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DOW JONES | News Corp

The oil crisis contributes

to inflation's rise to 12.3%

NASDAQ 15188.39 🔺 0.2%

**STOXX 600** 486.20 **A** 0.6%

Inflation reaches 14.8% in the

wake of the Iranian revolution

which sends oil prices up sharply.

**10-YR. TREAS. ▲** 6/32, yield 1.724%

**Inflation Hits Fastest Clip Since '82** 

Consumer-price index, change from a year earlier

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**OIL** \$82.64 ▲ \$1.42

**GOLD** \$1,827.20 **▲** \$8.60

**YEN** 114.64 **EURO** \$1.1443

## What's News

**DJIA** 36290.32 **A** 38.30 0.1%

#### Business & Finance

.S. inflation hit its fastest pace in nearly four decades last year as pandemic-related supply and demand imbalances, along with stimulus intended to shore up the economy, pushed prices up at a 7% annual rate. A1, A2 Stocks took the inflation data in stride, with the S&P 500, Dow and Nasdaq adding 0.3%, 0.1% and 0.2%, respectively. U.S. government bond yields fell. B9

• **TPG priced** its initial public offering at \$29.50 a share, the midpoint of its projected range, in the first big test of the IPO market in the new year. B1

Thousands of workers at supermarket operator Kroger went on strike in Denver, seeking better pay, benefits and conditions. B1

Checkout.com said it raised \$1 billion in a recent share sale that valued the U.K.-based digital-payments processor at \$40 billion. **B5** 

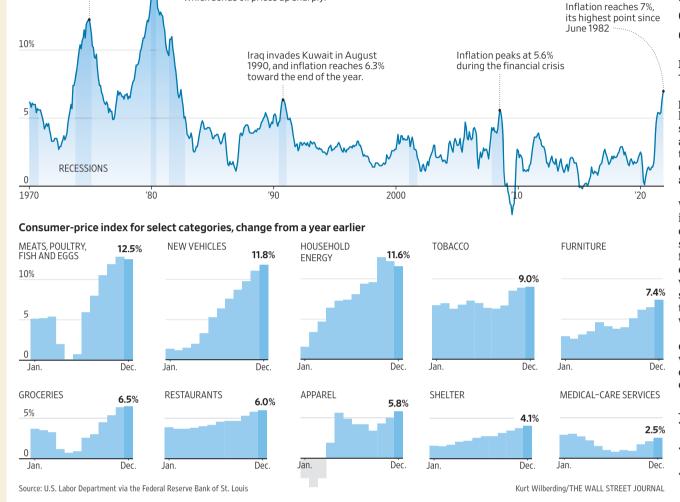
♦ A federal judge has scheduled a late-September sentencing date for Theranos founder Holmes following her fraud conviction. B3

TV and digital ratings for the NFL's regular-season games jumped 10% from last season, Nielsen data show. B4

◆ TransUnion will let consumers give blockchain companies access to their personal credit data. B4



• The Omicron variant 1s putting China's "zero-Covid" strategy to the test, as health experts say the highly contagious strain will be harder to manage. likely leading to more frequent and longer-lasting restrictions. A1



Consumer prices rise by 7% as pandemic disruptions, consumer demand stay strong

#### BY GWYNN GUILFORD

U.S. inflation hit its fastest pace in nearly four decades last year as pandemic-related supply and demand imbalances, along with stimulus intended to shore up the economy, pushed prices up at a 7% annual rate.

The Labor Department said Wednesday the consumer-price index-which measures what consumers pay for goods and services—rose 7% in December from the same month a year earlier, up from 6.8% in November. That was the fastest since June 1982 and marked the third straight month in which inflation exceeded 6%.

The so-called core price index, which excludes the oftenvolatile categories of food and energy, climbed 5.5% in December from a year earlier. Please turn to page A2

- Greg Ip: Biden's inflation fix starts at micro level... . A2
- Stocks gain after high inflation data. B9

◆ Heard on the Street: Watch for wage spiral... B10

Heir to Scholastic Is Now in Charge Of Fixing It

lole Lucchese faces innovation hurdles

pandemic, the country is looktwo years, China has used ing more boxed in by its own formula. some of the strictest measures Beijing has repeatedly anywhere to keep Covid-19 out

pointed to Western countries

China's 'Zero-Covid' Efforts

**Face Big Test From Omicron** 

the virus at bay has meant low levels of natural immunity. Vaccination rates are high, but how effective Chinese vaccines are against Omicron remains

• U.K. Prime Minister Johnson, trying to defuse one of the most perilous moments of his tenure, apologized for attending a drinks party in the garden of 10 Downing Street in 2020 when Britons were under lockdown orders. A1

The Biden administration plans to distribute millions of free Covid-19 tests to schools around the country, part of the federal government's effort to keep schools open. A8

◆ NATO's chief said significant differences remained with Russia after a joint council meeting, but expressed hope that Moscow would agree to further talks. A10 The Biden administration threw its support behind a bill that would impose mandatory Russia sanctions if Moscow escalates hostilities or further invades Ukraine. A10

• Schumer laid out a legislative maneuver that allows the Senate to begin debate on Democrats' elections legislation, even as a path to final passage remains elusive. A4

 Died: Ronnie Spector, 78, rock 'n' roll icon. A6

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Markets B9	World News A10-11,20



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#### By Natasha Khan, Liyan Qi and Keith Zhai

HONG KONG—Over the past

and long succeeded in holding numbers down. But as Omicron poses the biggest challenge since the start of the

where the virus has run rampant as cautionary examples. But as the Omicron variant spreads inside China ahead of February's 2022 Beijing Winter Olympic Games, an uncomfortable reality is setting in: The country's ability to keep

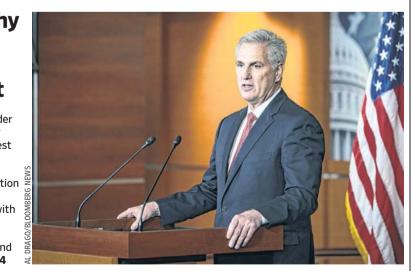
in question.

China has held fast to its "zero-Covid" strategy despite a mounting toll on its people Please turn to page A11

◆ India festival fuels Covid-A11 spread fears.

**McCarthy** Rejects Panel's Request

House GOP leader Kevin McCarthy rejected a request from the Jan. 6 committee to provide information about his conversations with then-President Donald Trump before, during and after the riot. A4



and some skepticism over her track record

#### BY SHALINI RAMACHANDRAN AND JEFFREY A. TRACHTENBERG

Scholastic Corp. was attempting an overhaul of its websites with the goal of creating a single online identity for its many divisions, which had each gone in its own direction.

When the effort hit the skids in 2017, then-Chief Executive Richard Robinson sent in Iole Lucchese to put it on track. Ms. Lucchese, chief strategy officer at the time, called the prior management team's website work "f-ed up" during a staff meeting, and said she would be taking over, according to people who attended.

Scholastic still hasn't accomplished that goal of a unified online destination. It has at least six websites aimed at teachers alone. The effort joined a graveyard of

digital projects at the publishing company known for titles such as the "Harry Potter" series, "Clifford the Big Red Dog" and "The Hunger Games."

Ms. Lucchese, 55, is now in an even more influential position. Mr. Robinson's will bequeathed his controlling stake in the company to her when he died in June. The board named her chair in July. The two had been longtime romantic partners, The Wall Street Journal reported last vear.

Ms. Lucchese must now fix problems that have plagued Scholastic's innovation efforts-and find continued growth despite the pandemic—while facing skepticism among some current and former employees over whether her track record augurs well for her

Please turn to page A12

#### The U.S. Federal Government Deregulates French Dressing

The FDA withdrew its 72-year-old standard 24 years after being petitioned

#### By JENNIFER CALFAS AND TALAL ANSARI

The U.S. Food and Drug Administration is tossing its definition of French dressing.

On Wednesday, the agency said it is revoking the "standard of identity" for the salad topping. Its decision brings a helping of deregulation to the ingredients required for French dressing, a move requested decades ago by an industry trade group that called the FDA's standard of identity outdated.

Among the surprising elements of the news is the fact that the federal government bothered to define French dressing at all. "It just seems like a complete throwback to another time," said John Birdsall, an award-winning food writer and author of "The Man Who Ate Too Much," a biography about James Beard.

When the FDA established its standard 72 years ago, French dressing was one of just three dressings recog-Please turn to page A12

## On Hot Seat in U.K., **Johnson Apologizes**

#### By MAX COLCHESTER

LONDON-U.K. Prime Minister Boris Johnson, trying to defuse one of the most perilous moments of his tenure, apologized for attending a drinks party in the garden of 10 Downing Street in 2020 when Britons were under lockdown orders.

During a boisterous session in Parliament on Wednesday, Mr. Johnson said he regretted joining an event in Downing Street billed as a "bring your own booze" party. He explained that he thought the gathering was a work event. "I know the rage they feel with

me, with the government I lead," Mr. Johnson said.

The apology did little to cool the political fury inside Westminster. Lawmakers from across all the major political parties, including Mr. Johnson's, publicly called for the prime minister to resign.

An internal probe is under way. London's Metropolitan Police department is also considering whether to launch an investigation.

Mr. Johnson's fate now largely resides in the hands of the senior civil servant leading the internal investigation and Please turn to page A11





THE WELL-BEING ISSUE R1-8

# **U.S. NEWS**

#### **CAPITAL ACCOUNT** | By Greg Ip

There's a

# Biden's Fix for Inflation Starts at Micro Level



a market of stocks: an aggregation of many components often moving to their own beat.

Similarly, the consumerprice index is also an index of prices. Inflation is both the result of total spending running ahead of the economy's capacity to supply goods and services (macroeconomics), and idiosyncratic behavior in one industry or another (microeconomics).

Whether inflation reached 7% in December, the highest since 1982, mostly because of macroeconomics or microeconomics might be today's most pressing economic question. Lately some Democrats have leaned hard into the microeconomic explanation, while adding a moralistic overlay.

"Market concentration has allowed giant corporations to hide behind claims of increased costs to fatten their profit margins," Sen. Elizabeth Warren of Massachusetts said Tuesday at a hearing on Jerome Powell's

#### nomination to a second term as Federal Reserve chairman. President Biden last week blamed consolidation in the meatpacking industry for why meat prices have risen so much. "These companies can use their position as middlemen to overcharge grocery stores and, ultimately, families," he said, announcing initiatives to boost independent meat processing.

White House officials don't claim, as some critics suggest, that businesses suddenly got more greedy or concentrated in the last two years. Rather, they argue that because of the widely documented, decadeslong trend toward consolidation, companies could raise prices more when the pandemic came along, disrupting supply.

n textbook models, prices and profits are . higher in monopolistic than competitive industries. They are less clear on whether prices rise faster in such conditions, and thus contribute to inflation. In theory, it is possible, according to economists Steven Salop of Georgetown Universitv and Fiona Scott Morton of Yale University. "If scale

economies lead to mergers and associated plant or logistical consolidation for each firm, then the risk of disruption—e.g., epidemic, earthquake, or nuclear power plant meltdown-will lead to a larger cost and price impact than if there were more diversity," they wrote in a 2020 paper.

A White House official said pandemic-related demand has gone up for beef, poultry and eggs, but prices have risen more for beef and poultry than eggs because "eggs are a much less concentrated sector." He said a cyberattack last year on meatpacker JBS SA that took a significant share of the country's meat supply offline is "proof of the danger of concentration." (The North American Meat Institute says meat and poultry processors are facing the same pressures as the rest of the economy: increased energy costs, labor shortages and transportation challenges.)

White House officials say they are making a limited case about concentration's contribution to inflation. They don't, for example, blame higher car prices on a lack of competition. They

#### Annual change in prices and wages



2008 '10 '15 '20 Sources: Federal Reserve Bank of Cleveland (median consumer price index); Labor Department (total CPI, average hourly earnings)

don't endorse calls by some on the left for price controls. They have respected the Fed-

eral Reserve's independence. But nor do they buy the ar gument that inflation has risen mostly because of excessive demand, fueled in part by Mr. Biden's \$1.9 trillion Amer ican Rescue Plan, and thus can only be solved by tamping down demand with tighter

monetary or fiscal policy. "If car prices are too high right now, there are two solutions: You increase the supply of cars by making more of them, or you reduce demand for cars by making Americans poorer," Mr. Biden said last week. "There's a lot of people in the second camp....I reject it."

hus, administration of ficials say they are addressing the macroeconomics of inflation from the supply rather than demand side: tackling bottlenecks at ports, increasing the number of truckers, and asking Congress to enable more parents to work by providing affordable child care and preschool. His longstanding demand for tougher competition enforcement complements the fight against inflation, administration officials say.

The White House's push to address prices with more supply and competition makes sense economically. As an anti-inflation strategy, though, it is probably not up to the task. Many of these initiatives are too small, and will take too long, to move the needle on inflation.

More problematically, the focus on industry-level solutions is missing something important. Individual prices, like individual stocks, almost always reflect both idiosyncratic factors and broader forces. Even if supply-chain disruptions recede, there is ample evidence that other, broader forces are at work on inflation. The Federal Reserve Bank of Cleveland's estimate of the median price increase in the CPI, designed to exclude any items with outsize moves, was 3.8% in December, a 30-year high.

Meanwhile, red-hot demand for workers and a labor pool shrunken by retirements and Covid-19 has led to rapid wage gains that, while great for workers, might prevent inflation from falling back to the Fed's 2% target.

In the late 1960s, President Lyndon Johnson treated inflation as a microeconomic problem, and resisted tighter monetary and fiscal policy. As consumers and companies adapted their wage- and price-setting behavior, higher inflation became entrenched. There are plenty of differences between now and then: but it wouldn't hurt to keep the similarities in mind.

## Price Rise Is Fastest In 40 Years

Continued from Page One That was a bigger increase than November's 4.9% rise and the highest rate since 1991.

On a monthly basis, the CPI increased a seasonally adjusted 0.5% in December from the preceding month, decelerating from October and November.

"There is still tremendous momentum when it comes to inflation right now. While inflation is likely to peak in the next few months, the overall pace is going to remain a challenge for consumers, businesses and policy," said Sarah House, director and senior economist at Wells Fargo.

Stocks took the inflation news in stride, with the Dow Jones Industrial Average rising 0.1%, and the S&P 500 gaining 0.3%.

The circumstances were very different in June 1982, the last time consumer prices clocked in at such an annual increase. While inflation right now is rising, back then it was falling after peaking at 14.8% in 1980.

cession in 1980. As rates reached 19% in 1981, a much deeper recession began. By summer 1982, both inflation and rates were falling sharply. Today, the Covid-19 pandemic has caused supply-chain disruptions, and a shortage of goods and materials-particularly autos-coupled with strong demand from consumers flush with the benefits of government stimulus are behind the inflation surge.

Prices for autos, furniture and other durable goods continue to drive much of the inflationary surge, fueled by largely pandemic-related imbalances of supply and demand that most economists expect to fade. Prices of used cars and trucks soared 37.3% in December from a year earlier, while living room, kitchen and dining room furniture jumped 17.3%.

While economists and the Federal Reserve expect inflation to ease this year, the Omicron variant of Covid-19 has renewed uncertainty about the economic outlook.

Constance Hunter, chief economist at KPMG, expects the booming demand for goods to reverse in the first half of 2022, easing overall price pressure. "I do think we'll get back to some semblance of normal as people run through their savings and, hopefully, as we move past Omicron," she said.



Supply-chain disruptions have kept food inflation elevated. Above, a beef display case at a Washington, D.C., store this week.

this year. However, he noted that a smaller U.S. labor force "can be an issue going forward for inflation, probably more so than these supply-chain issues." Mr. Powell said.

The December inflation data suggest a mixed initial impact of the Omicron variant. Prices for airline fares and hotels accelerated, though those for recreation services fell. Prices for in-person services generally slumped during previous surges in Covid-19 infections. Gains in energy prices which had been driven by pandemic-related disruptions as well as by weather and geopolitical factors—showed signs of flagging, with gasoline prices falling 0.5% in December from November. However, food inflation remains elevated, at 0.5% in December, a slightly slower pace than the prior month.

The December employment report signaled continued tightening of the job market, with the unemployment rate dropping to 3.9% from 4.2% in November, the Labor Department said, giving workers additional leverage on pay. While wages advanced last year at a faster pace than before the pandemic, they didn't increase enough to keep up with inflation, with average hourly wages rising 4.7% in DeChange in consumer price

index for December from year ago, selected metro areas



Source: Labor Department

cember from a year earlier.

Wage increases are contributing increasingly to high inflation because they support higher spending, but also because they raise costs for businesses. In December, some 49% of small businesses said they planned to raise prices in the next three months, on net, according to the National Federation of Independent Business, a trade association. Omicron's spread has worsened the labor shortage by driving up workplace absences. Manufacturing companies are adopting expensive solutions to keep factories running so they can meet booming de-

mand. FedEx Corp. said this week that Omicron is causing staffing shortages and delaying shipments.

John Merritt, vice president of Elaine Bell Catering in Napa, Calif., said staffing was an immediate issue when demand for weddings and other big events came surging back in June. The company raised wages 50% in a bid to retain workers and hire new ones, but still had to rely on temp agencies. Due to increased labor costs-along with soaring prices for meat, cheese and wheat-based products-the company didn't make a profit last year, he said.

"People frequently say [restaurant and catering workers] are low-price people. Well, our base pay is now \$30 an hour for wait staff, and we still can't fill positions," he said. The caterer has raised prices for the coming year by 25% to 35% from pre-pandemic rates.

Demand for furniture and other goods has boomed, straining supply chains. In some industries, scarce materials have hamstrung production. The most prominent example is a shortage of semiconductors that has curbed auto production, sending prices for cars and trucks soaring. There are indications of supply-chain improvement. A December survey of manufacturers by the Institute for Supply Management showed a decline in prices and delivery times, signaling that materials shortages might be easing.

By then, new Federal Reserve Chairman Paul Volcker had set out to crush inflation by raising interest rates dramatically, causing a brief re-

Fed Chairman Jerome Powell in congressional testimony Tuesday said he was optimistic supply-chain issues would ease

# Today's 7% Rate Is a Far Cry From 1982's

#### BY GREG IP

Consumer price inflation in December, at 7%, was last this high in the summer of 1982. That's about all the two periods have in common.

Today, the inflation rate is on the rise. Back then, it was falling. It had peaked at 14.8% in 1980, while Jimmy Carter was still president and the Iranian revolution had pushed up oil prices. Core inflation that year reached 13.6%.

Upon becoming Federal Reserve chairman in 1979, Paul Volcker set out to crush inflation with tight monetary policy. In combination with credit controls, that effort pushed the U.S. into a brief recession in 1980. Then, as the Fed's benchmark interest rate reached 19% in 1981, a much deeper recession began. By the summer of 1982, inflation and interest rates were both falling sharply. Four decades of generally low-singledigit inflation would follow.

"We have had dramatic success in getting the inflation rate down," one Fed official observed that August. But Mr. Volcker had other problems: His high interest rates had pushed Mexico into default, touching off the Latin American debt crisis, and unemployment would climb to a post-World War II high of 10.8% that fall.

Unemployment took out that record in the early months of



Job seekers lined up to seek work in Detroit in the summer of 1982, the last time inflation hit 7%.

the Covid-19 pandemic in 2020. Since then, it has been falling rapidly as the economy roars back thanks to vaccines, fewer restrictions on mobility and ample fiscal and monetary stimulus. In December, unemployment sank to 3.9%, closing in on the 50-year low of 3.5% set before the pandemic.

Monetary policy then and now couldn't be more different. Back in 1982, the Fed was still targeting the money supply, causing interest rates to fluctuate unpredictably. Today, it largely ignores the money supply, which expanded dramatically as the Fed bought bonds to hold down long-term

interest rates. Its main policy target, the federal-funds rate, is close to zero.

Rather than 1982, two previous episodes when inflation reached 7% might hold more useful lessons for today. The first was in 1946. The end of the war had unleashed pent-up demand for consumer goods, and price controls had lapsed. Inflation reached nearly 20% in 1947 before falling all the way back. Today, consumption patterns have similarly been distorted and supply chains disrupted by the pandemic.

Inflation also topped 7% in 1973. Although driven in part by food and energy (that fall, Arab exporters would embargo the U.S. for supporting Israel in the Yom Kippur War), this was a continuation of a rise that began in 1966. Like today, the 1960s increase followed a long period of low, stable inflation and low unemployment.

A key challenge facing current Fed Chairman Jerome Powell is deciding whether today's inflation has more in common with 1946 or 1966. For now, he sees a bit of both. On Tuesday, he blamed inflation on "strong demand and also supply constraints" and emphasized the risk of expectations coming unanchored. The Fed could start raising rates in March.

#### CORRECTIONS ビ AMPLIFICATIONS

Leah Beyer is a blogger who posts cocktail recipes on her website farmwifedrinks.com. A Jan. 7 Business & Finance article about Coca-Cola Co.'s introduction of spirits-based canned cocktails misspelled her surname as Bayer.

The hamlet of Bethel, N.Y., is about 75 miles northwest of New York City. In some editions Monday, a U.S. Watch article about the death of Woodstock music festival co-founder Michael Lang incorrectly gave the distance as about 50 miles.

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# **Pig-Heart Transplant Offers** Hope for Organ-Donor Gap

#### By Amy Dockser Marcus

The first transplant of a genetically modified pig heart into a human jolted doctors involved in a decadeslong effort to address the chronic shortage of organ donors.

Doctors for the critically ill patient, David Bennett, a 57year-old handyman and father of two, had requested emergency authorization for the experimental surgery from the Food and Drug Administration because Mr. Bennett was dying and ineligible to receive a human-heart transplant.

The agency granted the request on New Year's Eve, and the surgery was performed Jan. 7 at the University of Maryland Medical Center in Baltimore, the center said.

"We have crossed the Rubicon," Robert Montgomery, director of the NYU Langone Transplant Institute, said on the first-of-its-kind surgery. "We are trying to make sense of it and where to go next." He wasn't involved in the surgery.

The Maryland center is one of several transplant centers that had declined to list Mr. Bennett for the chance to receive a human heart because he had failed to comply with doctors' orders and attend follow-up visits, said Mr. Bennett's son, David Bennett Jr.

Bartley P. Griffith, a professor of transplant surgery who performed the operation, said transplant centers follow strict guidelines when deciding who is eligible for heart transplantation.

In the case of the elder Mr. Bennett, "We couldn't offer him the treasure that is a human heart," Dr. Griffith said, adding that the availability of the pig heart opened up a potentially lifesaving opportunity.

Last year, surgeons performed more than 41,000 organ transplants in the U.S., a record, according to the



David Bennett, above right, posed with surgeon Bartley P. Griffith before his transplant at University of Maryland Medical Center. Below, the genetically modified pig heart before the transplant.



United Network for Organ Sharing. More than 100,000 patients are on the waiting list for a donor organ at any given time: more than 6,000 patients die every year before getting one, a spokeswoman for the network said.

To address the shortage, researchers have been trying for decades to develop the transplantation of an organ between different species, or xenotransplantation.

Researchers reported in 2015 that they had used

Crispr, a new gene-editing technology, to inactivate pig viruses that otherwise might infect humans transplanted with pig organs.

One baboon that received a transplanted genetically modified pig heart survived for nine months, said Muhammad Mohiuddin, a professor of surgery at the University of Maryland who helped establish the university's cardiac xenotransplantation program.

Revivicor, the Blacksburg, Va., company that provided the pig whose heart was given to the elder Mr. Bennett, made genetic changes to the heart to make it more compatible with the human body, including inactivation of genes that might have triggered the organ's rejection.

Many xenotransplantation researchers have spent decades pursuing experiments and trying to gather data sufficient to justify clinical trials in humans.

That is "a difficult bar to meet," Dr. Montgomery said, adding that researchers have been conducting experiments on nonhuman primates with the goal of showing that a human patient given a pig kidney could expect to live at least two years following surgery. Many doctors in the field

think that nonhuman primate studies have advanced as far as they can and that the only way to determine whether pig organs will work in humans is to transplant them, Dr. Montgomery said. In September, his team attached a genetically modified pig kidney to the up per leg of a deceased patient who was maintained on a ventilator. Over 54 hours of follow-up, Dr. Montgomery said, the kidney functioned normally.

The researchers said more studies were needed before launching clinical trials involving the transplantation of pig kidnevs.

# **Bubble Around Sun** Is Source of New Stars

#### BY AYLIN WOODWARD

Astronomers have known since the 1970s that our sun lies at the center of a vast cavity within the hot gas that fills the gaps between stars in the Milky Way. But the origins of that ever-growing void, known as the Local Bubble, and its relationship to our starry neighbors remained elusive.

Now, using new data from the European Space Agency's Gaia space telescope, scientists have revealed that the genesis and growth of that bubble were due to a series of 15 supernovas—powerful explosions of collapsing starsover the past 14 million years, and that every young star and star-forming region within 500 light years of Earth sits on the Local Bubble's surface.

When stars die, the resulting explosions set off shock waves that travel outward, sweeping up and aggregating interstellar material like gas and cosmic dust. Eventually enough gas accumulates, condenses and cools at the edge of this shock wave to start

The Local Bubble is the result of such shock waves, as

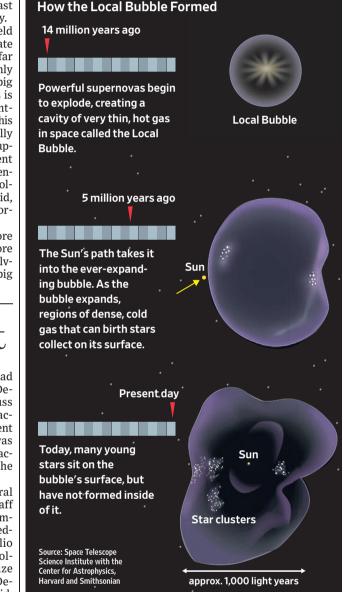
birthing stars.

are the stellar nurseries that pepper its outer shell.

"For the first time, we can explain how nearby star formation began, and it's because of this 1,000-light-year-wide bubble," said Catherine Zucker, an astronomer with the Harvard-Smithsonian Center for Astrophysics and lead author of a study about the new findings published Wednesday in the journal Nature.

"Imagine it's like a snowplow," she said, "At the edge of the shell there's a sharp edge of piled-up interstellar material that essentially hosts all of these star-forming regions."

Gaia, which launched in 2013, has helped astronomers map the location and movement of stars in these regions with unprecedented accuracy over the past two years. By combining that data with models of supernova behavior, Dr. Zucker's team could trace back where these stars were millions of years in the past, and calculate how many supernovas would have been required for the Local Bubble to grow to its current size—with those star-forming regions embedded on its surface.



## **Government's Student Debt Losses Mount**

#### BY GABRIEL T. RUBIN

The pause in student-debt repayment has cost the federal government more than \$100 billion since the start of the pandemic and could cost \$4 billion to \$5 billion a month until the moratorium Vos, former education secreis lifted at the beginning of May, according to government estimates. With costs mounting, congressional Republicans, led by Rep. Virginia Foxx and Sen. Richard Burr, both of North Carolina, asked the Education Department on Wednesday to

release documents related to how the government calculates projected losses from students defaulting on their loans.

Among the documents requested is an internal report commissioned by Betsy Detary under the Trump administration, that showed a far more dire picture of taxpayers' exposure to student-loan defaults than the one presented by the government. Biden Education Department officials have disputed the findings of that report. In

congressional testimony last October, Richard Cordray, the head of Federal Student Aid at the Education Department, said, "There's some question whether the methodology used in that particular report...was the most accurate."

"If you disagree with the

Ms. Foxx's staff has had meetings with Education Department officials to discuss student-loan portfolio accounting, and the Department said Wednesday that it was providing lawmakers with accurate information about the loans.

reports, as Mr. Cordrav seems to believe, then you should make the reports and contractors available to discuss that and examine the problems in their methodology," the Republicans wrote to Education Secretary Miguel Cardona.

'For the last several months, department staff have sought to address members' questions about the federal student loan portfolio and to clarify the methodology used to assess its size and value," an Education Department representative said.





"I've learned not to take time for granted. What drives me is knowing that the clock is ticking."

Ry-Galing

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### **U.S. NEWS**

# **Route Laid Out for Election Bills**

Schumer plan would let Senate start debate. but legislation's final passage appears far off

#### BY SIOBHAN HUGHES

WASHINGTON-Senate Majority Leader Chuck Schumer laid out a legislative maneuver that allows the Senate to begin debate on Democrats' elections legislation this week, even as a path to final passage remains elusive.

His plan, outlined in a memo to colleagues, doesn't sidestep the main hurdles to passage of the bills, which would still remain subject to the 60-vote filibuster threshold for most legislation in the 50-50 Senate. But it does advance the bills to floor debate, a preliminary step that had been repeatedly blocked last year because of strong Republican opposition.

Mr. Schumer has previously set a Jan. 17 deadline for the Senate to take action on the election legislation before turning to possible Senate rules changes. Some Democrats have floated eliminating the 60-vote threshold altogether or exempting voting-related legislation from the rule, while others have proposed different measures.



Senate Majority Leader Chuck Schumer on Capitol Hill Wednesday.

Democrats would need 50 votes to change the Senate filibuster, with Vice President Kamala Harris breaking a tie, but two Democratic senators, Joe Manchin of West Virginia and Kyrsten Sinema of Arizona, have declined to support proposals to carve out a filibuster exception for voting rights.

Party leaders have struggled to line up the support within their caucus to rewrite the Senate's rules to muscle through elections legislation. After meeting early Wednesday with other Democrats in Mr. Schumer's offices, Mr. Manchin emerged to say that there was still no agreement. President Biden is to meet behind closed doors with Senate Democrats on Thursday.

"I wish we were closer," said Sen. Jon Tester (D., Mont.). "We're not to a point where we're ready for prime time."

Democrats say new federal voting laws are needed to counter recent measures passed in GOP-led states, which Democratic lawmakers paint as a threat to access to the polls, particularly for minority voters. Republicans say Democrats' proposals are federal overreach and undercut states' attempts to bolster election integrity.

On Tuesday, Mr. Biden put

the weight of his office into the drive to pass voting legislation, calling for making an exception to the filibuster for voting legislation if needed. He compared lawmakers standing in the way of the bills to segregationists and Confederates, saying at one point: "Do you want to be on the side of Abraham Lincoln or Jefferson Davis?"

That approach drew an angry response from Republicans.

"In less than a year, restoring the soul of America has become this: Agree with me or you're a bigot," said Senate Minority Leader Mitch McConnell (R., Ky.) of Mr. Biden's rhetoric. "He compared a bipartisan majority of senators to literal traitors. How profoundly, profoundly unpresidential," he said.

In his memo, Mr. Schumer said the two primary Democratic bills—"The Freedom to Vote Act" and a separate measure named for the late civilrights leader John Lewiswould be combined into a single measure and routed through the House in a procedural maneuver. He didn't set dates for the votes, but an aide said they would happen in coming days.

Under congressional procedures, a bill that has been amended in the House and sent back to the Senate is known as a "message." It enjoys a privileged status in that the Senate can't debate whether to proceed to the legislation; bringing such a measure to the Senate floor requires a simple up-or-down vote on whether to proceed. Last year, Senate Republicans denied Democrats the 60 votes for a motion to proceed to any of the legislation. As soon as Wednesday, the

\* \* \* \*

House Rules Committee plans to meet to consider amending such a "shell" bill with the contents of the two Democratic voting bills. Once the House takes up and passes the modified legislation, it would be sent to the Senate as a "message."

"The Senate will then be able to debate voting rights legislation for the first time this Congress," Mr. Schumer wrote to colleagues. He also acknowledged the steep pathway to passage.

The Freedom to Vote Act would make Election Day a national holiday, mandate 15 days of early voting and require all states to allow mail-in voting, among other changes. The other would give the federal government more control over state voting procedures, after Supreme Court rulings weakened the 1965 Voting Rights Act that gave Washington control over changes to rules in states with a

history of racial discrimination.

# McCarthy Refuses To Talk To Panel

#### BY LINDSAY WISE

WASHINGTON-House Republican leader Kevin McCarthy rejected a request from the committee investigating the Jan. 6, 2021, attack on the Capitol to voluntarily provide information about his conversations with then-President Donald Trump before, during and after the riot.

In a letter to Mr. McCarthy Wednesday, the committee's chairman, Rep. Bennie Thompson (D., Miss.), had acknowledged the sensitivity of such a request to the top-ranking House Republican, saying the committee has respect for the prerogatives of Congress and members' privacy. "At the same time, we have a solemn responsibility to investigate fully the facts and circumstances of these events," he said.

Mr. Thompson asked if Mr. McCarthy (R., Calif.) would be available to meet on Feb. 3 or 4 or the week of Feb. 7.

Mr. Thompson noted that when asked by a local news program whether he would be willing to share information with the committee, Mr. McCarthy had responded, "I have been very public, but I wouldn't hide from anything."

In a statement late Wednesday, Mr. McCarthy rejected the request from the panel, calling it a politically motivated abuse of power. Mr. McCarthy said the committee wants to "interview me about public statements that have been shared with the world, and private conversations not remotely related to the violence that unfolded at the Capitol. I have nothing else to add."

Mr. McCarthy is the latest Republican House member known to have been contacted for testimony or documents by the Jan. 6 committee. The committee recently asked to meet with Reps. Scott Perry (R., Pa.) and Jim Jordan (R., Ohio). Both refused to participate, saying the Jan. 6 select committee is illegitimate.

The nine-member committee was established on a largely party-line vote in the House last year, after Republican senators blocked creation of a bipartisan commission.

The panel, led by Mr. Thompson and Vice Chairwoman Liz Cheney (R., Wyo.), is examining the storming of the Capitol by Trump supporters who tried to stop the certification of President Biden's Electoral College win. In his letter, Mr. Thompson



#### Remains of Former Sen. Harry Reid Lie in State at the U.S. Capitol Rotunda



Former colleagues paid their respects Wednesday to the late Democratic Sen. Harry Reid, the former majority leader who helped enact the Affordable Care Act in 2010. Sen. Reid, who represented Nevada in the chamber for three decades, died Dec. 28 at the age of 82. From left are, Sens. Joe Manchin (D., W.Va.), Gary Peters (D., Mich.), Amy Klobuchar (D., Minn.), Elizabeth Warren (D., Mass.), Mark Warner (D., Va.), Chuck Grassley (R., Iowa), Patrick Leahy (D., Vt.) John Thune (R., S.D.) and Patty Murray (D., Wash.).

wrote that Mr. McCarthy has acknowledged speaking with Mr. Trump, as the president's supporters overran the Capitol.

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# Landrieu Taps New Orleans Experience

#### By TED MANN AND JULIE BYKOWICZ

Mitch Landrieu had been mayor of New Orleans for more than seven years when torrential rains in August 2017 exposed a failing drainage system, triggering floods that evoked memories of Hurricane Katrina a dozen years earlier.

Mr. Landrieu helped revive a city that was nearly bankrupt and reeling from corruption probes when he took office in 2010. Still, he spent his final months as mayor explaining why the New Orleans infrastructure was failing, even after he had secured billions of dollars in federal aid for post-Katrina repairs.

Now, Mr. Landrieu, a 61year-old Democrat who also served as Louisiana's lieutenant governor and a state lawmaker, has been tapped by President Biden to oversee roughly \$1 trillion in federal spending to repair and improve the nation's infrastructure.

Mr. Landrieu said he was contending with years of neglect of New Orleans's infrastructure, and his experience overseeing rebuilding efforts there gives him insight into the needs of local officials who will seek grants from the Biden administration.

"The last 30 years, I've seen almost everything that I can see that's in this bill, amazingly," Mr. Landrieu said in an interview. "And that's why I'm

things that I've learned, the things that I did well, the things that I've done poorly, to craft a new mousetrap that actually makes the country stronger and better."

A chief goal, he said, is to smooth out some of the bureaucracy that held up his ability to get big projects going as quickly as he would have liked.

In appointing Mr. Landrieu, Mr. Biden said the former mayor's relationships with local officials across the country would be assets in overseeing the largest new federal investment in public works in decades.

"He was one of the most engaged mayors in the United States when it came to infrastructure when I was in the White House," said DJ Gribbin, a senior operating partner at private-equity firm Stonepeak Infrastructure Partners, who was special assistant for infrastructure to former President Donald Trump.

Mr. Gribbin said his initial skepticism over the Biden administration's plans to appoint an infrastructure czar dissipated when he learned Mr. Landrieu would get the job.

As mayor, Mr. Landrieu was adept at getting federal aid, supporters say, including securing federal funding for a \$1 billion international airport that opened in late 2019.

During his first two months

looking forward to using the as infrastructure czar, Mr. Landrieu has mostly been working the phones. He said he had spoken personally with 40 governors, and dozens of mayors and groups such as the U.S. Conference of Mayors, which he once led. He sent a letter last week to governors advising them to empower a state-level coordinator to manage requests for infrastructure dollars.

> The Landrieus are one of Louisiana's best-known political families. Mr. Landrieu's sister. Mary Landrieu, was a U.S.

#### He will oversee about \$1 trillion in federal spending on infrastructure.

senator from 1997 to 2015 and then went to work for Van Ness Feldman LLP, an energy and environmental law-focused firm. Her highest-paying lobbying client is Enterprise Products Operating LP, a North American oil-and-gas pipeline company, lobbying records show.

The White House said Mr. Landrieu will recuse himself from conversations involving his sister's clients. Ms. Landrieu declined to comment.

Some environmental groups are skeptical that Mr. Landrieu will execute infrastructure spending with enough of an eye toward combating climate change, as the Biden administration has promised.

Mr. Landrieu's hiring is "a giant gift to the oil industry," said Anne Rolfes, founding director of the Louisiana Bucket Brigade, a nonprofit aimed at forcing the oil-and-gas industry to clean up pollution from its operations on the Gulf Coast.

Mr. Landrieu defended his environmental record but said the needs of communities dependent on fossil-fuel extraction need to be considered in attempts to transition away from carbon.

"Mitch is a balanced guy at heart, which is a lost art in Washington," said Stephen Waguespack, president of the Louisiana Association of Business and Industry.

Mr. Landrieu has been building his national reputation around his decision to remove Confederate statues from New Orleans. He started a nonprofit, called E Pluribus Unum, with the mission of confronting systemic racism and creating a more inclusive South.

A federal financial disclosure shows he paid himself more than \$660,000 in 2020 and 2021 to run it. He also earned more than \$1 million in that period as president of a consulting firm.

In the filing, Mr. Landrieu said the business would be inactive during his time in the administration.

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### **U.S. NEWS**

# Texas Man Charged Under New Antidoping Law

**U.S. WATCH** 

#### By JAMES FANELLI

In the first test of a new antidoping law, an El Paso, Texas, man was charged in a scheme to provide banned performance-enhancing drugs to athletes in the run-up to the Olympic Games in Tokyo, according to a criminal complaint unsealed in federal court on Wednesday.

Eric Lira faces two criminal counts for international sports doping and for a conspiracy to misbrand drugs, the complaint savs. He was taken into custody in Texas on Wednesday, according to the U.S. attorney's office in Manhattan, which brought the charges.

Mr. Lira made an appearance in a federal court in Texas



**U.S. Attorney Damian Williams** 

Wednesday afternoon. A U.S. magistrate judge appointed an attorney to represent Mr. Lira and set a detention hearing for him for Tuesday.

U.S. Attorney for Manhattan Damian Williams said it was the first time a criminal charge was brought under the Rodchenkov antidoping Act. The act, signed into law in December 2020, criminalizes doping schemes at international sports competitions. It was named after Dr. Grigory Rodchenkov, a whistleblower and former head of a Moscow lab who accused Russia of running a state-sponsored doping program for athletes.

The International Olympic Committee referred requests for comment to the World Anti-Doping Agency. The agency said it welcomes efforts by governments to penalize those who are trafficking or distributing prohibited substances.

Mr. Lira claimed to be a "kinesiologist and naturopathic"

doctor, but doesn't appear to have a medical or physical therapist license, the criminal complaint says.

He is accused of providing human growth hormones and the blood-building drug ervthropoietin to two track-andfield athletes who resided in Florida in 2021.

The complaint doesn't identify the athletes. nor say which country they competed for. However, it says on July 30, 2021, one of the athletes was provisionally suspended from competing in the women's 100meter semifinals at the Olympic Games after testing positive for a human growth hormone. The 2020 Games were held in 2021 because of delays from the Covid-19 pandemic.

lost her appeal of the suspension and received a multiyear ban from competition, according to the complaint.

Nigerian sprinter Blessing Okagbare was the only competitor suspended from the women's 100-meter Olympic semifinal race over test results for banned substances. She couldn't be reached for comment. The Athletics Federation of Nigeria didn't respond to a request for comment.

The Athletics Integrity Unit, which oversees an antidoping program for international track and field athletes, was the agency that suspended Ms. Okagbare after the positive test result.

In October, the unit said it

The female athlete later brought disciplinary charges against Ms. Okagbare over the test results. She has denied the allegations, according to the unit.

"We welcome the actions of law enforcement to pursue any person supplying performance enhancing drugs to athletes," Brett Clothier, the unit's head, said about the criminal complaint against Mr. Lira.

The criminal complaint says when the female athlete returned to the U.S. after the Olympics, she provided her phone to Customs and Border Protection officers.

Text messages between her and Mr. Lira that date to 2020 show them discussing obtaining banned substances, the complaint says.

#### FCONOMY

#### Modest Growth Seen At the End of 2021

The U.S. economy grew at a modest pace in the closing weeks of 2021 as supply-chain issues and a shortage of available workers held back production, the Federal Reserve said Wednesday.

Demand remained strong and consumer spending grew ahead of a rise in Covid-19 cases caused by the Omicron variant, the Fed said in its periodic collection of business anecdotes from around the country known as the Beige Book

The report contains information gathered through Jan. 3 as new reported cases of the disease were surging. In the week since, cases have continued to climb rapidly, which could curb economic activity.

Retailers, restaurants and hotels said business had picked up in the fall but suffered toward the end of the year as case counts increased. New York subway ridership, for instance, which had been rising in November, turned down in December as more people stayed home.

Employers said they continued to struggle to fill open positions, holding down payrolls and pushing up wages. Respondents in the New York area expected wage increases to average 6% in 2022. -David Harrison

OHIO

#### **High Court Invalidates New Political Maps**

The Ohio Supreme Court declared GOP-drawn legislative maps invalid, agreeing with voting-rights advocates that the lines were unconstitutionally gerrymandered.

In a 4-3 ruling Wednesday, the court sent the maps back to the Ohio Redistricting Commission to take another crack at complying with provisions of a 2015 constitutional amendment. That amendment requires there be an attempt at avoiding partisan favoritism. Justices gave the panel 10 days and retained jurisdiction to review their handiwork

This was the Redistricting Commission's first time drawing new legislative maps of 99 Ohio House and 33 Ohio Senate dis-



CLEARED: Workers began to remove the remaining parts of a homeless encampment in Boston on Wednesday. Mayor Michelle Wu pledged to get housing for people who have been living there in tents.

tricts. Its members-five Republicans and two Democrats-failed to arrive at bipartisan consensus, so the map they approved Sept. 16 along party lines was set to last only four years, rather than 10 years. The panel's two Democrats,

Sen. Vernon Sykes and Rep. Emilia Sykes, his daughter, said the ruling confirmed Democrats' contention that the lines were "unfair, unrepresentative and unconstitutional."

Republican Gov. Mike De-Wine, a member of the commission and whose son was among Wednesday's dissenting justices, pledged in a statement to "work with my fellow Redistricting Commission members on revised maps that are consistent with the court's order."

-Associated Press

#### Rock 'n' Roll Siren **Ronnie Spector, 78**

OBITUARY

Ronnie Spector, the cat-eyed, bee-hived rock 'n' roll siren who sang such 1960s hits as "Be My Baby." "Baby I Love You" and "Walking in the Rain" as the leader of the girl group the Ronettes, has died. She was 78.

Ms. Spector died Wednesday after a brief battle with cancer. her family said.

The Ronettes' sexy look and powerful voice turned them into one of the premier acts of the girl-group era. "We weren't afraid to be hot. That was our gimmick," Ms. Spector said in her memoir. When we saw The Shirelles walk on stage with their wide party dresses, we went in the opposite direction and squeezed our bodies into the tightest skirts we could find. Then we'd get out on stage and hike them up to show our leas even more."

The group's debut album, "Presenting the Fabulous Ronettes Featuring Veronica," was released in 1964. Five of its 12 tracks had made it to the U.S. Billboard charts.

-Associated Press

## **Prince Andrew's Bid to Toss Suit From Accuser Is Denied**

#### By JAMES FANELLI AND MAX COLCHESTER

A U.S. federal judge denied Prince Andrew's request to dismiss a lawsuit accusing him of sexually abusing a

perform sex acts on Epstein. During the three-week trial, Prince Andrew's name was mentioned as one of several prominent figures to fly on Epstein's private jet.

Ms. Maxwell's attorneys

court would generate a swath of negative headlines just as the palace looks to highlight the service of Britain's longest-serving monarch.

Buckingham Palace declined to comment.

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teenager, dealing a blow to the royal's efforts to stop litigation alleging his ties to disgraced financier Jeffrey Epstein and British socialite Ghislaine Maxwell.

Virginia Giuffre filed the lawsuit against Prince Andrew last year, alleging Epstein and Ms. Maxwell forced her into having sex with the British royal in the early 2000s.

A lawyer for Prince Andrew didn't respond to a request for comment. Ms. Giuffre's lawyer, David Boies, said in a statement that she was pleased with the ruling allowing the case to proceed.

The lawsuit is among the most prominent litigation related to Epstein's alleged sex crimes.

Last month, Ms. Maxwell was convicted of sex-trafficking charges for recruiting and grooming underage teens to

have said they plan to appeal the verdict. Epstein died in 2019 in a federal jail while awaiting trial on his own sextrafficking charges. The New York City medical examiner ruled his death a suicide.

The prospect of a highly publicized trial involving Prince Andrew in the year that Queen Elizabeth is due to celebrate her 70 years on the British throne is causing consternation in Buckingham Palace, officials say.

After stepping back from royal duties in 2019 over his links to Epstein, Prince Andrew, the queen's second son, who holds the title of Duke of York, has largely been relegated to appearing in longlens paparazzi shots driving to and from his home on the Windsor estate.

Still, a deep dive into his private life in a New York

Ms. Giuffre previously settled a lawsuit with Epstein in 2009 that accused him of trafficking her for sex.

Earlier this month, Prince Andrew's lawyers argued in court that he was protected from litigation by Ms. Giuffre under the settlement between her and Epstein.

The agreement prohibited her from suing Epstein, his employees and other "potential defendants."

U.S. District Judge Lewis Kaplan said in his ruling on Tuesday that the language in the settlement was too ambiguous as to whom it protected from litigation.

"Of course, we don't know what, if anything, went through the parties' minds with respect to the specific terms of the 2009 agreement," the judge said in his ruling.

## December Budget Deficit Shrank

#### By Amara Omeokwe

#### Federal deficit



The federal government ran \$0 billion a \$21 billion deficit during December, the smallest monthly gap in two years, as the government took in more tax rev-200 enue while spending edged Government receipts for the month rose 41% from a year 400 earlier to \$487 billion, not adjusting for calendar differ-

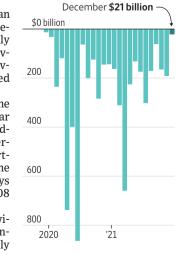
ences, the Treasury Department said Wednesday. The 600 Treasury said federal outlays in December rose 4% to \$508 In December of the previ-800 ous fiscal year, the govern-

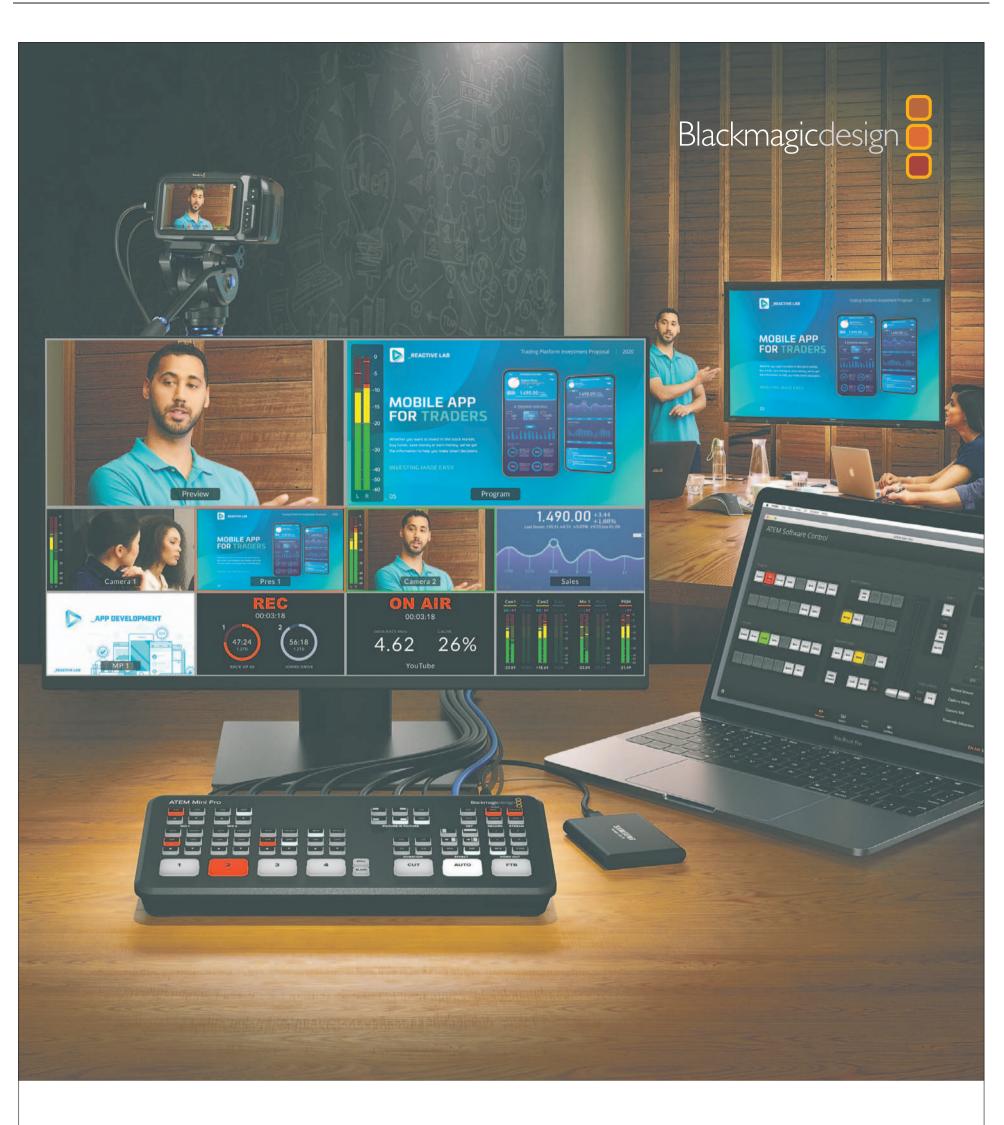
Source: U.S. Department of the Treasury via the Federal Reserve Bank of St. Louis

December compared with the same period in the previous year, which Treasury officials said was partially due to employers nearing a deadline to pay payroll taxes they had been allowed to defer as part of federal coronavirus relief.

Wednesday's data show the U.S. is running a smaller deficit so far in the current fiscal year, which began in October, than in the previous one. The cumulative deficit in the first three months of the fiscal year stood at \$378 billion compared with \$573 billion at the same point the prior year.

Federal receipts have risen at a faster rate than outlays during the first quarter of the fiscal year, partly reflecting an increase in workers' taxable wages and salaries. The federal government so far in the fiscal year doled out more in refundable tax credits, according to the Congressional Budget Office. Spending on unemployment programs, Medicare, Medicaid and interest on the public debt all fell.





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### U.S. NEWS

# **Public-School Attendance Plummets**

Pandemic challenges children, teachers; 'There has never been anything like this'

#### By Scott Calvert And Ben Chapman

Public-school attendance across the U.S. has dropped to unusually low levels, complicating efforts to keep schools open, as districts also contend with major staff shortages.

Many students in kindergarten through 12th grade are out sick because of Covid-19 or are being kept home by anxious parents, as the Omicron variant surges, officials say. Remote learning often isn't being offered anymore for students who are home. Empty desks create a quandary for teachers, who must decide whether to push ahead with lesson plans knowing a large number of their students will need to catch up.

New York City, the nation's largest school district, saw its overall attendance rate fall below 70% when classes resumed after the winter holidays, far below the district's pre-pandemic average of over 91% students at school each day. Many students missed class



New York City school attendance fell below 70% from more than 91% before the pandemic.

because of fears of contracting the virus or because they or a family member had tested positive, teachers said.

"There's never been anything like this," said Arthur Goldstein, a teacher at Francis Lewis High School in Queens, N.Y., referring to the sustained low attendance. He has taught

in New York City for 37 years and held classes in the aftermath of disasters, including the Sept. 11, 2001, terrorist attacks and superstorm Sandy in 2012.

Depressed attendance rates have created significant challenges for teaching and learning, he said. Children who miss class may fall behind academically and socially, he added.

Thousands of public schools around the U.S. have temporarily moved away from inperson learning this month, largely because of a staff shortage, despite a growing recognition of the academic and psychological harm to students of remote instruction. Most of the nation's nearly 100,000 public schools are open, if not necessarily filled with students.

In Boston Public Schools, student attendance has hovered around 70% since winter break ended Jan. 4, officials say, down from about 90% before the holidays. Since last week, more than 1,000 new cases of Covid-19 involving students have been reported, the district said. Nearly 49,000 students attend the city's public schools. Hundreds of the district's roughly 4,400 teachers have also tested positive recently, officials said.

"We're seeing Covid hitting our staff just as hard as it is our students," said Mark Racine, the Boston district's chief information officer.

He said students have access to an online service that lets them communicate with a tutor at any hour, and some teachers are allowing students to attend remotely via Zoom.

Heather Hill, a professor at Harvard University's Graduate School of Education, said some teachers she knows around the U.S. are teaching new material despite high absenteeism, though more slowly than usual.

## College Enrollment Shrinks Further

#### BY DOUGLAS BELKIN

College undergraduate enrollment continued to shrink this fall and has declined by more than a million students since the Covid-19 pandemic began in 2020, according to a report released Thursday by the National Student Clearinghouse Research Center, a nonprofit research group.

Compared with last year, college undergraduate programs lost 465,300 students, or 3.1% of their total. Since the start of the pandemic, enrollment has declined nearly 7%.

The decrease has translated into deep cuts at many schools as well as an uptick in school mergers and closings.

"Our final look at fall 2021 enrollment shows undergraduates continuing to sit out in droves as colleges navigate yet another year of Covid-19," Doug Shapiro, executive director of the center, wrote.

College enrollment has been trending downward for a decade, driven in part by a demographic drop. The pandemic accelerated the decline. Nationwide, 14,441,432 un-

dergraduate students are enrolled in U.S. colleges and universities this fall. The greatest declines were among students seeking associate degrees: Their enrollment fell 6.2% this year.

Enrollment fell in each of the five largest undergraduate majors at four-year colleges. Of those top five, the decline in liberal-arts enrollment was the steepest, at 7.6%. Enrollment in computer science and psychology increased 1.3% and 2.5% respectively, according to the clearinghouse.

Total fall enrollment increased in only four states: Arizona, Colorado, New Hampshire and South Carolina.

# K-12 Students to Receive Free Covid-19 Tests

#### BY ANDREW RESTUCCIA

The Biden administration plans to distribute millions of free Covid-19 tests to schools, part of the federal government's effort to keep schools open amid a surge in coronavirus cases caused by the Omicron variant.

This month, the administration will begin shipping five million rapid Covid-19 tests to K-12 schools each month, White House officials said. States will have to apply to the Centers for Disease Control and Prevention to receive the tests. The administration has previously distributed \$10 billion in resources to states for testing at schools. That funding was included in the coronavirus response legislation signed into law last year, according to the White House.

Public and private schools are eligible to receive the tests, an administration official said, though it is up to states to decide which to give priority to.

The rapid tests for schools are in addition to the 500 million rapid tests the administration plans to begin distributing to the public free of charge in coming weeks, a White House official said. The administration has faced criticism for testing shortages around the country that led to long lines and empty shelves at the start of the Omicron surge.

The administration will also expand lab capacity to allow for five million additional PCR tests a month for schools around the country, according to the White House officials. PCR tests often take longer to process but are considered more accurate than rapid tests in some cases.

—Sabrina Siddiqui



o this article. A California student shows a negative Covid-19 test at her school.

# Tensions Rise Between Republicans, Fauci on Pandemic Policies

By Stephanie Armour And Andrew Restuccia

WASHINGTON—Anthony Fauci, one of the Biden administration's lead pandemic messengers, is facing mounting attacks from Republicans, who have questioned the longtime infectious disease expert's cism, and they have asserted that he has lied about the National Institutes of Health's work in China on medical research to genetically alter organisms. Dr. Fauci has denied that he lied and said he is being targeted by Republicans for backing science.

On Tuesday, Dr. Fauci, Pres-

shocked at the level of vitriol directed at Dr. Fauci, from anti-Fauci T-shirts that are for sale online to people comparing him to a Nazi.

In a statement Wednesday, Mr. Paul accused Dr. Fauci of avoiding questions "by ginning up the idea that his opponents

get boosted, get vaccinated,"
Dr. Fauci said, referring to the
Centers for Disease Control and Prevention.
y, Following months of criti-

CDC guidelines: wear a mask,

cism from Republicans, Dr. Fauci has increasingly fought back, buoyed by Biden administration officials who are taking a more confrontational ap proach in response to false information about the pandemic that they believe has led millions of Americans to not get vaccinated. At Tuesday's hearing, a microphone picked up Dr. Fauci muttering, "What a moron" and "Jesus Christ" after a heated exchange with Mr. Marshall, a doctor, about whether Dr. Fauci files annual financial disclosure forms and how easily available they are. Dr. Fauci files annual disclosure reports. which the public can request from National Institutes of Health. Dr. Fauci declined to comment for this article.

U.S. political leaders who were viewed positively by the majority of Americans in a December Gallup poll. He ranked below Chief Justice John Roberts and Federal Reserve Chairman Jerome Powell with a 52% approval rating—well above Mr. Biden and congressional leaders of both parties. liticized this between parties and we've never had epidemics or natural disasters politicized. In polio, there wasn't a Democratic or Republican view."

Republicans have stepped up their condemnation of the Biden administration response to Covid-19 amid an explosion of cases caused by the Omicron variant. The rapid rise in infections has led to more Americans saying in political polls that they are unhappy with the administration's response effort. The seven-day average of Covid-19 cases in the U.S. soared to about 751,000 as of Jan. 10, up from about 80,000 as of Nov. 29, according to the CDC. Controversy has trailed Dr. Fauci since the onset of the pandemic, when his clout grew and right-wing conspiracy theories accused him of being part of a deep state plot to undermine then-President Donald Trump's re-election effort. Democrats largely embraced Dr. Fauci as a truth teller.

credibility at a time when the public is seeking accurate information about surging coronavirus cases.

