

U.S. NEWS

Vaccine Study On Campuses Is Held Up

By PETER LOFTUS

Plans have stalled for a large study on U.S. college campuses that was intended to answer a question critical to the coronavirus pandemic response: Do the new Covid-19 vaccines stop the virus from spreading, in addition to protecting individuals from getting sick?

A network of medical researchers who have helped run federally funded studies of Covid-19 vaccines were hoping to start a clinical trial of Moderna Inc.'s shot in more than 20,000 college students this month. The study would test whether the vaccine prevented transmission of the coronavirus from person to person and whether it prevented infections that don't trigger symptoms.

But in late December, the researchers told about 20 universities that were considering participating in the study that it wouldn't move forward yet, according to people involved in the effort. The researchers weren't able to secure federal funding for the trial, which would have cost several hundred million dollars, and faced time constraints in getting the complex study up and running so it could yield results before students ended the spring semester, these people said.

"In the end, there just wasn't enough support to get it off the ground at this point

The study would have used near-daily Covid-19 testing and contact tracing.

in time," said Myron Cohen, director of the Institute for Global Health and Infectious Diseases at the University of North Carolina. "We just could not get everything together to do it now."

The study had been planned by leaders of the Covid-19 Prevention Network, which the National Institute of Allergy and Infectious Diseases formed to conduct large studies of Covid-19 vaccines and treatments. The network includes clinical research sites around the U.S. that in the past have run studies of HIV/AIDS vaccines. Researchers from the network proposed the study to a public-private partnership led by the National Institutes of Health, known as Activ, which has crafted a research strategy.

The NIH and other federal agencies have funded the large efficacy trials of several Covid-19 vaccines, including Moderna's, under the auspices

of the Trump administration's Operation Warp Speed initiative to develop and deliver Covid-19 vaccines.

A spokeswoman for the National Institute of Allergy and Infectious Diseases, which is part of the NIH, said NIAID was considering such a study but decided not to move forward with it because it had concerns about its feasibility, and it saw other paths to finding the same answers.

The spokeswoman said NIAID had concerns that university health-care workers were already overwhelmed with managing Covid-19 on campuses, and it would have been difficult to enlist them to also run a clinical trial. NIAID expects to learn more about the vaccines' effect on transmission and asymptomatic infection from additional data from the existing efficacy trials and observational studies during the vaccine rollout.

The change of plans for the college-student study means it might take longer to find out whether the new vaccines prevent transmission and asymptomatic infections, or that those questions will have to be answered in other ways.

U.S. regulators authorized the Moderna vaccine, and one from Pfizer Inc. and BioNTech SE, in December based on evidence that they protected people from Covid-19 with symptoms like cough and fever, including in severe cases. But these studies didn't yield enough evidence of whether the shots prevent viral transmission and asymptomatic infections.

The planned study would have used near-daily Covid-19 testing and contact tracing to determine whether vaccinated students subsequently contracted Covid-19—with or without symptoms—and whether they transmitted the virus to others. The study would have compared these rates with those seen in unvaccinated students, Dr. Cohen said.

Researchers believed colleges would have been ideal for the study because the virus has spread rapidly on some campuses where students live in close quarters. Many students' infections are asymptomatic, and younger people generally are at lower risk of severe disease. Some colleges are already performing frequent Covid-19 testing and contact tracing.

Some of the colleges that were being considered for the study included Louisiana State University, the University of Michigan, the University of Washington, Morehouse College and the University of North Carolina, according to a person familiar with the matter.



Biden's 'Buy American' Pledge Met With Cheers, but Also Resistance

By AUSTEN HUFFORD AND BOB TITA

President-elect Joe Biden is pledging to use the power of the federal government to buy American goods and jump-start domestic manufacturing. Some companies say rules that are too restrictive could raise their costs and complicate supply chains for items not made in the U.S.

Mr. Biden's "buy American" proposals echo those of predecessors, including President Trump, who issued executive orders to spur more federal purchases of U.S. goods and sought to use tariffs to disadvantage foreign producers. The results for companies have been uneven, with some benefiting from increased sales and others dealing with higher expenses.

Mr. Biden said during his campaign and after his election that he would tighten "buy American" rules. He has proposed \$400 billion in spending on infrastructure projects that use American products such as domestically made steel and protective gear for medical workers battling the coronavirus pandemic. He has also proposed that Congress devote an additional \$300 billion to research and development of new products.

"From autos to our stockpiles, we're going to buy American," Mr. Biden said in November.

Those promises could be difficult to turn into reality, however, and could face resistance in a divided Congress. Some economists and trade experts said such government purchasing might help some companies but not the industrial sector overall. The policies carry risks including higher prices and retaliation from other countries against U.S. exports, said some executives and economists.

"It raises the cost of things that will be purchased," said Mary Lovely, a senior fellow at the Peterson Institute for Inter-



Above, Mike DeCarlo making flatware recently for Sherrill Manufacturing in Sherrill, N.Y. Left, a freshly coin-pressed spoon held by Sherrill's president, Matthew Roberts. The company, which sells its products under the brand name Liberty Tabletop, lobbied for years for its products to be added to a law that requires the military to buy certain supplies domestically.

national Economics.

Mr. Trump also pledged to buy American, but some manufacturers want the federal government to go further to give priority to their products. Tariffs boosted some companies such as domestic aluminum makers while raising costs for others that import components and materials from abroad.

Mr. Biden's transition team declined to comment on his plans beyond his public statements and proposals on his website.

Many U.S. manufacturers have weathered the pandemic well, but a year of economic dislocations continues to present challenges for the sector. Manufacturing output fell sharply at the start of the pandemic but has expanded for seven months to 3.4% below year-ago levels, Federal Reserve data show. Strong consumer demand for products such as appliances and cars has kept factories humming.

Some manufacturers said supply-chain problems during the pandemic and tensions between the U.S. and China could help Mr. Biden build support for "buy American" initiatives.

Morey Corp., an Illinois manufacturer of wireless communications equipment, has been relocating production and engineering operations to the U.S. from Asia for five years. Chief Strategy Officer Ryne DeBoer said Morey found that truck and construction-equipment makers were willing to pay more for U.S.-made products in exchange for better quality and more service support. He said he hopes that proves true of the Biden administration as well.

"We believe we're perfectly primed to get more government work," he said.

But other manufacturers rely on global supply chains and demand from other countries that could be hurt by made-in-America requirements. Many of these companies said the Trump ad-

ministration's imposition of double-digit tariffs on imports from China hurt their business.

