity 2 field, click on the DIS US Equity match, and then click on the Close button (**FIG. 3**).

Fig. 3 Comparing Six Flags with Disney lets you get a sense of how the two companies are managing their liabilities.



4. When you make observations of the market, you can share the recent color and pricing using the NOTE feature found on functions such as **{DES <GO>}** and **{YAS <GO>}**. In GP you can share a chart by clicking on the Actions button on the red toolbar and selecting Save and Share. You can also snip screen grabs in **{NOTE <GO>}** (**FIG. 4**). Save the note and share it with your team, so you can coordinate strategies across available investment products in equities or the bond market. In addition, you can share price alerts with your team. Such notes and others created by them roll into the Research Management System (RMS) that's used by many to facilitate collaboration.

Fig. 4 You can create and share information with your team by snipping screen grabs or by using the NOTE feature in functions such as **{DES <GO>}** and **{YAS <GO>}**.

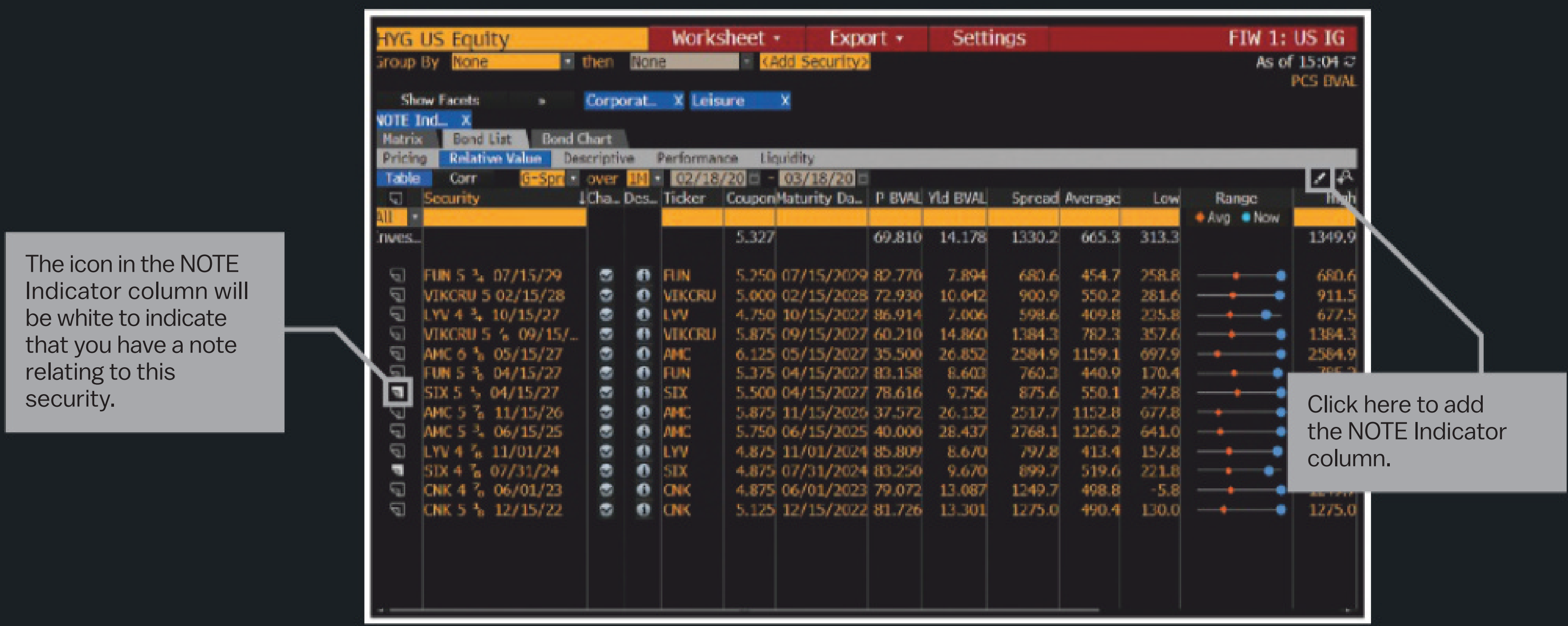


5. OK, now let's say you're looking at a list of corporate bonds. A sample Launchpad template that's set up for collaboration—it's described in another story in this issue (page 30)—includes an FIW component that comes loaded with the constituents of the iShares iBoxx High Yield Corporate Bond ETF, for example.

Alternatively, you can also run **{FIW <GO>}** and load the ETF. Enter "HYG" in the field in the upper left corner of the screen and click on HYG US Equity in the list of matches. Use the Facets panel on the left side of the screen to drill down to bonds issued by companies in the leisure sector. Click on the light gray "More..." under BClass Level 4 to display other sectors. In the pop-up box, type "Leisure" in the amber field and tick the box to select it. Click on the Bond List tab and then on the Relative Value subtab (**FIG. 5**).

To add a column that will show when you have a note on a particular issuer, click on the pencil icon on the right side of the screen. Enter "note indicator" in the amber field below Fields. Click on the match to select it; click the Add button. You can then move the NOTE Indicator item to wherever you want it to appear in the order of the columns.

Fig. 5 Go to **{FIW <GO>}** to analyze a list of bonds. Here, we've used the Facets panel to drill down to the leisure bonds in the HYG ETF.



6. Next, let's compare Six Flags bonds with Disney securities. Open the Facets panel and select only Six Flags under Issuer. (If you don't see an Issuer section, click on the pencil icon to the right of Reset Facets and use the Edit Facets window to add it.) Next, to add Disney bonds, enter "Disney" in the <Add Security> field at the top of the screen. In the list of matches, click on the Ticker –DIS – Walt Disney Co/The (Multiple Issuers) item. In Facets, unclick the Leisure BCLASS 4 filter, and under Issuer, click on Walt Disney Co to include Disney Bonds.

To visualize the Six Flags bonds compared with the Disney bonds, click on the Bond Chart tab (**FIG. 6**).

Fig. 6 Filter down to Six Flags and Disney bonds, and click on the Bond Chart tab to compare them.

7. Finally, in FIW, right-click on the SIX 5.5% 2027s and use the drop-down next to the security ticker to find Plot Yield Performance Relative to Index. The yield of the 2027s has compressed noticeably relative to the Bloomberg Barclays High Yield Index over the past several months (**FIG. 7**). ●

Fig. 7 Click on the SIX 5.5% 2027s in the chart and use the drop-down to navigate to Plot Yield Performance Relative to Index.

Gee is a credit market specialist, Katchay is a product manager for contact management and collaboration, and Thakkar is a product manager for core fixed-income analytics, all at Bloomberg in New York.

Build, Backtest, and Optimize a Custom FX Overlay Strategy

By OWEN MINDE and ADRIANA BRUNO

DO YOU CONSIDER foreign exchange an asset class? For international portfolios with flexible FX hedging mandates, currency exposure can be an asset that provides additional opportunities to generate alpha, when—and if—markets return to normal. To see how, you can use the new Bloomberg FX Forward Indices to define an FX overlay strategy, backtest its performance, and optimize its parameters to find the best approach.

One common strategy, for example, is a carry trade: Go long high-yielding currencies and short low yielders. Such a strategy would earn the difference between the yields—the carry return (with the caveat that moves in spot rates can rapidly change the potential for profit).

The Bloomberg FX Forward Indices track the performance of holding and rolling a one-month FX forward contract. They replicate a fully tradable strategy, so you can use them as building blocks for your overlay. Run **{IN <GO>}** and click into the Strategy tab to view these performance indexes for 26 currencies against the U.S. dollar.

To build a custom basket made up of 10 of these currency indexes, run **{CIXN <GO>}** for the Custom Expression Editor. With some simple code, you can specify an index composed of five of the historically highest-yielding emerging-markets currencies and five of the lowest (**FIG. 1**). (To load a ready-made version of the strategy, type ".IEMCARRY" in the command line of a Bloomberg screen and select the Global CIX: IntraEMCarr item. Then run **{CIXU <GO>}** to see the formula.) In this case, the high yielders are the Turkish lira, South African rand, Mexican peso, Russian ruble, and Indian rupee.

Fig. 1 Here's the formula you can use in **{CIXN <GO>}** to build a simple emerging-markets carry trade strategy. To load a ready-made version of the strategy, run **{.IEMCARRY Index CIXU <GO>}**.

The strategy is built with the Bloomberg FX Forward Indices, which you can track by running **{IN <GO>}** and clicking on the Strategy tab.

Fig. 2 Once you've created a strategy, you can chart it against its constituent indexes.

Here, the strategy would have returned -25% in the 10 years through the beginning of the year. Not great.

Each currency is equal weighted at 20%. The low yielders are the Taiwanese dollar, Hungarian forint, Israeli shekel, Czech koruna, and South Korean won, which are similarly equal weighted.

Once you've created an index of your strategy, you can chart it. A G chart, for example, lets you view the performance of the index relative to its constituent currency return indexes since the beginning of 2010 (**FIG. 2**). Assuming we rebalanced it on a monthly basis, as represented by the monthly periodicity of this chart, this strategy would have returned -25% through the beginning of January. Not great. That can be largely attributed to the poor performance of the Turkish lira, which returned -34% and was in the long basket, and the strong performance of the Korean won, which gained 10% and was in the short basket.

TO IMPROVE THE ALPHA generation of your FX overlay, try implementing a technical strategy. Run **{.IEMCARRY Index BTST <GO>}** to get an overview of some of the most popular technical strategies over your specified time frame and periodicity. Looking at monthly data in the 10 years through Jan. 1, you can sort by the Profit Factor column to find a strategy whose winning trades generate more profit than its losing trades lose (**FIG. 3**).

Here, the strategy with the largest profit factor is Williams %R. Developed by trader and technical analyst Larry Williams, Williams %R is an oscillator that's useful for identifying potential turning points. It shows how a security is trading in relation to its highs and lows over a specified lookback frame. The default number of periods the indicator uses for the lookback is 14—that is, ►

Fig. 3 Try implementing a technical strategy to improve performance of the overlay.
Run **{.IEMCARRY Index BTST <GO>}** for an overview of some popular technical strategies.

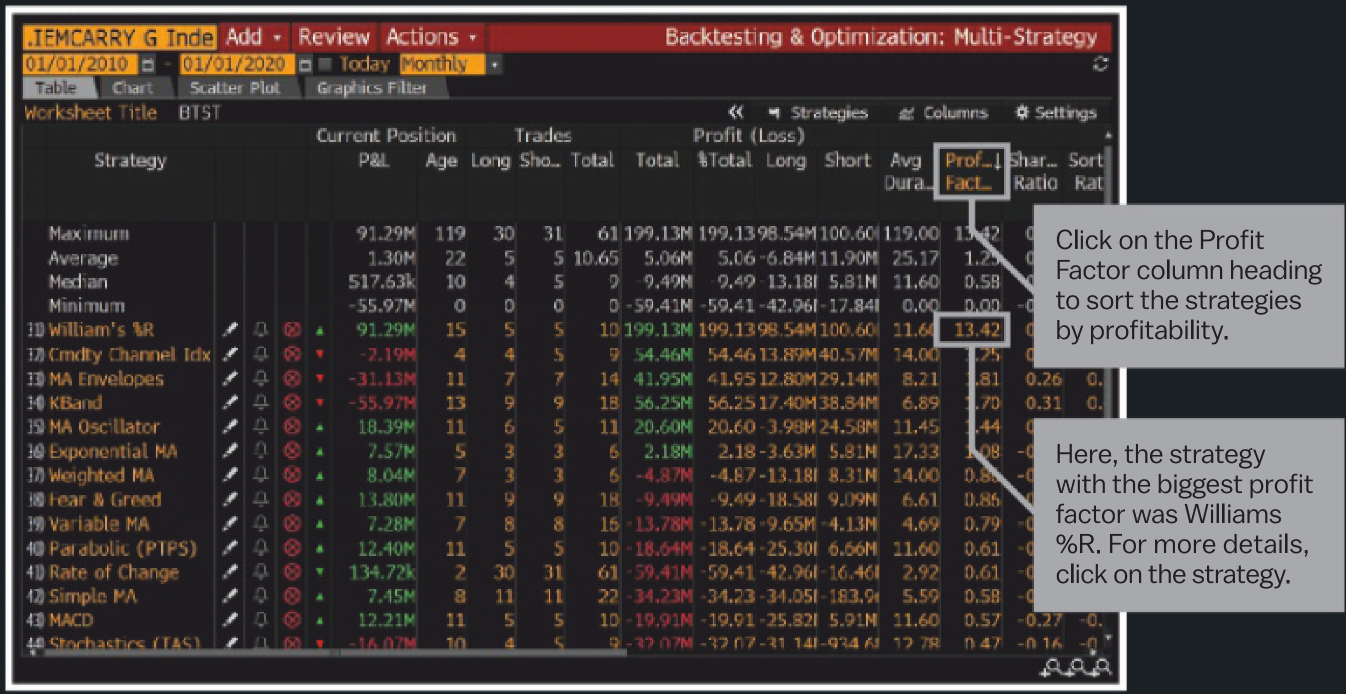


Fig. 4 Williams %R, an oscillator developed by trader and technical analyst Larry Williams, generated 10 signals over the past decade.

14 months for monthly data. Scaled from zero to -100, Williams %R uses a default overbought level of -20 and an oversold level of -80.

For more details on the strategy, click on Williams %R. In the past decade the strategy generated 10 signals, with a winning ratio of 70% and a profit of $199 million (based on initial capital of $100 million) (**FIG. 4**). (Click on Review and then on the Simulation Control tab to specify a strategy's initial capital, trade size, and more.)

The default logic for the strategy is to cover and go short when the Williams %R line crosses below a value of -20 back into the neutral territory from overbought levels. That signal is represented by a red icon on the chart. Conversely, a signal to cover and go long is generated when the indicator crosses above -80 back into the neutral zone from oversold levels. That's shown by a green icon.

IF YOU WERE LOOKING to tweak the strategy further, you could run these rules through the optimizer to confirm that the default -20 and -80 levels are the best to use given this historical data. Click the Review button on the red toolbar. Now you're going to add two variables—called Overbought and Oversold—and see which levels work best for them. Click on Add Variable in the upper left of the screen. In the window that appears, enter "Overbought" as the Name and "-20" as the Value. Hit Update. Repeat these steps to add an Oversold variable with a value of -80. These should both appear in the top right, in the Selected Factors section. Next, tweak

Fig. 5 To check whether the default levels of the Williams %R strategy are the best, click on the Review button in BTST to open the Strategy Definition page.

