

Bloomberg Markets

VOLUME 30 ISSUE 1 FEBRUARY / MARCH 2021

The Volatility Issue





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The Volatility Issue

Financial markets thrive on volatility. In 2020—a year that will be remembered for the deadly pandemic, economic misery, racial reckoning, and political chaos—many financial institutions minted profits.

One reason: the extraordinary intervention by central banks around the world. In “Bubbles Everywhere” (page 70), **Enda Curran** and **Chris Anstey** describe the financial froth emerging worldwide as a result of this unprecedented monetary easing and remind us that no one knows what comes next. To help you visualize just how rocky the year was, “Volatility Returns” (page 54) by **Katherine Greifeld** and **Claire Ballentine** provides vivid graphics on some of the wildest market swings.

Few people embrace volatility as enthusiastically as Kris Sidal, a 28-year-old New Yorker with big dreams of building a hedge fund to bet on extreme events. **Yakob Peterseil** and **Elena Popina** tell Sidal’s story in “Risk Taker” (page 58).

On the other end of the spectrum, three veterans of Wall Street—R. Martin Chavez of Goldman Sachs, Eileen Murray of Bridgewater Associates, and David Siegel, co-founder of Two Sigma—talk with **Sonali Basak** about what they worry about 5 to 10 years ahead. The problems they envision in “The Next Big Risk” (page 64) won’t be solved with easy money or vaccines.

We hope you find this issue engaging and enlightening. As always, we welcome your feedback.

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Volatility And the Greeks

By MICHAEL P. REGAN

A LOT OF PEOPLE picked up a hobby to pass the time during the Covid-19 pandemic. Some learned how to bake bread; others dusted off musical instruments. For many, however, it was something a little less folksy: equity derivatives. As trading volumes for options exploded, newbie investors have been encountering concepts such as volatility that make sourdough seem simple. Here's a guide to some of them.

VOLATILITY That's the size of the swings in prices for a stock, index, or other tradable instrument. For nontraders, volatility may sound intuitively bad—the way storms at sea are bad. But to traders, all winds are opportunities to travel somewhere. And the stronger the better.

The VIX The Cboe Volatility Index, or VIX, is referred to as the “fear gauge,” because it tends to rise when stocks fall. It's compiled from bets on S&P 500 Index options that reflect traders' estimates of future volatility.

Implied volatility The VIX is a calculation of implied volatility. That is, it uses current options trades to calculate what those transactions suggest about market expectations for the future. The VIX is based on the prices of put options, which give the owner the right to sell the underlying stock or index at a certain price by a certain date, and call options, which provide the right to buy them. How much traders pay for options reflects the size of the market swings they're trying to bet on or hedge against.

Historical volatility Also known as realized volatility, this looks at how big the swings have been in the past—for example, in the last 20, 100, or 180 trading sessions. It's based on the size of the daily swings over that time period.

THE GREEKS

Mathematicians use letters from the Greek alphabet to denote concepts in calculus equations. Several were popularized among options traders when Fischer Black and Myron Scholes laid out their math (aka the Black-Scholes model) for the dynamics at work in this market in the 1970s. Traders have since added their own Greek letters, including a made-up one. “‘Vega’ sounds like a Greek letter, but it's not,” says Michael Purves, chief executive officer of Tallbacken Capital Advisors LLC. “Vega is a star in the galaxy. Seriously.”

Delta In calculus, this letter simply denotes the rate of change in a variable. In options, it measures the theoretical rate of change of an option's price relative to the changes in the underlying asset's price.

Vega That made-up Greek letter measures the sensitivity of an option's price to the implied volatility of the underlying asset on which the contract is based.

Theta A real Greek letter, it measures what's known as time decay, or an option's sensitivity to the passage of time. In simplest terms, think of it this way: You can buy an option that is profitable if a stock rises from \$50 to \$100. Wouldn't you pay more for that option if it expires in a year rather than one that expires tomorrow?

Gamma This member of the Greeks has been making the news a lot lately. Remember what “delta” means? Good. Gamma measures the delta of delta—in other words, how the delta of an option changes as the price of the underlying asset changes. Typically short-dated options have more gamma than longer-dated ones.

Gamma hedging This trade, under scrutiny lately, involves reacting to changes in gamma. Strategies differ, but what's important to know is that heavy activity in this trade can be a tail that wags the dog: The price of the option can affect the price of the underlying stock. Say a bunch of retail traders with their eyes glued to Robinhood and Reddit get excited about a stock and start buying call options to benefit from price increases. If the stock rises to or above the call's “strike price,” the brokerages that sold the options will have to deliver the shares when the calls expire. A jump in the price of calls would be taken as a signal from the market that the stock will reach that price. So these brokers may start buying the shares in anticipation of that, further boosting the price of the underlying stock.

Rho, epsilon, “charms” There are other even more esoteric Greeks such as rho, which measures an option's sensitivity to interest rates, and epsilon, which does the same for changes in dividend yields. And even more complicated concepts such as “charms” measure the rate of change of delta over time. “Even the sophisticated options people ignore them,” Purves says, “but there's probably some geeky guy buried deep in the bowels of JPMorgan who is studying them.”

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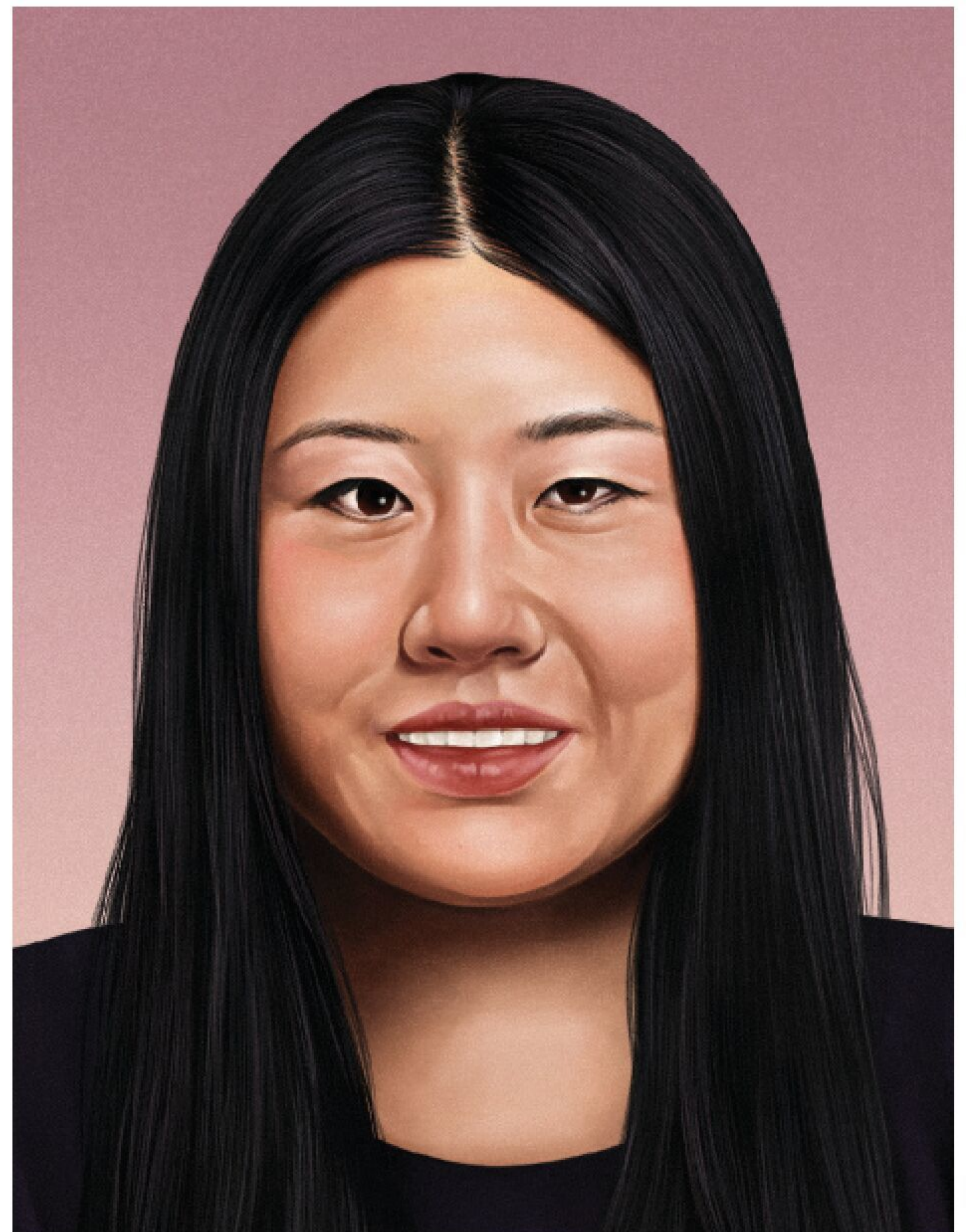
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By KATHERINE GREIFELD

RBC's Amy Wu Silverman Says The Hot Options Market Is Here to Stay

After almost two decades in the options market, Amy Wu Silverman of RBC Capital Markets knows a regime change when she sees one. The derivatives strategist—an alumna of Morgan Stanley, Goldman Sachs, and Citadel—has watched as the coronavirus pandemic ushered in a wave of newly minted day traders who were locked down at home with little to do. They descended on the options market, where contracts can cost pennies but have the potential to produce big payouts. The heavy options trading created feedback loops in tech stocks when dealers were forced to hedge the contracts they sold by buying or selling the underlying security. Wu Silverman anticipates that this dynamic will continue in 2021 as more millennials turn to options to make bets on stocks.



How did you get started in derivatives?

- ▶ I went to Princeton University and graduated in 2004, and I had done economics and financial engineering. I came in interested in that—and kind of knew that was what I wanted to pursue—but specifically, derivatives was really interesting. We happened to have a good **professor**. He made the subject pretty interesting for something that seems like it would be dry, and that sparked a general interest.

Tell me about your career on Wall Street so far.

- ▶ I started at Morgan Stanley in a general rotational program, but ultimately I ended up on the fixed-income side trading interest-rate derivatives. In '07 the world started blowing up. I was trading range accruals and curve swaps backed with issuers like Fannie Mae, Freddie Mac, and Sallie Mae, and literally that whole product went away. I was let go with 400 people one day, and they were just like, “See ya later!” I think I was 25 at the time. It was so crazy, I started having to look for a job again. It was a weird, distressing time.

I landed at Goldman, but in their equity derivatives department. So I was doing rate derivatives, but they were the same kind of thing—this was Goldman's research department [which had a cross-asset approach]. I worked for this crazy guy [Krag “Buzz” Gregory] who's amazing. He ended up being a really important **mentor** for me. But he was one of the first people who helped build the VIX [the Chicago Board Options Exchange Volatility Index, which tracks the 30-day implied volatility of S&P 500 futures]. He was big-brain, one of the smartest people I ever met and worked for, and we did some white-paper-level work on volatility as an asset class. And obviously this was 2008, so the whole world was continuing to blow up, so it was just a ride. We did some really interesting work on business cycles and volatility, looking at vol in different shock environments, stuff like that.

In 2010 I was approached by Citadel. Ken Griffin at the time was trying to start an investment bank. To be perfectly candid, he was throwing pretty crazy numbers at everyone, and I joined with a bunch of

different people across the street. And we spent a year trying to start a flow sales derivatives business. He ultimately went a different direction—he was much more focused on the electronic part of it. So after a year, all of us had to pack up again. One of the really senior people there at the time [Robert Fagen] ended up at RBC. I knew him really well, had known him at Morgan Stanley, and he said, “Why don't you come try it out, help build a business again?” And I have been there [at RBC] ever since.

Who's behind the recent pickup in options activity?

- ▶ I think it's a sea change. It's not just people who trade on Robinhood, but people who are part of the millennial and younger generations. They're more risk-taking in their profile, and they're also more active and educated in the options market than previous generations were.

People who are **millennials** have more wealth [than your typical Robinhood user] but came of age in 2008. They've seen a financial crisis, but they've also seen that after a crisis, you get a 10-year bull run. Their way of investing is heavily influenced by that, and they're much more comfortable with options and things a financial adviser wouldn't have talked to them about.

Do you expect those retail-type traders will remain active in options markets this year?

- ▶ Yes. In 2020 fiscal stimulus checks led to greater retail options activity. A new round of stimulus checks is hitting bank accounts now. In addition, the recent blue [Democratic] sweep drives the possibility of even more stimulus down the road. These are all catalysts for retail to continue to be involved with options. Only a few weeks into 2021, we're already seeing call **exuberance** and skew inversion. There have been noticeable bullish options trades in the energy sector. In fact, bullish options positioning just hit a decade high. We also noted that, back in November, retail was perfectly willing to rotate from megacap tech—the “work from home” names—into the “vaccine recovery” names like consumer discretionary, cyclicals, and general value.

Why are they buying options instead of stocks?

- ▶ They're not buying stocks because stocks are expensive, or they feel like they're not getting the **leverage**. But they're buying the calls. How do you get leverage when you don't have that much to spend? How do you get bang for your buck?

How is this new dynamic affecting the options market?

- ▶ All the things we hold to be true in options are almost laws. Skew is positive because there's more demand for downside. Skew is the relative demand of put options vs. call options for a given stock or index. Because investors are typically long and buy insurance, **skew** is almost always positive, because put-implied volatility minus call-implied volatility is positive.

These are relationships that have held for very long times, but there's no reason why they have to be this way. If you get a whole class of investors and the way they think about the world is, "The way I'm getting long the market is through calls," then skew may never go back to positive.

Especially when you're a dealer, a trader, the way you think about making markets is very influenced by things like what the historical relationship has been. I don't think it's going to be overnight, but there are already names that are exceptions. Any dealer making a market in Tesla knows skew is almost always inverted. Normal relationships don't apply.

What does this surge in options activity mean for the equity markets?

- ▶ It's really not something to be concerned with if you're going to buy Facebook and close your eyes for a couple of years. But if you're someone who has to be in the market on a short-term basis, it's going to be more and more relevant to you. The breadth of the market is very **narrow** and continues to narrow. The fact that seven names drive 50% of the weight of an ETF [exchange-traded fund] is a big deal. As long as breadth is narrow, this is going to be a problem. You could say, "I don't own Facebook. Why should I care?" But you care because Facebook is part of Fangman, and Fangman is a quarter of the entire S&P 500. [The

Fangman stocks: Facebook, Apple, Nvidia, Alphabet (Google), Microsoft, Amazon .com, and Netflix.]

How can a stock such as Facebook be influenced by heavy call or put buying?


- ▶ When a dealer—a market maker or trader—receives an order to buy calls from a customer, [the dealer] usually has to sell calls. There are nuances to this: A dealer could offset a portion with an existing position or match to a call-selling client, for example. But let's say for the sake of simplicity that the dealer has to sell the entire position to the client. When a dealer sells a call option to a client, the dealer has to initiate something called a **delta hedge**. This delta hedge requires the dealer to buy stock. A good way to think about this is, if a dealer is short a call option, then the dealer doesn't want the stock to go up, so the dealer buys stock as the hedge.

Now here's where things go messy and why the "skew inversion" is such a big deal. Typically, when stocks go up, volatility goes down, and vice versa. Intuitively, this makes sense because usually uncertainty should decline if things are good, and uncertainty should rise if things are bad. However, the issue we have encountered is a "spot up/vol up" scenario. Stocks like Apple, Facebook, Tesla, and Amazon go up, and the volatility goes up, too, because of FOMO [fear of missing out] and more people buying calls. So what happens to the dealer in this case? They're forced to buy more stock as the stock goes up, and remember: The dealer is short volatility, and volatility is rising.

This self-fulfilling cycle is sometimes referred to as a gamma squeeze. The idea is this: On names with strong momentum, heavy options action can result in extreme exacerbating swings in the same direction.

Why are these megacap tech stocks being targeted?

- ▶ This is just what people know these days. These are the new **Covid utilities**. They're trillion-dollar market cap, they're dominating during the pandemic, and, if you're of a certain generation, these are your blue-chip companies. ●

A man wearing a black face mask and a light blue button-down shirt with a green lanyard is working in a server room. He is holding a server tray and appears to be installing or maintaining hardware. The room is filled with rows of server racks, and the floor is made of perforated metal grates. The lighting is bright and even.

**Some things you see coming.
Some things you don't.
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The Volatile History of Managing Volatility

By JOHN AUTHERS

VOLATILITY OF MARKETS is virtually a given. Putting a price on assets whose value is derived from the future will always require judgment calls, and masses of traders gathered together will always be prey to the herd psychology that leads to overshooting. And yet it's also human nature to seek to control that volatility. The financial history of the past 50 years is in many ways the story of a series of attempts to find a different anchor to replace gold as the mechanism of control. Each new regime has been greeted with a change in the trend of the price of stocks in gold terms.

1944-71: Bretton Woods & The Gold Standard

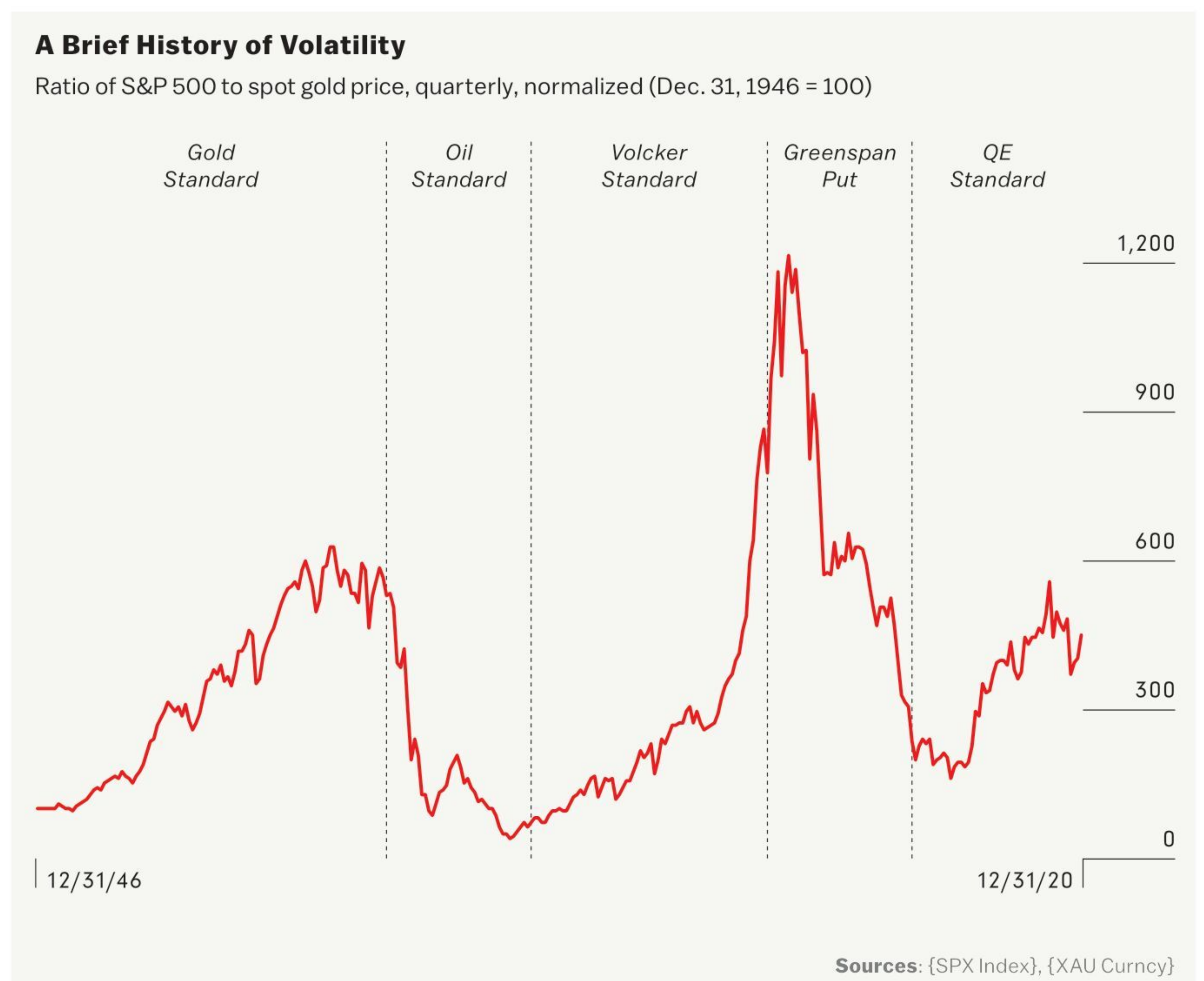
Global economic policymakers sought to address the chaotic competitive devaluations and runaway inflation that preceded World War II with a new financial order established during an international conference in 1944 in the New Hampshire resort of Bretton Woods. But that agreement, which tied the dollar's value to gold, caused a

growing number of problems as the capitalist world expanded over the ensuing decades.

August 1971 brought a decisive change in the efforts to contain volatility when President Richard Nixon decided to end the dollar's tie to gold. After the gold standard ended, so did the system of fixed exchange rates in which different currencies were tied to the dollar and thus also to gold. Efforts to maintain a pegged exchange rate to the dollar, which once involved building reserves of gold, now tended to pit markets against central banks, with the latter attempting to prove their bona fides by raising interest rates—until the rates grew unsustainable and the currency crashed. The advent of floating currencies added a valuable new adjustment mechanism to the world's financial order but created its own volatility.

We can see the series of informal regimes that have followed Bretton Woods by looking at the price of the S&P 500 index in gold terms—in other words, the ratio of the S&P to the gold price. ▶

Fig. 1



1971-81:

The Oil Standard

The world's financial system shifted effectively to using oil as an anchor for the dollar once Nixon abandoned the peg to gold, given the central role petroleum played in global economic growth. Saudi Arabia and the other major petrostates agreed to conduct all their transactions in dollars, maintaining the currency's central role in the global economic order.

The U.S., freed from the "cross of gold," embarked on expansionary fiscal policies, creating inflation and sending the price of gold higher. Oil producers responded by cutting supply and forcing up oil prices in dollars to ensure they'd receive the same amount in gold terms as they had in the past. Ultimately the financial system remained tied to the value of one commodity—the crucial difference was that oil, unlike gold, was vital to the cost of everyday life. The rising price of oil lifted consumer prices throughout the 1970s, eventually creating one of the most savage bear markets in stocks ever witnessed. Judged in real or gold terms, share prices collapsed, as did the price of bonds. This was volatility on a scale that hadn't been seen since before World War II.

1981-98:

The Volcker Standard

The disruption driven by oil and widespread price inflation came to an end when the Federal Reserve, under Chairman Paul Volcker, convinced investors it was committed to curbing inflation—even at the cost of a serious recession. Once this stability had been earned, fiat money could begin to regain the credibility it had enjoyed while it was backed by gold. By 1985 the dollar had grown so strong that a group of finance ministers and central bankers met at the Plaza Hotel in New York to agree on concerted action to weaken it.

Once investors were confident that inflation was under control, interest rates steadily declined. After peaking at more than 15% early in Volcker's tenure at the Fed, the 10-year Treasury yield—the single most important financial benchmark for transactions around the world—has dropped almost continuously since. Bond traders working today have no memory of the era when bond yields rose with any consistency. The fall in

borrowing costs stimulated the economy and cushioned the stock market.

"Animal spirits" meant the market was still capable of overshooting, as it did leading up to the dramatic Black Monday crash in October 1987, when stock markets fell more than 20% in one day early in Alan Greenspan's term as Fed chairman.

In 1994, when the Greenspan Fed took the market by surprise by hiking interest rates to avert inflationary risks, the move strengthened the dollar and caused a sharp drop in bond prices (sometimes dubbed the "great bond massacre"). It also put intolerable strain on emerging countries that had been trying to contain their own inflation problems by pegging their currencies to the dollar. First, Mexico, in December 1994, then the emerging Tiger economies of Asia, in 1997, succumbed to a wave of devaluation and default crises.

1998-2008:

The Greenspan Put

As those emerging-market crises reverberated through the system, the "Pax Volckeriana" broke down, along with the great equities bull market more than a decade into Greenspan's leadership. The 1998 implosion of Long-Term Capital Management, a hedge fund that had borrowed heavily from big Wall Street banks to place bets that soured quickly after Russia defaulted on its debt, was a critical moment. Credit markets froze almost completely.

Rather than let banks fail, the Fed coordinated a bank-led bailout for LTCM (over the public criticism of Volcker) and cut interest rates three times. That rescued the equity market, which started to melt up into the dot-com bubble driven by rising internet stocks.

Thus began an era characterized by what became known as the "Greenspan put"—total confidence that the Fed would always ease monetary policy to cushion falling asset prices. Concerned about "irrational exuberance" in the markets, the Greenspan put began raising rates in 1999 and early 2000. The dot-com bubble burst, and in 2001 the Fed started easing aggressively again. Bond yields continued their steady fall. The period soon became known as the Great Moderation—credit grew ever cheaper, and the volatility of stock markets dwindled to record lows.

Still, the rising gold price made clear that markets didn't trust the Greenspan Fed to protect the dollar's value in the same way they'd trusted the Volcker Fed. They trusted the Fed to protect share prices but not to control inflation. Eventually this confidence that interest rates would keep falling led to the risk-taking that ended with the global financial crisis of 2008. As money became too cheap, lending standards weakened. When investors belatedly woke up to the fact that many of the loans would never be repaid, the financial system almost collapsed.

Fig. 2

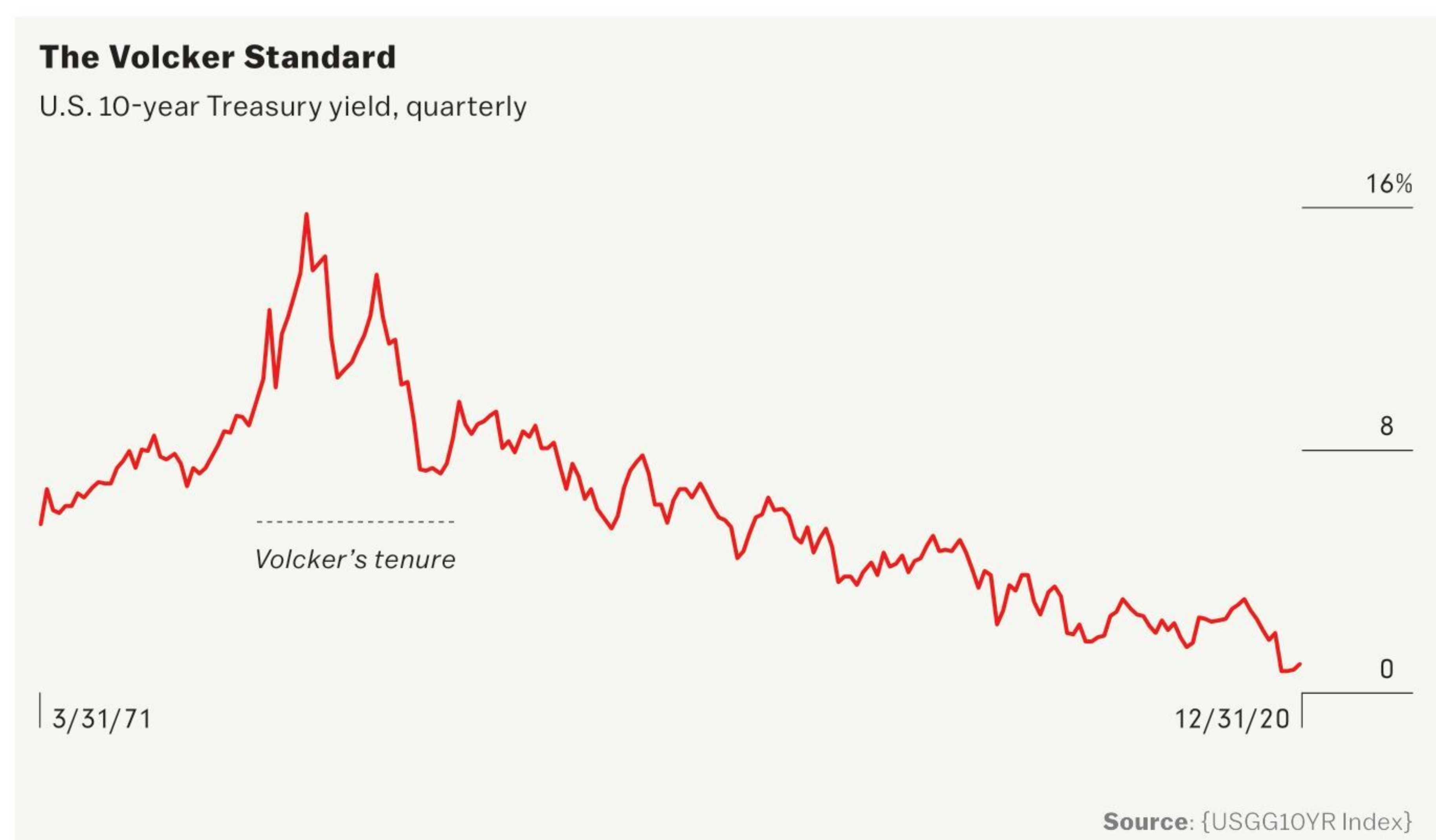
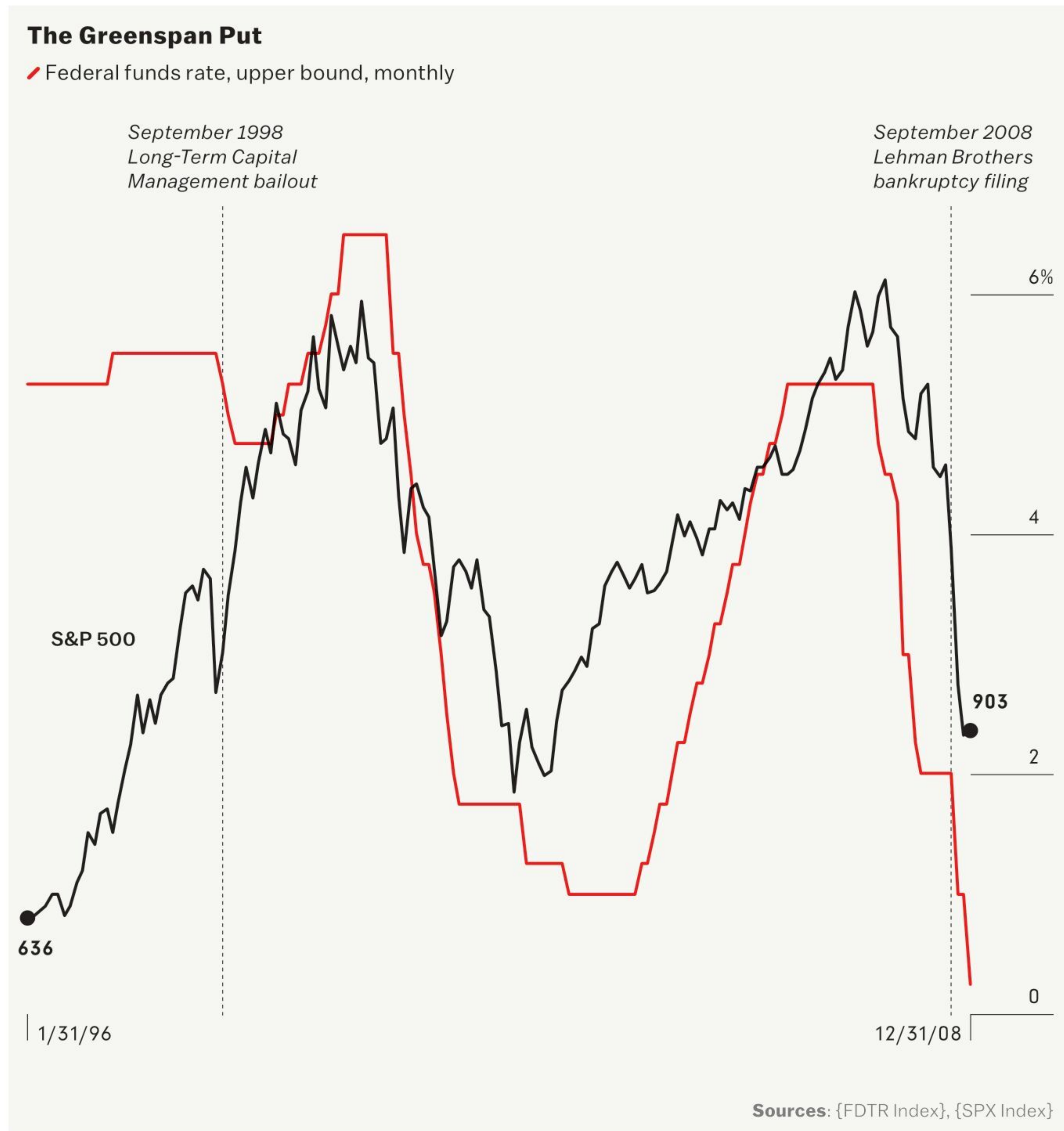


Fig. 3

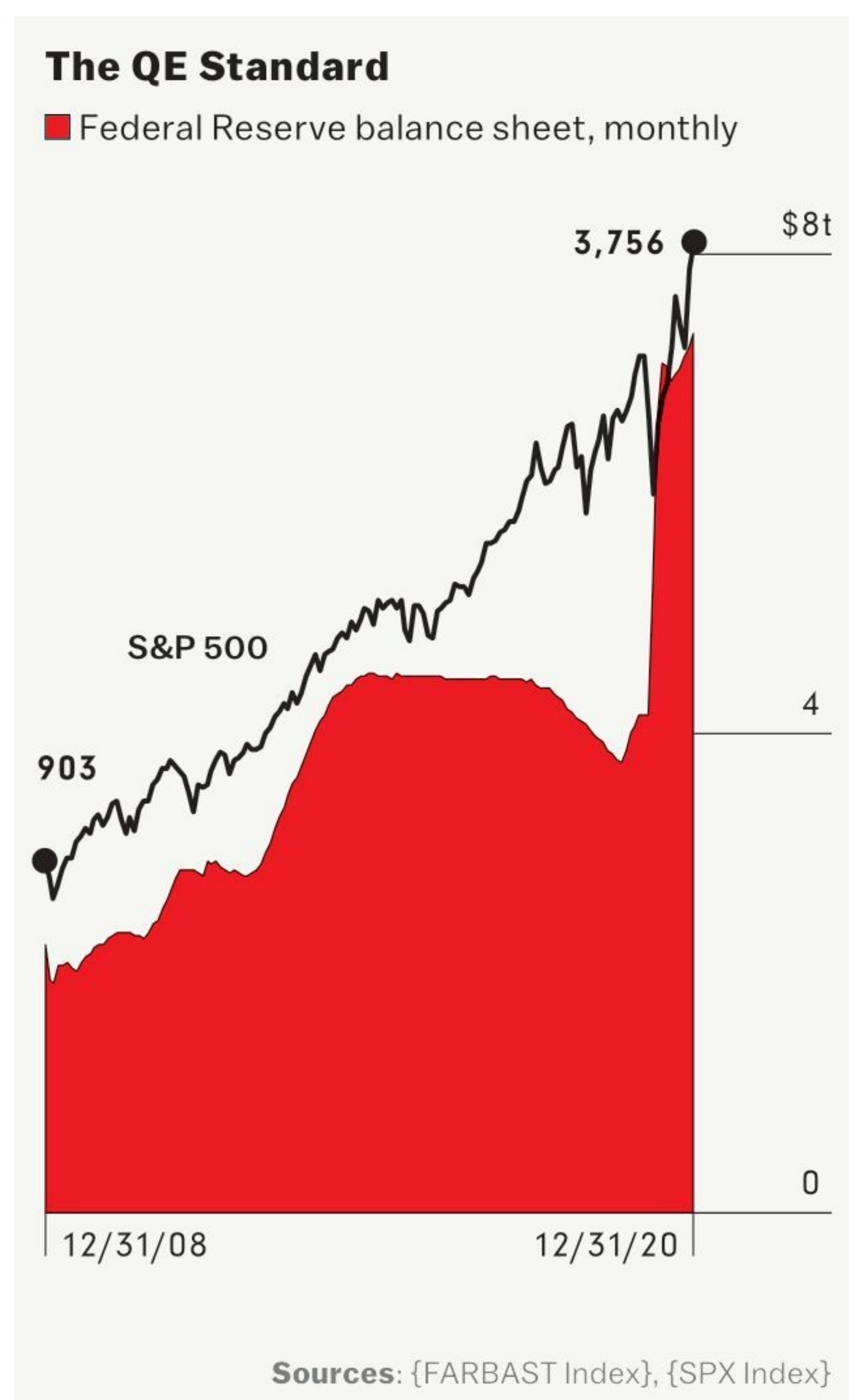


**2011-Present:
 The QE Standard**

The disaster of 2008 created almost unprecedented volatility. Although U.S. authorities initially attempted to restore discipline by allowing the securities firm Lehman Brothers to fail, they quickly discovered the financial system was too interconnected to survive. The aftermath of Lehman’s failure was so disastrous that policymakers and traders recognized that no other large institution could be allowed to fail—creating a new level of “moral hazard” in the system. And so the Greenspan put was extended under his successor, Ben Bernanke. The Fed bought bonds under the so-called quantitative easing, or QE, program to keep interest rates low. The price of gold skyrocketed as investors became convinced that inflation would follow in its wake.