"We have to depend on raw materials from other countries," said Rakesh Tammabattula, chief executive of QYK Brands LLC.

The California company in 2020 began producing surgical masks with imported fabric from China that he said is subject to a U.S. tariff. Mr. Tammabattula said prices for masks made in China have dropped below what he pays for fabric to make masks in the U.S. He said QYK has started making disinfectant wipes rather than masks.

The International Safety Equipment Association, a trade group, said requiring personal-protective equipment to be made in the U.S. could make supply chains less flexible if other countries implement their own restrictions.

Supporters of Mr. Biden's plans say a willingness to pay more for domestic goods will help companies cover startup costs and restore supply chains that disappeared as production moved overseas.

Sherrill Manufacturing Inc., the last maker of stainless-steel flatware in the U.S., lobbied for years for its products to be added to a law known as the Berry Amendment, which requires the military to buy certain supplies domestically. Provisions to extend Berry requirements to more defense contracts were included in the defense spending bill voted into law on Friday.

Mr. Trump signed off on stainless-steel flatware's addition to the law in 2019. "The forks were in there because we fought for them," said Sherrill's president, Matthew Roberts. He said the government should add more items to the law: "We need to be as self-sufficient as possible."

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U.S., in Shift, Orders Carrier Back to Mideast Amid Iran Tension

By GORDON LUBOLD AND NANCY A. YOUSSEF

WASHINGTON—The Pentagon's acting chief abruptly reversed course, sending an aircraft carrier to the Middle East to counter threats posed by Iran, days after directing it to leave the region over the advice of top military advisers.

Acting Secretary of Defense Chris Miller said in a statement Sunday evening that he had directed the USS Nimitz to the Middle East, three days after ordering that it be sent home.

The move was a remarkable change of heart for Mr. Miller, who had previously ordered the carrier be sent home against advice by top commanders that the carrier needed to remain near the Middle East because it represented an important show of force at a time when the threat posed by Iran was high, officials said.

"Due to the recent threats issued by Iranian leaders against President Trump and other U.S. government officials, I have ordered the USS Nimitz to halt its routine redeployment," the statement said. "The USS Nimitz will now remain on station in the U.S.



The USS Nimitz was directed to return to its home port three days before the change in mission.

Central Command area of operations. No one should doubt the resolve of the United States of America."

The statement didn't say how long the carrier would remain in the region.

Fears are rising that Tehran or its proxies may retaliate around the first anniversary of the killing of Maj. Gen. Qassem Soleimani, the head of Iran's powerful Islamic

Revolutionary Guard Corps, and Iraqi paramilitary commander Abu Mahdi al-Mohandes. They were hit by a U.S. drone strike while traveling on Baghdad's airport road on Jan. 3, 2019.

Late last week, Mr. Miller, who was appointed acting secretary after the firing of Defense Secretary Mark Esper in November, directed that the carrier redeploy to its

home port in Washington state. The ship's crew was quarantined for two weeks because of the coronavirus pandemic and then deployed for nearly 10 months, an unusually long period, and Mr. Miller believed returning the ship home was necessary for its maintenance and the well-being of the ship's crew, officials said.

"We are glad that we can

conclude 2020 by announcing these warriors are headed home," the Pentagon said in a statement on Thursday about the carrier and its accompanying ships.

Other officials also believe Mr. Miller was convinced that drawing the carrier out of the region would signal U.S. interest in de-escalating tensions with Iran. The carrier is considered one of the most potent symbols of American military might, and its presence can send a message.

Military advisers, including the chairman of the Joint Chiefs of Staff, Army Gen. Mark Milley, and Marine Gen. Frank McKenzie, who heads U.S. Central Command, which is responsible for U.S. military operations in the Middle East and Central Asia, had urged Mr. Miller to keep the carrier in the region, defense officials said.

But after the Defense Department said that the carrier was going to depart the region, U.S. officials became aware of many public statements from Iranian officials that they considered concerning, officials said. On Twitter, Iran Foreign Minister Javad Zarif repeatedly warned of plots to provoke conflict be-

tween the two nations.

"Intelligence from Iraq indicate plot to FABRICATE pretext for war," Mr. Zarif wrote in a tweet Friday. "Iran doesn't seek war but will OPENLY & DIRECTLY defend its people, security & vital interests."

Iraqi officials have scrambled to prevent retaliatory attacks by militias, warning that it could lead to an aggressive U.S. military response.

The U.S. Central Command and the Joint Chiefs of Staff didn't respond to queries on Sunday.

In recent weeks, the U.S. has seen increased chatter among some militia groups in Iraq threatening to retaliate for the deaths of Gen. Suleimani and Mr. al-Mohandes, the official said.

There has been an escalating U.S. presence in the region. On Wednesday, the U.S. dispatched two B-52 bombers on a flight over the Middle East in a show of force directed at "anyone who intends to do harm to Americans or American interests," according to the U.S. Central Command. In addition, an amphibious assault ship, the USS Makin Island, with a squadron of F-35s, is currently near the Persian Gulf.

U.S. NEWS

GOP Pours Money Into Georgia

By CAMERON MCWHIRTER
AND JOSHUA JAMERSON

ATLANTA—Republicans across the country are pouring an unprecedented amount of money and resources into Georgia to try to hold their Senate majority by winning at least one of two runoff elections on Tuesday.

Four outside groups associated with Senate Majority Leader Mitch McConnell (R., Ky.) alone have invested \$138.5 million in the races. The Georgia Battleground Fund, a group supporting both Republican incumbents and the National Republican Senatorial Committee, set fundraising targets for each of the 50 states to pump about \$50 million into advertising and the Georgia GOP's voter turnout operation.

Democrats are also investing heavily in the races, as expenditures by the campaigns and outside groups have reached well beyond \$500 million, making them among the most expensive Senate races in history.

Historic trends favor Republicans. Since the early 2000s, the Republican Party has dominated Georgia politics, and the GOP controls both chambers of the legislature and every elected statewide office. Since 1988, Republicans have also won every statewide runoff in Georgia except one in 1998, mostly because of a drop in Democratic turnout.

That reliable pattern was thrown into question in November when President-elect Joe Biden defeated President Trump in Georgia by 12,000 votes, becoming the first Democratic presidential candidate to capture the state since 1992.