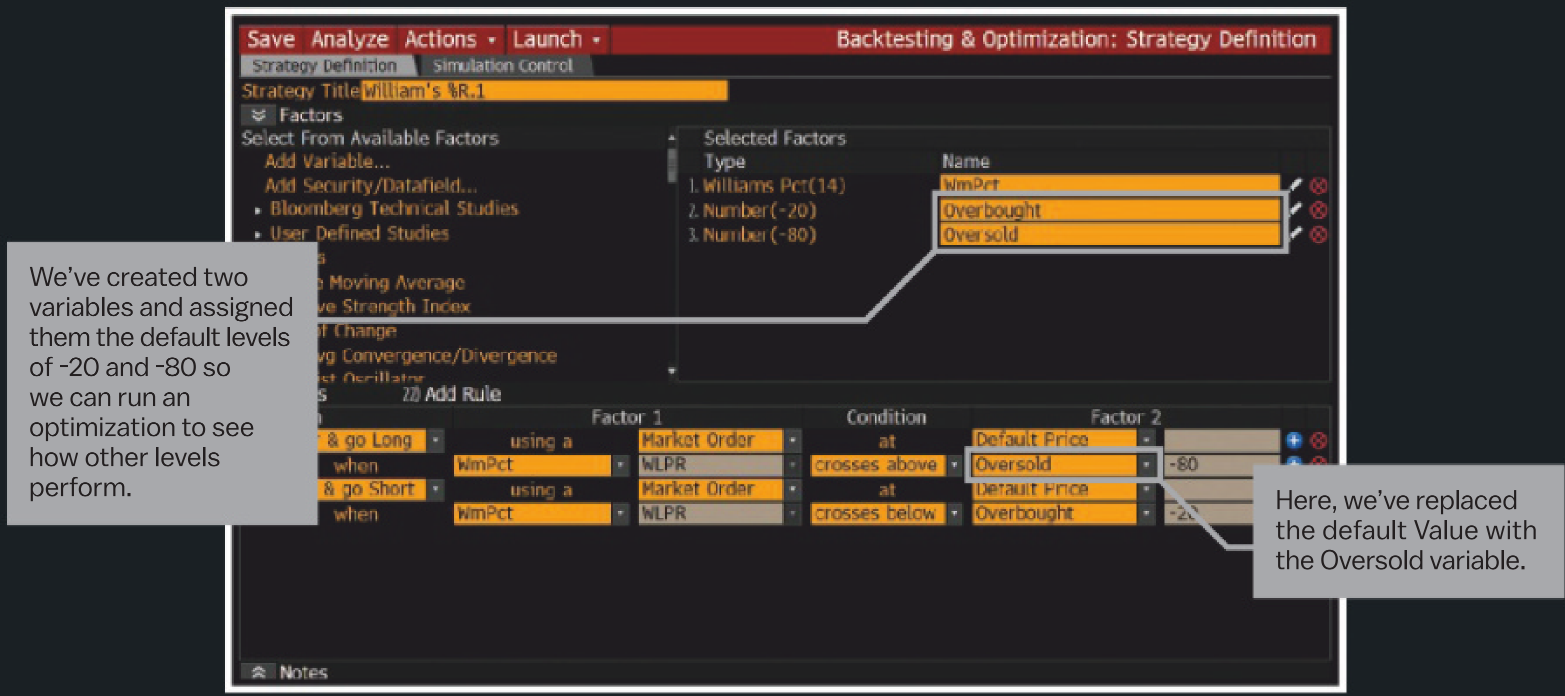
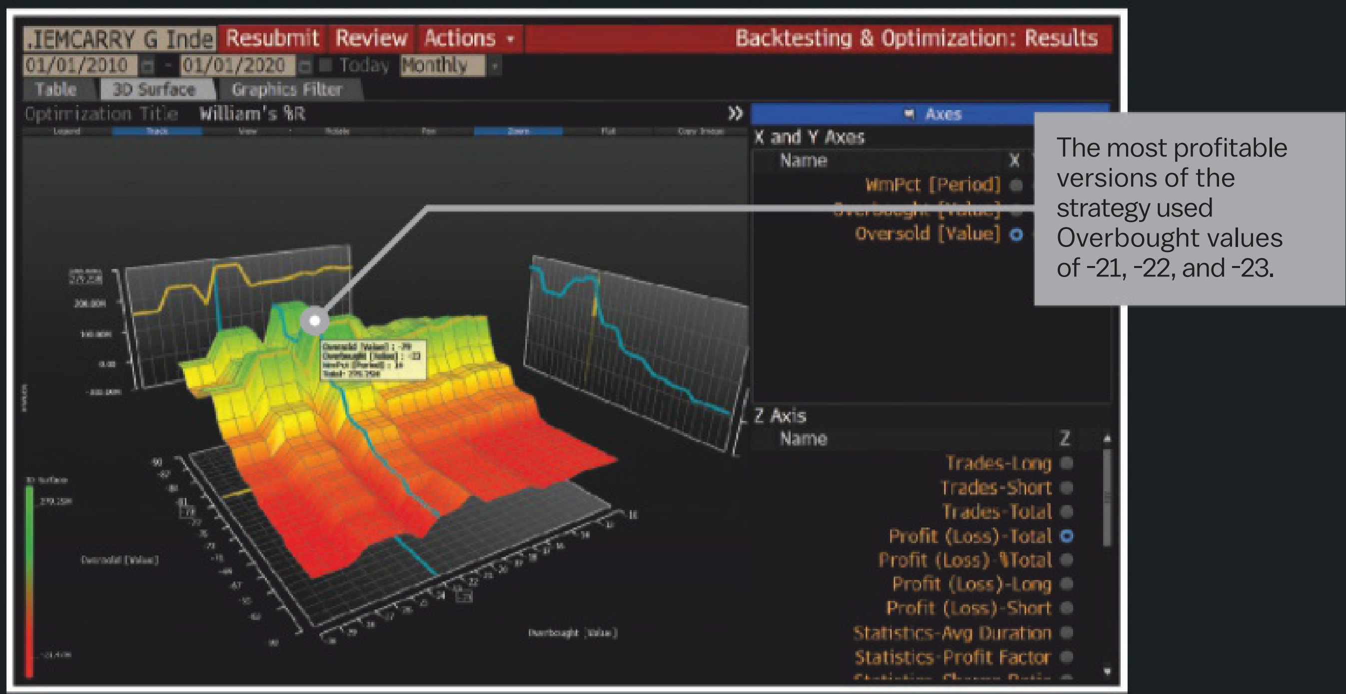


Fig. 6 For more insight into the most profitable parameters for the strategy, click on the 3D Surface tab in the results.



the rules in the bottom portion of the screen to swap in your new variables for the appropriate Values (**FIG. 5**).

Once you've done that, click on the Save As button to save the strategy. Then click the Launch button and select Parameter Optimization from the red toolbar. You can specify a range of values for your variables in the Selected Parameters section of the screen that appears. To test a 20-point range around the default values, enter "-30" and "-10" as the Overbought Min and Max and enter "-90" and "-70" for Oversold. Click the Submit button, and the system will process the various combinations.

When the processing is complete, you'll receive a message. Click on the link to see a table of the various combinations and their profitability. The most profitable versions of the strategy used Overbought values of -21, -22, and -23, with Oversold levels of -79 and -80. For more insight into the optimal values, click the 3D Surface tab. Select Overbought as the Y axis and Oversold as the X, and you can see where the strongest grouping of positive bright green falls among the values (**FIG. 6**).

This is one example of tweaking an FX overlay strategy to try to generate alpha. In this case, the best combinations of values don't change the number of signals: 10. However, they do increase the win ratio to 90%, raise the Sharpe ratio to 0.86 from 0.70, and lift the overall profit of the strategy by more than 40%, to $279 million.

Minde is an FX and macro market specialist and Bruno is a research and technical analysis market specialist at Bloomberg in New York.

Get Notified of the Latest Forecasts as Analysts Rip Up Old Earnings Calls

By KATHARINE TOLLER and ERIN RILEY

EQUITY ANALYSTS ARE furiously revising their estimates and models to incorporate coronavirus containment measures and plunging stock prices.

Here's how the Bloomberg terminal can help you track changes in recommendations for companies, indexes, and economies. You can set up alerts to notify you of these updates.

BY MID-MARCH, China appeared to be emerging from the Covid-19 pandemic, while other countries were at an earlier stage in the outbreak. One sector that's exposed to the Chinese economy, and had sold off heavily in previous weeks, was European luxury goods.

To see the latest forecasts for companies in the sector, type "BI luxury goods" in the command line of a Bloomberg screen and choose BIEULGCP Index – BI Europe Luxury Goods Competitive Peers Index from autocomplete. Then select MEMB – Member Weightings from the menu of functions. (The shortcut is **{BIEULGCP Index MEMB <GO>}**.)

In the amber box to the left of Fields, type "YTD total return" and choose Year To Date Total Return – Current. Click into the field and hit <GO> to add that as a column in the table. To sort from the worst-performing companies to the best, click on the column heading (**FIG. 1**).

One of the European companies in this index that's most dependent on Chinese demand is Burberry Group Plc, which had fallen 44% this year as of March 16. The index had dropped 34% over the same period.

The onset of the coronavirus has wreaked havoc on existing analyst forecasts, and these are likely to be reassessed. To find the latest estimates on Burberry and track their evolution going forward, type "Burberry" in the command line and choose BRBY LN Equity – Burberry Group PLC (London) from autocomplete. Click the Research & Estimates section and choose ANR – Analyst Recommendations. The shortcut is **{BRBY LN Equity ANR <GO>}**.

There were 5 buys, 13 holds, and 4 sells on Burberry as of March 16 (**FIG. 2**). The latest forecasts are listed in the table. Deutsche Bank AG's Francesca Di Pasquantonio made a hold recommendation with a target price of 1,950 pence ($24) on March 12. AlphaValue/Baader Europe's Jie Zhang made an add recommendation with a target price of 1,572 pence on the following day. Burberry shares traded at 1,242 pence on March 16. Other forecasts in ANR were from early March and late February.

To be notified as ratings and forecasts change, click the red Alert button at the top of the page. Note that you can enter another company or a list of securities using the amber box. Choose All recommendations and set the delivery method (**FIG. 3**). Click Create Alert. You will now be alerted when new recommendations come through.

For more detailed forecasts on a selected company, run **{EE <GO>}** to open the Earnings & Estimates function or **{MODL <GO>}** for the Analyst Estimates and Models function.

There are also Bloomberg Automation stories that move when new forecasts appear. For changes in analyst recommendations, go to **{NI ANACHGBA <GO>}**. For changes to price targets, run **{NI ANAPTCHG}**. European analyst ratings are found at **{NI ANAEUR <GO>}**; U.S. analyst ratings are available at **{NI ANAUS <GO>}**; and Chinese equity research wrap is at **{NI ANACHIWRP <GO>}**. For a list of stories that are generated when a company's share price crosses above an average price target, go to **{NI SHRXPT <GO>}**.

Predicting markets will always be difficult. Getting notified of analyst recommendation changes doesn't need to be.

Toller and Riley are on the staff of the global data department at Bloomberg in London.

Fig. 1 To see members of the BI Europe Luxury Goods index, run **{BIEULGCP Index MEMB <GO>}**.

Fig. 2 To see analysts' recommendations and price targets for Burberry, run **{BRBY LN Equity ANR <GO>}**.

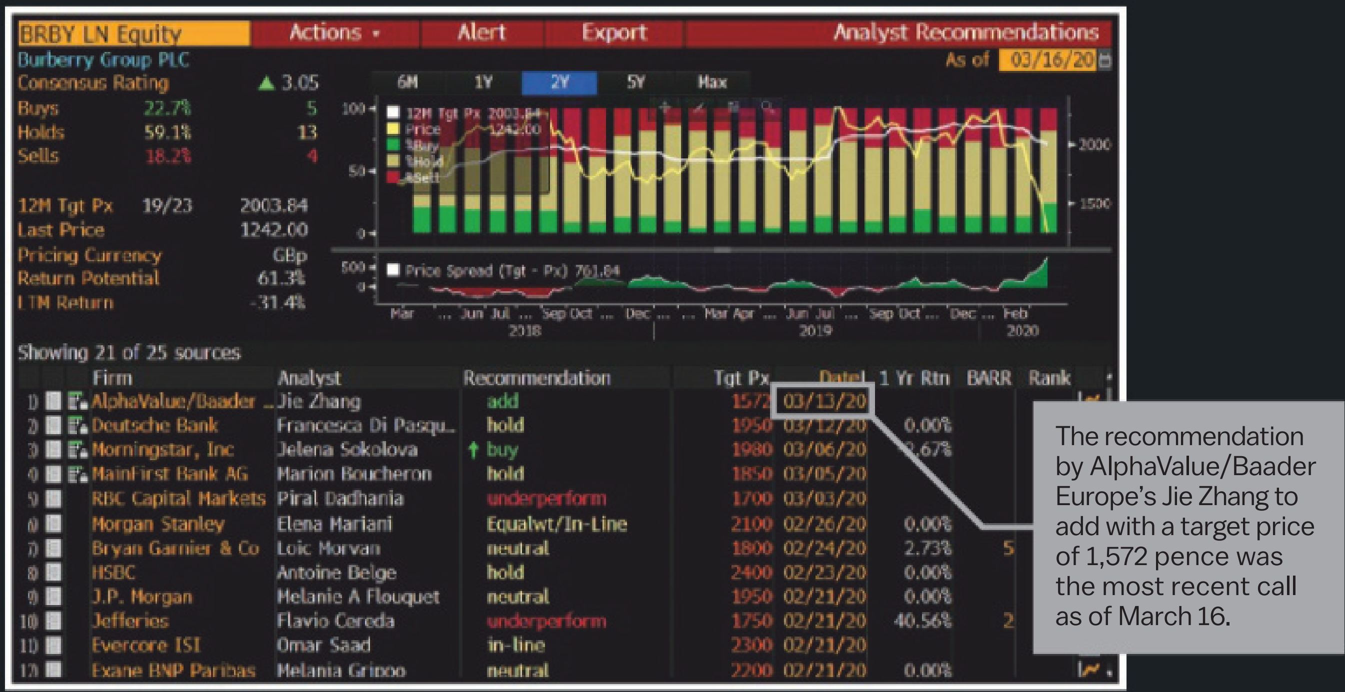
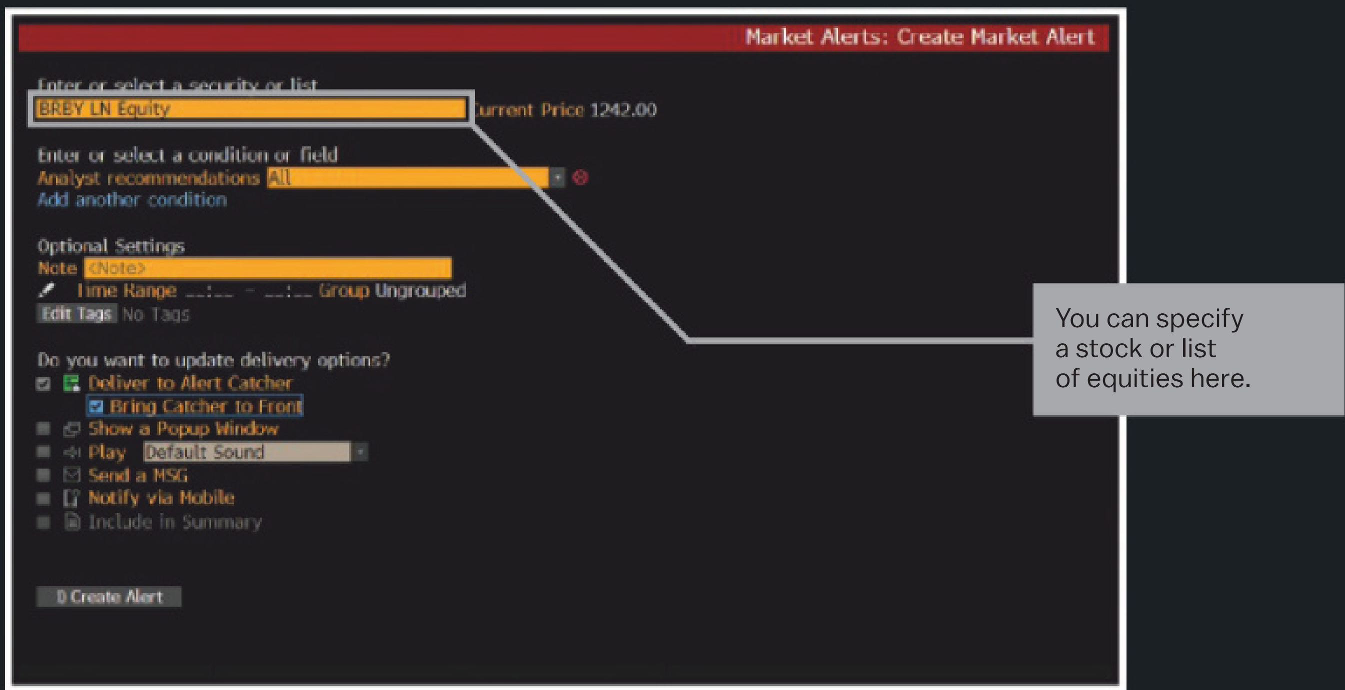


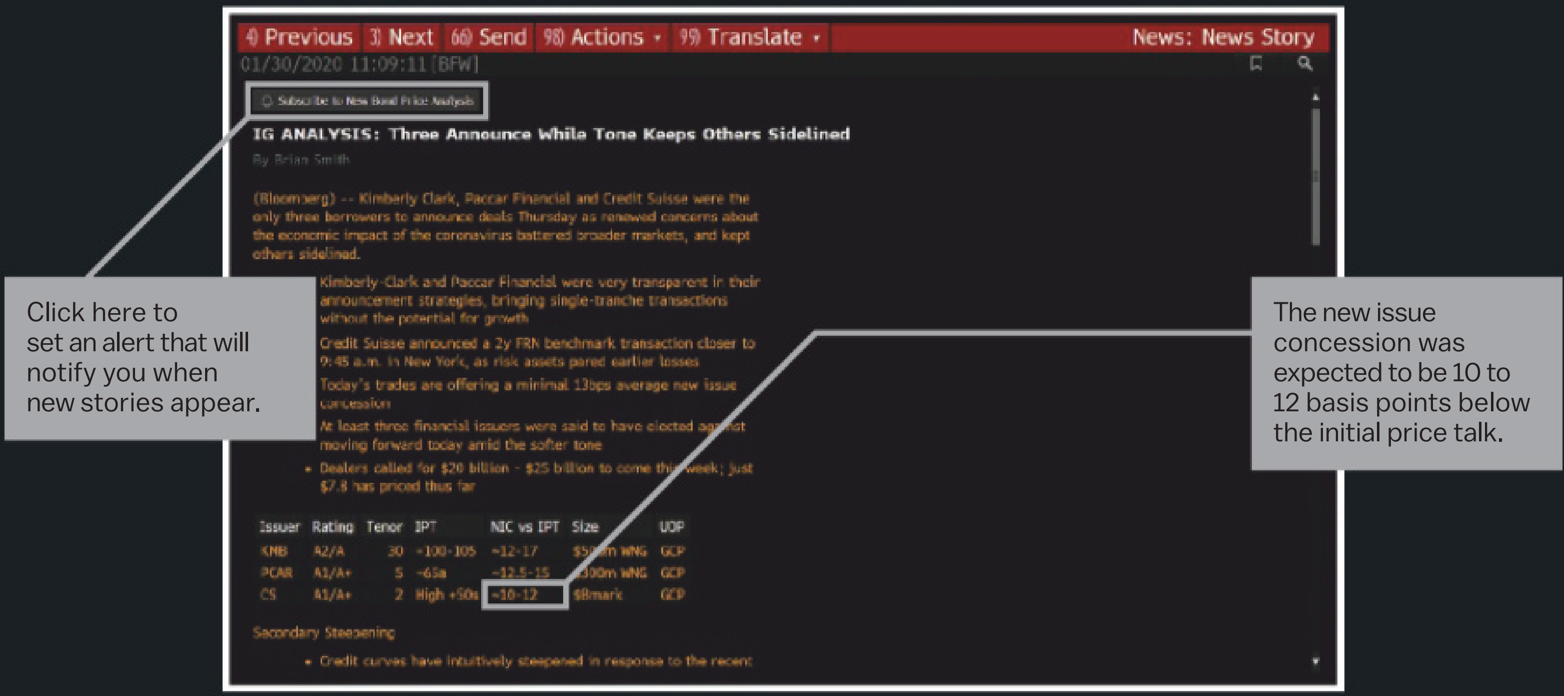
Fig. 3 To set an alert that will notify you of changes in analysts' calls, click on the Alert button on the red toolbar in **{ANR <GO>}**.