Around 2011, after years of desperate money-printing, investors still saw no sign that inflation was returning.

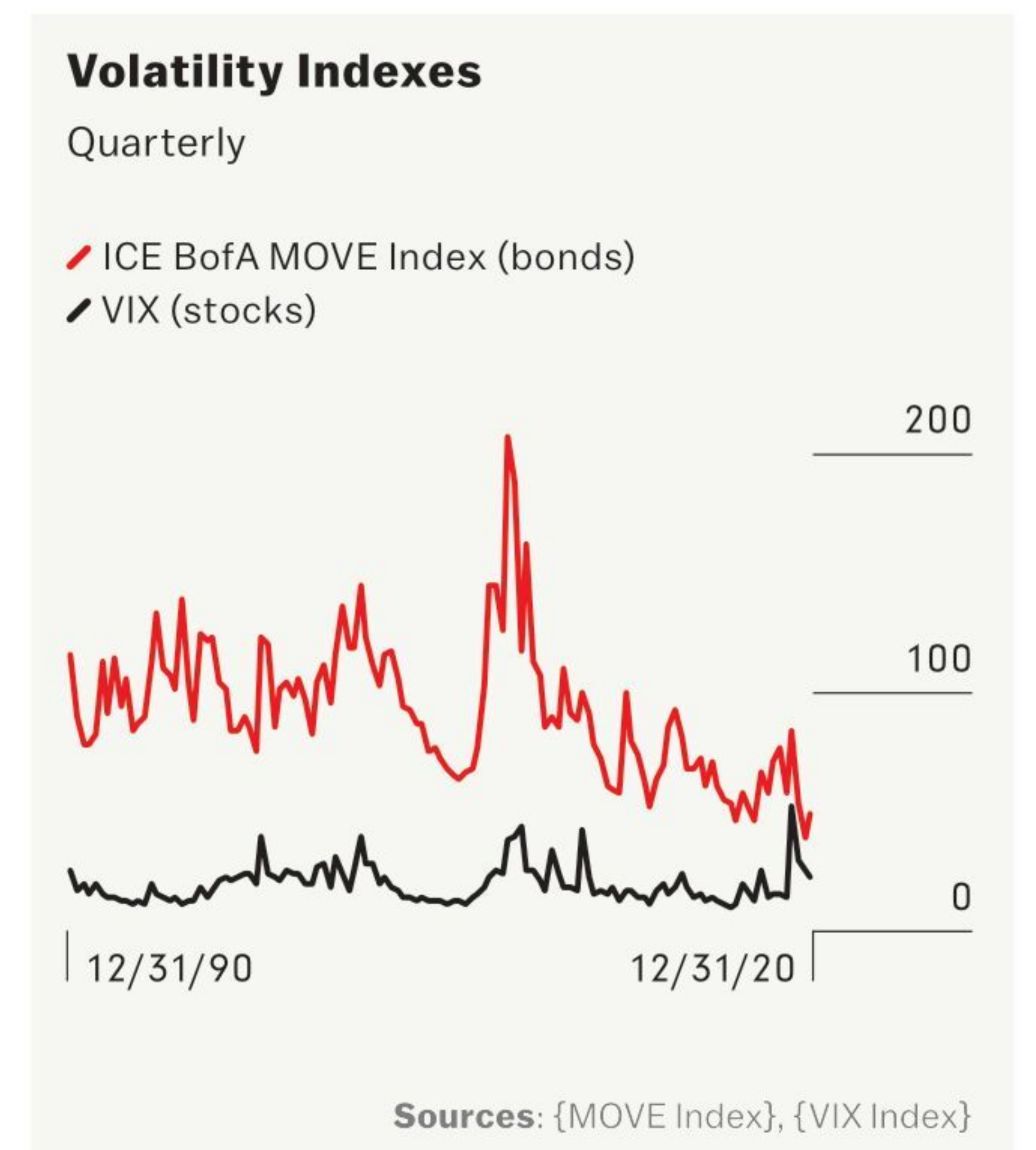
Fig. 4



With that came the idea that interest rates would remain stuck near zero forever. With the belief in “lower for longer” firmly installed, the price of stocks in gold rose once more, peaking about a year before the Covid-19 pandemic and lockdowns created global recessions and scrambled all forecasts.

Central banks have responded by convincing markets that they remain determined to buy as many bonds as it takes to keep yields at minimal levels. In contrast to Volcker’s determination to keep inflation under control, and Greenspan’s refusal to let asset prices fall, we now have central banks’ insistence on keeping borrowing costs low. This effectively forces investors to lend to the government at low rates, a policy known in market jargon as “financial repression.” For the time being, it’s working. Equity market volatility remains elevated, but since spring 2020, bond market volatility has dropped to unprecedented lows.

Fig. 5



The QE standard, or a refusal to let bond yields rise, has replaced the Bretton Woods gold standard as the anchor of the financial system. This can carry on as long as inflation doesn’t return to the economy. At such a point as it does, we should all brace for a return to volatility. And the search will be on for yet another replacement. ●

Authers is a senior editor for markets coverage at Bloomberg News in New York.



Trickled Out

IT RARELY RAINS in Lima, Peru's capital, on the country's desert coast, gets only a third of an inch of precipitation a year. So the arid city's 10 million or so inhabitants rely on three rivers for their water supply. Yet access to this resource isn't equal for all.

About 1.5 million people aren't connected to Lima's drinking water grid or sewage system, according to Oxfam. Many poorer households in the city's sprawling metropolitan areas depend exclusively on tanker trucks for their water.

Rosa Gonzales Aliaga, shown here, lives in San Juan de Miraflores, an outer district of Lima. Because of the rugged geography of her neighborhood, she and fellow residents must use hoses that are more than 100 meters (328 feet) long to connect their water tanks with the supply trucks. The lack of on-demand water is concerning. According to the World Health Organization, one person requires a minimum of 50 liters to 100 liters of water a day to cover basic needs.

You don't need to go far to see Lima's water access inequality. San Juan de Miraflores shares a border with La Molina, one of the province's richest districts, known for its plush mansions with gardens and pools. The wealthy's use of potable water for purposes unrelated to drinking or sanitation often exacerbates the limits on water access for their poorer neighbors, according to a recent report from researchers at Universidad del Pacífico in Lima.

Climate change seems likely to aggravate the problem of water security even more. To visualize water risks to countries and their assets, run **{MAP <GO>}**.
—Siobhan Wagner

PHOTOGRAPH BY
SEBASTIAN CASTAÑEDA VITA



In India, a Popular Source of Credit Faces Its Toughest Challenge

By SUVASHREE GHOSH and SHRUTI SRIVASTAVA

IN FEBRUARY 2020, unaware the coronavirus pandemic was about to wipe out her livelihood, Arpita Das borrowed \$2,300 to buy materials and equipment for her family fishing business in West Bengal, India. A few weeks later, demand for her prawns collapsed, leaving her unable to make the \$180 monthly repayments to two microlenders.

The 33-year-old mother of two, who'd never missed a payment since she started borrowing three years earlier, is now living off the vegetables and grains she grows on a plot of land outside the home she shares with her husband and his parents. With the whole family out of work, they're unlikely to have any income unless she can borrow \$1,400 for this year's prawn harvest.

During India's initial three-month lockdown, one of Das's lenders would call her regularly to see how she was doing. Now reps visit her in person at home every few weeks to see if she can pay. "I tell them that I don't have the money," she says from a remote town on the banks of the Kangsabati River. "They say I won't be eligible to borrow more unless I repay my current loan. How can I restart my business if I can't get a loan?" Das says she fears she may be forced to turn to moneylenders, who charge rates as high as 100%.

Borrowers around the world have been hit hard by Covid-19 but perhaps nowhere more so than in India. It's the global leader in microfinance, the financial service that offers loans to entrepreneurs too poor to qualify for conventional bank loans.

Individually, these loans aren't big—only \$487 on average—but the number of people taking them out is huge, even by the standards of the world's second-most-populous country. In the past five years, the pool of small borrowers has almost doubled, to 58 million, according to Microfinance Institutions Network, or MFIN. Roughly 1 in every 20 Indians is in debt to a microlender. In total, they owe about \$31.6 billion.

Worldwide, microlending's tremendous reach, once heralded as its greatest strength, now looks like a deep liability. From humble roots as a charitable movement more than 30 years ago, the sector has morphed into a global enterprise covering 140 million borrowers—80% of whom are women—with about \$124 billion in

debt, according to a 2019 report by the *Microfinance Barometer*.

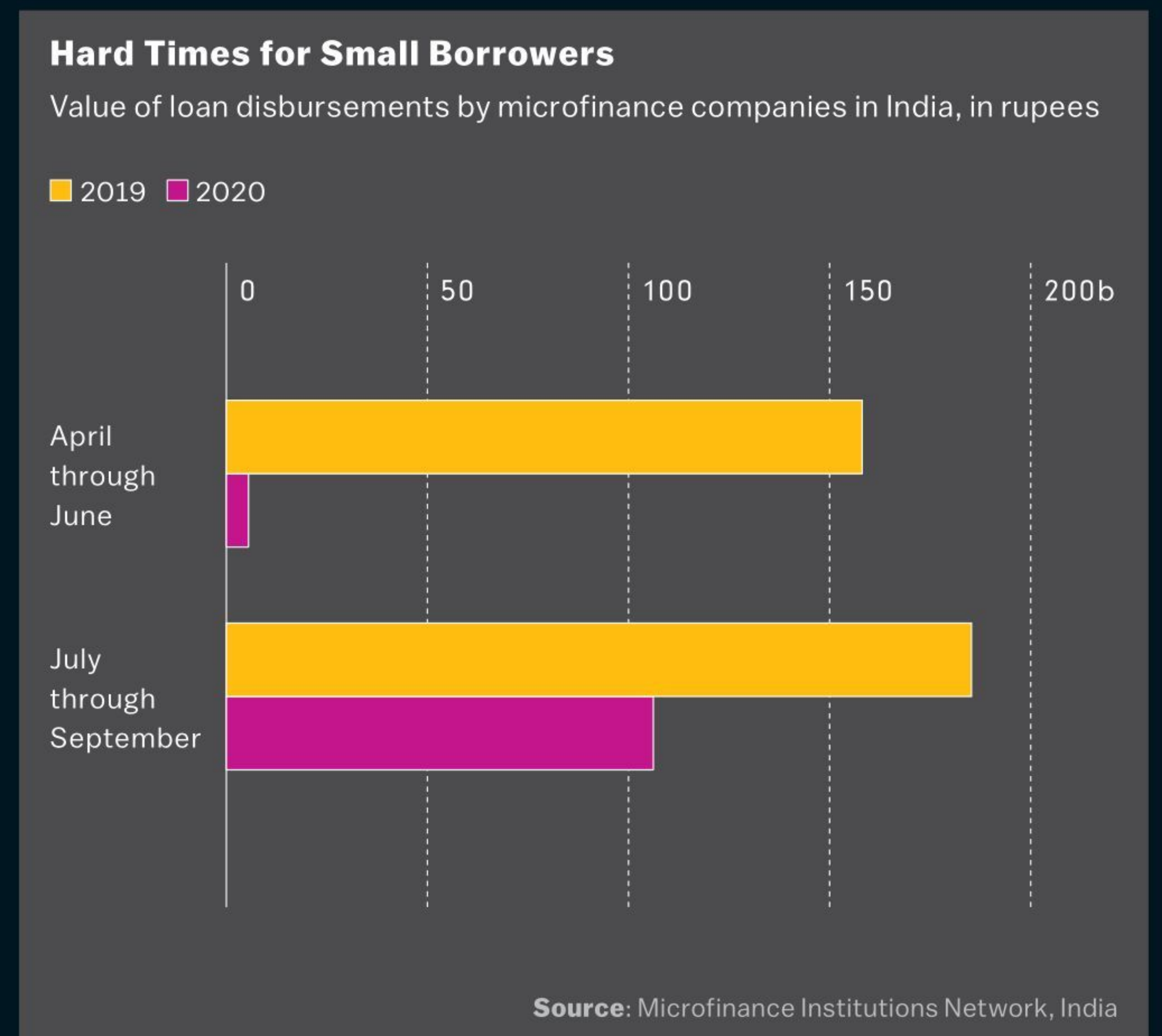
Most borrowers are small traders, street hawkers, and daily wage laborers, the people most vulnerable to the economic shocks of the pandemic as well as to the virus itself. In India many decamped from urban slums to rural villages soon after the lockdown in late March 2020 with no idea when or how they'll be able to support themselves, let alone pay their debts.

Today about 96 microlenders operate in India. Banks and nongovernment organizations also provide microfinance loans. Microfinance institutions, or MFIs, can be set up with only 50 million rupees (\$685,000) and can lend as much as 125,000 rupees per borrower. The microlenders themselves borrow from banks and nonbank lenders at an average 14%, then charge interest rates of as high as 22%.

With India's economy set to contract the most in four decades, many borrowers are becoming trapped in never-ending debt cycles. This problem leaves them with excruciating choices as they try to avoid being blacklisted by lenders. Some have sold the tools of their trade to meet obligations, compounding a virus-induced loss of income with a more permanent loss of livelihood. In this male-dominated society, women borrowers in particular risk being ostracized within their communities.

Although the pandemic isn't the first crisis for the country's microfinance industry, it could be its biggest. After heavy loan demand and loose regulations led to a spate of suicides among poor borrowers in 2010, regulators drew up stricter rules for the sector, including capital requirements as well as limits on loan exposure and interest rates. But they did little to slow demand.

"Until this pandemic, there was no trigger for any self-doubt for the lenders," says former Reserve Bank of India Governor Duvvuri Subbarao, a strong advocate of financial inclusion during his 2008-13 tenure, adding that lenders should now focus on raising capital and bolstering their balance sheets. Although the microfinance industry helped lift millions from poverty, he says "irrational exuberance" may have undone some of the social benefits, as lenders became increasingly exposed to defaults and capital loss.

Fig. 1

Amid the pandemic, India's central bank has taken unprecedented steps to help borrowers, including a six-month loan moratorium that ended on Aug. 31 and special loans to refinance MFIs. Prior to the onset of Covid-19, repayment delays affected about 2% of all loans; by the end of September, that number had risen to 20% before easing to 10% to 15% in December, says Manoj Nambiar, managing director at Arohan Financial Services Ltd., India's fifth-biggest microfinancier. "In the last few months we were focused on collections. Now we're looking at stepping up lending," he says.

ARPITA DAS'S predicament is a far cry from the vision of Muhammad Yunus, the 80-year-old former economics professor who won the Nobel Peace Prize in 2006 for his pioneering microfinance work in Bangladesh. Over the years the MFI boom attracted private capital seeking growth and high returns.

With default rates across India soaring on the mainly unsecured loans, the virus is undoing the business models of dozens of MFIs as funds dry up. Unlike conventional banks, these institutions don't have access to public deposits and rely on market borrowings to keep their businesses running. During the initial days of the pandemic, as microlenders struggled with defaulting borrowers, banks curbed lending to MFIs. When the economy reopened, consumer demand picked up, improving income opportunities for the poor.

Still, collection rates dropped to 85% to 90% of loans in November, from about 98% before the pandemic. Given that the industry exists on extremely tight margins, such recovery levels aren't viable in the long term.

With borrowers unable to repay their loans, MFIs, in turn, can't afford to pay back the banks. As a result some microcreditors are cutting back on lending to conserve capital and limit defaults. From April to September, MFIs in India provided only 111.87 billion rupees in loans, 68% less than during the same period in 2019. Arohan's Nambiar says he expects MFI credit growth in fiscal year 2020-21 to be half of what it was in the previous fiscal year.

Experts say an inevitable churn will mean that a leaner industry emerges from the crisis. It will also be increasingly digitized,

more closely regulated, better capitalized, and bound by stronger consumer protections.

To keep growing, microlenders are calling for tighter risk management practices to contain even more defaults and easier capital-provisioning rules for MFIs, which are now stricter than those for banks. "The need of the hour is to provide fresh credit and save the basic livelihoods of poor people," says Alok Misra, chief executive officer and director of MFIN, which was authorized by India's banking regulator to ensure compliance in the MFI sector.

BEFORE THE PANDEMIC arrived in India, Bandana Maurya, a 30-year-old widow, was living in a tiny asbestos-covered shanty in a Mumbai slum. The mother of three was making \$100 a month packing drugs at a pharmaceutical company. Hoping to make a little extra money, she'd taken out a \$410 microfinance loan to buy a sewing machine. Then came Covid. The drug company was forced to close. Maurya lost that job and suddenly found herself unable to keep up with her loan repayments. Struggling to pay for food, electricity, and medicine for a child who was ill, Maurya went to stay with her family in a village in Uttar Pradesh.

Since then she's been getting almost weekly calls from her microfinance lender. "I feel let down and angry when they call," she says, sitting in her sparsely furnished room. "I have never defaulted before, but who would have known that there would be such a virus and we would lose our livelihood? The bank should be more considerate. Where will I get the money?"

In late September, Maurya returned to Mumbai to look for work and get treatment for her daughter's brain tumor. She stitched clothes for less than \$2 a day and relied on her brother for food.

Maurya has discovered that in difficult times microlending is no more forgiving than macrolending. Das, in West Bengal, has come to the same grim conclusion. "I am now a defaulter," she says. "Had I known there would be a lockdown, I would have not borrowed." ●

Ghosh covers finance for Bloomberg News in Mumbai.

Srivastava covers economics for Bloomberg News in New Delhi.

Build a Risk-Parity Strategy With The Optimizer

By CONSTANTIN COSEREANU and DOUGLAS EDLER

WHAT SHOULD YOUR post-pandemic asset allocation look like? Coming off a year with all-time-high volatility readings and amazingly good performance, some investors may be considering an equal-risk style of asset allocation known as risk parity.

Famously associated with the All Weather portfolio at Ray Dalio's Bridgewater Associates, the strategy allocates the same amount of risk to different asset classes.

While there are many ways to build a strategy based around this concept, here's a simple way to do it: Use the optimizer in the Portfolio & Risk Analytics (PORT) function. Here's how you can explore such a strategy.

Let's use seven indexes to represent a variety of bonds, stocks, real estate, and commodities:

Bloomberg Barclays US Treasury Index

{LUATTRUU <Index>}

Bloomberg Barclays US Aggregate Bond Index

{LBUSTRUU <Index>}

Bloomberg Barclays US Corporate High Yield Index

{LF98TRUU <Index>}

Bloomberg US Large Cap Price Return Index

{B500 <Index>}

Bloomberg US 2000 Price Return Index

{B2000 <Index>}

Bloomberg US REITs Index

{BBREIT <Index>}

Bloomberg Commodity Index

{BCOM <Index>}

You can find data and tickers for these and other benchmarks by running **{IN <GO>}**. The question is: What asset allocations do we need to achieve a portfolio equally weighted by risk contribution per asset class?

Create Two Portfolios

Let's start by creating a \$1 million cash portfolio in the Portfolio Administration function. Type "portfolio administration" in the command line of a terminal screen and click on the PRTU – Portfolio Administration match. The shortcut is **{PRTU <GO>}**.

Click the Create button on the red toolbar. Give the portfolio a name such as "Main Cash Portfolio." Use the drop-downs to select

Equity as the Asset Class, USD as the Portfolio Currency, and Shares/Par Amount as the Position Type. Click the Create button.

In the amber field under Cash, enter "USD" and click on USD Crncy – United States Dollar Spot. In the Position field, enter "1K"—PRTU scales cash by a factor of 1,000—and press <GO>. Hit Save.

Next, repeat the steps to create another portfolio holding the seven indexes. Run **{PRTU <GO>}** again, click Create, give the portfolio a name such as "Asset Mix Strategy," and click on the Create button. Add the indexes. Type "LUATTRUU" in the field below Cash and click on the match. Position is irrelevant because we'll use the PORT optimizer to generate the appropriate asset allocation, so you can enter "1," for example, in the Position field and press <GO>. Repeat to enter the other indexes (**FIG. 1**). When you're done, hit Save.

Build an Optimization

Run **{PORT <GO>}** to open the Portfolio & Risk Analytics function. Use the drop-down in the upper left corner to select the cash portfolio. Next, click on Trade Simulation and select Launch Optimizer.

The optimizer enables you to specify goals, the universe you want to trade from, constraints, and security-level properties.

Ultimately what we're looking to do here is end up with equal risk contributions from each of the asset classes. In the Goals section, first remove any goal that's already loaded by clicking on the red delete icon. Then click the Add button. Type "contribution to total risk" in the Search field and press <GO>. Click on it in the Select Field portion of the window, then hit the Select button.

In the Trade Universes section, let's set the portfolio with the indexes as our trade list. Click on the pencil icon. In the window that appears, click on User Portfolio, navigate to the Asset Mix Strategy portfolio, and click on it to select it. Make sure Trade List is selected as the Trade Rule and click on Select.

Finally, in the Security Properties section of the screen, we're going to specify that each asset class has an equivalent risk contribution. In the amber field that says <Type or drag values>, enter "LUATTRUU" and click on the matching index. Then enter "1" in the RskCtr field to the right and press <GO>. Repeat for the other indexes in your strategy (**FIG. 2**). That's it; you don't need to add any other portfolio-level constraints. Click the Tasks button on the red toolbar and select Save Task As... to save the task so you can rerun it. Give the Task a name and hit Save.

To run the optimization, click on the Run button. The ►

Fig. 1 To create a portfolio containing the assets you want to use for a risk-parity strategy, run **{PRTU <GO>}** and click on the Create button.

Security	ID	Position	Price	Principal	Accrued	Market Val	Price
Totals							
Cash		0.0000			0.00	10,408.26	
LUATTRUU	LUATTRUU	1.0000	2532.91	2,532.91		2,532.91	
LBUSTRUU	LBUSTRUU	1.0000	2371.90	2,371.90		2,371.90	
LF98TRUU	LF98TRUU	1.0000	2342.12	2,342.12		2,342.12	
B500	B500	1.0000	1397.91	1,397.91		1,397.91	
B2000	B2000	1.0000	1400.31	1,400.31		1,400.31	
BBREIT	BBREIT	1.0000	282.80	282.80		282.80	
BCDM	BCDM	1.0000	80.31	80.31		80.31	

Fig. 2 To set up an optimization, run **{PORT <GO>}** and load the cash portfolio. Then click the Trade Simulation button on the red toolbar and select Launch Optimizer.

1) Run 2) Tasks 3) Settings 99) Analyze in PORT Portfolio Optimization

Port: MAIN CASH PORT Bmrk: NONE Risk Model: Bloomberg Risk M 01/08/21 Backtest

Task Name: Asset Mix Allocation

Minimize Contribution to Total Risk %

2. Trade Universes Add

Source Security List Rule

User Portfolio ASSET MIX STRATEGY Trade List

3. Constraints Add Add Frontier Long Only

Constraint Field Constraint Group Relative Unit Min Max Trade-Off

4. Security Properties Add

Security	Relative	Unit	Min	Max	MinHld	MinTrd	MaxTrd	Lot	RskCtr
USD Infuse	None	Wgt%	0	5				1	1
S Default for all	None	Wgt%	0	50				1	1
S LUATTRUU Index	None	Wgt%						1	1
S LBUSTRUU Index	None	Wgt%						1	1
S LF98TRUU Index	None	Wgt%						1	1
S B500 Index	None	Wgt%						1	1
S B2000 Index	None	Wgt%						1	1
S BBREIT Index	None	Wgt%						1	1
S BCDM Index	None	Wgt%						1	1
<Type or drag values>	None	Wgt%						1	1

Fig. 3 Once you set up the task, click on the Run button to start the optimization.

1) Run 2) Tasks 3) Settings 99) Analyze in PORT Portfolio Optimization

Port: MAIN CASH PORT Bmrk: NONE Risk Model: Bloomberg Risk M 01/08/21 Backtest

Optimization Summary Status: Success

Goal	Initial Value	Final Value
Contribution to Total Risk	5.73	0.01

Security	Name	Trade	Quantity	Init. Weight (%)	Opt. Weight (%)	Wgt Diff
LUATTRUU	U.S. Treasury	Buy	147	0	37.18	37.18
LBUSTRUU	U.S. Aggregate	Buy	133	0	31.51	31.51
LF98TRUU	US Corporate High Yield	Buy	77	0	18.05	18.05
B500	Bloomberg US Large Cap	Buy	40	0	5.62	5.62

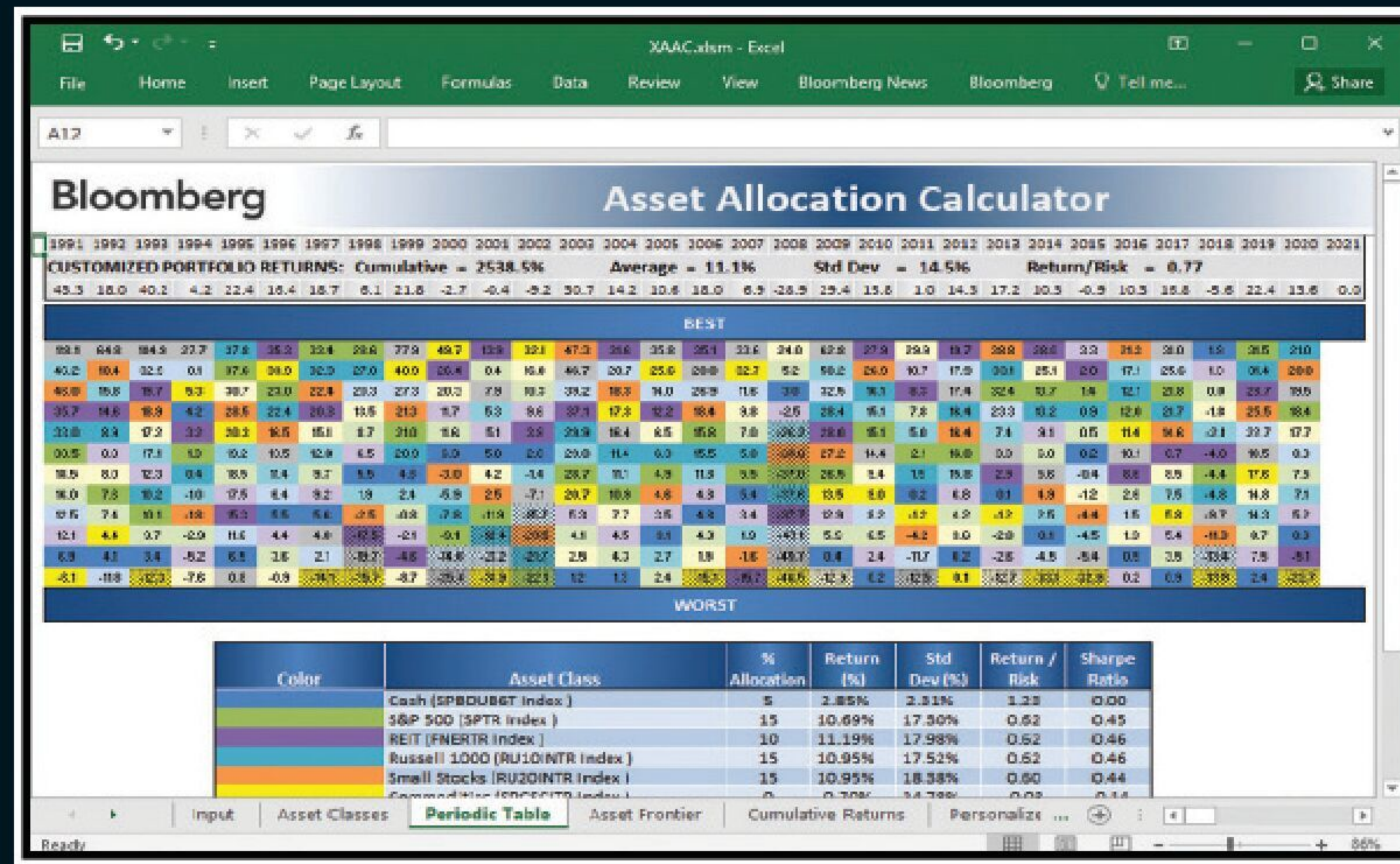
Group	Field	Relative	Min	Max	Init Val	Final Value	Warning

Type	Portfolio / Bench	Task	AsOf	Status	Start
Optimization	MAIN CASH PORT	Asset Mix Allocation	01/08/2021	Success	01/11/21 10:20

Fig. 4 Click on the Analyze in PORT button. Then click on the Tracking Error/Volatility tab and the Main View subtab.



Fig. 5 To download a sample spreadsheet that lets you analyze the historical performance of different asset classes, run `{XLTP XAAC <GO>}` and click on the Open button.



Proposed Trades section shows purchases from the trade list (FIG. 3). Run in early January, the optimizer proposed buying the US Treasury index to a weight of 37% in the portfolio. The aggregate bond benchmark would get a 31.5% weight, high yield 18%, large cap 5.6%, REITs and small caps 3.5%.

Click on the Analyze in PORT button to see the simulated portfolio in PORT. Click on the Tracking Error/Volatility tab and then on the Main View subtab (FIG. 4). The Contribution % column shows that the optimization has resulted in an almost identical contribution to total risk for each of the seven indexes.

Note that the above analysis is based on Bloomberg's Multi-Asset Class (MAC) Risk model. For more information on it, go to `{HELP PORT <GO>}` and click on White Papers.

TO FURTHER EXPLORE asset allocation, you can use some ready-made asset-allocation-related Excel spreadsheets. The Asset Allocation Optimizer enables you to perform mean-variance optimization. Run `{XLTP XAAO <GO>}` and click on the Open button to download a copy. Go to `{XLTP XAAC <GO>}` for the Asset Allocation Calculator, which lets you create a so-called quilt chart to track the historical performance of asset classes (FIG. 5). Finally, run `{XLTP XAAA <GO>}` for the Asset Allocation Analyzer, which allows you to determine over- or undervaluation of multiple asset classes. ●

Cosereanu is a portfolio and workflow specialist and Edler leads financial training for engineering globally at Bloomberg in New York.

Reading the Twists and Turns of Volatility for Warning Signs

By MARK JORDAN

FOR MANY TRADERS at the start of 2020, extreme volatility seemed like ancient history. During the decade after the global financial crisis, implied and realized volatility on the S&P 500 index had declined to record lows. Yet, as sometimes happens with markets, the prevailing view suddenly proved to be a dangerously complacent one.

Within the first eight weeks of the year, the Chicago Board Options Exchange Volatility Index broke through the psychologically important level of 20. Then, on March 16, the VIX closed at an all-time high of 82.69, foreshadowing the equity market's 34% plunge to its March 23 low (**FIG. 1**). For volatility traders, the strategy of selling options (and therefore volatility), which had made money for years, was left in tatters. The major French banks, for example, reported heavy losses on their options desks in the weeks that followed.

While the rebound was swift for the equity market, implied volatility remained stubbornly high during the rest of the year, peaking again in the weeks before the U.S. election.

For most of the 12 months leading up to the election, the volatility market viewed it as a single point of event risk. The VIX curve

had an isolated peak that aligned with the Nov. 3 election date, followed by a "sigh of relief," with implied volatility dropping post-election. (The VIX measures expected S&P 500 volatility during the next 30 days, so the October 2020 futures contract covered volatility for the period including the Nov. 3 date.) The isolated October kink in the curve was present into September.

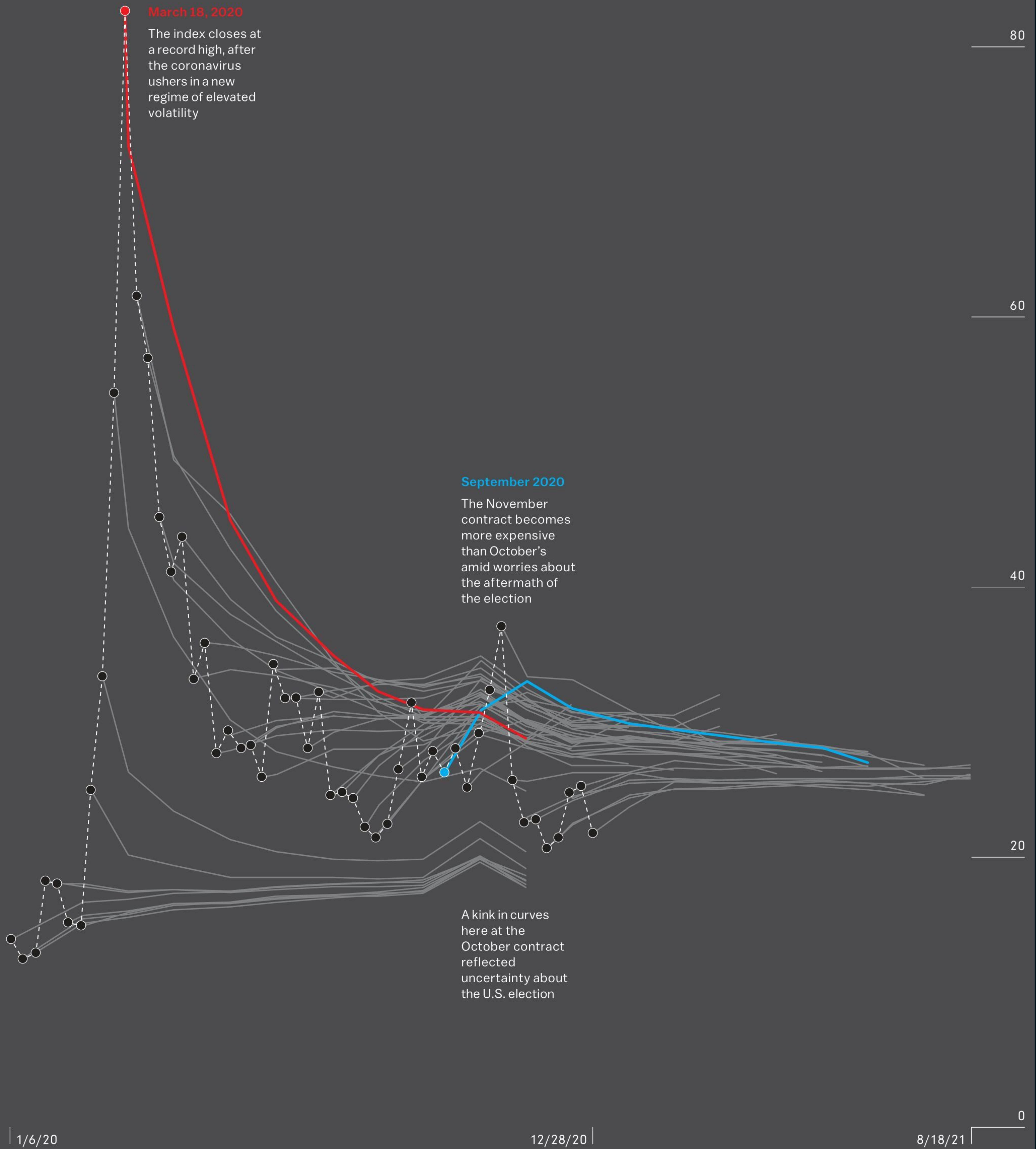
But then the volatility market changed again. On Sept. 16 the November VIX futures contract rose above October's for the first time. This change in shape showed that the volatility markets were now more concerned with events after the election than about the election itself. With uncertainty surrounding some states' ability to count the record number of mail-in votes in a timely manner, possible legal challenges touted by President Trump's team, and a bid by Republican Senator Marco Rubio of Florida to extend December's Electoral College safe harbor deadline into January, options traders began to see parallels with the uncertainty that followed the 2000 presidential election. Consequently, traders redistributed the risk premium across the next three months. ▶

Fig. 1

The Year in VIX Curves

Weekly snapshots of the Cboe Volatility Index during 2020

- Spot price
- ／ Futures contracts



Source: {VIX <Index> CCRV <GO>}

Even against the backdrop of a rapidly decompressing volatility market, traders still had some trepidation about 2021



When polling in October began to show that a Democratic “blue wave” was a distinct possibility, volatility markets changed again. The market began to price in the least amount of volatility premium across all maturities of the VIX curve since February. For observers who believed the market wanted Trump to be reelected, the change was surprising. Perhaps it was a sigh of relief for a decisive outcome, or the increased likelihood of a federal stimulus bill, or the possibility of lifting U.S.-imposed tariffs. Regardless, the volatility market was in a strange situation in which it would be more concerned if the blue wave failed to materialize.