In the Senate contests, Republicans David Perdue and Sen. Kelly Loeffler fell short of garnering the 50%-plus-one-vote threshold set by state law to avoid a runoff race. Mr. Perdue, 71 years old, must beat Democrat Jon Ossoff, 33, a filmmaker, to return to the Senate; his term has lapsed and his former seat will remain vacant pending the outcome of the election. Ms. Loeffler, who was appointed to her post after the previous senator retired because of health reasons, is running against Democrat Raphael Warnock, a pastor. Her term hasn't expired yet.

The Senate currently has 51 Republicans and 48 Democrats. If Democrats win both Georgia races, they will gain control because Vice President-elect Kamala Harris would cast tiebreaking votes. If Republicans win just one of them, the GOP will maintain its majority.

While both parties have been flooding the television airwaves, Republicans and Democrats agree that turning out their base voters is likely to be the key to winning.

More than three million Georgians voted early as of Saturday afternoon, according to the U.S. Elections Project. Black voters, a core Democratic constituency, are making up roughly 31% of the early-voting electorate thus far—a larger share than the group had in November, which is a good indicator for Democrats.

Some Republicans who are monitoring early voting trends acknowledge those positive signs for Democrats but caution that GOP voters who show up on Election Day could act as a counterweight to early voting that leans Democratic.

Republicans "need a supercharged Election Day," said Washington-based GOP strategist Scott Reed, who is doing some fundraising for the Georgia races. "The Democrats have done very well on early voting and they've done really well on fundraising, but at the end of the day we believe we can win both these races and will."

Messrs. Biden and Trump are holding competing campaign rallies in Georgia on the eve of the election; Mr. Biden in Atlanta, and Mr. Trump in Dalton. Ms. Harris was slated to headline a rally on Sunday in Savannah.

In addition to rallies with Mr. Trump, Vice President Mike Pence and many visits from Republican senators from other states, the party and conservative groups have been fanning out across the state, visiting homes of people they

believe to be GOP voters to ensure they get to the polls. The goal is to reach these homes numerous times before election day. Some groups are sponsoring commercials urging people who voted for Mr. Biden to back Sens. Perdue and Loeffler to secure a balanced government.

The GOP effort, which party leaders here say is unprecedented in its scope, is an effort to match the Democrats' extraordinary push, which has included door-knocking, rap concerts, visits from former President Obama, and streaming fundraisers with Hollywood stars. Will Ferrell and the cast of the holiday movie

"Elf" held a live internet reading of the film to raise money.

Democrats said they are cautiously optimistic. "Going into the runoffs there were a lot of questions about the Democratic turnout operation and doubts about if we would be able to turn out voters on Jan. 5. I think that what you're seeing mainly in the early vote...is that those questions have been answered: Democrats have an enthusiasm that's still off the charts," said Terrence Clark, communications director for Mr. Warnock.

However, he added Democrats still needed a strong showing on election day.

"It is still Georgia, and it is still going to be close," he said, noting the GOP's long-time voter turnout operation in the state.

Julianne Thompson, a Georgia Republican strategist who worked with Mr. Trump's 2020 campaign, said the party going forward needs to broaden its appeal and have a consistent message regardless of Mr. Trump's role in the party.

"It cannot be about one personality," she said. "It has to be about policies that transcend whoever is in office at the time."

—Lindsay Wise
contributed to this article.



Sen. Kelly Loeffler, one of two Republicans trying to hold a Senate seat in Georgia, spoke at a rally in Carrollton on Saturday.

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U.S. NEWS

A Downtown Stretch Shows Uneven Pain

By ANTHONY DEBARROS
AND AMARA OMEOKWE

A 2.5-mile stretch of downtown Asheville, N.C., provides a window into how the coronavirus pandemic slammed small businesses in one American city—and how a federal loan program helped some stay afloat but was ill-suited for others.

More than 100 businesses and nonprofits in this slice of Asheville along Broadway Street and Biltmore Avenue received a total of about \$16 million in forgivable loans through the Paycheck Protection Program. Many have exhausted the money and plan to apply for more, after Congress in December approved \$284 billion for a new round of loans.

Businesses receiving aid in the city of 93,000 included restaurants, bars, doctor's offices, auto-repair shops and art galleries. Many are dependent on tourists.

Dozens of business owners along the two streets say the money helped, but the health of their bottom lines—and their outlook for 2021—varies as widely as the products they sell and the meals they offer.

Their divergent trajectories show the uneven impact of a pandemic that has lasted much longer than expected when the loan program was hastily crafted in March.

"That's the weird thing about this pandemic. It's affected everybody, but by no means equally," said Chall Gray, co-owner of Little Jumbo, a cocktail bar that has been closed since March. "It's helped many businesses and hurt many others."

Asheville has begun to rebound in part because its mountain setting attracts visitors seeking outdoor activities seen as safe, said Victoria Isley, chief executive of the Explore Asheville Convention and Visitors Bureau. Still, the area's lodging revenue for the fiscal year ended in June was down roughly 17% compared with the prior year, according to figures provided by Explore Asheville.

Here are six stories from downtown Asheville:

Little Jumbo

Like others in Asheville, Mr. Gray didn't think lockdowns would last long. When Little Jumbo was approved for a nearly \$52,000 PPP loan in April, "We thought we should be open by late summer," he said.

But months later, state coronavirus mandates prohibited the bar from serving patrons indoors, and its outdoor serving space was too small to make reopening worthwhile. Mr. Gray said he hadn't been able to bring back the 10 employees he laid off in March amid the state's first shutdown orders. Little Jumbo hasn't spent any of its PPP money, and Mr. Gray said he was holding on to the funds in case of a cash crunch.

While he acknowledged he wasn't using the loan to support payroll, Mr. Gray said he wanted to adhere to state guidelines while also managing the challenge of having no revenue.

Mr. Gray hopes the bar will reopen by early spring. He said he's prepared to repay the loan, which bears a 1% interest rate, if he doesn't qualify for forgiveness. "We decided to treat it as a long-term, low-interest loan," he said.



Clockwise from above, a takeout customer leaving Suwana's Thai Orchid, an employee at Old Europe Pastries, and a Moog Music employee with a synthesizer.



Moog Music

When the pandemic first disrupted Moog Music's supply of components from China in February, the manufacturer of electronic musical gear decided to pivot—to making plastic face shields and refurbishing medical equipment.

The company, which has about 160 employees, qualified for a \$1.86 million PPP loan that helped offset a drop in revenue. That allowed Moog to redirect some of its staff to work on the medical products.