The long-simmering campaign against Dr. Fauci boiled over this week during a congressional hearing, when Sens. Rand Paul (R., Ky.) and Roger Marshall (R., Kan.) launched pointed attacks on him, prompting verbal sparring that made headlines around the country.

Public polling shows that most Republicans and some independent voters dislike Dr. Fauci, limiting his audience as the administration tries to explain the risks of the Omicron variant. Some Republicans say Dr. Fauci isn't open to critiIdent Biden's chief medical adviser, said at the Senate Committee on Health, Education, Labor and Pensions hearing that Mr. Paul was making false personal attacks on him for political reasons. "In usual fashion, I think you are distorting everything about me," Dr. Fauci said. "You keep coming back to personal attacks on me that have absolutely no relevance to reality."

He said the senator's comments were fueling death threats and harassment of his family and children. Dr. Fauci last year received an armed security detail following online threats. Administration officials said they have been

A GOP campaign against the White House's top medical adviser boils over.

are the cause of threats."

Mr. Paul, an ophthalmologist by training who has repeatedly called on Dr. Fauci to be fired, accused Dr. Fauci of ignoring alternative perspectives in the scientific community and imposing his viewpoints on the country.

"Everything that I have said has been in support of the

Dr. Fauci is one of just three

Republicans and Democrats viewed Dr. Fauci differently. Eighty-five percent of Democrats viewed him positively, compared with just 19% of Republicans. Dr. Fauci had a 48% approval rating among independents, according to the poll. He has picked up support from independents since August.

"If I'm a senator from a Republican state like Rand Paul, this is not a popular person. It isn't a problem to be aggressive, it absolutely cannot hurt him," said Robert Blendon, an emeritus professor of health policy and politics at Harvard University.

The broader issue, Mr. Blendon said, is that "we have po-



14 January 2022

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### **U.S. NEWS**

# **U.S., Europe Grapple** With Winter Surge

#### BY STEPHANIE ARMOUR AND JARED S. HOPKINS

The number of people in the U.S. hospitalized with Covid-19 reached a record on Wednesday as the surge in the Omicron virus variant added to the stress on U.S. states and European nations.

The seven-day average of people hospitalized with confirmed or suspected Covid-19 reached 144,964 on Wednesday, according to the Department of Health and Human Services. The average on Tuesday was 140,576 people.

State officials in New York said Wednesday that the number of people in New York hospitals with Covid-19 increased again, to 12,671, but the percentage of positive tests has declined for the past week.

"The slowdown in new cases gives us a glimmer of hope, but cases still remain high and we are nowhere near the end of the winter surge," Gov. Kathy Hochul said.

Although evidence suggests the Omicron variant is less likely than previous variants to cause severe illness, its higher contagiousness and the sheer volume of infections have pushed up hospitalizations.

Data provided by Kinsa, a smart-thermometer company. showed the percentage of people who reported fevers crossed above the historical average on Dec. 18 and has been declining since Dec. 30. As of Tuesday, 0.35% of readings taken on its roughly 19,000 thermometers in New York City showed a fever.

A study of Covid-19 patients at Kaiser Permanente's healthcare facilities in California showed that people infected with the Omicron variant were hospitalized for a shorter time and were less likely to land in the ICU than people infected with the Delta variant, federal officials said Wednesday.

Centers for Disease Control and Prevention Director Rochelle Walensky said the preprint study, meaning it hasn't been peer reviewed, showed that people infected with the Omicron variant were hospitalized for about 1.5 days compared with a five-day median stay for people infected with Delta. No patients infected with Omicron required mechanical ventilation, Dr. Walensky said.

"While we are seeing early evidence that Omicron is less severe than Delta and that those infected are less likely to require hospitalization, it's important to note that Omicron continues to be much more transmissible than Delta," Dr. Walensky said. She said the wave of Omicron infections in the U.S. was expected to peak in the weeks ahead.

The Omicron wave has also led to a rise in infections among employees and residents of nursing homes, threatening to cause severe illness and deaths among vulnerable old people while also compounding staff shortages.

In Europe, most countries are continuing with their strategy of accepting the rising volume of Omicron infections as inevitable, and con-



A Covid-19 patient in the intensive care unit of Sharp Grossmont Hospital in La Mesa, Calif.

centrating on measures to rose less than 10% and admisreduce hospitalizations, especially by raising pressure on the unvaccinated minority of

citizens to get shots. In Belgium, which hasn't imposed severe restrictions on daily life amid the spread of Omicron, case numbers doubled during the week through Sunday, the most recent period for which data are available, compared with the prior week. But over that same period, the number of patients in hospitals

sions in intensive-care units continued a monthlong decline. Deaths linked to Covid-19. a lagging indicator, fell almost 30% during the week.

In Germany, too, a rapid rise of Omicron infections hasn't caused a surge in hospitalizations, although health experts warn that continued high numbers of cases could eventually lead to more people ending up in hospitals.

In the U.K., there are early

signs that the Omicron wave is running out of steam. The past week's average of just over 157,000 daily confirmed infections is down 13% on the week before. New Covid-19 hospitalizations are up 18% on average over the previous week and deaths are 81% higher. Hospitalizations are running at less than half the record levels of a year ago.

–Jimmy Vielkind and Renée Onaue contributed to this article.

## West Virginia's **Governor** Tests **Positive for Covid**

#### BY OMAR ABDEL-BAOUI

West Virginia Gov. Jim Justice said he feels "extremely unwell" after testing positive for Covid-19.

Mr. Justice, 70 years old, is isolating and started undergoing monoclonal antibody treatment Tuesday night, according to a statement from his office. The Republican governor is fully vaccinated and has received a booster shot.

"I feel extremely unwell at this point," Mr. Justice said. "I woke up [Tuesday] morn-

Gov. Jim Justice, who has had a booster, is getting monoclonal antibody treatment.

ing with congestion and a deliver an address to the body cough. A little while later. I developed a headache and fever."

Mr. Justice has urged West Virginians to get vaccinated and has been critical of people spreading misinformation about Covid-19 vaccines.

Last week, the governor sent a letter to President Biden requesting that the president direct agencies including the Centers for Disease Control and Prevention to allow some West Virginians to receive a fourth dose of vaccine.

One of Mr. Justice's physicians, West Virginia's Covid-19 czar Dr. Clay Marsh, said he expects the governor to quickly recover.

"Without the immunity afforded by those vaccines, his outcome could be much worse," Dr. Marsh said.

West Virginia's State of the State address was scheduled for Wednesday.

It will be delivered by written message to the legislature, with Mr. Justice expected to +\_info: <mark>in 💌 f</mark> 🖶 investpr.org

Some see an ad. You see

He added that his symptoms worsened by late Tuesday afternoon as he was suffering from a high fever. and elevated blood pressure and heart rate. People in close contact with the governor have President Andrés Manuel Lóbeen notified of his positive test, according to the statement.

at a later date, according to his office.

Other politicians have recently tested positive for Covid-19 amid the recent surge in cases and hospitalizations.

Rep. Alexandria Ocasio-Cortez (D., N.Y.), Chicago Mayor Lori Lightfoot and Mexican pez Obrador have all said in recent days that they have tested positive for Covid-19.

## **Red Cross Sets Plan To Lure Blood Donors**

#### By Allison Prang

The U.S. is short on blood. The American Red Cross, which provides 40% of the country's blood supply, has said its blood supply is at historically low levels and that it is seeing its worst blood shortage in over a decade.

The nonprofit hopes to entice donors by entering those who give blood in January in a drawing to win tickets to Super Bowl LVI in Los Angeles next month. January donors will also get a chance to win a home-theater package for the game.

"Dangerously low blood supply levels are posing a concerning risk to patient care and forcing doctors to make difficult decisions about who receives blood transfusions and who will need to wait until more products become available," the Red Cross said on Tuesday. It is asking for all blood types, particularly Type 0.

Donors who give blood Jan. 1-31 will automatically be entered into the drawing for two Super Bowl tickets. The winner also will receive airfare, hotel accommodations and a \$500 gift card, as part of the Red Cross's partnership with the National Football League.

The Red Cross said there has been a 10% overall decline in people giving blood amid the Covid-19 pandemic and that blood drives at schools and colleges have fallen by more than 60%.

Akin Demehin, director of policy at the American Hospital Association, said the shortage started being felt more in fall 2021. Some demand for blood products has also started to rise this year, with hospitals trying to schedule procedures that had been deferred earlier in the pandemic.

"I think for those hospitals that are trauma centers, they are really keeping a close eye on their overall supply level to make sure that they have enough," Mr. Demehin said.

He said blood availability also is a factor in determining whether to delay a procedure.

Enticements like the one the Red Cross is doing are somewhat akin to those that have been implemented for the Covid-19 vaccine, he said. Some states and cities offered incentives, including money and college scholarships, for people to get vaccinated against the virus.

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# WORLD NEWS

# **Moscow's Discussions With NATO Falter**

Officials say divisions will be hard to bridge, but they voice hope for future meetings

NATO's chief said significant differences remained with Russia but expressed hope that Moscow would agree to further talks, after the first joint council meeting between the two since 2019.

> By James Marson in Brussels and William Mauldin in Washington

NATO Secretary-General Jens Stoltenberg said after discussions on Wednesday that differences would be hard to bridge, with Russia increasing pressure on the West to accept its demands for sweeping security guarantees, and the alliance largely refusing to budge.

Russian Deputy Foreign Minister Alexander Grushko also noted "a large number of differences on fundamental questions." If the situation worsens, he told reporters, it could lead to "the most unpredictable and serious consequences for European security."

The meeting between a Russian delegation and representatives of the 30 members of the North Atlantic Treaty Organization came two days after a U.S.-Russia session in Geneva failed to reach a breakthrough. Russia has gathered tens of

thousands of troops around Ukraine, and says it wants big changes in European-security arrangements, and fast. Moscow is demanding that NATO give a binding guarantee that it won't offer membership to Ukraine and Georgia, two former Soviet republics that Moscow considers part of its sphere of influence. NATO has said-since 2008-that Ukraine and Georgia eventually would become members, but it is in no rush to offer them an immediate path into the alliance.

Russia also wants NATO to scale back its military activities in its members that once were part of the former Soviet Union or the Warsaw Pact, such as Poland, Hungary and the Czech Republic.

NATO allies have said the demands are unacceptable. U.S. Deputy Secretary of State Wendy Sherman said after the talks that such proposals are "simply nonstarters," and allies were united in rejecting them. "We will not slam the door

shut on NATO's open-door policy," Ms. Sherman said.



From left, U.S. Deputy Secretary of State Wendy Sherman, NATO Secretary-General Jens Stoltenberg, Russian Deputy Foreign Minister Alexander Grushko, and Russian Deputy Defense Minister Alexander Fomin met in Brussels on Wednesday.

to address arms control.

The Russian delegation said it would take the proposal back to Moscow, officials said. NATO allies called on Rus-

sia to withdraw its troops from around Ukraine.

"There is a real risk for a new conflict in Europe," Mr. Stoltenberg said. The Kremlin

has said it is free to deploy its forces as it wants in its territory

"We have made it clear and we told the Russians directly again today that if Russia further invades Ukraine, there will be significant costs and consequences well beyond what they faced in 2014," Ms.

Sherman said on Wednesday.

Moscow has long sought to prevent Ukraine from integrating with NATO and the European Union. After street protests overthrew a pro-Russian president in Ukraine, Russian President Vladimir Putin sent troops to seize Crimea in 2014 and took control of territory.

NATO allies have provided military weapons, equipment and training to Ukraine, causing Russia to complain that the alliance is seeking to turn the country into an anti-Russian proxy state.

A Kremlin spokesman said before the talks that Mr. Putin wasn't presenting ultimatums, but is worried about threats to Russia's security. "Without doubt, any expansion of NATO concerns Russia," Dmitry Peskov said.

Russia staged live-fire exercises on Tuesday involving tanks and troops near Ukraine's borders. Mr. Peskov said they weren't connected to the talks.

Diplomats fear Russia could use the talks' slowness as a pretext to launch a fresh invasion of Ukraine if NATO doesn't meet its demands.

"We don't have anything to offer them," a European diplomat said. "The only hope is to keep the Russians at the table."

# White House Backs Russian Sanctions Tied to Ukraine

administration has thrown its support behind a bill that would impose mandatory

#### By Lindsay Wise, Brett Forrest and William Mauldin

sanctions against Russian leaders, banks and businesses if Moscow escalates hostilities or further invades Ukraine.

The endorsement comes as the White House lobbies wavering Democratic senators against another sanctions bill expected to get a Senate vote this week that is sponsored by

WASHINGTON—The Biden Sen. Ted Cruz (R., Texas). The Cruz bill would initiate sanctions against Nord Stream 2, a pipeline built to deliver Russian natural gas to Germany.

The Biden administration is threatening to impose, alongside European partners, what it says are steep penalties on Moscow if Russia invades Ukraine.

The Democratic bill, backed by the White House and sponsored by Senate Foreign Relations Committee Chairman Sen. Bob Menendez (D., N.J.), would direct the administration to review its waiver of sanctions against Nord Stream 2's parent company "in light of the Krem-

lin's military buildup and aggression towards Ukraine."

NATO offered Russia fur-

ther talks to discuss more lim-

ited measures allies hope

would ease its security con-

cerns. Mr. Stoltenberg said

those measures include ways

to increase the transparency of

military exercises, to prevent

dangerous incidents, to reduce

space and cyber threats, and

The State Department waived sanctions in May on Nord Stream 2's parent company and chief executive, as the U.S. tried to strengthen ties with its ally Germany. Still, the administration wants to secure assurances that Germany will block the pipeline's use if Moscow invades Ukraine, said U.S. congressional aide briefed on the discussions.

Mr. Cruz negotiated a vote on his legislation in a deal with Senate Majority Leader Chuck Schumer (D., N.Y.). Under their agreement, Mr. Cruz released his hold on dozens of ambassador nominations in exchange for a vote on Nord Stream 2 no later than Thursday. Mr. Menendez is urging Mr. Schumer to bypass the committee process and bring his bill to the floor for a vote as soon as possible.

National Security Council spokeswoman Emily Horne said on Wednesday that the Cruz bill was intended to "score political points at home" and would remove U.S. leverage to deter Russia. "And it would come at a moment where we need to be closely united with our European partners, including Germany," she said.

Ms. Horne said the administration instead supports Mr. Menendez's bill because it "would trigger severe costs to Russia's economy if Russia further invades Ukraine, just like President Biden and our allies and partners have made clear we will do."

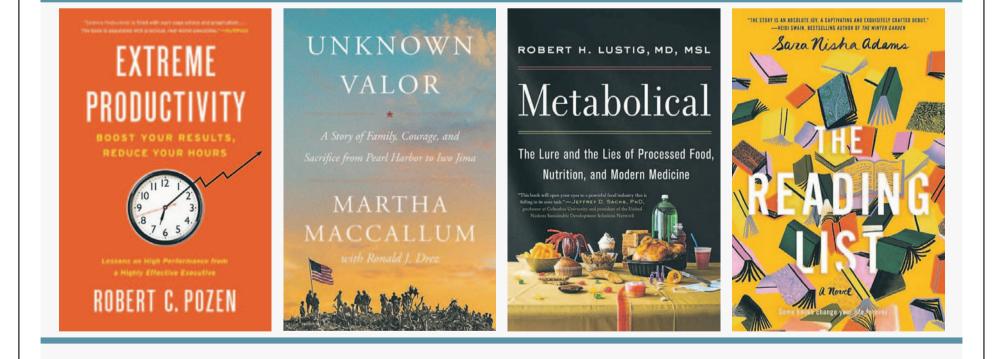
In addition to requiring sanctions on Russia's military and political leaders-Russian President Vladimir Putin as well as his inner circle-the Menendez bill would authorize \$500 million more in security assistance to Ukraine in the event of a renewed Russian invasion, and would ask the Defense and

State departments to expedite transfer of weapons and military equipment to Ukraine immediately. It also would authorize sanctions on providers of financial messaging services in Russia, such as SWIFT, the global banking transaction system, and bar transactions on Russian sovereign debt.

Republicans stress that while Mr. Cruz's bill requires the administration to impose pipeline sanctions, Mr. Menendez's legislation grants Mr. Biden discretion in doing so. They criticized the White House for trying to pressure the Democrats to oppose Mr. Cruz's bill.

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### WORLD NEWS

## Illegal EU Border Crossings Jump 57%

#### BY ERIC SYLVERS

Illegal border crossings into the European Union in 2021 were the highest since 2017, indicating the bloc hasn't resolved an issue that has dogged it in recent years.

Authorities in member countries reported almost 200,000 migrants tried to cross into the EU last year, a 57% increase from 2020 and about a third more than in 2019. Covid-19 restrictions in 2020 in North Africa and other areas stemmed the flow.

Crossings on the central Mediterranean route-mostly from Libya and Tunisia into southern Italy-rose 83% last year to more than 65,000, making it again the most popular route, according to preliminary figures from Frontex, the EU's border-control agency.

Stemming the flow of illegal migration has been a point of contention between EU countries, coming to the fore in November when thousands of migrants massed on the Belarus border with Poland. At the time, Poland complained that Germany, which doesn't share a border with Belarus, held bilateral talks with the former Soviet republic.

Arrivals at the Polish border rose to almost 8,000 in 2021 from less than 1,000 in each of the previous two years.

The United Nations refugee agency estimates that last year about 1,800 people who tried to cross the Mediterranean and enter the EU illegally died or are missing. In November, at least 27 migrants died in the English Channel trying to cross into the U.K. from France.

Failure to find a coordinated response to illegal migration has hindered the EU's attempt to resolve the problem. Italy has long asked to distribute migrants that arrive on its shores to other EU countries, a request that has been ignored by many member states. In response, for a period, Italy allowed migrants to continue their travels to countries farther north.

Crossings along the eastern Mediterranean route, mostly from Turkey into Greece, held steady last year at about 20,000 while arrivals from the Balkans more than doubled to more than 60,000. Syrians made up the largest group, followed by Tunisians, Moroccans, Algerians and Afghans, Frontex said. Women

# India Festival Fuels Covid-Spread Fears

#### BY SHAN LI AND VIBHUTI AGARWAL

NEW DELHI-Hundreds of thousands of Hindu pilgrims are expected to gather for a festival at the mouth of the River Ganges this week despite warnings from public-health experts that the event could turbo-

charge the spread of Omicron. With Covid-19 infections surging nationwide, officials in the Indian state of West Bengal estimate that up to a million people will attend the Gangasagar Mela, an annual weeklong festival ending Sunday in which pilgrims typically immerse themselves in the Ganges.

Officials say they will ensure that attendees are either fully vaccinated or recently tested negative for the virus. They are arranging for drones to sprinkle holy water from the Ganges onto worshipers to discourage them from rushing into the river, said Bankim Chandra Hazra, a minister in the West Bengal government in charge of organizing the festival.

Still, he predicts that worshipers won't be deterred from bathing. "There's no way we can stop them," he said. Public-health experts say

such measures are inadequate, or impossible to implement, and that such gatherings, which attract big crowds of tightly packed devotees, are the perfect setting for mass infections.

During the spring 2021 wave of the Delta variant, millions of maskless people flocked to one spot on the Ganges for a similar festival. Despite efforts to impose safety measures, experts said, large numbers of people spread the virus.

India reported 194,720 new daily cases Wednesday, more than eight times the number at



Indian officials are concerned that pilgrims attending the Hindu festival of Gangasagar Mela this week will spur mass infections.

the start of the year. In West Bengal, infections have more than quadrupled over the same period. One in three people are testing positive for Covid-19 there, according to West Bengal's department of health.

So far, Indian officials have said the rate of hospitalization nationwide is lower than last year's spring wave, but experts warn that India's huge population and low rate of vaccination could overwhelm hospitals.

Dr. Avinandan Mondal, a physician in the West Bengal capital of Kolkata, said he was so convinced of the dangers of this week's festival that he filed a plea at the Calcutta High Court requesting a ban this year. Authorities can do nothing to stop Covid-19 from spreading, he said, when huge volumes of people from all over the country gather in one venue. "It is very tough to track them," he said. "It is like creating chaos."

The high court ruled last week that the festival could go ahead, but judges on Tuesday ordered attendees to produce either a vaccine certificate showing two doses of a Covid-19 shot or a negative PCR test taken within 72 hours.

Bhramar Mukherjee, chair of biostatistics at University of Michigan's School of Public Health and a West Bengal native, said that requiring every-

one at big religious festivals to produce a PCR test or be double vaccinated is unworkable unless the state provides tests for all attendees. Even then, she said, the capacity of the Omicron variant to infect the vaccinated or previously infected means that any control measures are extremely porous.

"This is almost a sham intervention," Dr. Mukherjee said. 'It's never going to be realized."

State officials defended their plans, including setting up booths to carry out rapidantigen tests, conducting thermal screening and handing out masks. People who test positive are being taken to government-run quarantine facilities,

prominent Conservative lawmaker, said the prime minis-

Senior lawmakers from Liberal Democrats, Scottish National Party and Labour-the main opposition parties-also called for Mr. Johnson to quit.

contemptuous of the British public that he thinks he can just ride this out?" Labour Party leader Keir Starmer asked.

Mr. Johnson urged lawmakers to await the outcome of the internal investigation before drawing conclusions. That internal probe is also looking at allegations that several other social events also took place in Downing Street dur-

ing various lockdowns.

Much of Mr. Johnson's appeal to Conservative lawmakers lies in his formidable electoral record. In December 2019, he led the party to a decisive victory in a national election. securing the largest majority for the Conservative Party in the House of Commons since 1987. The Tories now control 361 of the house's 650 seats. His ability to hold on will in

one official said.

Doctors warn that a huge rise in infections from people who attend the festival—along with others who they infect after returning home-could overwhelm hospitals and medical professionals trying to prepare for a surge in the coming weeks.

Already, hospitals in Kolkata are under pressure with so many employees sick from Covid-19, said Shyam Krishnan, a pulmonologist at CMRI hospital in Kolkata.

"We are in a very vulnerable situation," Dr. Krishnan said. "It's very frustrating to see people not understanding such simple logic."

large part be down to how his party believes he would fare during an election scheduled to be held in 2024.

The popular anger over the allegations has sent the Conservative Party's ratings in the polls into free fall. Twentythree percent of the British public currently approves of the government, according to pollster YouGov. Two-thirds of Britons think Mr. Johnson should resign over the issue of the drinks party, according to a Savanta ComRes poll published Tuesday.

If Mr. Johnson's popularity appears to fade, lawmakers might turn against him. A crucial test is how the party fares in local elections in May.

His apology on Wednesday is the latest twist in a scandal that has been bubbling since the fall. Mr. Johnson has spent the past week stonewalling questions about a scandal the British press has dubbed "Partygate," saying he didn't want to pre-empt the investigation. The change in tack came when he wanted to "acknowledge the strength of feeling" over the issue, a spokesman said.

Johnson Apologizes For Party

Continued from Page One his own lawmakers.

'He will survive in the short to medium term because it is hard to imagine a challenge from his backbenchers at this stage," said Tony Travers, a political professor at the London School of Economics.

In May 2020, a senior official in Mr. Johnson's team emailed staff inviting them to meet for drinks in the garden of Downing Street.

lieved implicitly" that it was a work event. "With hindsight I should have sent everyone back inside," he said.

Mr. Johnson's lapse follows other instances in which leaders have failed to comply with Covid-19 restrictions. In late 2020, it emerged that California Gov. Gavin Newsom ate with friends at a swanky Napa Valley restaurant just as he was urging residents to avoid gathering with people outside their households. Mr. Newsom, a Democrat, has said the dinner was an error in judgment.

The debacle leaves Mr. Johnson politically weakened at a time when he must make difficult decisions about how best to steer the economy as inflation and rising energy

prices begin to bite. Several Conservative law Mr. Travers said.

Since the Tories command a solid majority in Parliament, removing Mr. Johnson requires a mass rebellion within his own party. Under Conservative Party rules, 54 lawmakers must send letters of no confidence to a special Conservative committee to trigger a vote in their leader. At least half of the party's lawmakers

An internal inquiry is under way and the **Metropolitan Police** are weighing a probe.

must then vote to oust him.

said Mr. Johnson had to resign. William Wragg, another

ter's position was untenable.

"Is the prime minister so

accounted for fewer than one in 10 of those who arrived.

The Frontex numbers include only people stopped as they try to enter the EU.

Greece received about one million migrants in 2015, but that number plunged after Turkey reached a deal with the EU in 2016 to stop the crossings and take back migrants in return for a large payment.

We thought it would be nice to make the most of the lovely weather," the email read. Around 100 people were invited when lockdown rules allowed people to meet only one other person outdoors.

Mr. Johnson said he attended the event for 25 minutes "to thank groups of staff" for their work during the pandemic. He added that he "be-

makers are demanding Mr. Johnson ditch a planned tax increase this spring that is earmarked to fund the National Health Service. The government will also come under pressure over how he handles domestic policy after having taken the U.K. out of the European Union. Conservative lawmakers will now "have a toehold over him,"

Following his apology in Parliament, some Conservatives said they would give Mr. Johnson the benefit of the doubt. "People are hurt and angry at what happened and he has taken full responsibility for that," tweeted Nadine Dorries, the U.K.'s culture secretary.

Others weren't so forgiving. Douglas Ross, the Conservative Party leader in Scotland.

Omicron Poses Test To China

Continued from Page One and economy, and as other countries have moved away from lockdowns. The highly contagious Omicron variant will be harder to manage, health experts said, likely leading to more frequent and longer-lasting restrictions.

"Covid-zero is great when you're at zero, but when you're not, it can become very disruptive to the community," said Ben Cowling, professor of epidemiology at the University of Hong Kong's School of Public Health.

Central-government authorities show no intention of changing their approach to Covid-19, which they see as a success amid the Omicron surge, officials familiar with the government's thinking said. Beijing is concerned that any relaxation in controls could lead to a big breakout of cases, some of the officials said.

"An outbreak would put a huge strain on the country's resources," one of the officials said, referring to China's limited healthcare facilities, especially in rural areas.

On Sunday, authorities in Tianjin—a port city 30 minutes from Beijing by high-speed

train—said they had found two locally transmitted Omicron infections. A day later, two people some 300 miles away in Henan province were linked to the same transmission chain.

The discoveries kicked off a now-familiar choreography: lockdown, mass testing and warnings of further restrictions to come.

Tianjin suspended train and bus service to Beijing and on Wednesday embarked on a second round of testing everyone in the city of 14 million. Henan has closed most schools and banned public gatherings, including temple fairs and other celebrations ahead of the Lunar New Year. Several local governments in the province of 99 million have issued stay-at-home orders.

Under President Xi Jinping, China has veered toward a more top-down approach to any issue, and local officials, fearful they might be punished if they let Covid-19 gain a foothold, tend to err on the side of aggressive interpretation of the central government's policy instructions.

The strains the resulting measures are putting on communities throughout China were on display in the city of Xi'an, whose 13 million people have been ordered to stay in their homes for almost three weeks. Some complained of a lack of access to food. The account of a woman losing her unborn baby after waiting outside a hospital for hours for lack



Tianjin is testing all of its 14 million residents for Covid-19. People in the city wait in line for tests.

of a valid Covid-19 test sparked a wave of anger online in response to the harsh measures.

Xi'an's lockdown is one of the biggest since the sealing off of Wuhan in early 2020, and one of many carried out across China since the start of the pandemic. In October, more than 30,000 visitors were locked in Shanghai Disnevland and forced to undergo Covid-19 testing after one visitor tested positive.

Economists are increasingly citing the potential for Omicron to take a greater toll on China's slowing growth this year, as restrictions and spreading infections keep many from work and make others reluctant to spend.

China's recent flare-ups are prompting factory closures and clogging up ports, heightening fears of global supply disruptions.

China isn't facing any easy choices. About 86% of its population have been fully vaccinated, but the vaccines most widely used, developed by Sinopharm and Sinovac, use inactivated virus. Those are widely believed to be less effective against Omicron infections than the mRNA vaccines developed by Moderna Inc. and by Pfizer Inc. with BioNTech SE.

A Sinovac spokeswoman re-

ferred to a preliminary study published in December showing three doses of its vaccine provided some protection against Omicron but two were less effective. Sinopharm couldn't be reached for comment.

Zhong Nanshan, China's top Covid-19 expert, who has defended the zero-Covid policy, said last week that in theory China has reached herd immunity through its high level of vaccinations. He acknowledged that Chinese vaccines have been less protective against Covid-19 compared with mRNA vaccines but said that based on studies involving the Delta variant, they are still able to

limit severe disease. He said around 24% of people in China have received a booster shot.

China is accelerating its efforts to produce domestic mRNA vaccines and medicines for Covid-19, an official familiar with the matter said.

China has reported a total of 104,189 Covid-19 cases and 4,636 deaths from the virus. China tallies both symptomatic and asymptomatic cases but includes only the former in its official count of confirmed cases.

One model from Peking University late last year projected that new daily cases could top 600,000 if China were to abandon its zero-Covid strategy.

Some health experts said China could potentially address Omicron with different mitigation measures because Omicron generally causes lesssevere disease, China's vaccination rate is high and doctors now have better information about how to treat Covid-19.

Observers said if China were to pivot away from its zero-Covid strategy, it would likely be after the Olympic Games, which close Feb. 20, and before a Communist Party congress on a vet-to-be-disclosed date in the fall. China's leaders would likely try to engineer the shift without what is known as an exit wave, such as the surge in infections now seen in countries such as Australia.

Before then, Beijing is taking no chances, setting up a "closed loop" around the events.

### FROM PAGE ONE

### **Scholastic** Heir Faces Hurdles

Continued from Page One leadership. She must do so while also confronting resistance to her ascension from Mr. Robinson's family and questions among some emplovees about whether her 31year career at the company was boosted by her relationship with the boss.

Among her skeptics are some former board members and executives who say Scholastic fell short of expectations on several digital initiatives during her time as chief strategy officer from 2014. Various company efforts during her tenure to harness sales data and find ways to sell directly to consumers-to add to its existing businesses through schools-haven't come to fruition, they said.

Ms. Lucchese's supporters, who also include some former Scholastic executives, said she had brought bold ideas to the company, some of which Mr. Robinson stymied with his cautiousness. Though she had oversight of many digital initiatives that faltered, they said, she didn't have day-today responsibility for them.

"I don't think there is anything but competency" behind Mr. Robinson's passing the reins to Ms. Lucchese, said Rick Richter, a former president of Simon & Schuster's children's division and now a partner in the literary agency Aevitas Creative Management. Among Ms. Lucchese's achievements "was holding down the fort during one of the most catastrophic situations in Scholastic's history," he said, referring to Ms. Lucchese's leadership efforts during the pandemic following Mr. Robinson's death.

Scholastic declined to make senior executives available for interviews, including Ms. Lucchese and CEO Peter Warwick. Mr. Warwick last year told the Journal he was working closely with Ms. Lucchese.

Scholastic spokeswoman Anne Sparkman said Ms. Lucchese's focus on strengthening the brand was instrumental to the company's success and her digital accomplishments include creating an e-gift card and teacher crowdfunding tool that have increased opportunities to bring in revenue. "As Chief Strategy Officer, she developed and brought in key staff. increased collaboration and efficiency across the company," she said, adding that Scholastic's digital strategy re-

Scholastic's longtime head, Richard Robinson, bequeathed his controlling stake in the company to lole Lucchese, far left at a screening of 'Clifford the Big Red Dog'; Scholastic titles include Suzanne Collins's 'The Ballad of Songbirds and Snakes.'

president of industry consultants Market Partners International Inc. Scholastic's recent successes include last year's release of a live-action Clifford movie, which Ms. Lucchese coproduced.

"The company has a history of evolving," said Gus Oliver, a longtime Scholastic board member until 2015. "Whether Iole and Peter will find a way to survive and thrive in the digital era—a huge opportunity that Scholastic has missed thus far-remains to be seen.'

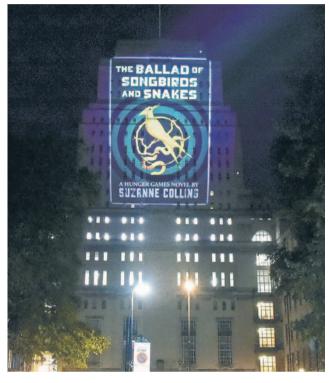
Mr. Robinson's two sons have been exploring grounds to challenge Ms. Lucchese's ascension, the Journal reported in November, including the claim that their father had promised controlling shares to them as part of a loan agreement. Scholastic has no evidence of such an agreement, said the spokeswoman, Ms. Sparkman.

#### 'Creative force'

Ms. Lucchese joined Scholastic's Canada division in 1991 as an associate editor in book clubs. Andriana Avraam, a veteran Scholastic Canada staffer who today operates a Torontobased events company, described Ms. Lucchese as "a crewho loved ative force connecting with parents, teachers and children and believed deeply in Scholastic's mission."

Relatively early in her career. Ms. Lucchese began a romance with Mr. Robinson, and word of the relationship spread in the company.

Ms. Lucchese became Scho-



Storia was an ambitious project that didn't work out as expected and that the technology was applied to other products.

Mr. Robinson named Ms. Lucchese chief strategy officer in 2014, surprising many staffers because she didn't have an extensive digital background. One colleague said Ms. Lucchese confided that: "I'm still trying to figure out what I own and what I'm responsible for."

At least one director, Mae Jemison, expressed concern when the issue of Mr. Robinson's dating an employee came up in a board committee meeting. "It became clear Dick was involved with somebody in the company who was in his direct line of authority," said Dr. Jemison, an educator, former astronaut and longtime board

member until 2015, "and I really expressed my concern about the appropriateness."

She said she retains "tremendous respect" for Mr. Robinson's leadership and high regard for Scholastic's support of children and education. She also said she wasn't familiar with Ms. Lucchese's work.

Ms. Sparkman said the company advises employees on the risks of dating subordinates and co-workers but doesn't prohibit such relationships.

Among Ms. Lucchese's first acts in her new role was to exas Scholastic F.I.R.S.T., which has shown a 126% growth in revenue since 2018, she said. Ms. Lucchese was gaining a

reputation internally as outspoken and blunt, many current and former employees said. Some former staffers said they considered her use of the F-word at the 2017 meeting unseemly because staff were still reeling from the company's firing of some digital executives in charge of the website overhaul. "We had just lost some colleagues," said Nancy Cross Shimmel, a former Scholastic website editor who was there. "It was so inappropriate and disrespectful." Ms. Sparkman said Ms. Lucchese declined to comment on the meeting.

In 2018, Mr. Robinson promoted Ms. Lucchese to president of entertainment. She sought to create shows using Scholastic's intellectual property, including the "Puppy Place" series on Apple Inc.'s Apple TV+.

Tensions flared from time to time between her and Mr. Robinson over their approach to innovation, former executives said. Ms. Lucchese supported the concept of a monthly book-box subscription Scholastic was considering that would mail a selection of titles directly to families, former staffers said. Mr. Robinson demurred, saying it would be costly to move goods outside Scholastic's distribution network of schools. Scholastic never launched the initiative.

Ms. Lucchese and Mr. Robinson appeared to break up for good in 2019, the Journal reported last year.

Scholastic didn't complete a business-wide digital-transformation plan launched in 2017 and called "Scholastic 2020," of which Ms. Lucchese was a leader, people familiar with the initiative said. The company still can't easily assess the sales performance of a title across divisions that have long kept their own data, these people said. It is also difficult to track a single consumer across divisions. Ms. Sparkman said the company followed through on some Scholastic 2020 projects, including technology upgrades and cost-cutting measures, that helped position it well during the pandemic.

#### New vision

Since Mr. Robinson's death, Ms. Lucchese in executive meetings has outlined a vision for a different Scholasticmore focused on families and teachers as end consumers and not tied only to school infrastructure, people familiar with the discussions said. In November, the company named board member Mary Beech as chief marketing and transfor-

mains a work in progress.

The issues facing Ms. Lucchese and other senior managers at Scholastic have been a long time in the making, said Jon Newcomb, a publishing consultant and equity investor. Scholastic "spent a lot of energy investing in the ed tech business, then sold it, leaving a lot of good people disillu-sioned," he said. "Dick Robinson inspired a lot of loyalty, but it also led to a hardening of the arteries. There hasn't been enough innovation." Ms. Sparkman declined to comment.

Ms. Lucchese, with Mr. Warwick, is steering Scholastic to a recovery after school closures hit its business. Revenue fell 12.6% to \$1.3 billion in the fiscal year that ended in May and is rebounding. Scholastic stock is up 65% in the past year, versus 24% for the S&P 500 index as of Jan. 12, according to FactSet data. That partly reflects investors' belief that the company might be sold, said Lorraine Shanley.

lastic Canada's co-president in 2003 and soon became a frequent presence at the New York headquarters, where Mr. Robinson would ask her to join meetings outside her iob title's scope, former staffers said. Scholastic's Ms. Sparkman said it is normal for a rising executive to be part of crossdivisional meetings.

Ms. Lucchese around 2010 started playing an advisory role on an e-reader application called Storia, designed to let families buy books and make reading more gamelike.

Storia faltered because of poor technology, and Scholastic struggled to acquire digital book rights to stock the app, staffers who worked on it said. Several Scholastic executives were already involved, and Ms. Lucchese's input made for a confused leadership structure, they said. Scholastic narrowed Storia's scope by 2014 to focus on school customers.

Ms. Sparkman said that

press support for Mr. Robinson to sell a group of educationaltechnology businesses, including a popular platform called Read 180, people familiar with the deliberations said. In 2015, Scholastic sold the technology tive director of marketing and teacher outreach, now retired.

to Houghton Mifflin Harcourt

proved, Dr. Jemison said she

opposed selling technology

that could underpin future in-

novations. Some former execu-

tives agree, saying that part-

ing with key talent and

technology as part of the sale

may have hindered Scholas-

by Ms. Lucchese's decision to

de-emphasize Scholastic's free

online content geared toward

teachers—such as lesson

plans-to focus the website

more on commerce. That led

to declines in traffic and digi-

tal-ad revenue and took away

helpful content that attracted

teachers to the site, they said.

chese took needed steps to

clean up website content and

invest in digital marketing ef-

forts that ultimately increased

traffic to the entire Scholastic

site, adding that the site contin-

ues to offer free teaching tools.

Ooka Island, a Canadian virtual

reading app, former staffers

said. The app struggled to win

customers among schools, they

said, and its technology didn't

turn out to be useful across

other lines of business as Scho-

lastic had hoped. "This was a

product that was decades old

and the graphics and interface

reflected its age," said Kathy

Walsh, then Scholastic's execu-

Ms. Lucchese encouraged Mr. Robinson in 2017 to acquire

Ms. Sparkman said Ms. Luc-

Some former digital staffers said they were disappointed

tic's innovation efforts.

While most directors ap-

Co. for \$575 million.

Scholastic's Ms. Sparkman said Ms. Lucchese supported the acquisition but the education division's leadership identified the opportunity. Scholastic later rebranded the app



Ms. Lucchese co-produced the new 'Clifford the Big Red Dog' movie.

## FDA Rules **On French** Dressing

Continued from Page One nized by the agency. The other two were mayonnaise and "salad dressing."

According to the original 1950 standard, a French dressing should include vegetable oil, and a vinegar and/or lemon or lime juice, and could be seasoned with ingredients such as salt, sugar, tomato paste or puree, and spices such as mustard or paprika. In 2022, the French dressing perhaps best known to Americans has a more creamy texture, sweet flavor and red or orange composition. There's

not much that's French about it. The Association for Dressings and Sauces, a trade association representing salad dressing, mayonnaise and condiment manufacturers, petitioned the FDA to revoke the rule in January 1998. The restrictions on what constitutes a French dressing inhibited what could be created to match the desires of French dressing consumers, the petition argued.

Many different types of salad dressings—Italian, Ranch, Caesar and Blue cheese-were available for consumers and not affected by the same kind of standardization, the organization said.

The French dressing standard simply restricts innovation," the trade association said once again in a written statement Wednesday.

One year ago, the FDA "proposed to revoke the definition

and standard of identity for French dressing." This week it is doing just that, saying the standard—which had been amended a few times since 1950—"no longer promotes honesty and fair dealing in the interest of consumers."

More than 20 comments about the proposed rule were submitted from trade and business associations and individuals. Many supported the rule change. Others misinterpreted it to mean it would eliminate the use of the name "French dressing" altogether.

"Food products with the name French dressing will continue to be available to consumers," the FDA said in response, according to its filing with the Federal Register, set to publish Thursday.

Another comment, the FDA said, questioned why the federal agency was prioritizing this proposal at all.

The FDA said the move is related in part to the agency's efforts to modernize food standards so that the industry can innovate and produce healthier foods. The agency is also required by law to re-examine its regulations.

'This is not at all what a French dressing actually is, said one food writer.

The FDA doesn't use the standards of identity as a tool very often currently, said Diana R. H. Winters, deputy director of the Resnick Center for Food Law and Policy at the University of California, Los Angeles School of Law. And this change in particular may not have a huge impact on what products are available on the shelves already.

"It seems like the industry's already been pushing at the edges of this standard of identity," Dr. Winters said. "You're not going to see an actual big difference.'

She found a 1940s advertisement for the salad topping, and shared it on the Resnick Center's social-media accounts Wednesday.

The decadeslong delay between the petition to change the standard of identity and the actual rule change is frustrating, she said. "It shows both the workings of the FDA—that its wheels are turning, but extraordinarily slowly and in a way that is somewhat inexplicable," she said.

The FDA didn't respond to

mation officer, largely to aid direct-to-consumer efforts.

Ms. Lucchese has supported a digital plan, "One Scholastic," that would once again seek to knit together its divisionssuch as education, book clubs. international, trade publishing, and book fairs-across marketing, data analytics and digital offerings. A longtime board member called the divisions "feudal kingdoms," saying Ms. Lucchese has been effective over the years-and since Mr. Robinson's death—at forging relationships that could help enable companywide change.

"She was a very good strategist, and I think she gained because of the romantic relationship," said Linda Lee, a former vice president who worked at the company from 1997 to 2019 and now does freelance consulting. "Even after the romance was over. Dick still trusted her, and that was because she really was someone who came along that had a good vision for the company."

questions about the decades gap between the request for a revocation and the actual rule change.

Back in the 1950s, James Beard argued a proper French dressing was closer to what would now be referred to as a vinaigrette, with oil, vinegar, salt and pepper, Mr. Birdsall said.

"Mastering the Art of French Cooking," Julia Child's first cookbook, describes a French dressing as a sauce vinaigrette-declaring Worcestershire, curry, cheese and tomato flavorings aren't French addi-tions and sugar is heresy, Mr. Birdsall said.

"Without actually specifically calling out the American style of French dressing, which is sweet and tinged with tomato, this is not at all what a French dressing actually is," he said.

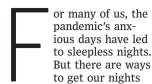
# PERSONAL JOURNAL.

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THE WALL STREET JOURNAL.

Thursday, January 13, 2022 | A13

#### By ANDREA PETERSEN



to get our nights back on track—by changing what we do during the day. More than half of Ameri-

cans said they had experienced more sleep disturbances during the pandemic, according to a March 2021 survey of more than 2,000 adults commissioned by the American Academy of Sleep Medicine. About 57% said they had more trouble falling or staying asleep; 46% slept less at night and 36% said they had more disturbing dreams.

"The stress and isolation of the pandemic, the reduction in physical activity, none of those are good for sleep," says Daniel J. Buysse, a professor of psychiatry at the University of Pittsburgh School of Medicine.

Chronic insufficient sleep has been linked to health problems including diabetes, obesity and high blood pressure. Cognitive functions such as attention and reaction time also are compromised when we don't sleep enough. Mood lowers.

How well you sleep at night depends on what you do during the day, sleepmedicine experts say. They generally recommend that healthy adults get between seven and nine hours of sleep a night. And there are steps you can take to make a restful night much more likely.

Wake up the right way

A good night's sleep starts with having a regular wakeup time that doesn't vary by more than an hour, even on the weekend, says Fariha Abbasi-Feinberg, medical director of sleep medicine at Millennium Physician Group in Fort Myers, Fla. Anything more than that is "going to mess with your circadian rhythm," she says, referring to the 24-hour cycle of physical and mental changes.

Get bright light in the morning as soon as you can, which tells your body it is time to wake up and suppresses the sleep-promoting hormone melatonin, she says. It is even better if you can do it outside. If enough natural light isn't available when you wake up, Dr. Buysse suggests using a fullspectrum light box or visor for a half-hour to an hour.

**Set your body clock** Having regular times for meals, exercise and starting and ending work helps solidify the body's clock, which helps with sleep. "We've lost all boundaries of when I go to work, when I leave work, when do I be present with the family." says Emerson M. Wickwire, professor of psychiatry and medicine at the University of Maryland School of Medicine. "The brain is now 'on' for many more hours than ideal." Many people, especially those working from home,

aren't moving enough during the day, Dr. Abbasi-Feinberg notes. But the body and brain need a clear distinction between active days and inactive nights to sleep best, she notes. Exercising in the morning can boost daytime alertness. If you exercise later, do it at least four to six hours before bedtime, Dr. Abbasi-Feinberg says. Exercise increases body temperature, and

Watch your drinks

berg says people often

Dr. Abbasi-Feinberg advises

her patients to avoid caffeine

from the middle of the after-

noon on. The advice isn't sur-

prising, but Dr. Abbasi-Fein-

underestimate the amount of

caffeine in sodas. And for

can disrupt sleep.

higher body temperature

# To Get a Better Night's Sleep, First Fix Your Day





some sensitive people, the amount of caffeine in chocolate can throw off sleep.

Also be careful with the timing of alcohol consumption, says Jennifer L. Martin, a professor of medicine at the University of California, Los Angeles. Alcohol initially can make people feel sleepy but as it is metabolized, "It is very alerting," she says. That effect kicks in about three or four hours after you drink.

"If you have a glass of wine or two or three at dinner, you may have trouble falling asleep," she says "If you have a nightcap, you might fall asleep OK but it will fragment your sleep later."

#### Avoid naps

If you tend to have trouble falling asleep at bedtime, don't nap during the day, even if you are sleepy, says M. Safwan Badr, professor and chairman of the department of internal medicine at Wayne State University School of Medicine in Detroit. "A nap is like having a peanut-butter sandwich before dinner," he says. "It ruins your appetite" for sleep.

If you feel like you can't get through the day without a nap, keep it to 20 minutes or less, Dr. Buysse says.

#### Try to reduce stress

Connecting with loved ones during the day, preferably in person if you can do so safely, fights isolation and helps reduce a stress response to stay awake and be alert, Dr. Buysse says.

Worries rattling around, to-do lists and other ruminating thoughts are often the enemy of sleep. Dr. Wickwire recommends addressing them by keeping a journal where you write down any concerns you have. Do it at least a couple of hours before bedtime to give thoughts time to settle.

With practice, he says, you will learn that you "don't need to continue to focus on that, and those thoughts will be waiting for me in the morning."

End your entry with a "gratitude list," Dr. Wickwire says. Research has found a link between expressing gratitude and better sleep, he notes.

#### By ANDREA PETERSEN

etting a good night's sleep has always been challenging for many of us, but two years of pandemic-related habits are making things worse.

Many people are sleeping poorly during the pandemic, struggling to fall asleep and waking up more often. There are steps we can take during the day to prime us for better nights—like moving more, limiting caffeine and reducing stress—but they don't always ensure a restful sleep. What you do at night matters too.

Here are the best ways to tackle nighttime sleep problems, even when pandemic disruptions conspire against a peaceful rest.

The lines between work time and down time, and day and night activities, have blurred for many of us. Some of us who are working from home are staying in athleisure (so basically PJs) all day. In order to define that it is time for bed, a presleep routine is all the more important now, sleep experts say.

#### Calming rituals

J Identify Three to five actions—perhaps including brushing your teeth, reading your kids a book, changing into actual pajamas—that end with you in bed ready for sleep, says Emerson M. Wickwire, professor of psychiatry and medicine at the University of Maryland School of Medicine. "Follow those steps each evening in the same sequence. This will train your body and brain

# How to Stay Asleep at Night: No Clocks, No Pets and No Netflix

#### that sleep is near." Between Zoom calls and the dizzying pace of pandemic news, many of us have spent a lot more time on our phones and computers than we did pre-Covid. Sleep experts generally recommend avoiding screenswith their melatonin-suppressing blue light—for about one hour before bed. Your phone or laptop's night mode, which cuts down on the blue light emitted, may be less disruptive to sleep, but no screens

is still better, says Fariha Abbasi-Feinberg, medical director of sleep medicine at Millennium Physician Group in Fort Myers, Fla.

One sleep-promoting activity is a pre-bedtime warm shower or bath, says Daniel J. Buysse, a professor of psychiatry at the University of Pittsburgh School of Medicine. We sleep best when our body temperature is low, he says. While our body heats up during the warm bath or shower, when we're done body temperature falls quickly and steeply, which can help us fall asleep more easily, Dr. Buysse says.

Keep to a regular bedtime as much as you can, but only get into bed when you're ready to fall asleep, says Dr. Wickwire. "Do not practice having insomnia."

### Your bedroom office situation isn't helping

During the pandemic, many bedrooms have been forced to do double duty as offices and gyms, too. This isn't good for sleep because the body and brain learn to associate spaces with particular activities. And when you're going to bed, you don't want your body to think it might be headed to a Zoom meeting with your boss or a Zumba class.

Create some visual separation—perhaps with a partition—between the active zones and the sleep zone, says Jennifer L. Martin, a professor of medicine at the University of California, Los Angeles. "If you don't have that clear line between day and night, your brain enters the space not knowing what to expect," she says.

Doctors say sleep is easier in a bedroom that is cool, dark and quiet. So order those blackout shades and the white noise machine.

If you have a restless cosleeper, not only does Dr. Abbasi-Feinberg suggest investing in as big a bed as possible, she also recommends separate top sheets and covers. That way, your partner can "roll themselves into their sheets, not yours," leaving you relatively undisturbed. Also your cute pandemic puppy shouldn't sleep in bed with you, says Dr. Martin. A few studies have found that people who share a bed with their dogs move more, indicating more wake ups. Instead, consider a dog bed or crate in the bedroom, she savs.

If you do wake up in the middle of the night, don't look at the time. Looking can make you "start worrying, 'I only have three more hours of sleep,'" says Dr. Wickwire. "This just activates our brain."

Instead, wait a few minutes to see if you fall back asleep, says Dr. Martin. But

as soon as you find yourself becoming anxious or frustrated that you aren't getting back to sleep, get out of bed, says M. Safwan Badr, professor and chair of the department of internal medicine at Wayne State University School of Medicine in Detroit. Resist the urge to do work, pay bills or clean the house, Dr. Badr says, since that kind of activity tells the brain that it is time to be awake. Don't be productive, just keep the lights low and read a physical book or listen to soft music. Dr. Martin warns people against eating in the middle of the night since it can create a pattern and lead people to start becoming hungry in the wee hours.

Once you feel sleepy again, head back to bed. "The key word here is not to be in bed awake and struggling," Dr. Badr says.

#### Try a two-week test

Everyone has an occasional bad night. But If you're regularly having difficulty falling asleep at bedtime, Dr. Wickwire suggests a twoweek test where you eliminate all activity from bed "cold turkey"—aside from sleep and sex. That means no Netflix. And no reading. He says patients often notice an improvement in their sleep.

And if you have trouble falling asleep or staying asleep more than three times a week for more than three months, that can be a clinical problem needing treatment, notes Dr. Martin. Then it's time to schedule a visit with your doctor or a sleep medicine specialist.

### PERSONAL JOURNAL.

# Americans' Financial Plans Veer Off Track



#### BY VERONICA DAGHER

he unending pandemic has millions of people feeling like their lives are on hold. Many of them feel their financial growth is on hold, too. Americans began hoarding

money in the early days of Covid-19. They were worried about their health, their jobs and the prospect of a deep recession that never really came. As the pandemic dragged on, some kept their accounts in a protective crouch and amassed record savings levels, while others started spending.

Those who spent drove a rally in home and car prices. Now, supply chain and other problems are driving an increase in prices for everyday items and services. Data on Wednesday showed that inflation as measured by the U.S. consumer-price index rose 7% in December with rising prices for rent, groceries, gas and more.

Financial advisers and econo-

mists say some consumers feel defeated. Some are still unsure about spending their savings given new virus variants. Others are unhappy that their pay isn't keeping pace with inflation. Those who held off on spending for a while say they are being outbid for all types of items, from cars and homes to rental properties and construction equipment.

"Prices have gone up so much. It's frustrating when you're trying to plan," said Dr. Ann Kier-Schroeder.

Dr. Kier-Schroeder, 72 years old, and her husband Dr. Friedhelm Schroeder, 74, have been living in their recreational vehicle for more than two months after selling their College Station, Texas, home for about \$1.5 million.

The retired professors planned to build a new home on the 1.5 acres of land they bought close to their adult daughter and her family in Montgomery, Texas. They hoped to build it for about \$800,000 but realized the costs of building materials such as lumber would boost the price to more than \$1 million.

They are now debating whether they should wait, or if waiting will set them back even more. "Everything is in limbo," Dr.

Kier-Schroeder said.

Americans are better off than they have been in a while, with rising 401(k) balances, record savings and ample job openings. Not that it's helping all of them feel more secure.

Frustration appears to be higher among Americans who say Covid-19 changed their attitudes toward money, according to a 2021 survey by research firm Hearts & Wallets. Of that group, 66% said they wish they were doing a better job saving compared with 34% of respondents who said Covid-19 didn't change their perspective on money, the survey found.

An April survey of about 2,442 adults by Bankrate found that 39% of Americans have put off a financial milestone such as buying a home or a car due to the pandemic. That number may be higher given tightening markets and prices—even used cars and trucks have risen about 37% year over year, according to the Labor Department.

Overall, Americans are hoarding close to \$1.6 trillion in excess savings from the pandemic. There is some evidence, including creditcard data from the Federal Reserve, that they have begun to spend a bit more recently.

People tend to think that money is the primary barrier to getting the perfect house or car, said George Loewenstein, professor of economics and psychology at Carnegie Mellon University.

"They may now have more money, but supply issues and inflation are taking away those things they thought were finally within their reach," he said. "It just drives some people crazy."

Lauren Lindsay, a financial planner in Houston, encourages clients to consider alternatives when longdistance vacations get canceled or the new car they want is unavailable due to shipping delays. She asks whether they would consider a different car or plan to drive their existing one longer. Or she might suggest a shorter vacation until the mega-trip can happen.

Letting people talk and brainstorm alternatives helps, she said: "People just need to vent and be heard."

39%

The percentage of Americans who have put off a financial milestone

As inflation damps the power of paychecks, 3% raises do little to cheer earners. "It was good when inflation was 2%, but not so much now," said Minneapolis-based financial adviser Mark Struthers. He counsels clients to ask for raises or reimbursements to offset the costs of working from home, including higher heating bills.

Even the stock market's stunning performance—the S&P 500 rose more than 25% in 2021—is leaving people glum, advisers say. It's unclear to some how much higher the market can go, and cash and bonds are returning next to nothing, meaning savers are feeling left behind.

Clients are feeling "paralyzed" about where to invest, said Jay Lee, a financial planner in Jersey City, N.J. He's seeing cash balances north of 20% of some newer clients' investible portfolios.

Many financial advisers recommend having about 10% or less in cash in an investible portfolio.

Mr. Lee has to tell clients that staying in cash is risky when dollars are effectively worth less as inflation rises, he said.

He advises people to take an inventory of what's in all of their accounts and create an emergency account of about six months of expenses. Then, people should tackle short-term goals such as paying for their child's braces or eliminating a high-interest credit-card debt. The rest should be invested in a low-fee, long-term, diversified portfolio, he said.

"You'll continue to be frustrated if you try to time the market," Mr. Lee said.



### You, too, Can Be A Whiz At Wordle

By Joseph Pisani

#### Is there an app?

No. It can be played only on the game's website, and the creator said he doesn't plan on turning it into an app.

But that didn't stop others from making their own copycat games. Bogus Wordle apps filled Apple Inc.'s App Store in the past week, rising to the top of the "most downloaded" lists. But Apple Andy Baio put a link to the game in his blog. Mr. Wardle then made it easy to share results by posting the green and yellow squares on Facebook, Twitter and texting apps, and the game went viral from there.

"The Tonight Show" host Jimmy Fallon has tweeted repeatedly about the game, helping fuel its popularity.



#### OYSTER PERPETUAL SEA-DWELLER



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OLEX W OYSTER PERPETUAL AND SEA-DWELLER ARE ® TRADEMARKS.

www ordle, an online word game, seems like it's suddenly everywhere. Here's what you need to know.

#### What is Wordle?

It's a free, once-a-day word game that has gone viral in the past few weeks. It can be played only on a website.

#### Who brought this on us?

Wordle was created by Josh Wardle, a software engineer from New York. He created a prototype in 2013 and dusted it off during the pandemic for his partner, who likes word games.

#### How do I play?

Go to the game's website on your desktop or mobile browser. The URL is: https:// www.powerlanguage.co.uk/wordle/

Wordle is simple: You have six chances to guess the secret fiveletter word. Type in a word as a

guess; the game tells you which letters are or aren't in the word. The aim is to figure out the secret word with the fewest guesses.

### What do the green and yellow squares mean?

When you make a guess, the letter tiles change color to show how close you are to the secret word. If you guess "weary," and the "W" turns green, that means the secret word starts with a "W." If the "E" turns yellow, the letter is in the word but not in that spot. Any letters that aren't in the secret word turn gray. said Tuesday night that it removed those apps.

#### How big is the viral craze?

Some 1.8 million people played on Jan. 7, Mr. Wardle said, whereas just 90 played on Nov. 1, 2021.

#### Why is it just once a day?

The once-daily aspect helped the game go viral. Since everyone in the world gets the same Wordle game at midnight in their time zone, it **Some tips and tricks?** There's plenty debate among

fans on the best way to play. Avid players typically have a favorite first word they think gets them to the answer fastest. Two groups have emerged: those who type in vowel-heavy words first, such as "adieu" or "arose," and those who go after common consonants with words such as "stare." Some have even created



With Wordle you have six chances to guess the secret five-letter word.

enables players to talk to each other about how they did. "It becomes a shared experience," Mr. Wardle said.

#### Can I play more than once daily?

Some players have figured out a way to do that: They use the Wayback Machine, an online internet archive where you can go to Wordle's website from past days and play old games.

#### How did Wordle go viral?

Mr. Wardle said the game started to take off in mid-November, when technologist spreadsheets to figure out the most commonly occurring letters in five-letter words. One player determined that those are E, S, A, R and O and opted to use "arose" as his first guess.