Since Election Day, the progress in developing and approving vaccines against Covid-19 and the certainty of the presidential election result have reduced the implied volatility priced into the market. The actual movements in volatility have, however, been swift once again. For traders, this in itself is interesting: The “vol of vol” (or how volatile the movements in volatility have been) often offers intriguing insights that aren’t available elsewhere.

In this instance, it was interesting that even with the backdrop of Senate runoff elections and an unclear vaccination timetable, implied volatility dropped sharply. The VIX made its fastest-ever drop, from closing above 40 to closing under 25, taking just seven days. Moreover, after months of backwardation, when the spot price is higher than prices in the futures market, the VIX futures curve settled into traders’ preferred upward-sloping contango shape. These are all typically bullish signs from which traders can gain comfort.

YET EVEN IN LATE January, the VIX was still above its long-run average. The six-month VIX future—the July 2021 contract—was priced at 27. To put this in perspective, a reading of 27 was rarely seen from 2012 through 2019. So, while the volatility market was giving investors plenty of signs of encouragement, there were still warning signs.

Another caution sign is the volatility of the S&P 500 at the sector level. Type “volatility correlation” in the command line of a terminal screen and click on the VCA – Volatility Correlation Analysis match. The shortcut is **{VCA <GO>}**. For a look at S&P 500 sectors, use the drop-down in the upper left corner of the screen to select ETF. Click on the Impl Vol tab if it isn’t selected already. Looking at three-month implied volatility in late January and comparing it with readings over the past three years showed that most sectors were still at levels of volatility that ranked around the 70th percentile.

THIS SUGGESTS THAT even against the backdrop of a rapidly decompressing volatility market, traders still had some trepidation about 2021.

Something perhaps even more interesting is shown by clicking on the Implied/Realized Vol tab. Comparing one-month readings with those over the past three years shows that short-term risk premium in the first quarter remains elevated. For example, 70% of the ETFs shown on the tab are in the 75th percentile or higher. Indeed, three ETFs, including SPY, which tracks the S&P 500 index, and the consumer staples ETF, a defensive position, are above the 90th percentile. This can be interpreted as the volatility market sending signals that, in most sectors, traders are pricing in more risk premium relative to actual market moves than at almost any period over the past three years. When option premiums tend to get this expensive, traders have previously preferred to sell options, believing that they’re overvalued. Yet, after an unprecedented year, the signs suggest traders don’t want to be caught short again when it comes to volatility. ●

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

Flows Point to the Strength of Bond ETFs (And to the Fed)

By STEVEN GEE, ANNA YASS, and KRYSTA LIPINSKI

ONE KEY FEATURE of exchange-traded funds is that they give investors access to markets that might otherwise be difficult to tap.

A U.S. investor, for example, can buy South Korean stocks via the iShares MSCI South Korea ETF. For a description of the fund, which tracks the MSCI Korea 25-50 Net USD Index by holding such stocks as Samsung Electronics Co., run `{EWY US <Equity> DES <GO>}`. The ETF trades during the day in the U.S., while South Korean markets are closed. So, in addition to being convenient for the U.S. investor, the fund in effect provides price discovery and market context.

Having seen how equity ETFs provide that sort of information and generally trade at prices close to net asset values, investors embraced fixed-income ETFs as a way to gain exposure to the sometimes illiquid over-the-counter bond market. Introduced in 2002, the first crop of fixed-income ETFs included a corporate bond fund, the iShares iBoxx \$ Investment Grade Corporate Bond ETF, which can be accessed by running `{LQD US <Equity> DES <GO>}`.

In total, assets in U.S.-listed ETFs reached \$5.6 trillion in January, according to Bloomberg Intelligence. The majority of that—\$4.3 trillion, or 78%—is still in equity funds. Fixed income accounts for \$1 trillion, or 19%. Yet last year, fixed-income ETFs racked up almost as much in inflows as equity funds did: Flows totaled \$207 billion, while equity was \$232 billion. To track BI flows data, go to `{BI ETFS <GO>}` and click on Fund Flows under Data Library (**FIG. 1**). Altogether, ETF flows hit a record \$480 billion last year. BI forecasts they'll reach \$600 billion this year.

TO FIND DATA on ETFs, you can use the Exchange Traded Funds function. Type "ETF" in the command line of a Bloomberg terminal screen and click on the ETF – Exchange Traded Funds match. The shortcut is `{ETF <GO>}`.

You can drill down to a list of ETFs that match your criteria by typing keywords in the amber field at the top of the screen. For a list of U.S.-traded fixed-income ETFs, we've used these three criteria: Fund Type: ETF; Exchange: United States; and Asset Class: Fixed Income. For flows data, click on the Flow tab (**FIG. 2**).

Here, you can see that LQD had almost \$14 billion of inflows during the 12 months through Jan. 20. That brought its total assets to \$53 billion, making it the third-largest fixed-income ETF. The fund's total return for the period was 8.7%.

For a chart that tracks net asset value and daily fund flows, run `{LQD US <Equity> NAV <GO>}`. LQD had inflows on 61% of trading days from Jan. 21, 2020, to Jan. 20, 2021. You can see on the chart that there's a cluster of inflows as the pandemic roiled markets in March 2020 (**FIG. 3**).

Among the drivers here: the Federal Reserve. During the market turmoil in March, fixed-income ETFs traded at a discount to their net asset values, showing the underlying lack of liquidity in the market. To help calm bond markets, the Fed stepped in and bought fixed-income ETFs, among other actions.

To view the holders of LQD, run `{LQD US <Equity> HDS <GO>}`. As of Jan. 20, the Federal Reserve Bank of New York was the fund's third-largest holder. Also among top holders were banks that trade U.S. corporate bonds, such as Bank of America Corp., reflecting dealers' use of the ETF for liquidity.

To explore the Fed's holdings, click on Federal Reserve Bank of New York and then on HLDR Holder Ownership in the window that appears. The shortcut is `{8765Z US <Equity> HLDR <GO>}`. For a list of the ETFs held by the Fed, use the Show Asset Type drop-down to select Equity. As of Jan. 20, the Fed owned 17.8 million shares of LQD, with a market value of \$2.41 billion. That made the fund the largest ETF position in the Fed's portfolio. The Fed's purchase of LQD and other fixed-income ETFs spurred some investors to buy ETFs in an effort to front-run the central bank.

Volatile markets may continue to boost investor appetite for bonds. That may in turn drive further demand for fixed-income ETFs and keep share prices bouncing higher. In times of market distress, when there's little liquidity in the cash bond market, ETFs can allow you to enter or exit bond positions. ● — *With Athanasios Psarofagis*

Gee is a credit market specialist and Yass and Lipinski are fixed-income advanced specialists at Bloomberg in New York.

Fig. 1 For ETF flows data from Bloomberg Intelligence, go to **{BI ETFS <GO>}**.

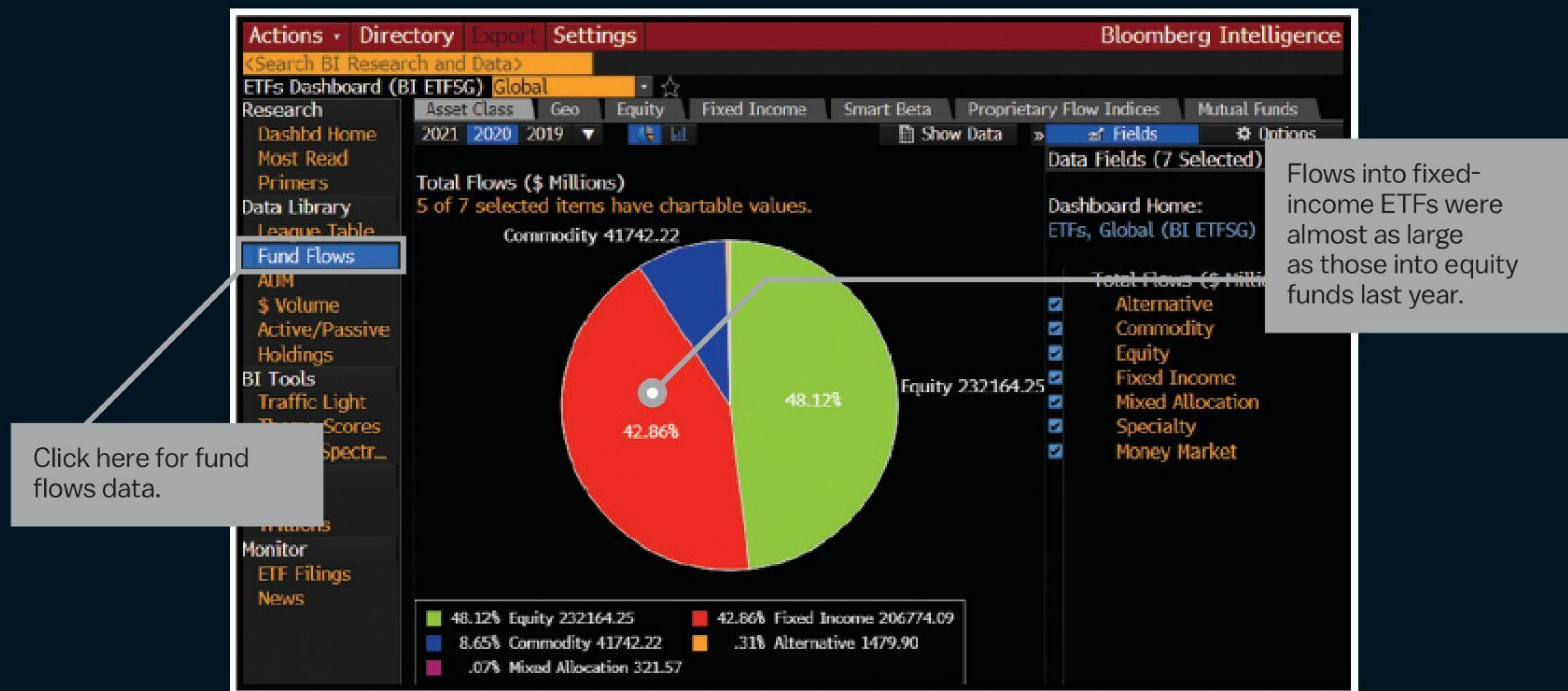


Fig. 2 To find ETFs that match your criteria, go to **{ETF <GO>}**.



Fig. 3 To chart LQD's net asset value and flows, run **{LQD US <Equity> NAV <GO>}**.



Use Bloomberg Query Language to Tease Out Trends in ESG Funds

By VINCENT TONG and ANNA SHKURATOVA

FOR MANY INVESTORS, integrating responsible investing and environmental, social, and governance factors into their strategies has become a new challenge in recent years. ESG is increasingly a required consideration in asset allocation decisions.

One beneficiary: ESG exchange-traded funds. For insight into the market, you can use Bloomberg Query Language (BQL) and Bloomberg's cloud analytics to crunch thousands of data points and tease out trends. In addition to better understanding the current landscape of ESG ETFs, you can use BQL to identify top performers and dive into what's driving their results.

TO BEGIN, type "DOCS 2095001" in the command line of a terminal screen, hit <GO>, and click on the Download Document button to open a ready-made spreadsheet with some examples of this type of analysis. Click on the ESG Equity ETFs tab if it's not already selected. Here we describe setting up a search in the Fund Screening (FSRC) function that identifies equity ETFs with an ESG focus. We've loaded tickers and names of funds from the search. You can replicate the search in FSRC and modify it to focus on the funds that interest you, then export your results to Excel and copy and paste them in here.

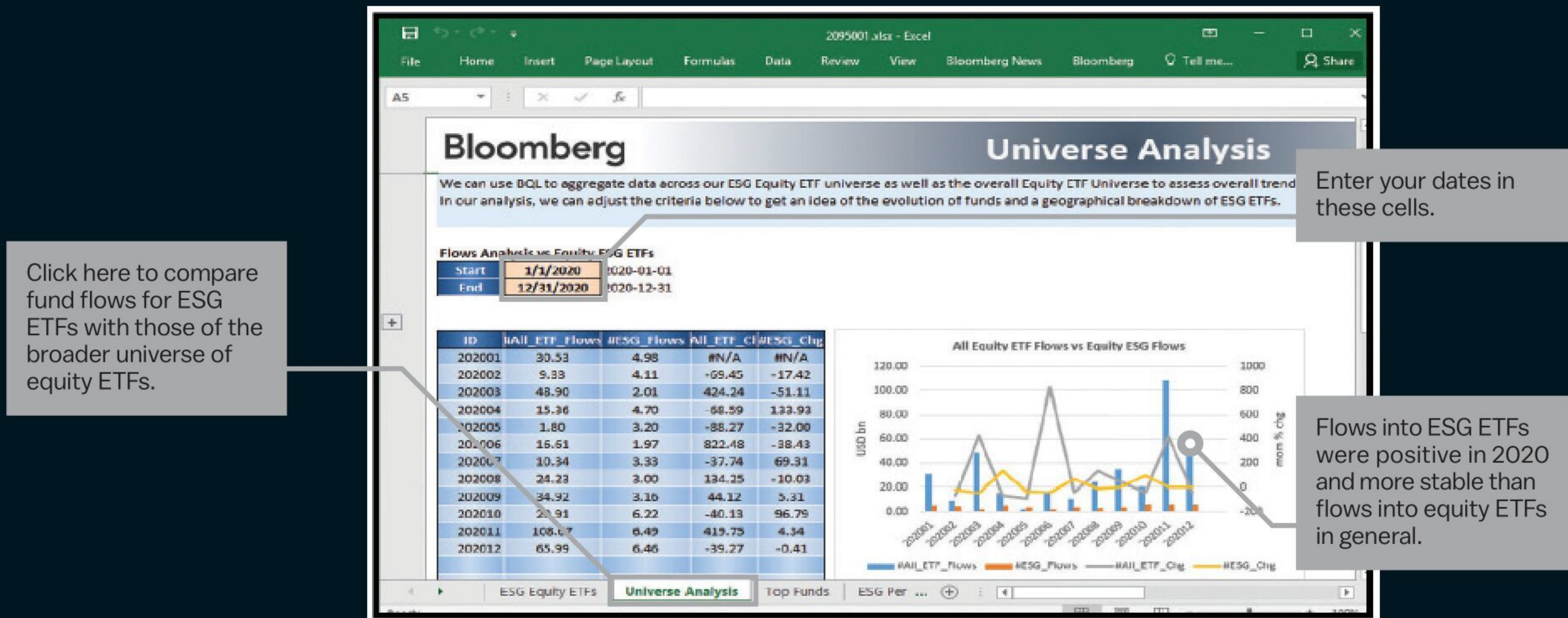
Next, let's compare the group of ESG equity ETFs with all equity ETFs over the past year. Click on the Universe Analysis tab

(**FIG. 1**). To adjust the time frame of your analysis, use the Start and End cells to specify dates. Amid 2020's market volatility, flows into ESG ETFs were positive—investors put more money in each month—and stable. Flows into the broader universe of equity ETFs were also positive but swung more dramatically, as you can see from the chart that plots the month-over-month change for both ESG ETFs and the broader category.

Use the scroll bar at the bottom of the sheet to move to the ESG ETF Domicile Breakdown by Fund Flows section. In our universe of ESG ETFs, 45% were domiciled in Europe, with 74% of those based in Ireland. The chart shows that in the period from January through December 2020, Europe accounted for 45% of fund flows, while the Americas saw 50%.

To screen the universe of ESG equity ETFs, click on the Top Funds tab. Here you can identify the five funds with the highest net fund flows in 2020 and also look at their performance, cost, and assets (**FIG. 2**). The iShares ESG Aware MSCI USA ETF had the highest net flows in 2020, \$9.58 billion. The fund's return was 21%, not accounting for fees, and its expense ratio was 0.15%. You can use the drop-downs in the cells to the right of Measure, Start, and End to adjust ranking criteria as well as the time frame of the analysis.

Fig. 1 For a ready-made spreadsheet with examples of BQL formulas for analyzing ESG ETFs, run `{DOCS 2095001 <GO>}` and click on the Download Document button.



LET'S TAKE A CLOSER look at how these top ESG ETFs perform across ESG indicators. ESG ETFs typically follow sustainability criteria in constructing their portfolios: They may, for example, use positive screens to include stocks of companies contributing to energy efficiency or negative screens that exclude fossil fuel stocks. The ability to look into the funds' holdings lets you evaluate whether these funds are truly aligned with responsible investing and portfolio mandates.

Scroll to the right to the Sector Exposures section. The table shows each fund's sector weights. The Vanguard ESG US Stock ETF had a 35.5% technology weighting, while the iShares ESG Aware fund had a 30.7% tech tilt. Aggregating all five of the top ETFs shows that indeed technology was their largest exposure, at 26.5%. That was followed by consumer noncyclical at 17.9% and consumer cyclical at 15.8%. Among the lowest weights were natural gas, at 0.3%, and electric, at 1.3%.

TO DIG INTO how companies owned by top five ESG ETFs perform across multiple ESG criteria, click on the ESG Performance tab. In the cells under Fund and Benchmark, input the tickers of the funds and indexes you want to analyze. You can use BQL to assess the levels of disclosure of the funds' holdings as well as ESG

performance over time compared with their benchmarks.

The Weighted ESG Disclosure % section calculates the aggregate level of disclosure by companies held by the ETFs as well as by the constituents of the indexes. What sorts of disclosure? The table below lists the metrics used in this example. We selected a series of topics for each pillar of ESG. For environmental we picked six topics, such as climate change and waste reduction. Then, for each topic, we selected two data fields, one of which indicated whether a company has a relevant policy in place and the second related to a key metric. BQL enables you to perform this ESG disclosure assessment with a single query by identifying the data, multiplying by its weight in the fund, and aggregating across holdings to generate an instant overview of the fund. You can adjust the inputs for factor inclusion, using the more than 1,000 ESG fields available in Bloomberg as well as your own proprietary research, which you can integrate into analysis on the terminal.

Comparing aggregated E, S, and G weighted disclosures across the funds, the levels of disclosure are a bit higher than those of broader indexes. The disclosure distribution across each pillar is close to equal, which suggests that whenever companies in these ETFs disclose ESG data, it covers all three pillars. Still, ►

Fig. 2 Click on the Top Funds tab to analyze the five funds with the largest flows over a selected period.

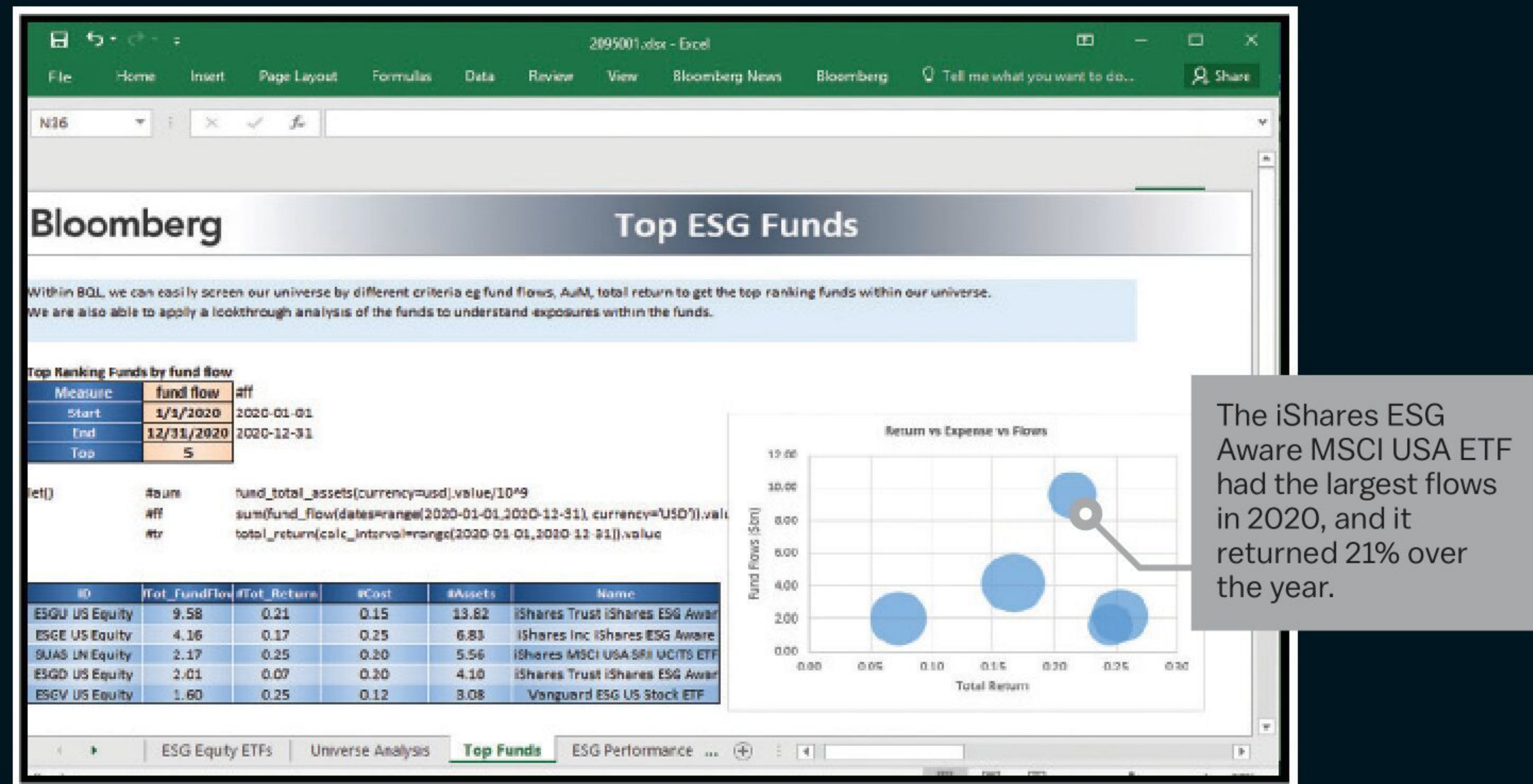
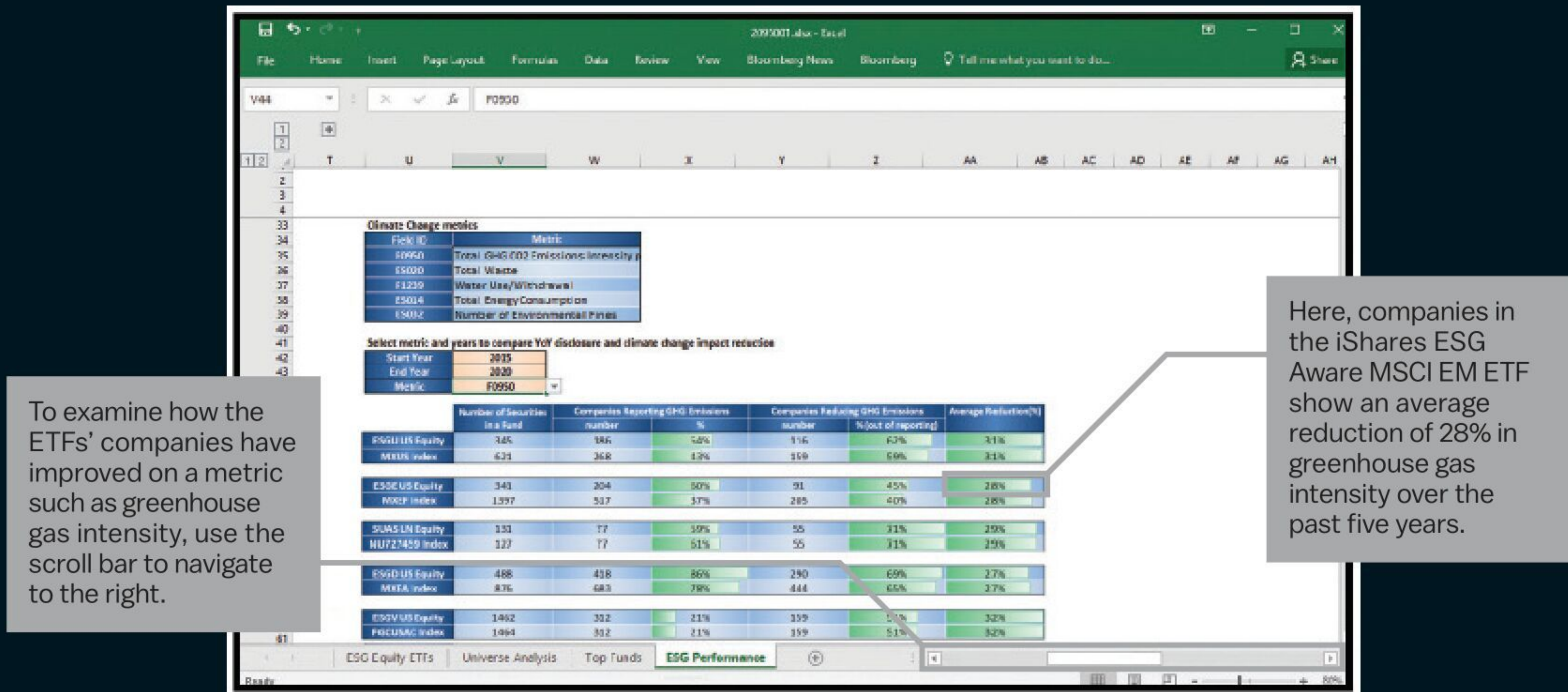


Fig. 3 Click on the ESG Performance tab for a look through the ETFs at the ESG disclosure and performance of the companies the funds hold.



none of the funds showed disclosure levels above 80% in 2019 data, indicating room for reporting improvement.

Companies that report their ESG data tend to improve their ESG performance over time by mitigating negative readings. Measuring the momentum across ESG key performance indicators can provide you with better visibility into companies' performance and help identify associated risks and opportunities.

Let's look at an example of greenhouse gas emissions reporting. Use the scroll bar at the bottom of the sheet to move to the Climate Change Metrics section (FIG. 3). First, for each fund we can query the number of companies that disclose this data. Then we can identify how many companies actually reported a decrease in their carbon intensity over a five-year period through 2019 (the latest year of reported GHG data). Finally, we can look at the

average GHG emissions reduction aggregated across each fund. The table below shows that the iShares ESG Aware EAFE ETF had the strongest GHG disclosure, at 85%. At the same time, the fund also had the highest proportion of reporting companies decreasing their carbon intensity, 69%. For the companies in the top five ESG funds that reduced their carbon intensity, the average decrease was 29%.

Together with the recent release of Bloomberg ESG scores and integration of MSCI ESG data, leveraging BQL provides transparency and enhances your ability to identify and manage sustainability-related risks and opportunities. ●

Tong and Shkuratova are members of the desktop build group at Bloomberg in London.

Volatile Markets Reveal Interesting Credit Opportunities in Energy

By STEVEN GEE, BRIDGETT GOEBEL, and MONIKA ZNOSKO

OIL ROSE ALMOST 50% from the end of October 2020 through mid-January. During this period of stronger prices—which were buoyed by Saudi Arabia’s announcement of cuts in near-term production—energy companies rallied in both the equity and credit markets. Finding interesting opportunities in energy credits while the spreads on sector names remain wider than usual may be a focus for investors in 2021.

To see the trends that played out in markets over the past six months, you can use the Line Chart (GP) function to graph the prices of oil (CL1 <Cmnty>) and the S&P 500 Energy Index (S5ENRS <Index>), and the option-adjusted spread to Treasuries of the Bloomberg Barclays Investment Grade: Energy Statistics Index (I00388 <Index>), which is a subindex for energy issuers (**FIG. 1**). Since the end of October, as oil prices rose, equity prices followed and credit spreads narrowed dramatically.

TO ANALYZE CREDIT SPREADS of members of the bond index, run **{FIW <GO>}** for the Fixed Income Worksheet, the most robust credit relative-value workflow on the terminal. For users in North America, FIW by default loads the Bloomberg Barclays US Statistical Index (LBUSSTAT <Index>). To load the energy subindex, click into the amber field in the upper left corner of the screen and select Browse.... In the window that appears, click on Indices, type “I00388” in the Ticker field, and press <GO>. Then click on the index to select it.

(A couple of pro tips: Whether you load the energy subindex or leave the entire LBUSSTAT index loaded and use the Facets panel to drill down to the energy sector by selecting it under BClass Level 3, you’ll see the same bonds—554 instruments as of mid-January. FIW also lets you analyze lists of bonds from sources such as SRCH, AIM, TOMS, and PORT portfolios. This article is the 11th in a continuing series on FIW. For links to the others, run **{NSN QMZHUIT1UMOW <GO>}**.)

For the heavy lifting of relative-value analysis in FIW, click on the Bond List tab and then on the Relative Value subtab (**FIG. 2**). The Range column gives you a sense of how constituent bonds have performed over a period of time, letting you see whether they’re richer or cheaper. To compare the current G-spread (the spread to the matched point on the government curve) with its

range over the past three months, use the drop-down to the right of Corr to select G-Spread and choose 3 Months. If the blue dot (which represents the current value) is to the left of the orange diamond (which denotes the three-month average), it suggests these bonds have become tighter, or richer, over the period. You can also use the filtering field to narrow the list of securities. Enter “<-2.0” in the amber field below #SDs, for example, to find bonds that have tightened by more than two standard deviations.

To see which issuers’ bonds have tightened the most over the past three months, click on the Bond Chart tab. The #SDs filter you’d entered on the Bond List tab carries over to the chart. To remove it, click on the X in the blue #SDs <-2.0 filtering pill. Next, use the Group By drop-down to select Issuer. Use the Axes: Y drop-down to select More.... In the Customize Spread window, select G-Spread, Change, and over the past 3 months. Hit Close.

In the chart, we’ve highlighted two bonds (**FIG. 3**). Toward the top of the chart is PSX 4.65 11/15/34, a bond issued by Phillips 66 Co., which has tightened only slightly. Toward the bottom is MRO 6.6 11/01/37, a Marathon Oil Corp. bond, which has tightened by about 225 basis points during the past three months. To select two bonds such as these, click on one, then hold down the Shift and Control keys and right-click on another bond so the two bonds are encircled in white.

For a menu of functions that enable you to perform further analysis, right-click on the PSX 4.65 bond. Hover over the security’s ticker at the top of the menu that appears, and then select Plot Yield Performance vs Index. That will load the bond and its benchmark in the Relative Value (RV) function (**FIG. 4**). You can change the default index by clicking in the amber field and typing the specific benchmark you want for your comparative return analysis. RV can show you the change in spreads over the past three months. In the Spread Summary section on the right side, you can evaluate how the most recent spread compares with the mean and the highs and lows over the period. As of mid-January the spread over the energy subindex was close to the three-month mean, and it remained wider than the tight spreads in November.

By comparison, the MRO 6.6 10/01/37s were at the tightest level in three months, pricing that was more reflective of the ►

Fig. 1 A GP chart lets you visualize the recent performance of oil prices, equities, and spreads of oil sector bonds.



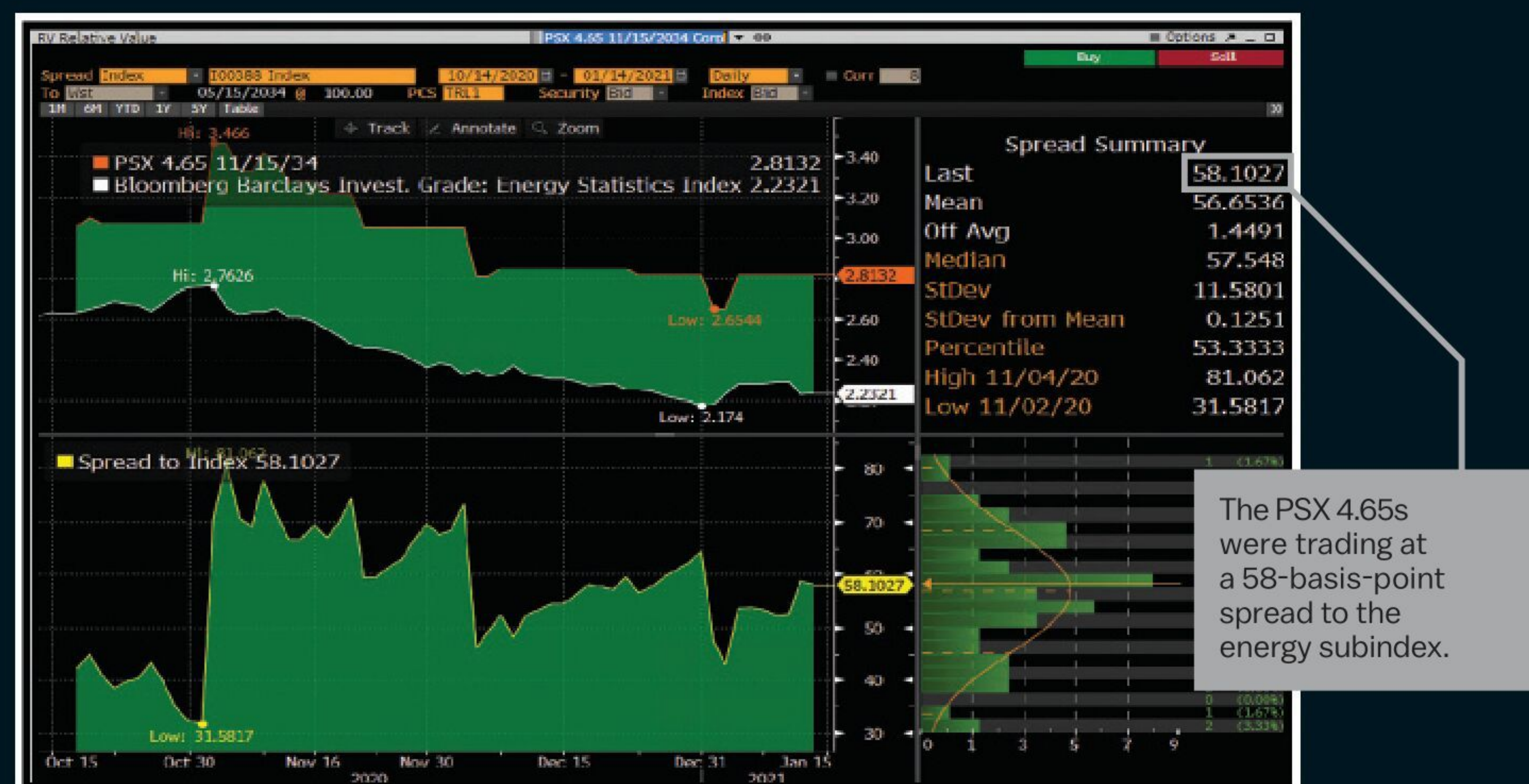
Fig. 2 To analyze bonds in the energy subindex, run {FIW <GO>} for the Fixed Income Worksheet function, load the benchmark, and click on the Bond List tab and the Relative Value subtab.



Fig. 3 In FIW, click on the Bond Chart to plot the individual bonds.