"We didn't make any money on it," said Mike Adams, president of Moog. "It was just a survival move more than anything else."

Workers at the Moog plant made 15,000 face shields and refurbished continuous positive airway pressure, or CPAP, machines. Moog did both projects under contract to local manufacturers.

By June, Moog shifted back to music gear full-time. Mr. Adams said he expects the company to have ended 2020 with revenue 15% above 2019.

Old Europe Pastries

Melinda Vetro's pastry shop saw business plummet in the pandemic and then roar back.

A \$62,500 PPP loan helped Old Europe Pastries through the valley. A shift to takeout service and smaller cakes helped spur its revival.

"We lost business for two months," said Ms. Vetro. The shop has a kitchen on-site, so it was deemed essential and allowed to remain open. The staff pushed the pastry display case close to the front door and served coffee, croissants, éclairs, cakes, and other drinks and pastries to go.

"By May, business was up 5% compared to last year because we were able to stay open," Ms. Vetro said.

The PPP loan was spent on payroll, rent and a mixer for the kitchen. During early slow months, Ms. Vetro had to lay off two baristas and a pastry chef. When business rebounded, she brought back the pastry chef and added employees. She now employs 16, up from 13 before the pandemic.

Suwana's Thai Orchid

Suwana Cry is no stranger to economic disasters. In 2005, Hurricane Katrina damaged her Thai restaurant in Mississippi, eventually forcing her to file for bankruptcy.

Ms. Cry opened Suwana's Thai Orchid in 2008. It has 16 tables, and on a normal pre-virus weekend, "The waiting time is 30 to 45 minutes to an hour, depending on what's going on in town," said Ms. Cry, who owns the restaurant with her son and daughter.

She expects revenue to have fallen 20% to 30% from 2019, with seated service taking the biggest hit. A \$72,126 Paycheck Protection Program loan has kept an average of nine employees on the payroll. The loan kept the restaurant going as it shifted from a dine-in business to one that is largely takeout. On a recent Friday, just three tables were occupied.

Early on, a "curfew closed dine-in, but we still can do to-go and delivery. That kept us going," Ms. Cry said.



Shay Brown Events

Shay Brown has years of experience planning weddings, birthday parties and other events. But her role evolved in 2020, as the pandemic forced her to reschedule many of the events she had on her books.

"I have turned into a legal adviser. I have turned into a therapist," Ms. Brown said. "It has been an emotional roller coaster."

Revenue at Shay Brown Events Management was down more than 90% from 2019. Business modifications, such as live-streaming over the internet, could only take her so far. "An event is about having people gather," Ms. Brown said.

A nearly \$39,000 PPP loan, along with a grant from a local financial institution, kept her afloat.

Pre-pandemic, Ms. Brown employed 20 to 25 people. Now, her staff is down to four full-time workers. Because of evolving state restrictions, Ms. Brown said some events had to be rescheduled. That has left a crowded 2021 calendar.

Center for Craft

When the pandemic hit, the things that make Center for Craft a place that celebrates and supports artisans and artists also suffered. The nonprofit's exhibition space closed for five months, and its co-working space went mostly unused, depriving it of revenue.

Meanwhile, donations slowed. Revenue in 2020 was about a third lower than projected, said the center's executive director, Stephanie Moore.

"We have a lot of donors who just have not had the funds to support us as they were in the past," Ms. Moore said.

The center has had to lay off two employees, though a nearly \$97,000 PPP loan has allowed it to keep 10 on the payroll.

"Lots of nonprofits won't be able to sustain themselves for the next three to four months or however long it takes for vaccines to circulate," she said.

—Ryan Tracy
contributed to this article.

Commutes Expected To Improve

Continued from Page One
tems, some planners and academics worry that a large-scale shift from trains and buses to cars—a phenomenon the pandemic has put into motion—could worsen traffic snarls.

More than 300 North American employers polled in October said they expect about 30% of their full-time employees will be working from home in three years, up from 5% three years ago, according to a survey by global advisory firm Willis Towers Watson.

Overall, an estimated 18% of U.S. workers will likely work from home every day in the post-pandemic era, more than double the 7% who did before-

hand, said Abolfazl Mohammadian, director of the Transportation Laboratory at the University of Illinois at Chicago.

That shift could lead to significant drops in commute times, he said. He foresees modest improvements in his own commute, he said. The 37-mile drive to his office sometimes took two hours before the pandemic, he said, but post-pandemic, he figures it will top out at 90 minutes during rush hour.

Commuter travel to traditional downtown areas has risen little from late March depths, as office towers remain largely empty. In September, average weekday worker trips in those areas were down more than half in all four cities from April 2019.

Work commuting trips nationally are still 30% to 40% below normal, said Hani Mahmassani, director of the Northwestern University Transportation Center.

"We've been trying to obtain these levels now for many years, to get companies to get some fraction of their workforce to work from home on any given day," he said. Congestion wastes time, degrades air quality and increases fuel consumption, he said.

Overall, U.S. driving levels are close to pre-pandemic benchmarks. That is a result of midday trips taken by home workers and the growth in home deliveries of goods like groceries. But traffic-choked rush hours are hardly history, and congestion already has roared back in some places.

"We all expect there to be more working from home in the

After offices reopen, many workers will likely go in only a few days a week.

future. But we also don't know which days, how often, so there's still this risk if we don't invest in nondriving modes that we're still going to have congestion," said Tegin Teich, executive director of a staff of transportation planners that advises

the Boston Region Metropolitan Planning Organization.

Public transit ridership has plummeted across the country, and many cash-strapped transit agencies have cut service in response.

Erin Aleman, executive director of the Chicago Metropolitan Agency for Planning, said that if 25% of pre-Covid transit trips are replaced by car trips, drivers would spend an extra 193,000 hours on the road each workday, costing the region more than \$1.2 billion annually in lost productivity.

In most regions, though, transit riders account for less than 5% of the traveling public, so transit-to-avoid shifters wouldn't have a major impact on roadway usage, said Peter Bosa, principal researcher and modeler with Metro, a Portland, Ore., planning agency. Plus, many transit riders lack the means to drive and have jobs they can't do remotely.

In the Portland region, afternoon rush hour has re-

turned to within 10% to 15% of pre-Covid levels, but morning rush hour remains well below historical averages, Mr. Bosa said. Other cities have experienced this as well.