Here's a Smart App for Finding Value In Investment-Grade Bond Sales

By BRIAN SMITH

Fig. 1 To see headlines of new issue price analysis stories, go to **{NI NIC <GO>}**.



WHEN A BLUE-CHIP company such as Verizon Communications Inc. or Toyota Motor Corp. sells new bonds, how can you tell whether they're worth buying? In the U.S. high-grade debt market, that's an increasingly challenging proposition.

Speed is key. When new deals are announced, it's important to find similar bonds to compare them to. Many borrowers will already have bonds outstanding, and it's often possible to construct a yield curve by interpolating between those bonds. It's also important to look at how comparable debt from similar issuers is trading.

Consider an example from before March, when the coronavirus outbreak sent credit markets into a tailspin. In January, Credit Suisse AG wanted to raise $2 billion for its New York branch; its outstanding 2.1% coupon bonds due in November 2021 were trading at 34 basis points over Treasuries. Adding a new issue concession, the fair value on a fixed-rate new issue would be about 35 basis points over the U.S. government benchmark.

In this case, the bank looked to borrow in floating-rate format. The equivalent was about 29 basis points above the three-month London interbank overnight rate, our analysis showed. An additional wrinkle was that this bond was to be priced relative to the Secured Overnight Financing Rate. Given a SOFR/Libor basis of about 18 basis points, fair value for this new bond issue was about 47 basis points over SOFR. The deal was introduced at 45 basis points over the new benchmark, implying a 2-basis-point advantage for the borrower in doing the deal, which received $2.5 billion of orders.

After the deal is priced, a new issue concession can be calculated. Comparing the amount of demand with how much is sold and with how much the spread tightened across the marketing process are additional ways to gauge how the bonds will probably trade after they're issued.

How to Find It

Go directly to the new issue concession analysis by running **{NI NIC <GO>}** (**FIG. 1**). To set an alert that will notify you when a new story appears, click on the Actions button on the red toolbar and select Set Alert Delivery. This analysis is integrated into Bloomberg First Word's coverage. Go to **{FIRS <GO>}**, click on the Actions button, and then on Select Market Focus. Click on Capital Markets, select Americas Debt Capital Markets, and click on the Update button.

Smith is a strategist with the credit team at Bloomberg News in New York.

Coronavirus Has Upended the Relationship Between Bonds and Dividends, Too

By MARK JORDAN

Fig. 1 A chart covering a half-century shows that the first time the S&P 500 dividend yield exceeded the 30-year Treasury yield was during the global financial crisis in 2008.

HERE'S A RARE EVENT: The U.S. 30-year Treasury yield fell below the dividend yield of the S&P 500 index. If you look back across the past 50 years, long-dated government bonds had consistently paid investors more than the U.S. stock benchmark's payouts—until the global financial crisis hit in 2008. The normal pattern reemerged in April 2009 and after that was interrupted for only a handful of days in 2016 and 2019.

Until now. The onset of the new coronavirus pandemic created a fourth round of topsy-turvy yield regimes—and with greater divergence than before.

You can use the Bloomberg Terminal to chart how dramatic and swift the reversal of this relationship has been. Here's how: Type "chart S&P 500 dividend yield" in the command line and hit <GO>. Click the Compare button on the red toolbar. In the top left amber field, type "30 year treasury yield" and select USGG30YR Index in the list of matches. In the amber field to the right, type "last price" and select the matching item. Hit Update.

To chart both series on the same axis, click Edit in the red toolbar and select Securities & Data. Set Axis to R1 for both. Hit Update. Change the start date to "12/31/1970" and press <GO> (**FIG. 1**).

In late 2008 the 30-year yield declined while the dividend yield spiked as stock prices plunged. The dividend yield peaked in March 2009. By the end of the year, 12 companies in the S&P 500 discontinued dividends and 65 companies cut payouts, data compiled by Bloomberg show.

One staggering—and almost certainly evanescent—statistic as of March 18, 2020: Thirty-two of the 505 S&P companies were showing double-digit dividend yields. The largest was Occidental Petroleum Corp., which registered an almost 30% yield. To track this yourself, run **{SPX <Index> MEMB <GO>}**, type "dividend yield" in the amber field to the left of Fields, click on the matching item, and then on Current. Hit <GO> to add a column you can sort by. In addition you can add a column for BDVD analysts' dividend health scores—a gauge of companies' abilities to make payouts. Type "BDVD Dividend Health" in the amber field, click on the BDVD Current DVD Health item, and hit <GO>.

In turbulent times, investors can often find refuge in high dividend yields. These can look especially attractive when you consider how low yields on U.S. Treasuries have become. Investors, however, need to understand which stocks are accidentally high-yielding and which names can sustain those payouts.

Jordan is an equity derivatives market specialist at Bloomberg in New York.

Just How Crazy Is Trading? Track Treasury Market Liquidity To Find Out

By SUKETU K KOTHARI and KRYSTA LIPINSKI

IN MID-MARCH, the bid-ask spreads for U.S. Treasuries—a key measure of liquidity—widened beyond the levels seen during the 2008 financial crisis.

That was a bad sign, coming just days after the Federal Reserve cut its benchmark rate close to zero and Fed Chair Jerome Powell said, "We're really going to be looking to see that financial markets are returning to more liquid, more normal functioning."

One way to check the "more normal functioning" goal is to monitor bid-ask spreads, the gaps between the prices on bids to buy bonds and the offers to sell them.

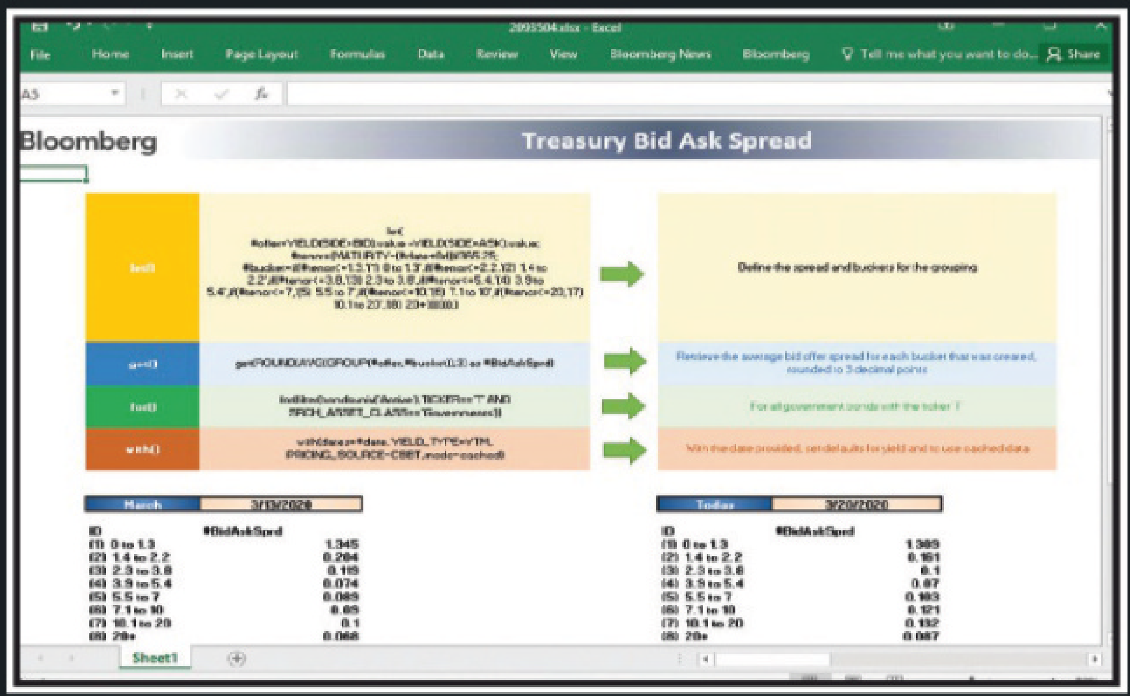
How can you do that? Use Bloomberg Query Language to track the gap between bids and offers of on-the-run Treasuries by maturity bucket, and compare them to points during recent days or months. The tool uses Composite Bloomberg Bond Trader (CBBT) data, which aggregates executable bids and asks from the Bloomberg terminal.

Global sovereign debt suffered sharp losses on March 18, driving benchmark 10-year Treasury yields up almost a percentage point from their record low a week earlier, amid a rush to sell even the highest-quality assets.

For an indication of how recent bid-ask spreads deviated from normal market conditions, type "G #FFM 362" into the command line and hit <GO> (**FIG. 1**). (To create the chart, run **{USGG10YR Index GP <GO>}**, click Chart Content, click the pencil next to the ticker, select Spread, and enter the same ticker twice, but with bid price and ask price.)

Fig. 1 To view the historical anomaly in Treasury bid-ask spreads, run **{G #FFM 362 <GO>}**.

Fig. 2 For a spreadsheet that lets you monitor spreads, run **{DOCS 2093504 <GO>}** and click the Download Document button.



FOR LIVE DATA ON BID-ASK spreads per maturity bucket: Type "DOCS 2093504" in the command line and hit <GO>. Click the Download Document button to open a spreadsheet that uses Bloomberg Query Language to aggregate the average bid-ask spreads on Treasury trades (**FIG. 2**).

BQL combines data retrieval with analytics to provide precise answers to quantitative questions. It allows users to synthesize large amounts of data and perform custom calculations in seconds.

The first column shows elevated bid-ask spreads seen on March 13. The column to the right shows the spreads on the current day. Users may compare additional dates by typing in the amber date box at the top of each table. Scroll down to see a chart comparing the bid-ask spread across all maturity buckets for the two dates. The spreadsheet displays Treasury bid-ask spreads in yield terms. It can be used to analyze data as far back as four years.

The bid-ask spread on U.S. Treasuries reached 11 basis points for notes with maturities of 7 to 10 years on March 18 in New York, higher than the 9 basis points seen on March 13, before the Fed cut.

Refresh the sheet to update the current day's data. Change the start date to Feb. 18 to see that the spread was less than 1 basis point a month earlier.

It was certainly not what Powell was hoping to see.

Kothari is a fixed-income, rates, and derivatives market and risk specialist. Lipinski is a BQL and fixed-income advanced specialist.

High-Yield Munis

Turbulence Throws Nuveen's Gravity-Defying John Miller Off Course

By DANIELLE MORAN and AMANDA ALBRIGHT

PHOTOGRAPH BY LUCY HEWETT

FOR MORE THAN two decades, John Miller helped to build the high-yield municipal bond market. In two weeks in early March, he watched it collapse.

The star fund manager at muni giant Nuveen is famous for the power he wields in the market—and for making bets that other investors shy away from. His fund made wildly successful wagers in the U.S., plunging into the riskiest crevices of state and local government debt as well as into companies and ventures that weren't easily recognizable as municipal debt. Even when the market was climbing to records earlier this year, Miller's risk appetite exceeded that of some of his peers.

Then the deadly new coronavirus shut down vast swaths of the country. Many of the projects he financed were hit. The American Dream megamall in New Jersey was shuttered just as it was about to open. Virgin Trains USA's unprofitable high-speed Florida railroad curtailed service as tourists disappeared overnight. In just 10 trading days, yields on benchmark municipal bonds jumped more than 200 basis points, prompting the Federal Reserve to take unprecedented action to support the market.

Miller's fund plunged, its assets diving to $19.3 billion on March 26, from $25 billion at the end of February. Having been one of the best performers in the industry, it became one of the very worst. Investors pulled $11.3 billion from high-yield municipal bond mutual funds in the three weeks ended March 25, according to Refinitiv Lipper US Fund Flows data. On March 19—with prices plunging, tying a record for the biggest one-day rout in market history—Nuveen alone tried to unload more than $700 million in bonds.

Nonetheless, Miller seems prepared. "This has been a move without any concrete financial data because it's happened so quickly," he says, sitting on the near-empty trading floor of Nuveen's downtown Chicago office. His phone has been ringing so incessantly that he has to pause when the battery in his headset dies.

It's March 18, and he's staying calm and optimistic, using cheery phrases like "V-shaped recovery" and "major snapback potential." He says he's still "gung-ho" about the mall and the train, convinced that such a rapid deterioration in the market—faster than the 2008 financial crisis—augurs an equally speedy rebound. "This is not going to be, I don't think, a multiyear health crisis," says Miller, who turns 53 in April. "This is going to be a multimonth health crisis. I don't think it's going to be a multiyear economic crisis either."

But by the end of March, it was still unclear whether the pandemonium could be compared with that of previous downturns. Analysts at Municipal Market Analytics, an independent research firm that tracks municipal distress, said in a March 20 report that more municipal borrowers will default or otherwise fail to honor their agreements with bondholders. And they said those problems will be centered in the riskiest parts of the market—the areas in which Miller's fund dominates. Then, in the last week of March, as Congress was on the verge of enacting a $2 trillion economic stimulus, the crash reversed as abruptly as it began, with even junk bonds joining in the rally.

If the $3.9 trillion municipal bond market were an ocean, the high-yield section would be the shadowy corner where the sharks gather. And there are only two great whites there: Nuveen, where Miller oversees the business, and Invesco Ltd., which bought OppenheimerFunds in 2018. The two companies comprise more than a third of the $111 billion high-yield municipal bond mutual fund universe tracked by Bloomberg. When they suffer, the rest of the market does, too. The high-yield municipal funds run by the two companies were among those seeing the steepest losses in March compared with their peers.

To some, it seemed like the high-yield municipal bond market was poised for a fall even before the Covid-19 outbreak. When investors were flooding the market with cash, Miller and his ►

rivals kept buying, driving yields down further and further and allowing risky borrowers to easily raise money.

For much of the past year, muni bonds backed by government revenue were holding near their lowest yields since the 1950s, causing investors to plow into more exotic securities to get higher yields. Much of this low-rated and unrated tax-exempt debt is effectively corporate debt by another name: Government agencies issue it on behalf of real estate developers, museums, charter schools, or ventures such as Virgin Trains. Governments aren't on the hook if the businesses don't pay the money back; bondholders are.

"The muni high-yield space now is littered with things that most investors couldn't even identify as municipal bonds," says Nicholos Venditti, a portfolio manager at Thornburg Investment Management. He points to bonds issued for the American Dream mall and untested recycling facilities that seek to create ambitious new products, such as sustainable jet fuel. "Those are venture capital-like deals that were priced with muni-like yields, and ultimately what's happening is that they're reverting back to venture capital-like yields, where they should have been in the first place."

MILLER STARTED SMALL. A Columbus, Ohio, native, he graduated from Duke University before going to Northwestern and completing a master's degree in economics. Instead of continuing with a Ph.D., he worked first as an actuary, then joined the Chicago investment advisory firm C.W. Henderson & Associates. As an analyst there, he learned the foundations of the muni market. Craig Henderson, the firm's president, recalls that even in those early days Miller was drawn to the quirky niches of the market that Henderson's firm tended to avoid. "High-quality munis were just a little too boring for John," Henderson says.

At Nuveen's office just blocks away, Paul Williams, who headed the firm's municipal research group, was looking for a new credit analyst. He recruited Miller, impressed by his knack for evaluating muni credits that involved corporate and nonprofit borrowers. Miller's first big test came in the late 1990s. CanFibre of Riverside Inc. was as risky as it gets in the municipal bond market, a speculative project based on untested technology—turning discarded wood into fiberboard for kitchen cabinets. Miller loved it. "I just thought it was a fantastic idea," he says. He persuaded Nuveen's portfolio managers to buy it. At first it traded well.

Then CanFibre's corporate backer, Enron Corp., collapsed, and California energy prices skyrocketed. CanFibre's bonds plummeted to 2¢ on the dollar. When other investors cut their losses and sold, Miller bought all the bonds, betting that even if the company failed, the highly specialized equipment and the warehouse could be sold. He was right. The equipment was sold twice, in fact: once to a Mexican company that never collected it, and then auctioned off piecemeal. Along with the plant manager, the only employee left at the company, Miller orchestrated the sale of the property in a booming California real estate market. "So we almost broke even on the whole thing," he says.

The new millennium was robust for Miller—and the market he would come to dominate. After attending night classes to complete an MBA at the University of Chicago in 2000, Miller was named a co-manager of Nuveen's high-yield fund, which he would manage soon after, overseeing its growth from $50 million in seed capital to $5.1 billion in 2007.

When financial markets collapsed in 2008, so did some high-yield municipal debt funds. Ronald Fielding, a veteran investment manager for OppenheimerFunds, had delivered hefty returns on debt backed by airport terminals, tobacco settlement payments, and housing developments. During the crisis, investors pulled out en masse. His fund was forced to sell securities at fire-sale prices to raise cash. His main fund's shares tumbled by more than 50%. "I felt like I was destroying the whole market," he remembers.

Miller's fund was pummeled too, losing 40%. But unlike Fielding, who retired the following year, he was able to hold on for the subsequent rebound and grow the fund tenfold. "I just had more longer-dated, nonrated bonds than anyone else," he says. "Maybe I maintained too aggressive a positioning going into '08, no question. But the bonds themselves virtually all came back."