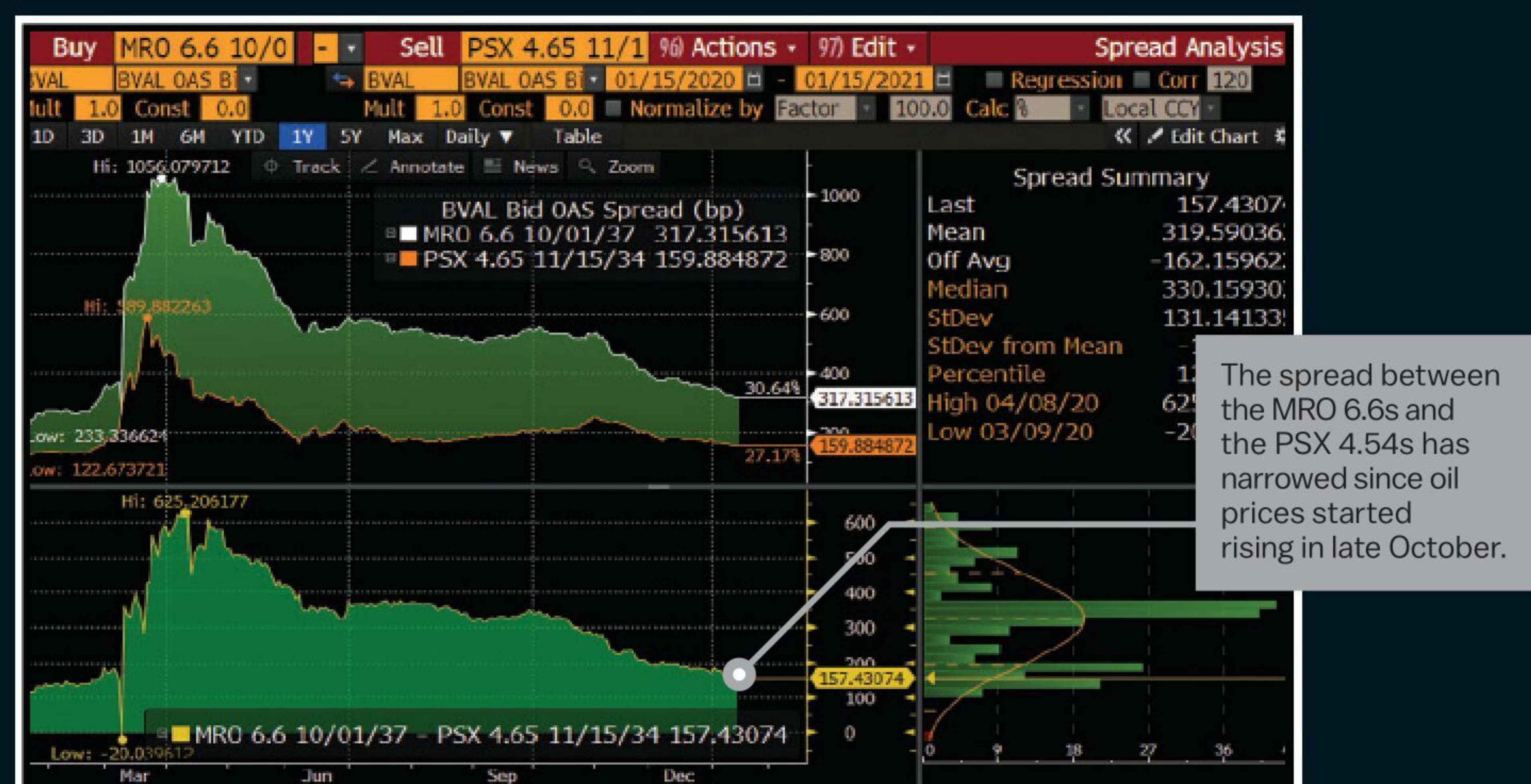


Fig. 4 From the FIW chart, you can load a bond and its benchmark into the Relative Value function.



The PSX 4.65s were trading at a 58-basis-point spread to the energy subindex.

Fig. 5 You can also load two bonds to directly compare their spreads.



The spread between the MRO 6.6s and the PSX 4.54s has narrowed since oil prices started rising in late October.

bullish energy-sector credit-spread movements. The 218-basis-point spread to the energy subindex yield as of mid-January was 147 basis points lower than the October high of 365 and represented a 1.5-standard-deviation move from the 287 three-month mean.

What does all this mean? Assuming a normal distribution, the MRO 37s' spread to the index yield was trading 69 basis points tighter than the mean spread. With a standard deviation of 47 basis points for the period, that represented a 1.5 standard deviation. In a normal distribution, two-thirds of the time, the bond's expected spread to the index would fall between 240 and 334 basis points. Given this tightening credit-spread bias and the rally in oil prices and energy index stocks, the increased volatility may provide some market support to bonds that widened dramatically over the past year because of weaker economic expectations.

With two bonds highlighted, you can also compare them directly. Right-click on either the PSX 4.65 or MRO 6.6 bonds and select the Two Bond Historical Analysis. You'll see options to perform Spread Summary (SS), Historical Spreads (HS), or Historical Regression Analysis (HRA). Using HS, you can compare variables such as BVAL Bid OAS Spread to gauge the volatility in credit risk premiums over the past year (**FIG. 5**).

In the Spread Summary section, you can see the distribution of spreads. Recent observations have settled into a range of 160 to 170 basis points, after being as high as 625 basis points in April. ●

Gee is a credit market specialist and Znosko is a fixed-income advanced specialist at Bloomberg in New York. Goebel is a fixed-income specialist in San Francisco.

Get the Insider Scoop at Newly Public Health-Care Companies

By DENISE COCHRAN and SHEETAL HALLUR

LAST YEAR WAS a good year for at least one thing: initial public offerings in the U.S. With the frenzy of listings of special purpose acquisition companies, or SPACs, IPOs raised a total of \$154 billion in 2020. That total was by far the largest of the past 10 years, and more than double the total from 2019, according to data compiled by Bloomberg.

Here's a way to poke around among all those newly listed companies. Type "equity screening" on the command line of a terminal screen and click on the "EQS – Equity Screening" match. The shortcut is **{EQS <GO>}**.

First, let's limit the search to U.S.-domiciled companies. Type "United States" in the Add Criteria field, and click on the "United States – Country of Domicile" match. Next, let's look at companies that listed last year. Enter "initial public offer" and click on the "Initial Public Offer Date" match. In the drop-down that appears, select <> Between. Then enter 01/01/2020 and 12/31/2020 in the fields that appear and press <GO> (**FIG. 1**). The search identified 274 U.S.-domiciled companies that sold shares last year. That was a 60% jump from 2019, when 166 such companies went public.

To use this search in other functions, save it. Click on the Actions button on the red toolbar and select Save As Enter a name such as "2020 IPOs," and hit Update.

INSIDER BUYING OR selling can indicate how directors and executives feel about the prospects for a company. To screen your list of stocks for those with the most insider transactions, you can use the Insider & Shareholder Activity function. Type "insider" in the command line and click on the "INSD – Insider & Shareholder Activity" match. The shortcut is **{INSD <GO>}**.

Use the Source drop-down to select Equity Screen. Then use the Name drop-down to select 2020 IPOs. With the Sector

drop-down set to All Sectors and the View set to Buys, we can see that 133 of the companies on our list show buying by insiders.

Use the Sector drop-down to select Health Care, and you will find that 74 of those companies—56%—were in the health-care sector. Click on the Shares column heading to sort from largest to smallest (**FIG. 2**).

The company with the largest number of shares purchased by insiders was Cerevel Therapeutics Holdings Inc., a biopharma company in Cambridge, Mass., that develops therapies for neurological diseases such as schizophrenia and Parkinson's. Insiders bought more than 15 million shares, valued in mid-January at \$150 million.

FOR MORE GRANULAR DETAIL, you can load Cerevel in the Insider Transactions (GPTR) function. Run **{CERE US <Equity> GPTR <GO>}**. Use the Transaction Type drop-down to select All Transactions if it isn't selected already (**FIG. 3**). Here you can see that the largest insider transaction happened on Oct. 27, when related institutions bought 64 million shares. The story emerges: Cerevel was formed in 2018 through a partnership between drug giant Pfizer Inc. and Bain Capital. Last Oct. 27 it was listed in a transaction in which it merged with Arya Sciences Acquisition Corp. II, a SPAC that was sponsored by Perceptive Advisors, a life sciences-focused investment company.

Next, use the Transaction Type drop-down to select All Open Market Buy/Sell. Here you can see that Joseph Edelman, the founder of Perceptive Advisors, bought a total of more than 150,000 shares of Arya in October. Insider buying and selling can potentially provide insight into the prospects of young companies. ●

Cochran and Hallur are on the ownership data team at Bloomberg in Princeton.

Fig. 1 To build a search for U.S.-domiciled companies that went public last year, go to {EQS <GO>}.



Fig. 2 To explore insider buying and selling in the companies in your list, run {INSD <GO>}.



Fig. 3 To dig deeper into insider transactions at Cerevel, run {CERE US <Equity> GPTR <GO>}.



WHAT IS AVAXHOME?

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Cheap constant access to piping hot media

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18 years of seamless operation and our users' satisfaction

All languages

Brand new content

One site



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We have everything for all of your needs. Just open <https://avxlive.icu>

How Are You Doing? AID Provides the Answers

By KENNETH KOHN

“HOW’M I DOING?” That’s a question asset managers, sales professionals, and all of us, for that matter, ask daily.

Now there’s a simple way to answer this question. Bloomberg has a one-click application that generates a brief report that’s easy to read, annotate, and share: Automated Intelligence on Demand, or **{AID <GO>}**. Just load a ticker on a terminal screen and click on the yellow AID icon in the quoteline—or run **{AID <GO>}**—and in seconds you’ll get a report. AID works by querying hundreds of Bloomberg datasets, sifting through the results, and highlighting the data you need to know now. It works for stocks, corporate bonds, currency pairs, exchange-traded funds, indexes, mutual funds, and tickerized PORT portfolios.

HERE’S AN EXAMPLE. If you follow AmerisourceBergen Corp., Jan. 6, 2021, was a big day. How big? To find out that day, you could have typed “Amerisource” on the command line, clicked the “ABC US Equity – AmerisourceBergen Corp. (U.S.)” match, and run **{AID <GO>}**, or used the shortcut **{ABC US <Equity> AID <GO>}** (**FIG. 1**). The instant report shows how big the move was—shares rose 8.6%. And it provides context and perspective—the gain was the biggest daily rise in nine months—in real time. Blue clickable headlines tell the story: The drug distribution giant, based in Chesterbrook, Pa., announced it was buying Walgreens Boots Alliance Inc.’s pharmaceutical wholesale businesses in Europe. And the report gives in-depth market detail on volume, volatility, and relative performance.

Bloomberg is continually enhancing AID with new features. The application now sets the table for earnings announcements with a preview. To see a report showing consensus estimates and ranges for earnings and other key metrics, run **{AID <GO>}** in the days before a company reports. And after the company posts results, AID follows up with a review.

AID now also covers corporate bonds whose trade data are disseminated by Trace, the U.S. Financial Industry Regulatory Authority’s Trade Reporting and Compliance Engine. Say you were looking at **{DOW 4.8 05/15/49 <Corp> DES <GO>}**, a Dow Chemical Co. bond paying a 4.8% coupon. Simply click on the yellow AID icon and you can get a report on how the bond has traded today (**FIG. 2**). The report tells you the size and spread of the last trade, how much has traded in total, and the range of spreads at which buyers and sellers have transacted.

AID also let you annotate and customize reports. If you needed to provide an end-of-day report on your portfolio or the Nasdaq Composite Index, for instance, run **{CCMP <Index> AID <GO>}**. Once the report appears, you can annotate it. Click the Save as Note button on the red toolbar. Then use the toolbar ribbon commands to cut and paste graphics or drag news headlines into the report (**FIG. 3**). When finished, you can share the note.

How are you doing? AID has the answer. ●

Kohn is a product manager for news at Bloomberg in New York.

Fig. 1 For a brief report on a selected stock, corporate bond, currency pair, ETF, index, mutual fund, or tickerized PORT portfolio, go to **{AID <GO>}**.



Click this icon in the quoteline to run an AID report.

AID provides key information and gives useful context.

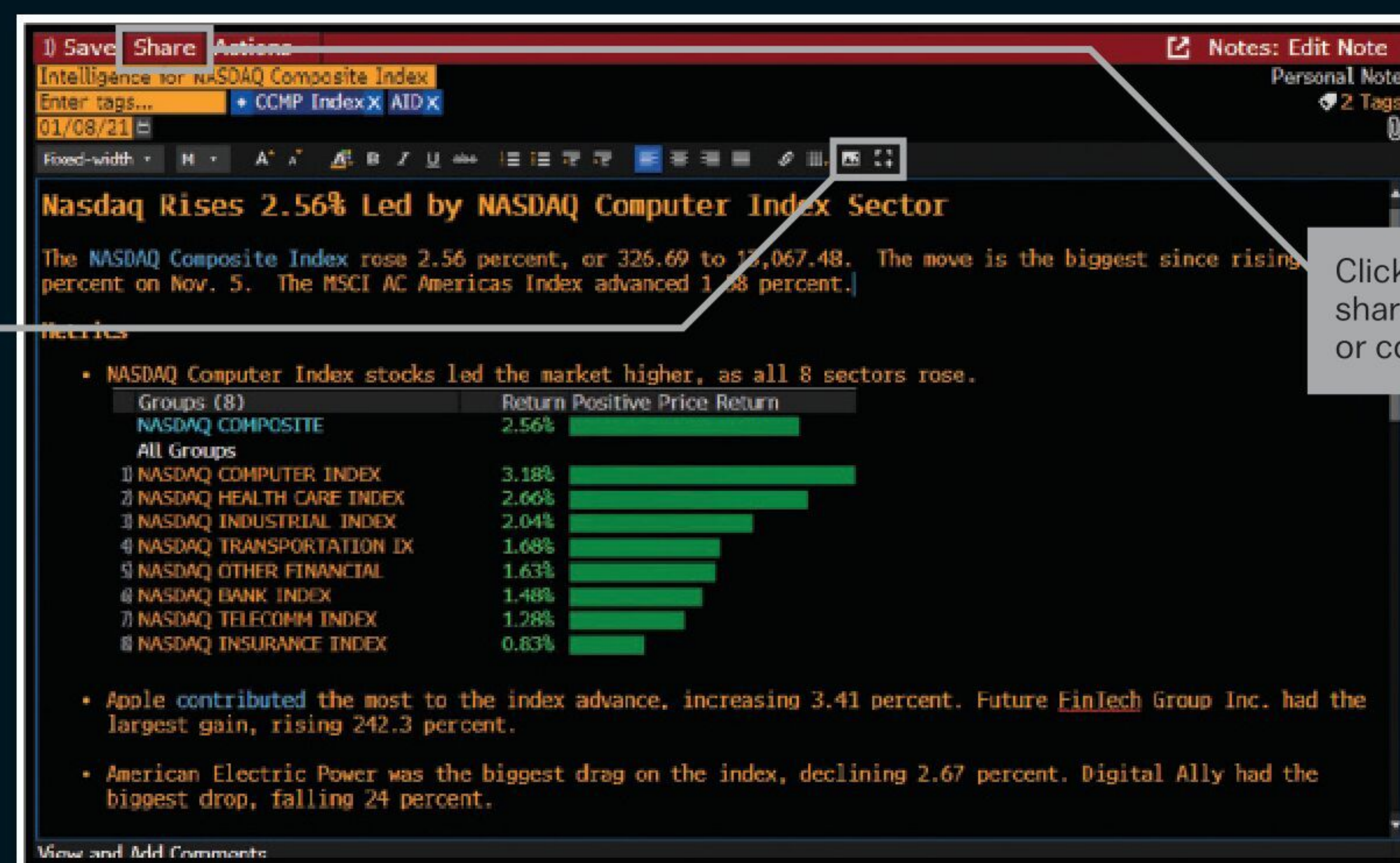
Fig. 2 Run **{AID <GO>}** on a selected corporate bond for a trading report based on Trace data.



Get perspective on how the day's trading compares with the bond's average.

Blue links let you dig deeper into the underlying data.

Fig. 3 To customize and share a report, click the Save as Note button on the red toolbar.



Use the toolbar commands to add charts or paste in headlines.

Click here to share with clients or colleagues.

Colonies of Retail-Investor 'Ants' March On Korea's Stock Market

By HEEJIN KIM

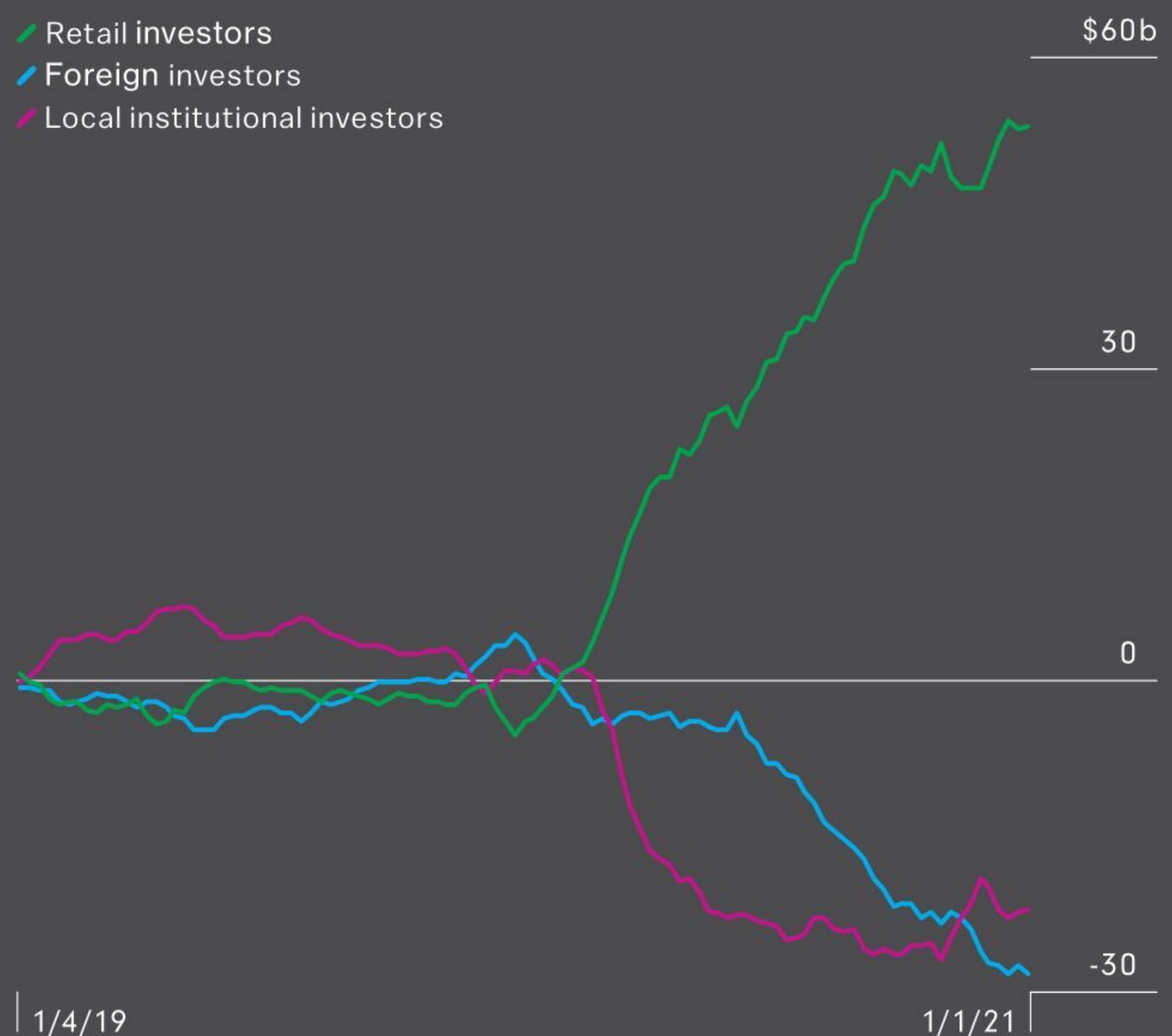
IN LATE JULY, 70-year-old Kim Kyung-rok began frantically sifting through his long-dormant stock brokerage account. The South Korean retiree, who in 2000 left a 16-year career as an import-export clothing trader, had been watching the country's stock market surge from its March lows on a wave of easy money. "I was bored, and many people around me were making profits from stock trading," says Kim, a wheelchair user and the grandfather of a toddler. "I was hoping to make some quick cash for my family and that I could use to travel or dine at nice restaurants."

It was a text message promising "20% returns guaranteed" if Kim joined an online stock-tipping club that lured him back into the stock market. He took the plunge at the end of July, forking out the equivalent of \$5,000 to join the club and placing a call to his broker for the first time in seven years. By late September, Kim had invested \$30,000 of his savings into the market, based on the club's tips. His portfolio was down 10%; the South Korean stock market was up by the same amount. "That stock-tipping club really fooled me by their impressive sales pitch and guarantee of profits," he says.

Kim, who lives with his wife and one son in Yongin, a city south of Seoul, exemplifies the rush to stock trading by a new kind of retail investor in South Korea in 2020. Known as "ants" because they invest in colonies but have little influence on the big conglomerates that dominate the economy, small investors like Kim have entered the market as policymakers responded to the coronavirus pandemic with a flood of easy money. Central banks around the world, including

Bored and Buying

Cumulative net buying in South Korea's stock market since Jan. 1, 2019, weekly



Source: Koscom

the Bank of Korea, followed moves by the U.S. Federal Reserve in March to cut interest rates and buy bonds to stabilize markets.

The ants piled into tech stocks including Samsung Electronics Co. as well as biotech stars such as Celltrion Inc. that they thought might benefit from the Covid-spurred demand for drugs. They bought exotic derivatives. They smashed records for demand as they rushed into hot initial public offerings like that of Big Hit Entertainment Co., the agency that manages the K-pop boy band BTS.

By September, South Korea's mom and pop investors made up 65% of South Korea's stock market, up from 48% in 2019. Thanks in part to their enthusiasm, South Korea's stock market was the biggest gainer last year, after Nigeria's. South Korea's rookie investors haven't just invested in domestic shares. They jumped into derivatives such as over-the-counter retail forex products and, along with the rest of the world, Tesla Inc.

The investment rush was a boon to established securities companies. The four major brokerages by earnings—Mirae Asset Daewoo, Korea Investment & Securities, Samsung Securities, and Kiwoom Securities—recorded a 139% surge in their 2020 commissions over the previous year, according to estimates by Junsup Jung, an analyst at NH Investment & Securities. Retail brokerage activities became the second-biggest source of net revenue after interest costs at the four firms in 2020, accounting for 36%, up from 16% in 2019, he estimates.

Of the four, Kiwoom, set up in 2000, is the most retail-friendly. The online-only broker is known for its easy-to-use app and super-low commissions (0.015% as of the end of December). It had a record third quarter, ending up with 7.49 million stock accounts, of which as many as 3 million were accounts opened in 2020.

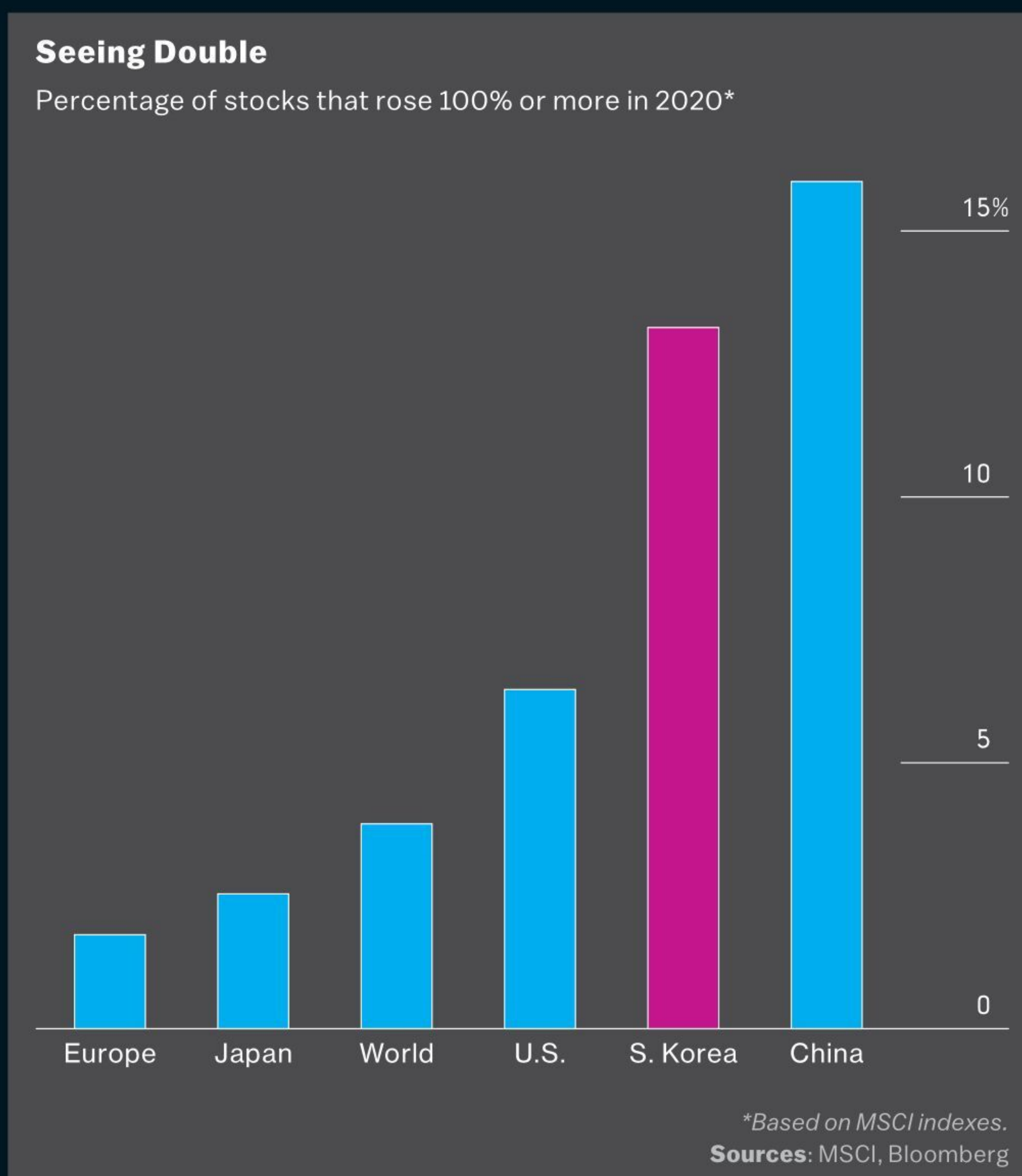
New players have also joined the fray. Kakao Corp. started a fund management unit called Kakaopay Securities in 2020 for users of its popular Kakao Talk messaging app and is planning to add brokerage services to that unit this year. Toss, a payments app, is planning to introduce a brokerage function in 2021.

The ants also amped the market's volatility. About 11% of South Korean shares, or 240 stocks, surged 100% or more in 2020, making the country's stock market almost as volatile as the Nasdaq Composite Index, where 12.9% of shares recorded such wild surges. The China market, where retail investors account for 80% of trading volume, was calmer than South Korea's: Only 8.9% of Chinese stocks more than doubled in value last year.

The source of volatility in South Korea is inexperienced traders, especially younger investors who are highly leveraged and hoping for easy winnings to get them into South Korea's housing market, where prices doubled in three years. Margin trades by the under-30s climbed 162% from the end of 2019 to Sept. 15, roughly double those of other age groups, according to data from South Korea's Financial Supervisory Service. By Dec. 29, a record 19 trillion won (\$17.6 billion) was held as margin loans by South Korean retail investors, according to the Korea Financial Investment Association.

This year retail investors will have a new strategy they can play with: South Korea is set to remove a ban on short selling that had been imposed in the early days of the pandemic.

FOR SOME SOUTH KOREANS, the online stock clubs that have grown in popularity since Covid-19 struck are a harmless source of moral support. An Chan-sook, 36, a chief executive officer in a Seoul startup selling aromatherapy classes, had been investing in ►



“About 11% of South Korean shares, or 240 stocks, surged 100% or more in 2020, making the country’s stock market almost as volatile as the Nasdaq Composite Index”



stocks for years. Last year she joined a free chatroom on her Kakao messenger app. “I could maintain my buy-and-hold strategy when stocks slumped 60% or 70%,” she says. “They support my investments, telling me I’ve invested in a good company.”

Stock-tipping clubs of the sort Kim, the retired clothing trader, joined operate in a legal gray area: Financial advisers giving one-to-one advice are illegal, but those doling out group advice aren’t as long as they are registered with the government first.

Brian Kwon, 39, who runs a chain of hotels in Seoul, came close to joining an online community that guaranteed him a return, but he decided against it after meeting with seven of its members, including one man who, he says, “showed me an old dubious business card showing he used to be a fund manager.” He dived into the market on his own, buying shares in, among other companies, Sambu Engineering & Construction Co., which rose 538% from June 1 to the end of the year.

As for the unfortunate Kim, he got out of his club but at a cost. (We’re not naming the club he joined because it hasn’t been charged with wrongdoing by regulators or law enforcement authorities.) Watching his portfolio continue to sink after investing in tipped stocks such as Iljin Materials Co., a supplier for electric-vehicle batteries that fell 11% between August and September, he rang the text-messaging club. After much haggling, the club returned \$1,100 to him; it pocketed the remaining \$3,900 of his membership fee as an early-exit penalty. “They should be regulated so they don’t take advantage of vulnerable investors,” Kim says.

He’s not alone in feeling that way. “We have received 2,000 complaints from retail investors in 2020 about these advisers, double last year,” says Kang Hyeang Ku, an official at the Korea Finance Consumer Federation, an investor advocacy body based in Seoul. “Such fraudulent organizations keep sprouting up as stocks rally.”

Kang says some of the clubs employ dubious strategies to make their tips come true. He points to a pyramid-like scheme that pumps up stock to the benefit of members who pay higher club

fees but at the expense of members who pay less. In a thinly traded biotech stock, such a system can move shares rapidly.

Choi Yong-ho, a director at South Korea’s Financial Services Commission, says the agency has approached the police to investigate pump-and-dump schemes operated by online chat groups. (Contacted by *Bloomberg Markets*, six major brokerages—Mirae, Korea Investment, Samsung Securities, Kiwoom, KB Securities, and Shinhan Investment Corp.—declined to comment on stock-tipping clubs.)

Hyeonseok Yoon, a lawyer at HJH Partners, has filed a class-action suit on behalf of 10 retail investors who joined clubs last year. “So many Koreans are getting victimized by these clubs, which are taking advantage of the economic damage done to the economy by the coronavirus outbreak,” Yoon says. He adds that one of his clients lost almost 90% of his principal after joining two such clubs and using their tips.

While some ants may be victims, as a group they wield real clout. Protests by thousands of retail investors forced the government to scrap plans in December to delist SillaJen Inc., which had developed a liver cancer drug, even though its CEO and two other executives were indicted for embezzlement.

They’re gaining respect among politicians, too, ahead of next year’s presidential election. In December, President Moon Jae-in saluted the country’s small shareholders for propping up the market in the early, worrisome days of the pandemic. He went so far as to call them “Dong-hak” ants, referring to a peasant rebellion in the 1890s that sought to overthrow the feudal government at the time. Although the rebellion failed, it’s now seen as a defining moment of patriotism in Korean history.

The ants have etched their own mark on history, Moon said: “When foreign and institutional investors exited the stock market, retail investors protected our market through the Dong-Hak Ant Movement.” ● — *With Jeong-Ho Lee*

Kim covers equity markets in Seoul.

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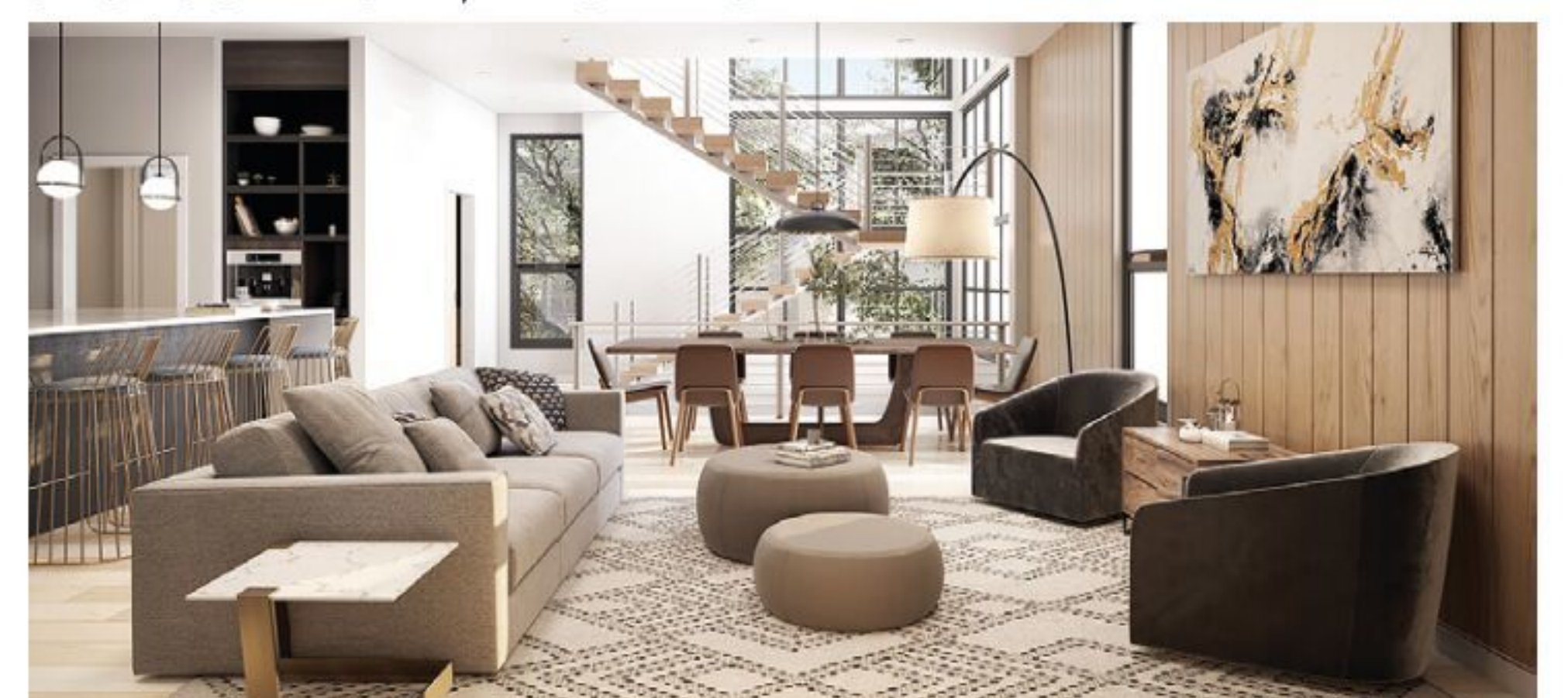
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Uncover Signals in Alternative Data With These Automated Stories

By CLAUDIA QUINONEZ

ALTERNATIVE DATA OFFER new insights for generating returns in financial markets. With this information, many investors are finding ways to track economic activity, identify trends and patterns, and gauge market dislocations.

To help you make sense of relevant data, Bloomberg is publishing a portfolio of automated stories based on alternative datasets. These articles, which can be easily monitored as part of the news flow, often uncover interesting signals that might otherwise be hidden in vast pools of data. Examples include spotting that DoorDash has more than 50 million app sessions—instances of users opening the app—per week on average in the U.S. while Uber Eats has about 6.5 million, as well as tracking the biggest change in volumes of the most liquid currency pair and estimating the number of workers returning to the office in the largest U.S. metropolitan areas.

Hundreds of datasets are monitored by Bloomberg's News Automation. Here's a guide to the alternative data stories grouped by themes or data provider.

APP USAGE

Apptopia is a researcher that provides data on more than 7 million mobile apps globally, estimating such performance metrics as downloads, app usage, and revenue.

- **Gaming App Data Weekly**
[{NI APPGAMING <GO>}](#)

This story, based on data from Apptopia, analyzes in-app purchase (IAP) revenue trends for gaming companies. The story identifies the biggest weekly increases and decreases.

- **Grocery/Food App Data Weekly**
[{NI APPGROCERY <GO>}](#)

This story analyzes 13 food and grocery delivery apps in the U.K. and the U.S. weekly, noting trends in the number of sessions and downloads as tracked by Apptopia.

- **Streaming App Data Weekly**
[{NI APPSTREAMS <GO>}](#)

Every Monday morning, this article provides updates on app usage and downloads for U.S. streaming companies.