There is a risk that freer flowing rush-hour traffic will attract new drivers or prompt early-morning commuters to set out at, say, 8 a.m. rather than at 6 a.m., creating new problems, said Giovanni Circella, a program director at the Institute of Transportation Studies at the University of California, Davis.

Mr. Lomax, from the Texas A&M Transportation Institute, said government investments will still be needed in highways and mass transit because growth will resume, albeit from a lower level. The pandemic has bought much-needed time, he said.

"I think what we're seeing is sort of a congestion reset to the point where the average metro area has bought itself five years—or is it 10 years?—worth of growth," he said.

TRANIS DOVE FOR THE WALL STREET JOURNAL (3)

WORLD NEWS

India Readies Massive Inoculation Effort

Government aims to vaccinate 300 million by midyear after two emergency clearances

By ERIC BELLMAN AND VIBHUTI AGARWAL

NEW DELHI—India's emergency authorization of two Covid-19 vaccines over the weekend kicks off a massive and logistically daunting government inoculation campaign in the world's second-most-populous nation, where the new coronavirus has killed more than 150,000 and ravaged the economy.

The goal is to vaccinate more than 300 million of the country's 1.3 billion people by the middle of the year, using an army of doctors, nurses, police officers, soldiers and others to deliver and administer doses across the country, from remote Himalayan villages to megacities like Mumbai.

"It will be the largest vaccination program in the world," said Giridhara R. Babu, an epidemiologist at the Indian Institute of Public Health in Bangalore. "India has the skills and facilities to make it happen."

On Saturday, India's drug regulators gave the green light for emergency use of a vaccine made by the University of Oxford and AstraZeneca PLC that is already being mass

produced and stockpiled in the country.

They also authorized a vaccine produced by Indian manufacturer Bharat Biotech, saying the Hyderabad-based company's vaccine, which is in late-stage clinical trials, was safe and generated a robust immune response in people who received it.

Authorities said they had given it special approval in part to ensure India has different options in case the virus mutates in a way that renders some vaccines ineffective.

Prime Minister Narendra Modi said the approvals marked "a decisive turning point" in India's battle with the virus, which, in addition to sickening and killing large numbers, also contributed to a contraction in economic output of more than 15% year-over-year in the six months ended Sept. 30.

India has been preparing for a vaccine rollout for months, building lists of the tens of millions of people who will get the first doses, expanding the government vaccine-supply chain, building an app to track vaccine doses and those vaccinated, and training the legions of people who will help.

The South Asian country has a nationwide network of centers that vaccinate millions of babies every year. Its successful campaign to eradicate polio has also helped build a strong net-



Health officials in New Delhi on Saturday carried out a dry run for administering the Covid-19 vaccine.

work of experts and volunteers and a cold-storage chain that covers most of the country.

The Covid-19 vaccination plans are on a much bigger scale, involving potentially billions of shots. To pull this off, India is also tapping into its knowledge from another regular event involving hundreds of millions of people: elections in the world's largest democracy.

India is using voter rosters to decide where citizens will get vaccinated and who should get vaccinated first. In later rounds of vaccinations it may

even use the same locations as polling booths, officials say.

Thousands of people across the country tested systems for transporting, cooling and monitoring vaccines on Saturday and Sunday, and some states even went through dry runs where they pretended to inoculate volunteers.

A single-story government maternity clinic in a bustling corner of New Delhi was gearing up last week to start vaccinations. Half of it had been changed into a vaccination ward, with lines of socially

distanced seats out front for people as they arrive. There were sofas in the back for those who had been vaccinated so they could wait 30 minutes in case they had a bad reaction to the shots.

The clinic's industrial-size, top-loading freezer is labeled with names of vaccinations for children it usually holds—including hepatitis B, measles and rotavirus—and it is awaiting delivery of coronavirus vaccines.

For the first wave of vaccinations—intended for health-care workers and other front-

line workers—there are already enough experienced people to give the shots, said Pareejat Saurabh, the immunization officer for the district. "We have a big pool of vaccinators," he said. "They have been doing vaccinations for years."

The AstraZeneca vaccine can be transported and stored for months with normal refrigeration, making it easier to distribute in places where people and health-care networks are overstretched and underfunded.

AstraZeneca has a manufacturing and distribution agreement with the Serum Institute of India to provide more than one billion doses to developing countries. The institute is already the world's largest vaccine maker by volume, making more than a billion doses a year for everything from polio to measles, mostly for export to emerging markets.

"India's first Covid-19 vaccine is approved, safe, effective and ready to roll out in the coming weeks," SII Chief Executive Adar Poonawalla tweeted on Sunday.

Serum Institute said it would be making the vaccine just for India until March or April and then hopes to start exporting it as well. The price for the first 100 million doses delivered to the government in India will be about \$2.75 a dose. It will later be sold to the private sector for around \$13.70 a dose.

Israel Takes Global Lead in Rates of Vaccination

By DOV LIEBER

TEL AVIV—Israel has inoculated nearly half of its most at-risk citizens and more than 10% of the population in two weeks as authorities accelerate a Covid-19 vaccination drive after early hiccups led to wasted shots.

The small country—with roughly nine million people, about the same as New York City; and similar in size to the

state of New Jersey—now aims to immunize the majority of its people by early spring. Israel's vaccination campaign is relatively simple compared to the mass mobilizations needed by countries with many more people and a greater sweep of geography.

Israel started with vaccinating its health-care workers and those over the age of 60 on Dec. 20 after receiving early shipments of Pfizer

Inc.'s vaccine. By Saturday, it had administered 12.59 doses per 100 of its people, according to the Oxford University-based research group Our World in Data. That rate of inoculation is nearly four times quicker than the second-fastest nation, the tiny Arab Gulf state of Bahrain.

"The health system is proving itself," said Health Minister Yuli Edelstein in an interview Thursday with The Wall

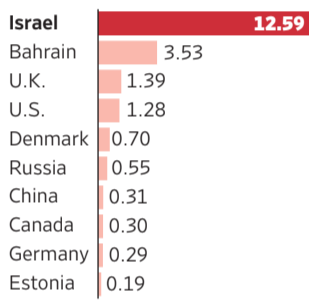
Street Journal. Israel boasts of a technologically advanced health-care system to which everyone in the country is registered by law.

The rollout offers insights into how authorities are attempting to maximize the campaign's coverage for the most vulnerable while minimizing wastage of doses, which must be kept extraordinarily cold to keep them from going bad.

After Israel was forced to dump hundreds of doses as fewer-than-expected people turned up to be inoculated, authorities cut back on the number of vials being dispatched to vaccination centers and allowed anyone willing to get shots to jump the line.