Others just wing it and type whatever comes to their mind. If you're looking for strategies, try finding a Wordle Facebook group like WORDLE Friends, where people are sharing tips.

Mr. Wardle himself said he doesn't know the best strategy. "You're asking the wrong person," he said. "I'm very bad at it."

# **ARTS IN REVIEW**

#### **ART REVIEW**

# **A Pivotal Era Captured** in **Ink and Paint**

#### BY DOMINIC GREEN

London

IT MAY SEEM unlikely, but liberal democracy and the free, modern individual are accidental byproducts of the religious control and spiritual discipline of the Reformation in northern Europe. The Ger-man printmaker and painter Albrecht Dürer (1471-1528) exemplifies both the culture that produced the Reformation-the proto-capitalist artisanal workshops of the German cities, and a bookish but furious spiritual discontent—and the culture that the Reformation produced: the puritan

Protestant International, the artist as celebrity, and, ultimately, the ennui of Hamlet.

Curated by Susan Foister and Peter van Der Brink and featuring paintings, drawings, prints and letters, "Dürer's Journeys: Travels of a Renaissance Artist," at the National Gallery in London, is a detailed and disconcerting guide to Dürer's travels around a Europe in ferment and into the recesses of a soul in torment. He befriends Giovanni Bellini in Venice and corresponds with Leonardo and Raphael. He turns chance encounters along the way into tronies (facial studies): Katharina, the African servant of a Por-

tuguese merchant; a 93-year-old man who will reappear in an oil portrait of St. Jerome; Felix Hungersperg, a captain in the army of the Holy Roman Emperor; a woman wearing a nun's wimple and a private smile; and Arnold Rucker of Seligenstadt, who falls asleep as he sits and is caught forever in brown ink. Dürer secures commissions for portraits of nervy businessmen like the swivel-eyed Burkhard of Speyer, and portly burghers, and testily measures the

Wanderjahre, journeyman years. His movements are unclear. In 1492, he certainly went to Colmar in Alsace to learn new techniques in engraving from Martin Schongauer, though Schongauer died before they could meet. He may also have passed through Basel and the Low Countries, and even Paris. He returned to Nuremberg in 1494 to marry Agnes Frey, a brassworker's daughter.

On a visit to Venice (1505-07) he discovered that his fame as an engraver had preceded him—and that the Venetian artists believed that he only knew how to work in black and white. His riposte was a



brilliantly colored altarpiece, the "Feast of the Rose Garlands" (1506), painted for the German merchants at Venice.

A thinking artist, he wrote down his gleanings in Italian technique in a "Treatise on Measurement" (1525), a practical manual that taught geometric construction and perspective. Perpetually selfconscious, he was the first artist to document the contents of a dream ("Visions of a Cloudburst," 1525).

Dürer is a dissatisfied master of



Albrecht Dürer's 'St. Jerome' (1521), above, and 'The Imperial Captain Felix Hungersperg' (1520), left

face in the brickwork of "Ruin of an Alpine Shelter" (1514). He turns the fingertips of Bernhard von Reesen, a Dutch merchant living in the Hanseatic port of Danzig, into a kind of psychological shorthand. Bernhard holds a freshly opened letter in his left hand. His right rests on the bottom of the frame as if he is looking out a window, but we see the tightening of the sinews in his fingers. The external stimulus of new information has led to inward reflection. We read the sitter's thinking, though not his thoughts.

The fury of Dürer's attention, and his discomfort with the fluid forms of nature, give him an eye for the worm in the rosebud, a fascination with the details of decay. Like the knight in his "Knight, Death and the Devil" (1513), he is a solitary moralist in a world of evil. Dürer's "Adam and Eve" (1504) are magnifi cent studies in Greek form, but it is the woodcuts for his "Apocalypse" (1498) and the engraving "Melancholia I" (1514) that get under the skin and into the mind.

Travel brought fresh air into Dürer's cell. In 1520, he went to the Low Countries to petition Charles V, the new Holy Roman Emperor, to continue paying the stipend that his predecessor Maximilian I had paid. This time, Dürer

The revealing and self-revealing results of Albrecht Dürer's journeys across Europe.

traveled with Agnes, their maid, a stack of prints (he was always alert to opportunities for publicity), and his sketchbook. Some 140 portraits survive. Just under a hundred are in silverpoint, a technique in which a silver stylus made irreversible marks on treated paper. Every one of them is a small miracle. If all portraits are a form of self-portrait, then it is in these spontaneous sketches

as much as the set-piece oil portraits that Dürer is most alive to the human within his subjects, and within his own responses.

His was a hard genius, cold as a northern winter and born for the harsh spirituality of his contemporary Martin Luther. His eye had been shaped by the northern palette of empty white skies, shadows as black as the pit, the human form in shades of gray, and he could not shake it. He was one of the first in the parade of northern artists, culminating in Nietzsche and Thomas Mann, whose angst was sharpened but not lifted by the light of the Mediterranean. But it was a matter of individual temperament too. With Dürer, we feel what he saw and see how he felt.

results against his Italian masters. His eye is sharp, his hand sure, but he is never satisfied.

Born in Nuremberg as the son of a goldsmith, Dürer had the peripatetic early career known as

the material world. He relishes the encounter with reality each time his eagle eye alights on some new detail. He creates from metalpoint and watercolor the suggestion of a

#### Renaissance Artist

The National Gallery, through Feb. 27

Mr. Green is editor of the Spectator's world edition.

#### **CULTURAL COMMENTARY**

# Aretha Franklin's Miracle of a Concert

#### By JOHN EDWARD HASSE

ifty years ago this week, Aretha Franklin went into a Missionary Baptist church in Los Angeles and recorded a transcendent two-LP album that became a landmark of American music. "Amazing Grace" went on to surpass two million copies, the best-selling and arguably greatest live record of Black gospel music and her own top seller.

Rather than a departure from her work as the reigning "Queen of Soul," this album marked Franklin's return to her religious roots.

Franklin was born in 1942 in Memphis, Tenn., and grew up in Detroit. Her father, the Rev. C.L. Franklin, minister of Detroit's New Bethel Baptist Church, was a charismatic preacher in the pulpit, on radio and on records. As a recording artist whose speaking, shouting and singing moved countless listeners, he served as a keen inspiration to young Aretha. He took her on revival tours to sing gospel music. When she was but 14 years old, she made her first record.

For Sam Cooke, John Legend and countless other African-American singers, participating in music of the Black church served as bootcamp. Like them, Aretha crossed over from singing gospel music to secular song. In 1960, she signed with Columbia Records, which positioned her as a wide-bandwidth songstress. In 1966, shrewd producer Jerry Wexler brought her to Atlantic Records and gave her R&B backing. Her career skyrocketed with such hits as "I Never Loved a Man (The Way I Love You)," "Think" and, famously, "Respect.

At the pinnacle of her musical powers and popular success, she decided to go back to her first love, gospel music. On the nights of Jan. 13 and 14, 1972, all the pieces came together for a breathtaking recording and, eventually, concert film. The elements? The soaring, emotive singing of Franklin-even at age 29 one of the areat voices of modern times. The tight Southern California Community Choir, led by the "King of Gospel," the Rev. James Cleveland, and conducted by the gifted Alexander Hamilton. Aretha's blue-chip band with guitarist Cornell Dupree, bassist Chuck Rainey and drummer Bernard Purdie. Crack arrangements. Soulful piano parts mostly by Cleveland, a few by Aretha. And the empathy, almost telepathy, among the singers and musicians.

A two-disc set was released in 1972 with 14 tracks. A "complete" version issued in 1999 includes 27 tracks

Had "Amazing Grace" been made in a recording studio, the album simply would not have worked. The live audience-overwhelmingly Blackmade all the difference. Cleveland considered the event a "service" and urged the parishioners and visitors to



Franklin recording 'Amazing Grace' 50 years ago this week

"give in to the spirit": Their spontaneous responses fed the singers and vice versa.

As Aretha hums, slides, swoops, whoops and moans, she goes from one chill-inducing moment to another. She says hardly a word, but her faith is unmistakable. Sixteen minutes long in the "complete" recording, "Amazing Grace," common property of white and Black churches, is the emotional and musical highlight. Stretched to the limits of slowness and out of tempo, this 18th-century hymn becomes a showcase of improvisation and spiritual euphoria. To build drama, she repeats phrases such as "so safe" and brilliantly employs melisma. She puts the final syllable—"home"—through staggering

acrobatics, drawing it out through at least 14 different notes. Talk about "worrying a note," as they say in church!

The 19th-century hymn "What a Friend We Have in Jesus" gets new life in 6/8 meter, perfect for swaying. In the searing "Mary, Don't You Weep," Aretha again builds excitement through repetition: "my, my, my, my, my, my, my, my, my, my sweet Lord." She ingeniously merges Carole King's "You've Got a Friend" with Thomas Dorsey's "Precious Lord, Take My Hand." She makes old spirituals and gospel hymns sound fresh and immediate.

Hollywood director Sydney Pollack shot the performances on 16mm film, but the footage sat unreleased for 46 years because he did not use clapperboards to synchronize the audio and visuals and because Franklin resisted its release. Finally, in 2015, composer-producer Alan Elliott completed the syncing and editing. The film was issued shortly after Franklin's death in 2018 as a 90-minute concert documentary, also titled "Amazing Grace."

For listeners who knew only her sound recording, the film was a thrilling revelation. Viewers could not only hear the dramatic interaction, but view and feel it; watch Franklin's intense facial expressions and perspiration; note the choir's body language and total lack

of sheet music; see the musicians' fingers dance on their instruments: and witness the congregants and choir members who shout ecstatically, holy-dance and "get happy" in the spirit of the Lord. Whether or not you are Christian or religious, it's hard not to be moved by the fervor of these performances.

With its glory to God, emotive potency and extraordinary musical virtuosity, "Amazing Grace" is Aretha Franklin's greatest achievement.

Mr. Hasse is curator emeritus of American music at the Smithsonian Institution. His books include "Beyond Category: The Life and Genius of Duke Ellington" (Da Capo) and "Discover Jazz" (Pearson).

# **SPORTS**

# **Don't Forget About These Titans**

The AFC's No. 1 seed might be overlooked. But they have a first-round bye—and the team is finally getting healthy.

BY ANDREW BEATON

he Tennessee Titans don't have Tom Brady, Patrick Mahomes or Josh Allen. But when the NFL playoffs begin this weekend, they have a phenomenal advantage that Super Bowl favorites like the Tampa Bay Buccaneers, Kansas City Chiefs or Buffalo Bills don't: the Titans get the weekend off.

The league added a seventh playoff team from each conference last year, and that changed the format in a way that provides a monumental reward to only two teams. The winner of each conference gets both home-field advantage and the lone first-round bye, meaning its path to the Super Bowl has one fewer chance to lose

The Green Bay Packers and Aaron Rodgers, the regular-season NFC champions, got one of those byes. The Titans, the AFC's No. 1 seed, received the other.

The difference in perception between the Packers and Titans, the only two teams just two wins away from reaching the Super Bowl, is enormous. Green Bay is the strong Super Bowl favorite at sportsbooks. Tennessee's odds are longer than four teams: the Packers. Chiefs, Bills, and Buccaneers.

Yet there's reason to believe that Titans are being overlooked at the precise moment they're prepared to play better than they have all season. The Tennessee team that everyone seems to discount is positioned to be at its best after a year dampened by iniury after injury.

The Titans are enough of an anomaly that they may have value. Tennessee has 8.5-to-1 odds to win the Super Bowl, which implies a 10.5% probability, at DraftKings. That's not far off from where popular statistical models place them. FiveThirtyEight's forecast says the Titans have a 12% chance. A simulation from Football Outsiderswhich said the Titans' play this year rated worse than any No. 1 or No. 2 seed in their metrics' history, dating back to the 1980s—has Tennessee winning it all just 7.9% of the time.

The point is clear: Other teams, even ones that have to play and risk getting eliminated on the opening weekend of the playoffs, are projected to have a better shot at hoisting the Lombardi Trophy.

Yet there are two ways of looking at the Titans. One is that, even though they went 12-5, data-driven forecasts and the public seem to agree they're not nearly as good as a typical favorite like the Pack-



The Titans and quarterback Ryan Tannehill, above, are the AFC's No. 1 seed. Right, running back Derrick Henry is expected back from injury.

ber of injuries that are finally sorting themselves out, and any numbers that assess their performance don't take that into full account.

Indeed, the Titans are getting healthy, quarterback Ryan Tannehill has his most valued passing targets back and there's always the chance that Derrick Henry, back from injured reserve, simply runs over opponents.

"This will be a good week," coach Mike Vrabel said after his team's win Sunday.

The Titans haven't always looked or played quite like a team that won 12 games, with both numbers and the eve test throwing caution about their success. They hardly looked like a contender when they lost to the New York Jets.

But their roster was also gutted by injuries for much of the year, and even though the team's most important player remained



threw 14 interceptions. He was sacked more than any quarterback other than Cincinnati's Joe Burrow

Yet when the right pieces are in place alongside him, there's evi-

he led the NFL in yards per pass attempt. His expected points added per play were higher than any other quarterback in the league—Mahomes, Brady and Rodgers included-during that span,

the most players used in a nonstrike NFL season. And they set that mark back in November, when there was still more than a month left in the season.

The laundry list of injuries that contributed to the Titans using 91 players happened to include Tannehill's most important assets. Star receivers A.J. Brown and Julio Jones were both out when Tennessee was shocked by the Jets. Henry, the steamrolling running back who led the NFL in rushing yards in each of the prior two seasons, went on injured reserve with a foot injury. At times, it looked like Tannehill was forced to play 1-on-11.

Now, the banged up Titans are getting healthy—or, at least, healthier—at the best possible time. Brown returned after a lengthy absence in Week 16 and responded with a 145-yard game. Brown and Jones both caught touchdown passes Sunday, two of Tannehill's four passing scores. They activated Henry off injured reserve, with the hopes that he will be ready to play in two weeks after the team's bye.

Tannehill is essentially a different player when he has his best passing targets available. They're 11-2 in games when Brown plays, and 1-3 when he doesn't. Tannehill averaged 231 passing yards per game with Brown-and 184 without him. He threw just two touchdowns in those four games that Brown was out. His 7.5 yards per pass attempt in the games with

Brown plummeted to 5.5 in his absence. It was the difference between being a fantastic quarterback and a crummy one.

"We have to go out and play our best football in the coming weeks," Tannehill said after a 28-25 victory over the Houston Texans on Sunday. "That's what great teams do."

There's also proof that when the Titans are humming, they can beat the best teams in the NFL—or the ones that are expected to have a better chance at the Super Bowl than them. That's because they have a collection of wins that rivals any-

one else's. They beat one else's. They beat  $\overline{\mathbb{Q}}$  the Bills. They thumped the Chiefs 27-3. They also added nice victories against playoff bound teams in the Rams and 49ers.

For now, Tennessee can celebrate the ultimate reward of the NFL's regular season. The playoffs start this weekend. next round.

Down

31 When things

ers.

The other interpretation of their play is more favorable: The Titans still managed to win the coveted No. 1 seed despite a historic num-

healthy, it was impossible to miss the effect of those injuries on his performance

Tannehill finished the season 19th in yards per pass attempt. He

dence Tannehill is elite. That's be cause his statistical slide came after he emerged in 2019 and 2020 as one of the league's breakout players. Over those two seasons,

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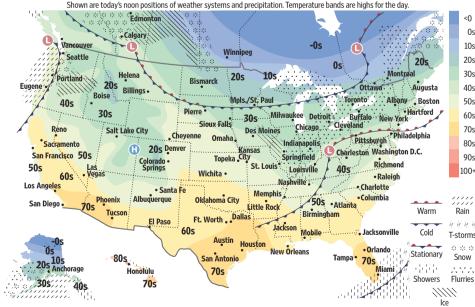
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**The WSJ Daily Crossword** | Edited by Mike Shenk

Some players just regress. But his regression had an explanation. It actually had a record number of them: The Titans set a record for

#### Weather



#### Forecasts and graphics provided by AccuWeather, Inc. ©2022

**U.S.** Forecasts

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# **OPINION**

#### Thursday, January 13, 2022 | A17

# **Omicron Has Killed Certitude**



WONDER LAND By Daniel Henninger

vaccinate all 330 million Americans. What you've done has long been thought even more impossible than finding a cure for Covid. You've immunized the American people against politics. Give this man the Nobel Peace Prize.

This happy news emerged from a question inside the recent Associated Press-NORC poll, which asked, "Thinking about the problems facing the United States and the world today, which problems would you like the government to be working on in the year 2022?'

Naturally some 68% said the economy-with the worst inflation since 1982-needed some thought. But astonishingly, the percentage who want the government to work on Covid-19 is 33%, a 20-point drop from a year ago.

Partisans whose job it is to stand in front of a microphone and explain Mr. Biden's policies will say, "See, we're winning. Our policies have removed Covid as a daily concern.<sup>2</sup>

Umm, no. Identified U.S. Omicron infections are arriving at hundreds of thousands a day. Sagas abound of burned-out hospital workers and depleted workforces. Holiday air travel was a historic nightmare. The promised supply of rapid antigen tests is to-

day's equivalent of the bridge you. President Bito nowhere. Cloth masks worked, until they didn't. den. Your administration School's out-forever.

has achieved It was remarkable how ofimmuten one saw people interviewed while standing in lines nity. Alas, it to be tested say: "I don't unhas nothing to do with your derstand how this can be happening after two years." Peoto "shut down ple are flying the pandemic the virus" or white flag: They've stopped caring what the government, the politicians or "science" is telling them about Covid.

The Covid pandemic is altering many multiples of behavioral patterns, and one of the biggest, for which we should thank the virus, is the death of certitude.

From Covid's start in 2020, public and scientific authorities across the world said: "Trust us. We know what we are doing." We now see that this unshakable, public-facing certitude was false.

Today, it's fair to say that no one but the hopelessly credulous believe much of anything Mr. Biden, Jen Psaki, Anthony Fauci or Rochelle Walensky says about Covid and Omicron. The list of doubted authorities worldwide could extend to the horizon.

My purpose is not to discredit public authority or science. We need both. Public authorities in 2020 cleared the regulatory path for Operation Warp Speed, which let privatesector scientists develop protective vaccines. My intention is to re-establish a necessary virtue that looks altogether lost to public life and its scientific representatives: intellectual modesty.

Political leaders try to convey the impression of control

#### over events, insofar as most tion"—again with mass-media are always on thin ice with the public. With the pandemic, the most visible faces of U.S. authority across two years-Donald Trump, Andrew Cuomo, Joe Biden-became caricatures of the in-control public figure. In their world, we were always winning.

At the center of this collapse of public confidence sits science, which has a lot to answer for. The problem is not

People no longer care what government or 'science' tells them about Covid-19.

the process of scientific discovery as understood for centuries. The problem is "science," a politicized totem now used routinely to silence legitimate challenge, for example regarding what happened in Wuhan.

Science triumphalism didn't begin with the National Institutes of Health's Anthony Fauci. Science as a political weapon originated with the battle over climate policy.

Disputes among scientists can get famously intense, but at some point in the past decade, the impatient proponents of climate-change policy enlisted the media to suppress dissent. Social-media companies, whose employees surely self-regard as rigorous STEM graduates, enabled the intellectual silencing. Dissent, which is perhaps the most honorable political tradition in free systems, was demoted into oblivion as "misinforma-

support. How can we be winning if a significant portion of the U.S. population has come to believe that the representations of science about climate and Covid are mostly, to pick a word, disinformation?

Every week, the New England Journal of Medicine publishes the results of clinical studies involving myriad medincluding ical problems, Covid-19. The NEJM exists because few of the diseases explored in its pages are ever "solved." The nuances of medical treatment, which is to say science, get debated in subsequent articles and letters.

Of its nature, public health is authoritarian, ordering the masses into compliance for some larger social good, such as food-handling hygiene. The U.S. Centers for Disease Control and Prevention, now fitfully run by the White Housecompliant Dr. Walensky, occupies a gray realm between issuing directives and serving as a scientific clearinghouse. During the pandemic, serious scientists-in and out of public life-have let their status as discoverers of important but ever-contingent knowledge be hijacked by the authoritarians of certitude. Omicron has ended their reign.

Entering our third year with Covid, the AP-NORC result effectively means some two-thirds of the population is government, telling its "Thanks for nothing." That is an overstatement, but not by much. And it won't get better until doubt and dissent get more respect than they have now.

Write henninger@wsj.com.

## **Biden's Georgia Election-Law Distortions**

#### By Karl Rove

resident Biden went down to Georgia Tuesday to deliver an apocalyptic speech about the dangers facing our democracy. This is, he said, one of those "moments so stark that they divide all that came before and everything that followed.

The first threat to democracy was the Jan. 6 attack on the Capitol by "forces that attempted a coup." The other threat comes from election reforms passed in 2021 by GOP state legislators who the president said want "to suppress your vote, to subvert our elections."

Mr. Biden argued that the He says he'll 'defend

#### those powers.

Second, Mr. Biden was wrong to say Georgia Republicans passed "new laws designed to suppress your vote, to subvert our elections." He substituted adjectives for evidence. His claims don't survive

automatically. Yet while Georgia allows anyone to vote by mail. New Yorkers can't vote absentee by mail unless they are out of town on Election Day, ill, disabled, taking care of someone who is ill or disabled, in a Veterans Health Administration hospital, or in jail for a nonfelony offense. Last fall, New Yorkers voted down a constitutional amendment to liberalize the state's laws on vote-by-mail by 55% 45%. So when will the president travel to Times Square to condemn New York as an existential threat to American democracy?

Georgia for setting standards Biden knows there's little for the drop boxes where voters can deposit absentee ballots in lieu of mailing them. The state's new law requires every county to provide a box (with additional ones for every 100,000 citizens), standardizes the hours during which they can be used, and requires boxes to be continually monitored. Mr. Biden called this "undemocratic." Yet in the blue states of Delaware, Illinois, New Jersey and New York, which don't have laws regulating drop boxes, you'd expect more unequal treatment and abuse. Areas that are unfavorable to the party in power may receive shorter hours or fewer drop boxes. By comparison, as a protection go. against manipulation and unfair treatment, all of Georgia is treated the same. Mr. Biden then railed against the Georgia law prohibiting groups from providing an application and doesn't food and beverages to voters

mail applications to everyone within 150 feet of a polling location. "That's not America!" the president exclaimed. Actually, it is. Almost every state has similar provisions forbidding electioneering near polling places. It's banned within 50 feet in Mr. Biden's Delaware and 100 feet in California, Illinois, New Jersey and New York. Was it the extra 50 or 100 feet that caused the president to label Georgia a hotbed of Jim Crow 2.0 "election subversion"?

I could go on, but you get the point. Georgia's reforms don't justify Mr. Biden's cries of "voter suppression" or passage of the Freedom to Vote The president also whacked and the John Lewis Act. Mr. chance those bills will pass

**BOOKSHELF** | By Joseph C. Sternberg

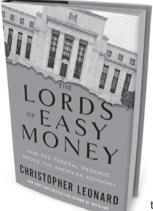
# An Inflated Sense of Ability

#### The Lords of Easy Money

By Christopher Leonard (Simon & Schuster, 373 pages, \$30)

ou don't ordinarily turn to a book about the Federal Reserve for comedy, and for the most part Christopher Leonard's "The Lords of Easy Money: How the Federal Reserve Broke the American Economy" stays true to its genre. Mr. Leonard does, however, include one pointedly humorous moment that sheds light on so much of his subject matter.

The joke comes when he recounts an exchange among policy makers during a 2012 meeting of the Federal Open Market Committee (FOMC). The committee was in the throes of a monthslong argument about whether and how to expand the Fed's easy-money policies. Richard Fisher, president of the Dallas Fed, chimed in with a warning. Texas Instruments, a major employer in his district, wasn't treating existing Fed policies such as near-zero interest rates as a spur to investment and job creation. The company was merely reconfiguring its balance sheet toward cheaper debt financing and away from equity funding. This ran counter to the Fed's theories about how its decisions filter through to the Main Street economy. To which Chairman Ben Bernanke replied: "President Fisher ... I do want to urge you not to overweight the macroeconomic opinions of private-sector people who are



not trained in economics.' Mr. Bernanke didn't mean it as a joke, but it's a darkly funny exchange because Mr. Leonard, an investigative journalist, so skillfully tells the story of how, over several decades, a phalanx of economic sophisticates at the Fed have badly misunderstood the U.S. economy and often come up with policies that fail to produce the intended results.

It goes something like this: The Fed and most mainstream academic economists believe that a deft manipulation of monetary levers can increase

employment or control inflation. But this implies a direct connection between the Fed and Main Street. The truth is that any monetary-policy intervention must be mediated through the financial system, a complex organism made up of millions of individual bankers, pension savers, fund managers, privateequity investors, day traders and others, all with their own incentives. The Fed understands startlingly little about how this financial system transmits its policies to Main Street.

Mr. Leonard tries to fill in those gaps with the help of two avatars. One is Thomas Hoenig, the president of the Kansas City Fed from 1991 to 2011 and, in the post-2008 era of ultralow rates and quantitative easing, a dissident at the FOMC. As a regional bank regulator starting in the 1970s, Mr. Hoenig had a front-row seat to the financial-system excesses stirred up by monetary easing and the destabilizing crashes that followed.

Mr. Hoenig was often portrayed in the media as a monetary hawk for his ornery votes against expanded Fed interventions. Mr. Leonard offers a more nuanced view. Starting in the Alan Greenspan era of 1987 to 2006, the Fed became preoccupied with containing consumer-price inflation. But Mr. Hoenig understood, as had Paul Volcker in the early 1980s, that assetprice inflation could be just as dangerous.

The debate within the FOMC after 2008 concerned not whether the absence of consumer-price inflation gave the Fed permission to continue with its quantitative-easing program but whether, despite that absence, financial risks were storing up within the economy, as Mr. Hoenig warned. One wishes Mr. Hoenig's efforts to stir this debate had succeeded within

even minimal scrutiny.

The president opened his assault on Georgia GOP legislators by saying "they're making it harder for you to vote by mail." He was referring to the new state law that prohibits local officials and private groups from mailing unsolicited absentee-ballot applications.

U.S. Senate must respond and "defend our democracy" by passing the Freedom to Vote Act and the John Lewis Voting **Rights Advancement Act. The** former would authorize a federal takeover of elections; the latter would supersede a Supreme Court ruling that gives states greater freedom to change election laws. The president said passing both bills would be a victory of "democracy over autocracy, light over shadow, justice over injustice."

Reckless nonsense.

First, neither the Freedom to Vote nor the John Lewis bill has anything to do with preventing another Jan. 6 attack. The federal government has many tools to prosecute those who broke into the Capitol, assaulted approximately 140 police officers, and interfered with a joint congressional session. Nothing in the bills expands or improves

our democracy' from election laws that are fairer than New York's.

Previously, Georgia didn't have a law allowing jurisdictions to mail everyone an absentee ballot application. When counties and political groups did so in 2020 under emergency rules, election officials received numerous multiple applications from the same voters. Georgia moved to end the confusion.

So is Mr. Biden's claim that making voters request an absentee-voting application rather than mailing one to everyone "voter suppression" accurate? Let's compare Georgia with a liberal state, New York.

Like Georgia, New York requires people seeking to vote absentee-by-mail to request anyway; that would require killing the Senate filibuster, which isn't happening. Tuesday was merely campaign kabuki to show progressives Mr. Biden was doing his darnedest to get their priorities approved. But it's unlikely to help his party in 2022 that the president is focused on passing a federal election takeover through embellishment and vilification, rather than addressing Americans'

actual concerns—inflation. Covid, border security, jobs and Russia. And he's undermining confidence in our elections in the process. Congratulations. Mr. President. way to

Mr. Rove helped organize the political-action committee American Crossroads and is author of "The Triumph of William McKinley" (Simon & Schuster, 2015).

### **Conservatives for Abusive Lawsuits**

#### By Sherman Joyce

et ready for a surge in Covid-related employment lawsuits, driven in part by conservative state lawmakers who are introducing bills to expand liability against employers that require vaccines.

If these measures pass, employers will face a suedif-you-do, sued-if-you-don't situation. The Occupational Safety and Health Administration requires large businesses to mandate employee vaccinations and imposes hefty fines for failure to comply. Even if the Supreme Court strikes down the OSHA rule, employers are at risk for liability claims, particularly when employees work in high-risk environments, unless they adopt ad-

equate safety measures. These bills would also undermine state workers-compensation systems, the traditional mechanism for compensating employees injured on the job, and conflict

Lawmakers shouldn't make it easier for employees to sue over vaccine mandates.

with the federal Public Readiness and Emergency Preparedness Act of 2005, which provides immunity to private employers and others that administer vaccination programs.

Conservative lawmakers traditionally oppose such lia-

bility-expanding initiatives, but in this case they're leading the charge. Such bills have been introduced in Alabama, Indiana, Michigan, Ohio and Oklahoma. It's regrettable to see past proponents of civil-justice reform take such a turn. America is already litigious enough.

Since 2020, about twothirds of states have appropriately recognized that the uncertainty of a once-in-acentury pandemic required the enactment of legislation to protect businesses, healthcare providers and others from meritless lawsuits by raising the standard for liability or providing a defense to those that comply with applicable public-health guidance.

But some of these protections will expire if legislatures don't extend them.

Lawmakers should prioritize passing and extending balanced proposals that protect the public while deterring senseless lawsuits. Laws providing new avenues to sue reverse needed reforms and hurt the important progress that has been made.

U.S. employers already are subjected to Covid-related personal-injury, employment, contract and other lawsuits and claims. Legislation that relaxes the need to prove causation or authorizes statutory minimum damages, regardless of whether a plaintiff experienced an injury, is dangerous and would lead only to unnecessary and abusive lawsuits.

Mr. Joyce is president of the American Tort Reform Association.

a pathologically consensus-oriented FOMC.

Mr. Leonard's other hero is John Feltner, who worked in an Indianapolis factory owned by Rexnord, a Milwaukee-based manufacturer of precision ball bearings and other components. It was a good union job, although not as good as such jobs once were. Ominously, the advanced age and poor condition of the machine Mr. Feltner operated pointed to chronic underinvestment in the company's core processes. But it was

The Federal Reserve's faith in monetary policy shows how startlingly little it understands about its disconnection from Main Street.

hard to tell who was doing the underinvesting. Rexnord had spent much of the previous decades bouncing from one private-equity owner to another-and was a project of one Jerome Powell when the current Fed chairman worked at the Carlyle Group. Each time, the manufacturer was larded up with more cheap debt. Then the inevitable happened in 2016, when Rexnord announced it would be closing Mr. Feltner's factory.

Stories such as Mr. Feltner's are too often presented as morality tales about corporate greed. Mr. Leonard refreshingly explains the precise policy incentives at work. Ultracheap debt ate away at the rationale for anyone to invest in plant upgrades or develop new products to boost workers' productivity and wages. Instead, Mr. Leonard tells us, "when searching for big profits, Rexnord's leaders could focus on two things in particular: the booming market for the company's debt, and the booming market for the company's publicly traded stock." Financial engineering such as debt-fueled buyouts and share buybacks become far easier ways to make a buck than replacing machinery or expanding into new markets.

Understanding the basic incentives created by monetary policies leads to conclusions that challenge both sides of the political aisle. Democrats who adore the idea of regulating big banks may be dismayed to learn that the postcrisis Dodd-Frank regulatory behemoth, "while vexing for the banks, became helpful to the biggest institutions" in their quest to quash smaller competitors. And, with apologies to Republicans and their beloved shale gas: How much of that drilling represented sound economic bets? "There was no limit to the optimism that sprang from entrepreneurs who pitched their fracking dreams to Wall Street," Mr. Leonard notes. The money gushed in, "in the form of cheap corporate debt," with much going to "obscure companies with shaky financials to which traditional banks avoided lending." A lot of those projects went bust soon enough.

Rather than learn from its errors, the Fed continues to repeat them. Monetary interventions since the start of the pandemic dwarf those during the Great Recession. We already have the consumer-price inflation to show for it. History suggests that we should brace for another financial crisis when we least expect it. Just don't let the Fed's policy makers tell you they weren't warned.

Mr. Sternberg, a member of the Journal's editorial board, writes the Political Economics column.

#### **REVIEW & OUTLOOK**

### What Inflation Costs Workers

merican workers can be grateful for small favors. They finally received a

0.1% after inflation. At least that beats the decline of 2.4% in real wages over the entire year. That's how much inflation has eroded the American standard of living and how it turned 2021 into a lost year for the average worker.

The Labor Department said Wednesday that the consumer-price index rose 0.5% in December, or 7% in the last year. That's the highest annual rate since 1982, when Paul Volcker was trying to wring inflation out of the economy with Ronald Reagan's political support. The current inflation has caught the Federal Reserve and Biden Administration entirely by surprise, and they're still not sure what to do about it other than to blame someone else.

\* \* It's important to understand what a policy and intellectual failure this inflation represents for the Keynesians who are in charge of current economic policy. The Biden Administration and Federal Reserve flooded the economy with

0.2

0.1

0

-0.1

-0.2

-0.3

-0.4

-0.5

-0.6

-0.7

2021

Source: Bureau of Labor Statistics

money in 2021 even as the recovery from the Covid recession was long over.

Fed Chairman Jerome Powell became a cheerleader for the \$1.9 trillion March spending spree, on top of about \$4 trillion in Covid relief Congress spent in 2020. The central bank also declined to withdraw its extraordinary monetary support, despite clear signs of incipient inflation. When critics began to warn of excess monetary growth

and price increases, the sages at the Fed and White House dismissed it as "transitory" and said don't worry, be happy. As late as July President Biden said, "There's nobody suggesting there's unchecked inflation on the way-no serious economist."

The failure is reminiscent of the 1970s, when the Keynesians also ran the economy but had no explanation for the inflation that took off, or for the stagflation that later set in as that awful decade rolled on. They blamed corporations, rolled out Whip Inflation Now buttons, and imposed price controls. Only at the end of the decade, after inflation became a political liability for Democrats, did Jimmy Carter appoint Volcker to the Fed.

The Biden-Powell price increases reduced real wages by 2.4% in 2021.

Percentage monthly change in real average

earnings for all employees, Jan.-Dec. 2021

Mr. Biden is still in denial. His statement Wednesday took solace in the 0.5% monthly inraise in December, even if it was only crease in December since it was down from the

previous two months. "Today's report—which shows a meaningful reduction in headline inflation over last month, with gas prices and food prices falling-demonstrates that we are making progress in slow-

ing the rate of price increases," he said. But core prices without food and energy actually increased from the pace of the previous month. And energy prices have begun to rise again after a decline late in 2021. The oil price is above \$82 a barrel, with the share prices of oil-and-gas stocks rising in anticipation of higher prices to come. Mr. Biden's main policy response is to blame businesses for making a profit and claim that even more federal spending will reduce prices. He and his policy advisers

Mr. Biden has even reappointed Mr. Powell for another four-year term as Fed chairman, a triumph of hope over inflation experience. The Fed chief is at long last signaling the faster withdrawal of monetary stimulus. But real interest

> rates will remain negative for all of 2022 even if the Fed raises rates by the 1.5 percentage points it is now forecasting. The danger is that this pace won't be fast enough to control inflation, and the Fed will have to raise rates higher and sooner.

> The price of all this is being paid by middle-class workers, not by the political class. Inflation increases government tax revenue as nominal GDP

and corporate profits soar. Many government programs are indexed for inflation, but wage earners lack the same protection. Higher nominal wages move more taxpayers more quickly into higher tax brackets even if their real standard of living declines.

The nearby chart shows the monthly course of real average earnings for 2021. Wages have been rising as employers pay more to retain scarce workers, but wages outpaced inflation in only three months of 2021. A wage-price spiral also appears to be setting in, as workers demand more to offset rising prices, and businesses respond in turn by passing along those higher costs in still higher prices. The Biden-Powell inflation is costing average workers dearly.

### **Biden's Operation Snail Speed**

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

he Biden Administration on Tuesday ordered another 600,000 doses of Glaxo-SmithKline and Vir Biotechnology's monoclonal antibody. Last

Less than 1% of \$1.9

tion apparently didn't think GSK-Vir's was needed.

In June GSK had 450,000 doses on hand. Yet the Administration waited unLETTERS TO THE EDITOR

#### **Boomers and Millennials Return to the Fray**

F.H. Buckley tells millennials that we are soft and easily offended ("Millennials Are the Silencing Generation" (op-ed, Jan. 3). While a few younger millennials require safe spaces and promote cancel culture, who are the college administrators creating these safe spaces and the business leaders placating the cancel mobs? Boomers, Shouldn't they know better? Our parents gave us participation trophies; we didn't ask for them. Mr. Buckley claims correctly that "Saturday Night Live" is no longer funny, but isn't Lorne Michaels still in control? Boomers run every major institution in this country. Don't blame us for a society you no longer like.

Millennials are more resilient than they are given credit. We came of age during 9/11, graduated during the Great Recession and have now weathered a global pandemic. We're not ungrateful to the boomer generation, but you can get off our lawn.

MATT RUBIN CHICAGO

I'm certain that Mr. Bucklev has endured a flood of "OK, boomer" pejoratives following his generalizations about millennials. The absence of a sense of humor (look at the pathetic state of situational comedies and late-night television) and emotional fragility of our gummy-vitamin-chewing future leaders (they can't swallow pills) is cause for great concern.

His only misconception is the death of the "music of our time." As Neil Young once wrote: "Hey hey, my my; Rock and roll can never die.'

**STEPHEN CAMPANELLA** Kiawah Island, S.C.

At the end of his article, Mr. Buckley writes that "dour and anxious" millennials simply do not like the boomers, who were "carefree and exuberant." Millennials "resent how, throughout, we took ownership of the that they have it figured out. zeitgeist, the spirit of the age." Perhaps a millennial might re-

spond about that "spirit of the age": Yes, you did take advantage of a "carefree" circumstance that was the heritage of the efforts and sacrifices of the previous, misnamed "silent" (humble?) generation. Yes, you were "exuberant" in your assaults on traditional first principles and norms, in the service of a shallow autonomy and self-righteousness. But by dismantling authority and any sense of the authoritative, you left us with a far different inheritance than what you received, to your unappreciated benefit. So, yes, we are your (unhappy) children.

TOM JODZIEWICZ Irving, Texas

Mr. Buckley nails it. I would add. however, that some of us boomers didn't protest Vietnam because we respected our military and still do. Some of us went to Ivy League universities but stopped our allegiance when they booted ROTC off campus. Most perplexing is the millennials' continuous whining-they are victims of whatever they remember us demanding of them when they were 9 years old. For God's sake, grow up. **RAY WALLACE** Vonore, Tenn.

Twenty years ago, my father sent me an article from Time magazine, "Twilight of the Boomers," treating boomers the way Mr. Buckley treats millennials. Along with the article, he enclosed a note: "To be a part of the 'Greatest Generation'—how could we have possibly sired the most odious? (recipients of this note excepted)."

Now, I better understand his sentiment. It seems part of the design of the universe is at the end of life to think that our time was the best. That arrogance is only an extension of the attitudes toward old people we had when we were young. I have nothing but compassion for young people, and laugh at their confidence

**JILL KERR** Holly Springs, N.C.

#### Adding T-Cell Response to Covid Measures

We are pleased to see the acknowledgment of the important contribution of T cells in protection and clearance of SARS-CoV-2 ("The T-Cell Covid Cavalry," Review & Outlook, Dec. 31). The early focus in vaccine development and immunity surveillance has been heavily weighted toward neutralizing antibodies (the humoral response) because historically they are well understood and easy to measure.

The variants, however, have catapulted us into a new and more complex stage of this pandemic, which requires looking beyond this part of the immune response. To adequately gauge vaccine and booster efficacy, we must also consider the T cells. or cellular response. This is especially true in the case of breakthrough infections in vaccinated people, in

which T cells appear to play an outsize role.

The technology exists today to measure T-cell response and we must include it in our publicly funded vaccine trials. This public-health crisis will not end with Omicron or the next variant. Understanding the full immune response to these next-generation interventions will be key to informing public-health guidance and, ultimately, saving lives. ANDREW C. VON ESCHENBACH, M.D.

Samaritan Health Initiatives Houston

Dr. von Eschenbach was commissioner of the Food and Drug Administration (2006-09)

are floundering.

week it increased its order of Pfizer's antiviral Paxlovid by 10 million. Great, but these treatments will probably arrive after the Omicron Covid variant crests. Why didn't it order more treatments sooner?

That's an especially good question given that the stated purpose of Democrats' \$1.9 trillion spending bill last March was Covid relief. Yet less than 1% of the spending was allocated for therapies. About as much money was given last year to New York's financially ailing transit system as the Administration spent procuring Covid therapies. The result: A persistent treatment shortage and countless preventable deaths.

It was obvious even early in the pandemic that treatments were going to be critical to living with Covid, especially oral antivirals that patients can pick up at pharmacies soon after developing symptoms. Francis Collins, then the National Institutes of Health director, explained this on CBS's "60 Minutes" in March. But therapies were a very low priority for the White House Covid team.

In June 2021 the Administration placed an advance order for 1.7 million courses of Merck and Ridgeback Biotherapeutics' antiviral molnupiravir, which had shown promise in early trials. In November after stronger data came out, it increased the order to 3.1 million courses, which were to be delivered by early 2022. Why not more?

Perhaps because the White House believed money would be better spent on monoclonal antibodies and Pfizer's Paxlovid, which were shown to be somewhat more effective in trials. But the Administration didn't order nearly enough of those either.

Monoclonals in short supply had to be rationed during the summer Delta surge. In mid-September, as Delta was receding, the Administration ordered 1.4 million doses of Regeneron's monoclonal and 388,000 of Eli Lilly's. Unable to get enough from the feds for his state, Florida Gov. Ron DeSantis in September went around the Administration to purchase the monoclonal from GSK and Vir.

Their monoclonal was authorized by the Food and Drug Administration in May. It is unique in neutralizing both the SARS virus and Covid-19, making it less susceptible to new variants. It holds up well against Omicron while those by Regeneron and Lilly haven't. But the Administra-

trillion in Covid relief cash went for therapies.

til the fall to order \$1 billion in treatments, covering about 450,000 doses. On Nov. 18, the Administration also ordered 10 million courses of Pfizer's Paxlovid after trial data showed it reduced hospitalizations by nearly 90%. Yet

manufacturing the pills takes six to eight months so supply has been very limited.

Had the Administration ordered more treatments sooner, more would have been available this winter. The Trump Administration's Operation Warp Speed accelerated vaccine development and production by placing advance orders so a supply would be available as soon as the FDA approved a vaccine. President Biden could have done the same for treatments but didn't.

Instead, the Administration has focused relentlessly on masking, testing and vaccines with therapies as a fourth priority. The focus has been on preventing infection, rather than treating it. Vaccines prevent serious disease. But as we are learning with Omicron, they don't stop infection or transmission. Despite President Biden's efforts at coercion, many Americans remain unvaccinated.

Masking seems increasingly beside the point with Omicron spreading like wildfire and millions of Americans wearing them improperly. Testing can help people who want to protect the vulnerable in their orbit, but the Administration also failed to prepare for a winter surge in testing demand.

\* Health and Human Services Secretary Xavier Becerra oversees therapy procurement, but he's been missing in action. He didn't even appear at a Senate hearing Tuesday with officials Anthony Fauci, Janet Woodcock and Rochelle Walensky. Then again, he has no health-care expertise and his only apparent credential for the job was suing the Trump Administration as California Attorney General.

As Omicron spreads far and wide, Americans are beginning to appreciate that we all may eventually be infected. President Biden's campaign promise to "shut down the virus" was always a false boast and will never be met. Fortunately, Omicron is so far causing milder illness. But living with endemic Covid means that therapies are crucial.

Having more therapies this winter would have reduced the burden on hospitals and might have saved thousands of lives.

#### The Capitol Riot Really Was an Insurrection

Jeffrey Scott Shapiro is correct that insurrection under 18 U.S.C. 2383 is a crime with specific elements ("Stop Calling Jan. 6 an 'Insurrection," op-ed, Jan. 6). But he misstates the law and the facts.

The terms "rebellion" and "insurrection" in the statute are undefined and the case law applying this section is sparse. If the exercise of statutory interpretation should involve dictionary definitions such as those that Mr. Shapiro cites—an "act or instance of revolting against civil authority," "an armed uprising that quickly fails or succeeds"-it would seem that the case against those who

#### Fossil Fuels and Nuclear Energy Are Still Needed

As a retired petroleum engineer, I find the course of Europe's energy transition quite interesting ("Europe Climate Chaos Goes Global" by Holman W. Jenkins, Jr., Business World, Jan. 5). The rush to convert to carbon-free worldwide is going to be bumpy. The transition needs to be planned via a thorough technical analysis specific to each country.

It's clear that political decisions made by government bureaucrats who are influenced by the green movement will lead to energy disruption. With existing technology, a rapid transition to a carbon-free society is unrealistic. The need for fossil fuels and nuclear energy will be paramount to ensuring a stable energy supply throughout this transition.

> **ROBERT SCHOLLAERT** San Clemente, Calif.

Letters intended for publication should be emailed to wsj.ltrs@wsj.com. Please include your city, state and telephone number. All letters are subject to editing, and unpublished letters cannot be acknowledged.

breached the Capitol on Jan. 6, 2021, bearing knives, clubs, shields and guns, would be ironclad.

It's unclear why Mr. Shapiro thinks there's no "rebellion" or "insurrection" unless met with military force, as if that were an additional element under the statute. In any event, the National Guard was belatedly called to the Capitol by 3:36 p.m. on the day of the insurrection, so that element would be met as well.

Let's keep calling this what it was: a violent insurrection.

PROF. DAVID W. OPDERBECK Seton Hall University School of Law Newark, N.J.

#### Pots and Kettles, Again

Your editorial "The End of the GOP Gerrymander Panic" (Jan. 3) can be boiled down to this: Once again, the Democrats accused the Republicans of planning to do what they plan to do themselves.

**RICHARD MAYER** University City, Mo.

#### Pepper ... And Salt

THE WALL STREET JOURNAL



"The universe is vast . . and has surprisingly little parking."

HARLAN ROBINS, PH.D. Adaptive Biotechnologies Seattle

### **OPINION**

# The Democrats' Inflation Blame Game

#### By Phil Gramm And Mike Solon

espite Wednesday's inflation report indicating that consumer prices have risen by 7% over the past 12 months and accelerated to 9.1% over the past three months, the president and Democrats other than Sen. Joe Manchin remain firmly entrenched in a state of denial. In their telling, this inflation has nothing to do with their spending policy. This is the same argument we heard in the mid-1970s.

When we both began our careers in public service, the U.S. was suffering from the high inflation of the late 1970s. The federal government had squandered a decade in denying that its policies had anything to do with inflation. Politicians made convenient scapegoats out of big oil, big banks, big communications and even big grocers. Government made the problem worse with price controls. investigations into price fixing and antitrust actions. It embarrassed itself with WIN (Whip Inflation Now) buttons and Inflation Gardens. Mounting voter outrage finally ended the charade.

**Everyone and everything** is responsible except the government spending that's actually fueling it.

President Carter responded by leading the deregulation of airlines, railroads and trucking and appointing Paul Volcker chairman of the Federal Reserve. Congressional Democrats created the budget-reconciliation process to cut spending, but in the end they lacked the resolve to make significant cuts.

Voters lost patience in 1978, adding three Republicans to the Senate and 15 to the House. They were joined by a dozen newly elected conservative Democrats. In 1980 President Reagan was swept into office with a Republican Senate majority and a bipartisan House majority of conservative Democrats and Republicans. Voters' voices ultimately drowned out the inflation deniers, as the Reagan program ended the

knows

Vladimir



inflationary spiral, brought interest rates down to earth, ignited economic growth, and won the Cold War. Democrats and Republicans offered competing tax cuts to undo the inflation-driven bracket-creep tax increases of the 1970s, which the Senate passed by a voice vote.

For 40 years, the pain of inflation was only a fading nightmare. Then last year, piled on top of Donald Trump's ill-advised postelection spending surge, the Biden administration, the Democratic majority in Congress, the Federal Reserve, and a chorus of intellectual supporters assured the nation that with accommodating monetary easing by the Fed, they could increase federal spending by 54% without causing inflation. When-shockingly-prices started to rise, those same voices harmonized in assuring the nation that any inflation would be minor and temporary. To this day, they blame the inflation on supply-chain problems and the usual suspects: big business, insufficient antitrust enforcement and greedy profiteers. They never blame government.

Obviously the pandemic disrupted the economy and contributed to inflationary pressures, but U.S. production is higher today, and U.S. ports are moving 27% more goods than before the pandemic. Inflation, driven by excess demand, always faces supply-chain problems as production struggles to keep up. But supply-chain problems increasingly are the result of inflation rather than its cause.

What was billed as minor and temporary inflation has risen at rates unseen for four decades. So rapidly have prices risen that despite increases in nominal wages, real median weekly wages are \$11.58 lower today than when President Biden took office. That decline in real wages is 19% larger than the decline that occurred during the entire subprime financial crisis.

But as American workers suffer declining real wages, Democrats and outside experts assure us that spending another \$4.9 trillion to fully fund the Build Back Better plan is the key to ending inflation. This claim, which Minority Leader Mitch McConnell describes as Democrats' "inflating their way out of inflation," reminds us of the old George Orwell observation: "One has to belong to the intelligentsia to believe things like that: no ordinary man could be such a fool."

As in the late 1970s, inflation is punishing workers, consumers and savers. But the government is largely protected. More than half of the federal budget is composed of entitlements, most of which are automatically adjusted for inflation (with a one-year lag). The remainder of the budget is set at a "current services baseline" that assumes all government programs will be increased by at least the inflation rate.

But if government and its beneficiaries are protected from inflation, who bears its brunt? The people who do the work, pay the taxes, and pull the wagon in America-especially blue-collar workers who have no automatic inflation adjustments in their employment contracts and who put their savings in certificates of deposit-will find no shelter in this storm. Those who were paid extra to come back to work and those who got big government checks will take a smaller hit, but the biggest losers will be the Americans who soldiered through the pandemic, stayed at their jobs, cared for the sick, kept food on our tables, and kept the country secure. No Democrat in Washington is standing up for their interests—except Mr. Manchin.

If history is any guide to the future, and of course it is the only guide, the voters will render judgment in 2022. At this point in the inflation cycle of the late 1970s, conservative Democrats were winning primaries and being elected to Congress and the Carter administration was changing policy. The real question is not why Mr. Manchin is standing up against inflationary spending but why the senator from West Virginia stands alone. Is compassion now something Democrats can feel only for people riding in the wagon? Is the Biden administration so dominated by leftist zealots that, unlike the Carter administration, it is more committed to its transformational agenda of expanding the dominance of government than it is to stopping the inflation?

Based on the history we have lived through, our guess is that other Democrats who will face voters in 2022 will wish they had joined Mr. Manchin, or at least offered an "amen" to his efforts. We've seen this all before. The intelligentsia and their politicians may be confused, but the working people of America are not.

Mr. Gramm is a former chairman of the Senate Banking Committee and a visiting scholar at American Enterprise Institute. Mr. Solon is a partner of US Policy Metrics.

# The Cops Who Didn't Come Home

#### By Christopher Wray

hile many Americans celebrated the holidays with their families in the final week of 2021, law enforcement kept working. Tragically, four officers didn't make it home to their loved ones that week. They were murdered while doing their job keeping others safe.

Baltimore Police Officer Keona Holley, ambushed while alone in her car, died on Christmas Eve. Five days later in Illinois, Wayne County Sheriff's Deputy Sean Riley was killed during a call for assistance. On Dec. 30, also in Illinois, Bradley Police Department Sgt. Marlene Rittmanic was shot while attempting to locate the owner of dogs left in a car. And on New Year's Eve, Cleveland Police Officer Shane Bartek was killed in an attempted carjacking.

These four murders brought the total number of officers feloniously killed in the line of duty in 2021 to 73, the highest annual number since the 9/11 attacks. That's the equivalent of one officer murdered every five days. In a year when homicides and violent crime reached distressing levels, this 20-year high hasn't received the attention it deserves.

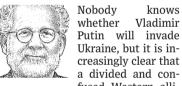
Seventy-three officers were killed feloniously while on duty last year, a 20-year high.

Especially troubling is that a record number of officers killed-nearly half-had no engagement with their assailant before the attack. Each story is heartbreaking: A 30-year Florida deputy murdered one shift shy of retirement; an officer ambushed on his first day on the job, leaving behind a wife and 6-month-old son; a combat veteran and his police dog killed while serving together.

At the Federal Bureau of Investigation, we experienced loss in 2021, too. Special Agents Laura Schwartzenberger and Daniel Alfin were murdered while doing the difficult job investigating crimes against children. FBI Task Force Officer Greg Ferency of the Terre Haute, Ind., Police Department was ambushed and killed outside an FBI office.

When I started as FBI director, I made it my practice to call the chief or sheriff of every officer intentionally killed in the line of duty. I have now made more than 200 such calls. Each conversation reminds me that behind the uniform, the badge, and, yes, sometimes the flashing lights in your rearview mirror, there are real people. With each call, I think about the families and friends who lost someone they loved, the children who will grow up without a parent, and the communities deprived of a public servant. We owe it to them to redouble our efforts to take the most violent offenders off the streets and to make sure officers have the resources, equipment and training they need to do their jobs safely. Even more, we need to ensure the brave men and women know that the communities they serve have their backs. Every day, officers willingly put themselves at risk not knowing what dangerous situation or traumatic event they might encounter. I won't pretend every person who carries a badge is beyond reproach, but the overwhelming majority do the job with the professionalism and commitment to equal justice citizens rightly expect. I meet frequently with chiefs and sheriffs across the country, and they are concerned about morale and the challenges of recruiting the next generation of officers. They understand that trust and transparency are vital to safety, and they are committed to finding ways to improve interactions. And while respect must be earned, if we are going to recruit and retain the kind of people willing to put their lives on the line to protect others, we have to show that we value their sacrifices. Civic and business leaders, government officials and responsible citizens need to consider how we talk about engaging with law enforcement. When police are miscast as lacking humanity-devoid of empathy and compassion-everyone suffers. Departments lose good officers who are hard to replace, and communities are less safe. As we reflect on 2021, let's honor the memories of those who lost their lives protecting others. Let's commit to making communities safer, finding ways to improve interactions between law enforcement and those they serve, holding everyone to the high standards befitting men and women in uniform, and valuing those who do their jobs with honor.

## Putin Is Running Rings Around the West



creasingly clear that a divided and confused Western alli-GLOBAL ance doesn't know VIEW By Walter

how to deal with the challenge he poses. Russell Mead Lost in a narcissisunderestimate how successful Mr. Putin's reassembly of the U.S.S.R. has been. But it is hegemony, not uniformity, that he wants. Stalin insisted on enrolling Ukraine and Belarus as founding members of the United Nations while they were part of the Soviet Union; Mr. Putin might be happy to keep them nominally independent under Russian control. In many Soviet republics, Moscow ruled through

held him at arm's length. Georgia clings precariously to the shreds of a once-robust independence; the American withdrawal from Afghanistan leaves countries like Kyrgyzstan and Tajikistan more dependent on Moscow than ever.

Meanwhile, the West is less well positioned to withstand Russian pressure on Ukraine than it was in 2014. Europe's doubts about American commitment and wisdom are greater than they were then. German pacifism is more deeply entrenched. Brexit has undermined relations among Europe's chief military powers. Europe's dependency on Russian oil and natural gas leaves the West as vulnerable as ever to energy blackmail—and sharply limits the West's ability to impose economic sanctions on a partner without which it can neither heat its homes nor run its factories. Mr. Putin also knows that economic sanctions will fall more heavily on Europe than on the U.S., deepening the fractures in an alliance he hopes to destroy. With oil prices above \$80 a barrel and China backing his play, Mr. Putin may be less vulnerable to economic sanctions than the White House hopes. Washington, meanwhile, is unintentionally but unmistakably telegraphing its vulnerability to blackmail. With the Biden administration lobbying Congress to block sanctions on the Nord Stream 2 pipeline, Moscow can't be blamed for thinking that the Americans are prepared to pay a price to preserve "stability."

Mr. Putin is having a great crisis so far and seems to have little to fear. His successes in Belarus and Kazakhstan have thoroughly cowed domestic opposition. The runup in energy prices gives him a cash cushion. The crisis has again put Russia at the center of world politics, demonstrated Western weakness, terrified Ukraine, and highlighted Mr. Putin's mastery of the game of thrones. His decisions about what to do next will depend entirely on what he thinks will advance Russia's core goals. Haggle at the bargaining table while Western unity frays? Seize a chunk of Ukraine while the West sputters with impotent moralism? Magnanimously accept Western concessions and return to stability until the next time? Mr. Putin's success is the measure of Western intellectual and political failure. Until Western leaders emerge from the mists of posthistorical illusion and recover the lost art of effective foreign policy, he will continue to make gains at our expense.

tic fog of grandiose pomposity, Western diplomats spent the past decade dismissing the Russian president as the knuckle-dragging relic of a discarded past. As then-Secretary of State John Kerry sniffed during Mr. Putin's 2014 invasion of Ukraine, "You just don't in the 21st century behave in 19th century fashion by invading another country on a completely trumped up pretext."

Neville Chamberlain learned more from failure at Munich than the current generation of Western leaders learned from failure in Crimea. Convinced that the old rules of power politics don't apply in our enlightened posthistorical century, Europeans nattered on about soft power only to find themselves locked out of kev U.S.-Russia talks over Ukraine. As China and Russia grew more powerful and assertive, Americans enthusiastically embraced the politics of mean-spirited polarization and domestic culture wars. Now the Biden administration is simultaneously proclaiming overseas that America is back, in all its order-building awesomeness, and maintaining at home that democracy is one voting-rights bill away from collapse.

Pathetic throwback that he is, Mr. Putin used his time differently, rebuilding the Soviet Union under the nose of a feckless and distracted West, Because Russia hasn't annexed breakaway republics, many observers local strongmen. When the Soviet Union collapsed, leaders like Azerbaijan's Ayaz Mutalibov, Turkmenistan's

#### While U.S. and European leaders natter about soft power, Russia's president is making power moves.

Saparmurat Niyazov and Kazakhstan's Nursultan Nazarbayev made a seamless transition to running the republics as personal fiefs. Mr. Putin's goal is to re-establish ultimate control while leaving subordinate rulers in place.

It's working. In 2020 he reasserted Russian control over the South Caucasus by ending the Azerbaijani-Armenian war on his terms. Last spring as the West huffed and puffed, Mr. Putin kept Belarusian President Alexander Lukashenko in power. Last week Mr. Putin established himself as the supreme arbiter of Kazakhstan, providing the political and military assistance that allowed President Kassym-Jomart Tokayev to crush a revolt. In most of the former Soviet Union today, Mr. Putin decides who rules and who weeps. Of the 15 constituent republics of the old Soviet Union, only five (the three Baltic states, Moldova and Ukraine) have

## The Case for Grayscale

#### By Mark Naida

fter nearly two years of lockdowns, remote working and learning, and general phonescrolling boredom, many made a New Year's resolution to spend less time on their smartphones in 2022. Studies show that Americans spend an average of about four hours on their phones each day. That's 60 days a year-one-fourth of a life awake. That should provoke at least a bit of existential terror.