- **Hotels App Data Weekly**
[{NI APPHOTELS <GO>}](#)

This weekly story, which tracks app usage and downloads for six hotel companies, generates two tables comparing weekly and monthly activity.

SPENDING TRENDS AND RESTAURANTS

Automated stories monitor data from different providers to track trends in retail in the U.S. and restaurants globally.

- **SpendTrend Point of Sale Data**
[{NI SPENDTREND <GO>}](#)

This monthly story highlights sales by sector using point-of-sale data from SpendTrend. It shows, for example, that travel had the biggest decrease in sales in November, with a drop of 70%.

- **Same-Store Restaurant Sales**
[{NI EATSMAP <GO>}](#)

This monthly article outlines same-store sales activity across multiple sectors of the restaurant industry.

- **OpenTable Reservations**
[{NI OPENTABL <GO>}](#)

This shows the number of diners seated at restaurants on the OpenTable network compared with a year ago. It includes all channels: online reservations, phone reservations, and walk-ins for Australia, Canada, France, Ireland, Italy, Mexico, and the U.S.

RETURN TO WORK

These articles track office badge data in the U.S. and the U.K.

- **Kastle Back-to-Work Barometer**
{[NI BACKTOWORK <GO>](#)}

Using data provided by Kastle Systems, a security firm for office buildings, this weekly report shows back-to-work trends based on cardholders in 10 metropolitan areas in the U.S. who swiped their security cards.

- **Metrikus Back-to-Work Index**
{[NI BACKTOWKUK <GO>](#)}

These weekly updates are provided by Metrikus Ltd., a U.K. company that installs overhead sensors in office buildings to measure indicators such as occupancy rates and air quality.

TRANSPORTATION AND AIRLINES

This set of articles sheds light on the movement of people and goods by tracking airline ticket purchases, the number of people using the New York subway system, and trucking trends.

- **International Air Ticket Tracker**
{[NI AIRLNINT <GO>](#)}

This monthly analysis details international airline ticket sales for flights leaving the U.S. for other regions of the world including: Africa, Asia, Australia, Canada, Europe, Latin America, and the Middle East.

- **TSA Checkpoint**
{[NI TSACP <GO>](#)}

Passenger numbers at U.S. airports are tracked daily, highlighting year-over-year figures.

- **Michelin Tire Trends**
{[NI TIRETREND <GO>](#)}

This report tracks original and replacement tire demand across two classes (car/light truck and truck/bus) and five regions around the world using data from Michelin.

- **Class 8 Truck Orders**
{[NI TRKCLASS8 <GO>](#)}

This trucking trends story captures information on preliminary orders for North American Class 8 trucks, which are heavy-duty vehicles with a weight rating of 33,001 or more pounds (15,000 kilograms), from FTR data (**FIG. 1**). The story shows the Class 8 data, broader economic indicators, and various trucking indexes.

- **MTA Ridership**
{[NI MTADATA <GO>](#)}

This weekly story, which provides data on the use of New York City's transit system, can highlight increases in travel as business returns.

- **LIRR Metro-North Riders**
{[NI LIRRMN <GO>](#)}

This weekly article tracks estimated ridership on two New York suburban train lines: Long Island Rail Road and Metro-North.

- **Uber/Lyft NYC Rides**
{[NI NYCRIDE <GO>](#)}

A monthly report of data on Uber and Lyft rides in New York City from NYC Open Data.

COUNTRY RISK AND GOVERNANCE

These stories track country risk estimations and corporate governance.

- **Geoquant Country Risk**
{[NI GEOQUANT <GO>](#)}

This highlights weekly changes in country risk indexes provided by Geoquant, which quantify risks to investors based on governance, social, and security indicators. Geoquant risk indexes use traditional economic data and high-frequency sentiment analysis to determine a country's risk level.

- **S&P 500 Women on Boards SPX**
{[NI SPXWMNBRD <GO>](#)}

- **Women on S&P 500 Bank Boards**
{[NI S5BANKXBRD <GO>](#)}

- **ASX Women on Boards**
{[NI ASXWMNBRD <GO>](#)}

These stories highlight monthly changes by gender in board membership of companies in the S&P 500 index, S&P 500 Banks index, and Australia's ASX. Using Bloomberg data, they analyze board composition across a number of data points, including the percentage of women board members, size of board, average age of board, and tenure of board members.

COUNTRY AND CITY TRACKERS

These stories combine alternative indicators to track activity in specific countries and cities in the wake of coronavirus disruptions. To see stories for all countries and cities, run [{NI CACTRAC <GO>}](#).

■ Countries

Australia [{NI CACTAU <GO>}](#)
China [{NI CACTCN <GO>}](#)
France [{NI CACTFR <GO>}](#)
Germany [{NI CACTDE <GO>}](#)
Italy [{NI CACTIT <GO>}](#)
Mexico [{NI CACTMX <GO>}](#)
Spain [{NI CACTES <GO>}](#)
U.K. [{NI CACTUK <GO>}](#)
U.S. [{NI CACTUS <GO>}](#)

■ Cities

Hong Kong [{NI HKCACT <GO>}](#)
London [{NI LOCACT <GO>}](#)
New York [{NI NYCACT <GO>}](#)

FINANCE

Stories on foreign exchange volumes and short interest for U.S. and Canadian indexes.

■ FX Volume From CLS [{NI FXCLS <GO>}](#)

This report and table show foreign exchange volumes for the 10 most liquid currency pairs over a period of two weeks. The data are exclusively provided to Bloomberg by settlement provider CLS.

■ S3 Russell 3K Trends [{NI SIS3RAY <GO>}](#)

■ S3 Canada Trends [{NI SIS3CANADA <GO>}](#)

These Monday stories highlight short-interest trends in the U.S. for the Russell 3000 Index and for Canadian companies based on S3 data. The analysis includes changes in short interest as a percentage of float, costs to borrow, total short interest, and mark-to-market profitability for the universe of companies that have at least \$10 million in total short interest.

OIL

These stories track tanker storage, oil demand, and China stockpiles and refinery statistics.

■ Vortexa Floating Crude Storage [{NI VTXFLOS <GO>}](#)

A weekly update on crude oil in floating storage in various regions. The story is based on function data supplied by third-party provider Vortexa, which is available via [{VTXA <GO>}](#). The story tracks the amount of crude oil held around the world on tankers that have been stationary for at least seven days each Friday.

■ Oil Demand Monitor [{NI OILDEMON <GO>}](#)

This semiautomated story tracks data about oil demand. It collates data points that are updated weekly, and a reporter then adds analysis.

■ China Shandong Oil Stockpiles [{NI CHSDOILINV <GO>}](#)

This is a weekly update of oil inventories at the seven ports in China's eastern Shandong province. The automation triggers from real-time updates of tickers that can be viewed on [{SCIG <GO>}](#). In English and Chinese.

■ China Oil Refineries Run Rates [{NI CHOILREF <GO>}](#)

This biweekly story provides the latest run rates for Chinese refineries. It's triggered by tickerized data for Chinese regional refineries from SCI99.com, a third-party researcher. ●

Fig. 1 For automated stories on orders for Class 8 heavy trucks, which are vehicles with a weight rating of 33,001 or more pounds, go to [{NI TRKCLASS8 <GO>}](#).



Quinonez is managing editor for news automation at Bloomberg News in London.

Examine How Market Upheaval Is Affecting Company Results

By SEAN WUKITSCH and DAVID TUNG

THE CORONAVIRUS PANDEMIC sent huge waves of volatility through markets in 2020. How did that affect the financial results of companies that interest you?

You can use the Company Financials (MODL) function to investigate questions like that. For a selected company, MODL displays actual reported data alongside analyst estimates and consensus numbers across key metrics, including segments, products, and company-specific operating measures. Here are three examples showing some of the effects of the year's market agitation.

1. **JPMorgan Chase & Co.**

Trading desks had a strong 2020. News reports noted that JPMorgan Chase and its four biggest U.S. investment bank peers were on track to surpass \$100 billion in combined annual trading revenue for the first time since 2010.

What does the pool of revenue look like for traders? Type "JPMorgan" in the command line and click the JPM US Equity match to load the ticker of the New York-based banking giant. Next, type "company financials" and click the MODL – Company Financials match. The shortcut is **{JPM US <Equity> MODL <GO>}**.

To examine how 2020 stacked up against the previous year, click the Multiple Periods tab and use the Growth drop-down to select Year-over-Year. For Periodicity, select Quarters (**FIG. 1**). In MODL, the amber numbers represent reported figures, and the white numbers are estimates.

Total trading revenue surged in the second quarter to \$9.7 billion, up 80% from the period a year earlier. The Total Trading item encompasses the equities group and the fixed-income, currency, and commodity (FICC) group. As you can see, FICC revenue jumped 99% from the year-earlier period, rising to \$7.3 billion, while equities increased a more modest 38%, to \$2.4 billion. Scroll down to the Investment Banking Fees section, and you can see that Equity Underwriting also jumped in the second quarter, to \$974 million, up 93% from the year-before period.

To see how the second-quarter results compared with estimates, click the Single Period tab. For Period, use the drop-down menus to select 2020 and Quarterly 2. Select Actuals vs. Estimates in the Compare drop-down. Trading revenue was a 20% positive surprise overall, while investment banking fees were a 33% surprise to the upside.

2. **BlackRock Inc.**

How did the volatility affect the flow of money into passive investment products? To take a look at BlackRock, type "BlackRock" in the amber ticker field and click the BLK US Equity – BlackRock Inc. Common Stock (U.S.) match. Click the Multiple Periods tab. Use the Est. Source drop-down to select Consensus. For Growth, select None, and for Periodicity select Quarters. In the New Flows section, click the chart icon to the left of Passive under Fixed Income. Then tick the box next to Passive under Equity (**FIG. 2**).

The chart shows investors moving money out of bonds in the first quarter of 2020 and moving into passive stock investments. In the second quarter, investors pulled \$14.2 billion out of those passive equity investments. The next quarter? They put \$14.8 billion back in. As of early January, analysts also forecast positive flows into equities and bonds during the next two quarters.

3. **Cboe Global Markets Inc.**

What about derivatives trading on exchanges? How did the spike in vol affect revenue at Cboe? In the ticker field, enter CBOE and click the CBOE US Equity – CBOE Global Markets Inc. (U.S.) match.

VIX options, a direct representation of market participants' expectations for volatility, trade on Cboe. Average daily volume rose to 800,000 in the first quarter of 2020, from 500,000 in the year-earlier period, representing a 54% jump. Average daily volume for U.S. equities options also surged 52%, to 1.84 billion in the first quarter, from 1.3 billion a year before.

You can also find the product-specific data on the Financial Analysis (FA) function. Run **{CBOE US <Equity> FA <GO>}**, click the Key Stats tab and then the Company Model subtab (**FIG. 3**).

Entitlements

Can't see individual broker estimates in MODL? Brokers' estimates are grayed out until you get permission to view content. Press Help twice and ask to be directed to the Entitlements Team. Processing entitlement requests typically takes two weeks. For an overview of your entitlements, and to track pending ones, click the Entitlements button on the red toolbar in MODL. ●

Wukitsch and Tung are on the staff of the global data department at Bloomberg in Princeton.

Fig. 1 To see JPMorgan Chase data, such as trading revenue, run {JPM US <Equity> MODL <GO>}



Fig. 2 To examine flows into different types of funds at BlackRock, go to {BLK US <Equity> MODL SOURCE <GO>}

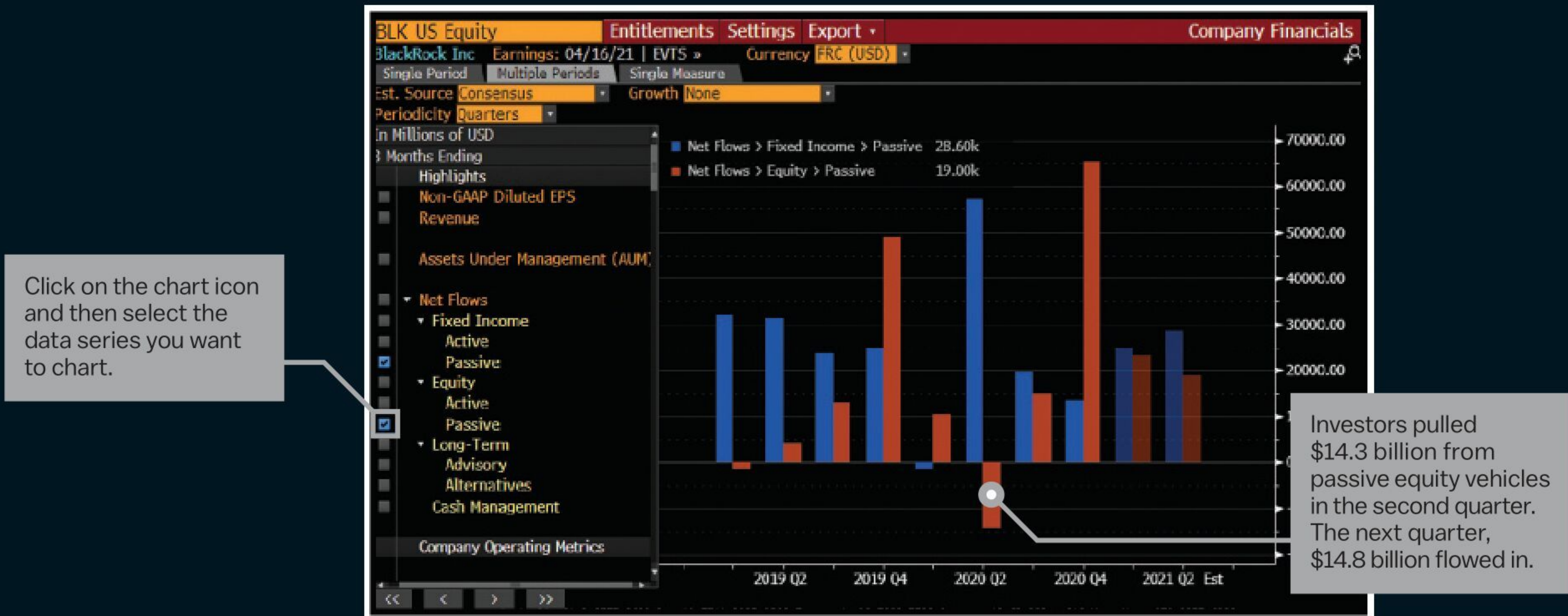


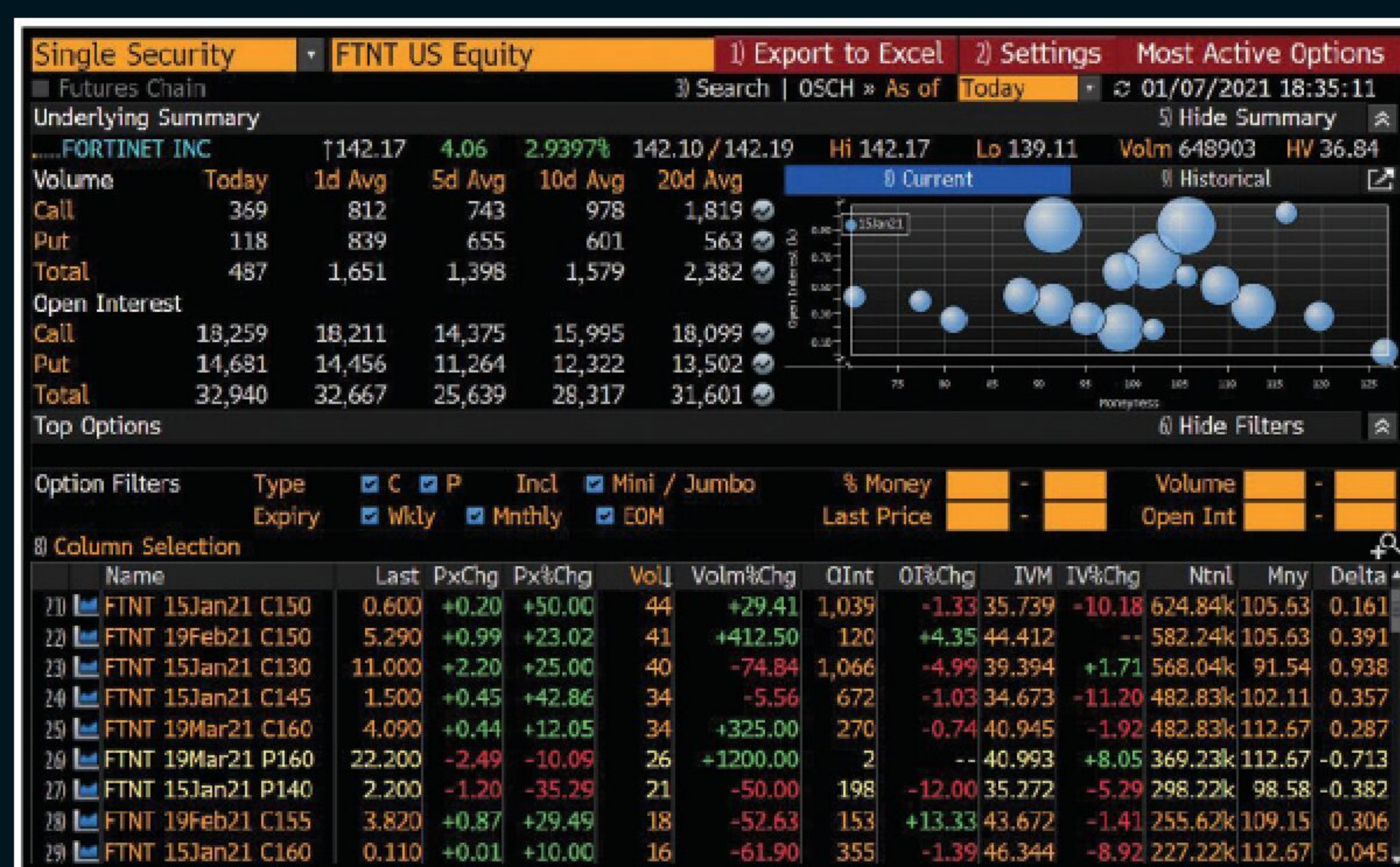
Fig. 3 To see actuals and deep estimates for Cboe, run {CBOE US <Equity> FA <GO>} and click the Company Model subtab under Key Stats, if it isn't already selected.



If You Want to Know What Stock Is Set To Skyrocket, There Are Options

By JUAN CHAMORRO and MARK JORDAN

Fig. 1 Run `{MOSO S <GO>}` to see options trading activity for a selected security.



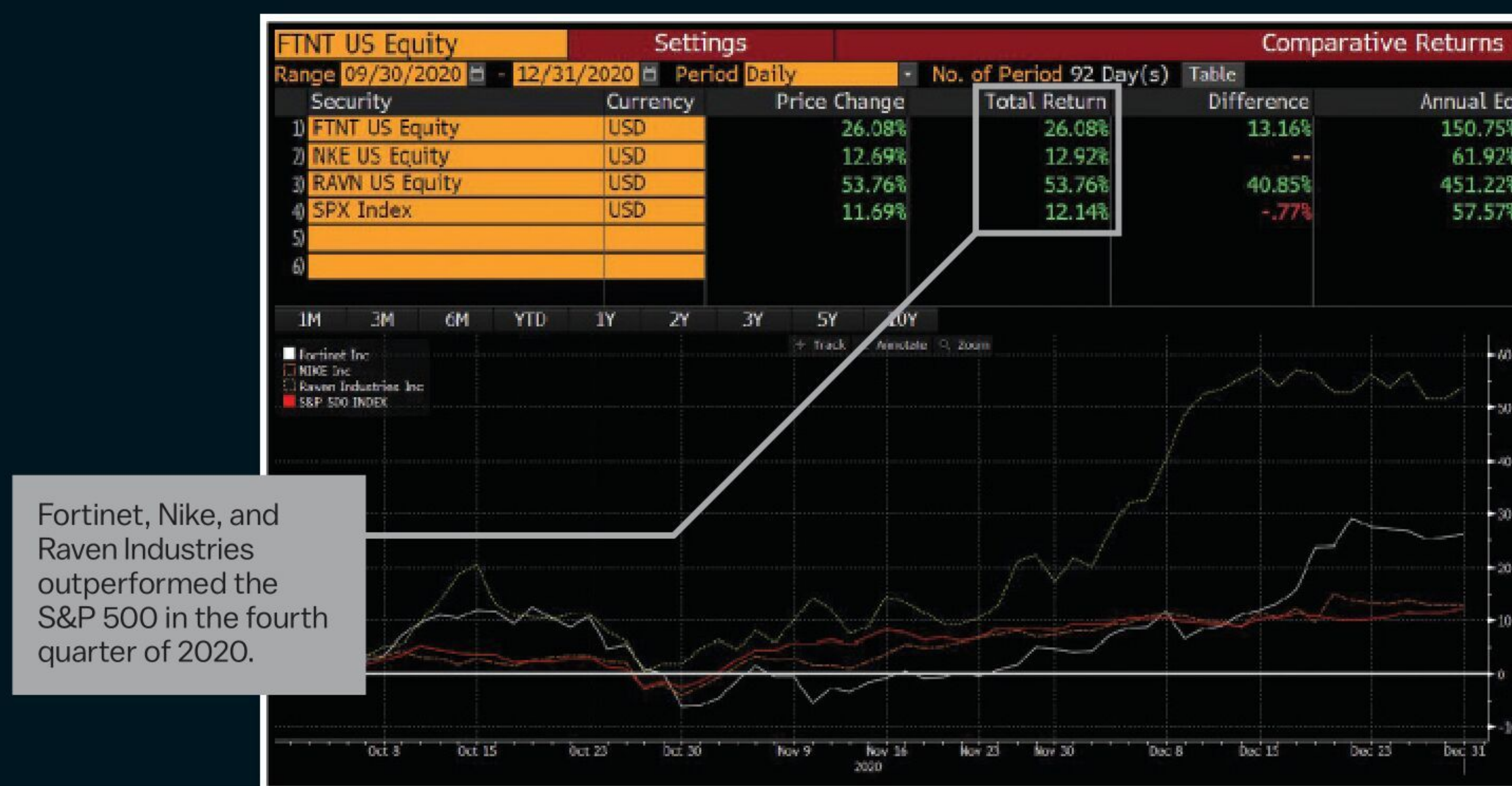
WHAT DO NIKE INC., Raven Industries, and Fortinet Inc. have in common? They exemplify the predictive capacities the options market offers: Recent stock price spikes were preceded by certain telltale signs in the options market, according to data compiled by Bloomberg. Use the terminal to generate ideas for enhancing your portfolio and profit from ever-changing option trading trends.

First, let's review basic option theory. If you're bullish on a company, you have two choices: You can buy its stock; or, if you're willing to sustain a greater level of risk, you can buy a call option, which is a contract that grants the right to buy the underlying stock at a predetermined price on or before expiration of the contract. Your goal is for the stock's price to rise above the call option's strike price, so you can exercise it when it's in the money. A put option is

similar, but it instead gives you the right to sell a stock at a set price and time. As an option holder effectively controls 100 shares for every single call option they own, the leverage it provides can make it very attractive for investors.

Now, how can your Bloomberg terminal help you break down options activity so you can identify opportunities in the cash market? Let's look at a concrete example. On one of your Bloomberg panels, type "most active options" and select MOSO S – Most Active Options: Single Security from autocomplete. You can change the screen to any equity by typing its ticker into the amber box next to Single Security and hitting <GO>. For the purpose of this analysis, we considered the network security solutions company Fortinet. The shortcut is `{FTNT US {Equity} MOSO S <GO>}` (FIG. 1).

Fig. 2 Run **{COMP <GO>}** to analyze stock performance against a reference index in Bloomberg's Comparative Returns function.



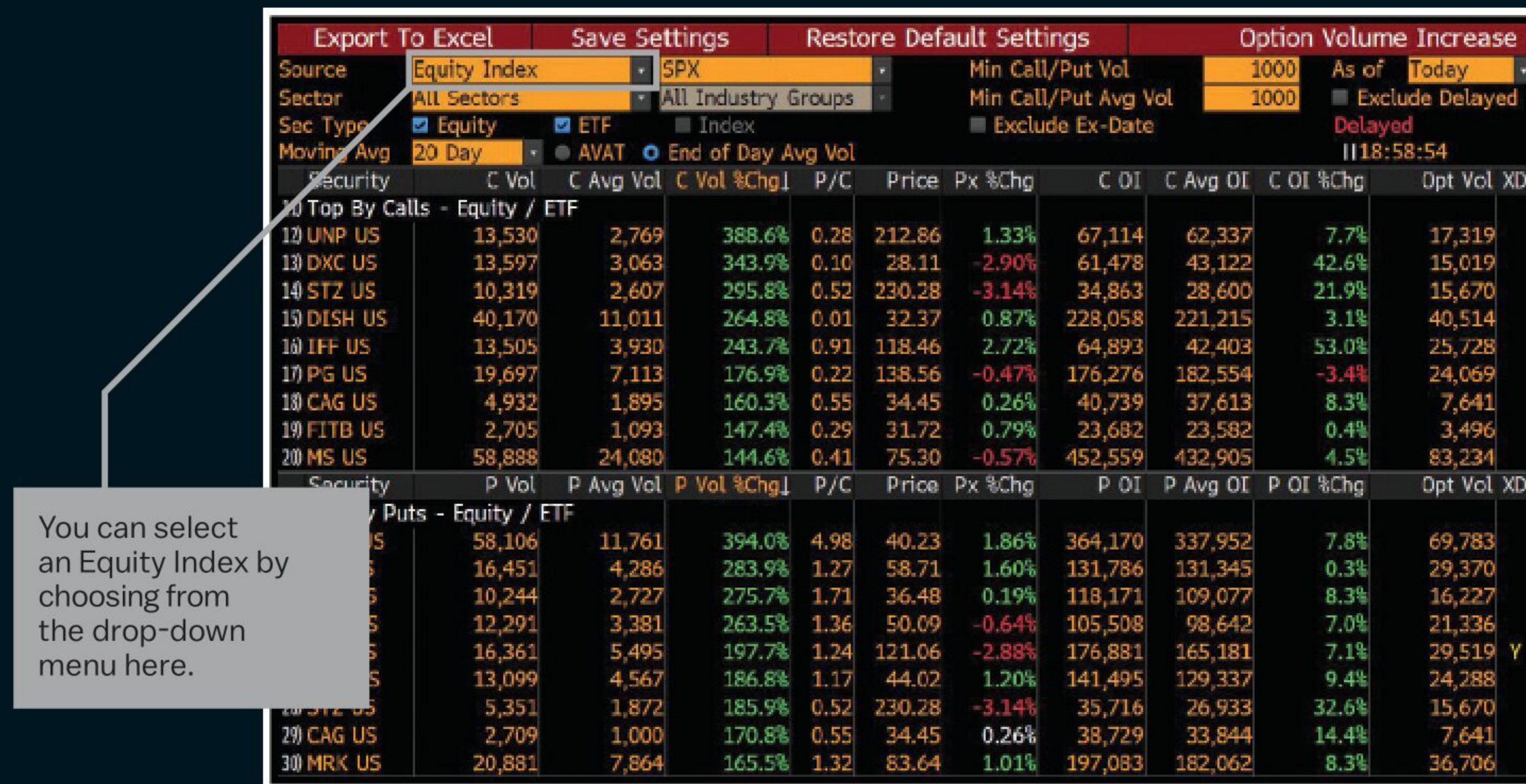
Over a 20-day period ending Monday, Dec. 21, FTNT had an average call volume of 1,746 contracts. On just one day within that time frame—Friday, Dec. 18—9,146 options traded, which was 523% greater than the average daily volume for the period. The stock also spiked 6.9% that day. And the day after the 20-day period, on Dec. 22, the price jumped again, rising 4.2%. It's worth noting that the price increase on Dec. 18 was the highest one-day gain since May 7. (The price increase in May can be largely attributed to strong first-quarter earnings, but it was also foreshadowed by similar option activity in the period leading to the earnings release.)

If you wish to view an exact breakdown of the call volume increase for FTNT during any given period, type the following Bloomberg Query Language formula into a cell in an Excel worksheet:

=BQL("FTNT US Equity","DROPNA(VOLUME_TOTAL_CALL(DATES=RANGE(2020-03-21,2020-12-21)))"). The example formula looks at a nine-month window, but you can adjust to a time frame of your choice. The same syntax can be used to analyze names with similar predictive trends, such as NKE or RAVN. BQL combines data retrieval with analytics to provide answers to quantitative questions. It allows users to synthesize large amounts of data and perform custom calculations in seconds. We recommend analyzing stock performance against a reference index in **{COMP <GO>}**, Bloomberg's Comparative Returns function (**FIG. 2**). The three aforementioned companies outperformed the S&P 500 in the fourth quarter of 2020.

If you want to spot an option volume increase using a more top-down tool, type "option volume" and select OVI – Option ►

Fig. 3 Run **{OVI <GO>}** to find equities with the largest increases in option trade volume vs. a given measure.



Volume Increase from autocomplete. Alternatively, you can use the command **{OVI <GO>}**. OVI is a customizable monitor that displays the equities with the largest increases in option trade volume vs. a given measure, so you can track heightened option activity broken down into calls and puts, as well as changes in open interest and put-call ratios. This function supports multiple source options, including portfolios and watchlists.

As an example, load the S&P 500 based on a 20-day moving average (**FIG. 3**). To do this, simply click on the drop-down menu next to Source on the top left corner of the screen and change to Equity Index. In the next amber drop-down box, select SPX. On Dec. 28, Mondelēz International Inc., US Bancorp, and Nucor Corp. were among the names with the highest call volume percent

increase in the reference benchmark. In addition to the sourcing options OVI offers, the volume-monitoring tool allows you to edit the call-put preferences, sector, and the moving average the screen considers.

Finally, Bloomberg's automated intelligence engine can also help you spot abnormal volume spikes in the options market. Run **{NI BAI <GO>}**. Then type "options volume" and select the **OPTIONBAI** topic. To create an alert based on this function, click on Actions on the red toolbar and select Set Alert Delivery. This search will create a new source of ideas for your next trading move. ●

Chamorro is an account manager and Jordan is an equity derivatives market specialist at Bloomberg in New York.



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STARTING FROM CHINA, SERVING THE WORLD

Dalian Commodity exchange (DCE) is one of the world's most important commodity derivatives marketplaces, enabling farmers, producers, processors and other businesses to manage risks and find prices. A total of 21 futures and 7 options have been listed for trading on DCE, covering major sectors including agriculture, petrochemicals, steel and energy. According to the Futures Industry Association, DCE was China's largest and the world's 10th largest derivatives exchange by trading volume in the first half of 2020.

In May 2018, DCE opened its Iron Ore Futures—the world's largest and only physically delivered Iron Ore Futures—to foreign traders. In December 2020, DCE also opened Palm Oil Futures to foreign traders. DCE has endeavored to expand its role as a supplier of a full range of derivatives products and specialized industry services. By developing into a world-class commodities pricing and risk management center, DCE taps into the function of derivatives to serve global businesses and market participants.

'My Life Story Is One of Social Mobility'

By KSENIA GALOUCHKO

PHOTOGRAPH BY CLAUDIA GORI

SIMONA PARAVANI-MELLINGHOFF, who oversees \$286 billion as BlackRock Inc.'s global chief investment officer of solutions within multiasset strategies, never wants to stop learning. The first in her family to go to university, and with a grandmother who was illiterate, the Italian-born Paravani-Mellinghoff has seen the power of education firsthand.

With a background in quantitative analysis, Paravani-Mellinghoff, who turns 47 in February, stays up-to-date with investment trends by teaching financial analytics and machine learning at University College London. She says she learned how to stay resilient under stress during her high school years when she volunteered at a refugee camp with kids displaced by the war in the former Yugoslavia.

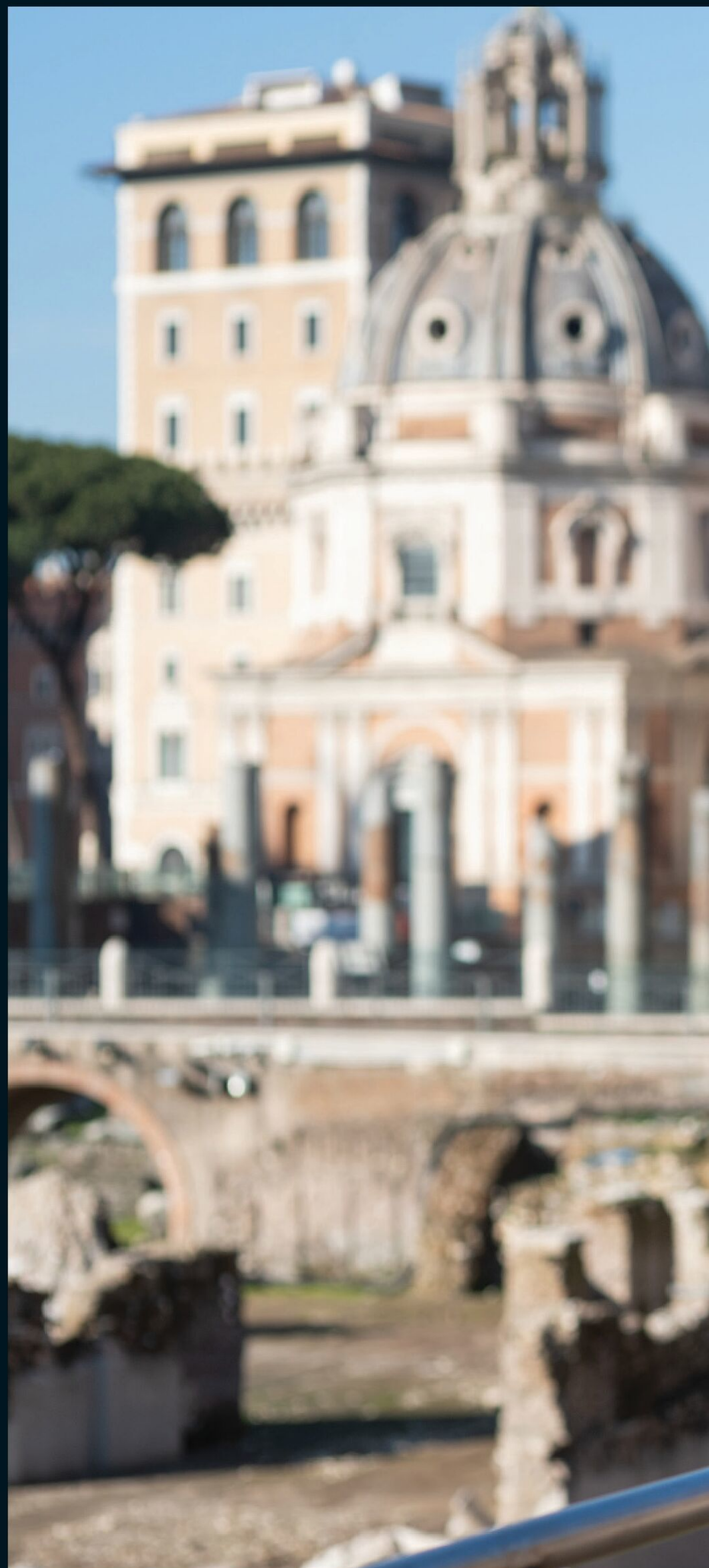
Her access to scholarships at a young age instilled in Paravani-Mellinghoff the spirit of giving back, she says. She's written a children's book that's been published in three languages, and she meets regularly with young students in the U.S. and Europe, hoping to convince them that everyone has the power to change the world.

Paravani-Mellinghoff spoke to *Bloomberg Markets* in December. She says investors should prepare for another challenging year of elevated market uncertainty and limited opportunities for returns. And she talks about her biggest fear for 2021: inflation.

KSENIA GALOUCHKO: Which pockets of risk do you think are still a cause of concern?

SIMONA PARAVANI-MELLINGHOFF: The key theme when I think about 2021 is how to cope with lower rates for longer. Right now more than 80% of government bonds globally are yielding less than 1%. It would have been around 40% just a few years ago. This is compressing the level of returns across the board.

If we look at BlackRock's forecast for key market returns over a five-year horizon, the majority of risk assets are expected to ►





yield or return something in single-digit territory. As we approach the lowest theoretical bound on rates, the room for further government bond appreciation becomes more limited. And that reduces the role of government bonds as a ballast in portfolios.