Miller became known for his mastery of the technical details buried in bond documents. It's a skill that stems from his early

"This is not going to be, I don't think, a multiyear health crisis. This is going to be a multimonth health crisis"

Down Towns

Total return

Sources: {NHMAX US Equity}, {LMHYTR Index}

years as a research analyst tasked with explaining the intricacies of tangled credits to portfolio managers. He speaks a language that only those investors who've spent years poring through prospectuses are fluent in. He's methodical, with an uncanny recall of the details of decades-old bond issues.

In 2011 he was named co-head of fixed income, leaving him with oversight of the firm's state and local government bond investments—now amounting to almost $200 billion overall. But it was the high-yield corner of the market that for all of 2019 was attracting hundreds of millions of dollars each month. Even long-term debt issued by still-bankrupt Puerto Rico had rallied, cutting the yields to around 3.5% in late February, akin to what virtually risk-free borrowers such as California once paid.

By the start of 2020, more than half of the $231 billion in high-yield bonds held by institutional holders was managed by just four firms, according to data compiled by Bloomberg: Nuveen, Invesco, Goldman Sachs, and BlackRock. Miller's funds alone received about a third of the new high-yield money that had come into the market since the start of 2019.

He was accused of abusing Nuveen's market power to quash competition. A Dallas-based upstart, Preston Hollow Capital, sued Nuveen, alleging the company and Miller used its market power to strong-arm the biggest banks on Wall Street to stop doing business with the smaller rival. Last July at the trial, in Delaware Chancery Court, Miller said he was only blustering when he boasted of persuading the banks to spurn Preston Hollow. "Sometimes you have to exaggerate to get people's attention, especially on Wall Street trading desks," he said in court.

At the start of 2020, Miller's fund continued to draw new cash. Some of his biggest wagers were paying off. After he expanded his holdings of debt Puerto Rico had issued as part of its bankruptcy, the securities continued to rise. Chicago's junk-rated school system debt rallied. The Virgin Train-backed bonds ticked up, too.

In the second week of March, as investors began to come to grips with the dramatic impact the coronavirus would have on the economy, the market turned on a dime. The bonds backing the American Dream mall dropped to as low as 97.25¢ on the dollar in late March, down from 120¢ when they last changed hands in September.

In 2008, Miller weathered his fund's 40% drop, bouncing back to return 42% in 2009. In 2013 his fund lost nearly 5% when the taper tantrum roiled fixed-income markets, only to come storming back with a gain of almost 20% the following year. When Donald Trump's surprise victory in the 2016 presidential election threw the markets into a frenzy, Miller's fund saw outflows. Again, he rebounded, posting 12% returns in 2017.

High-yield munis would need another recovery to make up for the losses seen in March alone—a 10% drop as of March 26. Miller's fund could face further pressure as more investors see the negative returns and pull their money, a dynamic that has affected municipal mutual funds during prior periods of stress.

"I do have a lot of experience handling stressful environments under periods of uncertainty," Miller says. It was March 18, and his fund would go on to drop 14% in a week. "Munis have always come back strong," he says, "Muni high-yield has always come back strong." ● —*With Martin Z. Braun*

Moran and Albright cover muni debt for Bloomberg News in New York.

A Grim Credit Landscape

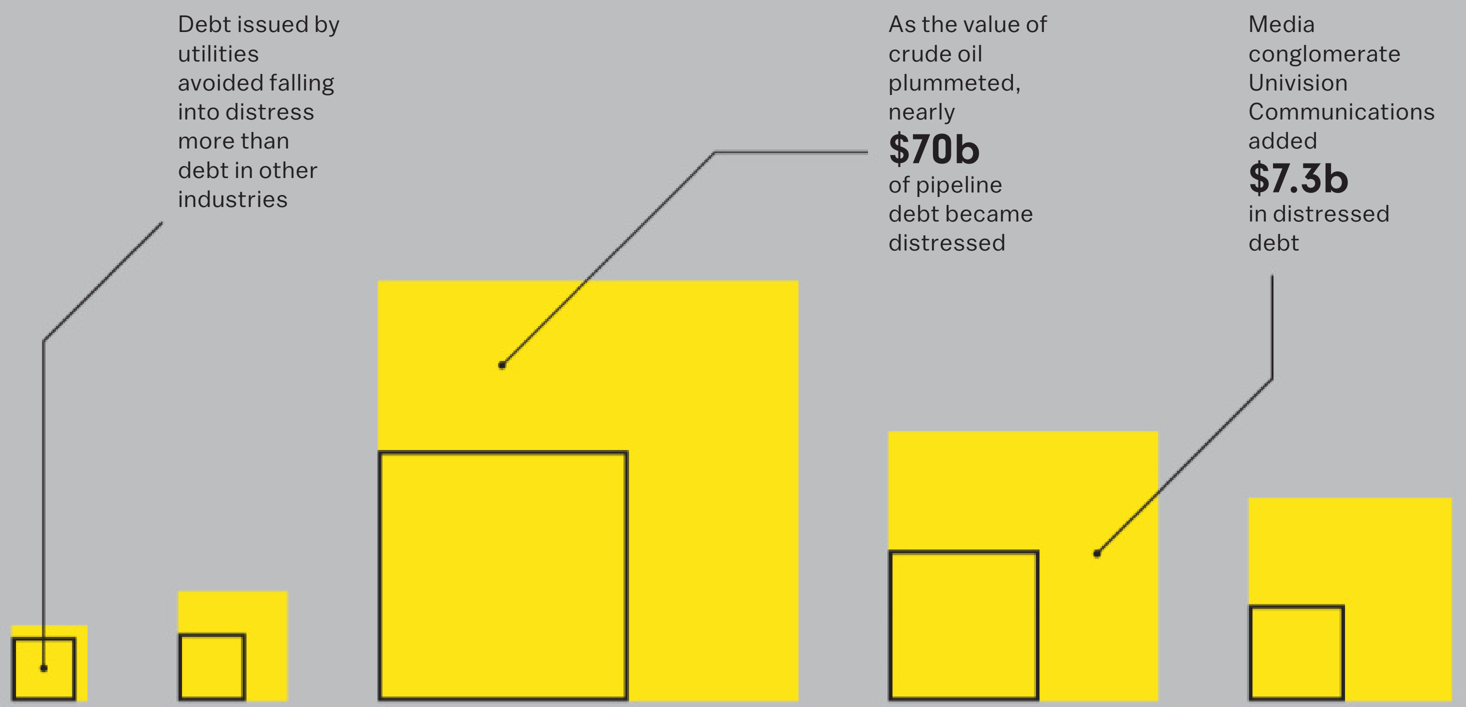
By SHANNON HARRINGTON
With SALLY BAKEWELL, CLAIRE BOSTON, KELSEY BUTLER, ANIK CHATTOPADHYAY, JAMES CROMBIE, and LISA LEE

An Explosion of Troubled Assets

As the coronavirus began to spread around the world, entire industries ground to a standstill, leaving the survival of many businesses in question. In the U.S., which has the world's largest credit market, hundreds of billions of dollars of corporate debt that once seemed relatively safe fell into distress in a matter of days.

Par value of distressed bonds and loans of companies in the Americas, by sector

March 6 March 24



Sector	Utilities	Cons. staples	Energy	Communication services	Information technology
Distressed debt on March 24	**$8.2b**	**$17.3b**	**$255.1b**	**$105.0b**	**$59.6b**
Change from March 6	▲39%	▲161%	▲181%	▲220%	▲345%

It took just two weeks for a decade of easy—sometimes anything-goes—credit markets to screech to a halt. Investors who were once willing to lend to even the riskiest companies suddenly pulled away. In response, central banks promised to flood markets with liquidity. Despite those efforts, market observers are expecting a surge of bankruptcies as an unprecedented corporate borrowing binge meets the realities of a post-pandemic economy.

Source: {W #NEWS 8 <GO>}

Credit Markets Slam Shut

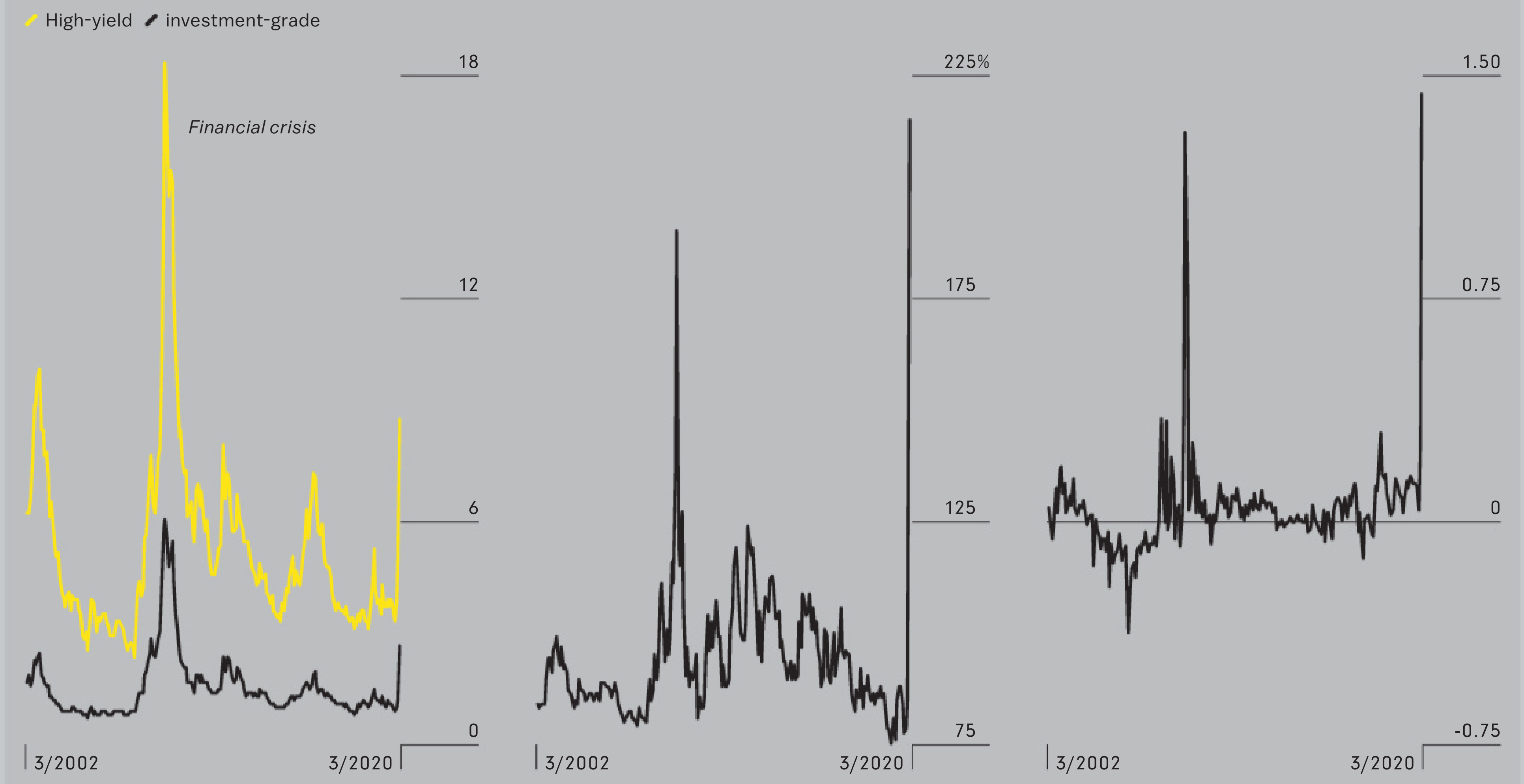
■ As the virus spread, investors found few havens. Junk-rated corporate bonds were among the first to plunge, pushing yields to levels not seen since the global financial crisis. Investment-grade debt immediately followed, and then U.S. municipal bonds and short-term IOUs known as commercial paper.

Easy Credit Disrupted

Option-adjusted spread of Bloomberg Barclays U.S. corporate bond indexes at month's end, in percentage points

AAA municipal bond yields as a share of 10-year Treasury yields at month's end

Top-rated nonfinancial commercial-paper spread in the U.S. at month's end, in basis points*



**Spread between 90-day AA-rated nonfinancial commercial paper and the overnight indexed swap*

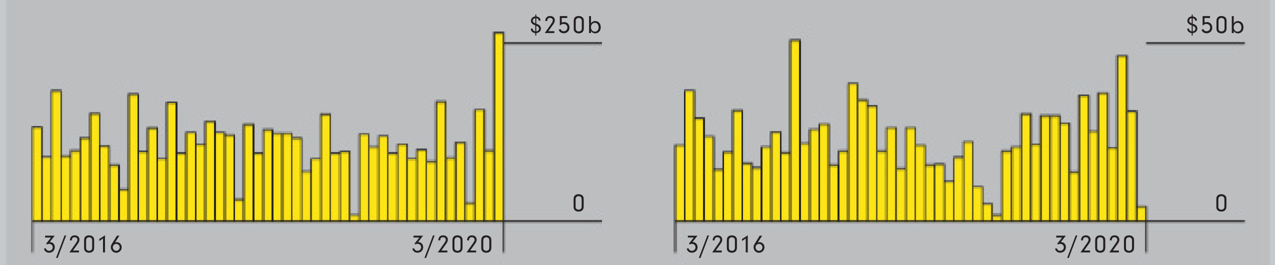
Sources: {LF98OAS Index}, {LUACOAS Index}, {MUNSMT10 Index}, {CPDR9ANC Index}, {USSOC Curncy}

Issuance for the Riskiest Borrowers Dries Up

■ Issuance of junk-rated corporate bonds—off to the busiest start of a year since at least 2009—quickly evaporated in March. Issuance of investment-grade debt soared.

Issuance of U.S. Corporate Bonds

Investment-grade *High-yield*

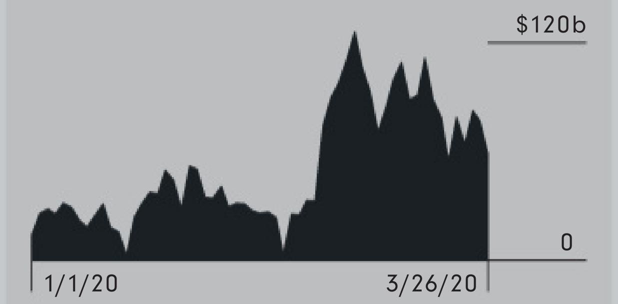


Source: {LEAG <GO>}

A Rush to Hedge

■ Investors swarmed to credit derivatives, which are used to protect against losses.

Global Credit-Default Swaps Index Trading Volume



Excludes index rollover days and the following sessions

Source: {SDRV <GO>}

Picture of Complacency

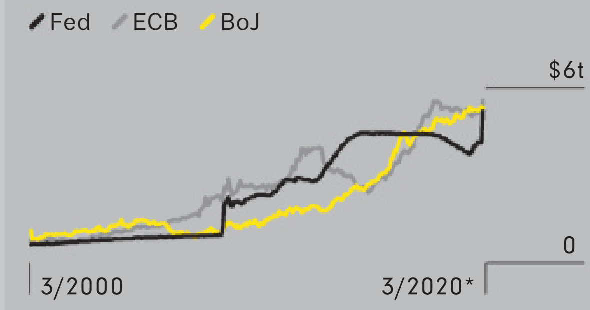
■ Credit markets had just entered a second decade of low yields, and the economy was in its longest-ever expansion. Aside from a few periods of volatility, debt was cheap and easily obtained by even the lowest-rated companies.

How did investors become so complacent? It started with the trillions of dollars that central banks worldwide unleashed into the financial system beginning with the financial crisis in 2008.

Central Bank Largesse

■ After 2008 and again in 2020, the Fed, European Central Bank, and Bank of Japan made purchases to grease markets.

Central Bank Balance Sheet



**Latest week available as of March 31*

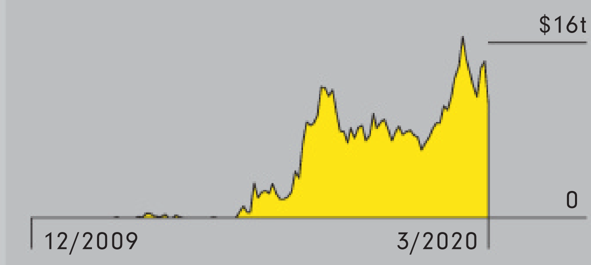
Sources: Central banks

Starved of Yield

■ Those easy-money policies sent yields to unprecedented lows and even flooded the market with negative-yielding debt.

Outstanding Negative-Yielding Assets

Global market value at month's end



Source: {BNYDMVU Index}

As a Result, Investors Sought Yield in Risky Places

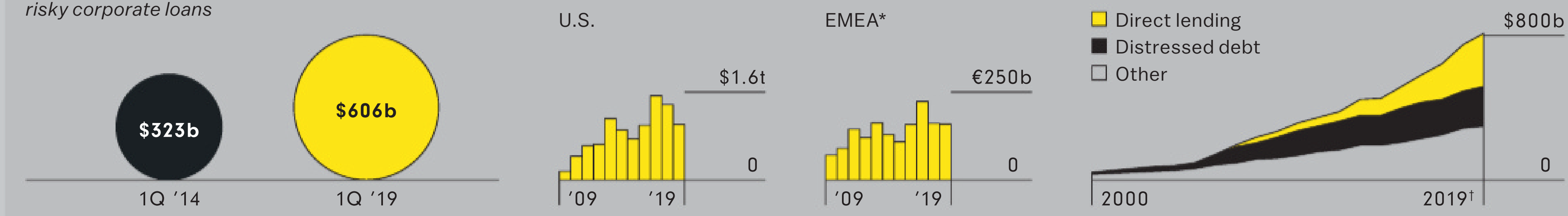
■ With so little yield in traditional bond markets, investors went into less liquid and less regulated markets, where expected returns are bigger. They piled into loans to highly leveraged companies or smaller businesses with untested cash flows.