The iPhone's Screen Time app helps users at least feel guilty about the wasted time, but there's an easy trick to make a smartphone impeccably dull.

It's called grayscale. With a few clicks in the "accessibility" tab on MacBooks and iPhones or a few taps in the settings of an Android or PC. a phone or computer can become as interesting as a black-and-white television.

It isn't only push notifications and vibrations that cause our addiction to smartphones: Colors draw our attention, and certain ones can cause a dopamine release. The blue themes of Twitter, LinkedIn and

Facebook, not to mention the blue Apple uses for iMessages, entrance us.

Humans really like looking at blue, which makes sense, because the sky is light blue on clear days. Until I set all my digital devices to gravscale. I never realized that compared with the sky, iMessage's blue looks sickeningly artificial. In grayscale, meanwhile, photos and videos have the same intrigue as C-Span at midnight.

A boring phone will likely cause greater use of a laptop to watch videos and look at social media in full color. I recommend grayscaling laptops and monitors too. Many people are colorblind, so most applications are designed to function without color. In theory, most people who work on a computer could perform their tasks in grayscale, as I do.

If you're at all worried about your excessive smartphone use, make your digital life look like Dorothy's Kansas, and let the real world be stunning as Oz.

Mr. Naida is an assistant editorial features editor at the Journal.

Mr. Wray is FBI director.

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### WORLD NEWS

# **Kazakhstan Blames Violence on Criminals**

Peaceful protests over rising fuel costs were hijacked by terrorists, bandits, officials say

#### By JAMES MARSON AND THOMAS GROVE

For three days early this month, protests in Kazakhstan triggered by fuel-price rises remained largely peaceful. Demonstrators in cities across the country sang the national anthem, remonstrated with officials, and chanted "old man out," referring to their longtime potentate, Nursultan Nazarbayev.

Then, as night fell on Jan. 5. new groups took over the streets of Almaty, the largest city: young men wielding guns, sledgehammers and makeshift weapons. They stormed official buildings, attacked police and torched cars. They ran-sacked the airport. They raided banks and looted shops.

The chaos shook the government and prompted President Kassym-Jomart Tokayev to request Russian troops to help restore order.

Mr. Tokayev and his protector, Russian President Vladimir Putin, say their forces have largely re-established control. But a central conundrum remains: How did mostly peaceful protests explode into violence? The government and protesters more or less agree on one point: Peaceful demonstrations were hijacked by violent criminals.

Mr. Tokayev says the forces were armed terrorists and bandits, some of whom were trained abroad, seeking to destabilize the country and effect a coup. He hasn't said who exactly he believes was behind the violence, but authorities have detained the powerful former security-service chief on suspicion of treason.

Some analysts say the violence was triggered by highlevel infighting between the president and men close to his predecessor, Mr. Nazarbayev, who served as president for nearly three decades before appointing Mr. Tokayev as his successor in 2019. As power slipped away from Mr. Nazarbayev's camp, they said, fighting spilled into the streets.

Some civil-rights groups blame the government, saying authorities ignored people's grievances, leading the protests to spiral out of control and allowing criminals to take



Kazakh military guard the Almaty administration headquarters, which was torched during riots.

advantage.

Wherever the truth lies, the explosion points to a potentially grim future for Kazakhstan's long-beleaguered opposition. which has campaigned for broad political change. Mr. Tokayev has blamed media and activists for fomenting the violence, although his government pledged not to crack down on them.

Kazakh authorities said they detained nearly 1,700 people Wednesday in connection with the unrest, bringing the total to some 12,000, according to the Associated Press.

Initial protests in western Kazakhstan were sparked by a rapid rise in the price of a kind

of gas used as an inexpensive car fuel. They began on Jan. 2 in Zhanaozen, an oil town.

Mr. Tokavey, who promised to listen to people's complaints after he was selected to succeed Mr. Nazarbayev, dispatched a government dele-

gation to speak with protesters. But demonstrations were already spreading to other industrial cities and taking on a more political character.

Some were calling for the ouster of Mr. Tokayev and Mr. Nazarbayev, who continues to hold significant sway.

In Almaty, Kazakhstan's cultural and business hub, protesters from various opposition and civil-society groups gathered on Jan. 4.

Police moved forcefully to detain protesters, using flashbang grenades and tear gas.

The following day, protesters gathered again. But by the afternoon, they noticed the appearance of unusual characters

who resembled an unruly mob. Aiman Umarova, a lawyer who lives in Almaty, said she saw men bearing metal wrenches and rods running toward a main square. She said they sometimes spoke in a language she couldn't understand.

The mob grew increasingly violent, attacking official buildings and torching them.

One resident saw young men brandishing guns and knives. "One day it was like a European city where people were making political demands. The next day it was hell," said the resident, who asked not to be identified.

# Kim Attends Launch of Missile

#### BY TIMOTHY W. MARTIN

SEOUL-North Korean leader Kim Jong Un attended his first weapons launch in nearly two years, observing what Pyongyang described as the final test of a new hypersonic missile that is a top priority.

Sporting a leather jacket and peering through binoculars, Mr. Kim watched a missile hit a target roughly 620 miles away, after making a "glide jump flight" and making a "corkscrew" maneuver, according to a Wednesday statemedia report. His younger sister, Kim Yo Jong, was also present for the test.

A day earlier, South Korean and Japanese officials had detected a single ballistic-missile launch. Their initial assessments estimated a shorter flight distance. Neither characterized the weapon as a hypersonic missile-a complex technology that blends ultrafast speeds and maneuverability.

North Korea considers its hypersonic missile to be the most strategically significant of five urgent tasks outlined in an arms-development policy outlined by Mr. Kim in early 2021. Including Tuesday's launch, Pyongyang says it has conducted three hypersonic tests since September. The weapon "roared to soar into the sky, brightening the dawning sky and leaving behind it a column of fire, under the supervision of Kim Jong Un," according to the statemedia report. He praised the military scientists. He posed for photos with top officials. And he gave instruction to bolster the country's "strategic military muscle both in quality and quantity," the report read. Mr. Kim, whose star power

#### **U.S. Puts Sanctions On North Koreans**

The Biden administration on Wednesday placed sanctions on five North Korean officials in its first response to Pyongyang's latest ballistic missile test.

The Treasury Department announced it was imposing the penalties over their roles in obtaining equipment and technol-

at major weapons tests was long customary, has skipped such in-person visits since March 2020. That is partly over domestic optics, to make him appear more attuned to the North's sputtering economy, close Pyongyang watchers say.

"Where the supreme leader shows up really shows where his focus is," said Ken Gause, a North Korea leadership expert at CNA, a Virginia-based nonprofit think tank.

But the third-generation North Korean dictator has also made a habit of showing up only when weapons systems are near completion. In recent vears, the Kim regime has increasingly pivoted its arms advances into modernizing weapons that could be used closer to home—and held off on tests of nuclear or long-range missiles that could strike the U.S. Those weapons have been in earlier stages of development. Tuesday's test, however, was the final technical verification for the country's hypersonic missile, though there was no mention of deployment, according to the state media report. Weapons experts say North Korea's hypersonic technology appears to be

ogy for the North's missile programs. In addition, the State Department ordered sanctions against another North Korean, a Russian man and a Russian company for their broader support of North Korea's weaponsof-mass-destruction activities.

The moves came just hours after North Korea said its leader Kim Jong Un oversaw a successful flight test of a hypersonic missile on Tuesday. *—Associated Press* 

at an early stage.

"It seems that the North Koreans intend to show some confidence in their missile capabilities," said Kim Jina, a professor at South Korea's Hankuk University of Foreign Studies.

Verifying Pyongyang's maneuverability claims for its hypersonic technology is challenging, lateral since movement over bodies of water can be difficult to observe

North Korea's leader had skipped such tests since

#### have been another motivation for Mr. Kim's attendance, given that the elites in Pyongyang would have been aware of the outside assessments, said Michael Madden, a nonresident fellow at the Stimson Center, a Washington think tank.

"Kim Jong Un trucked out for the test to provide his support to this weapon program and vest it with his political prestige," Mr. Madden said.

Kim Jong Il, the current leader's father, attended virtually every weapons launch during his roughly 17-year reign, having bet his legacy on the country's military advances. After taking power a decade ago, Kim Jong Un sought to balance both defense and the economy. But ahead of his first meeting with then-President Donald Trump at the 2018 Singapore summit, Mr. Kim declared his nuclear program complete.

He then shifted focus to the livelihood of his people. He stopped visiting so many military-related sites. Instead, he visited farms and remote factories.

Mr. Kim's envisioned economic transformation has stalled, as nuclear talks that could bring sanctions relief remain stalemated with the U.S. The pandemic triggered border closures, cutting off vital trade with neighboring China. Mr. Kim has warned of food shortages. North Korea has conducted more than two dozen weapons or engine tests since the abrupt breakdown in talks at a 2019 nuclear summit in Vietnam. The weapons that Pyongyang has showcased have generally demonstrated high precision, introduced new launchers and utilized different motor technology that allows for quicker deployment, weapons experts say.

Ethiopia Repels Rebels, **Pledges Peace Talks** 

#### BY NICHOLAS BARIYO

In a sharp reversal of fortunes over just a few weeks, Ethiopian government forces have repelled rebel fighters who had appeared poised to seize the country's capital, Addis Ababa, and threaten the government.

Troops under Prime Minister Abiy Ahmed have forced Tigray People's Liberation Front fighters back into their mountainous homeland in the country's north, capturing several towns where rebels had holed up after their drive toward the capital faltered, according to government and rebel fighters.

With Ethiopia embroiled in a bitter standoff with Egypt over a massive dam on the Nile, there are growing fears that the war could upend stability in the broader Horn of Africa, a critical crossroads between the Middle East and sub-Saharan Africa perched on one of the world's busiest shipping lanes.

U.S. officials have spent months attempting to negotiate an end to the conflict, which began in November 2020. The shifts on the battlefield come amid a reshuffle in the American diplomatic team, with David Satterfield, the departing U.S. ambassador to Turkey, succeeding Jeffrey Feltman as special envoy for the Horn of Africa.

and warned against Tigrayan fifth columnists in their midst. Some 200,000 youths joined vigilante groups to defend the capital.

But it appears that it was dozens of drones, secretly supplied by Turkey, the United Arab Emirates, Iran and others, that turned the tide in the government's favor, diplomats say.

Riding the military successes, Mr. Ahmed in recent days has freed several opposition figures from prison and pledged to talk peace with his opponents. "There is need to foster national reconciliation and to promote unity," he said in a national address.

President Biden spoke this week with Mr. Ahmed, urging the prime minister to find a peaceful solution.

Sporadic government airstrikes have continued, however, according to aid officials. And the Tigrayan rebels accused the prime minister of pursuing further battlefield gains, while feigning support for a negotiated settlement.

Civilians have paid a heavy price for the internecine fighting. In Tigray, some 400,000 people face conflict-induced famine-like conditions and 9.4 million others need food aid, the United Nations says. Human-rights groups have accused both sides of committing abuses. But the government's use of airstrikes has drawn particular criticism. The government has denied targeting civilians, saying ongoing airstrikes are aimed at rebel military threats.

March 2020.

with satellite imagery, weapons experts say. Hypersonic missiles travel at least five times the speed of sound. They fly closer to the Earth than ballistic missiles and don't follow a simple trajectory, making them harder to detect on radar.

That South Korea, Japan and others have been skeptical of North Korea's claimed hypersonic capabilities could

In June, heavily armed Tigrayans seemed to have the upper hand in the war. They routed government forces from the region, and by November were within 100 miles of Addis Ababa.

Mr. Ahmed, who won the 2019 Nobel Peace Prize for ending his country's long war with Eritrea, told Addis Ababa residents to arm themselves.

"We are not in the habit of attacking our own people," said Legesse Tulu, a government spokesman.

#### GERMANY

#### **Soaring Home Prices Prompt Regulations**

Germany's financial regulator said it would clamp down on mortgage lending, signaling mounting concerns about the risks posed by the nation's rapidly rising house prices.

Across Germany, house prices have boomed in recent years as some German families overcame their traditional reluctance to own property. The trend has been powered by ultralow borrowing costs from the European Central Bank and low returns on bank deposits, where most Germans stash the bulk of their savings.

Germany's Federal Financial Supervisory Authority warned lenders to be conservative in their mortgage lending given the quick rise in prices, and said borrowers should be able to make their monthly mortgage payments even if interest rates rise. It also ordered local banks to hold additional capital against residential mortgages.

German house prices have risen almost 60% above their 2015 levels, according to the federal statistics agency Destatis. -Tom Fairless



WORLD WATCH

PUSHBACK: Protesters opposing Covid-19 restrictions tried to enter parliament and clashed with police Wednesday in Sofia, Bulgaria.

#### EL SALVADOR **Pegasus Spyware Hits Journalists**

Around 35 journalists and activists in El Salvador were targeted with the highly invasive

Pegasus software to extract information from their cellphones as civil liberties deteriorated in the country, according to a forensic analysis conducted by research and rights groups released Wednesday.

The joint investigation by six

organizations including Amnesty International and Citizen Lab, a research group at the University of Toronto, found that the spyware made by the Israeli firm NSO Group for government clients was used to hack video and voice recordings, photos, contact information and phone conversations of independent journalists and editors in 2020 and 2021.

The group said that it couldn't establish who was responsible for the cellphone surveillance but said that the hacking campaign came against a

backdrop of government-led censorship targeting independent media in El Salvador.

A spokeswoman for President Nayib Bukele denied involvement in the illegal surveillance of journalists and added that the government wasn't a client of NSO.

NSO declined to say whether El Salvador was a client. It said its contracts prohibit identifying customers.

-José de Córdoba

SOMALIA

#### At Least 8 Killed in **Bombing Near Airport**

A car bomb exploded Wednesday outside the international airport in Somalia's capital, Mogadishu, killing at least eight people and wounding nine others, said Dr. Abdulkadir Adam with a local hospital.

The al-Shabaab extremist group claimed responsibility for the attack, saying it was targeting "white officials" in the area.

Witnesses said a passing United Nations convoy appeared to be the target in the blast, but the U.N. mission said there were no U.N. personnel or contractors in the convoy.

-Associated Press

**Q** Palantir

Our software helps dismantle terrorist networks.

Foundational Software of Tomorrow. Delivered Today.™

It can secure your supply chain.



#### **TECHNOLOGY: TRANSUNION BRINGS CREDIT DATA CHECKS TO CRYPTO LENDING B4**

# **BISINESS & FINANCE** THE WALL STREET JOURNAL.

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Thursday, January 13, 2022 | B1

**S&P** 4726.35 ▲ 0.28% **S&P FIN** ▲ 0.04% **S&P IT** ▲ 0.44%

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### **Metaverse Optimism Boosts Apple** TPG

iPhone maker hasn't disclosed its plans for the virtual world, but investors are excited

#### By TIM HIGGINS

Apple Inc. may not have triggered the current buzz about the metaverse, but the company is reaping the benefit.

Excitement about how the iPhone maker could gain from a broad embrace of digital alternate realities has been a central facet of the rise in its share price in recent months, according to investors and analysts.

Apple earlier this month briefly became the first corporation ever valued above \$3 trillion during intraday trading. Investors and analysts say they

are betting that Apple will introduce extended reality devices in the next year or so and open up potential for a new leg of growth in coming years.

The company, for its part, says little about future plans, though Chief Executive Tim Cook has praised such technology in recent years and said it would be a critically important part of Apple's future.

Interest in the metaverse has gained new momentum since Facebook co-founder Mark Zuckerberg announced on Oct. 28 that he was renaming his company Meta Platforms Inc. to highlight its push to capitalize on the nascent world of virtual reality and augmented reality, known as VR and AR. While Meta's share price has gained 6.7% since

\$175.53 on Wednesday.

Longtime Apple analyst Katy Huberty of Morgan Stanley last month upgraded her price target for the company's stock to \$200 a share from \$164 to bake in future value tied to those product lines.

"New product categories need to get priced in." she wrote in a note to investors on Dec. 7. "In conversations with venture-backed AR/VR companies, the consensus view is that the real catalyst for mass market AR/VR adoption will come when Apple enters the market."

The metaverse so far is mostly hopes and dreams, but proponents say it eventually will be a digital realm where people routinely use virtual avatars to work, play, shop and enjoy entertainment. Analysts

ecosystem of hardware, software and services into this new realm

Toni Sacconaghi, an analyst for Bernstein, recently told investors Apple could ship 22 million augmented reality devices by 2030, which could boost revenue by 4%, and that extended reality devices could represent more than 20% of overall revenue by 2040.

Apple is on a collision course with other tech giants to own this latest technological forefront, renewing old tensions even as it is unclear how big a market will exist for the virtual world. Meta has sold VR headsets for years and has aggressive plans to expand, and Microsoft Corp. sells an AR headset and has talked up its plans for the metaverse.

also are looking for the company to make progress on another long-term project, an electric car-even as the company continues to see turnover of talent within the project.

"Many analysts are pointing to Apple's potential to diversify away from its core iPhone business into other revenue generators like augmented and virtual reality, metaverse as well as autonomous vehicles," said Dan Morgan, a senior portfolio manager who focuses on technology at Synovus Trust Co., which counts Apple among its largest holdings "even though these segments are many years away from contributing significantly to Apple's total revenue."

The final three months of the calendar year are often a strong quarter for Apple shares Please turn to page B2

#### think Apple could extend its then, Apple's has soared 18% to With Apple, some analysts \$200 \$550 million million OneRepublic frontman For both publishing and Ryan Tedder cashed in recorded music, Bruce on work with megastars Springsteen's deal is the Beyoncé, Adele and largest known for an Stevie Wonder individual artist \$300 million \$400 million Bob Dylan's catalog of million 600 copyrights spans 60 years of music Stevie Nicks partnered

# Prices IPO at Midpoint

#### BY CORRIE DRIEBUSCH AND MIRIAM GOTTFRIED

Private-equity firm TPG Inc. priced its initial public offering at \$29.50 a share, people familiar with the matter said, the midpoint of its projected range, in the first big test of the IPO market in the new year.

The pricing is at the midpoint of TPG's projected range for the offering of \$28 to \$31 apiece. The stock will start trading Thursday on Nasdaq under the ticker TPG.

Bankers said they are closely watching TPG's IPO and how its stock trades Thursday to gauge the health of the 2022 IPO market. Earlier Wednesday, humanresources and payroll software company Justworks Inc. said it was delaying its IPO, which was set to start trading Thursday, citing market conditions.

The offering comes at a rocky time for equity capital markets. Volatility is elevated, and stocks are down this year, with the S&P 500 off 0.8% through Wednesday and the Nasdaq Composite down 2.9% during that period.

Publicly traded private-equity firms have performed strongly since the U.S. economy emerged from the coronavirusdriven downturn as low interest rates have made borrowing cheap and prompted institutional investors to pour money into the asset class. Shares of **Blackstone** Inc. have more than doubled in the past year.

Kroger Workers Walk Out In Denver

By JAEWON KANG

Thousands of workers at supermarket operator Kroger Co. went on strike in Denver. the latest push by employees who said they are seeking higher wages, more benefits and safer workplaces.

About 8,400 unionized workers at Kroger's King Soopers stores in Denver walked off the job at 7 a.m. ET on Wednesday, according to Kroger and United Food and Commercial Workers Local 7, which represents King Soopers workers in Colorado. The strike currently is affecting 77 of 151 King Soopers locations, a company spokesperson said after it began. Kroger said Wednesday that its stores would remain open and that it was "reckless and self-serving" for the union to strike. The supermarket operator said that it had hired temporary workers to help staff stores and that employees from other parts of the country had traveled to fill in. Union officials representing Kroger workers declined to comment on Wednesday. They have previously said they want to secure a new contract with better wages, health and retirement benefits, and to ensure a safer work environment for employees when Kroger is generating higher profits. The union officials said Tuesday that going on strike was the only way to get fairer terms after the company had offered unsatisfactory proposals throughout the past few months of negotiations.

Kroger has said it remains *Please turn to page B2* 



Catalogs of David Bowie, the Beach Boys, Paul Rodgers, John Legend and Prince are all recent sellers, with music seen as a growth asset.

# **Pop Music Stars Ramp Up Deals for Catalog Rights**

#### BY ANNE STEELE

After last year's rush of music deal making, the industry expects even more sales of music portfolios this year.

Music publisher Primary Wave capped off 2021 with deals for music rights from London folk-rock band America and blues rock baritone Paul Rodgers, investing \$40 million and \$20 million, respectively, according to people close to the deals. The company, which owns the music rights of Whitney Houston, Bob Marley, Prince and Bing Crosby, plans to turn up its deal volume this year.

Listener preferences for

older music, tax advantages on catalog sales and high valuations driven by the idea that music is a recession-proof and high-growth asset have pushed investors and sellers into negotiations, music industry executives and lawyers say.

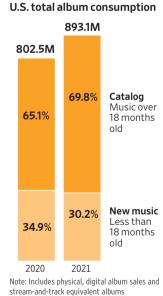
The America catalog, made up of songwriting by Gerry Beckley and Dewey Bunnell, includes "A Horse With No Name," "Sister Golden Hair," "Ventura Highway," and "Tin Man." The deal also includes several re-recordings of the band's biggest hits, as well as some rights to the group's name and likeness.

Mr. Rodgers, a songwriter and instrumentalist, is widely

**STREETWISE** | By James Mackintosh

considered among the great rock vocalists. His agreement with Primary Wave includes his music publishing catalog as well as recorded-music income streams spanning his work with the bands Free and Bad Company, such as "Feel Like Makin' Love," "Shooting Star," "Wishing Well," "Fire & Water," and "All Right Now."

While listeners have increasingly been streaming older rock tunes, Primary Wave Chief Executive Larry Mestel said the song catalogs of America, Free and Bad Company have been undercommercialized. He sees opportunities in placing the bands' songs in ads, film and



with Primary Wave to

bring her hits to younger

audiences

TV spots as well as biopics and other licensing.

urce: MRC/Billboard

More music deals are under way on the heels of several Please turn to page B2

## **Turks Buy** Crypto To Flee The Lira

#### BY CAITLIN OSTROFF AND JARED MALSIN

The Turkish lira has become so volatile that Turks have ditched the local currency for assets with an even riskier reputation: cryptocurrencies.

While the lira unraveled against the dollar in the last quarter of 2021, cryptocurrency trading volumes using the lira leapt to an average \$1.8 billion a day across three exchanges, according to blockchain analytics firm Chainalysis. Those volumes are still modest compared with the results of a 2019 survey by the Bank for International Settlements that found roughly \$71 Please turn to page B5

### **INSIDE**



**BUSINESS NEWS** Baby formula has been hard to find in many parts of the U.S. in recent months. **B3** 



**HEARD ON** THE STREET Grubhub's European owner can find ways to lift its stock price. **B10** 

# Stock-Market Routine Returns, and It Hurts

In one way 6 this year so far looks very like last year: the benchmark 10-year

Treasury yield has risen by almost exactly the same amount, a little over 0.2 percentage points. In most ways, though, it looks completely different: rather than rewarding rampant speculation, the stock market has

been punishing those who bet on fashionable stocks.

Here are three ways the market seems to be returning to normal after its pandemic unruliness, plus one possible change in its longterm pattern.

Share prices are irrelevant again. The start of January last year was unusual for the rush into stocks with a low share price, a sign of uninformed betting on the

markets. The price of a share means nothing on its own. It matters only in relation to some measure of earnings or assets, so performance should not be linked to prices. But a year ago the strongest determinant of performance was the raw price, probably because of an influx of new individual traders who had yet to learn the basics.

This year, the market's re-

turned to normal: there's no relationship between the price and performance. That's a good thing, except for those few who still bet on penny stocks.

Bubble stocks are back to doing badly when monetary conditions tighten. Early last vear, speculators bet on popular themes, which inflated into minibubbles: clean energy, cannabis, electric vehi-

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King Soopers workers in Denver are pushing for better wages, health and retirement benefits, and a safer work environment.

Kroger Workers

plovees who need to quarantine, and raised pay or provided referral bonuses to appeal to potential hires. Workers and advocates have said supermarket employees deserve higher wages and more benefits because they are managing heavier workloads and stress while risking their health during the pandemic. Some workers have also been tasked with managing anxious shoppers, and explaining or enforcing their employers' mask policies. Tension between Kroger and the union representing its Colorado employees has been escalating in recent weeks as the two sides tried to negotiate a new collective-bargaining agreement. The union in December sued King Soopers, accusing the Kroger-owned supermarket chain of breaching the collective-bargaining agreement by using third-party staffing services to hire workers in stores and using these workers to perform roles covered by the union. During negotiations between the union and the company, King Soopers employees voted to strike on Jan. 2. The previous agreement expired at 11:59 p.m. on Jan. 8. This week, King Soopers filed unfair labor practices charges against the union for refusing to bargain in good faith. The company said union leaders refused repeated requests to return to the negotiating table and rejected mediation services, adding that the union had given no indication of when it would re-engage in discussions. The company said Tuesday that it offered its "last, best and final" offer, representing an investment of \$170 million over the next three years in higher wages and expanded healthcare benefits.

### **BUSINESS & FINANCE**



#### \$40 million Rights to folk-rock band America's catalog also include its name and likeness

The CEO of Primary Wave said the song catalogs of America (above, in 1972), Free and Bad Company have been undercommercialized.

it was going to take after I got

back into the office in January

before things would heat up

again, and in the last week I've

got five new deals that I'm

working on," he said. "2022 is

going to be a very robust year

Primary Wave last year

took a \$375 million investment

from Oaktree Capital Manage-

ment, and has raised some

\$1.5 billion since 2016 via two

funds, according to a person

familiar with the matter, in-

cluding one fund backed by

ists, Primary Wave, which has

had to compete with an influx

of financial players eager to

invest in song catalogs, lets

musicians keep a stake in their

life's work and retain some say

in how their songs are used.

maintain a piece of their leg-

acy," Mr. Mestel said. "We

want them to have an incen-

tive to work with us to build

value, and we want artists to

continue benefiting from that.

nell, along with former Amer-

ica bandmate, the late Dan

Peek, met in high school in the

late 1960s. Tight harmonies

incorporating Mr. Beckley's

melodic pop rock and Mr. Bun-

nell's folk-jazz influence and

Latin-like rhythms propelled

the trio to chart success. The

group won the Grammy for

Best New Artist in 1972.

Messrs. Beckley and Bunnell

carried on as a duo following

Messrs. Beckley and Bun-

"We want the artists to

As part of its pitch to art-

BlackRock Inc.

for acquisitions for us.'

Deals for Old Music Ramp Up

#### Continued from page B1

high-profile sales, executives say. Artists and their representatives raced through the holidays to strike deals ahead of possible higher tax rates on the largest music-rights sales.

"There's a herd mentality in the music business," said Mr. Mestel. "When you see a Stevie Nicks has done a deal and a Bob Dylan has done a deal and a Bruce Springsteen has done a deal, artists that may have been on the fence" consider selling also, he said. Many artists and their advisers were concerned about potential major changes to tax law and were adamant that they wanted to close in 2021, he said. David Bowie's estate, the Beach Boys, ZZ Top and John Legend also are sellers within the last year.

There is still an appetite for deals this year given high valuations and uncertainty about timing for possible tax adjustments. A special provision for musicians who sell self-created works means they owe capital-gains tax rates of 20% on the sale. That compares with owing ordinary tax rates of up to 37% each year on the



royalty income they get from streaming, licensing and other uses of their works. That artist advantage is unlikely to change in the short term as it isn't a part of significant pending legislation, but other tax laws could change.

President Biden's Build Back Better bill, currently stalled in Congress, would impose a 5% tax on adjusted gross income above \$10 million and an additional 3% on income above \$25 million, and those rates would apply to the capital-gains income that musicians get when they sell their song rights. Under the version passed last year by the House, those increases were slated to start on Jan. 1. and that effective date could still become law, even if the bill isn't finished for a while.

Artists who are closing deals this year are taking a risk that their income could be subject to the higher rates. But with the legislation stalled, lawmakers could reconsider that date and other details. They haven't made any decisions yet.

For Primary Wave, 2021 added up to a record year, acquisitions 29with closed—10 of them in the final week of the year—a threefold increase from five years ago. The indie powerhouse has a \$1 billion war chest, and is gearing up to spend \$500 million to \$600 million in 2022, Mr. Mestel said.

"I was wondering how long

reported record results for its drama presented one of the purchase system, which capfiscal year that ended in Sep- biggest threats to Apple's lucra- tures as much as 30% of digital tember, as the first 5G-capable tive App Store. After a 16-day trial, a federal judge in September ruled mostly in Apple's favor, though ordered the company to stop prohibiting software makers from telling users inside their apps about alternative payment methods to get around Apple's in-app

Mr. Peek's departure five years later, turning out smash single 'You Can Do Magic" in 1982.

"The music we have created over the last 50 years will be given new attention and exposure," Mr. Bunnell said.

Since 1968, Mr. Rodgers, of Free and Bad Company, has written, recorded, released and produced 30 albums, selling over 90 million copies. The deal involves Mr. Rodgers creating an imprint distributed by Sun Records—acquired by Primary Wave at the end of 2020-to sign new artists and curate compilations for the label.

Revenue from streaming music has grown with the popularity of services from Spotify Technology SA, Apple Inc. and Amazon.com Inc., with classic tunes like those found in America's and Mr. Rodgers's catalogs finding new listeners and new income decades after their release.

On streaming services, music older than 18 months is a major growth area, making up some 70% of listeners' consumption, according to MRC Data, formerly Nielsen Music. Older hits are commanding higher prices than before the pandemic because they are generally perceived as safe bets based on proven longevity, and they have seen an even bigger surge in streaming during the lockdowns as fans have leaned into familiar nostalgia listening.

-Richard Rubin contributed to this article.

revenue. On Dec. 8, a U.S. appeals court granted Apple's request to delay that order, effectively meaning the company can put off any major changes for potentially years-another piece of good news for Apple investors

THE WALL STREET JOURNAL.

# Walk Out

Continued from page B1 committed to settling an agreement that will benefit workers and keep prices down for consumers.

The Kroger strike comes as more workers demand better wages and benefits, seeking greater leverage as labor shortages challenge industries across the U.S.

About 1,400 Kellogg Co. workers recently ended a 21/2month strike by ratifying a new five-year contract. Workers at snack producer Mondelez International Inc. and farm-equipment maker **Deere** & Co. have also gone on strike in recent months.

#### The company said Wednesday that its stores would remain open.

Starbucks Corp. baristas in Buffalo, N.Y., voted in December to form the first labor union in the coffee giant's 50year history, while Amazon.com Inc.'s warehouse workers in Alabama are holding a second union election after workers there voted against unionizing in 2021.

Many U.S. grocers increased hourly wages for workers at the start of the pandemic but phased out so-called hazard pay months later. The labor market has since tightened, companies say, as unemployment checks and federal stimulus checks made it harder for them to find workers.

Retailers have offered overtime pay for workers who cover shifts, sick pay for em-

The union declined King Soopers' offer Tuesday, saying that the company didn't respond to its requests on wage, health and safety matters.

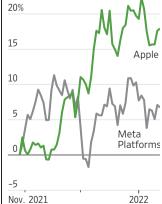
## **Optimism** Lifts Apple

Continued from page B1

because the company tends to launch its newest iPhone in September and enjoy big sales during the holiday shopping season.

But the latest excitement over Apple's stock is a change from similar periods in previous years because the company

#### Share performance since Facebook was renamed Meta Platforms



Source: FactSet

iPhone lineup led to a surge in sales and profits. Apple's stock performance often turns sluggish after such a big year, as investors await the next major upgrade to the iPhone.

Instead, analyst Dan Ives of Wedbush last month raised his price target to \$200 from \$185 based on his increased confidence in the latest version of Apple's smartphone, the iPhone 13 lineup.

Analysts on average have been boosting their price targets for Apple over the past year. The average target in December a year ago was \$128 a share compared with \$174.59 on Tuesday, according to Fact-Set. Still, that means most analysts have priced the stock below its current level.

The advent of the metaverse could renew focus on the extent Apple's clout. Concerns of about Apple's power in that new realm were at the core of a high-profile antitrust lawsuit brought by "Fortnite" maker **Epic Games** Inc. that argued the bigger company held an improper monopoly over the distribution of software on its iPhones. Epic is concerned that Apple's rules and commissions will carry over into a new platform.

The high-profile courtroom



An Apple Store in Santa Monica, Calif. Many investors are betting that Apple will introduce extended-reality devices.



We invite you to try our finest massage chair. Immersive massage choreography by shiatsu sensei Akira Okabayashi. Designed by the legendary Ken Okuyama. Made in Japan.



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Model shown: The M-Series | \$9,499 to \$15,000



### **BUSINESS NEWS**

# **Holmes Faces September Sentencing**

Judge's order means Theranos founder can remain free on bail for at least next 8<sup>1</sup>/<sub>2</sub> months

#### By SARA RANDAZZO AND HEATHER SOMERVILLE

A federal judge has scheduled a late-September sentencing date for Theranos Inc. founder Elizabeth Holmes, when she could face prison time after her fraud conviction.

The Wednesday order from U.S. District Judge Edward Davila comes just over a week after a jury convicted Ms. Holmes of one count of conspiracy to commit wire fraud and three counts of wire fraud for intentionally deceiving investors about her now-defunct blood-testing startup.

The jurors acquitted Ms. Holmes of four counts tied to Theranos patients and failed to reach a unanimous verdict on three others related to defrauding investors, leaving the government with the option of retrying the undecided counts.

Prosecutors, in a filing made jointly Tuesday evening attorneys for Ms. with Holmes, said they will move to dismiss the three hung counts.

The judge set Sept. 26 for sentencing, broadly in line with what prosecutors and Ms. Holmes's attorneys suggested. That means Ms. Holmes would remain out on bail for at least the next  $8\frac{1}{2}$ months. Her \$500,000 bond must now be secured by property, according to the Tuesday filing.

Judge Davila also set a



Elizabeth Holmes was convicted on four counts last week.

June 16 court date to address motions Ms. Holmes's defense team is expected to make in the coming months requesting a new trial or a reversal of her conviction.

Each of the four counts

that Ms. Holmes was convicted of carries a maximum sentence of 20 years in prison. A review of prior cases indicates she is likely to get far less than the 80 years she could technically face.

Judge Davila, who oversaw the monthslong proceeding, will have the final say and, under federal sentencing guidelines, has great leeway in handing down a punishment.

Delaying the sentencing gives the government time to complete another trial tied to Theranos, that of Ramesh Balwani, Ms. 'Sunnv" Holmes's top deputy and former boyfriend. He has pleaded not guilty to 12 counts of conspiracy and wire fraud.

Mr. Balwani's trial is set to begin in mid-March after the latest wave of the coronavirus pandemic delayed a February start date.

At a hearing held by teleconference last week, an attorney for Mr. Balwani pushed back on any further delays, saying his client has waited long enough.

"We'll be in trial soon," Judge Davila assured him.

A separate Tuesday evening filing, jointly made by prosecutors and Mr. Balwani's legal team, shows he has agreed to the new timeline. The filing lays out a March 15 schedule for opening statements for Mr. Balwani's case.

Prosecutors indicted Ms. Holmes and Mr. Balwani in June 2018, following reporting by The Wall Street Journal that Theranos's finger-prick blood-testing technology didn't work and that the company was secretly using commercial machines for the majority of its blood tests.

Jurors heard at Ms. Holmes's trial that Theranos rolled out its services in Walgreens Boots Alliance Inc. pharmacies for patient use despite employees telling her the blood tests were unreliable.

# **Robinhood Makes Work From Home Permanent**

#### BY JOSEPH DE AVILA

Most employees of Robinhood Markets Inc. will be working remotely on a permanent basis amid a spike in Covid-19 cases that has many companies rethinking their return to the office.

Using a primarily remote workforce will help Robinhood tap top talent across the U.S. regardless of where they live, the company said in a blog post Wednesday, describing itself as "a remote first company." The Menlo Park, Calif.based retail-trading platform said most employees will no longer be required to make regular trips to the office, while some teams will meet in-person occasionally.

'In the last two years, we've seen how flexibility and trust allows teams to do their best work, attract top talent, and create a workplace that's more inclusive and equitable," said Robinhood, which employs about 3,400 people. "Our teams have done amazing work and built a strong workplace community during these uncertain and challenging times, and we're excited to continue to offer them the flexibility they've asked for by

staying primarily remote."

Some teams will need to live close to an office location due to regulatory and business reasons, Robinhood said. Some employees will still come into the office as well, it added.

The company declined to comment beyond the post.

Many major banks, technology companies and other firms planned to return to the office in January but delayed those plans after the Omicron variant pushed Covid-19 infection rates in the U.S. to new highs. Many companies are now avoiding committing to a specific return date.



The company said most employees will no longer be required to make regular trips to the office.

# Platform Doesn't Plan to Put Big Investments in Crypto

#### BY NINA TRENTMANN

Retail-trading platform Robinhood Markets Inc. doesn't plan on spending significant amounts of corporate cash on crypto assets soon, despite growing demand from its users for such investments, Chief Financial Officer Jason Warnick said.

Speaking at The Wall Street Journal's virtual CFO Network Summit on Wednesday. Mr. Warnick said, "There aren't compelling reasons strategically for our business to put any meaningful amount of our

those of other finance chiefsincluding **Twitter** Inc. CFO Ned Segal—who said they worry about the volatile nature of some of these assets or limitations around companies' investment policies.

Robinhood, which reported \$51 million in revenue from crypto trades during its latest quarter, held about \$6.16 billion in cash and cash equivalents at the end of September, up from \$1.40 billion at the end of 2020.

Some companies, such as Tesla Inc. and Block Inc., have plowed corporate cash into bitcoin or other virtual assets, while so far, many other CFOs

Mr. Warnick said Robinhood is keeping an eye out for comments from regulators on how to treat crypto assets. That is why Robinhood hasn't added any new coins or currencies on top of the ones it already offers, including bitcoin, dogecoin and litecoin.

"It's not lost on us that our customers and others would like to see us add more coins," Mr. Warnick said, responding to a question about when Robinhood would add the Shiba Inu coin to its platform.

"We're a highly regulated company in a highly regulated clarity from regulators," Mr. Warnick said.

The CFO, who was appointed in November 2018, rebutted claims that the Robinhood platform gamifies investing. "The headline of gamification is often associated with Robinhood. But the conversation never goes deeper beyond the confetti example, which is now gone," Mr. Warnick said, referring to a feature that sprayed virtual confetti when users completed certain trades or placed a deposit. "I think the conversation was overblown," Mr. Warnick said.

Mr. Warnick said the com-

tions and cryptocurrency orders to high-speed trading firms, a practice known as payment for order flow. "Payment for order flow has really helped bring individual investors to the forefront and participate like they haven't before," Mr. Warnick said.

Critics of the practice, including Securities and Exchange Commission Chairman Gary Gensler argue that it poses a conflict of interest for brokerages because brokers can either collect more money for selling their customers' order flow or pass that money on to custom-



corporate cash into cryptocurrencies." His comments echo have stayed on the sidelines. industry, and we think it's important that we get a bit more

pany is benefiting from sending its customers' stock, op- on the trades they make.

ers in the form of price savings

**Robinhood CFO Jason Warnick** 

## **Baby-Formula Shortage Sparks Divide**

#### By JENNIFER MALONEY AND SHARON TERLEP

Baby formula has been hard to find in many parts of the U.S. for months, sending parents searching for Enfamil, Similac, Gerber and other brands.

Retailers and formula makers agree that out-of-stocks are a problem. They don't agree on how severe it is and who is to blame. Chains like Walmart Inc. and **CVS Health** Corp. say the manufacturers are having supply issues; formula makers say retailers aren't getting product to stores once it is delivered.

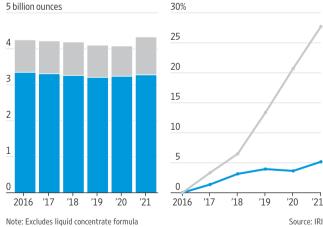
"The shelves are just bare," said Derval Kenny, of Rye, N.Y., who has been trying to help find Similac formula for two infant grandsons who live in Connecticut and New Jersey. "To me, there should be an uproar."

Ms. Kenny, whose grandsons are 5 and 6 months old, said she drove to stores across her county and into neighboring Connecticut and placed an order on Amazon last week that hasn't vet been delivered.

The shortages are intermittent and vary based on retailer and location, said Krishnakumar Davey, president of strategic analytics at IRI, a retail research firm. Nationwide, instock levels for baby formula and food are slightly higher than for food products overall. However, Mr. Davey said, some of the nation's 10 largest retailers had more than 20% of baby formula out of stock the week ended Jan. 2. typical of recent months. An out-of-stock rate above 10% is considered a problem, he said.

U.S. baby formula volume sales Change in price-per-volume





on baby formula in 2021, up 4.5% from 2020, as volume and prices rose, according to IRI.

Retailers are struggling to predict demand at individual locations. as many Americans relocated and are spending long periods away from home during the pandemic. Meanwhile, manufacturers are struggling with staffing and shortages of ingredients and packaging materials. The big formula brands sold in the U.S. are largely produced in domestic facilities though raw materials and packaging may include sourcing from other countries. Supply-chain issues caused by the pandemic have disrupted the flow of everything from sneakers to pickups.

The Infant Nutrition Council of America, an industry group that represents formula manufacturers, said the problem doesn't lie on the manufacturing side. "There is no shortage in manufacturers' supply of in-Americans spent \$4.3 billion fant formula," said Robert

Rankin, executive director of the group.

'2İ

A spokeswoman for the group added, "Broadly, there are reports of challenges across retail supply chains, from transportation and logistics to some anecdotal evidence suggesting pantry-loading behaviors, which can put increased pressure on in-store inventory."

Laura Modi, co-founder of Bobbie, an online organic babyformula startup, said even intermittent shortages can lead parents to stockpile. She said her company has seen an influx of demand from parents rattled by the lack of availability of big-name formula brands. "It can take one post in a Facebook moms group to send some into a panic," she said.

Enfamil maker Reckitt Benckiser Group PLC said last week that the company has ample supply and declined to comment further. On Twitter, Enfamil's customer-service representatives have told par-

ents that the company is "experiencing obstacles in the production and shipping of some of our products as the pandemic continues to cause issues with the supply chain."

In November and December, Enfamil tweeted that certain products would be out of stock for "an extended period of time."

Abbott Laboratories, maker of Similac formula, said the company is doing "all we can to ensure ongoing and consistent distribution of our products."

In an email to Ms. Kenny, an Abbott customer-service representative on Tuesday wrote that the company is "experiencing intermittent slow shipping of our products" and is "working with all of our manufacturing and distribution sites to address staffing levels and adjust demand and production schedules" to improve the situation.

Nestlé SA. which makes Gerber formula, referred questions to the infant nutrition council.

A CVS spokesman said the supply-chain challenges are on the manufacturing side, from difficulty in sourcing raw materials to delivery delays for finished products. He said CVS has ample supply of its storebrand formula. Walgreens Boots Alliance Inc. said shortages are generally temporary or isolated and the company is working with formula makers to ensure adequate supply.

Walmart and Target Corp. also are having out-of-stock issues with baby formula, company representatives said. "It's really an industrywide challenge across the main suppli-Abbott, Reckitt and ers: Nestlé," a Walmart spokeswoman said.





#### Dealer Manager

💥 UBS

#### January 13, 2022

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All of the costs of the rights offering, including offering expenses and sales load, will be borne by the Fund and indirectly by all of its common shareholders. The rights are transferable and have been admitted for trading on the NYSE American during the course of the offer; however, there can be no assurance that a market for the rights will develop.

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### TECHNOLOGY & MEDIA

#### WSJ.com/Tech



A jump in Meituan and JD.com stock in Hong Kong helped lift the Hang Seng Tech Index. Food-delivery drivers for Meituan.

# **Chinese Internet Stocks Build On Rebound After Rough Year**

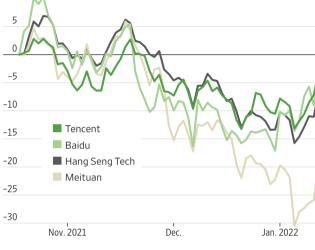
#### By REBECCA FENG

Shares in major Chinese technology companies like **JD.com** Inc. and **Meituan** jumped Wednesday, adding to a rebound that suggests some investors see good value in the sector after a bruising 2021. Analysts and investors said

there was no clear catalyst for the rally in Hong Kong-listed Chinese tech stocks. But they said buyers appeared to be reassessing the sector in the new year, given lower valuations and an apparent lull in new action from Beijing.

After roughly a year under siege, the sector was finally benefiting from a lack of new measures, said Qi Wang, chief executive of MegaTrust Investment (HK). "The Chinese government now needs to give companies the time to digest and comply with these new rules," Mr. Wang said.

Meituan and JD.com stock jumped 9% and 11%, respectively, in Hong Kong trading. That helped lift the city's Hang Seng Tech Index by 5%. Share-price and index performance, past three months



Source: FactSet

10%

The index, which launched in July 2020, has recovered nearly 11% since it hit a record closing low last Wednesday, the same day that China's antitrust watchdog levied small fines on Alibaba Group Holding Ltd., Bilibili Inc., and Tencent Holdings Ltd. The gauge

fell by roughly a third last year. Several small rallies in recent months petered out, but this rebound could prove more enduring if the slower pace of regulatory action continues, said Chetan Seth, Asia-Pacific equity strategist at Nomura. He added that "the companies themselves are geared to some very exciting long-term investment themes."

David Chao, global market strategist for Asia-Pacific at Invesco, said his firm had "taken a much more constructive view" on Chinese shares, especially in tech, for this year compared with last year.

As of Tuesday, shares in sector heavyweight Tencent traded at a price of about 24 times expected earnings, data compiled by Refinitiv showed, down from 29 times a year earlier. Other major gainers on Wednesday included Alibaba, **Baidu** Inc. and Bilibili, whose Hong Kong-traded shares each rose about 6%. All three are also listed in the U.S.

Some market watchers are wary. Marcella Chow, global market strategist at J.P. Morgan Asset Management, said a meeting of China's legislature in March should provide more regulatory certainty. "Frankly, we are now taking a wait-andsee approach until [there is] more policy clarity on the China tech sector," Ms. Chow said.

NFL regular season

average viewers\*



#### By SEBASTIAN PELLEJERO

Cryptocurrency lenders are going to be able to start checking credit reports.

**TransUnion**, one of the three major U.S. consumer credit reporting firms, will let consumers give blockchain companies access to their personal credit data through the security firm Spring Labs' ky0x Digital Passport.

Consumers will be able to receive better interest rates when borrowing money from financial-services companies that operate on public blockchains such as Ethereum by providing this information, the companies said.

Cryptocurrency investors can currently borrow money by putting digital assets such as bitcoin up as collateral. The companies said that because lenders will be able to check a borrower's creditworthiness, they might issue loans that don't require any collateral at all.

More large financial institutions have been starting to participate in the crypto boom. Bank of New York Mellon Corp. and Fidelity Investments have announced plans to provide crypto services for institutional clients such as asset managers and hedge funds. Banks outside the U.S., including Banco Bilbao Vizcaya Argentaria SA and Commonwealth Bank of Australia, have started to sample ways of offering customers the ability to invest and store bitcoin and other digital assets.

Traditional consumer U.S. banks have been more wary. An association representing large banks said that current regulations would prevent them from holding cryptocurrencies. The Basel Committee on Banking Supervision, which sets global standards for banking regulation, laid out a proposal last year that would re-

quire lenders to set aside a dollar in capital for every dollar of bitcoin and other cryptocurrencies they held, considering them among the riskiest assets a bank could own.

The market for decentralized finance, or DeFi, assets has grown significantly in recent years, analysts said. The total value of DeFi applications on the Ethereum blockchain soared to nearly \$200 billion in November from around \$20 billion the year before, according to JPMorgan.

DeFi faces several regulatory hurdles until it becomes mainstream, JPMorgan analysts wrote in a recent note.

"Enforcing know-your-customer and anti-money-laundering checks is a necessary first step, but a general perception that regulations would be naturally less effective on DeFi might prove a major obstacle going forward in terms of regulators allowing DeFi to transition into the mainstream," said the bank's analysts.

The Spring Labs' digital passport currently shows antimoney-laundering and knowyour-customer verifications after users go through the registration process and attach the passport to their digital wallets. No personal data are publicly shared, just attestations of the completed processes, the companies said. They expect consumers' credit data to be available on the passport by the end of this year.

TransUnion's president of U.S. markets and consumer interactive, Steve Chaouki, said that by providing credit and identity data on the blockchain, more companies will be able to access and develop DeFi and crypto applications while remaining compliant with regulators.

"By having this available, you begin to open the tap for capital coming in, and that increases the competition," he said.



20 million Raiders vs. Cowboys 17.1 15 10 5 5 20 million Raiders vs. Cowboys 17.1 Cowboys vs. Chiefs 28 Browns vs. Packers 28 Bears vs. Lions<sup>†</sup> 28





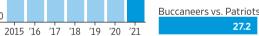
Berenice Abbott, New York at Night, 1932. Sold for \$43,750

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\*For TV and digital +For the teams' Nov. 25 game Sources: NFL (average); Nielsen (games)

# NFL Viewership Scores 10% Gain

#### By JOE FLINT

Television and digital ratings for the National Football League's regular-season games jumped 10% compared with last season and were the league's best numbers since 2015, according to Nielsen data.

The average audience for regular-season games was 17.1 million viewers, compared with 15.6 million in the 2020 season. Last season was marred by the Covid-19 pandemic, leading to empty stadiums and many rescheduled games as players contracted the coronavirus. In addition, the 2020 presidential election led to strong ratings competition from cable-news networks.

The pandemic also affected this season. Many players missed games, and a handful of games were rescheduled late in the season. Still, compared with last season, the NFL managed to limit its Covid-19 disruptions.

The season, which was extended to 17 games from 16 in previous years, was full of meaningful contests that scored big ratings.

The return of the Dallas Cowboys to the league's elite teams provided a boost to ratings. According to the NFL, the Cowboys were featured in five of the 10 most-watched games this season, including a Thanksgiving matchup against the Las Vegas Raiders on CBS that averaged nearly 41 million viewers and was the biggest game of

the season in terms of ratings.

Ratings were also lifted by several close, competitive games and the parity among teams, with many in contention for postseason play late into the season. A record 34 games were decided on the final play, according to the league. Overall, 64% of all games were competitive in the fourth quarter, the league said.

Among the TV rights holders, NBC's package of mostly Sunday night games averaged 19.3 million viewers across all platforms, up 11% from the previous season.

**Fox** Corp.'s Sunday afternoon NFL national and regional coverage averaged 18.6 million viewers, a 2% increase from last season. The national games on Fox averaged 23.1 million viewers. **ViacomCBS** Inc.'s CBS averaged 18 million viewers, a 9% increase from last season.

Walt Disney Co.'s ESPN, which holds Monday Night Football rights, averaged 14.2 million viewers, a 16% increase over last season. That figure also includes two Saturday games the network and its sister broadcast platform ABC carried last Saturday.

Thursday night games, which were carried by Fox and the NFL Network and are streamed on Amazon Prime, averaged 16.4 million viewers this season, a gain of 16%. Next season, **Amazon.com** Inc. will become the exclusive media outlet for most Thursday games. Shortages and bottlenecks weighed on personal-computer shipments in the fourth quarter, but the pandemic-induced revival of the PC market is expected to continue, according to industry data.

International Data Corp. and Canalys said PC shipments in the fourth quarter rose about 1%, while Gartner Inc. said world-wide PC shipments declined 5% in the December quarter, which it said was the first year-over-year decline after six straight quarters of growth.

Much of the difference in the tallies from the data providers comes from how each company defines PCs.

Mikako Kitagawa, Gartner research director, attributed the difficult fourth quarter to a sharp drop in shipments in the U.S. because of supplychain issues and lower demand for Chromebooks.

Supply constraints are expected to continue to weigh on shipments for at least the first half of the year, particularly for the commercial segment, where demand is most robust, said Tom Mainelli, group vice president of IDC's device and consumer research.

While consumer and educational demand has tapered in some markets, including the U.S., IDC said it continues to believe the overall PC market has reset at a much higher level than before the Covid-19 pandemic.

Remote work and schooling over the past two years have reset the baseline for PCs, with families now needing more than one computer, analysts say. In addition, the industry is experiencing shorter refresh cycles, in part because of a shift to notebooks and other devices that typically need to be replaced earlier.

Going forward, Canalys expects higher spending on premium PCs, monitors and other products. 100%

75

### **TECHNOLOGY**

## **Turks** Pile Into Crypto

Continued from page B1 billion of lira transactions a day, but even so are more than any of the preceding five quarters.

Turks are particularly enamored of the stablecoin tether, whose value is pegged to the dollar. The lira this fall became the most traded government-issued currency against tether, outpacing the dollar and the euro, according to data provider CryptoCompare.

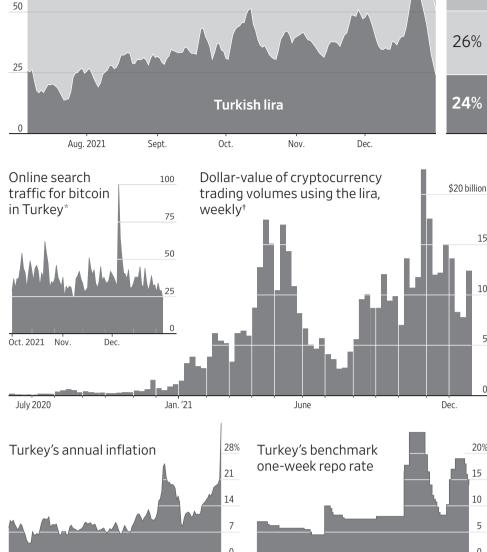
Turks have long weathered spells of economic turmoil by keeping their money in dollars, euros or gold. The rise of cryptocurrencies in recent years has presented a new group of instruments in which to store wealth, albeit far more volatile. Since September, the lira has lost 40% of its value against the dollar. Bitcoin initially jumped almost 40% against the dollar by early November but is now down more than 10%.

In Istanbul, Turkey's largest city and its commercial capital, ads for cryptocurrency exchanges appear on trams, billboards and one of the city's two airports. Shops selling bitcoin have cropped up in the Grand Bazaar.

President Recep Tavvip Erdogan plunged Turkey's financial system into turmoil last fall with a push for repeated interest-rate cuts amid soaring inflation. The currency stabilized somewhat in recent weeks after a government bailout of savers, but local Turks remain wary.

"The senseless policies regarding rates, diminishing trust for published statistics regarding inflation and political decisions...made cryptos a safe haven, even though cryptos are rather risky and volatile finan-cial assets," said Kağan Şenay, a 27-year-old trader.

Mr. Şenay said he began trading bitcoin in 2017 to make extra money. Increasingly, he has also seen it as a way to protect his lira income from inflation. The buying power of the lira he earns from his job at a



Share of tether trading volume, by currency, five-day rolling average

Other currencies

Euro

U.S. dollar

'17 '19 '21 2011 '13 '15 '17 '19 2011 '13 '15 \*Levels are relative for the last three months of 2021, with 100 acting as a peak in searches. Data reflect Turkish searches only. †Trade volumes reflect trades against the lira on Binance, BtcTurk and LocalBitcoins

the country's parliament, but

there are few details of what its

Sources: CryptoCompare (tether trading volume); Google Trends (online search traffic); Chainalysis (dollar value); Turkish Statistical Institute (inflation); Turkey's central bank (repo rate)

fabric producer has diminished alongside higher prices.

Turks have embraced cryptocurrencies despite an official ban introduced last year on their use as a form of payment in the country.

The ban, which was unveiled without warning, "created a traumatic experience in the Turkish cryptocurrency commu-Sert. nity," said Turan Sert, an adviser to Turkish cryptocurrency exchange Paribu. The government has promised a new cryptocurrency law will soon be sent to

impact will be, according to Mr.

Cryptocurrencies have grown in popularity in Turkey and parts of the developing world where distrust of government economic policies is high. El Salvador last year became the first nation to recognize bitcoin as legal tender.

## Checkout.com Hits **\$40 Billion Valuation** After Share Sale

#### BY PETER RUDEGEAIR

Dec. 31

34%

16%

15

10

5

20%

15

10

5

0

'21

Checkout.com didn't raise money from outside investors until 2019. Today, it is one of the most valuable startups in the world.

The London-based digitalpayments processor said it raised \$1 billion in a recent share sale that valued it at \$40 billion. New investors including Franklin Templeton and the Qatar Investment Authority participated alongside existing ones, such as Insight Partners and Tiger Global Management.

Since its first fundraising round in 2019, Checkout.com's valuation has swelled 20 times and now exceeds that of Instacart Inc. and all but a handful of other startups.

Checkout.com moves money between shoppers and online merchants, a business that boomed during the Covid-19 pandemic. The company's payment volume tripled in both 2020 and 2021, said Chief Executive Officer Guillaume Pousaz, with clients such as Netflix Inc. and Klarna Bank AB benefiting from higher demand for their services.

In recent months, though, online sales have slowed with the easing of pandemic restrictions and the return to physical stores. Global e-commerce growth is expected to fall to 18% in 2022 from 20% in 2021, according to research firm MoffettNathanson, a return to its 2019 pace. That, along with a broader investor retreat from tech stocks in advance of higher interest rates, contributed to selloffs in the shares of Checkout.com's publicly traded competitors, such as Adyen NV and **PayPal Holdings** Inc.

"It's undeniable that there's a lot of volatility in the market," Mr. Pousaz said. "These are short-term factors. Everything we do at Checkout is for the long term."

Startup investors can take time to adjust to changes in



**CEO Guillaume Pousaz.** 

how tech companies are being valued in public markets, said Deven Parekh, a managing director at Insight Partners and a member of Checkout.com's board of directors. But recent market corrections have been short-lived, he said, and Checkout.com still has room to take market share from traditional banks and payment processors. "I'm taking a five-year view," Mr. Parekh said.

Checkout.com plans to use much of the new capital to fuel an expansion into the U.S. Last summer, the company hired Céline Dufétel, chief financial officer at money manager T. Rowe Price Group Inc., to do the same job for Checkout.com. Many of the company's top executives and investors now reside in the U.S.

It also plans to enlarge its business catering to cryptocurrency companies. Exchanges such as Coinbase Global Inc. and wallets like Novi from Meta Platforms Inc. use Checkout.com to move customers' money into and out of digital currencies. Crypto and financial-technology transactions account for more than half of Checkout.com's payments volume, Ms. Dufétel said.