This is obviously quite a big challenge for us as investors as we look ahead. I think the punchline for how to deal with this is long inflation and long risk.

In terms of how long inflation is expressed in portfolios, quite simply we are long inflation-linked bonds in the U.S. as well as in the euro zone. Fundamentally we believe that the market is currently underestimating the potential risk of positive inflation surprises, especially in the medium term. I'm not talking about 1970s-style of inflation, but I'm talking about a level of inflation which is more in line or just above the target of central banks.

A very good example of this is actually the U.S. If we look at what the market is currently estimating in terms of the inflation rate over the next 5 to 10 years, we will notice that effectively the market is expecting inflation to remain below the 2% mark. We think that if we take a 5- to 10-year view, that's much more likely to be around the 2.5% mark.

Why is this the case? The policies that have been put in place to fight the Covid economic fallout—whether we're talking about monetary or fiscal policy—are inflationary, other things being equal.

The second key driver is the change in central bank policy framework. A good example is what we've seen with the Fed, which has moved to the average inflation targeting framework. This is highly significant because it means that moderate inflation surprises when following periods of prolonged undershooting of inflation targets, as we experienced, may not really trigger an immediate policy response, so this further underscores the notion of lower for longer.

And then the third reason, which is perhaps less talked about, is that inflation may already be higher than what the reported numbers suggest. There is a great paper by a Harvard Business School professor, Alberto Cavallo, titled *Inflation With Covid Consumption Baskets*, and what they looked at is, effectively, that if we estimated inflation using a basket where the weights better reflected what we have experienced in terms of consumption patterns during Covid, inflation would already be higher.

KG: What place do you think ESG should have in portfolios, and do you believe in the mitigating quality that it brings to some portfolios?

SP-M: Sustainability is a key pillar of portfolio resilience. It is definitely one of the trends that the Covid crisis has accelerated. If we look at the flows that we've seen into ESG-focused products in the industry as a whole, this has been a record level of inflows.

It's very significant fundamentally because it has proven the skeptics wrong. Their thesis was that the moment that volatility was back in fashion in the market, sustainability would go out of fashion. Well, we've seen plenty of volatility—and sustainability is even more relevant and in focus than it has ever been. We believe that the flows will continue to be directed to companies, sectors, asset classes that really best address the challenges, but also can capture the opportunities presented by the sustainability trend. So we see sustainability as a key driver of portfolio performance over the medium and long term.

KG: I was wondering about your quant background and how it helps you in your current work.

SP-M: It helps me in many ways, because if we think about the core

of what we do, it is to look at data and help us form a view of what that data tells us about the future.

Having a quant background helps me understand the limitations of the data that we see, but also where some data may be more relevant and more telling than others. It's also increasingly relevant as techniques such as machine learning become more and more common practice.

KG: Are there any particular machine-learning techniques that you'd like to talk about?

SP-M: The whole area of text mining is definitely extremely interesting because this can enable us to gain more insights into what is the market sentiment on a particular topic, but also the level of market attention to certain topics. And this is significant because the more a topic is talked about, especially in finance, the more likely that topic is to already be discounted to some extent in markets—and therefore less likely to be a potential driver for the future. Every minute of the day in 2019 we conducted almost 5 million Google searches. We sent more than 18 million texts and 188 million emails. I believe that this is going to be an area that will be increasingly relevant as more and more data becomes available.

Text mining can easily be applied to any form of text, not just the news. The BlackRock Geopolitical Risk Indicator, for example, tracks the relative frequency of analyst reports and financial news stories associated with geopolitical risks. A lot of the work that has been done in text mining has historically focused on the English language, but it is broadening to other languages like Chinese. And that, again, could yield some interesting venues for new applications more broadly, including in finance.

KG: I wanted to also ask you about your external job at UCL as an industrial professor of machine learning and financial analytics. When did you start, and why was that something that you wanted to do?

SP-M: I find it very exciting. I started in September 2019, and I'm teaching as part of the Institute of Finance & Technology, which is part of the UCL engineering faculty. The proceeds that I get from my teaching job go to support the program that UCL runs to help underprivileged students with the financial burden. I fundamentally see education as an essential tool to enable people to fulfill their potential as economic agents, as citizens, and ultimately as human beings. And this is strongly influenced by my own personal experience.

First of all, it helps me not to become a dinosaur. Because teaching forces you to keep learning. It's also a phenomenally good discipline to ensure that you really understand what you are talking about, because when you have to explain it to people, especially to young, sharp minds, that really ups your game.

I also genuinely believe that this makes me a better leader, but also a better investor. There are unique insights that one gets into the values, the aspirations of the next generation. One example of this is how important the sustainability agenda is to them.

KG: I wanted to learn a little bit more about your own education and growing up.

SP-M: I grew up in Bologna. I moved to the U.K. right before university. Before that, I was at a boarding school that I accessed via a scholarship, which was located on the border of Italy and Slovenia. That was around the time of the war in the former Yugoslavia. There was a lot of emphasis on a broader civic engagement. So I did actually work with refugees that were escaping the war. And I think that is an experience that taught me a lot at a very young age, at 17.

We were working in refugee camps that were primarily

“Having a quant background helps me understand the limitations of the data that we see, but also where some data may be more relevant and more telling than others”

●

populated by women and children. I was personally involved in looking after the children, and I learned two important lessons. One was the sense of perspective. When you see what disruption war can cause, when you see how quickly life can change, I think that had a very lasting impact on me in terms of my ability to put things into perspective, and this has helped me in terms of emotional resilience, helped me make decisions under stress. In addition, of course, to deepening my sense of privilege—and I definitely am a privileged person—[I learned] that with privilege also comes responsibility, to give back in any way that I can.

The other part was an incredible lesson in leadership, because I got to the camp and I was given responsibility for a group of children of various ages, and we didn't even have a common language. And I think, again, it served me well. This was around 1992.

KG: I also wanted to touch on your background. Did you ever imagine that you would become a very senior executive at the world's biggest asset manager?

SP-M: The short answer is no. I didn't expect that I would end up in finance, but I was always optimistic that I was going to have a very interesting life. And, absolutely, my life story is one of social mobility. My grandmother, for example, was illiterate. And I'm the first person to go to university in my family. And that was largely possible thanks to scholarships that I started to receive at a relatively young age. It's undeniable that my personal story informs my sense of purpose and how passionate I feel about education.

There is absolutely no doubt that there is more work to be done on diversity and inclusion. But at the same time I think we need to emphasize also the progress alongside the work that remains to be done, because I'm keen that especially young women get the message that change is happening. I want them to have a positive mindset that they can make it.

The analogy I use is Serena Williams at Wimbledon about to shoot the match point. I'm sure she doesn't think that the odds are stacked against her. I think similarly for young women starting out, it's important that they feel that they can score that match point.

We should also not lose sight of the power that each and every one of us has to make a difference. In fact, when I go into schools and meet with children to talk about my book, *The Kids' Pocket Guide to the World*, I always tell them that every one of us has the power to be a superhero. I'm an introvert—to the point that sometimes I had to take a test twice because the teachers thought the result I got was a mistake. We just need to find something that we are passionate about and then take action. We shouldn't forget that each and every one of us—as a leader, as an educator, as a parent, as a citizen—can make a difference in our everyday life.

I'm working class by background and female. By showing a story that is different, I think this contributes to create a different perception of the City [of London].

KG: Why did you write a children's book?

SP-M: A part of the motivation behind the book is naturally my passion for education, but part was stemming from some of my experiences working with NGOs in different parts of the world. I was talking to kids in emerging economies, such as Kenya. What was surprising is that their attitude toward an interconnected, open, and global world seemed to be more positive than what I was experiencing while talking to kids in more sheltered and more privileged contexts in Europe or in the U.S. And so the idea of the book really came to me to help give a more positive perspective on the challenges, but also opportunities, that an open, interconnected world could offer. ●

Galouchko covers equities for Bloomberg News in London.

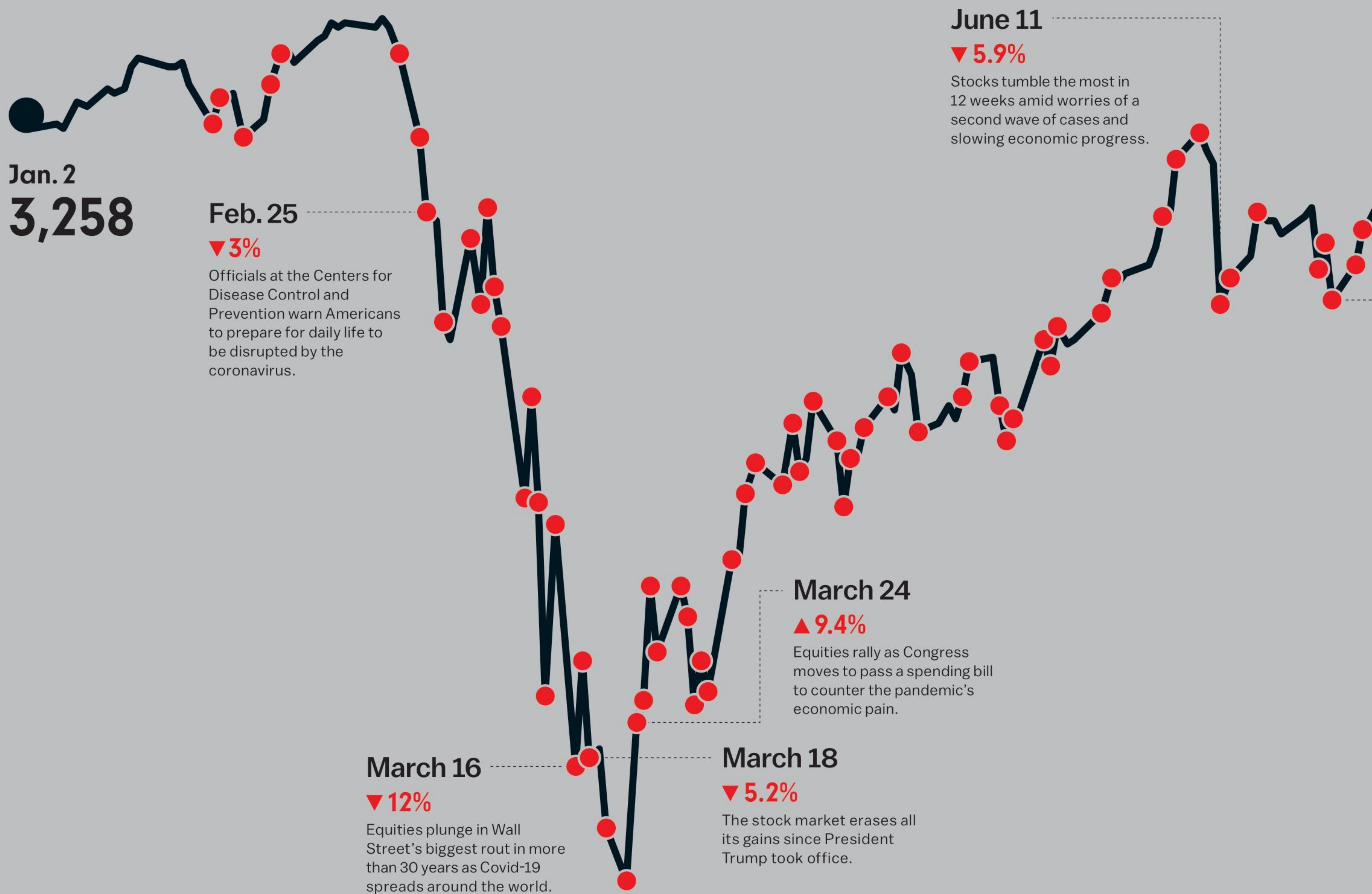
Volatility Returns

By
KATHERINE
GREIFELD and
CLAIRE
BALLENINE

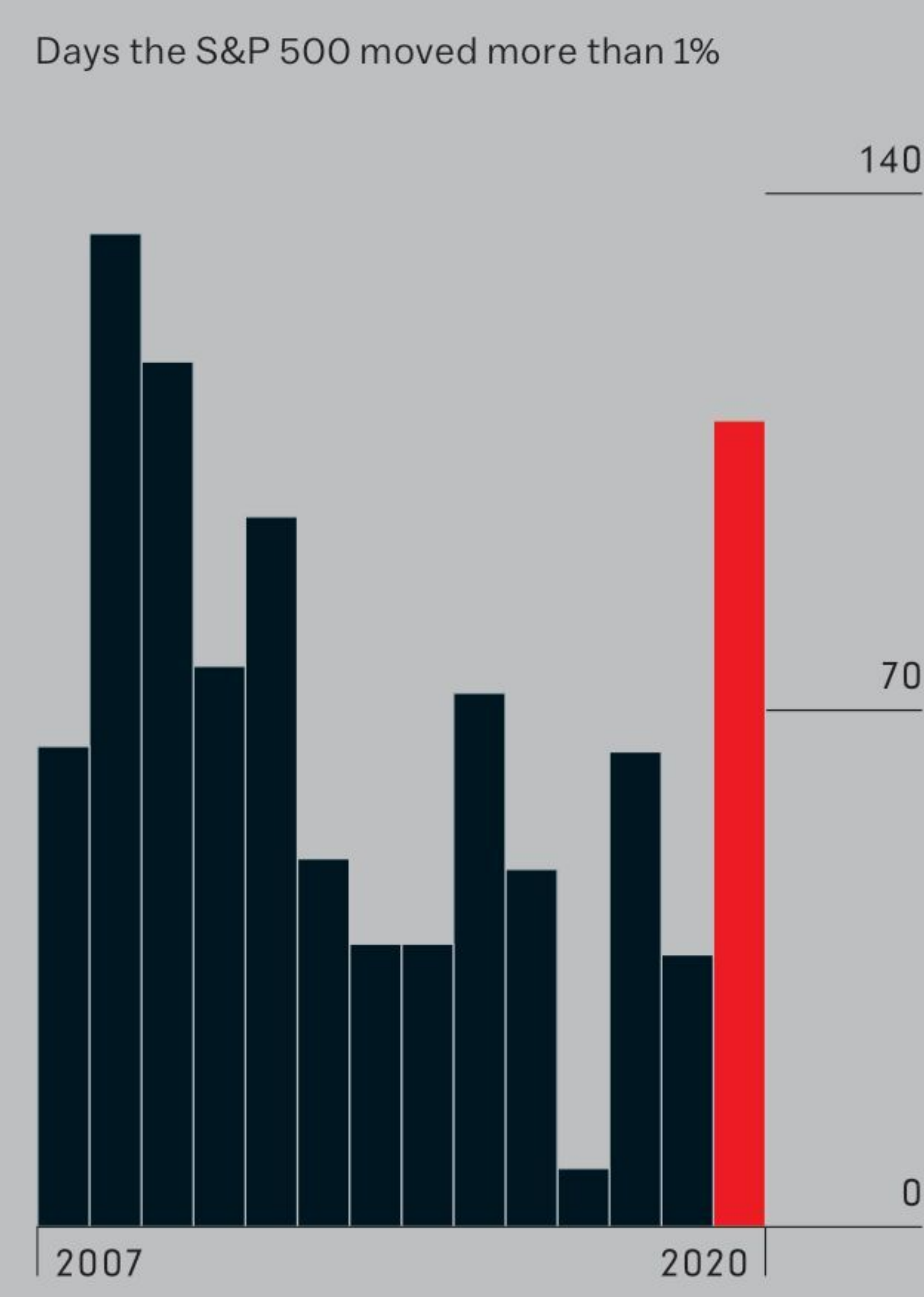
A Rocky Year for the S&P 500

The stock market's plunge in March and dizzying rebound was part of a series of dramatic ups and downs throughout 2020.

● Trading day when the S&P 500 moved more than 1%



As the coronavirus pandemic surged around the globe last year, markets went on a wild ride. Unprecedented fiscal and monetary stimulus, along with a flood of new retail investors, spurred increased activity in financial assets and rapid swings. With nonstop political news and a vaccine rollout under way, volatility is likely to continue into 2021.



Source: {SPX Index GP <GO>}

How December Looked Nothing Like January

■ A flurry of vaccine breakthroughs in November sparked a rotation into financials and energy, which had been among the most beaten-down sectors in the S&P 500.

S&P 500 Sector Performance

Sectors ranked by month-over-month change in each month of 2020



Sector index returns in 2020 before and after Pfizer and BioNTech's Nov. 9 vaccine announcement

Information technology
▲ 32% Through Nov. 9 ▲ 8% Nov. 9 to yearend

Financials
▼ 12% Through Nov. 9 ▲ 10% Nov. 9 to yearend

Energy
▼ 45% Through Nov. 9 ▲ 15% Nov. 9 to yearend

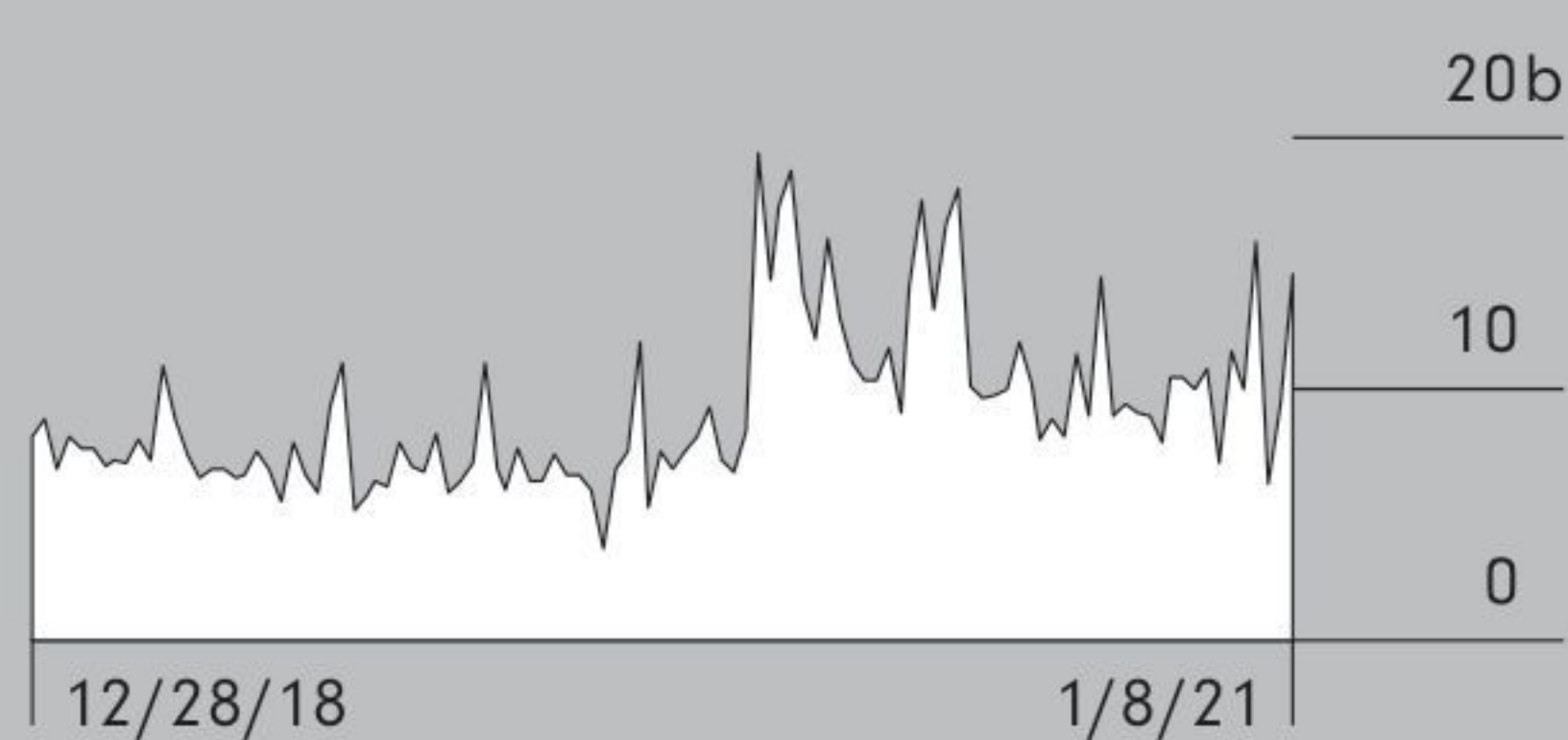
Source: {SPXL1 Index GRR <GO>}

Game On

■ Trading surged in 2020 amid an onslaught of news on politics and Covid-19.

Daily Volume on U.S. Exchanges

Shown on the last trading day each week



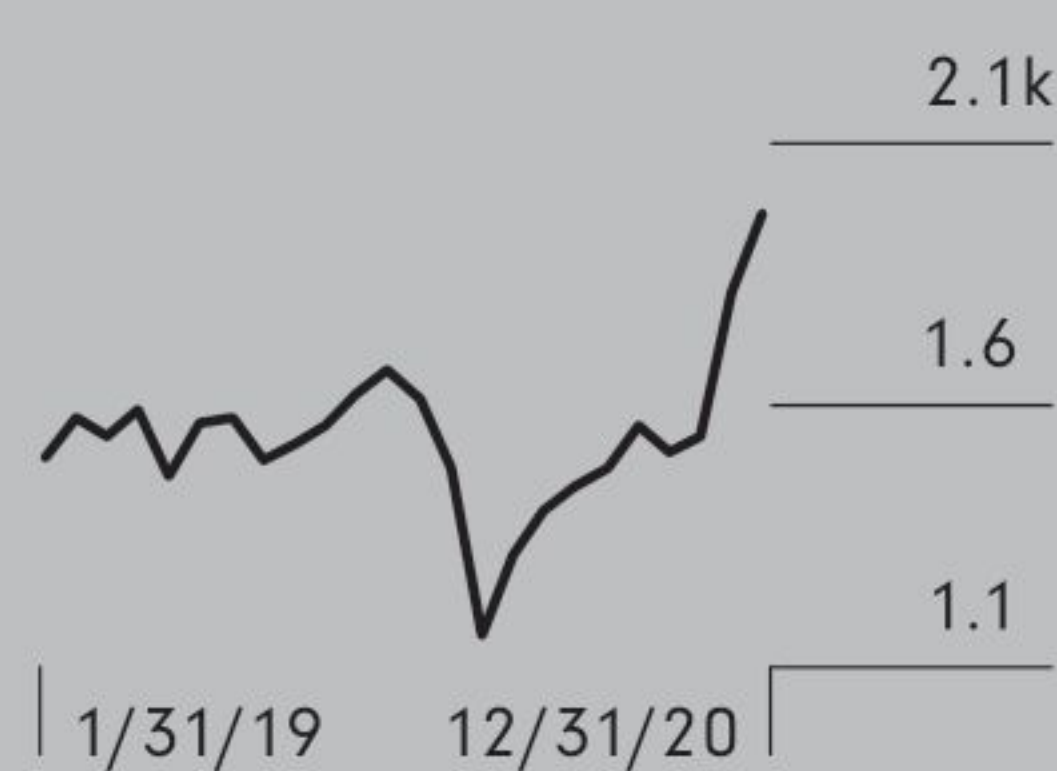
Source: {MVLUSE Index}

Small-Caps Have a Big Finish

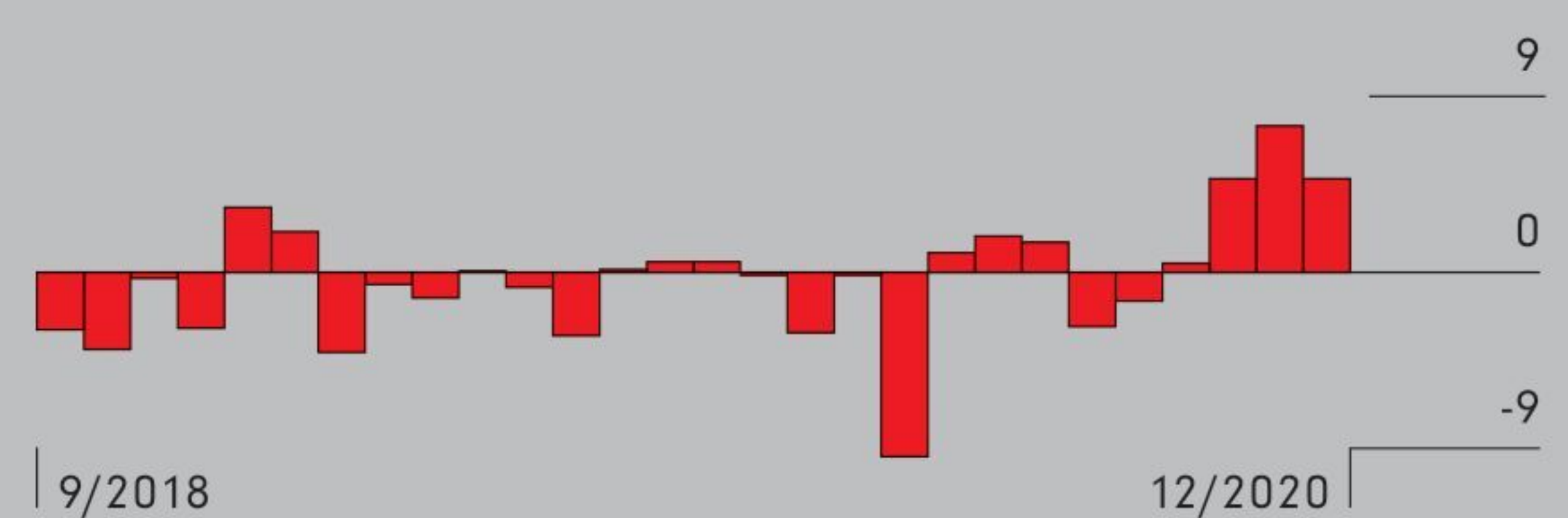
■ After losing to the largest peers all year, shares of small companies rallied following reports of effective vaccine developments, seen as key to ending the pandemic.

Russell 2000 Index

Monthly



Spread between the Russell 2000's and S&P 500's monthly change

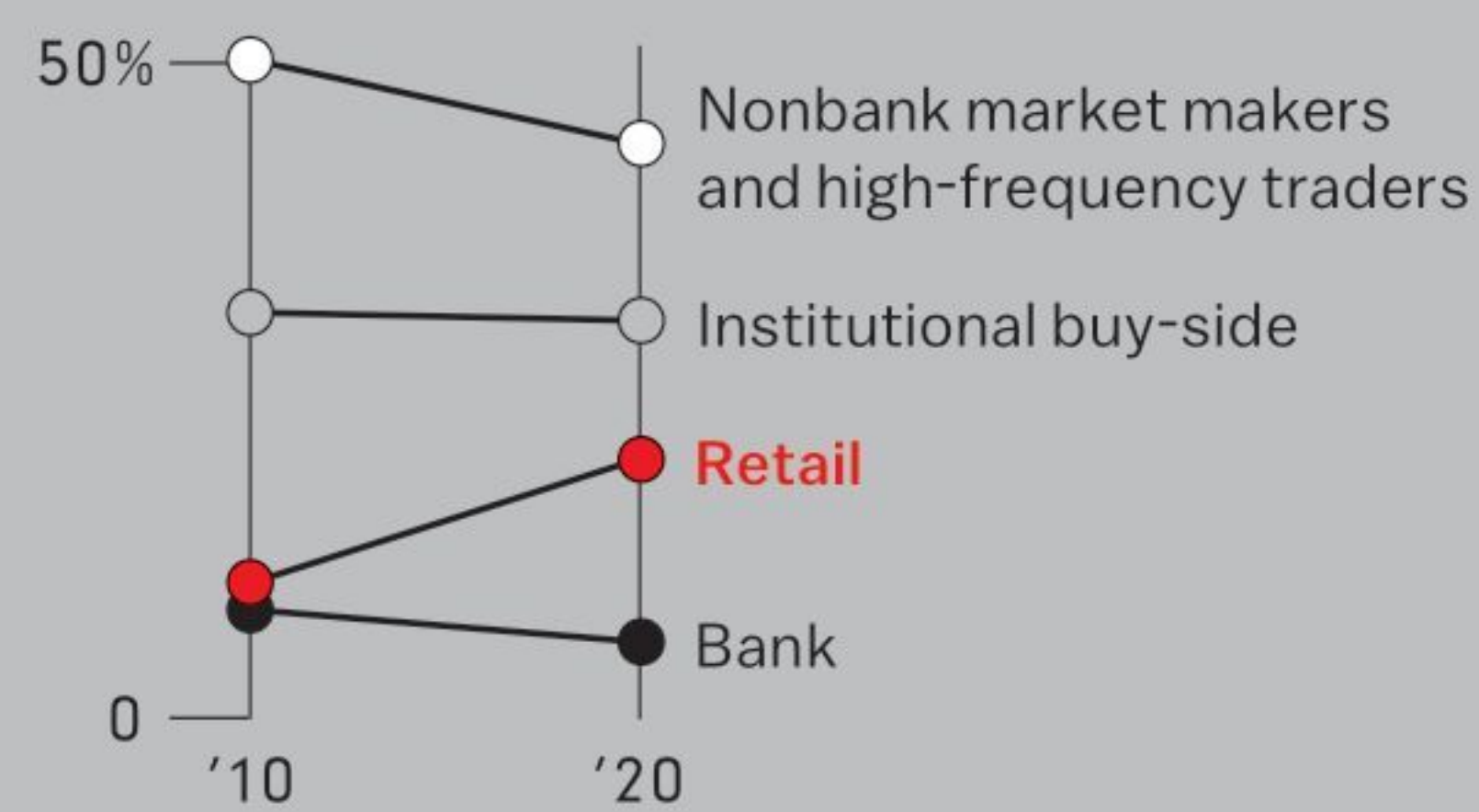


Sources: {RTY Index <GO>}, {SPX Index <GO>}

Getting Personal

■ Retail traders accounted for 20% of trading volume last year.

U.S. Equity Trading Volume

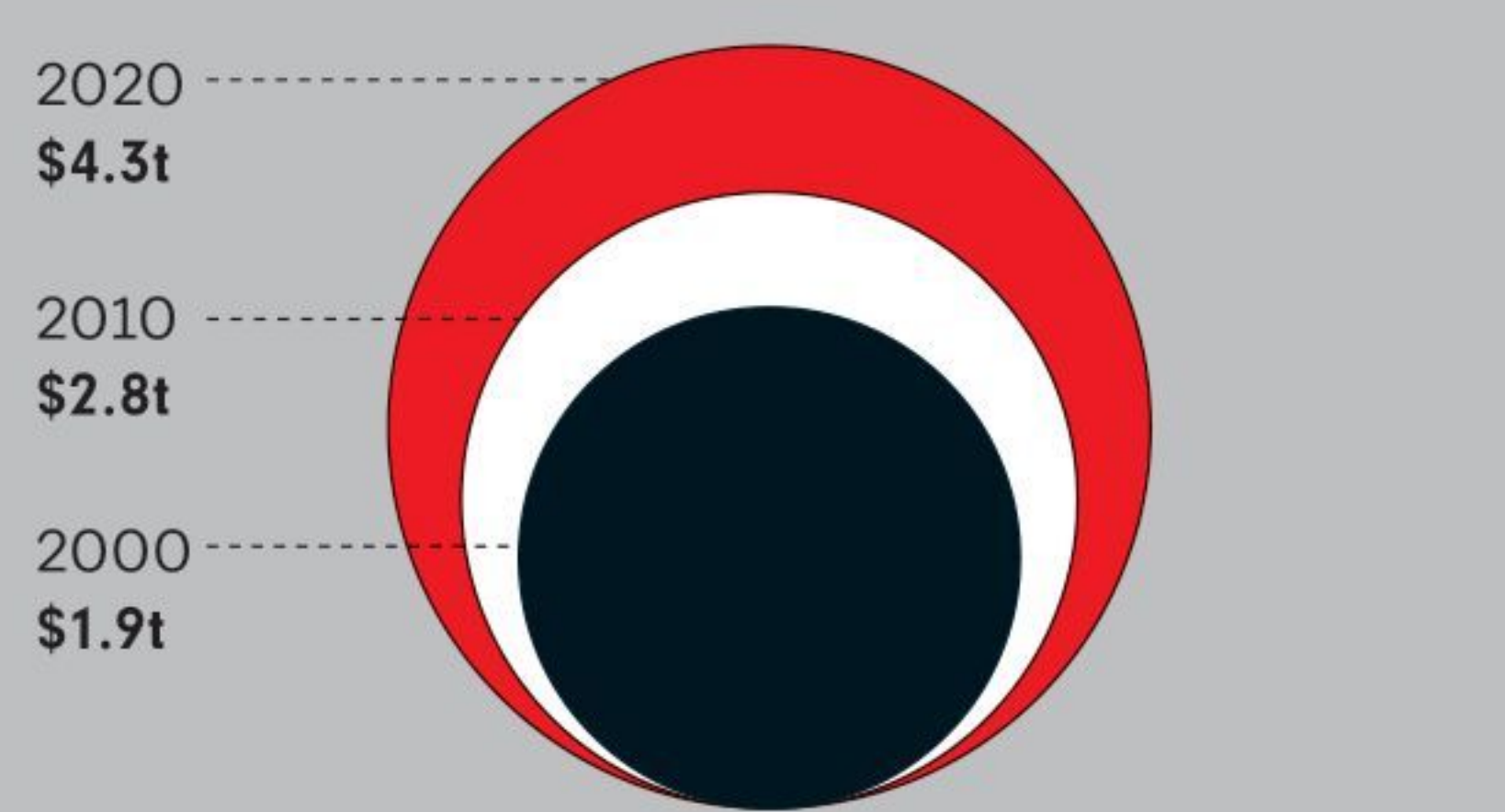


Source: Bloomberg Intelligence

A Rush to Cash

■ Money-market assets ballooned as investors ducked for cover.

Money-Market Assets at Yearend

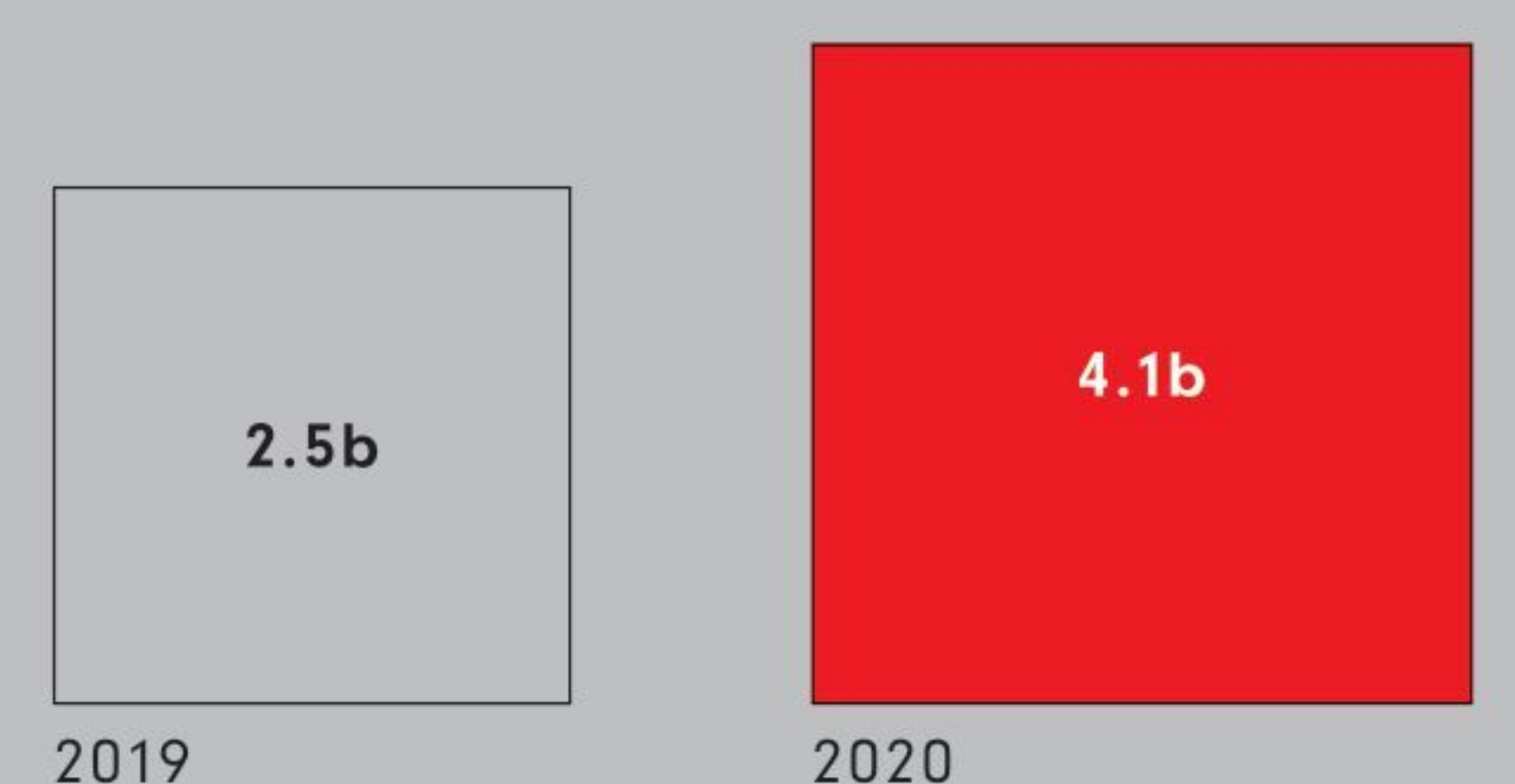


Source: {MMFA Index}

Options Surge

■ Demand for bullish contracts soared as stocks rebounded.