The Hunt for Yield

Outstanding market for U.S. dollar-denominated collateralized loan obligations that package together risky corporate loans

Sales of leveraged loans to institutional investors

Private credit assets under management globally



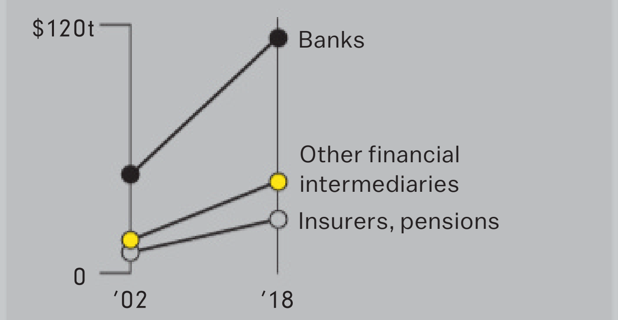
**Europe, the Middle East, and Africa †Through June*

Sources: Sifma, {LEAG <GO>}, Preqin

Credit Assets Balloon

■ Banks remained dominant, but credit holdings by nonbank institutions rose, too.

Credit Assets Held Worldwide

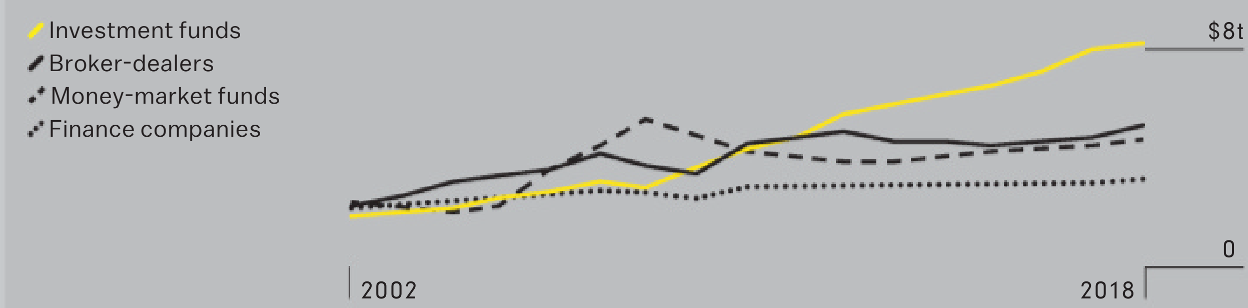


Source: Financial Stability Board

The Rise of the Shadow Banks

■ Investment funds were particularly active. At the end of 2018, they held more than $8 trillion in credit assets, more than double their holdings before the financial crisis.

Credit Assets by Subsectors of Other Financial Intermediaries

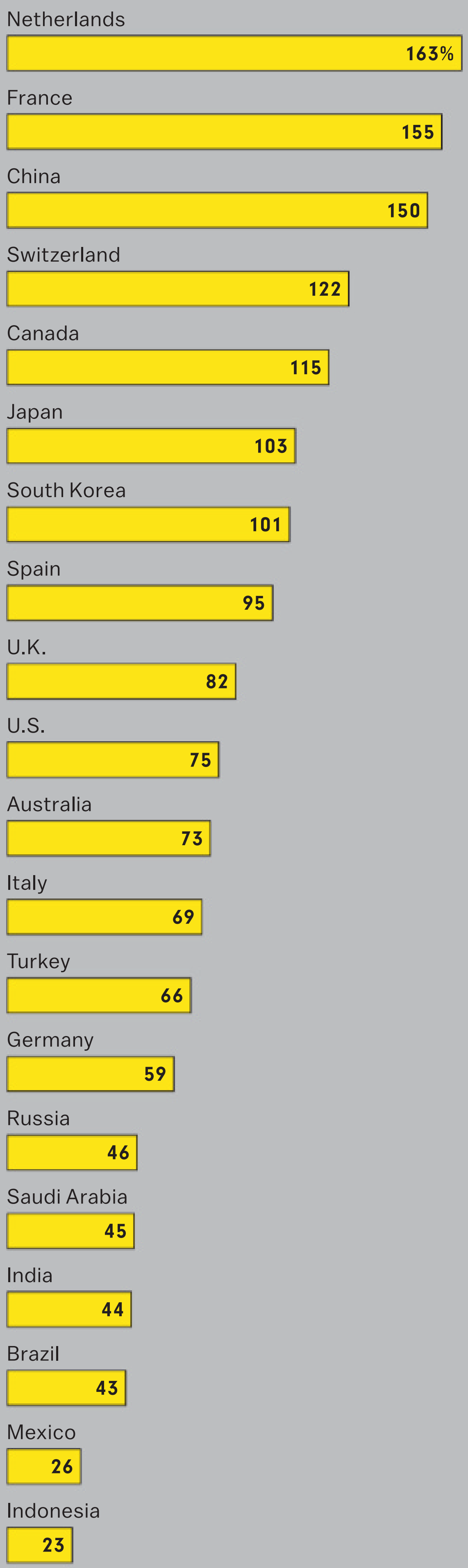


Source: Financial Stability Board

The Binge Was Global

■ Corporations in most of the world's largest economies loaded up on debt.

Nonfinancial Corporate Debt as a Share of GDP
Q3 2019

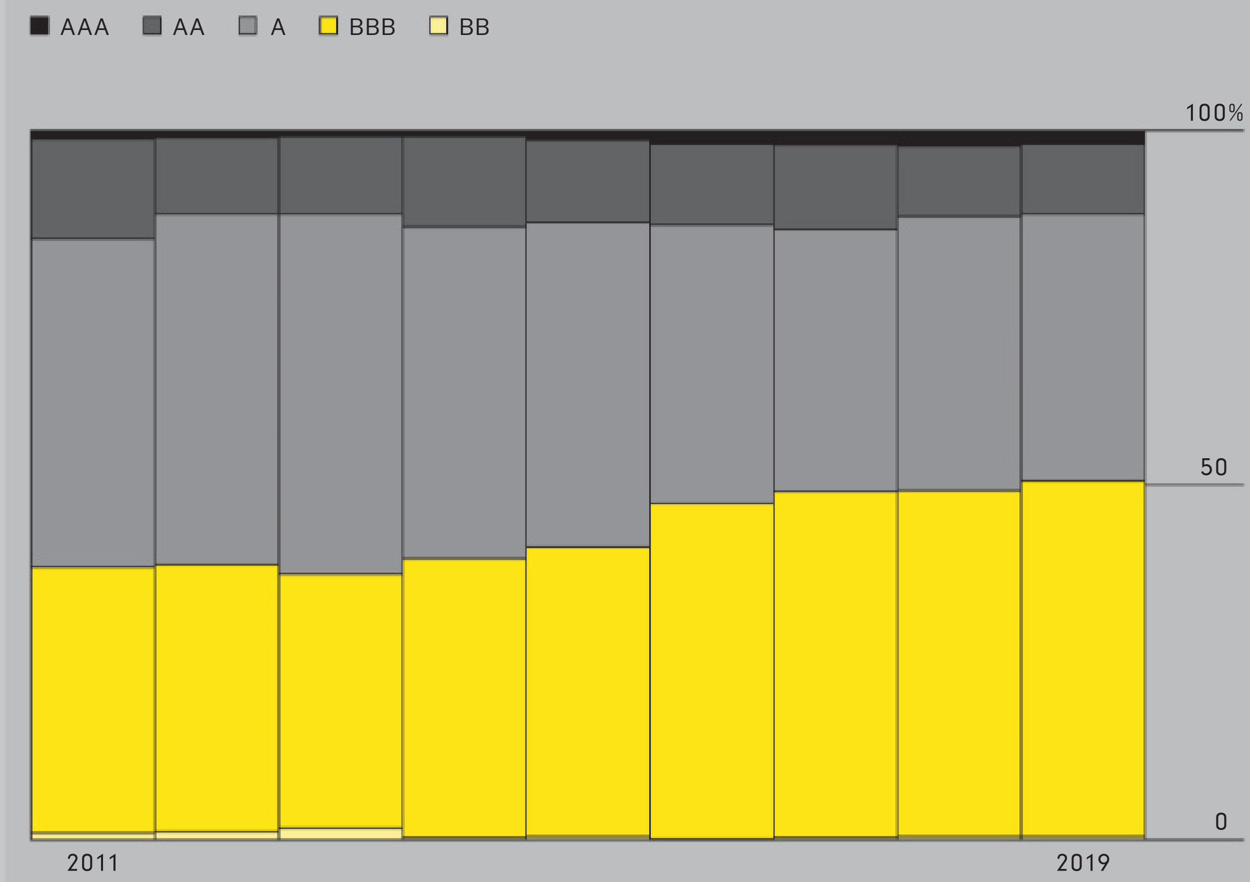


Source: Bank for International Settlements

Pushed to the Edge of Junk

■ Over the past decade, as even the most creditworthy companies took on a lot of debt, they increasingly sacrificed their once-pristine ratings. Before the pandemic, about half of the U.S. investment-grade bond market was just a few steps from junk.

S&P Credit Ratings in the Bloomberg Barclays U.S. Corporate Bond Index



Excludes bonds not rated by S&P
Sources: {LUACTRUU Index}, Standard & Poor's

A Safety Net Frays

■ Desperate for allocations of debt with juicy yields, investors have let borrowers strip away legal protections, or covenants, that were designed to safeguard investments when the companies begin to run into trouble.

North American Covenant Quality Indicator
Higher values indicate lower quality

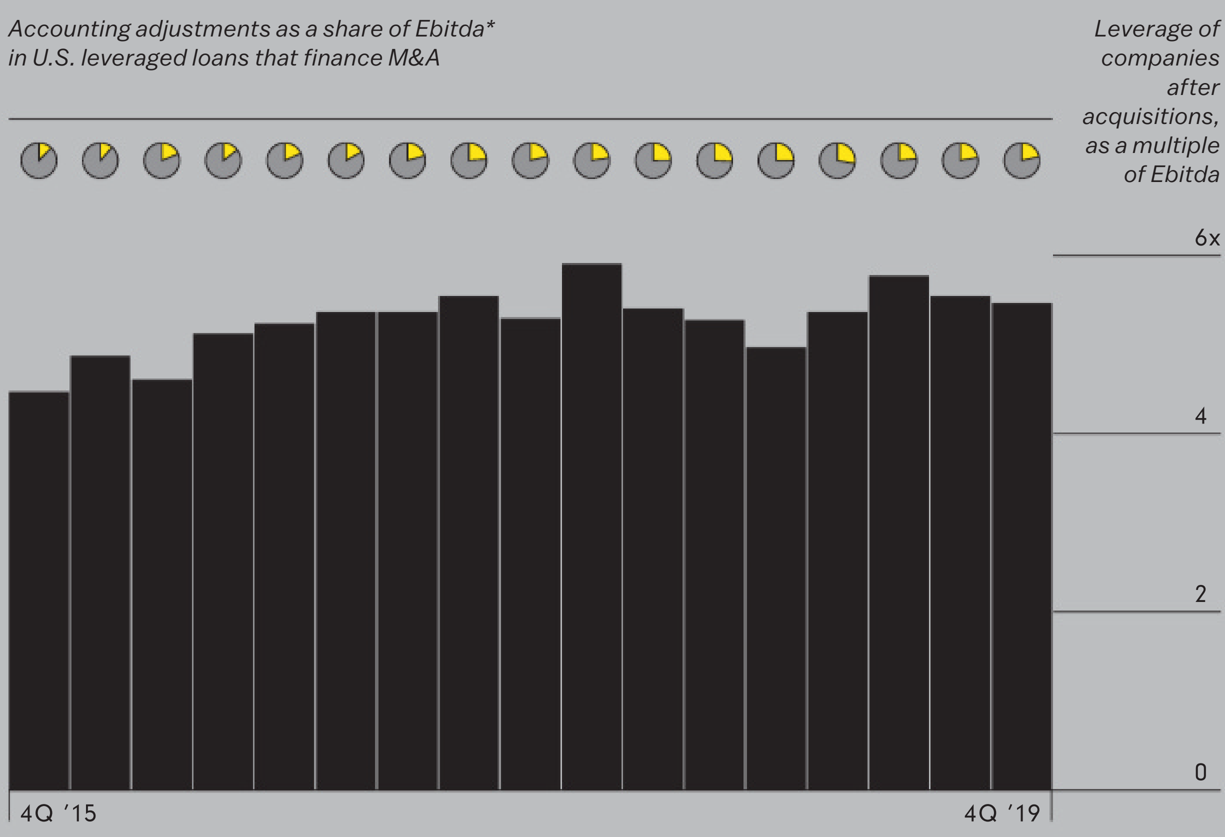
Source: Moody's Investors Service

Little Margin for Error

■ Much of the recent borrowing funded acquisitions, leaving companies with high leverage. But they also used creative accounting to juice earnings projections, potentially masking the true risk of an economic headwind such as they face now.

Leverage and Fuzzy Math in Loan-Funded Acquisitions and Buyouts

Quarterly



*Earnings before interest, taxes, depreciation, and amortization

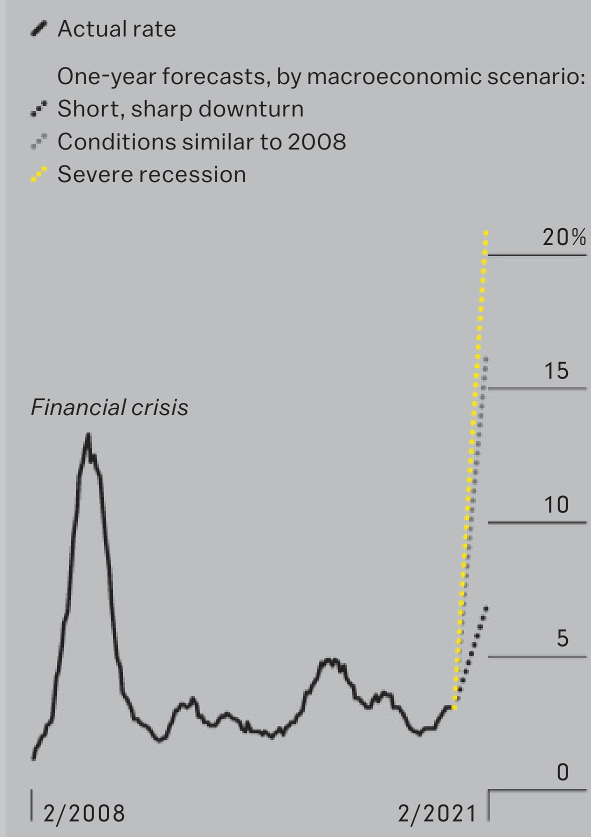
Source: Covenant Review

Here Come the Defaults

■ Even before the pandemic, defaults by junk-rated companies were on the rise. Now credit raters expect them to surge.

Global Speculative-Grade Default Rate

Monthly

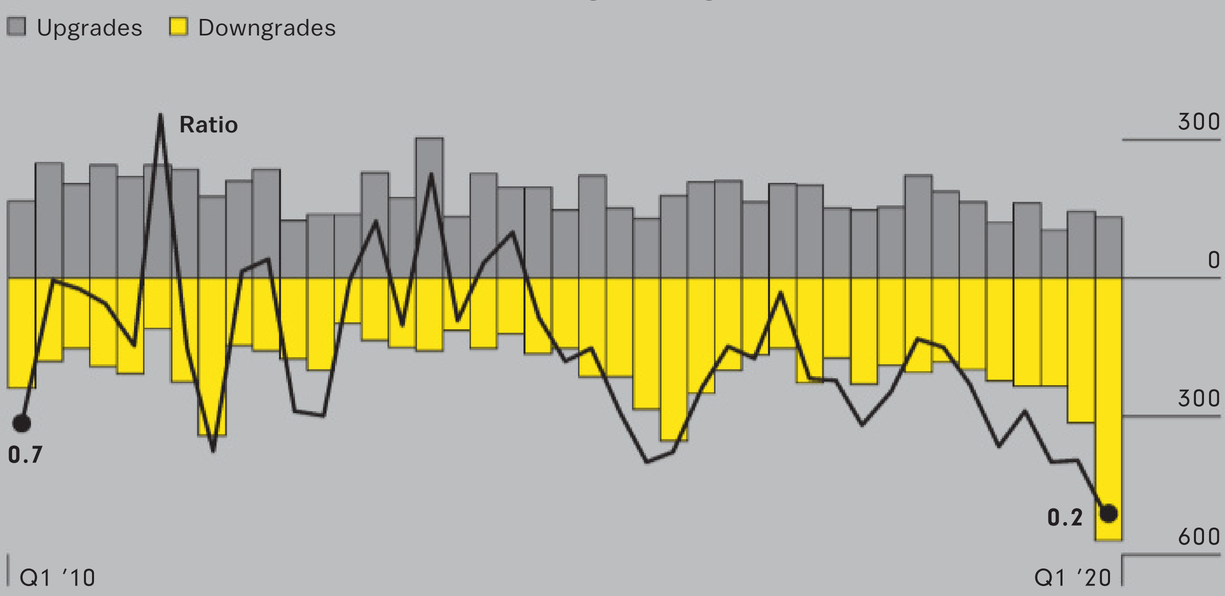


Source: Moody's

Credit Ratings Slashed

■ Credit-ratings companies are slashing their grades at the fastest pace in more than a decade, with an increasing number of corporate bonds being cut to junk. In March large caps such as Ford Motor Co. and Occidental Petroleum Corp. saw their ratings cut.