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### **BIGGEST 1,000 STOCKS**

	Net Net Net	Net Net Net
How to Read the Stock Tables Footnotes:	Stock Sym Close Chg Stock Sym Close Chg Stock Sym Close Chg	Stock Sym Close Chg Stock Sym Close Chg Stock Sym Close Chg
The following explanations apply to NYSE, NYSE I-New 52-week high. Arca, NYSE American and Nasdaq Stock Market I-New 52-week low.	GenuineParts         GPC         138.89         1.48         KeysightTechs         KEYS         190.40         -1.30         MotorolaSol         MSI         256.85         0.80           GileadSciences         GILD         72.25         -0.12         KimberlyClark         KMB         143.09         -0.05         NICE         NICE         277.82         0.40	RH         RH         473.02         -9.00         I StateStreet         STT         103.33         0.98         UnitedAirlines         UAL         46.54         -0.36           RPM         P2.02         -1.25         SteelDynamics         STLD         63.60         2.63         UnitedAirlines         UAL         46.54         -0.12
listed securities. Prices are composite quotations that include primary market trades as well as trades reported by Nasdag BX (formerly Boston), <b>FD</b> -First day of trading.	GinkgoBioworks DNA         6.26         -0.57         KimcoRealty         KIM         25.12         0.08         NIO         NIO         31.68         1.66           GitLab         GTLB         70.97         -2.87         KinderMorgan KMI         17.65         0.04         NRG Energy         NRG         41.33         0.45	RalphLauren         RL         115.05         -2.23         Stellantis         STLA         21.12         0.47         UPS B         UPS 211.22         -0.05           I RaymondJames RJF         109.57         0.72         Steris         STE         241.68         6.93         UnitedRentals URI         331.95         -2.04
trades reported by Nasdaq BX (formerly Boston), Chicago Stock Exchange, Cboe, NYSE National and Nasdaq ISE. FD-First day of trading. h-Does not meet continued listing standards	I GSK GSK 45.24 0.20 KirklandLakeGold KL 41.41 0.62 NVR NVR 5566.99 -0.50 GlobalPayments GPN 148.73 -0.37 Knight-Swift KNX 57.82 0.04 NXP Semi NXPI 229.02 1.48	BaytheonTeck RTX         91.07         0.35         ST Microelec         STM         48.63         -0.34         US Bancorp         USB 62.49         0.37           RealtyIncome         0         71.87         0.58         Stryker         SYK 268.03         -0.14         UnitedTherap         UTHR 206.19         -0.06           RecailRexnord         RXX         168.57         1.21         Sturitomobility Staffe         7.45         0.07         UnitedTherap         UTHR 206.19         -0.06
The list comprises the 1,000 largest companies based on market capitalization. #Late filing q-Temporary exemption from Nasdag	GlobalFoundries GFS         62.05         -0.09         V Koninklijke/Phil PHG         33.09         -5.68         Nasdaq         NDAQ 193.24         0.68           Globant         GLOB 269.52         3.84         KoreaElcPwr         KEP         9.09         0.07         NationalGrid         NGG         72.04         0.41           GlobeLife         GL         104.25         2.15         KraftHeinz         KHC         37.30         -0.29         NatWest         NWG         6.71         -0.03	RegalRexnord         REX         168.57         1.21         SumitomoMits SMF6         7.45         0.07         UnitedHealth         UHH         473.72         4.72           RegencyCtrs         REG         76.44         0.05         SunComms         SUI         197.00         1.37         UnitySoftware U         129.15         -0.56           RegenPharm         REGM 631.44         5.35         SunLife/Inancial SLF         57.22         0.50         UniversalHealthB UHS         129.11         -1.71
Underlined quotations         are those stocks with         requirements.           large changes in volume compared with the         t-NYSE bankruptcy	Gobaldy         GD2         2.12         Kroger         KR         47.14         -0.57         I NetApp         NTAP         94.70         0.32           GoldAldy         GFI         1.02         0.32         LKQ         57.70         0.08         NetEase         NTAP         94.70         0.32	RegionsFin RF 24,78 0.12 i SuncorEnergy SU 28.18 0.20 Upstart UPST 118.41 -2.65 RelianceSteel RS 167.72 3.54 Suzano SUZ 11.22 0.49 VF VFC 71.81 -0.04
issue's average trading volume. <b>Boldfaced quotations</b> highlight those issues <b>v</b> -Trading halted on primary market. <b>v</b> -In bankruptcy or receivership or being	GoldmanSachs GS         390.31-12.74         LPL Financial         LPLA 179.02         -0.24         Netflix         NFLX 537.22         -3.62           GoodRx         GDRX         27.74         -0.54         L3HarrisTech         LHX         220.09         -1.93         Netflix         NFLX 537.22         -3.62	Repligen         RGEN 210.9         0.36         Synaptics         SYNA 251.00         1.16         VICI Prop         VICI 28.81         -0.15           RepublicSvcs         RSG         131.82         -0.28         Synaptrics         SYNA 251.00         1.16         VICI Prop         VICI 28.81         -0.15           Note         Synaptics         SYNA 251.00         1.26         VailResorts         MTN 304.66         4.71
whose price changed by 5% or more if their previous closing price was \$2 or higher. reorganized under the Bankruptcy Code, or securities assumed by such companies.	Grab         GRAB         6.25         -0.29         LabCorp.ofAmerica LH         282.79         -9.15         Newmont         NEM         61.52         0.61           Graco         GGG         77.10         0.87         LamResearch         LRCX 686.32         13.11         NewsCorp B         NWS         22.86         0.15	ResMed         RMD         244.17         5.80         SyneosHealth         SYNH         93.37         -0.63         Vale         VALE         15.55         0.31           RestaurantBrands         QSR         58.39         -1.12         Synopsys         SNPS         338.59         -1.79         I ValeroEnergy         VLO         84.37         0.52
Wall Street Journal stock tables reflect composite regular trading as of 4 p.m. and	Grainger         GWW 509.44         3.46         LamarAdv         LAMR 114.88         -0.73         NewsCorp A         NWSA         22.61         0.16           Grifols         GRFS         11.98         -0.32         LambWeston         LW         68.83         -0.50         NextEraEnergy NEE         85.09         0.30	RexfordindiRealty REXR 74.76 -0.01 Sysco SYY 78.19 -0.24 VeevaSystems VEEV 239.70 -0.34 Ventas V
changes in the closing prices from 4 p.m. the previous day.	GuardantHealth GH         85.85         -5.09         LasVegasSands LVS         38.95         0.10         Nike         NKE         15.22         1.91           Guidewire         GWRE 106.16         -1.41         LatticeSemi         LSCC         66.66         -1.15         i NiSource         NKE         127.95         0.14           HCA Healthcare HCA         29.30         -1.03         Lear         LEA         185.53         -1.48         NOK         6.09         -0.15	RioTinto         Rio         76.07         1.65         TUV         VeriSign         VeriSign         VRSX 28.25         2.01           Rivian         RIVN         86.48         2.93         TC         Energy         TRP         50.70         0.71         VeriskAnalytics         VRSK 207.39         1.29           RobertHalf         RHI         11.07         0.92         TC         Energy         TRP         50.70         0.71         VeriskAnalytics         VZ         53.45         -0.14
Wednesday, January 12, 2022 Net Net Net Stock Sym Close Chg Stock Sym Close Chg	HCA Healthcare HCA 249.30         -1.03         Lear         LEA 185.53         -1.48         Nokia         NOK         6.09         -0.15           HDFC Bank         HDB         71.72          Leidos         LDOS         89.81         -1.00         NomuraHoldings NMR         4.68         0.03           I HP         HPQ         38.99         -0.20         Lennar A         LEN         107.94         0.21         Nordson         NDSN 242.55         2.42	Robinhood         HOOD         16.25         -0.16         TD Synnex         SNX         108.41         0.95         VertxPharm         VRTX 226.14         -0.01           Robinkood         RbLX 89.06         0.02         TE Connectivity TEL         160.70         0.44         Vertiv         VRTX 226.14         -0.01
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ABD 38.01 1.17 AECOM ACM 74.69 -0.46 BioNTech BNTX 220.87 5.07 DaVita DVA 113.68 -0.76 BioNTech BNTX 220.87 5.07 DaVita DVA 113.68 -0.76	HashiCorp         HCP         72.27         -1.49         LibertyBroadbandA LBRDA 149.43         0.19         NorwegCruise         NCL         22.22         0.22           HealthpeakProp         PEAK         36.00         0.08         LibertyBroadbandC LBRDK 153.50         1.07         Novartis         NVS         8.979         -0.08	RoperTech ROP 464.52 4.24 TRowePrice TROW 180.83 -12.85 VMware VMW 122.90 -1.36
AES AFL 53.34 0.12 Aflac AFL 63.34 0.12 BlackRock BLK 885.11 -3.08 Deere DE 376.25 -4.30 Blackstone BX 122.34 1.04 DellTechC DELL 59.95 -0.30	Heico         HEI         148.85         0.02         LibertyGlobal C LBTYK         27.82         -0.07         NovaNax         NVAX 130.17         -0.51           Heico A         HELA 128.54         -0.20         LibertyGlobal A LBTYA         27.66         0.03         NovoNordisk         NVO         100.75         -0.47           HangyGradie         HSIC         72.75         LibertyGlobal A LBTYA         27.66         0.03         NUMOIdIdings         NU         9.00         -0.34	RossStores         ROST 105.44         -1.49         IaiwanSemi         ISM 152.25         S.06         Vodatone         VOD 16.13         0.05           i RoyalBkCanada RY         115.97         1.58         TakeTwoSoftware TTWO 156.06         7.64         VornadoRealty VNO         45.10         -0.43           RoyalBkCanada REL         82.26         0.53         TaketaPharm TAK         14.65         0.34         VulcanMatis         VMC 202.88         2.44
AMC Ent AMC 22.72 -0.07 Block SQ 145.47 -2.96 DeltaAir DAL 40.61 -0.62 Ansys ANSS 370 15 0.81 BlueOwlCapital OWL 13.80 -0.02 DentsplySirona XRAY 54.79 -1.54	HenrySchein         HSIC         77.79         -2.75         LibertyFormOne & FWONA         58.35         0.39         NuHolding's         NU         9.00         -0.34           Hershey         HSY         195.84         1.81         LibertyFormOne C FWONK         63.28         0.19         NuanceComms NUAn         55.37         0.13           HertzGlobal         HTZ         24.43         0.02         LibertyFarwes A BATRA         27.43         -0.46         Nuccor         NUE         114.72         3.88	RoyalDutchA RDS.A 49.30 0.81 Tapestry TPR 38.55 0.34 W X Y Z
I APA APA 32.65 0.65 Boeing BA 217.45 1.43 DeutscheBank DB 14.01 -0.12 ASETech ASX 7.85 -0.06 BookingHldgs BKNG 2436.10 -33.32 I DevonEnergy DVN 49.90 0.10	Hess         HES         91.58         1.54         LibertyBraves C BATRK         26.90         -0.39         Nutrien         NTR         72.30         2.29           HewlettPackard HPE         17.15         0.11         LibertyBraves C BATRK         26.90         -0.39         Nutrien         NTR         72.30         2.29	RoyaltyPharma RPRX         40.84         -0.76         Target         TGT         224.47         -3.08         WEC         Energy         WEC         95.70         0.38           RyanSpecialty RYAN         37.46         0.46         TataMotors         TTM         34.32         0.19         WDC area         95.70         0.03
ASML         ASML         72.17         13.01         BoozAllen         BAH         85.73         0.66         DexCom         DXCM         490.38         9.21           ATGT         T         26.45         0.11         BorgWarrer         BWA         47.84         -0.74         Diageo         DEO         209.35         -0.46           Abbetti abc         APT         12.37         1.00         BostonProps         BWP         12.52         0.05         I DiamondbkEner FANG 124.57         0.21	HighwoodsProp HIW 46.70 -0.11 LibertySirius C LSXMK 49.33 0.15 NVIDIA NVDA 279.99 1.82	Ryanair         RYAAY         114.86         -3.23         1         Telckrscsb         1/2         1/4         1         WPP         WPP         80.92         1.25           SAP         SAP         140.15         1.36         TeladocHealth TDOC         81.88         -4.44         Wabter         WAB         91.87         -0.53
AbbottLabs ABI 135.72 - 1.98 AbbVie ABBV 137.29 0.32 BostonSci BSX 44.41 1.01 Dick's DKS 115.63 - 0.43 BictolMuore BAV 64.23 0.66 DiDiclobal DIDI 4.06 0.06	Hologic HD 389.40 2.73 HomeDepot HD 389.40 2.73 LincolnNational LNC 72.73 0.07 ONEOK OKE 62.50 0.02	S&P Global SPGI 447.84 6.82 release FDY 426.91 -0.20 WalgreensBoots WBA 53.91 -0.42 SBA Comm SBAC 338.51 -3.18 Teleflex TFX 334.66 4.46 WalgreensBoots WBA 53.91 -0.42
Accenture ACN 377.19 3.05 BritishAmTob BTI 40.67 0.27 DigitalRealty DLR 158.95 -0.08	HondaMotor         HMC         30.64         0.30         Linde         LiN         341.29         4.86         OReillyAuto         ORLY 683.60         2.00           Honeywell         HON         218.25         1.94         LithiaMotors         LAD         299.27         1.47         OccidentalPetrol OXY         34.75         0.05	SEI Investments         SEIC         63:43         -0.16         Ericsson         ERIC         11:41         0.09         WarnerMusic         WMG         40:79         0.12           SK Telecom         SKM         64:84         -0.16         TelefonicaBras VIV         8:47         0.14         WarnerMusic         WMG 40:79         0.12           SS&C Tech         SSNC         8:42         0.76         Telefonica         TEF         4:50         MiscaContections         VIV         10:04/2         0:02
Activisionaliz Alvi 04.01 -1.04 Adobe ADBE 532.37 2.48 Advance uto ADB 237.53 5.57 BroadridgeFinl BR 170.44 2.50 Discovery B DISCB 40.87 -0.73 Discovery A DISCB 28.79 0.11	HorizonTherap HZNP 93.58 -2.38 LiveNationEnt LVY 114.00 -2.00 Okta OKTA 213.93 5.95 HormelFoods HRL 49.03 -0.66 LiUgdsBanking LVG 2.90 0.01 Olaplex OLPX 23.89 -1.16	StoreCapital STOR 33.91 0.20 Telekmindonesia TLK 29.01 -0.01 Waters WAT 343.82 -0.60
AdvDrainageSys WMS 126.58 0.15 AdvMiaraDavicas AMD 127.47 0.16 BrookfieldRenew BEPC 34.47 -0.86 Discoveryc Disck 27.99 0.09	HostHotels HST 17.93 -0.15 Loews L 61.18 0.05 Olin OLN 54.69 0.80	Salesforce.com CRM 237.83 2.99 10xGenomics TXG 118.81 -3.12 WaltsGo WSG 304.34 2.59 Samsara IOT 24.75 0.32 Tenaris TS 23.17 0.21 WaltsGarrow WFG 56.40 0.34
i Aegon         AEG         5.80         0.15         BrownAs/rownBRO         69.43         1.08         dLocal         DLO         31.59         -0.88           AerCap         AER         66.48         -0.69         Brown-Forman B BF.B         67.01          DocuSign         DOCU 139.25         -2.88           Brown-Forman A BEA         61.89         -0.18         DocuSign         DOCU 139.25         -2.88	HuanengPower HNP         21.92         0.02         Lowe's         LOW 250.72         1.22         OnHolding         ONON         30.68         -1.44           Huazhu         HTHT         37.09         1.31         Lucid         LCID         45.43         -0.04         ON Semi         ON 66.49         0.56	Sanofi         SNY         51.51         0.10         TencentMusic TME         7.34         0.07         Wellsvarg         Well         36.31         -0.02           SantanderCons SC         41.71         0.05         Teradyne         TER         162.90         2.36         Wellsvarg         WELL         86.31         -0.02
Addiminings AFRM 76.79 -2.24 AgilentTechs A 149.51 2.87 Bruker BRKR 73.54 0.54 DollarGeneral DG 228.60 -0.05 Bruker BIDD 81.18 0.60 DollarGeneral DG 228.60 -0.01	Hubbell         HUBB202.40         2.07         LufaxHolding         LU         5.30         -0.13         OpenText         OTEX         6.58         0.05           HubSpot         HUBS 508.19 - 22.44         Iululemon         LULU 352.72         5.97         Oracle         OREL         88 31 - 0.12         Oracle         OREL         88 31 - 0.12         Oracle         Oracle         Oracle         0.05         Oracle <t< td=""><td>Sasol         SSL         18.75         1.21         Tesia         TSLA 1106.22         41.82         WestPharmSvcs WST         401.27         1.78           Schlumberger         SLB         36.45         -0.03         TevaPharm         TEVA         9.03         -0.05         I WestAllianceBco WAL         122.04         0.25</td></t<>	Sasol         SSL         18.75         1.21         Tesia         TSLA 1106.22         41.82         WestPharmSvcs WST         401.27         1.78           Schlumberger         SLB         36.45         -0.03         TevaPharm         TEVA         9.03         -0.05         I WestAllianceBco WAL         122.04         0.25
Agnico Factor Age 22.01 - 0.98 Agnico Eagle AEM 52.56 0.78 Builington Stre BUD 245.22 - 2.35 Dominion Ener D 79.32 0.19	Humana         HUM 395.28         3.62         LumenTech         LUMN         13.29         -0.05         Orange         ORAN         11.18         0.11           JBHunt         JBHT 202.80         3.75         Lyft         LYFT         42.38         -2.12         Orix         IX         109.92         1.37	I SchwabC SCHW 94.82 0.91 Texasinstruments TXN 186.03 1.39 WesternDigital WDC 66.54 0.52 ScottSMiradeGro SMG 162.33 -1.37 TexasPacLand TPL 1223.97 2.37 WesternMidstm WES 24.04 0.85 Sea SE 20.06 2.74 Textron TXT 76.88 0.34 WesterMidstm WES 24.04 0.85 Sea SE 20.06 2.74 Textron TXT 76.88 0.34 WesterMidstm WES 24.04 0.85 Sea SE 20.06 2.74 Textron TXT 76.88 0.34 WesterMidstm WES 24.04 0.85 Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 Sec Sea SE 20.06 2.74 Textron TXT 76.88 0.34 Sec Sea SE 20.06 Sea SE 20.06 SEC SE 20.06 SEC SEA SE 20.06 SEC SEA SE 20.06 SEC SEA SE 20.06
Airbroducts         ApD         299.75         2.21         Continues         Continues<	HuntingtonBcshs HBAN         17.09         0.08         LyondellBasell LYB         99.89         0.56         OtisWorldwide OTIS         86.95         0.71           HyattHotes         H         94.92         -0.81         M         N         99.89         0.56         OtisWorldwide OTIS         86.95         0.71           HyattHotes         H         94.92         -0.81         M         N         99.89         0.56         Ovintiv         00/vintiv         39.34         -0.03	Seagate STX 113.23 1.51 ThermoFisherSci TMO 625.20 4.70 WestpacBanking WBK 15.69 0.03
Albemarle ALB 241.07 0.90 CF Industries CF 67.90 -1.26 Dow DOW 59.26 0.08 Albertsons ACI 29.63 0.84 CGI GIB 83.97 0.95 Doximity DOCS 50.10 2.56	I ICICI Bank IBN 22.22 0.15 M&T Bank MTB 179.53 1.33 PG&E PCG 12.51 0.34	Seagen         Scent 141.03         -3.34         Inomsonlecuters         INI         11.2.02         0.38         WestRock         WRK 46.00         0.06         SealedAir         SEE         66.47         0.46         3M         MMM 179.42         0.44         Weyerhaeuser WY         41.05         0.32           Sempra         SRE         136.22         0.38         Toast         TOST         28.41         -1.36         Wheatoprevent with WM         40.00         0.51
i Alcoa AA 61.88 -0.32 CH Robinson CHRW 107.35 -0.63 DrReddy sLab RDY 63.13 -0.30 Alcon ALC 78.59 -1.00 CME Group CME 226.18 2.74 DraftKings DKNG 26.10 -0.84	IdexxLab IDXX 554.63 -0.43 MGM Resorts MGM 44.80 -0.15 POSCO PKX 64.89 0.89 IHS Markit INFO 126.07 1.87 MKS Instrum MKSI 176.26 1.84 POSCO PKX 64.89 0.89	SensataTechs         ST         64.12         0.03         Toro         TTC         99.18         -1.00         Whit/pool         WHR 225.26         -2.04           SentinelOne         S         46.99         -1.89         I TorontoDomBk TD         81.14         1.03         Williams         WMB 29.20         0.33
AlexandriaRlest ARE 209.97 1.35 CMS Energy CMS 64.12 0.25 Dropbox DBX 24.48 0.15 Alibaba BBAB 137.41 5.22 CNA Fin CNA 46.83 DukeEnergy DUK 103.62 0.39 Alibaba BABA 137.41 5.22 CNH ind CNH 16.45 0.19 DukeRealty DRE 60.20 -0.07	ING Groep ING 15.36 0.32 MPLX MPLX 31.89 0.40 PPL 29.96 0.01 PPL 29.96 0.01 NGCI 559.08 5.76 PPL 29.96 0.01	ServiceCorp         SCI         65.89         -0.54         I TotalEnergies         TTE         56.03         1.32         Williams-Sonoma         WSM         151.69         -1.75           ServiceNow         NOW         573.39         -5.05         I ToyotaMotor         TM         206.61         4.71         WillisTowers         WTW 233.77         -0.19
Alighteen Alon 559.47 -20.17 Alleghany Y 677.02 -6.57 CRH CRH 54.07 0.71 Dun&Bradstreet DNB 20.16	IPG Photonics IPGP         165.74         -1.96         Magnalnti         MGA         86.49         1.01         Paccar         PCAR         92.54         0.16           IQVIA         IQV         260.85         0.56         Magnalnti         MGA         86.49         1.01         Paccar         PCAR         92.54         0.16	ShawComm B SJR         30.31         0.08         TractorSupply         TSCO 228.91         3.11         WillScotMobile         WSC         38.81         -0.16           SherwinWilliams SHW         321.59         -2.91         TradeDesk         TTD         82.39         -2.49         Wilro         WIT         8.70         -0.81
Allegion         ALLE 127.58         0.03         CSX         6.64         0.34         Duront         Duront         B0         63.72         0.09           AlliantEnergy         LNT         60.13         0.33         CVS Health         CVS         105.78         -0.26         Dynarace         DT         56.72         0.14           Allstate         ALL         12.37         -0.03         CABD         CABD         1666.72         -9.97         I         EN         E         29.95         0.40	Initiation         Initiation         Initiation         Initiation         Initiation         PalantirTech         PLTR         16.72         -0.17           IcahnEnterprises         EP         54.51         0.22         ManulifeFin         MFC         20.63         0.05         PalantirTech         PLTR         16.72         -0.17           IcahnEnterprises         EP         54.51         0.22         MarathonOil         MRO         18.71         0.05         PaloAltoNtwks PANW 532.02         5.97	ShinhanFin         SHG         33.74         0.36         Tradeweb         TW         94.06         0.08         Wilx com         WIIX 151.23         -2.96           Shopify         SHOP 1168.76         11.45         TransDigm         TT         195.24         1.76         Wolfspeed         Wolf 110.50         1.59           Shanye-Stilwater SBSW         14.98         0.36         TransDigm         TD         658.59         5.16         I WoorFin         WF         37.97         0.07
AllyFinancial ALLY 52.04 1.50 Alaylambharm ALNY 147.54 - 0.49 CaesarsEnt CZR 87.95 -2.03 EPAM Systems EPAM 571.11 11.71	IDEX IEX 226.93 0.77 IDEX IEX 226.93 0.77 Maravail ifeSci MRVI 33.07 -1.28 ParkerHannifin PH 325.11 3.74 Paychex PAYX 128.28 -0.49	Sibanye-Stillwater SBSW 14.98         0.36         TransDigm         TDG         658.59         5.16         WoortFin         WF         3.79         0.07           i SignatureBank SBNY 366.00         5.29         TransUnion         TRU         111.99         0.47         Workday         WDAY 257.96         2.24           SimonProperty SPG         161.93         0.10         Travelers         TRV         162.97         -0.19         WynResorts WYNN         85.80         0.50
Alphabet C GOOG 2832.96 32.61 Alphabet A GOOGL 2828.61 33.89 Cameco CCJ 23.84 0.33 i EastWestBncp EWBC 89.42 1.15	Illumina ILMN 413.37 -10.43 ImperialOil IMO 39.48 0.50 MarketAxess MKTX 371.37 -9.17 Device IMO 192.38 -3.08	SiriusXM         SIRI         6.33         0.01         Trex         TREX         113.91         -3.02         XP         XP         30.61         0.48           SiteOneLandscape         SITE         210.13         4.08         Trimble         TRMB         79.16         -0.33         XcelEnergy         XEL         68.59         -0.01
Altria         MO         49.49         0.01         CampbellSoup CPB         45.21         0.14         EastGroup         EGP         208.08         -2.10           AlumofChina         ACH         15.45         -0.04         ICBC         CM         128.80         1.75         EastmanChem EMN         122.89         1.49           AumofChina         ACH         15.45         -0.04         ICBC         CM         128.30         1.75         EastmanChem EMN         122.89         1.49	Incyte INCY 73.62 -0.82 Marriett MAR 164.86 -0.34 Peloton PTON 34.49 -2.07 MAR 164.86 -0.34 Perotection PTON 34.49 -2.07	Skyworks         SWKS 156.11         0.02         Trip.com         TCOM         24.86         0.86         Xilinx         XLNX 197.87         -2.65           SmithAO         AOS         83.98         0.28         1 TruistFini         TFC         66.33         0.67         XPery         48.38         2.62
Amazon.com Amizn 3504.14 -5.10 Ambev ABEV 2.69 0.04 CanNaturalRes CNQ 49.37 1.12 Bay EBAY 64.32 -2.11	i Infosys INFY 25.75 0.73 IngersollRand IR 59.98 0.01 MartinMarietta MLM 422.57 3.24 Pentair PEN 69.60 -0.38 MartinMarietta MLM 422.57 3.24 Penumbra PEN 258.79 -1.10	Smith&Nephew         SNN         34.96         -1.42         Twilio         TWLD         227.11         -7.07         Xylem         XYL         116.18         -0.01           Smutcker         SJM         140.83         -1.42         Twitter         TWTR         40.25         -0.41         Yandex         YMDV 58.98         0.85           Snap         SIAP         42.37         -0.58         TyteFreder         TYL         50.41         Yandex         YMDV 58.98         0.85           Snap         SIAP         42.37         -0.58         TyteFreder         TYL         50.41         Yandex         YUM         129.15         1.51
Amdocs DOX 75:54 -0.48 Canon CAJ 24:46 -0.09 Ecopetrol EC 13:94 0.17 Amdocs UII 46:05 56 - 5:4 CapitalOne COF 158:79 0.28 EdisonInt EIX 64:43 0.07	Insulet PODD 242.78 -2.89 Masco MAS 68.32 0.84 People SUIDE IN PBCT 20.71 0.16 Intel INTC 55.74 -0.17 Masimo MASI 255.69 -1.18 PepsiCo PEP 173.90 -0.19	Snap         SNAP         42.73         -0.58         TylerTech         TYL         504.11         -0.89         YumBrands         YumBrands         YumBrands         YumBrands         YumBrands         YumBrands         YumBrands         YumC 48.48         -0.36         Snowflake         SNOW 307.14         -5.81         UBS Group         UBS         19.75         -0.21         ZTO Express         ZTO         31.60         0.09
Ameren AEE 87.71 0.74 America Mavil A AMAY 20.22 0.12 CardinalHealth CAH 51.68 -1.03 ElancoAnimal ELAN 28.09 -0.29	ICE ICE 133.48 1.53 ICE 133.48 1.53 MatchGroup MTCH 124.08 -1.92 PetroChina PTR 49.60 0.98	SOQUIMICH         SQM         55.63         3.76         UDR         UDR         55.91         0.67         Zero Expless         Zero Expless<
AmericaMovil AMX 20.35 -0.14 Americalitines A01 18.50 -0.52 Carlyle CG 52.75 0.57 ElectronicArts EA 132.50 1.70	IBM 133.59 0.72 McCaree MCFE 25.77 0.04 PetroleoBrasil A PBR.A 10.75 0.39 McCormick MKC 95.37 0.16 PetroleoBrasil A PBR.A 10.75 0.39	SolarEdgeTech         SEDG         261.02         -0.07         UWM         UWMC         5.94         0.01         Zillow A         ZG         56.49         -1.24           Sony         SONY 127.15         0.83         Uber         UBER         43.04         -0.58         Zillow C         Z         57.07         -1.28
AEP 90.29 0.32 AmerExpress AXP 174.47 -0.91 Carnival CCL 22.31 0.33 Enbridge ENB 41.69 0.35 Carnival CLL 22.31 0.33 Enbridge ENB 41.69 0.35	IntlPaper IP 48.49 -0.03 Interpublic IPG 37.75 0.40 McDonalds MCD 260.92 -1.20 McDonalds MCD 260.92 -1.20 PhilipMorris PM 101.44 0.45 PhilipS66 PSX 86.30 0.15	Southern         SO         67.78         0.13         Ubiquiti         UI         298.73         -3.79         ZimmerBiomet ZBH         125.58         -2.80           SoCopper         SCCO         69.21         3.20         UiPath         PATH         39.75         -1.69         ZionsBancorp ZION         70.21         -0.01
American Fin AFG 156.77 0.62 AmHomes4Rent AMH 41.92 0.20 CarrierGlobal CARR 53.00 0.46 EnelAmericas ENIA 5.88 0.09 CarrierGlobal CARR 53.00 0.46 EnelAmericas ENIA 5.88 0.09	IntuitiveSurgical ISRG 323.16 -4.86 MedicalProp MPW 23.56 0.05 Pinduoduo PDD 60.38 0.36 MedicalProp MPW 23.56 0.05 Pinterest PINS 34.43 0.43	SouthwestAir         LUV         45.21         -0.62         UltaBeauty         ULTA         384.16         -0.28         Zoetis         ZTS         212.81         0.01           Splunk         SPLK 121.46         -0.62         UnderArmour A UAA         16.70         0.04         ZoomVideo         ZM         170.65         -5.32           Spotify         SPOT 231.31         -3.66         UnderArmour A UAA         19.59         0.12         ZoomVideo         ZM         170.65         -5.32
Alig and 01.37 -0.40 Catalent CTLT 115.38 -2.45 EnphaseEnergy ENPH 149.28 0.77 Caterpillar CAT 222.40 2.45 Entegris ENTG 135.16 0.07	IronMountain IRM 46.76 0.38 MercadoLibre MELI 1210.91 44.84 PioneerNatkscs PKD 204.91 0.91 MarcadoLibre MELI 1210.91 44.84 PiainsAllAmPipe PAA 10.51 0.13	Sporting         Sport
i Ameriprise AMP 328.20 2.17 Americaurs Prov APC 125 71 .0.74 Cemex CX 6.77 0.29 EnterpriseProd EPD 24.08 0.16	MetaPlatforms FB 333.26 -1.11 PlugPower PLUG 24.65 -0.45 MetLife MET 67.62 -0.38 Page PLUG 24.65 -0.45	
Ametek AME 143.61 1.03 Centerous CNC 80.32 0.30 Equinix EQX 261.61 -1.33 Centerous CNC 80.32 0.30 Equinix EQX 764.46 -2.42 Conterological control of the con	MettlerToledo MTD 1559.62 -11.81 i PrincipalFin PFG 76.52 -0.30	Borrowing Benchmarks
Amphenoi APH 52.66 0.27 AnalogDevices ADI 173.75 0.12 CeridianHCM CDAY 89.97 -2.53 Equitable EQH 35.60 -0.17	JAbil         JBL         70.25         -0.19         Microsoft         MSFT 318.27         3.29         Procter&Gamble PG         159.01         0.35           Jabil         JBL         70.25         -0.19         Microsoft         MSFT 318.27         3.29         Progressive         PGR         109.85         0.93	wsj.com/market-data/bonds/benchmarks
AnnalyCap NLY 8.08 CharterComms CHTR 613.98 1.88 ErieIndemnity A ERIE 185.00 -5.58	JacobsEngg J 132.31 -1.84 Middleby MIDD 194.26 -0.55 Prologis PLD 153.24 0.25 PLD 153.25	Money Rates January 12, 2022
Ann Aon 287.70 CheckPoint CHKP 120.39 0.39 EssentialUtil WTRG 50.63 -0.84 AppliedGhMart AD 287.70 CheniereEnergy LNG 114.30 3.13 EssexProp ESS 349.11 3.06	JazzPharma JAZZ 145/07 -4.67 Micsubinitor more 0.14 0.04 Prudential PUK 35.64 -0.19 JazzPharma JAZZ 145/07 -4.67 Micsubinitor More 2.80 0.02 PublicServiceEnt PEG 66.04 0.19 JefferiesFin JEF 37.59 -3.84 Moderna MRNA 222.89 1.50 PublicServiceStorage PSA 367.43 4.58	•
Apple AAPL 175.53 0.45 ApplMaterials AMAT 160.65 7.10 Chevron CVX 127.33 -0.64 Etsy ETSY 178.06 -4.75	Jacj JNJ 109.79 -1.46 Monawkinds MHK 170.74 0.30 PulteGroup PHM 55.02 0.12 JohnsonControls JCI 80.03 0.47 MolinaHealthcare MOH 292.08 -2.16 PutreStorage PSTG 29.29 -0.65	Key annual interest rates paid to borrow or lend money in U.S. and international markets. Rates below are a guide to general levels but
Applovin         App         84.33         0.33         ChimeW3A         ChimeW34         ChimeW3	JuniperNetworks JNPR 34.88 -0.48 MolsonCoorsA TAPA 56.30 0.30 Option 0000 0000 0000 0000 0000 0000 0000 0	don't always represent actual transactions.
Aramark ARMK 30.23 -0.54 ArcelorMittal MT 37.24 1.85 ChinaSoAirlines ZNH 31.05 -0.47 ChinaSoAirlines ZNH 31.05 -0.47 ChinaSoAirlines ZNH 31.05 -0.47	JustEatTakeaway GRUB         10.19         0.37         monday.com         MNDY 24.2.91         2.37         Qualtrian         QCOM 136.24         1.02           KB Fin         KB         5.2.38         1.42         Mondelez         MDLZ         67.37         0.11         Qualtricisht         XM         28.98         -1.03           KE Holdings         BEKE         22.78         -0.17         MongoDB         MDB         432.49         -11.30         Qualtricisht         XM         28.98         -10.51	Inflation Week -52-WEEK-
ArcherDaniels ADM 70.42 -0.06 ArcherDaniels ADM 70.42 -0.06 Chipotle CMG 1554.07 -27.54 ChoiceHotels CHH 152.43 -0.68 ExpeditorsIntl EXPD 125.24 0.30	KKR KKR 72.14 0.46 MonolithicPower MPWR 448.91 -3.60 QuantumScape QS 20.94 -0.36	Dec. index Chg From (%)
AresMgmt ARES 78.05 -0.44 arGEN-X ARGX 293.21 -12.38 ChunghwaTel CHT 42.38 0.14 i ExxnaNobil XOM 71.14 -0.21	Kanzhun         BZ         30.66         -5.68         Moody's         MCO         372.90         5.04           Kellogg         K         66.38         -0.20         I MorganStanley MS         103.05         -2.87         R         S	level Nov. '21 Dec. '20 Federal funds Effective rate 0.0800 0.0800 0.1000 0.0500
ArrowElec ARW 134.95 1.66 ChurchalDowns CHD 102.00 0.78 F5 FFIV 239.07 -2.99 ChurchalDowns CHDN 219.77 -3.45 FMC FMC 111.24 1.85	i KeurigDrPepper KDP 38.01 0.18 Morningstar MORN 315.95 9.72 KP 26.40 -0.03 Mosaic MOS 41.91 1.55 RELX RELX 30.22 0.12	U.S. consumer price index High 0.1500 0.0900 0.2000 0.0700
AspenTech AZPN 150.36 4.33 Clerical Clerk 75.52 * 0.59 FactSet FDS 44/1./7 5.20 Clerk Assurant AIZ 157.08 * 0.39 Clerk C		All items         278.802         0.31         7.0         Low         0.0500         0.0900         0.0000           Core         283.908         0.41         5.5         Bid         0.0600         0.0600         0.7000         0.0300
AstraZeneca AZN 58.40 0.30 Cinta CINF 110.00 Forter Fich 20.29 -0.79 Atlassian TEAM320.59 5.64 Cintas CITAS 406.21 1.11 Fastenal FAST 60.38 0.29	Dividend Changes	International rates Offer 0.0900 0.0900 0.1200 0.0500
Auroralnnov AUR 8:30 -0.36 Auroralnnov AUR 8:30 -0.36 Auroralnov Citigroup C 67.28 0.17 Citigroup C 67.28 0.17 Ferguson FERG 173.84 4.26	Dividend announcements from January 12.	Treasury bill auction
Autolesk ADSK 269,60 -1.03 Autoliv ALV 105,52 -1.62 Clarivate CLVT 20.29 -0.37 Ferrari RACE 258.41 4.07 FNF 55.31 0.45	Amount Payable /	Week         52-Week         4 weeks         0.050         0.055         0.125         0.000           Latest         ago         High         Low         13 weeks         0.120         0.090         0.120         0.015
ADP         ADP         234.03         -0.05         Cleveland-Cliffs CLF         23.07         0.87         FidNatlInfo         FIS         117.51         -0.04           AutoZone         AutoZone         AU         2052.88         51.90         Clorox         CLX         182.01         2.44         i FithThirdBncp FITB         49.20         0.15	Company Symbol Yld% New/Old Frq Record	Prime rates         26 weeks         0.275         0.220         0.275         0.030
Avalonbay AVB 250.72 1.51 Coductate Net 113.77 -0.17 First Anter First Anter First 30.19 0.79 Avapartid ACB 48.32 0.07 Coca-Cola KO 60.54 0.09 First CitizBcshA FCNCA 903.23 1.46	Increased Mesabi Trust MSB 12.6 1.75/1.42 Q Feb20/Jan30	U.S.         3.25         3.25         3.25         3.25           Canada         2.45         2.45         2.45         Secondary market
Avantor AVTR 39.20 0.89 AveryDennison AVY 212.84 1.15 Cognizant Tech CTSH & 80.70 100 Cognizant Tech CTSH & 80.70 10 Cognizant Tech CTSH & 80.70 10 FirstRepBank FRC 208.09 2.83	STAG Industrial         STAG         3.3.1217/12083         M         Feb15/Jan31           TD SYNNEX         SNX         11.30/20         Q         Jan28/Jan21	Japan <b>1.475</b> 1.475 1.475 1.475 <b>Fannie Mae</b>
AvisBudget         CAR         192.05         -6.78         CoinbaseGillo COIN         234.70         -7.53         Firstenargy         FE         41.41         0.05           AvonEnterprise         AXXON 151.03         1.27         ColgatePalm         CL         82.87         -0.30         Firstenargy         FISV         108.50         -0.97	ID SYNNEX SNX I.I .30/.20 Q Jan28/Jan21 Initial	Policy Rates         30-year mortgage yields           Euro zone         0.00         0.00         0.00         30 days         2.941         2.751         2.973         1.922
BCE         BCE         52.53         0.35         Comcast A         CMCSA         50.95         -0.19         FiveBelow         Five 180.28         -0.84           BHP Group         BHP         67.15         2.66         I         Comerica         CMA         98.36         1.01         Five9         Five 180.28         -0.84           BHP Group         BHP         67.15         2.66         I         Comerica         CMA         98.36         1.01         Five9         Five 133.12         -5.25	Bank of America Pfd. QQ BACpQ 4.2 .3276 Feb17 /Feb01	Switzerland 0.00 0.00 0.00 0.00 60 days 2.978 2.812 3.017 1.948
BHP Group BBL 06.15 2.81 CommerceBcshrs CBSH 72.97 -0.37 FleetCorTech FLT 243.66 0.08 CommerceBcshrs CBSH 72.97 -0.44 Flex FLEX 18.29 -0.01		Britain         0.25         0.25         0.10           Australia         0.10         0.10         0.10         Other short-term rates
1 BP 31.19 0.65 Concentrix CNXC 171.88 0.41 Floor&Decor FND 112.39 -2.05	Aon AON 0.7 .51 <b>Q</b> Feb15/Feb01	

	FIEX FLEX 10.27 -0.01	Aon AON	0.7 51 0 Feb15 / Feb01	Australia <b>0.10</b> 0.10 0.10 0.10	o the other terminates
				Our service between service and the service of the service between service bet	100 March
			10000 10020/041121	Overnight repurchase	Week -52-Week -
		KEY: A: annual: M: monthly: O: quarterly: r: revis	ed: SA: semiannual: S2:1: stock split and ratio: SO:	U.S. <b>0.03</b> 0.05 0.09 -0.04	Latest <sub>ago</sub> high low
			cu, ora semanau, ozzi stoek spire una ratio, sor		
		spin-off.			Call money
				IIS government rates	
		120.0		0.3. government rates	<b>2.00</b> 2.00 2.00 2.00
		IPO Scorecard		Discount	
	TOXD TOX 30.22 0.30				Commercial paper (AA financial)
		Performance of IPOs, most-recent I	isted first	<b>0.25</b> 0.25 0.25 0.25	90 days 0.21 n.a. 0.22 0.04
		% Chg From	% Chg From		70 ddy3 0.22 11.d. 0.22 0.04
		Company SYMBOL Wed's Offer 1st-day	Company SYMBOL Wed's Offer 1st-day	Natao an data:	Libor
					One month 0.11014 0.10200 0.13088 0.07263
	GHI				Three month 0.23843 0.22557 0.24443 0.11413
		VCXB.UT Jan. 12/\$10.00	<b>BRACU</b> Jan. 11/\$10.00		
		Coros Hidas IX 10.00	Amylyz Bharmacouticals 20.26 66 12.1	Other prime rates aren't directly comparable;	Six month 0.38371 0.34000 0.38614 0.14663
				lending practices vary widely by location;	One year 0.69914 0.59629 0.69914 0.21950
		GHIXU Jan. 12/\$10.00	AMLX Jan. 7/\$19.00	Discount rate is effective March 16, 2020.	
		Hillstream BioPharma 3.48 –13.0	C5 Acquisition 10.08 0.8 -0.1	Secured Overnight Financing Rate is as of	Secured Overnight Financing Rate
	Gaming&Leisure GLPI 45.68 -0.58			January 11, 2022, DTCC GCF Repo Index is	
				Depository Trust & Clearing Corp.'s weighted	<b>0.05</b> 0.05 0.08 0.01
		Industrial Acquisitions II 10.04 0.4	Cincor 16.14 <b>0.9</b> 0.9	average for overnight trades in applicable	1/star 50 11/sta
		<b>ITAOU</b> Jan. 12/\$10.00	<b>CINC</b> Jan. 7/\$16.00	CUSIPs. Value traded is in billions of U.S. dollars.	Value -52-Week-
	GeneralDynamics GD 211.93 0.35				Latest Traded High Low
-		Western Acquisition Ventures 10.03 0.3	HourLoop 5.73 <b>43.3</b> –28.3		DECC CCED IN INT
DEF					DTCC GCF Repo Index
		<b>TTAT SO</b> Sun. 12/ \$10.00	Ποσκραι. // φ=.00		Treasury 0.038 23.600 0.102 -0.008
DIE Energy <b>DTE</b> 119.21 0.43	Genpact <b>G</b> 52.46 0.11		Sources: Dow Jones Market Data; FactSet	Tullett Prebon Information, Ltd.	MBS 0.067 13.650 0.121 0.002
	Concentrix         CNKL 171.88         0.41           Confluent         CFLT         73.65         1.68           ConcocPhillips COP         84.40         0.81           Concld         ED         83.19         0.12           ConstBrands STZ         248.87         40.60           Conternatilescs         CLR         51.35         -0.03           Cooper         COV         420.70         -1.59           Copart         CPRT         140.86         2.64           Corteva         CPW         43.86         0.43           Costco         CSCP         74.81         0.45           Costco         CSCP         74.81         0.44           CoupasOftware         CPW         2.54.4         -20           CoupasOftware         CAC         1.19         -7.91           CreditAceptance         CAC         1.19         -7.91           CreditAceptance         CAC         1.19         -7.91           CreditAceptance         CAC         1.19         -7.91           CoupaSoftware         CAC         1.19         -7.91           CreditAceptance         CAC         1.19         -7.91           CreditAceptan	Concentrix CHXC 171.88 0.41 Confluent CFLT 73.65 1.68 FordMotor F 24.47 0.12 FordMotor F 24.47 0.12 FordMotor F 24.47 0.12 FordMotor F 24.47 0.12 FordMotor F 24.47 0.12 Fortis FTS 47.19 0.40 ConstBrands B STZ 248.2 4.57 ConstBrands B STZ 44.9 4.5 ConstBrands B STZ 44.9 4.5 ConstBrands B STZ 44.9 4.5 ConstBrands B STZ 44.9 4.5 ConstBrands B STZ 44.9 4.4 ConstBrands B STZ 44.9 4.4 Costar CSGP 74.8 1.048 FreaseniusMed FMS 32.84 -0.09 FullTruck YMIM 9.55 0.39 CoupasGrume COUP 150.4 1.29 CoupasGrume COUP 150.4 1.29 CoupasGrume COUP 150.4 1.29 Creditors CCB 1.90 -791 CreditAcceptance CACC 611.90 -791 CreditAcceptance CKC 611.90 -791 CreditAcceptance CKC 611.90 -791 CreditAcceptance CCC 611.90 -791 CreditAcceptance CCC 611.90 -791 CreditAcceptance CCC 611.90 -791 CreditAcceptance CCB 1.92 4 1.28 Games CDB GMA 41.58 Games CDB GMA 41.92 Games CDB GMA 41.94 Games CDB GMA 41.94 GMA 41.94 GMA 41.94 GMA 41.94 GMA 41.9	Concentrix         CNXC         Fibor&Decor         FND         11.23         2.05         Aon         Aon           Confluent         CFLT         73.65         1.68         FromeMcEconMex FMX         81.98         1.07         Getnet Adquirencia ADR         GET           ConcoPhillips COP         84.40         0.81         FordMotor         F         24.47         15         Getnet Adquirencia ADR         GET           ConstBrands S STZ         24.82         4.57         Fortis         FTS         47.19         0.03         Fortis         FTS         47.19         0.03           ContentralRscs CLR         51.35         -0.03         FortBrandsHome FBHS 104.80         1.00         FortBrandsHome FBHS 104.80         1.00         Spin-off.           Copaer         COO         GUV         7.17         7.73         5.73         0.33         FortBrandsHome FBHS 104.80         1.00         Spin-off.           Costor         COO         GUV         7.17         7.75         0.33         FortBrandsHome FBHS 104.80         1.00         Schg 76         Schg 76         Schg 77         FortBrandsHome FBHS 104.80         1.00         Schg 76         Schg 76         Schg 76         Schg 76         Schg 76         Schg 76         Schg 76	Concentrix       CNXC 171.88       0.41       Floor&Decom       FND       12.39       -2.05       Aon       Aon       O.7       5.1       Q       Feb15 /Feb01         Confluent       CHI 73.65       1.68       FomentoEconMex FMX       81.98       1.07       Getnet Adquirencia ADR       GET       6.4       .0853       Feb15 /Feb01         ConcoPhillips COP       84.40       0.8       Fortine       FTX       24.47       Fortine       FTX       74.19       0.12         ConstBrands Na STZ       24.83       4.06       Fortis       FTX       74.19       0.34       FTX       74.19       0.34       Fortis       FTX       74.19       0.34       FTX       74.19       0.34       Fortis       FTX       74.19       0.34       FTX       74.19       0.34       Fortis       FTX       73.75       0.33       FTX       Fortis       FTX       74.19       0.45       Fortis       FTX       74.19       0.45       Fortis       FTX       73.75       0.33       FTX       Fortis       FTX       74.19       0.45       Fortis       FTX       74.19       0.45       Fortis       FTX       74.19       0.45       Fortis       FTX       74.19       74.19	Concentrix       CNXC 17.188       0.41       FloorSDecor       FN0       12.39       -208       Ann       Ann       Ann       O.7       5.1       Q       Feb15/Feb01       Feb128/Jan24         Confluent       Forture       France/New FMX als       Fortinet       Fortine       Fortin       Fortine       Forti