Israel also enacted a policy that allows vaccine centers facing soon-to-be wasted surplus to inoculate anyone who shows up.

Covid-19 vaccination doses administered per 100 people



Note: U.K. data as of Dec. 27, 2020; China as of Dec. 31, 2020; all other countries as of Jan. 2, 2021. Source: Our World in Data

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WORLD NEWS

Hackers Bolster Kremlin Ambitions

Cyber operations play a major role in Russia's confrontation with the West

The sprawling SolarWinds hack by suspected Russian state-backed hackers is the latest sign of Moscow's growing resolve and improving technical ability to cause disruption and conduct espionage at a global scale in cyberspace.

By **Georgi Kantchev** in Moscow and **Warren P. Strobel** in Washington

The hack, which compromised parts of the U.S. government, tech companies, a hospital and a university, adds to a string of increasingly sophisticated and ever more brazen on-line intrusions, demonstrating how cyber operations have become a key plank in Russia's confrontation with the West, analysts and officials say.

Moscow's relations with the West continue to sour, and the Kremlin sees the cyber operations as a cheap and effective

way to achieve its geopolitical goals, analysts say. Russia, they say, is therefore unlikely to back off from such tactics, even while facing U.S. sanctions or countermeasures.

"For a country that already perceives itself as being in conflict with the West practically in every domain except open military clashes, there is no incentive to leave any field that can offer an advantage," said Keir Giles, senior consulting fellow at Chatham House think tank.

The scope of Russia's cyber operations has grown in tandem with Moscow's global ambitions: from cyberattacks on neighboring Estonia in 2007 to election interference in the U.S. and France a decade later, to SolarWinds, seen as one of the worst known hacks of federal computer systems.

"We can definitely see that Russia is stepping on the gas on cyber operations," said Sven Herpig, a former German government cybersecurity official and expert at German independent public-policy think tank Stiftung Neue Verantwortung. "The development of new tools, the division of labor, the cre-

ation of attack platforms, has all increased in sophistication over the years."

Russia has consistently denied engaging in state-backed hacking campaigns, including SolarWinds. In September, Russian President Vladimir Putin proposed a reset of U.S.-Russia information-security relations.

But analysts say that Moscow has added hacking to its arsenal of so-called gray-area activities—a type of warfare that stops short of actual shooting—alongside disinformation campaigns and the use of "little green men," the masked soldiers in green uniforms who appeared with Russian arms on Ukrainian territory in 2014.

Jeffrey Edmonds, a former White House and Central Intelligence Agency official who studies Russia at CNA, a nonprofit research organization that advises the Pentagon, said Russia's cyber operations have many simultaneous goals, including gathering intelligence, testing capabilities, preparing for potential conflict by mapping adversaries' critical infrastructure



Hackers compromised widely used software made by SolarWinds, an Austin, Texas, firm.

and laying the groundwork for cyber negotiations.

Such operations are a relatively inexpensive and effective way to conduct geopolitics, said Bilyana Lilly, researcher at think tank Rand Corp. That is crucial for Russia, which is facing considerable economic and demographic challenges and whose economy is smaller than Italy's. A 2012 article in an official Russian military journal said that the "complete destruction of the information infrastructures" of the U.S. or Russia could be carried out by just one battalion of 600 "info warriors" at a price tag of \$100 million.

Washington's retaliation measures—sanctions, property seizures, diplomatic expulsions,

even the cyber equivalent of warning shots—appear to have done little to deter hacks.

"Russia doesn't see sanctions as an instrument of pressure but as an instrument of punishment," said Pavel Sharikov, senior fellow at the Russian Academy of Sciences's Institute for U.S. and Canadian Studies. "The Russian government says, 'Yes we understand that you don't like what we are doing, but we don't really care.'"

Russia's use of hacking to advance its geopolitical agenda initially focused mainly on targets in ex-Soviet countries. More recently, Russian state-backed hackers set their sights on the West.

Since its interference in the 2016 U.S. elections, Russia has

been accused of attacks on the French elections and the Pyeongchang Winter Olympics and the costly NotPetya malware attacks on corporate networks. In 2020, Western governments accused Russia of cyber espionage against targets related to coronavirus vaccines. Russia has denied involvement.

As the operations have grown in scope, Russian hackers' technical abilities have improved, experts say.

Still, some former U.S. officials said Russia is far from flawless in the cybersphere.

"They're not 10 feet tall. They are detectable," said former senior CIA official Steven Hall, who oversaw U.S. intelligence in the former Soviet Union and Eastern Europe.

Marines Shift Training to Meet Challenge From China

By ALASTAIR GALE

CAMP SOUMAGAHARA, Japan—The Marine Corps is stepping up training in Japan for island-based conflict in the Western Pacific, putting it at the leading edge of a pivot by the U.S. to face the military challenge from China.

The Marines are preparing for a far larger and more sophisticated adversary than extremists in the Middle East and Afghanistan, the focus of their operations in recent years. China's military satellites, cyberwarfare capabilities, use of

artificial intelligence and narrowing gap with U.S. firepower make it what the Pentagon calls a "near-peer" rival.

At one of a series of recent exercises, a few dozen Marines faded into long grass after touching down in two CH-47 Chinook helicopters, followed by Japanese soldiers arriving in two Osprey tilt-rotor aircraft. Their simulated mission: avoiding detection and recapturing a port on an island within range of much of the enemy's missiles and artillery.

The exercise reflected a new emphasis on small, dis-

persed troop units and command centers, which are intended to be harder to locate and destroy. The simulation was one of the first to be directed from a command hub consisting of three armored vehicles that can be set up or moved in minutes and emit fewer traceable signals.

"We're trying to get away from tents, from computer screens, because, one, it's very stationary and, two, it has a huge electromagnetic signature," said Lt. Col. Neil Berry, commander of the third battalion of the Eighth Marine

The exercises reflect a new emphasis on small troop units and command centers.

Regiment, based in Camp Lejeune, N.C.

China's emergence as a military force has brought a new focus at the Pentagon on updating strategies and training plans. Gen. Mark Milley, the chairman of the Joint Chiefs of

Staff, said recently that China's rise is the single most important security challenge to the U.S., and that the Chinese military was on a path to parity with the U.S.

Beijing says its military rise is peaceful. It hasn't commented on the recent series of Marine Corps exercises in Japan but has previously called U.S. and Japanese drills in the region provocations.