Standard & Poor's U.S. Corporate Ratings Changes

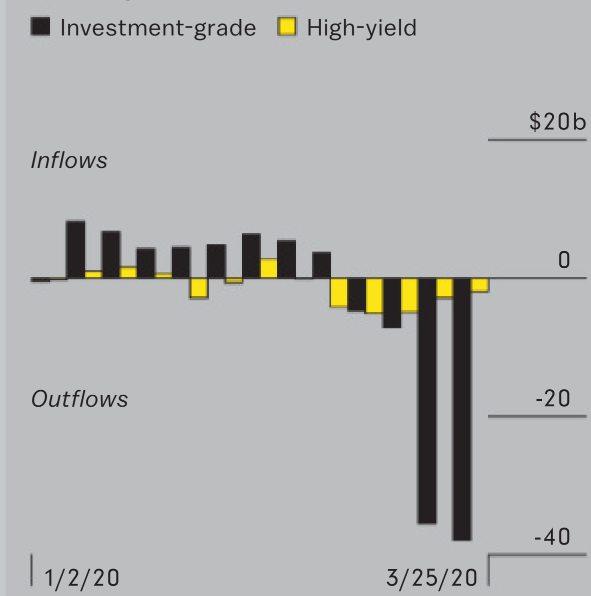


Source: {RATT <GO>}

Investors Flee

■ The virus and its fallout spurred an exodus from debt mutual funds and exchange-traded funds.

Weekly U.S. Net Flows of Debt Funds



Source: Refinitiv Lipper

From Black Gold…

The founding CEO of Norway's massive oil fund says the way to punish big polluters is to attack them in

By CHARLES DALY
PHOTOGRAPHS BY CHRIS MALUSZYNSKI

Kjaer
in Oslo

the fixed-income market

. . . to Brown Bonds

Knut Kjaer rummages through kitchen cabinets to find some water glasses. The founding chief executive officer of Norway's oil fund now chairs Sector Asset Management, a firm focused on actively managed funds that he says can help create a greener planet by altering investor behavior. Right now, though, his challenge is to find some matching tableware in Sector's offices, which are still under construction in Oslo. It's a gray January afternoon. He looks out the windows and gestures toward the hills that surround the Norwegian capital. "They should be covered in snow at this time of year," he says. "But it's too warm."

After running one of the world's largest sovereign wealth funds for Western Europe's biggest oil-producing nation, Kjaer has become something of an activist. "Climate change is a threat to our civilization," he says after gathering up some old Ikea glasses and heading to his 10th-floor conference room. "We only have a few decades to handle it."

That realization sent Kjaer, 63, down a somewhat unusual path—he's become a green missionary who remains a suit-clad member of the investing establishment. He's not one for making speeches at the World Economic Forum in Davos, Switzerland. That, he says, should be left to the "jet set." Instead he's quietly begun to argue for change from within the more obscure corners of the global bond market.

It's a mission that's growing more complicated now that the world's attention has been hijacked by the spread of the coronavirus, with any momentum around fighting climate change subsumed by the need to fight what seems to be a more urgent threat. Covid-19 has spawned a kind of panic in markets not seen since 2008. Kjaer says he recognizes some parallels between pandemic risks and climate risks. "It's also about human vulnerability and the limits of human life and civilization," he says.

Whereas global warming has been with us for generations, the pandemic is "a global catastrophe that we seem to be at the beginning of," Kjaer says. The coronavirus threatens to leave public finances severely damaged, according to Kjaer, and at the other end of this crisis, a new economic reality awaits, characterized by volatile inflation and higher real interest rates.

Because of that, Kjaer says he's "pessimistic about the medium-term outlook for every risk asset." That includes credit, which is the market he's come to focus on in his campaign to fight climate change. The world's worst polluters rely on debt markets more than on stock markets. As an asset class, stocks have a market capitalization roughly half that of fixed income; the 25 biggest carbon emitters are responsible for 25% of industry emissions globally, and only a quarter of those have publicly traded shares.

In the current health-cum-economic crisis, the smart money was in bonds. With the sell-off in the first quarter, the MSCI World Index of stocks had lost roughly a third of its value as of late March, while global investment-grade bonds as measured by the Bloomberg Barclays Global Aggregate Index were down less than 10%.

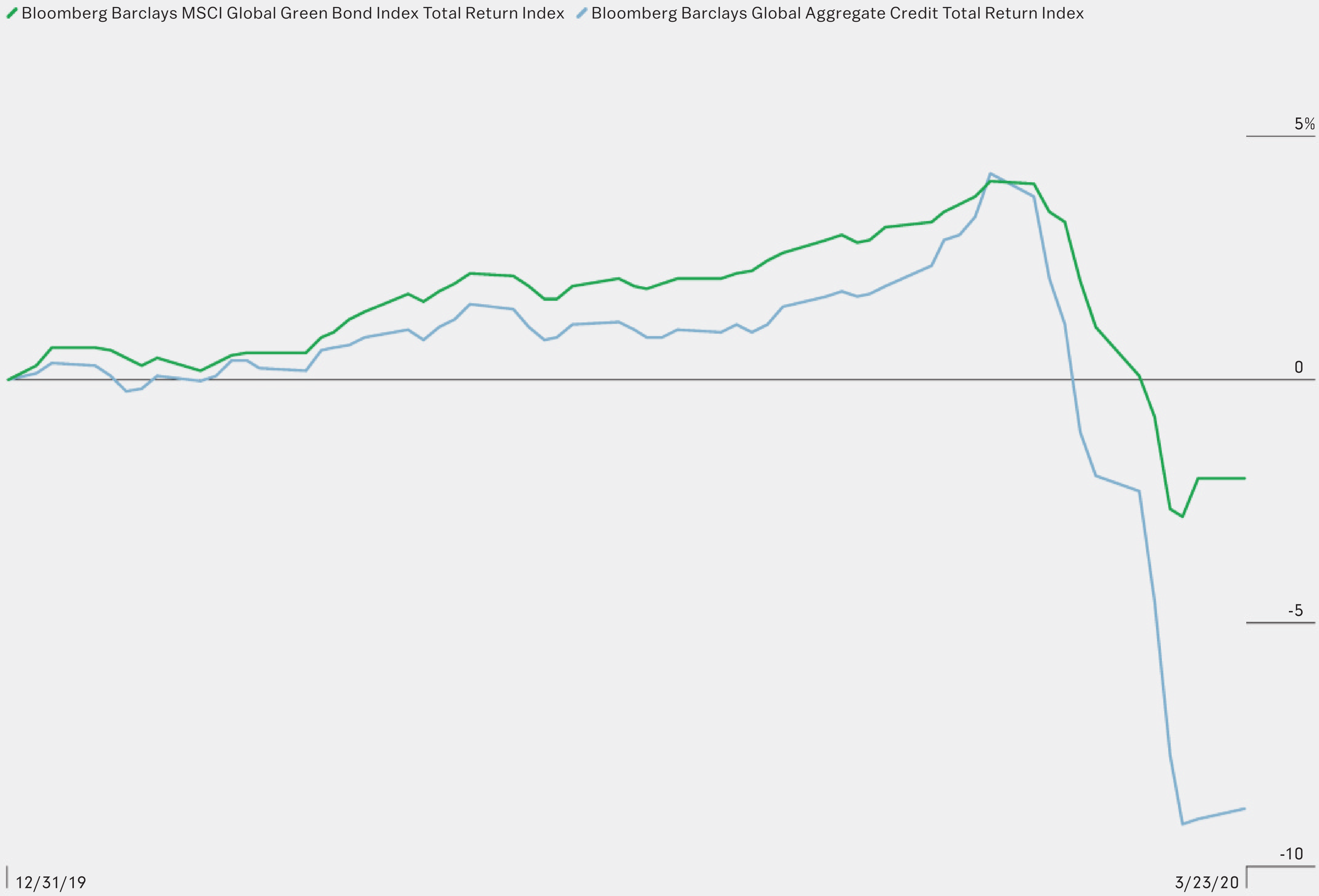
The dominance of debt over equity has given rise to a growing market in bonds linked in some way to climate change solutions. But rewarding clean debt issuers doesn't get you very far, Kjaer says. "Just doing good by buying green bonds isn't enough," he says. "It's such a tiny market, representing about 0.5% of outstanding bonds."

Kjaer says real change lies in punishing dirty issuers. For

"Just doing good by buying green bonds isn't enough. It's such a tiny market, representing about 0.5% of outstanding bonds"

More Green, Less Red

Percentage change since Dec. 31, 2019



Sources: {GBGLTREH Index}, {LGDRTRUU Index}

example, if you invest in green bonds in Sweden, he says, you're investing mostly in the very concentrated real estate sector and therefore limiting your impact. To make a real difference, investors should sell short so-called brown bonds—betting against debt securities with a direct or indirect link to a high-carbon-footprint asset, such as a coal mine.

Short selling requires borrowing bonds and then selling them with the intention of buying them back at a lower price. Profiting from this is difficult to do. One drawback to such a bearish bet is that, compared with equities, some corporate debt is less liquid and harder to trade.

That illiquidity can drive up costs on what's already an expensive trade. The short seller has to pay a brokerage fee to borrow the bonds until they're returned—and the size of that fee often depends on how scarce the securities are.

There's also the risk of a short squeeze, which occurs when a shorted bond jumps in price, forcing a short seller to close out the position and buy back the notes. Even so, bonds are pretty much capped in terms of how high their price can rise, as opposed to the unlimited upside of a stock such as Apple or Tesla. Get the short trade right, however, and it could "have a positive climate impact" by pushing up the cost of capital for the borrower, Kjaer says.

In one of his recent talks with investors, Kjaer makes references to shorting bonds from the coal industry—"by far the worst offender." He uses the example of the Adani Group, an Indian conglomerate that's developing the Carmichael coal mine, a controversial project in central Queensland, Australia. "The Adani case is critical" because, if it goes ahead, it would be such a massive polluter. The project is, in his opinion, "marginal," and successfully shorting the Adani bonds could derail it.

For some asset managers, the idea of doing green investing through short selling carries little appeal. "It's expensive and can even add to the liquidity of brown bonds," says Gordon Shannon, a portfolio manager at TwentyFour Asset Management LLP in London. "Most money is invested on a long-only basis, like us, and shorting just doesn't fit with our view of investing in companies with positive momentum as they become more sustainable."

But some polluting industries, Kjaer says, can be reached only by shorting their corporate debt. "Most coal production comes from unlisted companies that are in the bond market," he says. "Of course, a viable strategy is to go short those, and then you have a positive impact on the financing cost, and over time you are set up to win because of the repricing of the bonds." ▶

KJAER'S GREEN CREDENTIALS date back to long before 1997, when he began building Norges Bank Investment Management, which runs Norway's oil-rich sovereign wealth fund. He grew up in Tonsberg, a small town 100 kilometers (62 miles) south of Oslo. As a high school student in the 1970s, when Norway was making world-class oil discoveries that would make it one of the planet's richest nations, Kjaer says he started to worry about humanity's consumption of finite resources. He wrote a 60-page paper on, as he puts it, "the fallacy that you need economic growth to build a good society." While studying at the University of Oslo, he was elected as a candidate from the Green Party to chair a board that represented student interests.

NBIM's reserves increased from $25 billion to more than $400 billion during Kjaer's 11 years there. (They've since ballooned to more than $1 trillion.) During that time, Kjaer also became chairman of the Center for International Climate and Environmental Research, Norway's leading institute for climate research, which would later emerge as a crucial foundation for the development of green bonds, he says.

Along the way, Kjaer burnished his reputation in the investment world. In 2005 he was part of a group assembled by then-Secretary-General Kofi Annan to draft the United Nations' Principles for Responsible Investment, an early foray into environmental, social, and governance (ESG) investment.

Henrik Syse, head of corporate governance at the Norwegian oil fund in the mid-2000s, says it was obvious from early on how seriously Kjaer took his responsibilities as one of the world's largest investors. "His deep-seated engagement on climate issues has grown naturally from that awareness, and not least from his experience in seeing the sort of difference that

Kjaer worries about the long-term effect of climate change on his grandchildren: "Looking into their eyes, I ask myself, 'What future are they going to inherit from us?'"

engaged and serious long-term investors can make," says Syse, now a research professor and vice chair of Norway's Nobel Committee, which awards the Peace Prize.

Over time, Kjaer became one of the most sought-after names in the investment industry. He's an adviser to sovereign wealth funds in China and sits on the supervisory board of APG, which manages the Dutch pension fund ABP. In Norway he's chairman of FSN Capital, where, he says, "our investors tell us that we're leading in the global camp of private equity firms" when it comes to highlighting ESG issues such as the carbon footprint of portfolio companies. At Sector, which has about $2.5 billion of assets under management, all the funds have taken ESG principles into account in their investment policies.

Kjaer says it takes time to make investors fully aware of the financial risks associated with climate change. That's especially true now, as markets sink into panic. When he first started sounding the alarm to investors and governments two decades ago, he says, it was hard work getting people to listen to what he had to say, particularly in the U.S. He's since seen signs that money managers are starting to wake up, citing the ABP pension fund as a leading example of how to actively manage carbon footprints.

To show how attitudes are beginning to change, he points to Sweden's central bank, the Riksbank, which in November announced it was dumping bonds issued by some local authorities in Canada and Australia with high carbon dioxide emissions. Not long ago, it seemed inconceivable that a central bank would take such a stand.

Kjaer also says the crisis triggered by the coronavirus might teach the world some valuable lessons about how we organize our societies and economies: "It's a wake-up call, and a reminder we need to have our house in order."

"I have to be more optimistic. Behind those governments there are real people, with children and grandchildren, who will see more and more evidence— and that will force those governments to act"

THE OPENING SLIDES of Kjaer's presentation at the Norwegian University of Life Sciences earlier this year were filled with dire data. The last time the atmosphere's concentration of carbon dioxide had reached today's mark, the global sea level was as much as 20 meters higher than it is now. China is moving backward on climate change, opening a new coal-fueled power plant every second week. Some estimates suggest there may be 200 million climate refugees by 2050, and the damage could cost $54 trillion. "I have seen the maps of the planet in 30 years' time, and there are places you cannot live anymore," Kjaer says.

He's aware that clever investment strategies will never be enough to reverse the damage. "What is needed is a total shift in government policy," he says. He calls the U.S. decision to abandon the Paris Agreement particularly disturbing. "I have to be more optimistic. Behind those governments there are real people, with children and grandchildren, who will see more and more evidence—and that will force those governments to act."

Kjaer feels the pressure within his own family. He says his mother teased him for "having a dishwasher, for having a car, for having a big house. So I am not good at all." And then there are his own grandchildren to take into account. The youngest, who was born on Christmas Eve, will be 30 by the time the direst climate change predictions have played out: "Looking into their eyes, I ask myself, 'What future are they going to inherit from us?'" ●

Daly is the chief of Bloomberg's Stockholm bureau.

Growing up in Barbados, MIA MOTTLEY lived through the effects of climate change. As prime minister, she's devising ways of shielding the island's finances from weather-related ruin

'Nature—And What It Brings With It—Was Our Greatest Threat'

By EZRA FIESER

ILLUSTRATION BY JAYA NICELY

Mia Mottley's gravelly voice rang with urgency. Standing at the podium at the United Nations, the prime minister of Barbados was warning of the dangers her island faced as storms swollen by warmer oceans tore through the Caribbean. "This is a matter of life or death for us," she said.

It was late September 2018—hurricane season—and Barbados was flooding. A tropical storm threatened neighboring St. Lucia. On the other side of the globe, a typhoon took aim at Japan. The confluence of disasters was almost unthinkable. Almost. "This is not a science fiction movie," Mottley said. "This is not a cartoon. And if I ever thought that it was a fantasy, what transpired in the last 24 hours across the different poles of the world has reminded me that it is not."

Mottley had won office only four months earlier, becoming her nation's first woman leader. This was her inaugural address to the UN, but she spoke with conviction, her words charged by decades of pent-up concern about a changing climate. She had seen for herself how flying fish, a once plentiful delicacy, were avoiding warming coastal waters, how rising seas were eating away at the wide white-sand beaches she'd known growing up, and how droughts were drying up aquifers that provide the islanders' drinking water.

Financially shaky Barbados had escaped the wrath of disastrous hurricanes, but for how much longer? "We cannot plan our affairs or that of our people on the basis of luck," she said. "It must be on the basis of policy and decisive action, but above all else on the basis of caring and empathy. I ask the world to pause, pause, and just get this one right."

In front of her in the UN's vast General Assembly hall, half the seats were empty. Some in the audience of dignitaries slumped in their seat. Others milled about. The signs were clear: Mottley was on her own. She returned to Barbados that day to work on a plan to protect the island, a plan of her own.

With wildfires ripping through Australia and the Amazon and along the U.S. West Coast, rising seas threatening small islands, and supercharged storms killing thousands and costing billions of dollars, markets and public officials are grappling with how to respond. There's little that the prime minister of a country of some 290,000 people can do on her own to cool the world. But she can prepare her island nation for the inevitable crisis and its financial impact.

Now 54, Mottley has become a champion of what are known in sovereign debt contracts as natural-disaster clauses, measures that give the government a break from principal and interest payments in the event calamity strikes. Over the course of a year and a half of contentious negotiations to restructure Barbados's sovereign debt, Mottley was finally able to persuade creditors to accept the clauses last October. She also needed to win the support of Bajans, as the people of Barbados are called, many of whom lost money when the government defaulted on its Treasury notes.