New Highs and Lows	Stock		2-Wk Hi/Lo (			-Wk % li/Lo Chg	Stock		2-Wk % łi/Lo Ch	g Stock		-Wk % li/Lo Ch		52-Wk Sym Hi/Lo C		52- Sym Hi/	·Wk % i/Lo Chg
The following explanations apply to the New York Stock Exchange, NYSE Arca, NYSE American and Nasdaq Stock Market stocks that hit a new 52-week intraday high or low in the latest session. <b>% CHG</b> -Daily percentage change from the previous trading session.	DiamondbkEner DisruptiveAcqnI DorchesterMnls ENI EOG Rscs	DISAU	125.69 10.52 22.56 30.00 103.50	1.0 NewYorkMtgPfdG 0.8 NewHoldInvtIIWt 1.4 NexTierOilfield		96.61 -0.3 25.01 -0.3 0.55 6.4 5.93 -0.5 28.02 0.5	VeecoInstr VerintSystems	VAL VLO VECO VRNT VET	42.72 1 85.15 0 32.40 4 53.86 1 15.30 0	.3 BluescapeOppsW .6 BoneBiologWt .2 BrooklynImmund .3 BuildAcqnWt .2 CONXWt	BBLGW	0.75 0. 0.51 -11. 3.55 -2. 0.59 -3. 0.68 -11.	.1 GlycoMimetics .9 GoresIX .2 GoresMetroll	GLYC 1.27 GHIXU 9.96 GMIIU 9.57	<ul> <li>5.5 PhathomPharm</li> <li>5.9 PineTechWt</li> <li> PlanetGreen</li> <li>0.8 PlumAcqnIWt</li> <li>1.9 PoseidaTherap</li> </ul>	PTOCW PLAG PLMIW	15.07 -3.6 0.51 -13.3 0.76 -3.8 0.64 -4.4 5.92 -4.2
Wednesday, January 12, 2022 52-Wk %   52-Wk %   52-Wk % Stock Sym Hi/Lo Chg Stock Sym Hi/Lo Chg	EQT EaglePointPfdD EarthstoneEner EastWestBncp	EWBC	24.84 25.25 15.14 89.77	0.4 NorthernTrust 4.8 NorthViewAcqn 1.3 OaktreeSpec	NVACU OCSL	11.50 1.0 133.14 0.9 10.12 0.2 7.80 0.0	VoyaFinancial WPP	VOYA WPP	14.55 18 26.73 1 73.81 0 81.08 1	.0 CableOne .0 CalitheraBiosci .3 Capstar .6 CapstarSpacWt	CABO 1 CALA CPSR.U CPSR.WS	1600.51 -0. 0.56 -1. 6.72 -8. 0.45 11.	.6 HelbizWt .8 HillstreamBio .6 Histogen	HLBZW 0.32 HILS 3.27 - HSTO 0.27	<ol> <li>PrecisionBio</li> <li>ProventionBio</li> <li>ProvidentAcqn\</li> <li>PumaBiotech</li> </ol>	PRVB Vt PAQCW PBYI	6.14 -5.1 4.77 -5.7 0.46 -3.8 2.60 -4.4
Highs ArcherDaniels ADM 70.95 -0.1 CVR Partners UAN 91.00 3. ArenaFortifyWt AFACW 0.51 6.3 CaliforniaBncp CALB 22.50 4. AresCapital ARCC 22.35 1.1 (CIBC CM 22.58 4.1.	Enerplus Enovalntl	ERF ERF ENVA EQNR EQH	25.78 11.88 43.72 28.30 36.14	OasisPetrol 3.4 OccidentalPetrolWt 0.3 Orix 1.3 PNC Fin -0.5 PacWestBancorp	OXY.WS IX PNC	139.75 1.3 16.67 0.2 109.92 1.3 226.52 0.5 51.55 0.3	WebsterFin WellsFargo WelsbachTech WestFraserTimb WesternAcan	WBS WFC WTMAU er WFG WAVSU	65.00 -1 56.71 0 10.04 0 99.25 5 10.06 0	.8 CapstarSpacA .6 CelularityWt .1 CenntroElec .0 ChromaDex .3 CidaraTherap	CPSR CELUW NAKD CDXC CDTX	6.06 -5 0.60 -0 3.07 -11 3.09 -3 1.00 -3	.8 IG Acqn Wt .5 IGM Biosci .1 iBio	IGACW 0.61 -: IGMS 22.44 IBIO 0.50	<ul> <li>8.6 REGENXBIO</li> <li>8.10 RISE Education</li> <li>9.6 ROC Energy Rt</li> <li>7.3 RXR Acqn Wt</li> <li>9.0 RegulusTherap</li> </ul>	REDU ROCAR RXRAW	26.78 -6.0 0.45 -1.8 0.27 -1.8 0.56 -14.7 0.24 -2.9
ACNB         ACNB         34.51         -0.51         AssociatedBanc         ASB         25.55         -1.11         CanNaturalRes         CNQ         49.46         2.           Aflac         AFL         63.89         0.21         AssociatedBanc         AG         46.20         -1.81         CatharyGenBncp         CATV         46.86         -1.           ALSPOrchidI         Wt         ALORW         0.41          AtlanticusNt256         ATLCL         25.25         -0.11         CenovusEnergyV         CVE         14.58         2.4           APA         APA         32.09         2.01         BOKF         113.60         0.5         CenovusEnergyV         CVE         14.57         2.1           ARC         0.000         7.11         BPM/p         18.08         2.3         CheireEnergy         LIG         14.74         2.1	FidNatlFin FifthThirdBncp FintechEcosys	XOM FNF FITB FEXDU	71.81 55.73 49.81 10.27	-0.3 PartnerComms 0.8 PearlHoldingsAcqn 0.3 People'sUtdFin	PTNR	8.60 3.0 10.04 0.2 20.78 0.8	WesternAcq WestAllianceBc WesternMidstri WilliamPennBn WintrustFin	m WAL	10.00 0 124.93 0 24.16 3 12.80 0 102.45 -0	.2 ClarivatePfdA .7 Clarivate .4 ClarusTherapWt .4 ClarusTherapWt	CLVTpA CLVT CRXTW	80.68 -1 20.08 -1 0.22 -0 17.93 -4	.3 Immunome .8 IndependenceW .2 InFinTAcqnWt .2 InnovativeIntIW	IMNM 10.33 t ACQRW 0.68 IFIN.WS 0.30	2.2 RepareTherap 5.7 Replimune 8.4 RevelationBioU 1.1 RevivaPharm	RPTX REPL REVBU RVPH	15.08 -6.6 23.62 -6.7 9.81 -6.9 2.34 -15.4
Aegon         AEG         5.81         2.7         BP         BP         31.40         2.1         CheniereEnerPrs         CQP         48.30         0.           AetheriumAcqn         GMFIU         10.12          BankofButterfield NTB         41.65         0.5         ChesapeakeEner         CHKEL         40.49         8.           Alcoa         AA         64.37         -0.5         BankofButterfield NTB         116.99         1.4         ChesapeakeWttC         CHKEL         40.49         8.           AllianceResource         ARLD         14.67         5.2         BankNY Mellon         BK         63.92         0.8         ChesapeakeWttC         CHKEL         40.49         8.	FirstAmerFin FirstBancorp FirstInternetBno FirstNatIVA	FXNC	81.49 34.49 52.44 23.96	1.2 Phillips66Ptrs 3.0 PinnacleFinPtrs 1.5 PioneerNatRscs	PXD	35.32 2.3 43.66 109.60 0.6 205.66 0.4	WooriFin ZimIntShipping	WF	38.06 0 63.62 2	.2 Clene .9 CodiakBioSci ColiseumAcqnW Colonnade II Wt	CLNN CDAK MITAW CLAA.WS	3.55 -7 9.00 -9 0.53 0.66 -16	.1 InterPrivateII W .9 JackCreekWt JawsJuggemautW .4 JohnsonOutdoo	t IPVA.WS 0.73 -: JCICW 0.49 Vt JUGGW 0.91 rs JOUT 89.48	<ul> <li>RocketInternet\</li> <li>RocketPharm</li> <li>RoseHillAcqnW</li> <li>SocTelemed</li> <li>SOZ Biotech</li> </ul>	RCKT ROSEW	0.63 -2.6 18.90 -7.9 0.36 5.0 1.00 -5.6 8.19 -8.9
AlphaMetal         AMR         71.32         7.31         BikNovaScotia         BNS         73.99         0.5         Chesspeake/WtA         CHIKEW         47.90         6.5           AmEqtyLif         AEL         A3.67         -0.11         BankwellFin         BWF6         3.46.4         -0.4         Cheronon         CVX         22.84.3         -0.           Ametrytis         AMP         330.42         0.7         Barclays         BCS         11.86         2.2         ChicagoAttRealEEK REF1         18.15         -0.           AmylyxPharm         AMDK         40.29         0.5         Berdley         WR8         85.67         0.5         CitagoAttRealEEK REF1         18.15         -0.           ApogeeEht         APOB         9.0.5         BrighthouseFin         BHF         57.87         -0.7         Comercia         CMA         98.79         1.4         ApogeeChillios         COP         98.79         1.4         Apoge         40.42         0.49         84.54         1.4         Concorchillios         COP         84.54         1.4         1.4         Apoge         45.4         1.4         Apoge         45.4         1.4         Apoge         1.4         Apoge         45.4         1.4         Apoge </td <td></td> <td>MYFW FLNG FOSLL VINE THRM GSK</td> <td>33.90 25.68 25.89 9.75 96.78 45.32</td> <td>1.9 PowerREIT 1.0 PrincipalFin 19.9 ProfessionalHldg 2.3 PrudentialFin</td> <td></td> <td>93.86 0.4 80.01 2.8 77.68 -0.4 20.95 0.9 116.50 0.2 27.49 0.3</td> <td>AceGlblBusWt AcropolisInfrWt AcumenPharm AdventTech AdverumBioteci</td> <td>ABOS ADN</td> <td>0.19 -8 0.71 -2 5.25 -6 5.54 -6 1.59 -1</td> <td>ConcordMed ConsIdWater ConsIdWater CullinanOncology CureVac Li CuriosityStrmW 8 CyteirTherap</td> <td>CVAC</td> <td>1.81 -5 10.12 -1 13.68 -6 28.18 -4 1.13 -4 7.20 -10</td> <td><ul> <li>Sopariorange</li> <li>KoreGroupWt</li> <li>KintaraTherap</li> <li>KodiakSciences</li> <li>KoninklijkePhil</li> </ul></td> <td>KTRA         0.47           KOD         65.00           PHG         32.69</td> <td>3.8 ScionTechl Wt 3.8 SeniorConnectl V 3.3 7AcqnWt</td> <td>SCOAW Vt SNRHW SVNAW</td> <td>0.19 -0.9 0.50 -4.6 0.42 -2.1 0.46 6.63 -2.8 7.11 -0.4</td>		MYFW FLNG FOSLL VINE THRM GSK	33.90 25.68 25.89 9.75 96.78 45.32	1.9 PowerREIT 1.0 PrincipalFin 19.9 ProfessionalHldg 2.3 PrudentialFin		93.86 0.4 80.01 2.8 77.68 -0.4 20.95 0.9 116.50 0.2 27.49 0.3	AceGlblBusWt AcropolisInfrWt AcumenPharm AdventTech AdverumBioteci	ABOS ADN	0.19 -8 0.71 -2 5.25 -6 5.54 -6 1.59 -1	ConcordMed ConsIdWater ConsIdWater CullinanOncology CureVac Li CuriosityStrmW 8 CyteirTherap	CVAC	1.81 -5 10.12 -1 13.68 -6 28.18 -4 1.13 -4 7.20 -10	<ul> <li>Sopariorange</li> <li>KoreGroupWt</li> <li>KintaraTherap</li> <li>KodiakSciences</li> <li>KoninklijkePhil</li> </ul>	KTRA         0.47           KOD         65.00           PHG         32.69	3.8 ScionTechl Wt 3.8 SeniorConnectl V 3.3 7AcqnWt	SCOAW Vt SNRHW SVNAW	0.19 -0.9 0.50 -4.6 0.42 -2.1 0.46 6.63 -2.8 7.11 -0.4
Arcelor/Mittal MT 37.68 5.2 Bunge BG 99.62 0.8 CrescentPoint CPG 6.78 5. Arcelor/MittalNts MTCN 87.82 5.2 C5 Acqn CXAC.U 10.20 -0.2 Cullen/Frost CFR 143.32 0.3	GrindrodShippin		49.52 19.79 39.65 34.34 27.56 26.11	2.1 Radcom -0.5 Raymond James 1.6 Royal BkCanada 0.7 SDCLEDGEAcqnWt	RDCM RJF RY	14.70 -4.8 110.36 0.7 116.00 1.4 0.75 6.1 84.44 0.9	AevaTechWt Affimed AirspanNetwork AkernaWt	AEVA.WS AFMD	1.30 -5 4.47 -5 3.55 -3 0.20 -4 1.51 -7	7 CytekBiosci 3 DPCM Cap Wt 8 DPCapAcqnIWt 5 DaveWt 1 DenaliTherap	CTKB XPOA.WS DPCSW DAVEW DNLI		.9 LFCapAcqnIIWt .6 LairdSuperfood .8 LandosBio .3 LeoHldgsII Wt	LFACW 0.44 LSF 10.79 LABP 3.86 LHC.WS 0.55	SilverbackThera SimonPropWt SingularGenom SiyataMobile Skillsoft	SPGS.WS	5.11 -3.0 0.75 -3.0 8.18 -4.0 1.60 -2.3 8.10 -1.2
ADVERTISEMENT	HealthcareAlAcc HillstreamBio HoulihanLokey Huntsman	IN HAIAU HILS HLI HUN	10.05 4.17 - 122.62 37.57	0.4 SabineRoyalty 13.0 SachemCapital 1.2 SandySpringBncp	SBR SACH	52.46 0.4 6.55 1.4 51.45 -0.7 95.05 1.0		AEI t ALTUW AMAM	0.45 -6 0.47 -1 6.05 -2 17.16 -3	.0 DigitalBrands .9 DigitalHlthWt .2 Durect .5 DyneTherap	DBGI DHACW DRRX DYN	1.73 -2 0.33 -5 0.76 -7 10.04 -7	10 Liquiuivieula		5.1 SpindletopHlth 5.1 StarEquity 5.4.8 StryveFoods 5.4.8 StryveFoods	STRR SNAX SNAXW	0.40 -6.6 1.95 -10.5 2.65 -3.2 0.32 0.7
The Marketplace	ICICI Bank ICL Group ImperialOil InceptionGrowth	IBN ICL IMO	22.31	0.7 SeaportCalibreMatl -0.4 SensusHealthcare 1.3 SigmaLithium	SCMA SRTS SGML	10.14 -0.1 9.04 5.1	AmpioPharm	AMPE APPN APM	0.50 -8 57.26 -6 1.39 -5 1.89 -2	.0 EigerBioPharma .7 EmbarkTech .4 EnergemWt	EIGR EMBK ENCPW ENJY	4.58 -3 5.08 -11 0.28 -3 3.26 2	.2 MaxproCapWt .4 MedTechAcqnW	/t MTACW 0.36 MDXG 5.14	1.3 Surrozen 4.2 SyrosPharm -2.3 TCW Spac Wt TDCX	SRZN SYRS TSPQ.WS	0.74 -3.8 4.57 -6.7 2.97 -9.2 0.50 -10.3 14.86 -7.4
To advertise: 800-366-3975 or WSJ.com/classifieds	IndlTechAcqnsll InfiniteAcqnA InfiniteAcqnWt InFinTAcqnA	NFNT NFNT.WS IFIN	10.06 9.85 0.66 9.91	StateStreet SterlingBancorp 0.1 SuncorEnergy	STL SU	28.74 0.7	ArgusCapitalUn AridisPharm	Vt ACHR.WS ARGUU ARDS	4.00 -5 0.63 -5 10.05 -0 1.49 -7	.3 EnsysceBioWt .0 EntradaTherap .9 EosEnergyWt .4 EquityDistributio	ENSCW TRDA EOSEW n EQD.U	0.20 -0. 9.59 -6. 1.97 0. 9.99 -0.	.1 MoneyLion .9 MustangBio .9 NaborsEnerWt .5 NatlResearch	ML 3.11 MBIO 1.50 NETC.WS 0.52 - NRC 38.64	5.8 T2Biosystems 4.5 TailwindIntIWt 2.7 Talkspace -3.0 Team	TTOO TWNI.WS TALK	14.86 -7.4 0.43 -1.7 0.47 5.9 1.64 -1.8 0.90 -4.0
BUSINESS OPPORTUNITIES BUSINESS OPPORTUNITIES	Infosys KairousAcqnUn KenonHoldings KeurigDrPepper KimbellRoyalty KosmosEnergy	KRP KOS	26.39 10.17 54.35 38.03 16.15 4.71 44.43	0.3 SuRoCap6%Nts2026 0.5 Telus 0.5 TKBCritTech1 0.8 TeckRscsB 10XCapVentureIII	TU USCTU TECK VCXB.U	43.77 1.3 25.85 0.3 23.78 0.5 10.20 0.7 34.25 5.4 10.09 0.5	AssemblyBiosci AstriaTherap AthenaCnsmrW Athenex Athersys AtlasCrestII Wt	ATXS /t ACAQ.WS ATNX ATHX	2.02 -2 4.56 -2 0.42 2 1.14 -7 0.83 -6 0.77 -1 2.31 -6	4 EquityDistrWt 5 EvolvTech 9 EvolvTechWt 3 ExelaTech 0 FstarTherap 3 FaradayFutureW		0.51 -5. 3.49 -11. 0.58 -7. 0.58 -7. 4.32 -5. 0.84 1.	.1 NeuBaseTherap	NLTX 3.72 NRDY.WS 0.67 NBSE 2.24	<ul> <li>-3.8 TekkorpDigitalV</li> <li>0.5 10xGenomics</li> <li>6.9 TonixPharm</li> <li>-3.4 TrepontAcqnl V</li> <li>8.7 TribeCapGrwl V</li> <li>4.8 US Gold</li> </ul>	TXG 1 TNXP Vt TACA.WS Vt ATVCW USAU	0.54 2.6 116.84 -2.6 0.30 -5.6 0.48 -1.0 0.69 -16.4 7.70 -5.7
HVAC Contracting Business for Sale Santa Fe, NM contractor is retiring after 40+ years; 90% of revenue is ductless heat pumps; 31.3 Billion tons reserve.	LeeEnterprises LibertyRscsA LloydsBanking Loews M&T Bank MBIA	LEE LIBY LYG L MTB MBI	44.43 9.92 2.91 61.39 180.49 16.86	-0.1 TotalEnergies 0.3 ToyotaMotor 0.1 TrinityCapital 0.7 TriStateCapital	TD TTE TM TRIN TSC TRTN	207.66 2.3	AvidityBio Avinger	AVDL AVAN.WS RNA AVGR AYLA	2.31 -6 6.34 -4 0.56 -2 16.87 -8 0.35 -25 6.26 -3		FSRXW FSRXW FTCVU FTEV.WS FWRG FVRR	0.32 0.54 -11 10.07 -5 0.46 -10 14.76 -4 89.95 -4	.5 NightDragonWt .8 NiSunIntlEntDev .7 NorthernStrIII V	NBEV         0.88           NDACW         0.78           /t         NISN         2.19           /t         NSTC.WS         0.73	VTEX 4.9 Vertex 3.9 VicariousSurgic 0.7 VincerxPharma 1.7 ViractaTherap 0.6 VorBiopharma	VERX al RBOT	7.97 0.6 14.50 -8.5 8.16 -7.8 8.09 -3.0 3.15 -3.4
great market share and GP% very generous manf. co-op advertising results in abundance of leads; qualified and veteran field personnel; includes trucks and EAOO set Multime. Investment from \$5MM-\$50MM.	MarathonOil MarathonPetrol MetLife MetropolitanBk MolecularPtrs	MRO MPC MET	18.98 73.86 68.56 111.91 27.80	0.3 TruistFinl 0.5 UBS Group -0.6 US Oil Fund	TFC UBS USO BNO	66.35 1.0 19.60 1.1 59.17 1.3 22.86 1.1	BensonHillWt BensonHill	BHIL.WS Bhil	0.20 -5 0.94 -15 4.88 -11 0.63 -4 217.10 -6 0.09 -13	.4 FortressVal III W .8 FortressValueIV W .5 4D Molecular .7 FreelineTherap	t FVT.WS	0.71 -4 0.72 -5 16.79 -6 1.46 -6 0.51 -13	.0 Nuvalent .3 NuvationBioWt .2 Offerpad .4 Ouster	NUVL         12.50           NUVB.WS         1.12 - 3           OPAD         4.95           OUST         4.30	-6.3 VyGlblGrowthV	Vt VYGG.WS WVE p HOWL WHLR	9.70 -8.3 0.84 0.1 2.62 -2.6 8.64 -6.8 1.70 -4.5 0.44 4.4
Call John at 505-795-9350 9A-3P. Call +1 415 828 2848 marc.vogel@evbatteryresources.com	MolecularPtrs MorganStanley MurphyOil NaturalResPtrs	MOLN MS MUR NRP	106.47 32.12	-2.7 US12moOilFd 0.1 VMGConsumerA	USL	30.17 1.1 9.87 0.2	BirdGlobal BirdGlobalWt BlackSkyTech	BRDS BRDS.WS BKSY	4.38 -4 0.65 -6	.5 GoAcqnWt	GOAC.WS GANX GMTX	0.54 0. 4.80 -0.		PLMR 55.41 PDOT.WS 0.70	4.5 WilliamsRowland 1.2 Y-mAbsTherap 3.1 Yield10Bio 1.7 ZWDataActionTe	YMAB YTEN	0.44 4.4 12.95 -6.0 3.76 0.5 0.85 -3.2

### **MARKETS DIGEST**

#### EQUITIES

#### **Dow Jones Industrial Average**

**36290.32 38.30**, or 0.11% High, low, open and close for each trading day of the past three months.



Bars measure the point change from session's open

33300 \_\_\_\_\_\_ Oct. Nov. Dec. Jan. \*Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.; †Based on Nasdag-100 Index

#### Major U.S. Stock-Market Indexes

_			- Latest				52-Week —		0/	cha —
	High	Low	Close	Net chg	% chg	High	Low	% chg		3-yr. an
Dow Jones										
Industrial Average	36453.49	36168.15	36290.32	38.30	0.11	36799.65	29982.62	16.8	-0.1	14.8
Transportation Avg	16123.27	15920.57	15971.10	-19.76	-0.12	17039.38	12087.99	23.1	-3.1	18.4
Utility Average	956.84	945.80	955.22	2.48	0.26	980.78	795.61	11.6	-2.6	10.2
Total Stock Market	48293.19	47795.18	48002.87	68.92	0.14	48929.18	39056.49	19.8	-1.3	21.
Barron's 400	1094.50	1078.87	1085.48	0.37	0.03	1127.20	866.20	21.5	-1.9	18.
Nasdaq Stock Marke	et									
Nasdaq Composite	15319.03	15117.29	15188.39	34.94	0.23	16057.44	12609.16	15.7	-2.9	29.
Nasdaq-100	16017.39	15815.95	15905.10	60.98	0.38	16573.34	12299.08	22.6	-2.5	34.
S&P										
500 Index	4748.83	4706.71	4726.35	13.28	0.28	4796.56	3714.24	24.1	-0.8	22.
MidCap 400	2830.98	2785.61	2798.79	-8.25	-0.29	2910.70	2340.12	15.4	-1.5	16.0
SmallCap 600	1398.60	1375.88	1381.88	-6.38	-0.46	1466.02	1188.71	14.7	-1.4	15.3
Other Indexes										
Russell 2000	2210.28	2169.42	2176.06	-17.95	-0.82	2442.74	2073.64	3.0	-3.1	14.0
NYSE Composite	17406.16	17273.81	17353.76	59.22	0.34	17353.76	14397.20	15.8	1.1	13.
Value Line	673.99	664.82	<b>667.6</b> 4	-1.67	-0.25	696.40	579.55	11.7	-0.6	9.8
NYSE Arca Biotech	5320.75	5222.63	5247.77	-72.98	-1.37	6319.77	5203.04	-11.8	-4.9	3.3
NYSE Arca Pharma	818.19	809.77	813.69	-4.50	-0.55	828.58	667.24	15.9	-1.6	12.7
KBW Bank	148.10	146.53	147.28	0.74	0.51	147.28	97.78	35.7	11.4	17.
PHLX <sup>§</sup> Gold/Silver	131.94	129.26	131.89	2.62	2.02	166.01	117.06	-7.3	-0.4	22.
PHLX <sup>§</sup> Oil Service	63.22	62.00	62.52	-0.31	-0.49	69.77	46.63	19.4	18.6	-12.8
PHLX <sup>§</sup> Semiconductor	3937.96	3866.15	3901.21	25.77	0.66	4039.51	2762.75	30.4	-1.1	47.0
Cboe Volatility	18.69	17.36	17.62	-0.79	-4.29	37.21	15.01	-20.7	2.3	-1.3

#### **International Stock Indexes**

Region/Country	u Index	Close	Net chg	— Latest ——— % chg	YTD % chg
				5	
World	MSCIACWI	753.61	5.98	0.80	-0.2
	MSCI ACWI ex-USA	349.29	5.73	1.67	1.4
	MSCI World	3214.19	20.80	0.65	-0.5
	MSCI Emerging Markets	1267.34	24.30	1.95	2.9
Americas	MSCI AC Americas	1809.45	5.97	0.33	-1.0
Canada	S&P/TSX Comp	21395.00	120.19	0.56	0.8
Latin Amer.	<b>MSCI EM Latin America</b>	2188.40	54.35	2.55	2.7
Brazil	BOVESPA	105685.66	1906.68	1.84	0.8
Chile	S&P IPSA	2936.07	73.54	2.57	4.6
Mexico	S&P/BMV IPC	<b>53951.1</b> 4	889.22	1.68	1.3
EMEA	STOXX Europe 600	486.20	3.12	0.65	-0.3
Eurozone	Euro STOXX	478.81	3.04	0.64	-0.01
Belgium	Bel-20	4264.18	-7.05	-0.17	-1.1
Denmark	OMX Copenhagen 20	1735.39	15.90	0.92	-6.9
France	CAC 40	7237.19	53.81	0.75	1.2
Germany	DAX	16010.32	68.51	0.43	0.8
Israel	Tel Aviv	2055.55	33.39	1.65	3.9
Italy	FTSE MIB	27714.26	178.78	0.65	1.3
Netherlands	AEX	790.44	8.09	1.03	-0.9
Russia	RTS Index	1612.80	17.35	1.09	1.1
South Africa	FTSE/JSE All-Share	75884.75	1913.32	2.59	3.0
Spain	IBEX 35	8770.30	14.40	0.16	0.6
Sweden	OMX Stockholm	999.01	9.82	0.99	-3.7
Switzerland	Swiss Market	12670.47	-39.24	-0.31	-1.6
Turkey	BIST 100	2064.21	18.18	0.89	11.1
U.K.	FTSE 100	7551.72	60.35	0.81	2.3
U.K.	FTSE 250	23047.16	18.98	0.08	-1.8
Asia-Pacific	MSCI AC Asia Pacific	196.86	3.74	1.94	1.9
Australia	S&P/ASX 200	7438.90	48.78	0.66	-0.1
China	Shanghai Composite		29.99	0.84	-1.2
Hong Kong	Hang Seng	24402.17	663.11	2.79	4.3
India	S&P BSE Sensex	61150.04	533.15	0.88	5.0
Japan	NIKKEI 225	28765.66	543.18	1.92	-0.1
Singapore	Straits Times	3254.98	8.61	0.27	4.2
South Korea	KOSPI	2972.48	45.10	1.54	-0.2
Taiwan	TAIEX	18375.40	87.19	0.48	0.9
Thailand	SET	1678.50	11.38	0.68	1.3

#### S&P 500 Index

Last Year ago

18.71

1.90

30.82

25.49

1.94

Trailing P/E ratio 22.14

All-time high 36799.65, 01/04/22

P/E estimate \*

Dividend vield

#### 4726.35 13.28, or 0.28% High, low, open and close for each trading day of the past three months.

65-day moving average

Oct.

\_\_\_\_\_

Nov.

Last Year ago Trailing P/E ratio 28.76 41.17 P/E estimate \* 21.25 25.45 Dividend vield 1.29 1.57 All-time high 4796.56, 01/03/22

#### **Nasdaq Composite Index**

15188.39 🔺 34.94, or 0.23% High, low, open and close for each trading day of the past three months.

Last Year ago Trailing P/E ratio \*\* 38.37 40.01 P/E estimate \*\* 27.98 31.25 Dividend vield \*1 0.64 0.74 All-time high: 16057.44, 11/19/21



14100 \_\_\_\_\_\_ Oct. Nov. Dec. Jan.

#### Late Trading

Dec.

Most-active and biggest movers among NYSE, NYSE Arca, NYSE Amer. and Nasdaq issues from 4 p.m. to 6 p.m. ET as reported by electronic trading services, securities dealers and regional exchanges. Minimum share price of \$2 and minimum after-hours volume of 50,000 shares.

4250

#### Most-active issues in late trading

Jan.

wost-active iss	uesii	Volume	aung				
Company	Symbol	(000)	Last	Net chg	After Hours % chg	s High	Low
АРА	APA	7,754.3	32.68	0.03	0.09	32.80	32.60
Xtrkrs Harv CSI300 ChinaA	ASHR	7,184.9	38.67		unch.	38.68	38.62
iShares Core MSCI EM	IEMG	5,032.8	62.40	0.33	0.53	62.40	61.94
Weibo ADR	WB	4,926.2	35.10		unch.	35.77	35.00
SPDR S&P 500	SPY	4,839.4	471.07	0.05	0.01	471.57	470.98
iShares China Large-Cap	FXI	4,300.0	38.64	-0.02	-0.05	38.70	38.07
Apple	AAPL	4,238.6	175.30	-0.23	-0.13	175.70	175.25
Comcast CI A	CMCSA	3,635.0	50.98	0.03	0.06	51.31	50.83
Percentage gair	ners						
Adagio Therapeutics	ADGI	2,098.3	7.12	1.29	22.13	8.02	5.81
Puma Biotechnology	PBYI	1,176.5	2.86	0.24	9.16	3.48	2.62
Marin Software	MRIN	1,540.4	4.06	0.29	7.69	4.49	3.73
Volt Info Sci	VOLT	561.0	3.48	0.24	7.41	3.84	3.28
Samsara	IOT	154.2	26.45	1.70	6.87	27.00	24.66
And losers							
Elastic	ESTC	248.5	103.99	-7.05	-6.35	113.00	101.50
Lumen Technologies	LUMN	263.1	12.63	-0.66	-4.97	13.32	12.15
Zepp Health ADR	ZEPP	192.7	5.00	-0.21	-4.03	5.00	5.00
Syndax Pharmaceuticals	SNDX	51.2	18.00	-0.57	-3.07	18.57	18.00
NetEase ADR	NTES	134.6	103.01	-3.00	-2.83	106.60	103.01

#### **Trading Diary**

Volume, Advancers, Decliners

	NYSE	NYSE Amer.							
Total volume*	850,108,412	16,533,287							
Adv. volume*	487,008,059	8,891,178							
Decl. volume*	346,998,599	7,015,220							
Issues traded	3,499	283							
Advances	1,711	134							
Declines	1,624	131							
Unchanged	164	18							
New highs	128	9							
New lows	64	6							
Closing Arms <sup>†</sup>	0.66	0.44							
Block trades*	3,995	147							
	Nasdaq	NYSE Arca							
<b>Total volume</b> *4,326,329,610 269,687,625									
Adv. volume*1,976,980,787 210,761,357									
Decl. volume*2	2,288,144,345	55,916,319							
Issues traded	4,917	1,665							
Advances	1,968	1,150							
Declines	2,698	485							
Unchanged	251	30							
New highs	96	93							
New lows	170	21							
Closing Arms <sup>†</sup>	0.84	0.91							
closing Anns	25,596	1,085							

issues with the volume of shares rising and falling. An Arms of less than 1 indicates buying demand; above 1 indicates selling pressure.

			atest Sess	ion —		- 52-Wee	
Company	Symbol	Close	Net chg	% chg	High	Low	% chg
Immuron ADR	IMRN	3.83	1.21	46.18	9.23	2.32	-42.2
SurgePays	SURG	2.80	0.68	32.08	28.50	1.76	-61.9
Nxt-ID	NXTD	4.14	0.97	30.60	34.40	2.35	-70.8
Vaxxinity	VAXX	7.56	1.73	29.67	22.77	5.11	
Fathom Digital Mfg	FATH	6.85	1.54	29.00	11.00	5.04	
Vinco Ventures	BBIG	2.88	0.54	23.08	12.49	1.40	98.6
Kidpik	PIK	7.30	1.25	20.66	10.49	4.30	
Fresh Vine Wine	VINE	6.98	1.16	19.93	9.75	4.28	
Merida Merger Corp. I	MCMJ	10.01	1.62	19.31	11.27	8.12	-5.4
BTCS	BTCS	6.70	1.07	19.01	32.40	2.91	-61.3
Immix Biopharma	IMMX	6.43	1.00	18.42	8.68	2.85	
ProSh Ult Bloombg Nat Gas	BOIL	37.06	5.68	18.10	97.82	18.79	54.4
Vigil Neuroscience	VIGL	14.00	2.14	<b>18.0</b> 4	14.55	10.52	
CI&T	CINT	13.61	1.95	16.72	22.50	9.88	
Ebix	EBIX	35.80	4.74	15.26	64.14	22.39	-9.3

#### **Percentage Losers**

		— La	itest Sess			- 52-Wee	
Company	Symbol	Close	Net chg	% chg	High	Low	% chg
Dogness International	DOGZ	2.91	-0.72	-19.83	8.98	1.30	32.9
PS UISh Bloomberg Nat Gas	KOLD	8.09	-1.73	-17.62	49.60	5.66	-80.3
Nutriband	NTRB	6.74	-1.41	-17.30	32.00	1.00	-57.5
Nam Tai Property	NTP	9.58	-1.95	-16.91	37.88	6.71	34.2
Kanzhun ADR	ΒZ	30.66	-5.68	-15.63	44.96	27.90	
Reviva Pharma	RVPH	2.36	-0.43	-15.41	9.61	2.34	-74.3
Hour Loop	HOUR	5.73	-1.00	-14.86	10.33	4.50	
Theravance Biopharma	TBPH	9.51	-1.65	-14.78	22.74	6.10	-45.1
Koninklijke Philips ADR	PHG	33.09	-5.68	-14.65	61.23	32.69	-38.7
Bone Biologics	BBLG	3.71	-0.61	-14.04	18.75	3.23	-80.2
Kronos Bio	KRON	11.04	-1.78	-13.88	33.39	11.03	-65.7
Spruce Biosciences	SPRB	3.54	-0.57	-13.87	28.49	2.25	-84.6
CNFinance Holdings ADR	CNF	3.75	-0.60	-13.79	6.34	2.95	25.0
Aclaris Therapeutics	ACRS	11.11	-1.75	-13.61	30.38	5.65	89.6
Pop Culture Group	CPOP	2.05	-0.32	-13.50	78.00	1.57	

#### Sources: FactSet; Dow Jones Market Data

#### Percentage Gainers...

**Most Active Stocks** 

Company	Symbol	Volume (000)	% chg from 65-day avg	Latest S Close	ession % chg	——52-W High	eek Low
ProSh UltraPro Shrt QQQ	SQQQ	233,160	59.5	6.34	-1.40	16.78	5.63
Ford Motor	F	103,365	2.6	24.47	0.49	24.95	9.64
Zynga	ZNGA	92,887	236.1	9.15	3.39	12.32	5.57
Exela Technologies	XELA	80,821	324.4	0.60	-7.12	7.82	0.58
electroCore	ECOR	78,354	11645.4	0.88	64.03	3.63	0.52
Apple	AAPL	72,794	-19.7	175.53	0.26	182.94	116.21
Advanced Micro Devices	AMD	69,197	20.1	137.47	0.12	164.46	72.50
ProShares UltraPro QQQ	TQQQ	69,040	46.8	152.68	1.14	183.36	75.03
TDH Holdings	PETZ	66,190	606.2	0.59	-14.85	14.52	0.55
SPDR S&P 500	SPY	65,213	-11.3	471.02	0.27	479.98	368.27
* Volumes of 100,000 shares or n	nore are ro	ounded to t	the nearest t	housand			

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**Forex Race** 

Yen

2021

-14

14%

Yen, euro vs. dollar; dollar vs.

major U.S. trading partners

WSJ Dollar Index

. . . . . . . . . .

Euro

2022

#### CREDIT MARKETS

#### **Consumer Rates and Returns to Investor**

#### **U.S. consumer rates**

Sources: FactSet; Dow Jones Market Data

A consumer rate against its benchmark over the past year

	0.75%	
Five-year CD yields	0.50	
Federal-funds	0.25	
▼ target rate	0.00	
FMAMJJASOND. 2021	_ <u>⊢0.25</u> J	
Interest rate	−Yield/R Last (●)	
Federal-funds rate target	0.00-0.25	0.00
Prime rate*	3.25	3
Libor, 3-month	0.24	0
Money market, annual vield	0.07	0

Selected rate	S
5-year CDs	

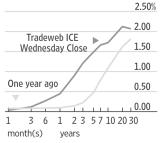
Bank	rate.con	ıav	′g⁺:				0.42
State	Bank of In	dia	Cali	forr	nia		0.70
Los A	ngeles, C	A				877-7	707-199
Lone	Star Bar	ık					0.71
Hous	ton, TX					713-3	358-940
ТАВ	Bank						0.75
Ogde	n, UT					800-3	355-306
CFG	Commun	ity	Baı	ık			1.00
Baltir	nore, MD	)				888-2	205-838
Colora	do Federa	Sav	/ing	s Ba	nk		1.07
Gree	nwood Vi	llag	le, C	0		877-4	184-237
(%) <del>—</del> ek ago	52-\ Low 0				e (%) 8	High	3-yr chọ (pct pts
0.25	0.00					0.25	2.25

Federal-funds rate target	0.00-0.25	0.00-0.25	0.00 🔶		0.25	-2.25
Prime rate*	3.25	3.25	3.25	•	3.25	-2.25
Libor, 3-month	0.24	0.23	0.11 🔎		0.24	-2.55
Money market, annual yield	0.07	0.07	0.07 🎃		0.10	-0.46
Five-year CD, annual yield	0.42	0.42	0.41 🔵		0.57	-1.61
30-year mortgage, fixed <sup>†</sup>	3.54	3.37	2.83		3.54	-0.90
15-year mortgage, fixed <sup>†</sup>	2.84	2.66	2.28		2.84	-1.00
Jumbo mortgages, \$647,200-plus	3.57	3.39	2.85		3.57	-0.99
Five-year adj mortgage (ARM)†	2.82	2.86	2.82		3.43	-1.40
New-car loan, 48-month	3.51	3.41	3.41		4.12	-1.10
Bankrate.com rates based on survey of ov	/er 4,800 or	nline banks. '	Base rate po	sted by 70	% of the nation	's largest

Bankrate.com rates based on se banks.† Excludes closing costs. survey of ove

Bankrate.com avg†:	0.42%
State Bank of India California	0.70%
Los Angeles, CA	877-707-1995
Lone Star Bank	0.71%
Houston, TX	713-358-9400
TAB Bank	0.75%
Ogden, UT	800-355-3063
CFG Community Bank	1.00%
Baltimore, MD	888-205-8388
Colorado Federal Savings Bank	1.07%
Greenwood Village, CO	877-484-2372

Treasury yield curve
Yield to maturity of current bills,
notes and bonds



- maturity

#### Sources: Tradeweb ICE U.S. Treasury Close; Tullett Prebon; Dow Jones Market Data

#### **Corporate Borrowing Rates and Yields**

Bond total return index	Close	— Yiel Last	d (%) — Week ago	— 52-W High	/eek — Low	Total Re 52-wk	turn (%) 3-yr
U.S. Treasury, Bloomberg	2362.690	1.450	1.390	1.470	0.620	-2.492	3.563
U.S. Treasury Long, Bloombe	rg 4328.600	2.110	2.100	2.400	1.660	-4.063	7.508
Aggregate, Bloomberg	2220.410	1.980	1.910	2.000	1.150	-1.949	4.213
Fixed-Rate MBS, Bloomber	rg <b>2180.800</b>	2.220	2.120	2.250	1.180	-2.019	2.563
High Yield 100, ICE BofA	3454.159	3.991	3.895	4.587	3.162	3.813	6.060
Muni Master, ICE BofA	597.325	1.092	0.938	1.092	0.687	0.314	4.024
EMBI Global, J.P. Morgan	901.950	5.199	5.040	5.226	4.429	-1.890	4.787
5	Sources: J.P. N	/lorgan; E	loomberg F	ixed Inco	me Indice	s; ICE Data	a Services

#### Volume Movers Ranked by change from 65-day average\*

Company	Symbol	Volume (000)	% chg from 65-day avg	Latest S Close	ession % chg	52-W High	/eek Low
Fresh Vine Wine	VINE	39,999	7171	6.98	19.93	9.75	4.28
Viveon Health Acquisition	VHAQ	3,164	5491	10.05	0.00	10.50	9.51
Kidpik	PIK	30,293	4201	7.30	20.66	10.49	4.30
Principal Invt Grd Corp	IG	423	3281	25.91	0.25	28.00	25.63
iShares Global Industrial	EXI	204	2886	123.75	1.05	125.74	103.34
EQ HIth Acquisition CI A	EQHA	510	2707	9.75	0.00	9.99	9.57
Franklin FTSE Brazil ETF	FLBR	1,919	2699	17.99	3.45	26.25	16.53
Fathom Digital Mfg	FATH	11,245	2539	6.85	29.00	11.00	5.04
Janus Henderson Mtg-Bkd	JMBS	2,176	2324	52.24	0.08	53.75	52.06
SB Financial Group	SBFG	115	2169	19.70	0.25	20.09	16.02

\* Common stocks priced at \$2 a share or more with an average volume over 65 trading days of at least 5,000 shares *t*Has traded fewer than 65 days

#### **CURRENCIES & COMMODITIES**

#### Currencies

83

U.S.-dollar foreign-exchange rates in late New York trading

			US\$ vs,				US\$ vs
Country laws		Ned -	YTD chg	Country Investor	−− ۱ in US\$	Ved —	YTD cho
Country/currency	in US\$	per US\$	5 (%)	Country/currency		per US\$	
Americas				<b>Vietnam</b> dong	.00004405	22701	-0.7
Argentina peso	.0096	103.6537	0.9	Europe			
Brazil rea	.1807	5.5345	-0.7	Czech Rep. koruna	.04706	21.251	-2.9
Canada dollar	.7994	1.2510	-1.0	Denmark krone	.1538	6.5039	-0.6
Chile peso	.001214	823.42	-3.4	Euro area euro	1.1443	.8739	-0.6
<b>Colombia</b> peso	.000251	3979.17	-2.1	Hungary forint	.003238	308.83	-4.9
Ecuador US dollar	1	1	unch	Iceland krona	.007783	128.48	-1.0
Mexico peso	.0491	20.3515	-0.7	Norway krone	.1155	8.6616	-1.7
Uruguay peso	.02240	44.6450	-0.2	Poland zloty	.2528	3.9562	-1.8
Asia-Pacific				Russia ruble	.01341	74.583	-0.3
Australian dollar	.7283	1.3731	-0.2	Sweden krona	.1118	8.9441	-1.2
China yuan	.1573	212722	•	Switzerland franc	1.0937	.9143	0.2
Hong Kong dollar	.1284			Turkey lira		13.1574	
India rupee	.01355	===		<b>Ukraine</b> hryvnia		27.8500	1.8
Indonesia rupiah	.0000698		0.5	<b>UK</b> pound	1.3700	.7299	-1.3
Japan yen	.008723		•	Middle East/Afr	ica		
Kazakhstan tenge	.002301		-0.1	Bahrain dinar	2.6522	.3771	0.03
Macau pataca	.1245	8.0290	-0.1	Eqvpt pound		15.7244	0.1
Malaysia ringgit	.2389	4.1860	0.5	Israel shekel	.3215	3.1107	0.1
New Zealand dollar	.6847	1.4605	-0.1	Kuwait dinar	3.3080	.3023	-0.1
Pakistan rupee	.00567	176.250	0.03	Oman sul rial	2.5974	.3850	
Philippines peso	.0196	51.010	0.02	Qatar rial	.2747	3.641	-0.04
Singapore dollar	.7431	1.3458	-0.2	Saudi Arabia riyal	.2664	3.7534	-0.04
South Korea won	.0008432	1185.96	-0.2	South Africa rand	.0653	15.3044	-4.0
Sri Lanka rupee	.0049300	202.84	-0.04				
Taiwan dollar	.03615	27.662	-0.2		Close Net C		
Thailand baht	.03006	33.270	0.1	WSJ Dollar Index	89.04 -0.	51-0.57	-0.57
Sources: Tullett Prebo	on, Dow Jon	ies Marke	t Data				

#### Commodities

		<ul> <li>Wedne</li> </ul>			52-Week -		YTD
	Close	Net chg	% Chg	High	Low	% Chg	% chg
DJ Commodity	993.12	14.27	1.46	993.12	750.18	<b>29.</b> 88	4.96
Refinitiv/CC CRB Index	245.19	3.61	1.49	245.19	172.85	39.96	5.52
Crude oil, \$ per barrel	82.64	1.42	1.75	84.65	52.20	56.19	9.88
Natural gas, \$/MMBtu	4.857	0.608	14.31	6.312	2.446	78.11	30.21
Gold, \$ per troy oz.	1827.20	8.60	0.47	1907.50	1677.70	-1.42	-0.02

Sources: FactSet; Dow Jones Market Data; Bankrate.com

### **COMMODITIES**

Open

interest

#### THE WALL STREET JOURNAL.

wsj.com/market-data/commodities

#### **Futures Contracts**

гиц	lies (	Joint	au	.13			
	м	etal & I	Petr	oleum	Future	s	
			ontrac				Open
	Open	High		Low	Settle	Chg	interest
	r-High (C						
Jan	4.4190	4.5810		4.4190	4.5640 4.5765	0.1435	2,258
March Gold (C	4.4315 <b>MX)</b> -100 ti	4.6010		4.4200	4.2702	0.1475	110,565
Jan	1819.00	1821.50	er tro	1816.90	1827.20	8.60	924
Feb	1821.30	1828.00		1814.40	1827.30	8.80	298,626
March		1828.90		1817.70	1829.10	8.70	2,358
April		1830.40		1816.90	1829.80	8.80	167,365
June Aug	1825.70	1832.50 1834.00		1819.00 1820.80	1831.90 1833.70	9.00 9.10	37,573 15,436
	um (NYM		07.\$			9.10	10,400
Jan		<b>,</b> 50 troy	02., φ	pereroyo	1911.80	-6.30	2
March	1918.00	1948.50		1895.50	1915.80	-6.30	8,942
	IM (NYM)	,	z.; \$ pe	,			
Jan	964.70	977.70		964.70	979.90	6.10	558
April Silver (	969.40 CMX)-5,00	983.00	• ¢ nor	961.50	980.10	6.90	55,871
Jan	<b>CIVIN</b> -9,00	JO 1109 02.	, φ per	1109 02.	23.200	0.394	573
March	22.820	23.255		22.680	23.207	0.395	114,378
	Oil, Light	Sweet	(NYN	<b>I)</b> -1,000 bl	bls.; \$ per b	bl.	
Feb	81.38	83.10		81.17	82.64	1.42	184,401
March April	80.71 80.05	82.41 81.55		80.55 79.80	82.02 81.18	1.35 1.20	317,658
April June	80.05 78.54			79.80 78.35	81.18 79.50	0.93	155,256 183,124
Dec	74.21	75.30		73.99	74.91	0.66	215,546
Dec'23	68.14	68.83		67.90	68.46	0.32	102,719
	bor ULS		-42,00				
Feb	2.5638		<b>A</b>	2.5602	2.5942	.0306	93,348
March	2.5193 1 <b>e-NY RE</b>	2.5591		2.5157	2.5437	.0221	79,142
Feb	2.3477		₩ <b>1)</b> -42	2.3430	2.3908	.0334	92,155
March	2.3511	2.4034		2.3480	2.3936	.0329	76,391
	I Gas (NY						
Feb	4.225		<b>A</b>	4.186	4.857	.608	90,410
March April	3.948 3.866	4.356 4.161	<b>A</b>	3.926 3.846	4.327 4.134	.359 .253	265,239 84,056
May	3.873	4.161		3.864	4.134	.239	115,465
June	3.927	4.203		3.915	4.176	.234	56,227
Oct	3.996	4.259		3.990	4.236	.223	78,750
		A					
		-		ure Fut	ures		
	BT)-5,000		per bı		500.00	2.00	(70.070
March May	601.00 602.25	604.00 604.75		591.00 592.75	599.00 600.75	-2.00 -1.75	672,373 279,344
	BT)-5,000		per bi		000.75	-1.79	2/9,344
March	657.25	658.25		642.50	646.00	-10.00	2,891
May	627.25	629.00	-	618.00	620.00	-9.00	429
	ans (CBT)		; cent				
Jan	1373.50 1384.75	1391.75		1370.00	1391.25	14.50	108
March Sovbea	an Meal (	1401.00 (CBT)-100	tons.	1366.50	1399.25	12.75	299,820
Jan	425.10	430.00	, cons,	420.80	431.00	3.70	125
March	413.10	418.40		408.50	416.20	3.10	187,128
	an Oil (CB		0 lbs.;				_
Jan March	58.92	59.37 59.62		58.53	59.28	.39	51 146 542
March Rough	58.86 Rice (CB1		wt∙¢	57.89 per.cwt	59.37	.50	146,543
Jan	14.54	14.54	ννι., φ	14.54	14.07	.01	1
March	14.27	14.38	-	14.10	14.25	01	7,053
	<b>(CBT)</b> -5,0		nts pe				
March	768.00	770.00		753.50	757.75	-12.50	172,462
July Wheat	767.50 ( <b>KC)</b> -5,00	769.00 0 bu : cent	s nor l	752.25	755.25	-14.00	73,951
March	790.75	793.50	s hei i	775.25	778.00	-13.75	105,016
July	788.00	790.25		774.75	779.00	-10.00	44,972
	Feeder (	<b>CME)</b> -50,	000	os.; cents p	oer Ib.		
Jan	162.300	162.700		161.050	161.875	200	3,239
March	166.400	166.575	\lb-·	164.650	165.025	-1.325	20,644
Feb	Live (CM 137.750	E)-40,000 137.850	) IDS.; (	ents per II 136.400	D. 136.575	-1.100	77,544
April	141.350	141.750		140.325	140.525	675	116,402
	.ean (CMI		lbs.; c				220/102
Feb	78.025	79.525	.,-	77.675	78.850	1.000	47,718
	84.450	85.850		83.700	85.400	1.200	74,689
April	r (CME)-11		e. +		1.0		,