"I don't think China has any intention to occupy islands," said Zhu Feng, an international relations and security scholar at Nanjing University

in China. "How can China achieve development? It's not by military adventurism."

The U.S. and its allies worry about possible challenges to the "first island chain," a string of territory from the Japanese archipelago through Taiwan and the Philippines to the South China Sea. Armed Chinese coast guard ships sailed near a group of Japanese-held islets in the chain more than 1,100 times in 2020, the highest frequency since a dispute over ownership flared in 2012. Under a security treaty, the U.S. is committed to help defend Japan.



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WORLD WATCH

NIGER

At Least 100 Slain In Jihadist Attacks

Islamic extremists killed at least 100 people in attacks on two villages in Niger near the border with Mali, Niger's prime minister said Sunday.

Prime Minister Brigi Rafini traveled to the villages of Tchombangou and Zaroumdareye a day after the attack. The villages were attacked Saturday after locals killed two fighters, officials said.

Niger has endured several attacks by Islamists, including the Nigeria-based Boko Haram, and fighters linked to the Islamic State group and al-Qaeda. Thousands of people have been killed and hundreds of thousands displaced. —Associated Press

UNITED KINGDOM

Judge Set to Rule on Assange Extradition

WikiLeaks founder Julian Assange will find out on Monday whether he can be extradited from the U.K. to the U.S. to face espionage charges over the publication of secret American military documents.

District Judge Vanessa Baraitser is due to deliver her decision at London's Old Bailey courthouse at 10 a.m. Monday. If she grants the request, Britain's home secretary, Priti Patel, would make the final decision.

Stella Moris, Mr. Assange's partner, has appealed to President Trump to pardon him. —Associated Press

IRAQ

Baghdad Rally Marks Iran General's Killing

Chanting anti-American slogans, thousands of Iraqis converged on central Baghdad to commemorate the anniversary of the killing of a powerful Iranian general and a top Iraqi militia leader in a U.S. drone strike.

The killing last year of Gen. Qassem Soleimani and Abu Mahdi al-Mohandes at Baghdad's airport pushed Iran and the U.S. close to conflict and sparked outrage in Iraq, leading parliament to pass a nonbinding resolution days later calling for the expulsion of all foreign troops from Iraq. The protest was organized by the Iran-backed Popular Mobilization Forces. —Associated Press

PAKISTAN

Gunmen Kill 11 Shiite Minority Coal Miners

Gunmen opened fire on minority Shiite Hazara coal miners after abducting them, killing 11 in southwestern Pakistan on Sunday, a Pakistani official said.

The Islamic State group later claimed responsibility. The militant group has repeatedly targeted Pakistan's minority Shiites.

Moazzam Ali Jatoti, an official with the Levies Force, which serves as police and paramilitary in the area, said the attackers took the miners into nearby mountains and killed them. The attack took place near the Machh coal field, about 30 miles east of the provincial capital Quetta. —Associated Press



Protesters gathered in Baghdad on Sunday on the anniversary of the U.S. killing of an Iranian general and an Iraqi militia leader.

WORLD NEWS

China Export Rise Faces Jam

By Stella Yifan Xie

HONG KONG—A logjam in the global shipping industry is testing the resilience of China's exporters, who have driven the country's economic recovery by churning out goods to meet surging global demand during the Covid-19 pandemic.

That demand in recent months has outpaced the capacity of a global shipping industry that has been slowed by pandemic safety measures. Chinese exporters have been paying sharply higher rates and struggling to find containers for their goods.

Chen Yang, who runs a textile-trading unit at a state-owned enterprise in the southern city of Hefei, said the business, which mostly exports to the U.S., has weathered the pandemic and the China-U.S. trade war, but he expected to incur losses in 2020 in part because of a sharp rise in shipping costs.

A 40-foot container arriving at the port of Charleston, S.C., in December cost Mr. Yang around \$7,500, up from \$2,700 in April, he said. He also has to book space on the vessel at least 20 days in advance, more than double the usual time.

"I have never seen anything like this in my 18 years of experience as an exporter," said Mr. Yang. "We've been operating at a loss since August."

The problem has been aggravated by a worsening imbalance in global trade. In November, China logged a record trade surplus of \$75 billion, fueled by strong consumer demand from Western countries ahead of the holiday season for everything from electronic gadgets to furniture and bikes.

Major U.S. ports imported 2.21 million 20-foot containers in October, up 17.6% from a year earlier and setting a record since the National Retail Federation began tracking imports in 2002. Container freight rates from Asia to the U.S. surged to a record in September and rates from Asia to Europe reached a 10-year high



Container ships were moored near the Port of Nansha in Guangzhou, China, in November.

in December.

Pandemic-related safety measures have lowered efficiency at ports, leading to delivery delays and containers getting stuck all over the world. In November, only half of global carriers managed to stay on schedule, compared with 80% a year ago, according to a service-reliability index from Sea-Intelligence.

The average turnaround time for containers returning to China was up to 100 days in December from the more typical 60 days, according to the China Container Industry Association.

"The logjam is completely unprecedented, both in terms of the scale of the surge and the duration," said Tan Hua Joo, a Singapore-based consultant at Liner Research Services.

While economists say shipping problems haven't derailed China's solid recovery yet, they pose a challenge to sustaining the export growth that has driven it.

China's official manufacturing purchasing managers index, a gauge of China's factory activity, suggested that growth slowed in December. A subindex for new export orders edged down from the previous month to 51.3%, though still in expansion territory.

China's rapidly appreciating currency, the yuan, which has risen more than 8% against the U.S. dollar in the past six months, is also eroding the

High Seas

The average cost of container shipping from Shanghai to other parts of the world surged to a record in December.

Shanghai Containerized Freight Index



Source: Wind Information

profit margins for Chinese traders, most of whom still accept payments in U.S. dollars.

Bruce Pang, head of macro and strategy research at China Renaissance Securities, said that high shipping costs would likely remain a major headache for most Chinese exporters until the Lunar New Year holiday in February, when most factories will close for at least two weeks.

"It will certainly strain cash flow for some smaller exporters, especially those trading in low-margin goods," said Mr. Pang. Many manufacturers have been reluctant to expand capacity and are cautious about taking new orders, he added.

Tony Chen, a toy exporter in the southern Chinese city of Shantou, said many of his clients in the U.S. and Europe have told him to halt delivery, because the hefty logistics costs have eroded their profit margins.