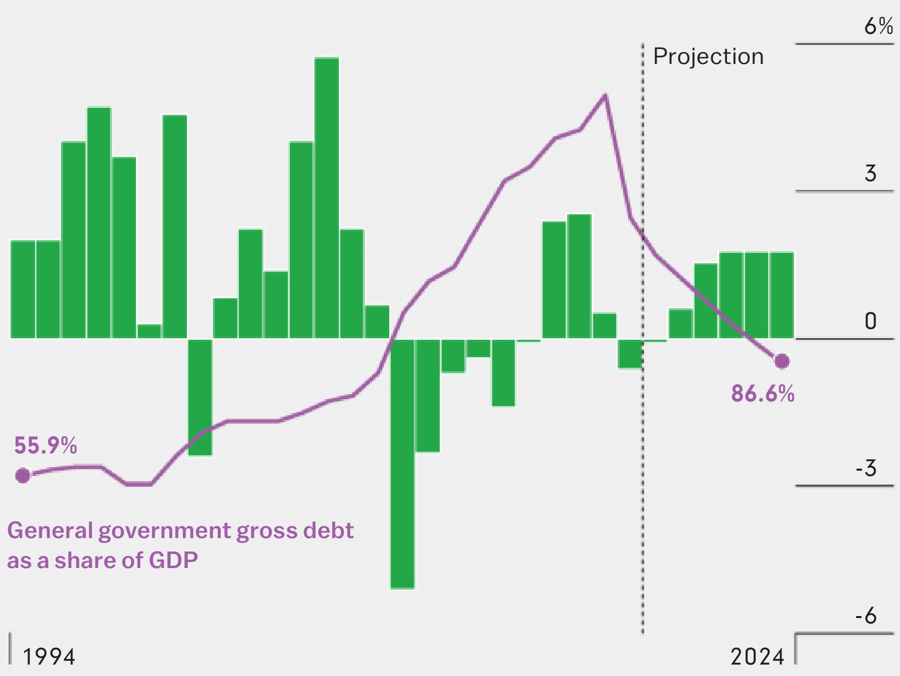
But in the process, Mottley says, Barbados has developed a model for how countries can protect their finances from climate change, especially neighboring Caribbean islands, which have been prone to default. "You're not walking away from the liabilities, but you are walking away from the immediacy of the payments to create the cash flow that you need," she says, seated at the head of a conference table at government headquarters in Bridgetown.

Under the deal the government and its creditors finalized in October, Barbados would get a two-year payment moratorium in the event of a disaster severe enough to trigger a payout from the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Co., a risk pool that provides coverage for calamities. The Mottley clauses, which now cover about 80% of the country's outstanding debt, would free up as much as $700 million to spend on rebuilding if weather events cause the government to enact them in the next

"You're not walking away from the liabilities, but you are walking away from the immediacy of the payments to create the cash flow that you need"

Stormy Weather

Barbados real GDP, year-over-year change



Source: International Monetary Fund

five years. That's equivalent to almost 15% of the economy that otherwise would go to debt payments. After the moratorium, payments would resume, including on accrued interest.

That sort of breathing space could preserve the ability of Barbados and other tiny nations to respond to ever-more-frequent disasters. Hurricanes have caused more than $212 billion in losses and damages in the Caribbean since 1980, according to the Center for Disaster Management and Risk Reduction Technology in Karlsruhe, Germany.

The region is strewn with examples of the link between disaster and debt. The Bahamas, 1,400 miles northwest of Barbados, is borrowing as much as $300 million to deal with 2019's Hurricane Dorian, the worst in its history. In 2017, Hurricane Maria crippled Puerto Rico's ability to pay down the more than $70 billion in debt owed by the U.S. commonwealth at the time. Again and again, natural disasters have held back economic growth and, coupled with fiscal mismanagement, pushed countries into untenable situations.

Caribbean countries have restructured debt more than a dozen times in the past 20 years. "We live in such a bad neighborhood in terms of our vulnerabilities," says Monica La Bennett, a vice president of the Bridgetown-based Caribbean Development Bank. "Governments, multilateral institutions, and the financial markets are recognizing that this is now a new normal, and so these clauses have become more important as part of the armory these countries can put in place."

MOTTLEY HAS LIVED under the specter of a natural catastrophe for all her life. At the decaying three-story concrete government headquarters in the capital, she recalls how two decades ago, when she was minister of education, she warned that a bad storm could set back the country, once one of the most prosperous in the eastern Caribbean because of a thriving tourism industry and its offshore banking businesses. "The gains of development you thought you had are immediately whittled away in hours," she says.

The 166-square-mile pear-shaped island sits closer to South America than the U.S. That's put it outside the main Atlantic hurricane belt, sparing it so many times that locals quip, "God is Bajan." And it can look that way. Across from Mottley's offices, sailboats bob in the clear waters of a horseshoe-shaped bay while cruise ships the size of office buildings dock in the distance.

But Barbados is small, flat, and vulnerable. Most of the population lives near the coast. Some Bajans live in rickety wooden homes known as chattel houses, their design dating to days when sugar plantations dominated the island and many residents were former slaves. "Nature—and what it brings with it—was our greatest threat," Mottley says.

In conversation, Mottley, who earned a law degree from the London School of Economics and Political Science in 1986, switches fluidly from climate science to international finance to economic policy. She wears polygonal glasses that contrast with a round face, and an occasional smile reveals a gap between her front teeth.

Mottley's immersion in Barbadian politics began early. Her grandfather was Bridgetown's first mayor. Her father served as consul general in New York, where Mottley studied at the United Nations International School. She entered politics before turning 30, becoming one of the youngest education ministers in the country's history. She rose to become leader of the then-minority Barbados Labour Party in 2013.

By 2017 she was already hatching a plan to turn the country around. The economy had stopped growing a decade or so earlier, infrastructure was in such disrepair that sewage leaked into the sea, and the country's debt-to-gross domestic product ratio was surpassed only by Japan and Greece.

The economy of the former British colony depends massively on tourism, so when the financial crisis came along, it ravaged international travel. Growth contracted and didn't return until 2015. The travel and tourism industry supports more than a third of the nation's $5 billion GDP. In recent years, the number of foreign visitors has risen to more than 1.5 million annually. The coronavirus pandemic has hit the island hard. Tourists canceled thousands of hotel reservations in March, according to the Barbados Hotel & Tourism Association, even as cruise lines dropped voyages to the Caribbean, including Barbados, where some 800,000 passengers normally disembark each year.

The year before the 2018 election, as leader of the opposition, Mottley recruited a team of advisers that included Avinash Persaud, a native Barbadian, who'd spent years abroad as an investment banker at global heavyweights including State Street Corp. and JPMorgan Chase & Co., winning recognition for his work on risk modeling.

As Mottley's team settled down to work, Persaud and the others couldn't ignore what was going on around the region. The 2017 Atlantic hurricane season brought 10 of them, plus a handful of tropical storms that wreaked havoc in the U.S., the Caribbean, and Central America. Hurricanes Irma and Maria, Category 5 monsters, formed within days of each other, severely damaging Caribbean and Atlantic islands and the U.S. mainland. Irma destroyed tiny Barbuda. Maria left almost 3,000 dead in Puerto Rico. "It was just a horrific year," Persaud says. "It led to a complete rethinking."

Mottley was already familiar with debt clauses that could afford protection against storms. The idea was actually born in neighboring Grenada, a tiny island whose major exports are nutmeg, mace, and newly minted doctors from its medical school. ►

Hurricane Ivan hammered it in 2004, beginning a decade of economic malaise that resulted in a default a decade later.

During Grenada's restructuring, financiers sought ways to cushion government indebtedness. A few ideas already existed, including so-called collective action clauses, which give a supermajority of bondholders power to make debt restructurings binding, as well as catastrophe bonds, mainly issued by insurance companies to protect against disasters.

Grenada's adviser in the restructuring was White Oak Advisory in London. Managing director J. Sebastian Espinosa, an ex-managing director at investment bank Houlihan Lokey Inc., and his partner David Nagoski, a former U.S. Treasury official, have advised governments throughout Africa and Latin America. In Grenada's case, they developed a clause that would specifically address the government's fiscal condition after a hurricane.

"We wanted to come up with something that was conducive to bolstering resilience to rising climatic risks," Espinosa says. "Adverse-weather clauses provide vulnerable sovereign debtors with a degree of flexibility by creating built-in buffers that can help them absorb some of the financial impact."

Grenada's restructuring culminated in 2015, and Mottley would build on that work. Having won office in a landslide in May 2018, she promptly announced the island would default on its debt of about $8 billion. She took the born-in-Grenada idea and expanded it, hiring White Oak for Barbados's restructuring. The company drafted clauses that would include all types of natural disaster and cover almost all of Barbados's obligations. Mottley sees the clause as a way to free up cash for rebuilding that would otherwise go to creditors. "If you have an event, you need fiscal space," she says. "How do you best do that but by suspending your debt payments?"

To get the restructuring done, however, Barbados needed buy-in from skeptical creditors. Mottley also needed the support of her own citizenry, who in a restructuring risked losing money from their savings and from retirement plans.

In the end, Mottley was able to spread out the pain of austerity. She raised taxes on tourism, reasoning that visitors use infrastructure and services as much as residents, if not more. She also announced that foreign loans and bonds would be renegotiated, a surprise from a country that once boasted of its investment-grade credit rating and history of fiscal prudence.

Reaching an agreement with foreign holders of dollar-denominated bonds proved more contentious. Mottley tried to sell the natural-disaster clause as protection for lenders, because

Mottley addressing the UN General Assembly in 2018: "I ask the world to pause, pause, and just get this one right"

EDUARDO MUNOZ/REUTERS

“It does require a few pioneers. Financiers love to let someone else be first. They get paid a lot of money, but they’re risk-averse”

the government, without the clause, might default on its debts following a big storm.

Creditors didn’t buy it. Several institutional bondholders formed a committee, including Eaton Vance Corp., Greylock Capital Management, Teachers Advisors, and the Guyana Bank for Trade & Industry. The group wanted Barbados to consider an alternative approach, such as an insurance policy, says Rafael Molina, managing partner at Newstate Partners LLP, an advisory firm in London for the creditors. “I can understand the government of Barbados is concerned about hurricanes, because the threat of climate change is very real,” he says. “But from the beginning, creditors said they didn’t want this clause. There is no market for bonds with these clauses. It has to be driven by the market.”

Mottley took a hard-line approach. Negotiations dragged on and at times appeared stalled. Having secured a $290 million bailout package from the International Monetary Fund, she could afford to bide her time because Barbados didn’t necessarily need to borrow from capital markets.

In the end, fatigue set in, Molina says. Despite the creditors’ objection to the clause and to other government demands, they wanted to close the deal. “The thought was, Do we really want this to drag on for two years? We’ll just take it and move on,” he says.

The creditor committee accepted the government’s deal, with one caveat designed to make the bonds more salable: If natural disaster strikes, Barbados has to notify creditors of its intent to enact the clause. If a committee majority votes against its use, it can’t be enacted.

The wrangling over the Barbados deal exposed a weakness that may inhibit widespread use of Mottley clauses: The market hasn’t figured out how to price the risk in such cases. So far, though, investors seem welcoming. Similar bonds issued by Grenada were trading around par before the March credit sell-off. Buyers have actually pushed up the price for the new Barbados dollar bond, which matures in 2029 and carries a 6.5% coupon, since it started trading in December.

Just as Barbados built on Grenada’s experience, other countries may build on Mottley’s. As they consider ways to balance the needs of countries and creditors alike, the IMF and World Bank have held discussions on the clauses. In the Bahamas, where Hurricane Dorian caused $3.4 billion in losses and damages, the government has considered a similar provision in new debt sales.

For now, the clauses are “experimental,” says Michael Papaioannou, a visiting scholar at Drexel University in Philadelphia and an expert on emerging-market debt. They could become common if multilaterals such as the World Bank and IMF include them in loan contracts. “We are seeing the first steps,” he says.

Barbados is determined to keep taking them. Although wide-scale acceptance of the clauses “will take a while,” Persaud says, Barbados plans to include the clause in all future debt sales, blazing a path for other governments. “It does require a few pioneers,” he says. “Financiers love to let someone else be first. They get paid a lot of money, but they’re risk-averse.”

ON A JANUARY afternoon in Bridgetown, Mottley gathers her cabinet together to go over the numbers for the coming budget year. She whips out an iPad to check spreadsheets that show debt has declined to 114% of GDP from about 176% when she took office. She points to a part of the spreadsheet that shows how much the country will save if it has to enact the hurricane clause—a bit of certainty amid the wild unpredictability of climate change.

Outside, a steady, light rain is falling. It’s a welcome respite from a punishing dry spell. But even this relatively small amount of precipitation is inundating streets that have never flooded before. “Even without hurricanes you have normal floods,” she tells the room. She mentions that it’s been six decades since a catastrophic hurricane struck the island. She turns to a wooden tabletop and raps it with her knuckles. “Barbados has been luckier than most.” ●

Fieser is a credit market reporter based in Bogotá.

Owl Rock Capital co-founder

MARC LIPSCHULTZ

says direct loan funds fill a gap in the market and take risk out of the financial system. Now the 4-year-old business is being tested

By KELSEY BUTLER

Not Your Father's Banker

PHOTOGRAPHS BY CELESTE SLOMAN

Lending to midsize companies once seemed like the boring side of banking. Not anymore. A decade of ultralow interest rates and stricter bank regulation inspired a generation of financiers to create funds to provide companies with credit that banks no longer offer. In exchange, investors got juicier yields than almost anywhere else—as much as 5.3% more than on junk bonds or leveraged loans, according to a Goldman Sachs analysis in December.

The poster child for this boom in direct lending is Owl Rock Capital Partners LP, a 4-year-old firm founded by three Wall Street veterans: Douglas Ostrover from Blackstone Group, 57; Marc Lipschultz from KKR, 51; and Craig Packer from Goldman Sachs Group, 53. By late 2019, when it sold a 20% stake to Neuberger Berman Group's Dyal Capital Partners, the company was valued at $2.5 billion. By capitalizing on its founders' Wall Street connections and zeroing in on one part of the $800 billion private credit market, Owl Rock built up about $16.5 billion in assets under management.

Now the coronavirus pandemic and its economic consequences are set to challenge this model in an unprecedented manner. In February—and again in early March—*Bloomberg Markets* sat down to talk with Lipschultz, the company's president, about how this new business model evolved and what he expects to happen if there's a global recession.

KELSEY BUTLER: Will the current market volatility impact your strategy or what kind of investments you make?

MARC LIPSCHULTZ: While none of us wish for this particular volatility, we really strove to build a business for such periods of time. We have permanent capital and a very long-term view on investing. We are, of course, extremely focused on our portfolio but are also very actively engaged in new loan origination to meet corporate capital needs when many other sources are no longer available—and we do so in a manner that doesn't present systemic risk. At the end of the day, we remain focused on being a reliable source of capital to high-quality, stable businesses.

KB: How are you preparing for any impact on companies in your portfolio?

> **"In a way we have the perfect pool to match any borrower's needs, and we don't have the sort of risks that go with funds that may come and go"**

ML: We really are vigilant about our portfolio at all times. Because we're often the lead financing source, we benefit from very close working relationships with our companies and their sponsors. We are all in this together with a common goal, which is to see these businesses thrive over the long term. Our team has very deep experience working with many businesses through many cycles, and [we] are fully equipped to manage our portfolio during this time.

KB: Let's go back to the beginning. Can you take me through how the company came together?

ML: We started the business in 2016 with the observation that would found many businesses, which is that we saw a clear market need. On the one hand, there was a real need for an institutional-quality, large-scale direct lender to provide credit to middle-market companies that were seeing retreating availability of capital from traditional bank sources. At the same time, we were able to provide an institutional-quality access point to investors to be able to provide capital into that marketplace, seeking to earn a very attractive risk[-adjusted] return.

So we saw this opportunity where the need for private credit had grown, the availability of credit from traditional sources had retreated, and we wanted to build a best-of-breed provider to bridge that gap.

KB: How does the Owl Rock partnership work with you and your co-founders?

ML: We're really a founder-led business. All three of us spend day and night, seven days a week focused on this business. That's been the model from the beginning. We all share responsibilities, we all share accountability.

We're all responsible for making sure, most important, that we're exceptional stewards of the capital, that we're doing vigorous underwriting, that we're originating so we can see all the best opportunities, and that we're managing our portfolio very carefully. We all really try to team up and make sure that at any given time we always have one or more of us available to address the task, the question, the opportunity of the moment.

By being a dedicated firm with three co-founders, we're able to deliver that boutique experience. But at the same time we draw from what we have learned as the best practices from spectacular firms like KKR, Blackstone, and Goldman Sachs, which are the origins of our founders, plus our CFO and COO [Alan Kirshenbaum], who comes from TPG.

KB: Is there a story behind the name? Where did Owl Rock come from?

ML: When it comes to naming companies, it's not easy—both in terms of [deciding on] the name you want to have and in terms of what's, in fact, available. So we thought we'd have these very intelligent-sounding names with Greek words or Latin words, and of course all of those were long gone. And then we went through a variety of different phases and ultimately settled on something simple but aspirational that I think captures who we are and intend to be. We like the vigilance, wisdom, and watchfulness of the owl and the stability and durability of the rock.

It turns out that owls have two really interesting attributes beyond that. One is that a lot of people really like them. And it also turns out to be a word that has a lot of really great puns associated with it. So when we do our fantasy football league at the office or other team activities, everyone gets to name their own team and you can do things like "Going Owl the Way" or "I'm Owl In."