May Coffee	0 ( 05						
COTTEE	2,625	2,640		2,588	2,596	-21	45,399
March	(ICE-US)-3 238.25	37,500 lbs 244.90		ts per lb. 238.00	240.85	3.80	112,942
May	236.25	244.90		238.00	240.85	3.65	55,550
Sugar-	World (id						
March	18.19	18.47		18.15	18.34	.23	
May	17.93	18.17		17.86	18.08	.25	157,110
Sugar-l March	vomesti	IC (ICE-US	<b>s)</b> -112	2,000 lbs.;	cents per It <b>35.45</b>	D	2,097
March May					35.45		2,097
	(ICE-US)-	50,000 lb:	s.; cer	its per lb.	2 5100		_,
March	115.90	118.99		115.70	117.64		112,320
May	113.87	115.90		113.78	114.98	1.09	55,627
Orange March	<b>Juice (10</b> 146.00	<b>:E-US)</b> -15 146.00	,000	lbs.; cents 143.75	per lb. 144.90	80	9,306
May	140.00	140.00		145.75	144.90	80	9,500
							.,
				Rate Fu			
<b>Ultra T</b> i March		191-060	CBT)	-\$100,00 189-180	0; pts 32nd <b>190-040</b>		% 1,245,988
June	190-100	191-000		199-190	190-040	-5.0	1,245,988
	ry Bond	<b>s (CBT)</b> -\$	100.0	000; pts 32	2nds of 100		1
March		156-170		155-220	156-010		1,214,315
June					157-260	4.0	414
			100,0		nds of 100		
March	128-150	128-225		128-105	128-185		3,807,324
June 5 Yr. Tr	easury M	Notes (C	RT).	\$100 000	128-145 pts 32nds	6.0 of100%	1,839
March		119-280	51)-3	\$100,000; 119-192			3,830,246
			BT)-:		pts 32nds		2,020,240
March	108-250	108-252		108-227	108-237	2	2,017,016
			CBT)		000; 100 - d		
Jan	99.9175	99.9200		99.9175	99.9175		142,220
July 10 Vr D	99.4500	99.4500	ane	99.4250	<b>99.4300</b> 00,000; pts		
March	98-280	99-075	aps	98-270	00,000; pts 99-040		73,970
	llar (CME		000;			11.0	,,,,
Jan	99.7625	99.7650		99.7600	99.7625		371,059
March	99.5950	99.6000		99.5850			1,045,095
Dec	98.8100	98.8150		98.7650			1,259,417
Dec'23	98.1350	98.1700		98.0950	98.1550	.0250	1,161,355
		Cur	ren	cy Futı	ires		
Japane	se Yen (	CME)-¥12	2,500	,000; \$ pei	r 100¥		
	.8672	.8744		,000; \$ pei .8662	100¥ <b>.8743</b>	.0073	1,646
Jan March	.8672 .8675	.8744 .8755		.8662 .8656	.8743 .8746	.0073 .0073	1,646 230,267
Jan March <b>Canadi</b> a	.8672 .8675 an Dolla	.8744. 8755. <b>r (CME)</b> -0	A A CAD 1	.8662 .8656 \$ ;00,000;	<b>.8743</b> <b>.8746</b> per CAD	.0073	230,267
Jan March <b>Canadi</b> a Jan	.8672 .8675	.8744 .8755 <b>r (CME)</b> -0 .8002	AD 1	.8662 .8656 .00,000;\$ .7949	.8743 .8746 per CAD .8000	.0073 .0053	230,267 864
Jan March <b>Canadi</b> a Jan March	.8672 .8675 an Dolla .7974	.8744 .8755 <b>r (CME)</b> -0 .8002 .8002	AD1	.8662 .8656 .00,000;\$ .7949 .7948	<b>.8743</b> <b>.8746</b> per CAD	.0073	230,267
Jan March <b>Canadi</b> a Jan March <b>British</b> Jan	.8672 .8675 an Dolla .7974 .7955 Pound (0 1.3638	.8744 .8755 <b>r (CME)-</b> 0 .8002 .8002 <b>CME)-</b> £62 1.3714	AD 1 (,500)	.8662 .8656 .00,000;\$ .7949 .7948 :\$ per £ 1.3622	.8743 .8746 per CAD .8000 .7999 1.3712	.0073 .0053 .0052 .0083	230,267 864 129,777 1,470
Jan March <b>Canadi</b> a Jan March <b>British</b> Jan March	.8672 .8675 an Dolla .7974 .7955 Pound (0 1.3638 1.3632	.8744 .8755 r (CME)-( .8002 .8002 .8002 CME)-£62 1.3714 1.3712	AD 1 (,500)	.8662 .8656 .00,000;\$ .7949 .7948 \$ per £ 1.3622 1.3618	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708	.0073 .0053 .0052	230,267 864 129,777
Jan March Canadia Jan March British Jan March Swiss F	.8672 .8675 an Dolla .7974 .7955 Pound (0 1.3638 1.3632 Franc (CM	.8744 .8755 r (CME)-0 .8002 .8002 CME)-£62 1.3714 1.3712 ME)-CHF 1	AD 1 (,500)	.8662 .8656 .00,000;\$ .7949 .7948 ;\$ per £ 1.3622 1.3618 D0;\$ per C	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF	.0073 .0053 .0052 .0083 .0083	230,267 864 129,777 1,470 194,748
Jan March <b>Canadi</b> a Jan March <b>British</b> Jan March <b>Swiss F</b> March	.8672 .8675 an Dolla .7974 .7955 Pound (0 1.3638 1.3632 Franc (CM 1.0846	.8744 .8755 r (CME)-( .8002 .8002 CME)-£62 1.3714 1.3712 ME)-CHF1 1.0971	AD 1 (,500)	.8662 .8656 .00,000;\$ .7949 .7948 :\$ per £ 1.3622 1.3618 20;\$ per C 1.0834	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965	.0073 .0053 .0052 .0083 .0083 .0121	230,267 864 129,777 1,470 194,748 42,558
Jan March <b>Canadi</b> a Jan <b>British</b> Jan March <b>Swiss F</b> March June	.8672 .8675 an Dolla .7974 .7955 Pound (C 1.3638 1.3632 Franc (CN 1.0846 1.0915	.8744 .8755 r (CME)-( .8002 .8002 CME)-£62 1.3714 1.3712 ME)-CHF1 1.0971 1.1002	AD 1 2,500; 25,00;	.8662 .8656 .00,000;\$ .7949 .7948 :\$ per £ 1.3622 1.3618 D0;\$ per C 1.0834 1.0868	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF	.0073 .0053 .0052 .0083 .0083 .0121 .0121	230,267 864 129,777 1,470 194,748
Jan March Canadia Jan March British Jan March June Austral Jan	.8672 .8675 an Dollar .7974 .7955 Pound (C 1.3638 1.3632 Franc (CM 1.0846 1.0915 lian Dolla .7216	.8744 .8755 <b>r (CME)</b> -( .8002 .8002 <b>CME)</b> -£62 1.3714 1.3712 <b>ME)</b> -CHF 1 1.0971 1.1002 <b>ar (CME)</b> .7293	AD 1 (,500); 25,00	.8662 .8656 .00,000;\$ .7949 .7948 \$ per £ 1.3622 1.3618 00; \$ per C 1.0834 1.0868 0 100,000; .7201	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292	.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084	230,267 864 129,777 1,470 194,748 42,558 115 592
Jan March Canadia Jan March British Jan March Swiss F March June Austral Jan March	.8672 .8675 an Dollai .7974 .7955 Pound (0 1.3638 1.3632 Franc (CM 1.0846 1.0915 lian Dolli .7216 .7211	.8744 .8755 r (CME)-( .8002 .8002 CME)-£62 1.3714 1.3712 ME)-CHF1 1.0971 1.1002 ar (CME) .7293 .7294	AD 1 (,500) 25,00 -AUE	.8662 .8656 .00,000;\$ .7949 .7948 \$per £ 1.3622 1.3618 00; \$per C 1.0834 1.0868 0100,0000; .7201 .7202	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292 .7293	.0073 .0053 .0052 .0083 .0083 .0121 .0121	230,267 864 129,777 1,470 194,748 42,558 115
Jan March Canadia Jan March British Jan March Swiss F March June Austral Jan March March March	.8672 .8675 an Dolla .7974 .7955 Pound (( 1.3638 1.3632 Franc (CA 1.0846 1.0915 lian Doll .7216 .7211 n Peso (1	.8744 .8755 r (CME)-( .8002 .8002 .8002 CME)-£62 1.3714 1.3714 1.3714 1.071 1.1002 ar (CME) .7293 .7294 CME)-MX	A CAD 1 A 25,000; A 225,000 CN 500 CN 500	.8662 .8656 .00,000;\$ .7949 .7948 \$ per £ 1.3622 1.3618 00; \$ per C 1.0834 1.0838 0; 100,000; .7201 .7202 0,000; \$ p	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7293 er MXN	.0073 .0053 .0052 .0083 .0083 .0083 .0121 .0121 .0084 .0083	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346
Jan March Canadia Jan March Jan March Swiss F March June Austral Jan March March March Jan	.8672 .8675 an Dollai .7974 .7955 Pound (¢ 1.3638 1.3632 Franc (cCh 1.0846 1.0915 lian Doll .7216 .7211 n Peso (¢ .04900	.8744 .8755 <b>r (CME)</b> -( .8002 .8002 <b>CME)</b> -662 1.3714 1.3712 <b>ME)</b> -CHF 1 1.0971 1.1002 <b>ar (CME)</b> .7293 .7294 <b>CME)</b> -MX .04914	A CAD 1 2,500; A 225,00 CN 50 A	.8662 .8656 .00,000;\$ .7949 .7948 \$ per £ 1.3622 1.3618 00; \$ per C 1.0834 1.0868 0 100,000; .7201 .7202 0,000; \$ p .04894	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7293 .7293 er MXN .04912	.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0083 .00014	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 16
Jan March Canadia Jan March British Jan March June Austral Jan March Mexica Jan March	.8672 .8675 an Dollar .7974 .7955 Pound (C 1.3638 1.3632 Franc (CN 1.0846 1.0915 lian Dolla .7216 .7211 n Peso (C 0.4900 .04854	.8744 .8755 <b>r (CME)</b> -(6.8002 .8002 <b>CME)</b> -£62 1.3714 1.3712 <b>ME)</b> -CHF 1 1.007 1.1002 <b>ar (CME)</b> .7293 .7294 <b>CME)</b> -MX .04914 .04873	A CAD 1 2,500; A 225,00 C C C C C C C C C C C C C C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C C C C C C C C C C C C C C C C C	.8662 .8656 .00,000;\$ .7949 .7948 \$ per £ 1.3622 1.3618 00; \$ per C 1.0834 1.0838 0; 100,000; .7201 .7202 0,000; \$ p	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7293 er MXN	.0073 .0053 .0052 .0083 .0083 .0083 .0121 .0121 .0084 .0083	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346
Jan March Canadia Jan March British Jan March Swiss F March June Austral Jan March Mexica Jan March Euro (Cl	.8672 .8675 an Dollai .7974 .7955 Pound (¢ 1.3638 1.3632 Franc (cCh 1.0846 1.0915 lian Doll .7216 .7211 n Peso (¢ .04900	.8744 .8755 <b>r (CME)</b> -(6.8002 .8002 <b>CME)</b> -£62 1.3714 1.3712 <b>ME)</b> -CHF 1 1.007 1.1002 <b>ar (CME)</b> .7293 .7294 <b>CME)</b> -MX .04914 .04873	A CAD 1 2,500; A 225,00 C C C C C C C C C C C C C C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C D 1 C C C C C C C C C C C C C C C C C C C	.8662 .8656 00,000; \$ .7949 .7948 \$per £ 1.3618 20; \$per C 1.0834 1.0868 2) 100,000; .7201 .7202 0,000; \$p .04894 .04843 1.1357	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7293 .7293 er MXN .04912	.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0083 .00014	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 16
Jan March <b>Canadi</b> a Jan March <b>British</b> Jan March <b>Swiss F</b> March June March <b>March</b> March <b>Mexica</b> Jan March <b>Euro</b> (CI Jan	.8672 .8675 an Dolla .7974 .7955 Pound (¢ 1.3638 1.3632 Tranc (CM 1.0846 1.0915 lian Doll. .7216 .7211 n Peso (¢ .04900 .04854 ME)-€125,	.8744 .8755 <b>r</b> (CME)-(6.8002 .8002 CME)-£62 1.3714 1.3712 <b>r</b> E)-CHF1 1.0971 1.1002 <b>ar</b> (CME) .7293 .7294 CCME)-MX 0.4914 .04873 000; \$ per	▲ CAD1 ▲ 2,500; ▲ 225,00; ▲ 225,00; ▲ ▲ 225,00; ▲ ▲ 225,00; ▲ ▲ ▲ ▲ 225,00; ▲ ▲	.8662 .8656 .00,000;\$ .7949 .7948 \$ per £ 1.3622 1.3618 00; \$ per C 1.0834 1.0868 100,000; .7201 .7202 0,000; \$ p .04894 .04843	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0965 1.0965 2.0995 9 per AUD .7292 .7293 er MXN .04912 .04864	.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0083 .00014 .00013	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003
Jan March <b>Canadi</b> a Jan March <b>British</b> Jan March <b>Swiss F</b> March June March <b>March</b> March <b>Mexica</b> Jan March <b>Euro</b> (CI Jan	.8672 .8675 an Dolla .7974 .7955 Pound (( 1.3638 1.3632 Franc (CM 1.0846 1.0915 lian Doll .7216 .7211 n Peso ( .04900 .04954 ME)-€125, 1.1373	.8744 .8755 f (CME)-6 .8002 .8002 .2009- <i>E</i> 62 1.3714 1.3712 ME)-CHF1 1.0971 1.0971 1.0971 1.0971 1.0971 4.04873 000; \$ per 1.1454 1.1468	▲ CAD 1 ▲ CAD 1 ▲ CAD 1 ▲ CAD 1 ▲ CAD 1 ▲ ▲ CAD 1 ▲ ▲ CAD 1 ▲ ▲ CAD 1 ▲ ▲ CAD 1 ▲ ▲ ▲ CAD 1 A ▲ ▲ A CAD 1 A ▲ ▲ A CAD 1 A A ▲ A A A A A A A A A A A A A	.8662 .8656 00,000; % .7949 .7948 .7948 .1.3622 1.3618 00; \$per £ 1.0834 1.0834 1.0844 100,000 .7201 .7202 0,000; \$p 0,000; \$p 0,4894 1.1357 1.1369		.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0084 .0083 .00014 .00013 .0081	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325
Jan March <b>Canadi</b> Jan March <b>British</b> Jan <b>Swiss F</b> March Jan March <b>Dan</b> March Euro (Cl Jan March	.8672 .8675 an Dolla .7974 .7955 Pound (€ 1.3638 1.3632 Franc (CN 1.0846 1.0915 lian Doll .7216 .7211 n Peso ( .04900 .04854 ME)-€125, 1.1373 1.1385	.8744 .8755 <b>r (CME)</b> -G .8002 .8002 <b>CME)</b> - <i>f</i> G2 1.3714 1.3712 <b>HE)</b> -CHF1 1.0971 1.1002 <b>ar (CME)</b> -MX .7293 .7294 <b>CME)</b> -MX .04873 000; \$ per 1.1454 1.1468	▲ CAD 1 A 2,500, A 225,00 A A CN 500 A A CN 500 A A CAD 1 A A A A A A A A A A A A A	.8662 .8656 .7949 .7948 \$per £ 1.3622 1.3618 000; \$per C 1.0834 1.0868 0100,0000; .7201 .7202 0,0000; \$p .04894 .04843 1.1357 1.1369 <b>(Futur</b>		.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0084 .0083 .00014 .00013 .0081	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325
Jan March Canadia Jan March Swiss F March June Austral Jan March March Euro (Cl Jan March	.8672 .8675 an Dolla .7974 .7955 Pound (¢ 1.3638 1.3632 Franc (CM 1.0846 1.0915 lian Doll .7211 n Peso (¢ .04900 .04854 MEJ-€125, 1.1373 1.1385	.8744 .8755 r (CME)-6 .8002 .8002 .3714 1.3712 ME)-CHF 1 1.0071 1.1002 ar (CME) .7293 .7294 CME)-MX .04914 .04873 000; \$ per 1.1454 1.1468	▲ CAD 1 A 2,500, A A 225,00 CN 500 A A CN 500 A A CN 500 A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7948 \$per £ 1.3622 1.3618 00; \$per C 1.0834 1.0868 0100,0000; .7201 .7202 0,000; \$p .04894 .04843 1.1357 1.1369 <b>Futur</b> (CBT)-\$55	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292 .7293 er MXN .04912 .04864 1.1451 1.1464 \$\$	.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0083 .00014 .00013 .0081	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954
Jan March Canadii Jan March British Jan March March March Euro (Cl Jan March Euro (Cl Jan March	.8672 .8675 an Dolla .7974 .7955 Pound (€ 1.3638 1.3632 Franc (CN 1.0846 1.0915 lian Doll .7216 .7211 n Peso ( .04900 .04854 ME)-€125, 1.1373 1.1385	.8744 .8755 <b>r (CME)</b> -G .8002 .8002 <b>CME)</b> - <i>f</i> G2 1.3714 1.3712 <b>HE)</b> -CHF1 1.0971 1.1002 <b>ar (CME)</b> -MX .7293 .7294 <b>CME)</b> -MX .04873 000; \$ per 1.1454 1.1468	▲ CAD 1 A 2,500, A A 225,00 CN 500 A A CN 500 A A CN 500 A A A A A A A A A A A A A	.8662 .8656 .7949 .7948 \$per £ 1.3622 1.3618 000; \$per C 1.0834 1.0868 0100,0000; .7201 .7202 0,0000; \$p .04894 .04843 1.1357 1.1369 <b>(Futur</b>		.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0121 .0084 .0084 .0083 .00014 .00013 .0081	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325
Jan March Canadia Jan March Swiss F March June Austral Jan March Dan March Euro (Cl Jan March Euro (Cl Jan March Jan March	.8672 .8675 an Dolla .7974 .7955 Pound (û 1.3638 1.3632 Franc (cCh 1.0846 1.0915 lian Doll. .7216 .7211 n Peso (î .04900 .04854 ME) -6125, 1.1373 1.1385	.8744 .8755 r (CME)-(62 .8002 .8002 .8002 .8002 .3714 1.3712 ME)-CHF1 1.0971 1.10971 1.1097 .7293 .7294 CME)-MX .04973 .009(\$ per 1.1454 1.1468 In tial Aven 36332 36237	▲ CAD 1 A 2,500; A 25,00; A A CAUE A A CAUE A A CAUE A A A CAUE A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7948 \$per £ 1.3622 1.3618 00; \$per C 1.0834 1.0868 0100,000; .7201 .7202 0,000; \$p .04894 .04843 1.1357 1.1369 <b>Futur</b> ( <b>CBT</b> )-\$5 36040 35963 iex	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292 .7293 er MXN .04912 .04864 1.1451 1.1464 25	.0073 .0053 .0052 .0083 .0083 .0083 .0121 .0121 .0121 .0084 .0081 .0081 .0081 .0081	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954
Jan March Canadii Jan March British Jan March March March Euro (Cl Jan March Euro (Cl Jan March March Jan March March June Mini DJ March	.8672 .8675 an Dolla .7974 .7955 Pound (û 1.3638 1.3632 Franc (cCh 1.0846 1.0915 lian Doll. .7216 .7211 n Peso (î .04900 .04854 MEJ-6125, 1.1373 1.1385	.8744 .8755 r (CME)-(-6. .8002 .8002 CME)-662 1.3714 1.3712 ME)-CHF1 1.0971 1.1002 ar (CME)-CHF1 1.0971 1.002 ar (CME)-MX .7293 .7294 (CME)-MX .04914 .04873 000; \$per 1.1454 1.1468 In rial Aven 36322 36237 CME)-\$550 4739.50	▲ CAD 1 A 2,500; A 25,00; A A CAUE A A CAUE A A CAUE A A A CAUE A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7948 \$per £ 1.3622 1.3618 00; \$per C 1.0834 1.0868 00; \$per C 1.0834 1.0868 010,0000; .7201 .7202 0,000; \$p 0,000; \$p 0,000; \$p 1.00,000; .7201 .7202 0,000; \$p 1.00,000; .7201 .7202 .720		.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0121 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0082 .0083 .0082 .0083 .0082 .0083 .0083 .0082 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0084 .0083 .0084 .0083 .0083 .00844 .0084 .0084 .0084 .0084 .0084 .0084 .0084 .0084 .0084 .0084	230,267 864 129,777 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646
Jan March Canadia Jan March <b>Swiss F</b> March June Austral Jan March March Euro (CI Jan March Uane March June Mini Sa March June	.8672 .8675 an Dolla. .7974 .7955 Pound (C 1.3638 1.3632 Franc (CN 1.0816 1.0915 lian Doll. .7216 .7211 n Peso ( .7211 .7216 .7210 .7490 .7490 .7211 .7216 .7211 .7216 .7211 .7216 .7210 .7490 .7490 .7490 .7490 .7216 .7211 .7216 .7216 .7210 .7490 .7490 .7490 .7490 .7490 .7490 .7490 .7216 .7216 .7216 .7216 .7211 .7216 .7216 .7216 .7216 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .749000 .749000 .749000 .7490000 .749000000000000000000000000000000000000	.8744 .8755 r (CME)-(6.2 .8002 .8002 CME)-f62 1.3714 1.3712 ME)-CHF1 1.0971 1.1002 ar (CME)-MX .7293 .7294 CME)-MX .04914 .04873 000; \$per 1.1454 1.1468 1.1454 1.1468 1.145454 1.145454 1.145454 1.1454545555555555	▲ A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A A CAD 1 A A CAD 1 A A CAD 1 A A A CAD 1 A A A CAD 1 A A A A A CAD 1 A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7948 \$per£ 1.3622 1.3618 00; \$perC 1.0834 1.0868 0100,000; \$p .7201 .7202 0,000; \$p .7201 .7202 0,000; \$p .74844 1.1357 1.1369 <b>(Futur</b> (CBT)-\$5 36040 35963 ex 4685.00		.0073 .0053 .0052 .0083 .0083 .0083 .0121 .0121 .0121 .0084 .0081 .0081 .0081 .0081	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954
Jan March Canadia Jan March Swiss F March June Austral Jan March Jan March Euro (Cl Jan March Euro (Cl Jan March Jan March Jan March June Mini DJ June Mini Sa March	.8672 .8675 an Dolla .7974 .7955 Pound (c 1.3638 1.3632 Franc (CN 1.0846 1.0915 lian Doll .7216 .7211 n Peso ( .04954 ME)-€125, 1.1373 1.1385	.8744 .8755 r (CME)-( .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .7293 .7294 .7293 .7	▲ A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A A CAD 1 A A CAD 1 A A CAD 1 A A A CAD 1 A A A CAD 1 A A A A A CAD 1 A A A A A A A A A A A A A	.8662 .8656 00,000; \$ .7949 .7948 \$per £ 1.3622 1.3618 00; \$per C 1.0834 1.0868 100,000; .7201 .0834 1.0868 100,000; \$p .04894 0.48843 1.1357 1.1369 <b>(EBT)</b> -\$5 36040 35963 ex 4695.00 4687.55 <b>.</b> \$100 x ir	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292 .7293 er MXN .04912 .04864 1.1451 1.1464 es ix index 36160 36074 4716.25 4708.50 ndex	.0073 .0053 .0052 .0083 .0083 .0083 .0121 .0121 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0083 .0083 .0083 .0083 .0083 .0092 .0093 .0092 .0092 .0092 .0093 .0092 .0093 .0093 .0092 .0093 .0094 .0093 .0094	230,267 864 129,777 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550
Jan March Canadii Jan March British Jan March March March Euro (Cl Jan March Euro (Cl Jan March Jan March Jan March June Mini DJ Mini Sa March	.8672 .8675 an Dolla. .7974 .7955 Pound (C 1.3638 1.3632 Franc (CN 1.0816 1.0915 lian Doll. .7216 .7211 n Peso ( .7211 .7216 .7210 .7490 .7490 .7211 .7216 .7211 .7216 .7211 .7216 .7210 .7490 .7490 .7490 .7490 .7216 .7211 .7216 .7216 .7210 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .74900 .749000 .74900 .74900 .749000 .749000 .749000 .749000000 .749000000000000000000000000000000000000	.8744 .8755 r (CME)-(6.2 .8002 .8002 CME)-f62 1.3714 1.3712 ME)-CHF1 1.0971 1.1002 ar (CME)-MX .7293 .7294 CME)-MX .04914 .04873 000; \$per 1.1454 1.1468 1.1454 1.1468 1.145454 1.145454 1.145454 1.1454545555555555	▲ A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A CAD 1 A A CAD 1 A A CAD 1 A A CAD 1 A A A CAD 1 A A A CAD 1 A A A A A CAD 1 A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7948 \$per£ 1.3622 1.3618 00; \$perC 1.0834 1.0868 0100,000; \$p .7201 .7202 0,000; \$p .7201 .7202 0,000; \$p .74844 1.1357 1.1369 <b>(Futur</b> (CBT)-\$5 36040 35963 ex 4685.00		.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0121 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0082 .0083 .0082 .0083 .0082 .0083 .0083 .0082 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0083 .0084 .0083 .0084 .0083 .0083 .00844 .0084 .0084 .0084 .0084 .0084 .0084 .0084 .0084 .0084 .0084	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494
Jan March Canadia Jan March <b>Swiss F</b> March June Austral Jan March March Euro (CI Jan March Uane March June Mini Sa March June Mini Sa March	.8672 .8675 an Dolla .7974 .7955 Pound (c 1.3638 1.3632 Franc (CN 1.0846 1.0915 lian Doll .7216 .7211 n Peso ( .04954 ME)-€125, 1.1373 1.1385	.8744 .8755 r (CME)-(6 .8002 .8002 CME)-662 1.3714 1.3712 ME)-CHF1 1.0971 1.1002 ar (CME)-MX .7293 .7294 CME)-MX .04914 .04873 000; \$ per 1.1454 1.1468 II 1.1454 1.1468 II 1.1454 1.1468 II 2823 36237 CME)-\$55 4739.50 ap 400 ( 2825.40	▲ CAD 1 CAD 1 4 25,000; A 25,000; A 25,000; A 25,000; A 25,000; A 25,000; A A 25,000; A A 25,000; A A 25,000; A A A 25,000; A A A A 25,000; A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7948 \$per£ 1.3622 1.3618 00; \$perC 1.0834 1.0868 0100,000; \$p .7201 .7202 0,000; \$p .7201 .7202 0,000; \$p .74894 1.1357 1.1369 <b>.1357</b> 1.1369 <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1357</b> <b>.1369</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b> <b>.1357</b>	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292 .7293 er MXN .04912 .04864 1.1451 1.1464 es ix index 36160 36074 4716.25 4708.50 ndex	.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0082 .0083 .0084 .0083 .0084 .0083 .0084 .0076 .0084 .0084 .0076	230,267 864 129,777 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550
Jan March Canadii Jan March British Jan March March March March Euro (Cl Jan March Euro (Cl Jan March Jan March June Mini Sa Mini Sa Mini Sa Mini Na March	.8672 .8675 an Dolla .7974 .7955 Pound (û 1.3638 1.3632 Franc (cCh 1.0846 1.0915 lian Doll. .7211 n Peso (î .04900 .04854 ME)-6125( 1.1373 1.1385 I Industr 36131 36044 (P 500 (c) 4704.00 4696.75 cP Midca 2801.70 Is8daq 10 15826.00	.8744 .8755 r (CME)-(6 .8002 .8002 CME)-662 1.3714 1.3712 ME)-CHF 1 1.0971 1.1002 ar (CME) .7293 .7294 CME)-MX .04914 .04873 000; \$per 1.1454 1.1468 ME ial Aven 36332 36237 CME)-55C 4739,50 4731,50 ap 400 ( 2825,40 00 (CME) 16009,25	▲ CAD 1 CAD 1 4 25,000; A 25,000; A 25,000; A 25,000; A 25,000; A 25,000; A A 25,000; A A 25,000; A A 25,000; A A A 25,000; A A A A 25,000; A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7949 1.3622 1.3618 00; \$per £ 1.0834 1.0868 00; \$per £ 1.0834 1.0868 00; \$per £ 1.0834 1.0868 00; \$per £ 1.0834 1.0868 00; \$per £ 1.0834 1.0868 00; \$per £ 1.0834 1.0868 00; \$per £ 1.0834 1.1357 1.1369 <b>CBT)</b> -\$5 36963 ( <b>CBT)</b> -\$5 ( <b>CBT)</b>		.0073 .0053 .0052 .0083 .0083 .0083 .0081 .00121 .0121 .0084 .0081 .0014 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0084 .0083 .00844 .0084 .0084 .008	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494 n.a. 218,699
Jan March <b>Canadi</b> a Jan March <b>Swiss F</b> <b>March</b> June <b>Austral</b> Jan March <b>March</b> Jan March <b>Dian</b> <b>March</b> June <b>Mini DJ</b> June <b>Mini S</b> March June <b>Mini S</b> March June <b>Mini S</b> March June March June	.8672 .8675 an Dolla. .7974 .7955 Pound (C 1.3638 1.3632 Franc (CM 1.0915 lian Doll. .7216 .7211 n Peso ( .04900 .04854 ME)-6125, 1.1373 1.1385 Industr 36044 (P 500 (c 4704, 00 4696, 75 (P Midce 2801.70 .5826.00 15826.00	.8744 .8755 r (CME)-(6 .8002 .8002 .8002 CME)-f62 1.3714 1.3712 ME)-CHF1 1.0971 1.1002 ar (CME)-MX .7293 .7294 CME)-MX .04914 .04873 000; \$per 1.1454 1.1468 1.1454 1.1454 1.1454 1.1454 1.1468 1.1454 1.1464 1.1667 1.1660	▲ A CAD 11 A 25,000; A 25,000; A A CME -AUE A A CME -\$200; A -\$200; A A A A A A A A A A A A A	.8662 .8656 .00,000; \$ .7949 .7948 \$per £ 1.3622 1.3618 00; \$per C 1.0834 1.0868 0100,000; .7201 .7202 0,000; \$p .04894 1.1357 1.1369 <b>(Futur</b> ( <b>CBT</b> )-\$5 .36040 .35963 ( <b>CBT</b> )-\$5 .30040 .35963 ( <b>CBT</b> )-\$5 .30040 .3005 ( <b>CBT</b> )-\$5 .30040 .3005 ( <b>CBT</b> )-\$5 .30040 .3005 ( <b>CBT</b> )-\$5 .3005 (	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292 .7293 er MXN .04912 .04864 1.1451 1.1464 25 X index 36160 36074 4716.25 4708.50 ndex 2790.50 2800.50	.0073 .0053 .0052 .0083 .0083 .0083 .0021 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0083 .0083 .0083 .0083 .0083 .0084 .0076	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494 n.a.
Jan March <b>British</b> Jan March <b>Swiss F</b> March June <b>Austral</b> Jan March <b>Dan</b> March <b>Euro</b> (CI Jan March <b>Euro</b> (CI Jan March Jan March <b>Dine</b> <b>Mini DJ</b> June <b>Mini S</b> March June <b>Mini S</b> March June <b>Mini S</b> March June <b>Mini S</b>		.8744 .8755 r (CME)-(62 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .8002 .7293 .7294 CME)-MX .04914 .04873 .7294 .04914 .04873 .7294 .04914 .04873 .7294 .04914 .1454 1.1454 1.1454 1.1454 1.1458 <b>.1459</b> .8032 .80	▲ A CAD 11 A 25,000; A 25,000; A A CME -AUE CME -\$200; -	.8662 .8656 00,000; \$ .7949 .7948 \$per£ 1.3622 1.3618 00; \$perC 1.0834 1.0868 0100,000; .7201 .0884 0100,000; .7201 .04894 .04843 1.1357 1.1369 <b>Futur</b> <b>(CBT)</b> -\$5 36040 35963 <b>(Futur</b> 4695.00 4687.75 <b>-</b> \$100 x ir 2777.90 x index	.8743 .8746 per CAD .8000 .7999 1.3712 1.3708 HF 1.0965 1.0998 \$ per AUD .7292 .7293 er MXN .04912 .04864 1.1451 1.1464 25 5 x index 36160 36074 4716.25 4708.50 ndex 2790.50 2800.50 15887.25 15887.25	.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0121 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0083 .0083 .0083 .0083 .0084 .0085 .0095	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494 n.a. 218,699 1,473
Jan March Canadia Jan March British Jan March March March March March Curo March Jan March March June Mini DJ March June Mini Sa Mini Sa Mini Sa Mini Sa Mini Sa Mini Sa Mini Sa Mini Sa March June Mini Sa March	.8672 .8675 an Dolla .7974 .7955 Pound (U 1.3638 1.3632 Franc (CC 1.0846 1.0915 lian Doll .7211 n Peso (U .04900 .04854 ME)-6125, 1.1373 1.1385 I Industr 36131 36044 ¿P 500 (U 4704.00 496,75 ¿P Midca 2801.70 Usdaq 10 15826.00 U15827.00 Ussell 20 2190.20	.8744 .8755 r (CME)-(6 .8002 .8002 CME)-662 1.3714 1.3712 ME)-CHFI 1.0971 1.1002 ar (CME)-CHFI 1.0971 1.002 ar (CME)-CHFI .7293 .7294 (CME)-MX .04914 .04873 000; \$per 1.1454 1.1468 min tial Aven 36332 36237 CME)-\$50 4739.50 4731.50 ap 400 ( 2825.40 00 (CME) 16009.25 16007.50 00 (CME)	▲ CAD1 ▲ 4 4 4 25,000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲ 25,0000 ▲	.8662 .8656 .00,000; \$ .7949 .7949 1.3622 1.3618 00; \$per £ 1.0834 1.0868 010,000; .7201 .7202 0,000; \$p .7201 .7202 0,000; \$p .7201 .7202 .04894 .04843 1.1357 1.1369 <b>Futur</b> <b>(CBT)</b> -\$5 36040 35963 ( <b>CBT)</b> -\$5 36040 ( <b>CBT)</b> -\$5 277,900 ( <b>CBT)</b> -\$5 27,900 ( <b>CB</b>		.0073 .0053 .0052 .0083 .0083 .0083 .0081 .00121 .0121 .0084 .0081 .0014 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0084 .0083 .00844 .0084 .0084 .008	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494 n.a. 218,699
Jan March Canadi Jan March Swiss F March June Austral Jan March March Euro (Cl Jan March Euro (Cl Jan March June Mini DJ June Mini S& March June Mini S& March June Mini S& March June Mini Ru March June Mini Ru March	.8672 .8675 an Dolla. .7974 .7955 Pound (C 1.3638 1.3632 Franc (CN 1.0915 lian Doll. .7216 .7211 n Peso ( .04900 .04854 ME)-6125, 1.1373 1.1385 IIIII Jacobi / Jacobi / Apolo .04854 ME)-6125, 1.1373 1.1385 IIIIIIIIII Jacobi / Apolo .04900 .04854 ME)-6125, 1.1373 1.1385 IIIIIIIIIII Jacobi / Apolo .04900 .04854 ME)-6125, 1.1373 1.1385 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	.8744 .8755 r (CME)-(62 .8002 .8002 .8002 .8002 .8012 .8012 .8012 .8012 .8012 .8012 .7293 .7294 CME)-MX .04914 .04873 .7294 .7294 .7293 .7294 .7294 .7293 .7294 .7294 .7293 .7294 .7294 .7293 .7294 .7	▲ CAD 11 ▲ 25,000 ↓ 25,000 ↓ 25,000 ↓ 25,000 ↓ 25,000 ↓ 25,000 ↓ 4 ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲	.8662 .8656 .00,000; % .7949 .7948 \$perf 1.3622 1.3618 00; \$perC 1.0834 1.0868 0100,000; .7201 .0834 1.0868 0100,000; .7202 0,000; \$p .04894 .04843 1.1357 1.1369 <b>Futur</b> <b>(GBT)</b> -\$5 36040 35963 <b>(Futur</b> 4695.00 4687.75 <b>-</b> \$100 x ir 2777.90 x index 15761.75 0 x index 2599.10 0 x index 2599.10		.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0121 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0083 .0083 .0083 .0083 .0084 .0085 .0095	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494 n.a. 218,699 1,473
Jan March Canadii Jan March British Jan March Swiss F March June March Euro (Cl Jan March Euro (Cl Jan March Euro (Cl Jan March June Mini Sā March June Mini Sā March June Mini Sā March June Mini Sā March June June Mini Ru Mini Ru March	.8672 .8675 an Dolla .7974 .7955 Pound (U 1.3638 1.3632 Franc (CC 1.0846 1.0915 lian Doll. .7216 .7211 n Peso (U .04900 .04854 ME)-6125, 1.1373 1.1385 I Industr 36131 36044 (P 500 (C 2801.70 15826.00 15826.00 15826.00 15826.00 15826.00 15827.00 15821.00 15821.00 15828.00 1	.8744 .8755 r (CME)-(62 .8002 .8002 CME)-662 1.3714 1.3712 ME)-CHF 1 1.0971 1.1002 ar (CME)- .7293 .7294 CME)-MX .04914 .04873 000; \$per 1.1454 1.1468 ME ial Avee 36332 36237 CME)-\$55 4739.50 4731.50 ap 400 (CME) 2825.40 O (CME) 2825.40 O (CME) 2003, 2003 CME)-1000 2005 4739.50 4731.50 ap 400 (CME) 2825.40 O (CME) 2003, 2003 CME)-1000 2005 (CME) 2003, 2003 CME)-1000 2005 CME)-1000 2003 CME)-10000 CME)-10000 CME)-10000 CME)-10000 CME)-10000 CME)-10000 CME)-10000 CME)-10000 CME)-10000 CME)-100000 CME)-100000 CME)-10000 CME)-100000 CME)-100000	▲ CAD 11 ▲ 25,000; 40,000; 25,	.8662 .8656 .00,000; * .7949 .7948 *perf 1.3622 1.3618 00; *perC 1.0834 1.0868 0100,000; .7201 .7202 0,000; *perC 0,000; *perC 0,000; *perC 1.0834 1.0868 0,000,000; .7201 .7202 0,000; *perC 0,000; *perC 0,000; *perC 0,000; *perC 0,000; *perC 1.1357 1.1369 <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b> <b>CUTUT</b>		.0073 .0053 .0052 .0083 .0083 .0083 .0121 .0121 .0121 .0084 .0081 .00014 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0083 .0083 .0083 .0083 .0084 .0075 .0084 .0075	230,267 864 129,777 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494 n.a. 218,699 1,473 457,011 16,110
Jan March <b>British</b> Jan March <b>Swiss F</b> March June <b>Austral</b> Jan March <b>Dan</b> March <b>Euro</b> (CI Jan March <b>Euro</b> (CI Jan March <b>Dine</b> <b>Mini DJ</b> March June <b>Mini S</b> March June <b>Mini S</b> March June	.8672 .8675 an Dolla. .7974 .7955 Pound (C 1.3638 1.3632 Franc (CN 1.0915 lian Doll. .7216 .7211 n Peso ( .04900 .04854 ME)-6125, 1.1373 1.1385 IIIII Jacobi / Jacobi / Apolo .04854 ME)-6125, 1.1373 1.1385 IIIIIIIIII Jacobi / Apolo .04900 .04854 ME)-6125, 1.1373 1.1385 IIIIIIIIIII Jacobi / Apolo .04900 .04854 ME)-6125, 1.1373 1.1385 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	.8744 .8755 r (CME)-(62 .8002 .8002 .8002 .8002 .8012 .8012 .8012 .8012 .8012 .8012 .7293 .7294 CME)-MX .04914 .04873 .7294 .7294 .7293 .7294 .7294 .7293 .7294 .7294 .7293 .7294 .7294 .7293 .7294 .7	▲ CAD 11 ▲ 25,000 ↓ 25,000 ↓ 25,000 ↓ 25,000 ↓ 25,000 ↓ 25,000 ↓ 4 ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲	.8662 .8656 .00,000; % .7949 .7948 \$perf 1.3622 1.3618 00; \$perC 1.0834 1.0868 0100,000; .7201 .0834 1.0868 0100,000; .7202 0,000; \$p .04894 .04843 1.1357 1.1369 <b>Futur</b> <b>(GBT)</b> -\$5 36040 35963 <b>(Futur</b> 4695.00 4687.75 <b>-</b> \$100 x ir 2777.90 x index 15761.75 0 x index 2599.10 0 x index 2599.10		.0073 .0053 .0052 .0083 .0083 .0121 .0121 .0084 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0081 .0083 .0083 .0083 .0083 .0083 .0083 .00844 .0084 .0084 .0084 .0084	230,267 864 129,777 1,470 194,748 42,558 115 592 184,346 127,003 4,325 667,954 92,927 206 2,223,646 51,550 42,494 n.a. 218,699 1,473 457,011

Contract

Low

Settle

Chg

High hilo

Open

#### Macro & Market Economics

2,610 🔺

Lumber (CME)-110,000 bd. ft., \$ per 1,000 bd. ft.

1219.20 1234.50 A 1266.50 1284.00 A

 Milk (CME)-200,000 lbs., cents per lb.

 Jan
 20.37
 20.47
 20.31

 Feb
 21.83
 22.82
 ▲
 21.83

 Cocoa (ICE-US)-10 metric tons; \$ per ton.

2,595

Jan March

March

#### Watching the Gauges: U.S. Supply and Demand

1212.00

1284.00

20.38

22.63

2,559

1200.00 1266.50

21.83

2,550

Inventories, imports and demand for the week ended January 7. Current figures are in thousands of barrels or thousands of gallons per day, except natural-gas figures, which are in billions of cubic feet. Natural-gas import and demand data are available monthly only.

186

1,860

4,353

7.10

45.00

.01

.43 5,022

-29 86,127

I	Inventories, 000s barrels									Imports, 000s barrels per day				
	Current	Expected change	Previous week	Year ago	4-week avg	5-year avg	Current	Expected change	Previous week	Year ago	4-week avg	5-year avg		
Crude oil and														
petroleum prod	1,190,269		1,195	1,334	1,193	1,284	7,915		7,562	8,026	8,157	9,575		
Crude oil														
excluding SPR	413,298	-2,100	418	482	419	452	6,069		5,884	6,239	6,227	7,304		
Gasoline	240,748		233	245	230	252	589		596	383	576	559		
Finished gasoline	19,127	2,300	17	22	18	27	164		45	126	75	46		
Reformulated	21		0	0	0	0	0		0	0	0	0		
Conventional	19,106		17	22	18	26	164		45	126	75	46		
Blend. components	221,621		216	224	212	226	425		550	256	502	513		
Natural gas (bcf)	3,195		3	3	3	3								
Kerosene-type														
jet fuel	34,453		35	37	35	42	78		110	50	89	152		
Distillates	129,383	1,200	127	163	126	152	216		217	346	200	309		
Heating oil	7,115		7	8	8	11	0		0	0	0	23		
Diesel	122,267		120	156	118	71	216		217	346	200	284		
<b>Residual fuel oil</b>	26,642		26	31	26	33	164		181	220	224	213		
Other oils	260,455		269	286	270	267	664		456	639	692	839		
Net crude, petroleum	1													
products, incl. SPR	1,783,651		1,788	1,972	1,788	1,941	1,295		947	-114	536	2,545		

Wednesday, January 12, 2022 These prices reflect buying and selling of a variety of actual or "physical" commodities in the marketplaceseparate from the futures price on an exchange, which reflects what the commodity might be worth in future months.

	Wednesday	v	Vednesday	V	Vednesda
Energy		Iron Ore, 62% Fe CFR China-s	131.6	Wheat,No.2 soft red,St.Louis-u	7.8025
		Shredded Scrap, US Midwest-s,m	n.a.	Wheat - Hard - KC (USDA) \$ per bu-u	7.9950
Coal,C.Aplc.,12500Btu,1.2S02-r,w	86.550	Steel, HRCUSA, FOB Midwest Mill-s	1440	Wheat,No.1soft white,PortId,OR-u	10.7250
Coal,PwdrRvrBsn,8800Btu,0.8SO2-r,v	v 28.050	Battery/EV metals		Food	
Metals		BMI Lithium Carbonate, EXW China, =99.2%-v,k	39250	Food	
		BMI Lithium Hydroxide, EXW China, =56.5% -v,k	32650	Beef,carcass equiv. index	
Gold, per troy oz		BMI Cobalt sulphate, EXW China, >20.5% -v,m	15151	choice 1-3,600-900 lbsu	234.33
Engelhard industrial	1822.00	BMI Nickel Sulphate, EXW China, >22%-v,m	5417	select 1-3,600-900 lbsu	224.58
Handy & Harman base	1821.40	BMI Flake Graphite, FOB China, -100 Mesh, 94-95% -v,m	650	Broilers, National comp wtd. avgu,w	1.3363
Handy & Harman fabricated	2021.75	Fibers and Textiles		Butter,AA Chicago	2.8300
LBMA Gold Price AM	*1805.20		0.0175	Cheddar cheese,bbl,Chicago	190.50
LBMA Gold Price PM	*1806.80	Burlap,10-oz,40-inch NY yd-n,w	0.8175	Cheddar cheese,blk,Chicago	205.25
Krugerrand, wholesale-e	1900.29	Cotton,11/16 std lw-mdMphs-u	1.1714	Milk,Nonfat dry,Chicago lb.	176.00
Maple Leaf-e	1918.56	Cotlook 'A' Index-t	*128.65	Coffee,Brazilian,Comp	2.3662
American Eagle-e	1918.56	Hides, hvy native steers piece fob-u	n.a.	Coffee,Colombian, NY	2.9858
Vexican peso-e	2211.06	Wool,64s,staple,Terr del-u,w	n.a.	Eggs,large white,Chicago-u	1.2750
Austria crown-e	1794.02	Grains and Feeds		Flour,hard winter KC	23.00
Austria phil-e	1918.56	Barley,top-guality Mnpls-u		Hams,17-20 lbs,Mid-US fob-u	0.43
Silver, troy oz.		Bran,wheat middlings, KC-u	n.a. 170	Hogs,Iowa-So. Minnesota-u	74.12
Engelhard industrial	22.9500	Corn,No. 2 yellow,Cent IL-bp,u	5.8600	Pork bellies,12-14 lb MidUS-u	n.a
Handy & Harman base	23.1350	Corn gluten feed,Midwest-u,w	192.3	Pork loins,13-19 lb MidUS-u	0.7810
Handy & Harman fabricated	28.9190	Corn gluten meal,Midwest-u,w	607.8	Steers,TexOkla. Choice-u	137.00
_BMA spot price	*£16.6300	Cottonseed meal-u,w	325	Steers,feeder,Okla. City-u,w	177.38
(U.S.\$ equivalent)	*22.5900	Hominy feed,Cent IL-u,w	165	Esta and Oila	
Coins,wholesale \$1,000 face-a	19102	Meat-bonemeal,50% pro Mnpls-u,w	210	Fats and Oils	
Other metals		Oats,No.2 milling,Mnpls-u	6.9300	Degummed corn oil, crude wtd. avgu,w	52.2500
BMA Platinum Price PM	*947.0	Rice, Long Grain Milled, No. 2 AR-u,w	27.75	Grease, choice white, Chicago-h	0.6100
Platinum,Engelhard industrial	985.0	Sorghum, (Milo) No.2 Gulf-u	n.a.	Lard,Chicago-u	n.a.
Palladium,Engelhard industrial	1935.0	SoybeanMeal,Cent IL,rail,ton48%-u,w	431.10	Soybean oil,crude;Centl IL-u,w	0.6762
Aluminum, LME, \$ per metric ton	*2950.0	Soybeans,No.1 yllw IL-bp,u	13.7400	Tallow,bleach;Chicago-h	0.6400
Copper,Comex spot	4.5640	Wheat,Spring14%-pro Mnpls-u	11.2050	Tallow,edible,Chicago-u	0.7000

KEY TO CODES: A=ask; B=bid; BP=country elevator bids to producers; C=corrected; E=Manfra,Tordella & Brookes; H=American Commodities Brokerage Co; K=bi-weekly; M=monthly; N=nominal; n.a.=not quoted or not available; R=SNL Energy; S=Platts-TSI; T=Cotlook Limited; U=USDA; V=Benchmark Mineral Intelligence; W=weekly; Z=not quoted. \*Data as of 1/11

Source: Dow Jones Market Data

Bonds | wsj.com/market-data/bonds/benchmarks

#### **Tracking Bond Benchmarks**

Return on investment and spreads over Treasurys and/or yields paid to investors compared with 52-week
highs and lows for different types of bonds

Total		5101 01	frerent types of b	onus		Total					
return close	YTD to return		Index		ld(%) — _ow High	return	YTD total return (%)	Index		/ield (%	
		. ,			Low High	close		mberg Fixed Income In		t Low	High
Broad N	<b>larket</b> B	loombe	rg Fixed Income Indic	ces							
2220.41	-1.5		U.S. Aggregate	<b>1.980</b> 1.	150 2.000	2180.80	-1.1	Mortgage-Backed	2.220	1.180	2.250
U.S. Cor	porate l	ndexes	Bloomberg Fixed Inc	ome Indic	es	2123.53	-1.0	Ginnie Mae (GNMA)	2.270	0.990	2.300
3357.26	-1.9		U.S. Corporate	<b>2.560</b> 1.	830 2.580	1288.74	-1.2	Fannie mae (FNMA)	2.210	1.230	2.230
3049.69	-1.0		Intermediate	<b>2.070</b> 1.	150 2.090	1977.16	-1.2	Freddie Mac (FHLMC)	2.210	1.210	2.230
4965.88	-3.2		Long term	<b>3.330</b> 2.	900 3.580	597.33	-0.8	Muni Master	1.092	0.687	1.092
675.53	-2.0		Double-A-rated	<b>2.240</b> 1.	510 2.260	421.49	-0.9	7-12 year	1.121	0.687	1.133
901.56	-1.9		Triple-B-rated	<b>2.780</b> 2.	070 2.800	487.22	-0.9	12-22 year	1.371	1.000	1.524
High Yie	eld Bond	s ICE Bo	ofA			480.05	-1.1	22-plus year	1.883	1.443	2.125
518.90	-0.6		High Yield Constraine	ed <b>4.511</b> 3.	796 4.834	Global G	overnment J.P	. Morgan†			
504.05		0.1	Triple-C-rated	<b>7.895</b> 6.	304 8.242	594.03	-0.9	Global Government	1.110	0.610	1.130
3454.16	-0.6		High Yield 100	<b>3.991</b> 3.	162 4.587	824.64	-1.7	Canada	1.740	0.950	1.820
457.15	-0.7		Global High Yield Constrain	ned <b>4.765</b> 3.	968 5.138	403.88	-0.5	EMU§	0.552	0.077	0.585
349.21		0.1	Europe High Yield Constrain	ned <b>2.875</b> 2.	304 3.161	756.88	-0.4	France	0.430	-0.100	0.460
U.S Age	ncy Bloc	mberg	Fixed Income Indices			533.70	-0.6	Germany	-0.080	-0.460	-0.010
1826.40	-0.8		U.S Agency	<b>1.350</b> 0.	500 1.360	293.86	-0.2	Japan	0.370	0.260	0.420
1595.80	-0.6		10-20 years	<b>1.250</b> 0.	380 1.270	592.18	-0.6	Netherlands	0.080	-0.380	0.130
4098.64	-2.6		20-plus years	<b>2.370</b> 1.	670 2.460	1019.78	-1.7	U.K.	1.170	0.620	1.340
2850.99	-1.5		Yankee	<b>2.220</b> 1.	440 2.240	901.95	-1.9	Emerging Markets **	5.199	4.429	5.226
*Constrair ** EMBI GI			dividual issuer concentra	ations to 2%	; the High Yie		5	ds † In local curren ces; Bloomberg Fixed Incon	,		

#### Global Government Bonds: Mapping Yields

Yields and spreads over or under U.S. Treasurys on benchmark two-year and 10-year government bonds in selected other countries; arrows indicate whether the yield rose(A) or fell (V) in the latest session

	Country/				Spread Under/Over U.S. Treasurys, in basis points				
Coupon (%)	Maturity, in years	s Latest(●)-2		3 4 Previous	Month ago	Year ago	Latest	Prev	Year ago
0.750	<b>U.S.</b> 2	0.905 🔺	٠	0.897	0.660	0.145			
1.375	10	1.724 🔻	•	1.745	1.487	1.136			
2.750	Australia 2	0.683 🔻	•	0.698	0.649	0.079	-21.6	-20.5	-5.8
1.000	10	1.844 🔻	•	1.886	1.653	1.121	11.9	14.4	-1.4
0.000	France 2	-0.625 🔺	•	-0.639	-0.722	-0.618	-152.4	-152.6	-76.3
0.000	10	0.323 🔺	•	0.297	-0.002	-0.258	-140.2	-144.5	-139.2
0.000	Germany 2	-0.586 🔻	•	-0.574	-0.687	-0.687	-148.5	-146.0	-83.2
0.000	10	-0.058 🔻	•	-0.024	-0.345	-0.465	-178.4	-176.6	-159.9
0.000	Italy 2	-0.101 🔻	•	-0.067	-0.259	-0.310	-100.0	-95.3	-45.5
0.950	10	1.257 🔻	•	1.308	0.956	0.671	-46.9	-43.4	-46.4
0.005	Japan 2	-0.082 🔻	•	-0.076	-0.102	-0.123	-98.0	-96.2	-26.8
0.100	10	0.129 🔻	•	0.155	0.056	0.037	-159.6	-158.7	-109.7
0.000	Spain 2	-0.508 🔻	•	-0.498	-0.591	-0.535	-140.6	-138.4	-68.0
0.500	10	0.623 🔻	•	0.668	0.353	0.114	-110.2	-107.4	-102.1
0.125	<b>U.K.</b> 2	0.808 ▼	•	0.842	0.416	-0.070	-9.1	-4.5	-21.5
4.750	10	1.141 🔻	•	1.174	0.743	0.355	-58.4	-56.8	-78.0

Weekly Demand, 000s barrels per day

#### Natural gas storage

Billions of cubic feet; weekly totals Expected Previous Year 4-week 5-year Current change week avg avg ago Total petroleum 4250 product 20,829 19,665 19,607 20,792 20,379 Five-year average Finished for each week 3250 motor gasoline 7,906 8,172 7,532 8,697 8,476 ... Natural gas, 2250 Kerosene-type lower 48 states jet fuel 1,606 1,468 1,468 1,531 1,447 1250 3,609 Distillates 3,749 3,840 4,074 3,739 Residual fuel oil 240 307 239 379 174 ... 250 1 1 1,564 1,745 2,104 1,562 Propane/propylene J F M A M J J A S O N D ... Other oils 5,764 4,234 4,654 4,782 2021

Source: Tullett Prebon, Tradeweb ICE U.S. Treasury Close

#### **Corporate Debt**

Prices of firms' bonds reflect factors including investors' economic, sectoral and company-specific expectations

#### Investment-grade spreads that tightened the most...

					Spre	ad*, in basis poi	nts
Issuer	Symbol	Coupon (%)	Yield (%)	Maturity	Current	One-day change	Last week
Caterpillar Financial Services		3.250	1.22	Dec. 1, '24	31	-10	n.a.
Siemens Financieringsmaatschappij	SIEGR	1.200	1.74	March 11, '26	25	-7	27
Toronto-Dominion Bank	TD	1.450	1.51	Jan. 10, '25	31	-7	n.a.
E.ON International Finance	EOANGR	6.650	3.42	April 30, '38	130	-6	n.a.
Anglo American Capital	AALLN	4.000	2.70	Sept. 11, '27	120	-4	124
Societe Generale	SOCGEN	2.625	2.09	Jan. 22, '25	91	-4	n.a.
Sumitomo Mitsui Trust Bank	SUMITR	0.850	1.34	March 25, '24	42	-4	48
Bank of America	BAC	4.125	1.15	Jan. 22, '24	24	-3	21
And spreads that widen	ed the m	ıost					
Credit Suisse	CS	1.250	2.05	Aug. 7, '26	55	14	48
Mitsubishi UFJ Financial	MUFG	3.850	1.99	March 1, '26	49	11	n.a.
Morgan Stanley	MS	3.625	2.11	Jan. 20, '27	61	10	64

Mitsubishi UFJ Financial	MUFG	3.850	1.99	March 1, '26	49	11	n.a.
		3.625		,	61	10	64
Morgan Stanley	MS	5.025	2.11	Jan. 20, '27	01	= -	04
Cooperatieve Rabobank	RABOBK	3.750	2.32	July 21, '26	85	10	n.a.
HSBC Holdings	HSBC	4.250	2.33	Aug. 18, '25	114	8	114
Royal Bank of Canada	RY	2.250	1.43	Nov. 1, '24	52	7	45
Australia and New Zealand Banking	ANZ	3.700	1.62	Nov. 16, '25	44	6	n.a.
Toyota Motor	ΤΟΥΟΤΑ	2.760	2.27	July 2, '29	54	6	53

#### High-yield issues with the biggest price increases...

5 1		•			Bond Price	as % of face v	alue ——
Issuer	Symbol	Coupon (%)	Yield (%)	Maturity	Current	One-day change	Last week
Dish DBS		5.125	6.48	June 1, '29	92.125	3.13	89.602
Navient	NAVI	6.750	4.30	June 15, '26	109.747	0.93	109.250
American Airlines	AAL	5.750	4.57	April 20, '29	107.280	0.91	106.553
Occidental Petroleum	OXY	6.200	4.64	March 15, '40	119.000	0.91	121.500
Ford Motor Credit		4.389	2.40	Jan. 8, '26	107.500	0.88	107.000
Sprint Capital		8.750	3.29	March 15, '32	146.851	0.85	148.106
Bath & Body Works	BBWI	6.875	4.78	Nov. 1, '35	121.000	0.78	123.000
Transocean	RIG	6.800	12.46	March 15, '38	61.000	0.75	58.250
And with the biggest pri	ce decre	eases					
Royal Caribbean	RCL	5.250	2.92	Nov. 15, '22	101.905	-0.71	102.125
Ford Motor	F	4.750	4.12	Jan. 15, ′43	108.750	-0.53	109.750
Telecom Italia Capital	TITIM	7.721	6.31	June 4, '38	114.240	-0.51	116.625
Ball	BLL	5.250	2.31	July 1, '25	109.750	-0.39	109.890
OneMain Finance	OMF	5.625	1.82	March 15, '23	104.375	-0.36	104.920
Quebecor Media	QBRCN	5.750	2.02	Jan. 15, '23	103.688	-0.23	n.a.
Sprint	S	7.875	2.03	Sept. 15, '23	109.550	-0.20	109.863
Teva Pharmaceutical Finance Netherland	s	3.150	4.43	Oct. 1, '26	94.625	-0.13	93.909

\*Estimated spread over 2-year, 3-year, 5-year, 10-year or 30-year hot-run Treasury; 100 basis points=one percentage pt.; change in spread shown is for Z-spread Note: Data are for the most active issue of bonds with maturities of two years or more

Note: Expected changes are provided by Dow Jones Newswires' survey of analysts. Previous and average inventory data are in millions. Sources: FactSet; Dow Jones Market Data; U.S. Energy Information Administration; Dow Jones Newswires

#### Exchange-Traded Portfolios | WSJ.com/ETFresearch

Largest 100 exchange-traded funds, latest session								ETF	Symbo	Closing Price				
Wednesday, January 12, 2022 Closing Cha YTD				ETF	Symbol	Closing Price		YTD (%)	Schwab US TIPs SPDR DJIA Tr SPDR S&PMdCpTr		61.57 362.95 509.75	-0.63 0.11 -0.31	-2.1 -0.1 -1.5	
ETF	Symbol	Price		(%)	iShMSCI ACWI	ACWI	105.86	0.61	0.1	SPDR S&P 500		471.02	0.27	-0.8
ARKInnovationETF	ARKK	84.56	_2 70	-10.6	iShMSCI EAFE	EFA	79.66	0.98	1.2	SPDR S&P Div		130.23	-0.09	0.9
CnsmrDiscSelSector	XLY	201.49	0.66	-1.4	iShMSCI EAFE SC	SCZ	73.10	1.16	0.0	TechSelectSector	XLK	168.74	0.47	-3.0
DimenUSCoreEa2	DFAC	28.80	0.00	-0.6	iShMSCIEmgMarkets	EEM	50.85	1.66	4.1	VangdInfoTech	VGT	442.51	0.33	-3.4
EnSelectSectorSPDR		63.35	0.03	14.1	iShMSCIEAFEValue	EFV	53.07	1.12	5.3	VangdSC Val	VBR	180.40	-0.20	0.9
FinSelSectorSPDR	XLF	41.42	0.19	6.1	iShNatlMuniBd	MUB	115.47	-0.03	-0.7	VangdExtMkt	VXF	176.38	-0.51	-3.5
GSActiveBetaUSLC	GSLC	93.74	0.07	-1.5	iSh1-5YIGCorpBd	IGSB	53.58	-0.04	-0.6	VangdSC Grwth	VBK	265.47	-0.61	-5.8
HealthCareSelSect		136.42	-0.29	-3.2	iShPfd&Incm	PFF	38.88	0.18	-1.4	VangdDivApp	VIG	169.03	0.19	-1.6
IndSelSectorSPDR	XLI	106.26	0.32	0.4	iShRussell1000Gwth	IWF	294.92	0.33	-3.5	VangdFTSEDevMk	VEA	51.72	1.07	1.3
Invsc000I		387.35	0.52	-2.6	iShRussell1000	IWB	261.50	0.21	-1.1	VangdFTSE EM	vwo	51.23	1.53	3.6
InvscQQQI InvscS&P500EW		387.35	0.40	-2.6	iShRussell1000Val	IWD	170.51	0.08	1.5	VangdFTSE Europe	VGK	68.99	0.92	1.1
	DGRO	55.88	0.08	-0.1	iShRussell2000	IWM	215.99	-0.74	-2.9	VangdFTSEAWxUS	VEU	62.56	1.10	2.1
iShCoreDivGrowth iShCoreMSCIEAFE	IEFA	55.88 75.46	1.05	1.1	iShRussell2000Val	IWN	165.93	-0.41	-0.1	VangdGrowth	VUG	308.62	0.36	-3.8
iShCoreMSCIEAFE	IEFA	75.46 62.07	1.07	3.7	iShRussellMid-Cap	IWR	81.27	-0.05	-2.1	VangdHlthCr	VHT	255.83	-0.57	-4.0
iShCoreMSCITotInt	IXUS	72.20	1.05	5.7 1.8	iShRussellMCValue		122.79	0.08	0.3	VangdHiDiv	VYM	115.01	0.01	2.6
	IXUS	473.08	0.26	-0.8	iShS&P500Growth	IVW	81.25	0.48	-2.9	VangdIntrCorpBd	VCIT	91.43	0.07	-1.4
iShCoreS&P500 iShCoreS&P MC	UH	278.82	-0.32		iShS&P500Value		159.06	0.08	1.6	VangdLC		217.87	0.26	-1.4
iShCoreS&P NC		278.82	-0.32	-1.5	iShTIPSBondETF		126.45	-0.64	-2.1	VangdMC		247.94	-0.01	-2.7
					iSh1-3YTreasuryBd	SHY	85.24	-0.04	-0.4	VangdMC Val		152.52	0.21	1.5
iShS&PTotIUSStkMk		105.67	0.11	-1.2	iSh7-10YTreasuryBd		113.00	0.02	-1.7	VangdMBS	VMBS	52.29	-0.10	-1.0
iShCoreTotalUSDBd	IUSB	52.23	-0.02		iSh20+YTreasuryBd		143.01	-0.38	-3.5	VangdRealEst		110.69	0.12	-4.6
iShCoreUSAggBd		112.60		-1.3	iShRussellMCGrowth		107.67	-0.43	-6.6	VangdS&P500ETF		433.07	0.30	-0.8
iShSelectDividend		126.85	0.09	3.5	iShUSTreasuryBdET		26.07	-0.10	-2.3	VangdST Bond	BSV	80.40	0.02	-0.5
iShESGAwareUSA		106.57	0.24	-1.2	JPM UltShtIncm	JPST	50.48	-0.03		VangdSTCpBd	VCSH	80.82	-0.01	-0.5
iShEdgeMSCIMinUSA		78.71	0.11	-2.7	ProShUltPrQQQ		152.68	1.14	-8.2	VangdShtTmInfltn	VTIP	51.12	-0.25	-0.5
iShEdgeMSCIUSAMon		177.79	0.41	-2.2	SPDR Gold		170.74	0.26	-0.1	VangdSC		221.90	-0.35	-1.8
iShEdgeMSCIUSAQua		141.18	0.15	-3.0	SPDRS&P500Growt		70.38	0.50	-2.9	VangdTaxExemptBd		54.47	-0.06	-0.8
iShEdgeMSCIUSAVal		114.04	0.16	4.2	SchwabIntEquity	SCHF	39.47	1.02	1.5	VangdTotalBd	BND	83.63	-0.04	-1.3
iShGoldTr	IAU	34.75	0.20	-0.2	SchwabUS BrdMkt	SCHB		0.14	-1.2	VangdTotIntIBd	BNDX	54.82	0.13	-0.6
iShiBoxx\$InvGrCpBd		129.90	-0.07	-2.0	SchwabUS Div	SCHD	81.90	-0.05	1.3	VangdTotIntIStk	VXUS	64.70	1.17	1.8
iShiBoxx\$HYCpBd	HYG	86.48	0.16	-0.6	SchwabUS LC	SCHX		0.20	-1.1	VangdTotalStk		238.42	0.16	-1.3
iShJPMUSDEmgBd		106.22	-0.21	-2.6	SchwabUS LC Grw	SCHG		0.43	-3.7	VangdTotlWrld		107.46	0.55	0.0
iShMBSETF	MBB	106.29	-0.08	-1.1	SchwabUS SC	SCHA	99.99	-0.62	-2.4	VangdValue	VTV	150.33	0.01	2.2

Source: MarketAxess

### **MARKETS**

# **Stocks Gain After High Inflation Data**

Most of S&P 500's industry sectors rise, with healthcare the lone exception

#### BY KAREN LANGLEY AND CAITLIN OSTROFF

Stocks took the news that U.S. inflation had hit its fastest pace since 1982 in stride.

The hot pace of inflation was generally in line with expectations, and major U.S. equity indexes ended the day higher.

The S&P 500 gained 13.28 points, or 0.3%, to 4726.35, off 1.5% from its record last week. The Dow Jones Industrial Average added 38.30 points, or 0.1%, to 36290.32. The Nasdaq Composite rose 34.94 points, or 0.2%, to 15188.39.

Markets have been focused on anything that could shift expectations for WEDNESDAY'S the Federal

to

MARKETS Reserve

begin lifting interest rates as soon as March. Fed Chairman Jerome Powell on Tuesday called high inflation a "severe threat" to a full economic recovery and said the central bank was preparing to raise interest rates because the economy no longer needed emergency support.

Investors on Wednesday scrutinized data showing the consumer-price index, which measures what consumers pay for goods and services, rose 7% in December from a year earlier, up from 6.8% in November. That marks the fastest pace in nearly 40 years and the third straight month in which inflation exceeded 6%.

Markets didn't seem rattled. "I do think the markets are believing that inflation is on the cusp of peaking," said Darrell Cronk, chief investment officer for wealth and investment

## Normality In Stocks Returns

Continued from page B1 cles. crypto and SPACs-special-purpose acquisition companies—as well as meme stocks such as **GameStop** and AMC Entertainment. The thematic bubbles peaked from January to March and began to deflate, although froth returned in October



The government said Wednesday that consumer prices rose 7% last month. A Manhattan grocery.

the coming earnings season.

this week after a rocky start to

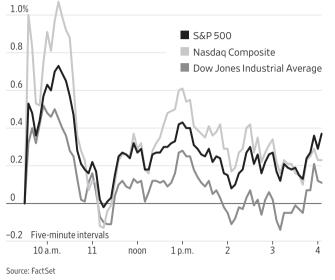
2022 that saw Treasury yields

jump and tech stocks fall. In-

vestors learned last week that

Trading has been choppy

#### Index performance Wednesday



management at Wells Fargo.

Luca Paolini, chief strategist at Pictet Asset Management, expects inflation to peak this quarter but is waiting to see if inflation weighs on profits in

by making earnings far in the future less appealing, while helping value stocks, which benefit from the stronger economy that led to the yield rise. It has worked so far this

stocks up while growth

he strength of the link between bond yields and growth stocks was on full display on Monday and Tuesday. When 10-year Treasury yields rose above 1.8% for the first time since January of 2020 it prompted an intraday 3% selloff in growth stocksbefore Treasury yields started to fall and growth stocks tore ahead again. This pattern could be part of a broader shift back to how stocks used to behave before the dot-com bubble of the late 1990s, when higher bond yields were generally bad for stocks, and lower vields were good. Back in the 1990s, and earlier, higher yields were more likely to be an indication of concern about inflation than of stronger real growth, so there was nothing good to offset the pain of higher yields for stocks, and vice versa. Since 2000, days with higher bond vields have also tended to be good days for stocks, as investors focused on the positive news of a stronger economy. The switch shows up in the link between stocks and bond yields: the correlation of daily changes between the two was mostly negative until 1997. and later turned strongly positive.

the central bank might hike rates sooner than anticipated. When interest rates are low,

investors tend to load up on risk assets such as stocks to generate returns. When inflation accelerates and policy makers raise rates, the value of companies' future earnings drops and investors have more alternatives for places to make money. This hurts technology stocks that promise expanding future profits. The Nasdaq Composite is down 2.9% in 2022, while the S&P 500 is down 0.8%.

Investors have watched closely as the central bank has prepared to raise rates and shrink its asset holdings. Fed officials approved plans in December to more quickly scale back, or taper, their asset purchases, a form of economic stimulus.

"I think that the market has been well prepared at this point for the tapering and rate increases," said Mace McCain, president and chief investment officer at Frost Investment Advisors. "They're able to once again look forward to what's going to be a strong earnings season."

Analysts expect that profits from companies in the S&P 500 rose 22% in the fourth quarter from a year earlier, according to FactSet. Delta Air Lines is expected to report Thursday, while JPMorgan Chase, Wells Fargo and Citigroup are expected to report Friday.

Ten of the S&P 500's 11 sectors advanced Wednesday. Only the healthcare group declined.

Biogen dropped \$16.18, or .7%, to \$225.34 after Medicare officials said they would cover its Alzheimer's drug Aduhelm on the condition that patients were in clinical trials and had early-stage symptoms.

Jefferies Financial Group dropped \$3.84, or 9.3%, to \$37.59 after the company reported lower-than-expected earnings and revenue for the latest quarter. Jefferies said it was hit by challenging trading conditions for fixed income.

Overseas, the pan-continental Stoxx Europe 600 gained 0.6%. Early Thursday, Japan's Nikkei 225 was down 0.8%, Hong Kong's Hang Seng Index was up 0.4%, the Singapore Composite and South Korea's Kospi were each down 0.2% and Australia's S&P ASX 200 was up 0.6%. S&P 500 futures were down 0.1%.

#### **AUCTION RESULTS**

Here are the results of Wednesday's Treasury auction. All bids are awarded at a single price at the market-clearing yield. Rates are determined by the difference between that price and the face value.

#### NINE-YEAR, 10-MONTH NOTES

Applications	\$96,137,083,90
Accepted bids	\$41,776,170,10
" noncompetitively	\$7,619,40
" foreign noncompetitively	\$
Auction price (rate)	96.86604
	(1.723)
Interest rate	1.375
Bids at clearing yield accepted	23.99
Cusip number	91282CDJ
The notes, dated Jan. 18, 2022, ma 2031.	ature on Nov. 15,

Treasury Yield Declines To 1.724%

#### BY SEBASTIAN PELLEJERO

U.S. government bond yields fell after data showed U.S. inflation ended 2021 at multidecade highs.

The yield on the benchmark 10-year Treasury note finished at 1.724%, according to Tradeweb, down from 1.745% at Tuesday's close.

Yields, which fall when bond prices rise, edged lower in early morning trading, then extended the decline after the Labor Department said the con-

	build the con
CREDIT	sumer-price
MARKETS	index rose 7%
	in 2021 from

a year earlier—the fastest pace since 1982 and the third straight month in which inflation exceeded 6%.

The core price index, which excludes the often-volatile categories of food and energy, climbed 5.5% in December from a year earlier, the highest rate since 1991.

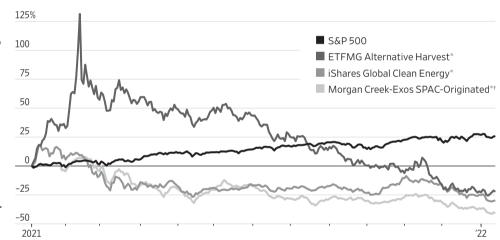
Some analysts said the move in Treasurys may have stemmed from investors repositioning after the data didn't shift expectations for the pace of Federal Reserve interest-rate increases.

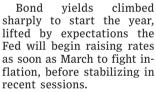
"There is a strong argument to be made that investors were positioned for a more dramatic response," and began covering bets against Treasurys after the data, wrote Ian Lyngen, head of U.S. rates strategy at BMO Capital Markets, in a note to clients.

\$36B

auctioned on Wednesday

Amount of 10-year Treasurys





During his Senate confirmation hearing Tuesday, Fed Chairman Jerome Powell called high inflation a "severe threat" to a full economic recovery and signaled the central bank was preparing to raise rates because the economy no longer needed emergency support. Investors that were planning on buying bonds this week may have waited until after the CPI data were released, given that previous reports have been followed by notable market reactions, said Jim Vogel, interest-rate strategist at FHN Financial.

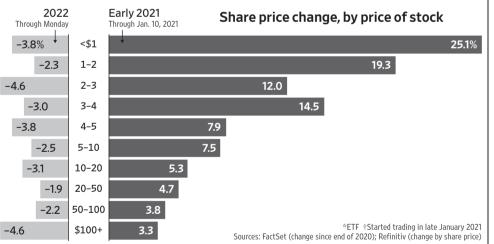
year, though, with value stocks, as well as the techheavy Nasdaq, are down.

Percentage change since the end of 2020

(and **Tesla** held on to its gains better than other EV stocks).

This year, higher bond yields have hit many of the bubble stocks hard again, with the **Ark Innovation** ETF-the purest expression of bets on unproven new technology—down more than 10%. ETFs tracking companies listed via SPACs and cleanenergy stocks are off about 6%, while many of the electric-car companies and suppliers (again, Tesla excepted) have been hit. All the frothy themes are down more than 40% from last year's highs.

Cheap stocks are back in fashion—where cheap means a low valuation, not a low share price. Last year, growth stocks beat the cheap "value" stocks, with the Russell 1000 Growth Index returning 27.6% including dividends against 25.2% for the value index. That's not what should be expected in a year when bond yields rose: Higher bond yields ought to hurt growth stocks



ast year, the correlation flipped again, with the weakest link between the S&P 500 and bond vields since early 2007. shortly before the subprime mortgage crisis kicked off. It isn't clear if last year's flip was temporary, or a return to the pre-1997 era, but certainly this year higher yields hurt stocks and investors are

again (quite rightly) worried about inflation. If this is a permanent shift in the stockbond relationship, it makes it harder to construct a lowrisk portfolio, because bonds won't provide offsetting gains on days when stocks fall. Worse, higher yields undermine the case for ignoring the high valuation of U.S. stocks: that they are cheap

compared with bonds. the main alternative.

I'm less concerned about value stocks, which are much cheaper and ought to be less affected by higher yields. The obvious risk this year is that yields rise, monetary policy tightens and growth stocks drag down the overall market. That isn't the sort of return to normal investors want.

"As soon as [the CPI data] came out and it was not deadly, we may have seen a surge of pent-up demand for Treasurys," he said.

On Wednesday, the Treasury Department sold \$36 billion of 10-year Treasury notes at a yield of 1.723%.

Investors and dealers submitted bids totaling 2.51 times the amount of debt sold at Wednesday's auction, slightly above recent averages. Above-average bidding is usually a sign of robust appetite for the debt.