U.S. Call Options Trading Volume

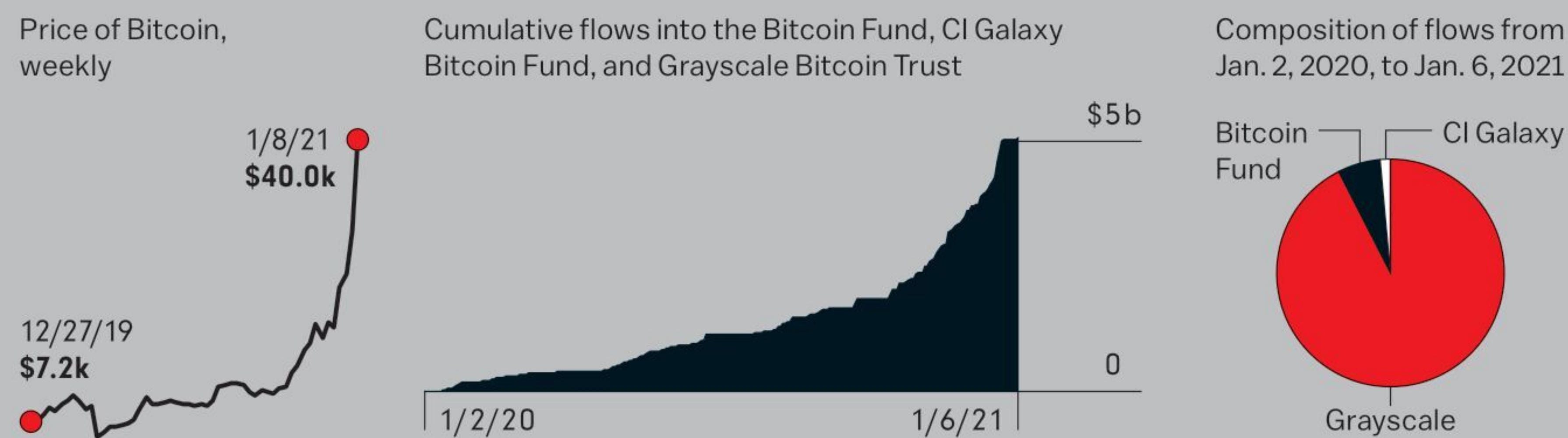


Source: {OPCVTOTC Index}

Cryptocurrency Soars

■ Bitcoin reached \$40,000 amid central bank money-printing and speculative fervor. Investors rushed to funds tracking the cryptocurrency for a piece of the action.

Bitcoin and Associated Funds and Trust Flows



Sources: {XBTUSD Curncy}, Bloomberg Intelligence

Still Shining

■ Demand for gold surged early in the year, then cooled off a little.

Gold



Source: {XAU Curncy}

Tech and Tesla Propel an ETF's Rapid Rise

■ Big bets on Tesla Inc. attracted exchange-traded fund investors to the Ark Innovation ETF, helping to boost its total inflows in 2020 to almost \$10 billion as it rose 149% last year.

ARK Innovation ETF



Sources: {ARKK Equity HLDS <GO>}, {TSLA Equity GP <GO>}, Bloomberg

Kris Sicial,
who started
a hedge fund
last year,
says he's
determined
to make

head-spinning
rallies
and market
crashes

work
for him,

not
against him





Risk Taker

By YAKOB PETERSEIL and
ELENA POPINA

PHOTOGRAPH BY ELIAS WILLIAMS

B

y now, Kris Sidal has his daily routine down to a T. After an hour at the gym, the 28-year-old New Yorker spends mornings and afternoons on incessant Zoom calls with prospective investors for his fledgling hedge fund while keeping one eye on markets. That leaves evenings free to pore over investment strategies and study toward a master's degree in computer science at the University of Pennsylvania.

All of which means there's an increasingly small amount of time to actually do what he loves: trading. As a pinned tweet on his account puts it, "Live, breathe, eat, sleep trading... nothing else I rather do."

Except maybe keep his name in the public eye as much as possible: TV appearances, including on Bloomberg TV; guest spots on popular finance podcasts such as *Flirting With Models* and *Real Vision*; and a perch on Twitter, where he's attracted more than 10,000 followers to his ruminations on the esoterica of derivatives trading.

While many traders as green as he is are still toiling away anonymously under more experienced bosses, Sidal is winning a following among veterans twice his age. "I don't purposely try to put myself out there," he says. "I think it just comes naturally. People who are in the business and know what they're doing understand that we know what we're doing. I'm not a fund manager that just buys Apple."

Making headway has rarely been harder in the hedge fund business. Fund liquidations in the first quarter of 2020 soared to the highest level in more than four years, and that was true for outfits with big-name backers or long track records. New York-based Ambrus Group, where Sidal is co-chief investment officer, has neither. As of late January it had less than \$25 million in assets and virtually no performance measures by which to judge it.

Sidal doesn't slot easily into the commonly perceived mold of a hedge fund manager. A self-professed "oddball" who spends lots of his time at his mother's house on Long Island, he doesn't drink or smoke, and says his diet consists mainly of broccoli and chicken breasts. He's a devout Christian who

prefers spending time with childhood friends over Wall Street types. He doesn't have a girlfriend and he says he isn't dating.

It's his insights in trading that have earned him respect in the industry. "I can't imagine being 28 and having the depth and vision that he has," says Cem Karsan, founder and senior managing partner of Aegea Capital Management in Chicago. Michael Green, chief strategist at hedge fund Logica Capital in Los Angeles, calls him a "very talented, smart kid."

SOME 50 MINUTES by car from the Hamptons, a roosting place for Wall Street billionaires, lies the Long Island town of Brentwood, a hot spot for a different crowd. With a population of about 61,000, Brentwood has long been a hive of illegal immigration and gang violence. "There are areas in Brentwood where there are Crips, Bloods, MS-13," says Esther Lewis, a local pastor. In 2017, standing in front of a blue phalanx of police officers, President Trump made a controversial speech in Brentwood about gang violence among immigrants.

As a teenager, Sidal was beaten up on occasion and even shot at once, though he says he escaped injury. "It was a tough neighborhood," says his mother, Ruth Sidal, 62. "I was at work most of the time. He used to go to Timberline Park in Brentwood, where there's lots of drugs and gun violence going on. He'd play basketball."

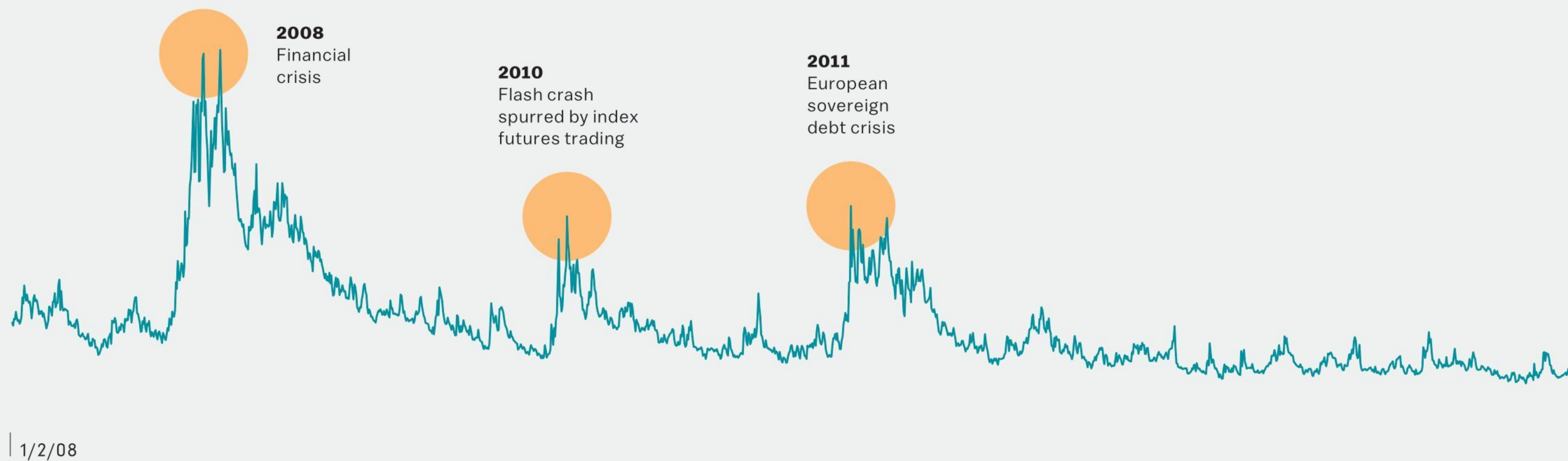
Sidal's father was largely absent from his life after his parents separated. Immigrants from Trinidad and Tobago, they'd followed a relative to the U.S. and were married shortly afterward. They never had much money. "We never took trips," Ruth says. "I had to watch the food. We didn't have extra."

A stellar student who dressed "meticulously," his mother says, Sidal exhibited a flair for self-presentation that he maintains today. "I've never seen anyone study that much," says the pastor Lewis, who's known Sidal since he was a teenager. "Most people take a break. He studied and studied."

At nearby Suffolk County Community College, Sidal majored in accounting while working part time at places such as Home Depot. After two years, he won a scholarship to

Moments of Chaos

Chicago Board Options Exchange Volatility Index



Long Island University, which would be on no one's list of springboards to Wall Street if billionaire hedge fund manager Ray Dalio weren't an alumnus.

There, Sidal caught the eye of one of his professors, Zhaohui Zhang. "There are several students I remember well because they had a passion for markets," Zhang says. "He was one of them." Zhang recalls spending hours talking markets with Sidal after class and says he was nonplussed when his student admitted to trading on his laptop during lectures. "He was a penny-stock trader at that time," Zhang says, adding, "He's well beyond that today."

About then, Sidal met William Wise, 33, now his partner and co-chief investment officer at Ambrus. Wise says Sidal is "hyperambitious," which perhaps helps explain why Wise, who has a newborn, commonly finds himself fielding messages about trading strategy from Sidal on Saturday nights.

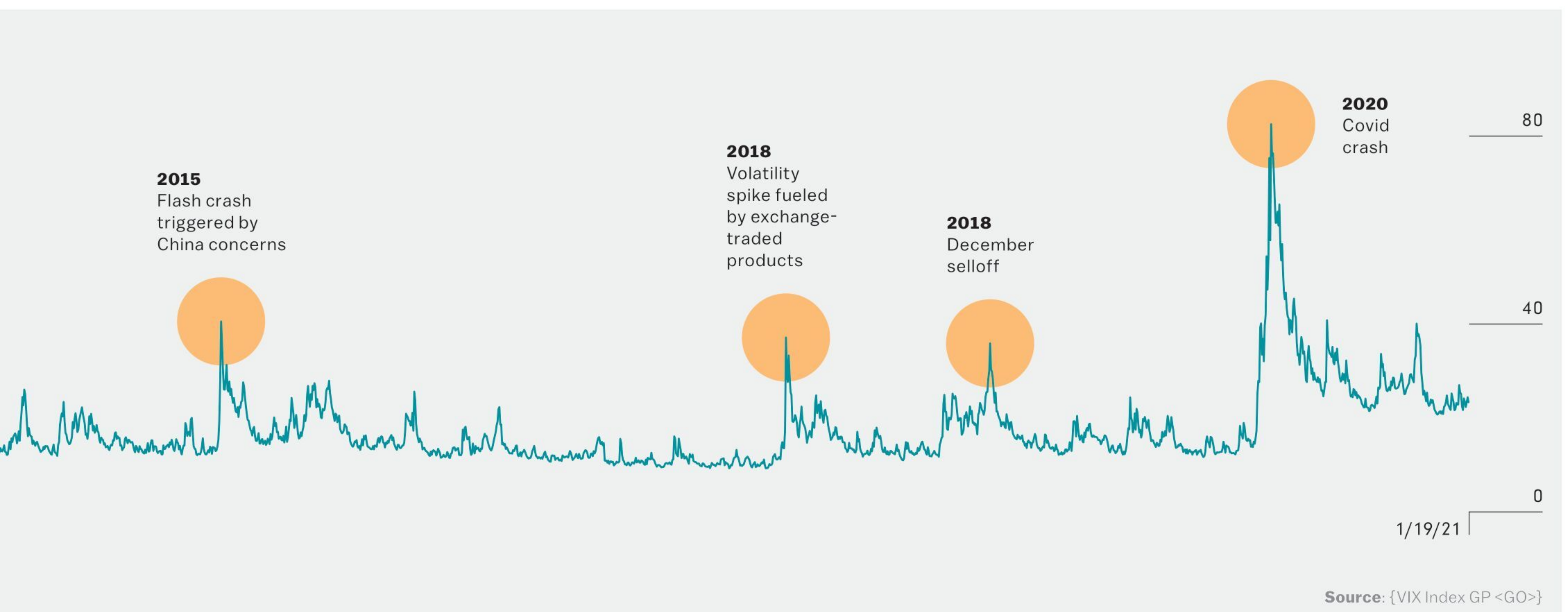
Because LIU is outside the pool of Ivy League universities that Wall Street often recruits from, Sidal devised an unorthodox employment strategy for himself. He'd take the train into Manhattan and, after the markets closed, hang out in front of a building where some of the proprietary traders he idolized worked. Then he pounced.

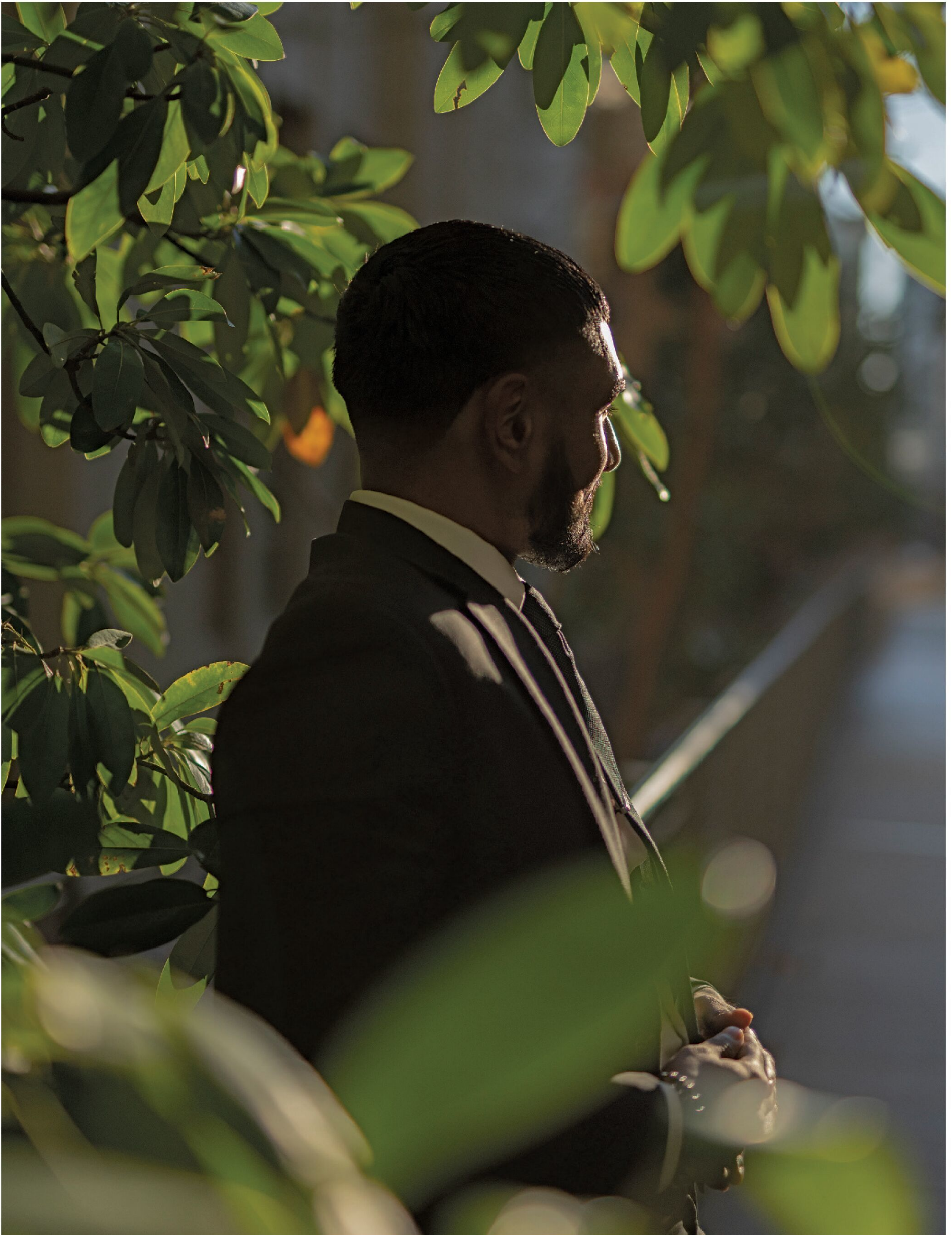
"I would extend my hand," Sidal recalls. "'Good afternoon, my name is Kris Sidal. You don't know me...' I would have this folder with my résumé and also brought the track record that I had [in] trading. A couple of times, guys entertained me. A few times, guys were very dismissive. I had nothing to lose."

"He's definitely a hustler," says Sal Abbasi, a former Citadel LLC director who's a partner at Ambrus. "It's a weird mix of humility and toughness."

In fact, stalking money managers got Sidal nowhere, and he ended up getting a break when he responded to a job posting from a trader on Long Island. The trader turned out to be Robert Kanter, a Wall Street veteran with 45 years of experience in the options market. Kanter hired Sidal as a clerk to help him execute trades for his family office, which is where Sidal says he got his first exposure to volatility and ▶

"People who are in the business and know what they're doing understand that we know what we're doing. I'm not a fund manager that just buys Apple"





“We lose on way more than we win. But when we win, we win pretty big”



options. “He was a good guy,” Kanter says. “There was no problem with him, and he did his job.”

With some actual trading experience under his belt, Sidal says that in 2015 he landed a role at Chimera Securities, a prop trading firm, and then at Xanthus Capital Management, a small hedge fund that laid him off after a year.

Encouraged by his mother to get work, Sidal found a temporary job in trade support at Bank of Montreal. The bank extended his contract several times. He then got a full-time position as a junior trader, rotating through several desks—exotics, listed options—that fueled his interest in volatility.

All the while, Sidal had stayed in touch with Wise, the two dreaming of opening a hedge fund together. In August 2020, Sidal left BMO and did just that. There’s a dispute between him and BMO over whether Sidal was involved “in a potentially undisclosed outside business activity” when he was employed by the bank, according to Finra BrokerCheck. “Such disputes,” says Sidal, “are not an uncommon thing when you leave the sell side to work on the buy side.” BMO didn’t respond to multiple requests for comment.

ALTHOUGH STOCKS have seemed to go in only one direction lately—up—the past 12 or so years have seen some of the most dramatic moves in market history: the beginning of the global financial crisis in October 2008, the European sovereign debt crisis in August 2011, the August 2015 flash crash, the volatility spike of February 2018, the Covid-19 wipeout in March 2020. After many of these upheavals, stocks rebounded almost as swiftly as they’d plunged.

That’s given rise to traders such as Sidal who like to bet on extreme events. Although tail-risk hedge funds have been around for a couple of decades, popularized by thinkers such as Nassim Nicholas Taleb, Sidal is as keen to bet on head-spinning rallies as on market crashes. He trades primarily options on stocks and exchange-traded products. “We lose on way more than we win,” Sidal says. “But when we win, we win pretty big.”

Take the case of Salesforce.com Inc., whose second-quarter earnings announcement on Aug. 25 was closely watched by Wall Street for clues on how demand for the company’s software was holding up. Ahead of the announcement, Ambrus loaded up on a mixture of deep out-of-the-money call and put options, based on hints about how Wall Street

dealers were positioned. After Salesforce reported quarterly earnings that were much better than analysts expected, the stock jumped as much as 29%. Call options that Sidal had bought for about 7¢ a contract were suddenly worth \$33.

THERE’S ANOTHER SIDE to Sidal that becomes evident once you spend some time with him: his religious devotion. “The belief in Christ—that drove me to keep my head on my shoulders,” he says. He wears a bracelet on each wrist—symbols of his connection to God. One is made of beads, the other of small wooden blocks imprinted with the images of saints. “He’s not shy about showing that he’s a believer,” says Zhang, his former professor.

Sidal attends church services every Sunday at the Upper Room Christian World Center in Dix Hills. He’s long supported a local ministry financially and through volunteer efforts, including handing out hams and turkeys to the homeless in Brentwood ahead of Thanksgiving. “There was a wonderful relationship between his mother and God,” says Pastor Lewis. “She was devout in praying and teaching him to pray, as well.”

Sunday mornings are a rare respite for Sidal, who after services allows himself a weekly indulgence: a one-hour nap. The rest of the week is a hurricane of activity as he races to get his hedge fund to \$100 million in assets. He thinks he can do it by the middle of next year.

With March 2020 still fresh in investors’ memories, now is arguably an auspicious time to start a volatility hedge fund. But for investors who have “gone down the road of investing in strategies that are volatility-based, by and large their experience has not been very good,” says Colton Loder, managing principal at alternative investment firm Cohalo Advisory LLC.

If Sidal does achieve his \$100 million goal, he says he won’t pursue Wall Street trappings such as Lamborghinis, yachts, or private islands. Although he says he also doesn’t covet the kind of thought leadership roles taken up by hedge fund stars like Dalio, he recognizes that to raise funds, he needs to make a name for himself. “In a perfect world, I would be able to focus on trading,” he says. “The reality is, I can’t afford to do that right now.” ●

Peterseil covers cross-assets in London.
Popina covers equities in New York.



We asked three executives who've spent their careers on the cutting edge of the financial industry what they see coming in 5 to 10 years. Here are their answers

*The
Next
Big Risk*



By SONALI BASAK

ILLUSTRATION BY DAN MATUTINA / PHOTOGRAPHS BY LEVI MANDEL

FEW PREDICTED—and most were unprepared for—the enormous challenges that have kicked off this decade: pandemic, economic collapse, social unrest, and political divisions around the world. Yet it’s the job of a Wall Street executive to factor in all the unknowns. So *Bloomberg Markets* asked three of the wisest and most visionary people in the industry about their worries for the next 5 to 10 years: R. Martin Chavez, who helped build Goldman Sachs Group Inc.’s trading and technology departments before he became a senior director in 2019; Eileen Murray, a Morgan Stanley veteran who was co-chief executive officer at Bridgewater Associates LP before stepping down in March 2020; and David Siegel, co-founder and co-chairman of quant financial services giant Two Sigma Investments LLC. Their comments have been edited for length and clarity.



Safeguarding Systems

R. MARTIN CHAVEZ

*Senior director and former global head of securities,
Goldman Sachs*

If I lie awake thinking about bad things that can happen, my concerns—and this may say more about me than anything else—are almost all about cybersecurity. Can we actually rely on, for instance, the integrity of core systems?

Here’s a scenario that is not contemplated in CCAR [the Federal Reserve’s Comprehensive Capital Analysis and Review, an annual assessment of the largest U.S. banks]: What about the Fedwire? The Fedwire is the definitive central book that says, “Who’s the beneficial owner of which Treasury security?” We rely intensely on that infrastructure. And of course, the Fed has done a very great deal to have hot backups and warm backups and cold backups. I don’t know that we’re putting enough time and energy into modeling what a disruption of banking systems—core banking systems, payment systems such as the Fedwire—what that would do to our economy.

You remember from a few years back that some hackers managed to get a hold of the Swift [Society for Worldwide Interbank Financial Telecommunication] credentials of Bangladesh Bank, the central bank of Bangladesh, and caused several tens of millions of dollars to disappear from Bangladesh Bank's master account at the Federal Reserve Bank of New York. Some of the money was recovered, but some of it seems to have disappeared into casinos in Macau—walked out the door and was never recovered. In this case it was not a failure of the Federal Reserve. Someone managed to get access to the Swift credentials of a bank that had an account at the Federal Reserve, and they drained that bank's master account.

The whole point of being a risk manager is not to say that something's going to happen and to be an alarmist, it's just to open your mind to a lot of possibilities of things that could happen—and then get yourself comfortable that they're really unlikely. So I just don't know about all of the security arrangements of the Federal Reserve, for instance, or of the ECB [European Central Bank]. I have confidence that they take these matters with extreme seriousness, but I personally don't know exactly what they are doing, what kinds of technologies they're using, to safeguard the system.

Almost all U.S. Treasuries do not exist in the form of a paper certificate—over 99.9% of them exist purely in electronic form. And Treasuries are the beating heart of the global financial system. Every country has its inventory of U.S.

Treasuries. Treasuries are used as collateral for everything.

And yet, if you ponder that they exist entirely in electronic form, you've got to really start worrying about that electronic form. I am actually less worried that [these systems] could be hacked and simply halted. The thing that I think worries me more is, could it systematically be corrupted by a hacker? So instead of having confidence in who is the beneficial owner of every Treasury, [you might wonder] in whose possession is that Treasury at every moment in time? Because that's the core of the financial system: moving Treasuries around. But when you think about it, the Treasuries are electronic—they're not actually being moved in physical space; there's just a computer somewhere that's keeping track of who owns them. And if someone could get into that record and cause us to lose confidence in who owns the Treasuries, that would be, I mean—it's so hard to even think about that outcome—it would be so extreme and so dire.

However, I worry more about nonfinancial companies than I do about financial companies. If you looked at the pandemic, there was very little concern about the integrity and stability of banks. Think of how startling that is, right? Compare that to the financial crisis, which was all about concerns about participants in the financial ecosystem. In the current crisis, the concern has been about everybody except banks, and I would say an important reason for that is CCAR.

Should there be a CCAR equivalent for systemically important nonbanks? As we discovered in the pandemic, there's a lot of systemically important companies. It suddenly became obvious to everybody. Without Amazon or Google or our internet service provider, our problems would become even greater. And so, do we want to have some kind of framework so that we can have confidence in nonfinancial companies in a crisis?

There's been a lot of concern over the past few years about artificial intelligence. Will some AI take over, and then we become the AI's pets? Well, I'm actually more worried about something that I think has already happened.

We already have massive AIs in the form of these tech companies. Their data centers are running software on those millions of computers, and collectively they are artificial intelligences. And they're artificial intelligences that are systematically exploiting weaknesses in human psychology: our tribalism, our gullibility, or wanting to be told what to believe, our wanting to be liked, our wanting to be told that we're right. And they're exploiting it to the end of maximizing advertising revenue. So, yes, I think we have to ask ourselves: Should we even allow this model of targeted digital ads? I worry a lot less about subscription services. If I'm paying someone a subscription like Netflix, their job is to keep me happy so I keep paying that subscription. But you know that old saying: "If you are not paying for some product or service, then you are the product or service." So, yeah, I spend a lot of nights lying awake thinking about the extent to which we have become the product of artificial intelligences that are selling our attention and our behavior to advertisers. I think that core business model is extremely problematic in a way that untrammelled, undercapitalized trading and inventory of risk was a problem that was part of the financial crisis. ►

Mass Unemployment

EILEEN MURRAY
*Former co-CEO,
Bridgewater Associates*

I think the next pandemic that's coming is the displacement of the workforce [that's] not being trained to participate in the economy. Dealing with that will take a lot more than a vaccine. The unskilled worker is the next pandemic.

Let me just step back. First of all, I think that it's pretty clear if you have high degrees of unemployment, there are basic economic impacts that are not good for the nation. It puts an incredible strain on the economy. It usually only gets addressed through higher taxes on a smaller and smaller tax base. It increases the gaps between the haves and have-nots, which historically has caused more social unrest if it goes on for a period of time. We saw high levels of unemployment like in the Depression create hopelessness and despair in individuals, in families, and their communities.

I think [unemployment] happens as quickly as automation displaces people from work without concurrently retraining them and retooling them for other types of work. Does that make sense?

Look at the amount of money the U.S. spends on education per capita, and look at where it places in terms of education among developed countries. There's a mismatch there. Throughout history, education has proven to be the vaccine for poverty and for the gaps between the haves and have-nots.

What I'm seeing is a growing gap between the haves and have-nots. The rich are getting richer, the poor are getting poorer, and we're losing the middle class. To the extent that you have rising unemployment, you have people who can buy fewer goods and services, and you also have a need for the government to increase the tax base, including corporate taxes. The better way is for business, government, and educators to get together and say, a) "Do we all agree there's a looming problem ahead of us?" and b) "What are the things that we can jointly do to start working on that problem?"

I've been talking about the issue for the last 10 years. McKinsey did a 2013 study and found that up to \$9 trillion in global wage cost can be eliminated by automating a wide range of knowledge-intensive tasks such as analyzing customer credit ratings and providing financial advice. That's 2013. I don't know what the numbers would be today. There was also a study by the Oxford Martin program on technology and employment: Only 0.5% of the U.S. workforce is employed in industries [associated with new technologies] today that didn't exist at the turn of the century. And it's not

just that these people aren't a significant part of these new industries—it might be the nature of the industry—but we need to find ways of getting people more involved and better trained. And I don't mean just college training. It might be training in different types of work such as working on rebuilding infrastructure. I think it's a function of government, education, and business getting together.

In other words, this problem isn't going to be solved by a vaccine. It's not going to be solved by more military force or more security. It's not going to be solved by those kind of things that happen more quickly. It's going to be solved by retraining or retooling.

Let me give you an example. Companies may have to put up capital for future litigation costs. They might have to put up capital for certain regulatory things, so should regulators give companies that retrain their people a break vs. companies that don't retrain and retool?

There's been a lot of college graduates. And a lot of them didn't find jobs. Did we produce more college graduates than the economy needed? But I also know that we don't have enough electricians; we don't have enough plumbers. Are there other skills beyond a four-year college diploma or an MBA that could be alternative ways of training or developing people for the future economy?

I don't think companies will keep unproductive people around for very long. Here's what I think is hopeless: If you tell someone this is your life for the next 40 years, and you'll be doing the same thing over and over again, when you take away from people the hope to realize their potential, that is the epitome of despair.

Is this the best we can do societally? Is this the world we're going to leave for our children?





Devaluing Humans

DAVID SIEGEL

*Co-founder and co-chairman,
Two Sigma*

One thing that I worry about, which may not necessarily be something that people talk about all the time—remember, I’m a tech guy—is that we may be building a world that is not particularly designed for humans.

Henry Ford talked about it long ago. He wanted to produce cars, but he wanted to make sure that the people producing the cars could earn enough money that they could buy the cars. And you get this wonderful effect where the growth in economic output produces good jobs, which then will help grow the economic output. It becomes a virtuous cycle.

What we’re doing today is finding more and more ways to essentially reduce the need to have humans involved with work. So much of the investment in business in America is

to essentially automate away human labor or, even more curiously, to devalue human labor.

The nature of work is changing. For some people it’s getting a lot better. But for probably the majority of people, it’s not really getting better. If you can’t fix this problem, what could occur is that we end up with this sort of barbell economy where a lot of people aren’t really doing all that well. Not only is that just not a good thing, but also they’ll have less money to spend to make the economy get bigger, so the Henry Ford thing won’t occur. I think this is being overlooked. And it’s happening kind of slowly.

I am not at all concerned that there’ll be a shortage of work. There will be plenty of things for people to do. The problem is, they may be things that we don’t want to pay much money for.

Are we truly building a better world for ourselves? Or are we trying to essentially optimize some number like GDP, which in the end doesn’t have all that much to do with whether or not we’re happy and fulfilled and it’s a good stable society? So we’re having more and more focus just purely on automating stuff away, trying to make things more efficient, that may not actually make your life and my life and everyone else’s lives feel better. It may not be like a human-centered society.

I don’t think people are reflecting enough, in America anyway, as to whether or not this is precisely what we want. It’s different in other countries. In Japan, for example, I think people have put more emphasis on upgrading experiences because they understand that when you go out—walking down the street, going into stores, and all that—if you make it appealing, people not only will want to go to your store, but it’s an experience, you enjoy it. So what will the modern experiences be? Are we going to all be sitting at home, wearing VR goggles, and clicking away all the time?

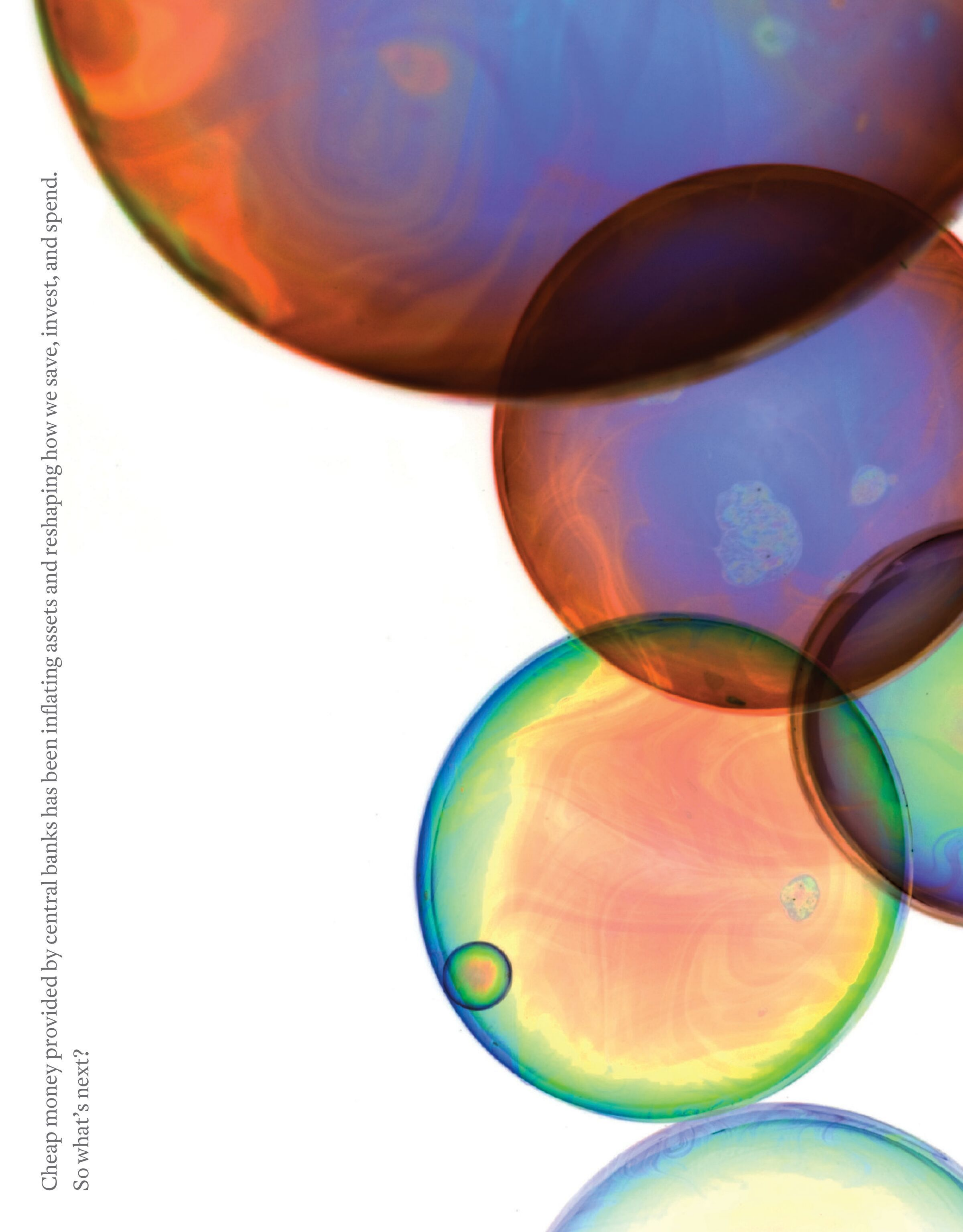
Social networks like Facebook, people talk about all the problems, but you know one thing that it does is it makes socializing very efficient. So you can have your 100 friends or 500 friends, and you don’t have to waste time calling people up telling them what happened. You go click, click, click, and then everyone knows about your life. It’s the most efficient way to socialize, right? Something doesn’t sound right. You know that. Do you really want these levels of efficiency?