KB: Last year was a big year. One of your private credit vehicles, a business development company called Owl Rock Capital Corp., went public in 2019. You also secured an investment from Dyal Capital that confirmed the firm's status as a unicorn. What made it possible for you to be that big in a relatively short time?

ML: We saw an opportunity in the market, both for investors to earn attractive returns and for borrowers to have a superior solution, a private market solution for their borrowing needs. And that's proven true. I hope and like to think that a meaningful part of it has been just the intensity of focus, dedication, and commitment to direct lending as a business. It's all we do.

KB: Private credit can mean many different things. How do you define it?

ML: The conversations about it can be very confusing because it can run the gamut from distressed-for-control strategies [buying a company's distressed debt to gain control of its equity in a restructuring or bankruptcy] all the way up through project finance and every flavor in between. Our model remains fully focused on direct lending—we are providers of senior secured loans to larger middle-market companies, high-quality companies. We're really in it to make sure that we protect our capital and that we're always managing the risk and earning an attractive return for our investors along the way. So we're in a very defined slice, and we're focused on the U.S.

The amount of capital raised for direct lending has paled in comparison to the amount of capital raised in private equity, and they're our primary client base. So demand for our product is growing much faster than supply.

KB: Borrowers and sponsors often say direct loans can be tailored to the business of the borrower. What allows direct lenders to create more bespoke loans?

ML: We are deeply engaged over a long period of time in structuring the loan. So if we think about the alternative—syndicated loans—it's a very different business. [For syndicated loans,] things happen in days, maybe hours, in terms of the time that an issue comes to market and someone has to make a decision. Our typical transaction takes months to assemble because we're doing the same depth of work that our private equity partner is doing, augmented by our own independent diligence and expert calls and checks. It's a very involved process. We can then create an answer that matches the very particular facts of that opportunity, and we have the time to do it.

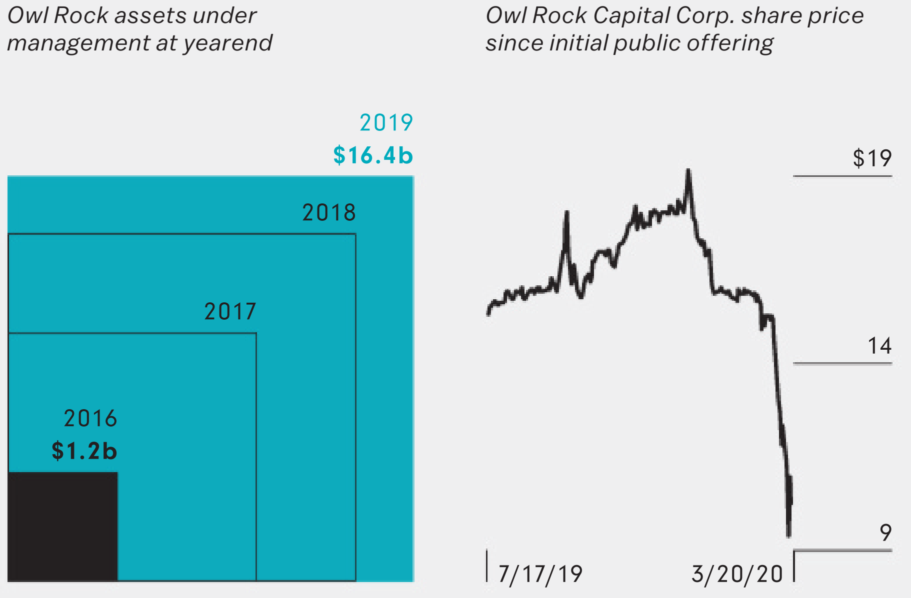
KB: How has the alternative investment space evolved during your career?

ML: The world has evolved dramatically. From 1995, I was blessed and fortunate to join KKR, which in my view is one of the best investment firms that ever existed. I spent 21 years there, from a time when there were a handful of so-called LBO [leveraged buyout] firms that have since been rebranded as private equity firms. KKR, Blackstone, TPG, and Goldman have created an entire industry and institution out of these great practices of private capital to help support long-term development of companies.

Now there are thousands of private equity firms but very, very few like KKR. There are thousands of firms in the middle market. And what you saw, particularly since the [2008] crisis, was that those firms are thriving and doing wonderful work and buying great companies, but they too need credit. And there has been a decrease in the availability of borrowing from banks. Banks aren't lending directly to these companies. And that's been an evolving part of the landscape for coming up on 25 years in terms of my personal experience: a secular move from banks being lenders to middle-market businesses to really being intermediaries and syndicating [loans], or being lenders to very large companies.

A Boom Before the Bust

Owl Rock has benefited from the rise in direct lending, though shares of its publicly traded private credit vehicle fell sharply during the pandemic.



Sources: Owl Rock, {ORCC US Equity}

That's left this space, in terms of the middle market that still absolutely needs credit to thrive and grow, available for an alternative set of providers. And we're one of those. But also we don't have deposits. We don't present any sort of systemic risk. We're very low leverage. Our vehicle, Owl Rock I, is less than one turn of leverage [the ratio of debt to equity]. Banks before the crisis had 30 turns of leverage, and the government [served as an] effective backstop. We're on our own. We have institutional capital, everyone understands what's being committed, it's low leverage, it's long term. Our capital is locked up. There's no run-on-the-bank risks.

So we really have taken the risk out of the system that became a contagion in 2008, 2009. We aren't linked to these other parts of the system. It's not the government's risk. And it's not the people of this country's risk.

KB: You spent most of your career at KKR and had a breadth of experiences there. What were some highlights?

ML: When I came on board at KKR, there were really two PE firms of scale in the country: KKR and Forstmann Little. KKR obviously has become an absolute global powerhouse in investing. It's been incredible to have been a part of that evolution. From 1995 until I started Owl Rock, I was involved in private equity. I was lucky enough to be involved in the development of KKR's infrastructure business and had a chance to see the evolution from LBOs in the U.S. to all types of alternatives across all geographies.

I benefited greatly from the wisdom of Henry Kravis and George Roberts, who are incredible mentors to me and dear friends. I've been through a lot of cycles. I've been through a lot of wins, and I've been through some losses, and it definitely gives a perspective that I think ultimately benefits the development ►

of Owl Rock and the way we've approached the business.

KB: A lot has been written about how risky private credit and direct lending is. What's your response?

ML: I largely believe that's a very misunderstood topic. Now to be crystal clear, we're in a risk-managed business. This is not Treasuries, and this is not owning gold. So of course there's an element of risk to this business, but what we do, the depth of work and the vigor of that work and the intensity of focus on managing our portfolio and the fact that our capital is locked up. We focus particularly on BDCs [business development companies], that's permanent capital. So we have capital in perpetuity. So in a way we have the perfect pool to match any borrower's needs, and we don't have the sort of risks that go with funds that may come and go with institutions that may or may not have an interest in this sector.

As for the risk of a given borrower, that all gets down to having 140 people who wake up every day and think about what makes for a good borrower and what are we looking for? And we have a lot of pattern recognition and a lot of experience. [That includes] Doug Ostrover, Craig Packer, and I and the rest of our very experienced team who've spent decades in this business. We've been through the crises, '08, '09 for sure, which was painful and recent. But we also were around for '01, and we also were around for the late '90s and the Asian flu. So we've seen these challenges, and we focus every single day on being ready. The key in our business is to manage that risk.

So there certainly is an element of risk to any investment business. But the strength of the credit agreements that we write are far, far, far more protective of the lender than what exists in the syndicated market. We do spend months working on the agreements and tailoring them. It also means we get to write a credit agreement that protects us for the particular elements of that business that we need to be mindful of.

KB: Are there any terms in credit agreements that are alarming to you?

ML: When I look at the documentation and credit agreements that we sign up to, the answer is a flat no, I don't see any deterioration in what we're prepared to do. We know where the line is for us. We won't sign up to credit agreements that have the ability to strip out important assets or do damage to the layering of us as a lender. That said, I think the syndicated market [until recently was] tolerating a lot of terms that I would consider reasonably risky. The visible

Lipschultz at Owl Rock's Park Avenue office. The 2008 financial crisis' aftermath created an opening for direct loan funds such as Owl Rock. The Covid-19 pandemic will put them to the test.

“We want to make sure we’ve protected the investments that we’ve made, but we also want to be a provider of capital to the many companies who will need it”

market is the syndicated market. When people talk about leveraged lending, they really aren’t talking about direct lending. They don’t know the details of these credit agreements. They don’t understand the depth of the work. So all they can really observe is the liquid syndicated market. Many of the challenges you’re describing and the attendant risks are exhibited in the syndicated market.

I genuinely don’t see it in the private credit market. I don’t think our documents look meaningfully different today than they did four years ago. And certainly the rigor of our work hasn’t changed.

KB: What does it take for a direct lender to stand out in a competitive environment?

ML: Having watched the broad alternatives industry evolve over almost 25 years, I don’t view the number of participants in the upper middle market in direct lending as very competitive at all. Public stocks, public bonds, syndicated loans, real estate, or private equity are much more mature asset classes, and the number of participants are literally orders of magnitude beyond what we experience. I think we may be distinctive in so much as we’ve become a large-scale participant. There’s been a proliferation of $1 billion funds, but those aren’t our competitors because we provide financing for borrowers that want 100, 200, 300, $500 million, and that’s a much, much smaller number of parties that can provide that reliably.

Our experience and firm belief is that larger borrowers are generally safer credits. They have more levers to work with when there are challenges, and they have more strategic value in the event that there’s a challenge and there needs to be an exit. A company with $50 million or $100 million of Ebitda has many more critical strategic suitors than a company that has $5 million or $10 million that may just go away.

We picked a part of the market that’s safer inherently in the nature of the businesses, and we work with wonderful sponsors that are really talented and have lots of capital to stand behind those companies. Typically we’re 50% of the capital structure. So the first 50% lies in the hands of the equity holders. So there’s a lot [standing] between us and risk to our dollars.

Having 140 people here doing direct lending is a huge advantage, because it means that we can provide active partnership and coverage to a huge array of potential borrowers. In a typical week, we’ll see 30 to 40 opportunities. Since inception we’ve looked over 4,000 different loans. We couldn’t do that if we weren’t so heavily invested in people.

KB: Is the investor base for direct lending changing?

ML: The investor base has moved much more institutional and high net worth. If you go back 10 years, you’d see it as much more of a retail product. Now, if done right, it’s wonderful for retail. And in fact, we have our product in the mass-affluent channel. It’s a fantastic match in a world where people are trying to earn appropriate return and recurring income in a protected way. But the change has really been the institutionalization. We’re lucky enough to count as our investors many of the biggest-name, institutional-scale family offices and public pension funds and foundations and endowments.

So part of what we tapped into in building Owl Rock was the timing and the need for institutions to come and provide capital to this expanding marketplace. That’s been a very significant change. There’s an increasing number of institutions that participate in direct lending, who recognize it’s an asset class unto itself and have separate allocations for direct lending. That’s largely happened over the last five years.

KB: In your large public business development company, fees will be going up later this year. How will that affect your dynamic with investors?

ML: Our fees aren’t going up. The fees are visible, always have been, are now, and the difference is that we’ve been waiving and giving back a portion of what we’re entitled to, to the incremental benefit of our investors. So we think we’ve developed a wonderful base risk-return proposition for all our investors at the stated and typical fee level. We’ve added on top of that this period of time where we’ve said, “We’ll reach into our pocket, and we’ll give you back part of those economics to make the investment that much more appealing.” But all of that was transparent. So I view it as a nonevent.

KB: What do you expect to happen in this downturn?

ML: That certainly will draw a distinction between lenders who’ve taken on outsize risk relative to the reward. I feel very confident saying we’re one of the people that has stayed very, very disciplined about what risks we take. So that’s why we focus so heavily on first-lien [loans] solely to larger companies in durable, stable industries. In a downturn, not only do we want to make sure we’ve protected the investments that we’ve made, but we also want to be a provider of capital to the many companies who will need it.

Syndicated loans shocked the world in terms of how well they performed through the darkest of downturns in ’08-’09, so actually we have a lot of data on that. That’s been 2% average annual default rates, 70¢ recoveries for senior loans over the long sweep of history. So there’s a lot of data on how senior credit performs. When we get to private direct lending, we’re talking about a lot of the same companies, but much more intensive diligence and much more rigorously negotiated credit agreements.

There’s plenty of data that says senior credit is very durable through even deep dark cycles, and I would say we’re going to experience private credit outperforming liquid credit in a downturn. ●

Butler reports on private credit and direct lending for Bloomberg News in New York.

Larry Fink

The BlackRock Inc. CEO was the subject of our cover Q&A in April/May 2017. Here he divulges off-duty habits and preferences to Bloomberg TV's Francine Lacqua, co-anchor of *Bloomberg Surveillance* and host of *Leaders With Lacqua*.

How many hours of sleep do you get a night?
Six. Less on the road, but eight on weekends.

What time do you set your alarm clock for?
The iPhone is usually set for 5:15 a.m.

What's your typical workout?
I work out with a trainer three days during the week and do cardio on weekends.

What's your favorite sport or sports team?
Fly-fishing or skiing.

Who's your favorite musical artist?
Bob Dylan.

Who's your favorite new emerging musical artist?
Rüfüs Du Sol.

What's the best book you've read recently?
In the Distance by Hernan Diaz.

What's your favorite place to go on vacation?
Alaska with the guys and anywhere in the world with my wife.

Do you have a strategy to fight jet lag?
No work on the plane, and be horizontal as much as possible.

What living or historical person do you truly admire?
Phil Jackson or Lee Kuan Yew.

What's the best advice you've gotten?
At In-N-Out Burger, order the Double-Double Animal Style.

What's the best advice you've given?
Order the Double-Double Animal Style, but add back the raw onions.

If you were 20, what business would you get into?
Renewable energy.

What's your favorite city?
After New York? Mexico City.

What's your favorite museum or artist?
Richard Diebenkorn.

Do you ever expect to retire?
Absolutely.

ILLUSTRATION BY AISTĖ STANCIKAITĖ FOR BLOOMBERG MARKETS

A Compendium of Functions— New or Featured In This Issue

FEATURED IN THIS ISSUE

NEW ENHANCEMENTS TO TRY RIGHT NOW

VRUS Coronavirus Market Impact is a new function that provides the latest news, data, and analysis relating to the Covid-19 outbreak. Go to {VRUS <GO>}. The top section monitors companies that have been identified by Bloomberg Intelligence analysts as particularly affected by the spread of the virus. The Global Macro Indicators | GMM section lets you see how key indexes and assets have performed today and since the beginning of the outbreak. Click on the Coronavirus Outbreak | MAP VIRUS link for an interactive map.

TAGS The Tag Manager function enables you to organize and manage the tag lists and custom tags you use in Bloomberg. You can use your custom tag lists to categorize your notes and Instant Bloomberg discussions. Run {TAGS <GO>}. You can now specify the order of your tags in a list so that your favorite tags appear first in autocomplete.

MOSB The Most Active Traded Bonds function now includes a column that highlights green investment opportunities with a green leaf icon that flags green bonds. Go to {MOSB <GO>}.

FAIR The Fair Value Monitor, which allows you to calculate the fair value of a selected equity index futures contract, has been enhanced to let you choose the reference curve used to determine the funding rate. Run {SPX Index FAIR <GO>}, click on the Calculator tab, and use the drop-down menu to select a curve.

YT The Yield Table function has been enhanced to let you compare a range of yields given a price using the Bloomberg Agency MBS Index Prepayment Model on scenarios for collateralized mortgage obligations.

Faster, better answers—24/7. <Help><Help> for Bloomberg Analytics

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A Function for These Times

Coronavirus Market Impact

By ANAND SHANKAR

VRUS
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SARS-COV-2, the virus that causes the disease Covid-19, is tiny. You could line up about 1,000 of the microscopic bundles of RNA and proteins across the width of a single human hair. Yet its impact has been enormous: whole countries locked down, health systems staggering, markets plunging, supply chains disrupted, economic activity stalling.

Coronavirus Market Impact is a new function that provides market-moving news and analytics related to the Covid-19 outbreak. Run {VRUS <GO>} to help inform your investment decisions and models as this pandemic runs its course.

What does VRUS show?

First, it can help you analyze affected companies. Bloomberg Intelligence's research analysts hand-select the companies most affected by the outbreak, giving you authoritative market insight. VRUS shows each company's equity price movement for the day and since the onset of the outbreak. It also tabulates coronavirus-related news coverage, tweets, research, and corporate filings. To further filter, aggregate, compare, and contrast the list of affected companies, click on the Affected Global Companies | WATC link to open the list of stocks in the Watchlist Analytics function.

Second, survey the worldwide impact of the coronavirus in a data-rich map. Click on the Coronavirus Outbreak | MAP VIRUS link for an interactive map that lets you overlay additional datasets including world equity markets, factories, and retail locations.

Third, gauge global trends. Track the broader dynamics as markets respond to the crisis. You can review movements in selected global macroeconomic metrics as well as key indexes, commodities, foreign exchange rates, and more. Click on the Global Macro Indicators | GMM link for the Global Macro Movers function.

Fourth, follow stats on the outbreak. Click on the Global Infection Rate | GP link for a chart annotated with sources.

Fifth, track breaking news and research. Stay up to date with the latest news stories and analysis from Bloomberg Intelligence.

Finally, stay informed on mobile. Open the Bloomberg app on your phone, search for VRUS, and then tap the Coronavirus Market Impact function.

Shankar is a product manager in the Companies, Markets, and Analysis (CMA) group at Bloomberg in New York.


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cutting edge.
We work here.