Mutual Funds	Data provided by LIPPER <b>(</b>	Net YTD	Net	YTD Ne	t YTD Net	YTD Net	YTD Net YTD Net YTD
Matual Funds	Data provided by LIPPER G	Fund NAV Chg %Ret				%Ret Fund NAV Chg	
		TotRetBdI 10.301.0	ContraK 18.29 +0.05	-2.8 IntlEq 30.19+0.			
Top 250 mutual-funds listings for Nasdaq-publishe	ed share classes by net assets.	Edgewood Growth Instituti		-0.7 Invesco Funds Y		1.3 GNMAAdml 10.44	-0.9 DivdGro 38.80 +0.04 -1.2 MdCpVIAdml 78.97 +0.13 1.5
e-Ex-distribution. f-Previous day's quotation. g-Foo	otnotes x and s apply. <b>j</b> -Footnotes e	EdgewoodGrInst 56.89 -0.23 -6.0 Fidelity		-4.4 DevMktY 47.81+0.		GrwthAdml 158.89 +0.68 -0.4 HithCareAdml r 92.32 -0.58	
and s apply. k-Recalculated by Lipper, using update		500ldxInstPrem164.00 +0.46 -0.8		7 -4.4 John Hancock Insti -1.2 DispValMCI 28.35+0.		HYCorAdml r 5.91 +0.02	
12b-1. r-Redemption charge may apply. s-Stock sp		Contrafund K6 22.65 +0.05 -3.0	INVGIBU 11.47	1.2 JPMorgan I Class		0.4 InfProAd 27.92 -0.14	
apply. v-Footnotes x and e apply. x-Ex-dividend. z-		ExtMktidxinstPre 84.12 -0.46 -3.5		5 -5.3 EqInc 24.29	1.8 PIMCO Funds Insti	IntlGrAdml 137.15 +1.80	
available due to incomplete price, performance or		FidSerToMarket 15.76 +0.03 -1.3	NASDAO r 191.09+0.44	JPMorgan R Class		-0.4 ITBondAdml 11.71	-1.5 INSTTRF2045 33.98 +0.16 -0.3 VANGUARD INSTL FDS
data under review. NN-Fund not tracked. NS-Fund	didn't exist at start of period.	GrowthCompanyK6 21.87 +0.03 -4.4	OTC 18.93 +0.06	-3.4 CoreBond 11.70	1.1 Price Funds	ITIGradeAdml 9.79	-1.5 INSTTRF2050 34.17 +0.16 -0.3 Ballnst 48.37 +0.03 -1.3
			Puritn 26.85+0.07		BIChip 169.74 +0.3		-3.0 INSTTRF2055 34.27 +0.16 -0.2 DevMktsIndInst 16.63 +0.16 1.0
Wednesday, January		MidCpInxInstPrem 31.32 -0.01 -2.1		Land Abbath F	<sup>-0.4</sup> DivGro 72.91 +0.2	1 -1.0 ha invalue 11.00	-2.6 IntIVal 43.11 +0.38 3.7 DevMktsInxInst 26.00 +0.26 1.0
		SAIUSLgCpIndxFd 22.56 +0.07 -0.8		L.O ChtDunkname 4.14	EqInc 37.27 +0.0	2 3.6 MuHYAdml 11.89 2 5.2 MulntAdml 14.58 -0.01	
Fund NAV Chg %Ret Fund NAV C	hg %Ret Fund NAV Chg %Ret			-4.2 Land Abbatt I	0.2 Growth 100.76 +0.2	MultAdml 12.01	LIEGIO 44.20 +0.19 -0.4 hpp:Sala 11.37 0.04 10
	0.32 2.9 DivIncom I 31.64+0.01 0.1	SeriesOverseas 14.06 +0.15 -2.4 SmCpldxInstPrem 26.72 -0.22 -3.0	SrsIntlGrw 18.60 +0.19 SrsIntlVal 11.72 +0.17	-Z./ ShtDurlnc n / 1/	0.2 HelSci 96.75 -0.54 LgCapGow I 70.08 +0.12	+ -/.0 AdultadAdual 11 12 0.01	-0.4 PrmcpCor 33.35 +0.11 -0.6 InstIdx 402.56 +1.14 -0.8
Ultra 84.52 +0.37 -3.5 Baird Funds	Dimensional Fds	TMktldxInstPrem132.09 +0.19 -1.3		1 2 Metropolitan West	MidCap 111.68 -0.2	2 "4./ NAUCHAAdmal 10.00	-0.2 STAR 31.71 +0.07 -0.7 InstPlus 402.57 +1.13 -0.8
American Funds Cl A AggBdInst 11.21 AmcpA p 43.36 +0.10 -4.6 CorBdInst 11.51	1.4 5GlbFxdInc 10.61+0.01 -0.8 1.4 EmgMktVa 32.35+0.28 4.3	UCD-IL-I	Fidelity SAI	TotRetBdI 10.76	1.3 NHoriz 60.18 -0.5	PrmcpAdml r1/0.54 +0.28	0.6 TgtRe2015 14.50 +0.02 -0.8 MidCalast (7.05 +0.13 -1.3
AmcpA p 43.36 +0.10 -4.6 CorBdInst 11.51 AMutIA p 53.41 +0.14 0.5 BlackRock Funds	1.4 EmgMktVa 32.35 +0.28 4.3 EmMktCorEg 25.79 +0.30 3.0	Fidelity Advisor I			-1.3 R2020 22.04 +0.0	5 _0.8 RealEstatAdm1156.81 +0.26	-4.2 Ta+Po2020 20 92 +0.09 -0.6 WildChillst 07.85 +0.02 -2.0
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# HEARD ON STREET

FINANCIAL ANALYSIS & COMMENTARY

# For Turo, It Is Ride or Die

The car-sharing marketplace did well last year amid Covid-19 but as a public company it will face a tougher audience

Car-sharing marketplace Turo made its public offering filing public on Monday, inviting prospective investors to "take a look under the hood." Is there sustained horsepower under all the smoke?

The first page of the S-1 is typically heavy on Silicon Valley narrative. With Turo, "guests can take the wheel of the perfect car for any occasion, while hosts can take the wheel of their futures," the company says. The elevator pitch that Turo can be the Airbnb of car-sharing might have merit, but the numbers show it isn't there yet.

If you own your own vehicle and therefore have relatively little use for a car-sharing marketplace, Turo is probably a lot bigger than you would imagine: The company says as of Sept. 30, 2021, it had 85,000 active hosts and 1.3 million active guests. But compare that to the size of Airbnb when it went public and Turo's progress looks underwhelming. In its own public offering filing in late 2020, Airbnb had four million hosts across 220 countries, logging 825 million guest arrivals. And Turo wasn't born yesterday: The company was launched in 2010, roughly two years after Airbnb welcomed its first guest.

A smaller business could still be a good one, of course. For the first nine months of last year. Turo's revenue grew over 200% year-over-year, and it was even profitable on the basis of adjusted earnings before interest, taxes, depreciation and amortization for the first nine months of last year. Between the first quarter of 2020 and the third quarter of 2021, Turo's gross booking value more than quadrupled. And for the 12 months ended Sept. 30, Turo says 87% of its site traffic was organic.

It took a pandemic to put Turo on the map, though. It is hard to

say just how much of the rush of business is because of significant rental-car and vehicle shortages. Back in 2019, Turo did under \$142 million in revenue—less than a third of what its nine-month run rate suggests it may have put up last year. Between 2019 and 2020, its revenue grew less than 6%.

In terms of go-forward opportunity, then, consider some basic ownership statistics. The U.S. homeownership rate in the third quarter of last year was just over 65%, according to the U.S. Census Bureau. Meanwhile, 93% of U.S. households had access to at least one car in 2019, with 24% of American households owning three or more cars or other light vehicles. Those figures imply Turo has the potential to be a lot bigger than it is; but they also make you wonder why it isn't already.

Data from Bloomberg Second Measure shows Turo commands roughly 98% of the U.S. car-sharing market as of November, but just over 6% of the broader U.S. rental-car market that also includes traditional players such as Enterprise Holdings, Hertz and Avis Budget Group.

Encouragingly, Barry Diller's **IAC/InterActiveCorp** is a fan. It owns a minority stake in Turo (27% on a fully diluted basis in the form of preferred shares, according to its third-quarter filing) and in its third-quarter shareholder letter refers to the carsharing platform as a "promising [seed] planted for the future." IAC said it initially invested in Turo in 2019 in part because of its "incredible scale," then noting it had "only just begun to penetrate the market."

IAC certainly has a history of value creation with investments like Expedia Group and Match Group now at multiples more than they were when spun off from the holding company. But not every



The elevator pitch that Turo can be the Airbnb of car-sharing might have merit, but the numbers show it isn't there yet.

thing it touches turns immediately to gold: Last May, video-sharing platform Vimeo ended its first dav as an independently traded public company after a spinoff by IAC with a market value of nearly \$8.4 billion. Today it is valued at less than \$3 billion.

Like nearly every tech company these days, Turo sounds compelling. And the company arguably has done a lot with a little, raising less than \$500 million to date, according to PitchBook. Before Airbnb's IPO, the homesharing platform had raised over \$6.4 billion.

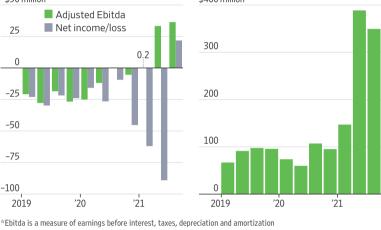
Still, as a public company, Turo will face a tougher audience: Investors have to bet it won't stall under scrutiny.

—Laura Forman

-75

#### Turo's quarterly adjusted Ebitda\* and net income/loss \$50 million Adjusted Ebitda 25





Source: the company



# Watch for Rising Prices **Turning Into Wage Spiral**

Increasing inflation has had more to do with the pandemic than labor costs. But that could change.

Just Eat Takeaway.com lost around 40% of its market value in 2021. A delivery person for the service in Berlin.

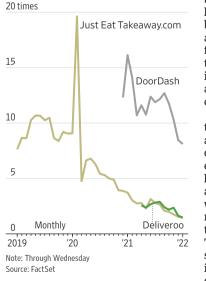
# **Grubhub Gives Owner Indigestion**

Grubhub's European owner served investors some tasteless meals lately, despite good ingredients. But that could change: The stock seems cheap and the company has ways to fix its problems.

On Wednesday, Amsterdambased Just Eat Takeaway.com said orders rose 14% in the fourth quarter of 2021 compared with the year-earlier period, well below the 25% that analysts were expecting. Business slowed in October and November as diners headed back to restaurants, before picking back up in December as the Omicron variant made people cautious about socializing again.

North America was Just Eat Takeaway.com's weakest region, increasing orders by 6%. Grubhub, which the company bought last June for \$7.3 billion, has been losing market share to rivals, in part due to its high exposure to big office markets like Manhattan. Corporate customers are ordering at only around half the rate they were before the pandemic. Caps on the fees that delivery platforms can charge New York restaurants also are hurting profits.

All this has given the acquirer serious indigestion. Just Eat Takeaway.com lost around 40% of its market value in 2021, and has taken another dive this year as investors rotated away from unprofitable growth sectors. One result is that the shares appear cheap on 1.5 times projected sales, far below the 8.1 times multiple of DoorShare price/projected sales multiples



Dash and slightly lower than U.K.based **Deliveroo**, whose stock has plunged since its disastrous market debut last vear.

Just Eat Takeaway.com isn't out of the woods. Big U.S. competitors like DoorDash are moving into its European strongholds including Germany, a highly profitable fooddelivery market. Management told investors Wednesday not to expect its U.K. business to break even in 2022, as it needs to invest heavily in London to win back diners lost to Uber Eats and Deliveroo in recent years.

The company has done a conspicuous U-turn on grocery delivery. After dismissing the cashburning partnerships that rivals like DoorDash were signing with big supermarkets, Just Eat Takeaway.com is trying to catch up from behind. The company has a tie-up with Kroger in the U.S. and is rolling out dark stores in Canada, where it will fulfill grocery orders for rapid delivery.

Luckily, there is a menu of options to boost Just Eat Takeaway.com's flagging share price. The company said it is in talks with several strategic partners about Grubhub in the U.S. This should please activist investor Cat Rock Capital, which recently called for the business to be sold or spun off-a matter of months after the deal closed. The company also could sell its stake in Brazilian delivery business iFood. Management seems open to a deal but hasn't vet received a good enough offer. Potential asset sales may explain why the stock was up 5% in early European trading despite the weak results.

Longer term, Just Eat Takeaway.com is less threatened than peers by the prospect of tighter labor regulations in Europe. It emplovs its couriers in many markets. unlike Uber Eats and Deliveroo, which could be hurt by recent European Commission proposals that may hand more rights to gig economy workers.

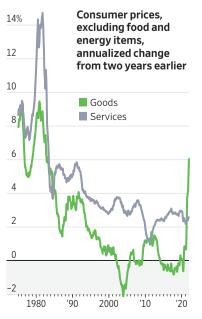
Just Eat Takeaway.com faces plenty of challenges, but may still offer investors the best cheap eat on the market. -Carol Ryan

Inflation is high, and the job market is tight. Both of those things have a lot to do with the pandemic, but how much do they have to do with each other?

The Labor Department on Wednesday said its measure of consumer prices rose 7% in December from a year earlier, marking the steepest gain since June 1982. Core prices, which exclude food and energy items in an attempt to better capture inflation's trend, were up a somewhat milder 5.5%, but that was their biggest increase since February 1991.

This comes on the heels of Friday's jobs report, which showed the unemployment rate slipping to 3.9% last month, and average hourly earnings up 4.7%. The Federal Reserve is getting ready to raise rates as soon as March, and the combination of rising inflation and a tightening labor market is giving it cause to.

What the Fed doesn't want to see is an environment where wage increases are pushing prices significantly higher, while a tight labor market and expectations of higher inflation are leading workers to command outsize wage increases. That could lead to infla-



Source: Labor Department

tion remaining well above the central bank's 2% target, forcing it to raise rates sharply and risk a recession.

To a degree, the rise in inflation over the past year reflects a rebound from the early stages of the pandemic, when prices cooled significantly. Even so, core prices have risen at a 3.3% annual rate over the past two years, which is the fastest pace since June 1993.

That pickup is entirely the result of increased goods prices, while service price gains have been muted. Core goods prices rose at a 6.1% annual rate over the past two years, the most since March 1983. Core services prices rose at a 2.6% rate over the past two years, which is lower than during the two years before the pandemic.

Goods—particularly big-ticket items such as cars and appliances—have been where supply problems have been the most pronounced. Goods also have been at the receiving end of the demand shift the pandemic brought on: Unable or unwilling to spend money on services such as airline tickets, Americans bought more stuff instead

Rising wages have surely put some upward pressure on prices, too, but thus far they are largely secondary. If the pandemic loosens its grip, helping to alleviate supply-chain problems while provoking a shift in spending back toward services, inflation will cool.

How much it will cool is the big question. Rising labor costs could put a floor on how much price gains can moderate. A lot will depend on whether more people return to the labor market after the Omicron-driven surge in Covid-19 cases ends, easing hiring strains. And a lot will depend on how successful companies will be in passing rising labor costs on to their customers.

The tight job market and high inflation might not be feeding one another now, but that doesn't mean they won't in the future. –Justin Lahart





A LOOK AHEAD FROM THE WALL STREET JOURNAL.

### The Metaverse And Mental Health

Experts predict the effects of the digital realm **R7** 

The anti-diet movement seeks to end the focus on shedding pounds **R8** 

Weight-

Less

### All Together Now

Multigenerational communities aim to ease isolation **R3** 

# The Fountain Of Youth in a Pill?

Scientists test drugs to fight aging and boost life expectancy **R2** 

### PLUS

Trackers to quantify wellness are about to show up in everything R4-5

ay it's 2050 and you just turned 70 years old. You feel as vigorous after a workout as you did at 35. Your skin has nary a wrinkle. Your mind seems as sharp as ever.

Will people eventually routinely live—and live healthily—longer? That's the vision of the burgeoning field of aging research, where scientists are trying to extrapolate tantalizing life-prolonging findings from animal experiments into medicines that slow, prevent or even reverse the aging process for humans.

Leading candidates for stanching aging include two familiar drugs metformin, a front-line diabe-

tes treatment, and rapamycin, long used to prevent transplant patients from rejecting donated organs. Both have been shown to increase longevity in animal studies and both target molecular processes linked to the aging of cells.

Another approach is a new class of drugs called senolytics, which clear the body of socalled senescent cells, old cells that stop dividing but don't die. They accumulate in tissues throughout the body and secrete factors that damage other cells. They are linked to such aging conditions as cognitive impairment.

Also in the mix is a strategy called cellular reprogramming in which scientists are seeking to turn back the clock on aging cells, restoring functions characteristic of younger cells.

A magic pill that "makes life expectancy jump from 80 years to 150" isn't likely, says Steven Austad, senior scientific director of the nonprofit American Federation for Aging Research in New York and chair of the biology department at University of Alabama at Birmingham. But a 10% to 20% increase in lifespan beyond the current roughly 80-year average in the U.S. for men and women "is quite conceivable," he says.

Academic research centers and biotech companies are piling into the antiaging field. They are backed in part by a \$3 billion annual budget for the U.S. National Institute of Aging as well as high-profile billionaires and other investors.

Still, with all the "longevity enthusiasts, there is this misperception that we're close somehow to doing this," says Matt Kaeberlein, director of the Healthy Aging and Longevity Research Institute at University of Washington, Seattle.

Huge technical, regulatory, economic and social hurdles stand in the way. For instance, the Food and Drug Administration doesn't recognize ag-

# A PILL TO TURN BACK THE CLOCK

Scientists are studying whether drugs that prolong life in animals can prevent the aging process in humans **By Ron Winslow**  healthcare system could be enormous, researchers say.

An early look at prospects for antiaging medicine in humans may come from a trial called Tame, for Targeting Aging with Metformin, being mounted by the American Federation for Aging Research. Metformin, which lowers blood sugar in diabetics by improving use of insulin, affects a variety of age-associated cellular functions. It also has a long history of use in people, with a good safety profile.

The plan for the six-year study is to enroll 3,000 men and women aged 65 to 80 at 14 centers around the U.S. and randomize them to ei-



years in some cases to run a randomized trial to prove whether a drug safely extended life.

Another challenge will be assuring that people of low socio-economic status, who are at much higher risk of early illness and death than the well-off, have access to antiaging drugs.

Medicine's leading killers—car-

ther 1,500 milligrams a day of metformin or a placebo. Researchers will track them until their first major age-related disease outcome, perhaps a heart attack or a dementia diagnosis, says Nir Barzilai, director of the Einstein Institute for Aging Research at Albert Einstein College of Medicine, New York, and principal investigator for the study. markers of aging in the participants treated with metformin.

Excitement about the potential for rapamycin stems from animal studies showing not only increased lifespan but "broad effects on aging," says Dr. Kaeberlein. Rapamycin, which targets a protein called mTOR (mechanistic target of rapamycin), helps suppress the immune system to prevent organ rejection in transplant patients. Dr. Kaeberlein says the drug actually works more as an immune modulator. In aging, the immune system is often activated against normal tissue and is inactive toward invaders it should see. "Rapamycin appears to restore that balance," he says.

Side effects of a high-dose rapamycin regimen in transplant patients include anemia and low white-blood cell count that can lead to infections. A lower dose, perhaps taken weekly, is more likely for antiaging, Dr. Kaeberlein says. Rigorous clinical trials are needed to determine safety and efficacy in people.

Both rapamycin and metformin are generics produced by multiple drugmakers. Merck KGaA of Germany sells metformin under the brand name Glucophage. Rapamycin is sold by Pfizer Inc., branded as Rapamune.

Mayo Clinic is a leader in developing senolytic agents, which kill senescent cells by disrupting the biological pathways they use to protect themselves from their own toxic secretions that damage other cells. Several clinical trials are under way to determine whether the agents will slow aging or help restore health to human cells. In a small study without a placebo control, a senolytic drug appeared to alleviate frailty in elderly men and women with a serious lung disease, Dr. Kirkland says. Other early data on the effectiveness in humans have been mixed.

Cellular reprogramming is about trying to rejuvenate aging cells. The idea is based in part on experiments in which old mice exposed to the blood of young mice got biologically younger.

Restoring "youthful properties to old cells sounds like magic," says Thomas Rando,

director of the Broad Stem Cell Research Center at University of California at Los Angeles. "But it happens all the time in biology."

Resetting a cell's age to zero would erase its identity. Dr. Rando and others are aiming for "partial reprogramming," in which, say, an old muscle cell or a neuron becomes a younger version of itself. Early labo-

ing as a disease to be treated, meaning there isn't a clear path to approval for a drug that targets the biology of aging. Researchers instead have to design trials that can quantify whether a drug improves health or extends survival in a specific agerelated disease. A pill that a large and generally healthy population would take, perhaps for decades, would have to clear a high safety bar.

The history of antiaging drug development is sobering. GlaxoSmith-Kline purchased Sirtris Pharmaceuticals Inc. and its drug candidates based on the red-wine ingredient resveratrol in 2008 for \$720 million. Hyped research had linked resveratrol to increased longevity in animals, but Glaxo was unable to translate that into effective drugs against age-related human diseases and essentially closed the Sirtris unit.

Researchers are working to develop biomarkers in blood or other bodily sources that can quantify the aging process and serve as drug targets or as proxies to indicate a drug is working or not. Without validated biomarkers, it could take 20 or 30 diovascular disease and stroke, cancer, Alzheimer's disease and diabetes—as well as arthritis and osteoporosis generally develop later in life. Scientists have found they also share certain biological hallmarks of aging, including changes to cellular powerhouses called mitochondria, senescence and other processes related to genetic functions, cellular nutrition, metabolism and damage repair.

The hope is that any medicines that might slow or rejuvenate these processes will reduce the risk of a variety of diseases of aging all at once. That could extend not only the lifespan but the time people live without debilitating chronic ailments—what researchers call the health span.

"We don't want to have people live to be 120 and feel like they're 120," says James Kirkland, a gerontologist at Mayo Clinic.

Even if such treatments only delay the onset of aging without extending longevity, the benefits for quality of life among the elderly and the reduction of costs for the

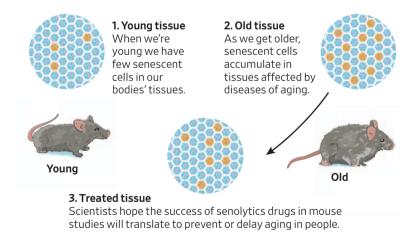
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Roughly

The average lifespan in years for men and women in the U.S. A 10% to 20% increase 'is quite conceivable,' says Steven Austad of the American Federation for Aging Research The hope is to show a delay in major age-related events and associated beneficial changes in bioratory studies are encouraging, Dr. Rando says, but the approach is far from being tested in humans.

#### **Targeting Aging**

Senescent cells, aged cells that stop dividing but don't die, accumulate in brain, heart, eye and other tissue hit by diseases of aging. Drugs called senolytics have been shown to kill senescent cells in mice, prolonging their lives and alleviating disease. Tests in people are underway.



Sources: Nature Medicine; Mayo Clinic

#### **FORWARD LOOKING**

### Tech to Live Better, Longer

Five inventions in the works to improve old age. **By Benoit Morenne** 

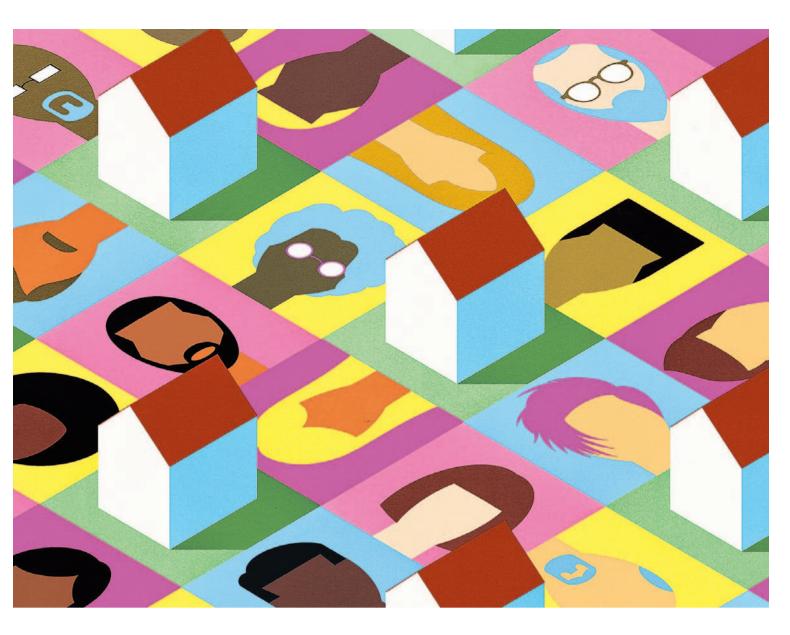


#### A Spoon to Rejuvenate The Sense of Taste

People's ability to taste starts to decrease around age 60, research shows. Among the elderly, some medicine can further dull the sense, according to research published in the Nutrients journal last year. In the future, an aging population could rely on smart utensils to improve their sensory experiences.

Nimesha Ranasinghe, an assistant professor of spatial computing at the University of Maine, received a \$50,000 grant from the National Science Foundation, an independent government agency, to develop a spoon that artificially juices up the perception of saltiness. A tiny module affixed to the handle sends faint electric currents to two electrodes set on the utensil's back. When the tongue touches the electrodes, a harmless electric signal stimulates taste buds into perceiving salt, Dr. Ranasinghe says, regardless of whether the condiment can actually be found in a meal. The intensity of the electric current can be adjusted via a smartphone app to reach the desired level.

The spoon could be used in nursing homes, where employees could help residents calibrate it, Dr. Ranasinghe says. He expects it will be commercialized within five years.



# HOME SWEET HOME, FOR YOUNG AND OLD

Communities set to break ground this year seek to address loneliness and the caregiving shortage in the U.S. **By Clare Ansberry** 

he U.S. is facing an aging population, a shortage of caregivers, a dearth of affordable housing and an increase in social isolation that threatens well-being. Some think what we really need is Magic.

That is, multi-ability, multi-generational, inclusive co-living, or communities where young and old, families and singles, live side by side, supported by inclusive design, technology and neighbors. Rethinking community in this way could reshape how and where older adults and people with disabilities live and receive care, while building symbiotic relationships between people of all ages, supporters say. Magic is the brainchild of geriatrician William Thomas, who spent decades working to improve long-term care. Spurred by a belief that segregating older adults, as well as people with special needs, negatively impacts their well-being, Dr. Thomas co-founded Kallimos Communities to develop neighborhoods based on Magic principles. Groundbreaking is expected to begin in the second half of 2022 on two neighboring 7.5-acre communities in Colorado-the first of what he hopes will be many across the country. Others in the caregiving field are reimagining the way people live and care for each other and coming up with similar solutions. Another Magic community, the Village of Hope, is slated to start construction in the spring in rural Pennsylvania, catering to parents with adult children with disabilities, grandparents raising grandchildren and those with early onset Alzheimer's.

is among the most age-segregated countries in the world, which has led to ageism and loneliness. Magic communities could help counter that, he says.

"Housing and community design can be used to rectify some of the wrongs we see," says Mr. Freedman.

Intentional intergenerational models exist in small pockets around the country, where preschools operate in assisted living facilities, and on a grand scale in Singapore, he says, where the government is spending \$2.4 billion to build three-generation flats and housing developments that have space for both elder care and childcare. "Housing and community design can be used to rectify some of the wrongs we see."

—Marc Freedman, Encore.org "keepers," staff who would help residents with transportation, cleaning and cooking.

"We're creating a community founded on reciprocity," says Dr. Thomas. Other Kallimos Communities, the name derived from a Greek word meaning beautiful, are planned for Texas and New England, but are still in the early stages.

The Loveland community, built with the Loveland Housing Authority, a city agency which will develop and own the property, will include communal space and gardens. Houses will be studios to two-bedrooms and universally designed, with wider doorways and hallways, no steps, and showers that are flush with the floor to accommodate people of all abilities. Residents can pay for additional technology, such as motorized lift systems mounted to the ceiling and adjustable countertops for those with disabilities and confined to wheelchairs.

Rents haven't been set yet but will be aimed at the middle of the market.

"When it comes to aging, a small house equals big life. Big house equals small life," says Dr. bors to foster reciprocity, says Megan Marama, chief operating officer of Kallimos, which will manage the community. For example, a person with dementia who loves to garden could contribute by helping tend flowers.

Magic communities could also appeal to younger people, including students, looking for less expensive housing and more inclusive neighborhoods. "There are a lot of younger people who are attracted to neighborliness and close relationships with people around them," says Dr. Thomas.

The Village of Hope, in Clearfield County, Pa., addresses the area's shortage of affordable housing—the local senior high-rise apartment building has a three-year waiting list—as well as increasingly complex needs for caregivers.

"We have grandparents raising grandkids, in part because of the drug epidemic," says Kathleen Gillespie, CEO of the nonprofit Clearfield County Area Agency on Aging, which is developing the project. She spent 25 to 30 years working in long-term care, including as a nursing-home administrator.

Older parents who have adult children with disabilities are exhausted and worry about what will happen to their children if they become ill or frail, she says. Being in the Village of Hope would offer them peace of mind, she says.

Single-family homes, duplexes and triplexes ranging from 900 to 1,500 square feet, some with two bedrooms and two bathrooms, will rent for \$900 a month, including utilities and grounds maintenance. Each is compliant with the Americans With Disabilities Act requirements and equipped with high-speed broadband to accommodate telehealth. A 15,000square-foot Village Hall will have a grocery store, café, fitness center, adult day center, community arts space, and an office to support and coordinate services.

Residents, including single parents, can receive reduced rent in exchange for helping their older neighbors with small chores and transportation, who in turn might be able to provide limited childcare.

The Area Agency on Aging is tapping public and private lending geared toward rural housing to build the homes and plans to use the federal and state Home and Community Based Service program to fund support services provided to residents.

Gary Smith, lead developer for the project, spent four decades developing skilled nursing facilities. "I realized what I did for 45 years was completely wrong," says Mr. Smith, an executive advisor to Avenue Develop-

Marc Freedman, chief executive of Encore.org, a nonprofit working to promote intergenerational connection and second careers, says the U.S. Creating new communities, rather than offering services in existing ones, faces special challenges, including startup costs and getting people to move into them. About 70% of adults 50 and older want to "age in place," remaining in their homes for the long term, according to a 2021 AARP survey of nearly 3,000 U.S. adults.

Kallimos Communities aren't meant to replace long-term-care facilities or aging in place, Dr. Thomas says. "Not everyone wants to stay in their house. For some people, there are negative consequences—social isolation, undernutrition, financial abuse, injury," he says.

The first of Dr. Thomas's Kallimos Communities, in Loveland, Colo., will consist of two communities, each with up to 50 rental homes, designed for people of all ages and abilities. Kallimos will employ staff, known as "weavers," to meet residents, introduce them to each other and plan meals and activities in the common areas. They would work closely with William Thomas co-founded Kallimos Communities based on a belief that segregating older adults, as well as people with special needs, negatively affects their well-being.

#### Thomas.

Weavers would connect neigh-

ment. "We shouldn't be segregating people."



The risk of developing eye conditions increases with age, according to the National Institute on Aging, but wearable devices could help diagnose vision problems and make up for waning

#### A Headset To Boost Vision

eyesight. IrisVision, a Californiabased startup, worked with Samsung Electronics Co. to design a \$3,995 virtual-reality headset that it says can

help restore vision for patients suffering from conditions such as macular degeneration. The headset includes a Samsung Galaxy smartphone that uses software to beam images captured by



its camera onto still-functioning areas of the retina. This allows the brain to compose a full picture, IrisVision says. Users have the option to zoom in and out using a button or voice commands.

Primary care doctors could prescribe the apparatus to patients at risk of developing eye conditions and have them do weekly visual field, contrast sensitivity and color tests, all of which can be done on the headset, says Ammad Khan, the co-founder and chief executive of IrisVision. As part of a commercial pilot, patients at 50 healthcare practices in New York City can use the service to conduct such tests, he says.

# THE EXTREMELY QUANTIFIED SELF

rom counting 10,000 steps to reminding when to stand or take a few deep breaths, many Americans have become accustomed to devices quantifying their progress toward health goals. Is this just the beginning? Businesses and researchers are dreaming

up the next generation of methods to create and quantify personal data, with the aim of using the information to boost health and happiness. Some technologies are in their infancy, including machines that sit in the home, passively scanning for early signs of illness. Others are in limited use. Still others, such as smart thermometers and blood-glucose monitors, are widespread, but their proponents see untapped potential in the data they collect.

These advances bring concerns about security, as sensitive information is beamed up to the cloud, and privacy, especially in cases where manufacturers own data about their customers' health that the customers themselves can't access. It's still too early to know exactly which metrics correspond to improved health, or whether zealously tracking them itself has negative impacts. –By Laura Cooper

98.6

#### Taking the Temperature

89.9

Thermometers are ubiquitous. They are often the first medical tool that people consult once they start feeling sick. Aggregating those temperature readings and associated symptoms could someday quantify and diagnose illness at a population level. In the coming years, smart thermometers may be able to help determine whether patients have particular strains of flu or Covid-19, based on symptoms, temperature and other data collected in the area. Inder Singh, the founder of Kinsa, a San Francisco-based smart-thermometer company, says this kind of diagnosis could allow patients to bypass doctor visits and get medication quickly. Kinsa is working to turn its smart thermometers, introduced in 2013, into a system that detects outbreaks and tells people how and when they should seek treatment. The network has about 2.5 million thermometers in the U.S. so far.

#### In the Blood

100.3

103.2

65

Some people are wearing blood-glucose monitoring devices, which continuously measure blood sugar via a small device worn on the arm, even if they don't have diabetes. Elevated or spiking blood sugar is linked to heart disease, stroke and diabetes, so proponents of bloodglucose monitors say that tracking blood sugar could help wearers personalize their diets and live healthier lives. The Levels software, for example, allows users to watch their glucose levels on an app as they eat different foods, exercise and sleep. Ultimately, the company

several biosensor streams to help them optimize cell function and predict disease, says Dr. Casey Means, the chief medical officer of Levels.

envisions people having

105 mg/d/

Pet owners, including the many who adopted animals during the pandemic, are seeking to quantify the health of their furry friends as well. Whistle Fit, for example, offers a glimpse into a possible future for connected pet care. The 1.5-inch device affixes to a dog's or cat's collar and monitors its health, fitness and behavior. Sensors collect data about a pet's daily routine. Algorithms analyze the data to detect behavior tied to wellbeing, including playing, running, sleeping, exercising and drinking. After establishing a baseline, Whistle can determine whether a pet's behavior is changing. The owner can set exercise goals based on breed, age and weight. The company provides summaries to share with vets and alerts around behavioral problems like excessive licking or scratching.



#### **Old Dog, New Tricks**

#### **Natural Medicine**

Research has shown that time outdoors can benefit well-beingbut do certain natural settings have an outsize effect? NatureQuant, based in Bend, Ore., is aiming to quantify time in nature. This week, the company released NatureDose, an app that tracks people's time indoors and outdoors as they go about their daily routines. The app can map the types of nature a person passes through phone sensors including GPS and accelerometers. That data is paired with NatureQuant's mapping systems to determine a person's proximity to natural elements. The app is being tested in clinical trials in universities, with the aim of determining how time in nature impacts anxiety and depression. Eventually, the company hopes, health professionals could use the data to prescribe time in nature, even tailoring recommendations by lifestyle, season and locale.

#### **Body of Water**

The well-known admonition to drink eight glasses of water a day has persuaded many Americans to lug around water bottles in the hopes of satisfying their hydration needs. Hydration, after all, has been shown to benefit brain function, heart health, digestion and other bodily functions. Is eight glasses really the right number for everybody? In the future, connected devices could help assess how much water is the optimum amount for each individual. The PÜL SmartCap, a mobile-connected water-bottle cap, recently hit the market promising to help consumers set goals and track their hydration levels with an accompanying app.

#### The Right **Dose of ZZZs**

A plethora of products is already on the market to help people sleep. More futuristic offerings include robots that help lull patients to sleep with breathing exercises and "digital sleeping pills," beamed through headbands that play music or soothing sounds when they sense users are about to wake up, says Dr. Seema Khosla, the medical director at the North Dakota Center for Sleep. Going forward, it would be helpful to have a bespoke assessment of how much sleep each individual needs, as opposed to the one-size-fits-all recommendation of eight hours, she says. Devices will likely be less clunky in the coming years, she says, sitting by the bedside with less need for physical contact with the sleeper.

### Watch Your Mouth

Dentists have long advised brushing teeth for two minutes twice a day. In the future, quantifying dental data, such as tracking acidity in the mouth, may help forecast cavities before they happen and draw connections between oral health and other health issues. For example, night guards or other devices that measure biomarkers in saliva could uncover disease, such as inflammation of the gums that is linked to diabetes, says Dr. Corneliu Sima, an assistant professor of oral medicine, infection and immunity at the Harvard School of Dental Medicine. Cameraenabled toothbrushes could serve as oral scanners, beaming real-time information to dentists, who could use machine learning to sift through the data to determine whether patients need to come, he says.



#### **The Wearable You** Don't Need to Wear

Researchers at the Massachusetts Institute of Technology have created a wall-mounted, laptop-size box that sits in the home, analyzing electromagnetic waves around residents. Using machine learning, the device can track breathing, heart rate, movement, gait, time in bed and the length and quality of sleep—even through walls. Health organizations, hospitals and medical schools are using the device. It is being used in clinical studies for Parkinson's disease, Alzheimer's and immune diseases and was used to monitor Covid-19 patients in isolation during the first wave of the pandemic. Dr. Dina Katabi, a professor at MIT's computer science and artificial intelligence lab who led the project, says the boxes could be used in the homes of seniors and others to help detect early signs of serious medical conditions, and as an alternative to wearables.



# **BROADENING ACCESS TO SEXUAL HEALTH**

Companies are starting to develop products that cater to customers with disabilities **By Hallie Lieberman** 

itchell Tepper has a motto: "You don't have to break your neck to be a great lover, but you could learn a lot from somebody who has."

Dr. Tepper, a sexuality educator and coach in Atlanta, specializes in helping people with disabilities find sexual fulfillment. Dr. Tepper, who is quadriplegic, injured his spine in 1982 at age 20 while working as a lifeguard. The doctor told him he had less than a 10% chance of having children, but no one advised him on how to increase his chances of fatherhood or improve his sex life, Dr. Tepper says. Today, he recommends app-controlled devices to Some tools to help people with disabilities have children have been on the market for decades. In the 1990s, researchers found that men with spinal cord injuries were able to have children through stimulation with vibratory devices. Ferticare, which came on the market soon after, is a wandlike device that uses intense vibration to treat infertility in men with spinal cord injuries.

This new crop of devices is more about pleasure, not just fertility. They are cheaper and easier to use, and many were designed by people with disabilities.

The Bump'n Joystick, which will be available in early 2022 for \$249, is a bendable cylinder with an extension for various attachments. It is designed for people who struggle with small motor functions. They can hug the joystick and move the device into position with their arms and legs. Toronto-based siblings Andrew Gurza and Heather Morrison came up with the idea for the Bump'n in 2018, after Mr. Gurza, who has spastic quadriplegic cerebral palsy, was asked to test a device made by another company. "I couldn't get this toy out of the box because of my ▲ Toronto-based Andrew Gurza, along with his sister, Heather Morrison, created the Bump'n Joystick, designed

Joystick, designed for people who struggle with small motor functions.

### "Disability

dexterity," he says.

Through research conducted in 2018 with the Royal Melbourne Institute of Technology, Mr. Gurza and Ms. Morrison found that the sex devices on the market didn't meet the needs of disabled people, particularly those with hand disabilities.

Bump'n has raised 323,000 Australian dollars, including AU\$13,000 from a GoFundMe fundraiser, equivalent to roughly \$230,000 at current exchange rates.

Alexander Bjørkmann, a former designer of automated weapons, put his expertise to use designing the Handy, a device for men that can be controlled remotely. The Handy, which went on sale in 2019 for \$160, looks like a remote control crossed with a flashlight, with a motor that moves an external sleeve up and down.

Mr. Bjørkmann and financier Jens Wilhelmsen co-founded Norway-based Sweet Tech to develop the Handy in 2018. The company's funding includes \$600,000 in matching funds from the Norwegian government's innovation fund.

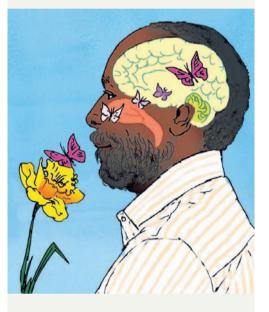
Though the Handy isn't marketed specifically for people with

#### A Brain Implant To Smell Again

No existing technology can make up for loss of smell, which research shows is common among older people. Researchers at Virginia Commonwealth University are working to change that.

Their system uses an electronic "nose," a small sensor that translates the chemical makeup of odors it detects and converts them into electric signals. Those signals are sent to electrodes that are implanted into the part of the brain that identifies smells. By stimulating the brain directly—a technique known as "deep brain stimulation"—these signals bypass the nerve-related damage that hampers smell recognition, says Daniel Coelho, an expert in otology and neurotology involved in the research alongside Dr. Richard Costanzo, also at Virginia Commonwealth.

The electronic nose could be installed in the arm of a pair of glasses, he says. It would send signals wirelessly to an implant surgically placed under the scalp, which would, in turn, transmit this information to the brain. As part of their research, Dr. Coelho and Dr. Costanzo are working on mapping out the olfactory pathways in the brains of about 20 patients at Massachusetts General Hospital—who have electrodes implanted in their brains to monitor epileptic seizures—to determine where electric currents should be aimed.



The risks associated with deep brain stimulation are relatively low, research shows, but the procedure requires invasive surgery. Patients with complete or severe loss of smell are more likely to want this treatment than those with mild or moderate loss, Dr. Coehlo says.

#### A Brooch to

clients who, like him, don't have full use of their hands.

"Sexuality is an integral part of a person's life. But disability often results in physical limitations which can dramatically impair a person's capacity for intimacy," Dr. Tepper says. Technologies that are modified or created for disabled people "have the ability to help individuals and couples overcome those limitations, allowing for access to lifeaffirming pleasure," he says.

Recently, companies have started developing such products that cater to people with disabilities, incorporating features that make their devices more accessible and relying on testers from the disabled community to improve designs.

When it comes to sexual health, the medical community remains behind in meeting their needs, disability advocates say. Many doctors are uncomfortable talking about sex, particularly with their patients with disabilities. Stigma is partly to blame, but there has also been a dearth of products available to help, and only a few devices that are covered by insurance.

"From my own personal experience and from working with countless patients with physical disabilities, the healing power of sexual contact and sexuality grossly underestiis mated," says David Ley, a clinical psychologist, certified sex therapist and affiliate faculty member at the University of New Mexico. He specializes in working with people with disabilities and is disabled himself.

often results in physical limitations which can dramatically impair a person's capacity for intimacy."

—Mitchell Tepper, sexuality educator and coach



disabilities, Sweet Tech has kept those customers in mind, the founders say. Sweet Tech employs testers with disabilities. In one case, the company says, a user with amyotrophic lateral sclerosis, or Lou Gehrig's disease, used third-party software to connect with the Handy, allowing him to control its movements with his eyes.

The U.K.'s Hot Octopuss recently hired Kelly Gordon, a wheelchair user, as a creative director. Their \$360 Pulse Solo Interactive, which was designed

with input from disabled users, includes two appcontrolled, hands-free vibrating devices, making it more user-friendly for people with dexterity issues, Ms. Gordon says.

"Sex toys are so important for disabled people," Ms. Gordon says, noting that self-pleasure can "relieve pain, boost circulation and boost your immune system."

Scottish sex-tech designer Tabitha Rayne didn't create her Ruby Glow vibrator with disabled people in mind. Then she read a review of the \$60 product from a man with chronic fatigue syndrome, who said he burst into tears of joy after using it, she says. Ms. Rayne is now working on a more inclusive version, priced at \$110 and set to be released next year, developed with the input of disabled testers. This iteration has a remote control with buttons of different sizes, making it easier to differentiate their functions by touch, and requires less pressure to turn off.

### Fight Solitude

The loneliness and isolation that often come with aging has been linked to high blood pressure, heart disease, cognitive decline and death. Could wearing a brooch or lapel pin help?

Researchers at RMIT University and Bolton Clarke, which provides residential care for older people, both based in Australia, designed a wearable listening device that detects how many words the wearer is speaking. When the count drops below a certain threshold, indicating the wearer may be having only minimal interactions with others and experiencing loneliness, the Conversation-as-Therapy Pin uses Bluetooth to send a



text message to a relative or initiates a phone call with a healthcare worker, says Leah Heiss, an associate professor of design at Monash University, who is involved in the project. The device doesn't store data or record what words are being spoken to protect privacy. The CaT Pin was designed as a proof-of-concept for future wearables, Dr. Heiss says.

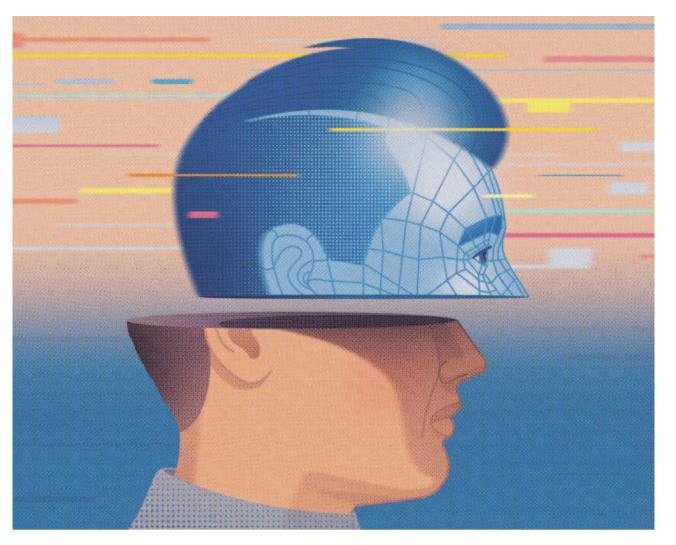
s the metaverse good or bad news for our mental health? Silicon Valley's focus on creating an immersive virtual world where our avatars shop, socialize and work has psychologists and other experts considering what effects it will have on our

well-being. Technology companies including Nvidia Corp., Epic Games Inc., Microsoft Corp. and Meta Platforms Inc., formerly Facebook, are rushing to create their own worlds or the digital bricks needed to enable them. Their visions have yet to take shape, but they could look something like a more sophisticated version of the computer-generated world Second Life, powered by technologies such as virtual and augmented reality and incorporating elements of gaming, remote work and social media. Headsetwearing users could attend concerts, participate in meetings or go on a class trip to Rome, for instance.

Some tech and mentalhealth experts say that every new technology-from radio to television to videogames-sparked fears that it would untether users from reality, isolate them or make them violent. These concerns were largely unfounded, they say, pointing to research showing that genetics, socioeconomic contexts and other factors influence people's well-being more. The metaverse, they say, is no different—it is only a matter of time before we seamlessly integrate it into our lives. Others, however, argue that the metaverse is so revolutionary that it will alter the fabric of society, with profound consequences for our mental health.

Here, five experts offer their thoughts.

#### The Challenge Of a 'Perfect' World



# THE METAVERSE'S MENTAL TOLL

How will the virtual realm affect our emotional health? Experts offer predictions. **By Benoit Morenne** 

does that downstream affect one's own selfesteem? No one knows the answer to that. —Jeremy Bailenson, founding director of Stanford University's Virtual Human Interaction Lab

#### Potential Positives of Screen Time

The overarching assumption is that we'll all inevitably become "sucked in" to a virtual world, and want to spend more of our time there than in the offline world. I don't think that's a given, but it's nevertheless important that tech companies take a thoughtful and ethical approach to developing metaverse technologies, rather than just go fullspeed trying to develop what currently seem like

#### Context Is Key

There are some fundamental building blocks of mental health that are well established, and they include things like positive relationships, social support, healthy sleep, physical activity. When we look at any technology, whether it's new or established, the question is not to ask how much time are people spending on it, but rather to say, is the way people are using it going to either promote those mentalhealth goals or is it going to inhibit? A young person who may be LGBT and who finds an online context where they can feel a sense of social support-we would predict that that would be a benefit for their mental health. On the other hand, if using metaverse technologies replaces non-online behaviors that are healthy and supportive to mental health, like appropriate exercise, engagement in relationships in real life, healthy sleep, time spent in natural environments, then they can be harmful. [These technologies are] going to accelerate the good things about social connection and potentially the harmful thinas.

signed with their safety in mind or their development only. I would expect that the same will be true of the metaverse. One of the biggest things that we see is it's not so much the technology itself that is harmful, but the anxiety, the conflict it creates within families, within people's perceptions that it's harmful. The more rapidly this all develops, the higher the anxiety is going to be among parents. To reduce the conflict and anxiety, there's going to have to be purposeful design and attention paid to what will be a huge share of young users in these new settings. *—Candice Odgers, professor* of psychological science, University of California, Irvine

#### The Danger Of Preferring Virtual Life

In terms of the research there, the internet is not an isolating place, generally speaking. The activities we do on the internet, whether it's social networking or playing online games, are highly social, even if you're not directly interacting with other people. I don't expect that this would be any different in the metaverse. But I'm concerned about a lack of balance. It's possible to start to prefer engaging in virtual spaces because of the accommodations that they provide. As an avatar, I can be tall and skinny, I can be whatever I want. And if we start to shift into preferring a virtual life, that may then negatively impact our ability to engage in a non-virtual life, whether it's self-confidence or belonging or social anxiety.

-Rachel Kowert, research director at Take This, a nonprofit focused on mental health in the videogaming community.

Interviews have been condensed and edited.

"If we start to shift into preferring a virtual life, that may then negatively impact our ability to engage in a non-virtual life."

-Rachel Kowert, Take This nonprofit



What no one studies are the kinds of long-term impacts on people spending time in a world where everything's perfect. You've got people who are

#### "We shouldn't just focus on the negatives, otherwise we will miss a tremendous opportunity."

-Peter Etchells, Bath Spa University

struggling in their daily lives, looking at the social media platforms, and they're comparing themselves to the other people. But at least in social media, it has to match up to who you are in the world. In VR, you lose that constraint. There's less ability to create an accurate version of oneself in the metaverse than there is on the social media platforms, and where the skew is towards better-looking, idealized avatars. The challenge is going to be when people are spending a lot of time there, and they're in a world in which ي 🖻 everyone is just perfect and beautiful and ideal. How

fantastical ways of interacting with each other digitally. Something that I think often gets lost in the narrative around screens and digital technology is that they can be a tremendous force for good in terms of keeping us connected. Of course, there are serious questions to ask about how that can go wrong, and how harmful interactions and content can proliferate. But we shouldn't just focus on the negatives, otherwise we will miss a tremendous opportunity. -Peter Etchells, professor

of psychology and science communication, Bath Spa University -Nick Allen, professor of clinical psychology, University of Oregon

#### Will the Kids Be Alright?

We've seen that young people are early and enthusiastic adopters of new technology. A lot of the effects [of the metaverse] are going to depend on how mindful we are, as adults, as technology developers, policymakers, educators, at scaffolding that youth in a way that we know promotes positive development. The problem we run into so far is that these platforms have not been de-

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# THE DEATH OF THE DIET?

## The anti-diet movement is building, driven by evolving definitions of health **By Sarah Toy**

aroline Dooner spent her teens and early 20s trying to lose weight. A physician diagnosed her with an endocrine disorder and suggested she try to shed some pounds. She went on the lowcarbohydrate, high-fat Atkins diet.

She couldn't stop thinking about the foods she wasn't supposed to eat. She began a cycle of binging on her favorite foods, and then losing weight again. She tried other diets. None worked.

Ms. Dooner, 34, doesn't diet anymore. In 2019, she published a book, "The F\*ck-It Diet," about her struggle with dieting and the cultural obsession with being thin. She's happier with her body and her relationship with food, she says.

More people like Ms. Dooner, exhausted by the pressures of the scale, restrictions on their favorite foods and the imperative of trying to look a certain way, are questioning whether they should give up dieting altogether. Some of them are finding the burgeoning anti-diet movement, which anticipates a future in which people don't try to change their weight. Instead of relying on weight or body-mass index, this subset of dietitians, nutritionists and others advocate ending diets and placing more emphasis on markers of health such as endurance, sleep and mental wellbeing. Shifting views on what it means to be healthy—as well as scientific research on diets and healthare helping drive the movement.

The anti-diet movement has high hurdles to becoming mainstream, say anti-diet proponents. The medical community overwhelmingly considers weight a crucial barometer of health. Decades of scientific research link higher weights to increased risks of heart disease, cancer, diabetes and other illnesses.

Dieticians including Christy Harrison, the author of a book called "Anti-Diet," envision a different future, where people listen to their

own hunger cues, instead of trying out the latest diet, and approach nutrition and exercise to emphasize selfcare, rather than self-control. In this vision, there isn't stigma or bias associated with even the largest bodies.

For a culture steeped in

at data for 18,000 people, researchers found that those who reported experiencing weight discrimination had a 60% increased risk of dying, independent of BMI.

Most doctors and publichealth experts say that staying within a specific weight range is also crucial for health. The risk of illness and death tends to increase at BMIs higher than 25 or 30, experts and research say.

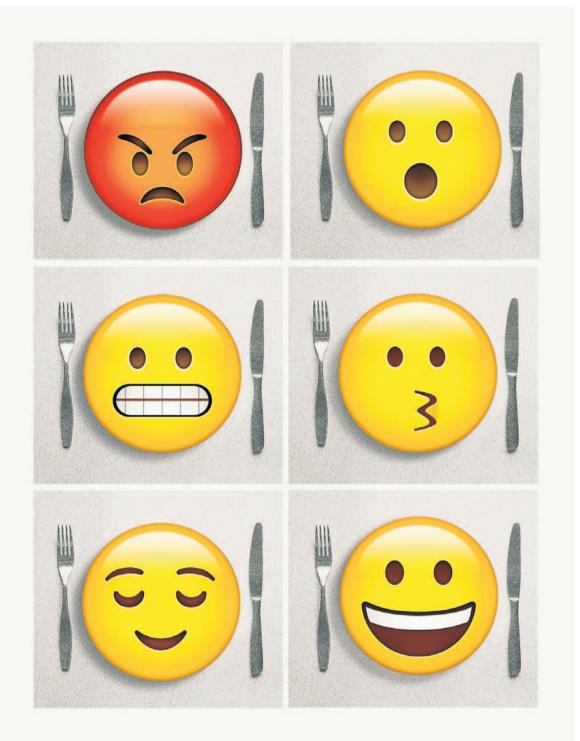
"There's not a doubt that obesity increases risk for a wide range of chronic diseases," says David Ludwig, a professor of nutrition at the Harvard T.H. Chan School of Public Health.

Steven Heymsfield, director of the Body Composition-Metabolism Laboratory at Pennington Biomedical Research Center, espouses an approach that isn't weightcentric but doesn't do away with weighing altogether. The medical community should encourage people to get treatment for issues like high cholesterol and blood pressure and ask them to be more active and smoke less, he says. He still recommends some patients lose weight. "Weight loss would do a lot of what these other things would do," he says.

To anti-diet advocates, encouraging people to lose weight is setting them up for failure. Many people can't maintain the weight loss they may experience while dieting.

A recent review of 121 trials of various diets found that participants' weight and blood pressure measures generally improved after six months on the diets. But after a year, most people regained the weight and any cardiovascular improvements mostly disappeared.





that the less people restrict their access to certain foods, the less they'll have an out-of-control craving. By removing food rules, adherents eat a varied diet—chips, yes, but also fruits and vegetables.

One review of 24 studies published in 2016 showed that intuitive eating was associated with greater body appreciation and satisfaction, along with a greater motivation to exercise. Another study published in 2014 found an association between intuitive eating and blood-sugar control in young people with Type 1 diabetes.

Intuitive eating, which dates back to the 1990s, has gained more traction in recent years partly because of social media about the message, as well as a cultural shift in how women view themselves, ciple which rejects that any weight level is necessarily ideal or pathological. HAES also recognizes that people's life experiences, including trauma, poverty, stress and medical problems, may contribute to a larger body size, says Jennifer Gaudiani, a Denver-based physician who treats patients with eating disorders.

While the broader medical community acknowledges that a combination of factors determine a person's size, most physicians say there are weight classes that are harmful and that obesity is a public-health issue that needs to be addressed.

"There's no question that obesity is a medical problem, but we have to destigmatize it," says Dr. Ludwig. "We need to seek approaches that will not create this unwinnable battle between mind and metabolism."

the knowledge that being overweight is undesirable and dangerous, it's a radical idea. But research is emerging that points to both the ineffectiveness and hazards of dieting, and suggests a nuanced explanation for some of the health issues associated with higher weights.

Yo-yo dieting has been shown to have adverse health impacts. One study looking at data on more than 9,500 people with heart disease found that those who experienced the greatest fluctuations in weight over nearly five years had a significantly increased risk of heart attack, stroke or death, when compared with those whose weight fluctuated less. Dieting can also predispose people to eating disorders, studies show. And some researchers have found that weight stigma, or discrimination based on a person's weight or size, may itself be responsible for some of the negative health outcomes typically associated with higher weights. In one study looking

Most diets also leave out the psychological side of restricting certain foods. It can make people fearful of and also obsessed with those foods, says Ms. Harrison. That, in turn, can lead to disordered eating habits.

Many anti-diet proponents instead advocate intuitive eating, or listening to the body's innate signals around hunger, fullness and food preferences. Central to the process is giving up tracking weight and categorizing foods as morally good or bad.

It doesn't mean only eating chips and ice cream. The idea is

data for 18,000 people

to one study

The increased

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Caroline Dooner spent her teens and early 20s trying to lose weight but doesn't diet anymore.

Elyse Resch, a nutrition therapist and co-author of the original book on intuitive eating, says the principles have gained more traction in recent years. says Elyse Resch, a nutrition therapist and co-author of "Intuitive Eating: A Revolutionary Anti-Diet Approach," the original book on intuitive eating.

Another central component of the anti-diet movement is Health at Every Size, a trademarked prin-



A biological approach to weight management, focused on the underlying drivers of hunger instead of calorie restriction, could help resolve the conflict between health and stigma that often occurs on conventional diets, he says.

When Ms. Dooner embraced intui-

tive eating, she was scared that giving herself the freedom to consume what she wanted would cause her eating to spiral out of control. The decision had the opposite effect, she says.

Ms. Dooner says she also gave herself permission to gain weight. At her last doctor's visit, she was given a clean bill of health, and her blood pressure and blood glucose were normal, she says.

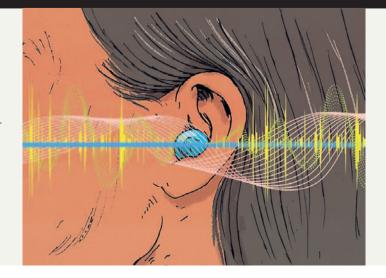
"People can improve their health-and often do improve their health-by focusing on health habits, as opposed to trying to micromanage or lose weight," she says.

Loss of hearing is prevalent among people over age 70, research shows. Hearing aids, once obtrusive and meant to fulfill one task—amplifying sounds—are now getting smaller and packing in new technologies and

#### Hearing Aids to Track Health

functions. Companies such as Whisper and Starkey are outfitting devices with artificial-intelligence-powered software that they say makes them better at

turning down background noise and amping up speech in busy environments. Hearing aids could also one day double as digital assistants, connecting with smart glasses and whispering the names of meeting



participants to the wearer, for instance, says Brent Edwards, director of National Acoustic Laboratories in Australia.

Listening devices could soon monitor biomarkers such as heart rate, says Peter Santa Maria, an associate professor of otolaryngology at Stanford University. Starkey sells hearing aids that track steps and can detect falls using accelerometers. Within the next few years, hearing devices could alert a patient's doctor or emergency services that she is experiencing a medical crisis, he says.

Using AI to analyze the trove of data provided by smarter devices could help turn them into diagnostic tools, says Achin Bhowmik, Starkey's chief technology officer and executive vice president of engineering.

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