I’m not nearly the first one to say this, but at least at a very high level, GDP is the thing everyone looks at. And, you know, quite frankly, I’m not sure that that matters all that much. Because it’s literally such a crude number. Do you really care about GDP? Is that how you’re gauging the quality of your life? No? OK. We don’t spend very much time thinking about the quality of life more broadly. You could in some sense create an ever-growing GDP but have most people saying this is pretty bad. We could end up with a lot of unhappy people. Maybe we’re there already.

A lot of people talk about, is AI dangerous? Some people have been out there saying it’s more dangerous than nuclear weapons. I think that that’s very silly. AI is a very useful tool. But the question is, how do you use it? ●

Basak covers finance in New York.

Cheap money provided by central banks has been inflating assets and reshaping how we save, invest, and spend.
So what's next?



Bubbles Everywhere

By ENDA CURRAN and
CHRIS ANSTEY



In Hong Kong, crypto-trader Sam Bankman-Fried stole naps on his office beanbag to get through 18-hour days as demand surged for digital assets. At an auction in Wellington, Darryl Harper pronounced the New Zealand housing market “ferocious” as he brought the hammer down on homes going for hundreds of thousands of dollars above their official valuations. In Makati City, the Philippines, AC Energy Corp. Chief Financial Officer and Treasurer Corazon Dizon was overwhelmed by the appetite for a \$300 million green bond. And in Midtown Manhattan, hedge fund manager David Einhorn marveled over a job application from a 13-year-old who claimed he’d quadrupled his money.

A common thread runs through these scenes from the plague year 2020: Cheap money, gushing in from the world’s major central banks, inflated assets and reshaped how we save, invest, and spend. And that’s not the end of it. Unlike past recoveries, when investors had no clarity on when the monetary taps would be tightened, this time officials have explicitly said they’re going to stick to their loose policies well into a post-Covid recovery.

The strategy is clear and deliberate: Snuff out volatility from the bond market and make debt the cheapest it’s ever been to deter saving and encourage investment. The hope: Cheap cash leads companies to invest and hire as rising asset prices make people more confident and ready to spend. The inevitable side effect: More volatility for assets (apart from bonds) as investors chase returns around the world. And, of course, the risk: Bloated asset prices pop, undermining financial stability before the real economy can benefit from all that cash.

“There is no escaping that if you enhance liquidity dramatically, the money will go in search for yield and certainly can expose assets to mispricing,” says Agustín Carstens, general manager of the Basel, Switzerland-based Bank for International Settlements, the so-called bank for central banks. “This is a risk and something that needs to be recognized and that needs to be watched very, very carefully.”

Signs of bubbles are everywhere as stock prices jumped by a magnitude not seen since the dot-com era, new share listings boom, and Bitcoin, though volatile, continues its generally upward climb. But if company earnings fall short of expectations or the vaccine rollout falters, there’s a risk markets will lurch as investors take money off the table.

CENTRAL BANKERS, from the U.S. Federal Reserve’s Jerome Powell on down, are well aware of the danger. Surging valuations—some investors call what’s happening “the everything rally”—have been too obvious to ignore. Powell, Bank of Japan Governor Haruhiko Kuroda, and other leading central bankers, though taken to task about bubbles in markets in recent months, have played down the concerns. That’s in part because they’re mindful of the danger of closing the monetary spigot too quickly. Indeed, coming out of the last crisis a decade ago, policymakers in some economies were probably too quick to withdraw stimulus for fear of creating bubbles and ended up putting the brakes on the economic recovery.

“Central banks know what they are doing— basically lowering the return of safe assets to increase demand for risky ones. Once you do that, you know a bubble might appear, but the cost of not doing anything is probably even higher”



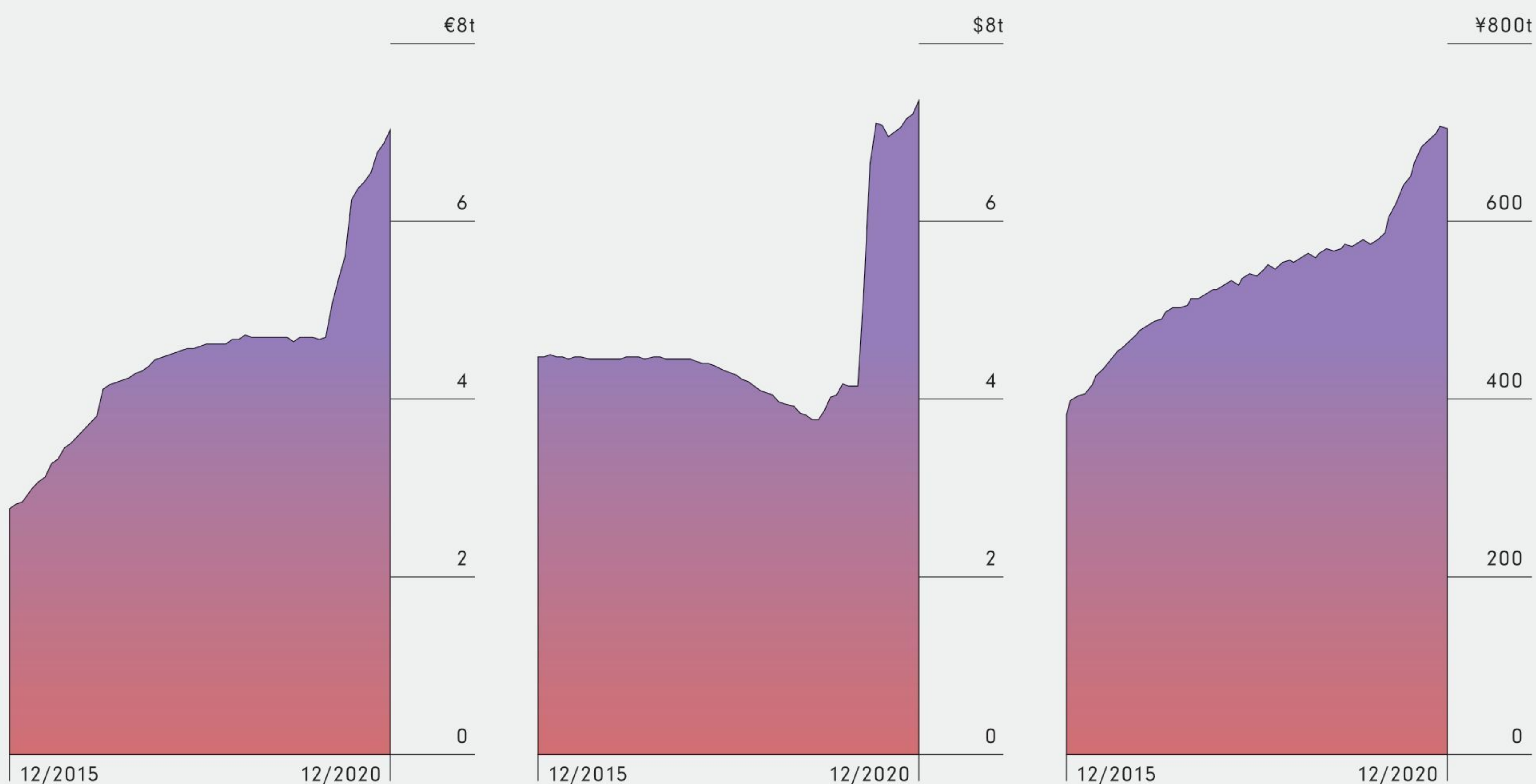
Governments Load Up on Debt

Central banks' balance sheets

European Central Bank

Federal Reserve

Bank of Japan



Sources: {EBBSTOTA Index}, {FARBAST Index}, {BJACTOTL Index}

When the pandemic's spread led to shutdowns across much of the world, most central banks went all in. They slashed positive interest rates to near zero; where rates were already razor-thin, they massively increased asset purchases; many set up emergency funding for struggling companies; and this time most pledged to keep their unprecedented settings for the next few years. Across 2020, governments rolled out at least \$12 trillion in fiscal stimulus, according to the International Monetary Fund, and central banks provided trillions more in monetary support.

It worked. Global bond markets that showed alarming signs of dislocation last March turned calm. Stock markets rallied. Currencies in emerging markets strengthened, letting their central banks get in on the easing act, too. The result has been extraordinarily low yields even for the longest-dated debt securities and traditionally riskier borrowers.

As of Dec. 31, \$17.8 trillion in debt was trading with a negative yield. Governments from Australia to Spain were effectively getting paid to borrow. Junk bonds in the U.S. were trading at yields similar to those of investment-grade corporate debt that priced just two years earlier. When Peru sold a debut 100-year bond in November, the instrument became the lowest-yielding security of such maturity ever issued by the government of a developing economy.

"Central banks, and especially the Fed, have already created bubbles," says Alicia García-Herrero, chief Asia-Pacific economist at Natixis SA in Hong Kong, who previously worked for the IMF and the European Central Bank. She points to the disconnect between booming markets and a very uneven

economic recovery. "Central banks know what they are doing—basically lowering the return of safe assets to increase demand for risky ones. Once you do that, you know a bubble might appear, but the cost of not doing anything is probably even higher."

WHEN THE AUCTION of seven houses met with frenetic bidding in Wellington in November, a modest 80-square-meter, three-bedroom cottage went for NZ\$945,000 (\$678,000)—well above the so-called rateable valuation of NZ\$640,000 assessed by the local government. "Interest rates historically have never been lower," says Harper, the auctioneer. "So it's easy for buyers to borrow."

While New Zealand's central bank had managed to skirt the global financial crisis without resorting to quantitative easing, the pandemic blew that up. The Reserve Bank of New Zealand cut interest rates and launched a bond-buying program—the impact of which, coupled with a supply shortage, lit up the nation's house prices. With rock-bottom borrowing costs stoking demand for homes, the government took the unusual step of asking the RBNZ to take the housing market into account when it sets its policies—a move the bank resisted.

Bidding for their first home, Harriette McClelland and Harry Greenwood, both in their late 20s, missed out when the price approached NZ\$1.2 million. "I'm disappointed," McClelland said at the time. She pinned some of the blame on a lack of supply, adding, "but obviously low interest rates have really escalated things a lot." ▶

That disappointment is mirrored globally as inequality deepens across different population groups. Owners of appreciating assets are enjoying hearty gains in wealth, while those without them are missing out.

The world's 500 richest people added \$1.8 trillion to their combined net worth last year, taking it to \$7.6 trillion, according to the Bloomberg Billionaires Index. Until January, Amazon.com Inc. founder Jeff Bezos remained the world's richest person, thanks to surging enthusiasm for online retail during lockdown. Then, in possibly the fastest bout of wealth creation in history, Elon Musk leapt into first place after Tesla Inc. skyrocketed in value. Combined, these two men gained about \$217 billion in 12 months, enough to send \$2,000 checks to more than 100 million Americans.

Critics say central bankers are deepening inequality by whipping markets to frothy heights while doing little for wage gains or job creation in the real economy. On the other hand, there's the argument that in the end, monetary policy is limited in what it can do to heal a shattered economy. Reserve Bank of Australia Governor Philip Lowe acknowledged as much in testimony to lawmakers in Canberra in December: "All I can do is try to make the aggregate strong," he said.

What's needed instead is more government spending, according to the likes of former U.S. Treasury Secretary Lawrence Summers and former Council of Economic Advisers chair Jason Furman. Democratic lawmakers have been pressing the Fed to revive initiatives it launched to help smaller businesses and municipalities. For their part, Republican lawmakers have sought to limit the ability of the Fed to use non-

traditional policy tools; in late 2020 they forced a phaseout of five emergency lending facilities, auguring further political battles, especially if asset price inflation continues. The administration of Joe Biden will have a chance to help shape the debate as he fills appointments on the Fed board.

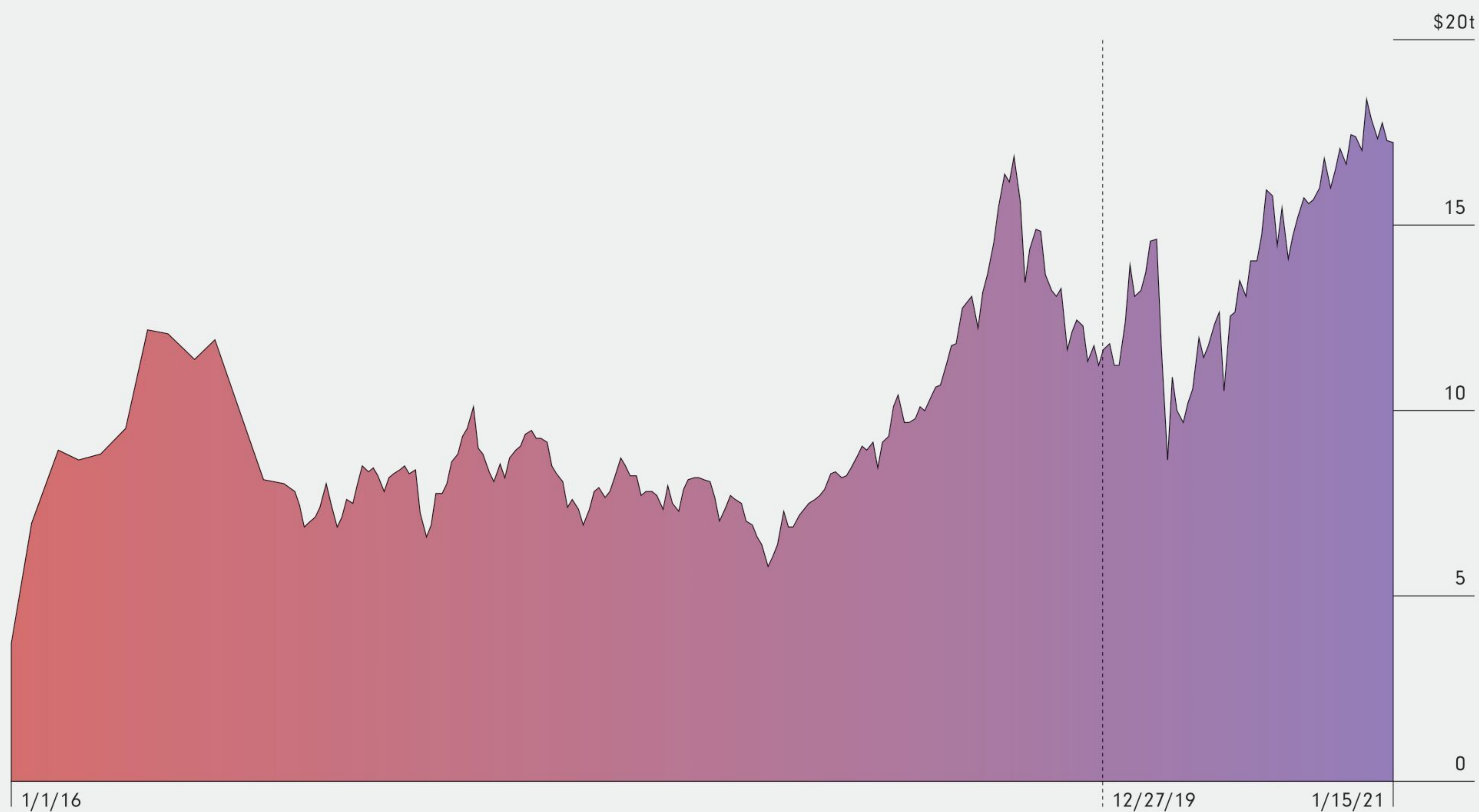
THERE'S NO DOUBT that massive monetary injections have made it easier for cash-strapped governments to fund budget deficits. They're killing bond vigilantes, those investors who demand a greater return, especially for longer-dated securities, when a government's borrowing soars to compensate for the added risk in being paid back. Nowadays central banks—explicitly in the case of Japan and Australia or implicitly in the case of the U.S. and some others—are damping even long-maturity yields with guidance that assures prolonged easy money.

Fed Chairman Powell alluded to the dynamic in a Dec. 16 press briefing when commenting on soaring U.S. stocks and their elevated price-earnings ratios. "Admittedly, p-e's are high," he said. "But that's maybe not as relevant in a world where we think the 10-year Treasury is going to be lower than it's been historically from a return perspective." He spoke after the Fed linked its balance sheet expansion to achieving progress toward its inflation and employment goals—a marked evolution from the spring of 2020, when it was designed to avert a lockdown-induced credit squeeze.

For Paul Nolte, a portfolio manager at Kingsview Asset Management LLC in Chicago, Fed policy has been the key factor in his decision-making in the past year. When it became


When Borrowing Pays

Market value of the Bloomberg Barclays Global Negative Yielding Debt Index, weekly



Source: {BNYDMVU Index}

“The low-yield environment is leading more companies to say, ‘Let’s put our money in Bitcoin.’ I am working 17, 18 hours a day and taking naps when I can in the office. All of our metrics are way up”



clear last spring that monetary policy was riding to the rescue, he says, it “was a moment of ‘aha, here comes the Fed.’” Starting in April, after monetary authorities began pumping liquidity into markets, he piled into high-yield bonds along with investment-grade credit and equities.

By the summertime, he found himself fielding calls from clients who were alarmed at his bullish market positioning, given mounting worries over a coronavirus resurgence. “Some of them called and said, ‘It’s too risky, we need to go to cash,’” Nolte says. “They couldn’t understand what kept the stock market going. I’d tell them, ‘The key to that is the Fed. You want to pay attention to the economy, but you need to pay even more attention to the Fed.’” Later in the year he was still favoring riskier assets, turning toward sectors including small-cap shares and emerging markets.

On the same day in December that Powell gave his stimulus assurance, Bitcoin breached \$20,000 for the first time, en route to a 2020 gain of 305%. Scott Miner of Guggenheim Investments told Bloomberg TV that the fair value of the world’s largest cryptocurrency still had a way to go. Its scarcity and “rampant money printing” by the Fed suggested Bitcoin would eventually climb to about \$400,000, Miner reckoned—though he tempered his enthusiasm in January, after Bitcoin slid as much as 21% over a couple of days, saying, “Bitcoin’s parabolic rise is unsustainable in the near term.”

While established crypto-traders remain the major force behind Bitcoin’s move, newcomers to the digital market including big companies and Wall Street investors are also a factor, says Hong Kong-based Bankman-Fried, who founded the derivatives exchange FTX and also heads the crypto-trading firm Alameda Research. “The low-yield environment is leading more companies to say, ‘Let’s put our money in Bitcoin,’” he says. “I am working 17, 18 hours a day and taking naps when I can in the office. All of our metrics are way up.”

Bubbles aren’t an economic problem until they pop. Efficient markets should price in the future, so rallying shares, house prices, bonds, and Bitcoin could all be signaling a robust expansion as the global economy shakes off the coronavirus shock. “The biggest risk is that the capital markets central banks don’t control start to misbehave,” says Michael Shaoul, chief executive officer at Marketfield Asset Management LLC. The medium-term pledge from central banks forswearing tightening, he says, “has already been priced into many financial decisions.”

One example: Private equity and other nonpublic investors have poured into commercial real estate even as the pandemic has raised questions about the future of cities. Despite its exposure to malls, restaurants, hotels, and offices that may face lower long-term revenue in a post-Covid world, commercial property has been rebounding. Premiums on U.S. BBB-rated commercial property bonds almost halved between May and the end of 2020, according to data Bloomberg compiled. That was despite delinquency rates on commercial mortgage-backed securities that as of November weren’t improving, according to Goldman Sachs Group Inc. For securities tied to lodging, the delinquency rate was almost 23%, and for retail it was 12%, according to a mid-December Goldman report. ▶

With investors chasing returns wherever they can find them, the rising tide of money is flowing through to bonds sold by companies from poorer economies, too. This is the case even in nations that have been among the hardest hit by the pandemic. When AC Energy, part of Philippine conglomerate Ayala Corp., sold a \$300 million perpetual green bond at 5.1% in November, CFO Dizon described the demand as “overwhelming.” Vaccine optimism, along with expectations for a strong recovery in 2021, helped clear the route for AC Energy’s fundraising. “In the morning we announced the mandate and in the evening we priced,” she says. “That usually takes two days. But we saw that the market was very strong, so our bankers recommended to just close everything in the day.”

FOR ALL THE MARKET optimism that abounded as the new year began, one thing was clear: The global economy will need a powerful recovery to justify lofty valuations in global stock markets.


In October, high-flying equities persuaded Einhorn’s Greenlight Capital to bet against what he called a “bubble basket of mostly second-tier companies and recent IPOs trading at remarkable valuations.” But to those who think that central bank stimulus is a solid foundation on which to make bets, Einhorn says the history of monetary policy in Japan and Europe shows that “artificially controlled long-term interest rates are no justification for stratospheric equity valuations.”

The surge in equities since the financial system’s darkest days in late March of last year—an advance that saw the S&P 500 index soar 68% from its low that month to the end of the year—also had companies rushing to take advantage of flattering valuations. Initial public offerings raised about \$180 billion on U.S. exchanges in 2020, more than double the prior year’s total and far above the previous high of \$102 billion set in 2000, according to data Bloomberg compiled. That included some blockbuster debuts, such as Airbnb Inc. more than doubling, up 113%, on its first day of trading, and DoorDash Inc. jumping 86%.



The IPO wave was also powered by a new investment structure involving so-called special-purpose acquisition companies that’s become increasingly popular in recent years. SPACs raise money through public offerings, using the funds to buy stakes in target companies they identify after they’re listed.

Until fairly recently, these companies focused on “value” sectors, where assets are perceived to be underpriced. Then came 2020. Not only did a record number of SPACs come to market, but 31% of them didn’t even specify an industry they were targeting, according to Goldman analysts led by David Kostin in a December report. Total proceeds more than quintupled. From the start of July through mid-December, the market averaged more than one SPAC IPO a day. “With the Fed committed to keeping the funds rates near zero, our view is that SPAC activity will continue at a high pace in 2021,” the report said.

Amid all the rippling effects—from central banks to government bonds to equities, real estate, and emerging

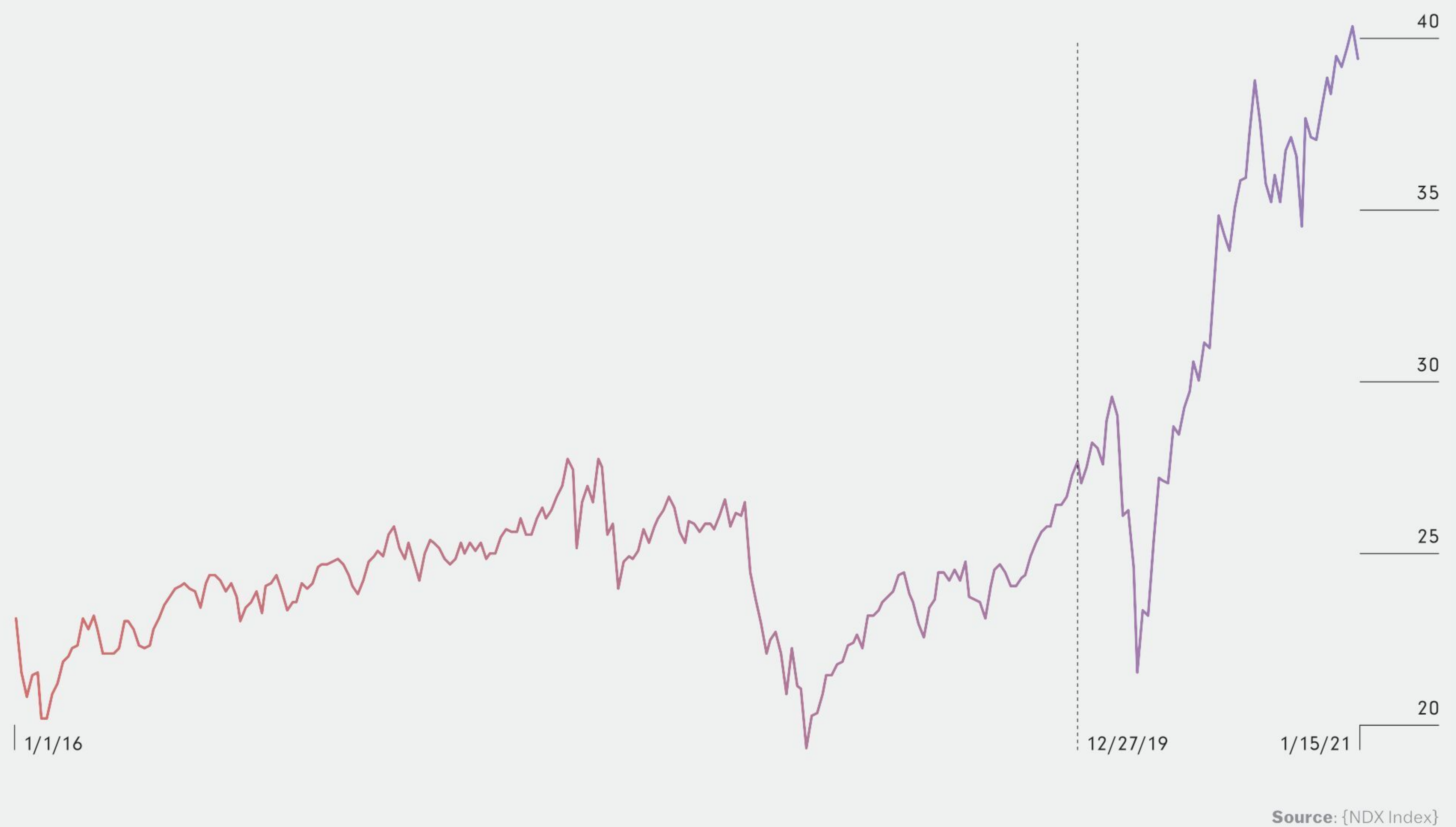


“The liquidity bazooka buys time and pushes up asset prices but has zero value in improving economic trend growth. Like a black hole, once you are in it, it is extremely difficult to get out. That’s where we are in central banking, we are in a liquidity black hole”



Tech Gets Pricier

Trailing 12-month price-earnings ratio of the Nasdaq-100 Index, weekly



markets—the most worrying dynamic for many is the explosion of new debt, both public and private. Borrowing grew \$15 trillion in the first three quarters of 2020, to a record of more than \$272 trillion, according to the Institute of International Finance. The Washington-based group warns that emerging-market debt, excluding banks, is quickly approaching 210% of gross domestic product, up from 185% in 2019 and 140% a decade ago. The fear is that falling revenues will make paying back that debt harder, even with low interest rates.

If inflation rises and central banks are forced to dial back on easing, then bond markets globally will feel the pain, perhaps even derailing any recovery. The Taper Tantrum of 2013 is illustrative. When then-Fed Chairman Ben Bernanke announced a future tapering of his quantitative easing program, U.S. Treasury yields shot higher, roiling markets around the world. This time around the exit ramp will be even more fraught with danger, given the larger scale of stimulus.

Even if things do work out as currently envisaged, there are risks. Japan is an example of the kinds of challenges that crop up if monetary policy remains stuck in place for a long time. Japanese investors have been effectively forced out of their country's government bond market by the Bank of Japan's voracious QE, destabilizing institutions that traditionally relied on parking investments in those securities, especially regional banks.

The Yoshihide Suga administration is working with the BOJ to rationalize the entire regional banking industry to head off potentially disruptive collapses in coming years. Other big investors, including the vast savings system run out

of post offices, have turned to overseas investments, leaving them vulnerable if the yen appreciates and makes foreign assets worth less in domestic terms.

Another weakness highlighted by Japan's generation-long experiment with ultra-easy monetary settings is that the quantitative easing has undermined longer-term productivity by propping up businesses that probably should've been allowed to fail. That's what happens when governments and companies can borrow so cheaply that there's no incentive to make structural fixes that inflict short-term pain such as job losses.

“Central banks [in advanced economies] are in a global liquidity trap,” says Jerome Jean Haegeli, chief economist at the Swiss Re Institute in Zurich. “The liquidity bazooka buys time and pushes up asset prices but has zero value in improving economic trend growth. Like a black hole, once you are in it, it is extremely difficult to get out. That's where we are in central banking, we are in a liquidity black hole.”

The time for maximum bullishness—when policymakers are going all-out to jump-start their economies—may be coming to an end, leaving a trickier period looming on the horizon, says Richard Yetsenga, the chief economist of Melbourne-based Australia & New Zealand Banking Group Ltd. “While the risk profile for growth has been declining,” he says, “for asset prices and financial stability, it will soon be increasing.” ● —*With Matthew Brockett, Katherine Burton, Elena Popina, Tassia Sipahutar, and Cecilia Yap*

Curran is chief Asia economics correspondent in Hong Kong. Anstey is a senior editor in Boston.

New Pandemic Habits

By FRANCINE LACQUA



Mark Haefele

Chief investment officer,
UBS Global Wealth Management

What is your morning routine?

Coffee, Bloomberg, exercise.

What did you get to do during the pandemic that you wouldn't have done otherwise?

Burpees.

Where are you most eager to travel for nonwork reasons?

To see family.

When the pandemic is over, how will your life be different than it was before?

I am too grateful to want [it to be] different.

What's the best book you've read recently, or what's the best thing you've streamed?

The Power Broker: Robert Moses and the Fall of New York by Robert Caro.



Peter Oppenheimer

Chief global equity strategist,
Goldman Sachs International

What is your morning routine?

Get up at 5:30 and do some exercise—go for a run, swim, cycle, or an online class.

What did you get to do during the pandemic that you wouldn't have done otherwise?

Get up at 5:30 and do some exercise! And having dinner with my family.

Where are you most eager to travel for nonwork reasons?

Anywhere. A change of scene would be very exciting.

When the pandemic is over, how will your life be different than it was before?

I hope to be more spontaneous and have less need for plans.

What's the best book you've read recently, or what's the best thing you've streamed?

The Better Angels of Our Nature by Steven Pinker, an optimistic study of the human condition.



Lori Heinel

Deputy global chief investment officer,
State Street Global Advisors

What is your morning routine?

I'm generally awake at 5 a.m. On a good day, I hop on the stationary bike or elliptical trainer while I am reading through the news or catching the morning broadcast.

What did you get to do during the pandemic that you wouldn't have done otherwise?

I've been doing a lot more cooking—baking bread, trying new recipes, and cooking (and delivering) meals for family members and close friends.

Where are you most eager to travel for nonwork reasons?

I can't wait to go to Colorado or Utah to ski! A very close second is Iceland.

When the pandemic is over, how will your life be different than it was before?

I've learned to slow down a bit. I got a bird feeder a few months back, and every time I look out the window, watching the birds dive in, seeing the different species, it makes me smile.

What's the best book you've read recently, or what's the best thing you've streamed?

I'm currently reading *The Man Who Ran Washington: The Life and Times of James A. Baker III* by Peter Baker and Susan Glasser. There are lots of lessons for our leaders in government and industry!

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

A Compendium of Functions— New or Featured In This Issue

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NEW ENHANCEMENTS TO TRY RIGHT NOW

- SOVM** The Sovereign Debt Monitor function has been updated to display a green instrument indicator that lets you identify green bonds. Run {SOVM <GO>}.
- MLRT** Market Alerts have been enhanced with a new type of alert that will notify you when someone in your Instant Bloomberg chats mentions a security from a list you're watching. To get started, run {MLRT NEW <GO>} and click on IB Security Mention.
- NT** News Trends Chart, which graphs the volume of news about a topic or company over time, has been upgraded. Go to {NT <GO>}. You can now explore topics by simply typing in the Search for a Topic or Security field. Type "vaccine," for instance, and click on Vaccines under Topics. To connect the dots between news flow and market data, you can enter and select a company such as Pfizer Inc. and then use the drop-down to select Last Price. NT now works across all news stories on the terminal from the past 10 years.
- W** Worksheets have been enhanced with a number of features for earnings-related workflows. To open a sample worksheet for tracking earnings events, go to {W <GO>}, click on the Sample Library button, and then on 74: Earnings Calendar. (The shortcut is {W #SPEC 74 <GO>}.) The E column in the sheet displays the enhanced Earnings icon, which appears when an earnings event is expected within the next three days. Select Save a Copy to Edit at the top to make changes.
- IVSP** Invoice Spread Analysis, which lets you calculate the yield spread between the forward yield of a bond future and a forward-starting interest-rate swap, now allows you to add three-year bond futures to your analysis. Run {IVSP <GO>} and select 3YH1 from the table.

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February/March 2021, volume 30, issue 1, BLOOMBERG MARKETS (ISSN 1531-5061) (USPS 008-897) is published six times a year with issues in March, May, July, September, November and December by Bloomberg Finance L.P., 731 Lexington Avenue, New York, NY 10022, and distributed free to subscribers of the BLOOMBERG PROFESSIONAL service. POSTMASTER: Send address changes to Circulation, BLOOMBERG MARKETS, P.O. Box 1583, New York, NY 10150-1583. Periodicals postage paid in New York and at additional mailing offices.

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Graphing Volatility

By JOANNA OSSINGER



ONE OF THE BEST things about the equity options market is that it can be a window into what sophisticated market participants think about a particular stock.

It can also reflect underlying changes to the trading landscape: the rise of the retail investor in the past year, for example.

{GV <GO>} offers a front-row seat to it all.

By measuring the relative volatility of options that bet on various outcomes for a stock—a 10% drop in Amazon.com Inc. vs. a 10% gain, say—it's possible to track shifts in sentiment. The ratio of volatility on the 90% put (an option with a strike at 90% of the price of the stock) vs. a 110% call (a common measure of what's called skew) tells you how expensive

options betting on the downside are compared with those on the upside. It's something of a "fear gauge" for the individual security, a bit like the VIX.

GV helps in comparing at-the-money options (those with a strike price at or very near actual price) with options betting on gains or declines. Or you can use the function to juxtapose puts betting on a bigger decline and on a smaller one, showing how much investors are willing to pay for "tail protection."

With GV, you can contrast options with different expiration dates, such as those one month out vs. three months, to see the level of uncertainty priced in. That came in handy for monitoring investors' nerves around the U.S. presidential election in November, for instance.

And then there are the little guys. Although options trading pros often use skew as a gauge of whether to get in, the retail investors who've been taking the equity world by storm appear to be less concerned. Skew for companies such as Amazon and Tesla Inc. fell to historic lows, meaning options betting on gains were as expensive as they'd ever been compared with those for a decline. The 90%/110% three-month skew for both companies dropped to record lows in 2020.

So the next time you're looking to gauge fear, or optimism, or retail interest in a particular security, give {GV <GO>} a try. Fair warning: The function has so much info, I sometimes lose track of time playing around with it. You just might, too. ●

Ossinger is a cross-asset markets editor at Bloomberg News in Singapore.

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CHICAGO FOCUS FUND	100.00	100.00	0.00	0.00	0.11	0.01	0.07	0.36	0.01	0.30	0.01	7.84	6.79	1.07
Equity	22.57	30.00	7.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.34	15.70	0.36
Consumer Discretionary	2.07	3.37	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Energy	3.58	3.41	-0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Financials	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Health Care	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Industrials	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Information Technology	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Materials	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Real Estate	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Telecommunications	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Utilities	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Others	3.70	3.81	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Fixed Income	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Corporate Bonds	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Government Bonds	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Financial Institutions	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Commodities	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Equity	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81
Others	0.99	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.89	15.70	0.81

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