"It has been very frustrating," he said, adding that he has stopped accepting new orders from customers in recent weeks because he can't guarantee when he will be able to deliver.

In early December, China's ministry of commerce vowed to increase production of containers to ease the supply shortage, as well as monitor the shipping market more closely to stabilize costs.

But fixing the problems won't be easy. China International Marine Containers (Group) Co., the world's largest container producer, told investors in November that its factories are fully booked until the end of March. More than 95% of shipping containers are built in China.

Churning out more container boxes could lead to a glut down the road, but some say that is the only viable option to ease the shortage now.

"You are damned if you do and you are damned if you don't," said Charles Du Cane, commercial director at Seastar Maritime Ltd., which operates dry bulk vessels. "The real solution to all of this is to deal with the pandemic and the global logistics system."

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FROM PAGE ONE

Calling the Supreme Court

Continued from Page One idling loudly.

“Oh my God, the justices are going to be so mad at me,” Mr. Katyal, who served as acting solicitor general in the Obama administration, recalled thinking. Fortunately, the truck drove away without his son having to intercede.

For the nation’s Supreme Court lawyers, being freed from the decorous norms of appearing in person before the high court has brought new questions. Where to work? What to wear? What kind of phone to use? And how to stay in order in a telephone courtroom?

Some advocates have tried to replicate the high court’s pomp, dressing in business attire and setting up mock courtrooms to evoke the real-life setting. Others have donned sweatshirts and planted themselves behind messy desks.



Ramzi Kassem argued his case from a law school classroom.

STEVE KATZ

The Supreme Court’s remote-hearing guidelines encourage lawyers to use landlines, not smartphones, because landlines can be more reliable, said Kathleen L. Arberg, a court spokeswoman. Some justices have dialed into the hearings from home, while others have joined from their private chambers in the Supreme Court building, she said.

In oral arguments, lawyers typically have 30 minutes to present their case, with the nine justices routinely butting

in with questions. One challenge on the phone is to avoid accidentally interrupting one of the justices. Lawyers say that they normally rely on the justices’ body language to gauge when one of them wants to speak up. That isn’t possible in phone hearings.

“Naturally, the idea is that one never wants to speak over a justice,” said Bryan Garner, a lawyer and legal scholar who argued a case in December. “You have to recede the moment a justice begins speaking.”

To make sure he could stop talking as soon as a justice started, Mr. Garner tested two speakerphone systems. He wasn’t satisfied with the audio on either. His old-fashioned solution: a telephone handset cradled to his ear.

“What I was told from various quarters was that the handset sound was the best that you could get,” he said.

The phone guidelines posed a problem for Sarah Harris, who argued her first Supreme Court case on Nov. 2. “I’m in my 30s,” she said. “I don’t have a landline at home.”

Ms. Harris, who represented a railroad worker in a dispute over benefits, ruled out using her law firm’s Washington office because the city’s downtown was boarded up over fears of Election Day rioting. Instead, she dropped off her young daughters with her in-laws and used the landline at a colleague’s house.

“Any opportunity to argue before the Supreme Court was the opportunity of a lifetime,” Ms. Harris said. “I’m a silver-lining kind of person.”

Ramzi Kassem, a professor at the City University of New York School of Law, had

counted on appearing before the justices in person in March, wearing a business suit, to argue on behalf of Muslim men who sued Federal Bureau of Investigation agents, alleging religious-freedom infringements.

That isn’t how it worked out. “I do stake the claim of being the first person to have argued a case before the U.S. Supreme Court from Queens in a hoodie,” said Mr. Kassem, whose argument was delayed until October.

Although the wardrobe choice was mostly about comfort, he said, he hoped a court artist’s sketch showing his attire during the argument—commissioned and published by the SCOTUSblog website—could expand law students’ ideas about who can appear before the Supreme Court.

Sean Marotta, who represented Ford Motor Co. before the high court in October, experimented with wearing a suit during a moot-court practice session. But during his practice session, he said, “I felt like a guy in a suit yelling at a speakerphone.” On the day of the hearing, he wound up wearing a red pullover shirt.

For Mr. Katyal, the idea of

ditching his suit jacket or necktie was unthinkable. He has worn the same lucky set of clothes for all of his appearances before the court, beginning with his first oral argument 15 years ago.

Those clothes—including a tie and socks given to him by his mother—were what he wore for his first work-from-home hearing in November. “I did feel that I can’t be thinking of this as just Neal-sitting-in-his-office,” Mr. Katyal said.

In December, André Bélanger, a first-time Supreme Court advocate, represented a Louisiana inmate before the high court in a case about jury verdicts.

Mr. Bélanger hewed to the normal routine. For the oral argument, he traveled from his home in Louisiana to Washington, where a law firm hosted him. The firm had set up a replica courtroom, complete with a portrait of each justice placed atop a long bench according to the real-life seating chart.

A colleague volunteered to help Mr. Bélanger stay on track during the hearing by aiming a red laser pointer at the justice who was questioning him. Mr. Bélanger declined the offer.

Covid-19 Strains Hospitals

Continued from Page One

against the limits of space and overwhelming nurses and doctors. More than 40% to 60% of ICU patients in some metro areas are critically ill from Covid-19, according to an analysis of federal data by the University of Minnesota Hospitalization Tracking Project.

The crisis is a public-health threat that reaches far beyond major cities, say doctors, nurses, public officials and experts in health-care policy. The biggest hospitals in major metro areas often have specialists and lifesaving equipment lacking at smaller regional hospitals. They serve as a release valve when smaller facilities are overrun. As large hospitals fill, they close to local ambulances as well as most patient transfers, creating a far-reaching strain on regional health-care networks.

“They’re all backed up,” said John Friel, chief executive of the 30-bed hospital in Big Bear Lake, Calif., two hours east of Los Angeles. The hospital has no ICU and is using its emergency room to hold critically ill patients, he said. An air ambulance flew one patient to Reno, Nev., for an open bed.

Widespread

Surges in the spring and summer also slammed hospitals in metro areas, but were more geographically concentrated into hot spots. The latest surge is more widespread, said Eric Toner, a senior scholar with the Johns Hopkins Center for Health Security. Nationally, Covid-19 patients in hospitals reached about 123,600 as of Jan. 2, data from the Covid Tracking Project show, with more than 21,200 hospitalized in California. “What we’re seeing in California could happen in almost any other community in the United States in a matter of weeks,” he said.

Deaths nationally from the novel coronavirus have surpassed 350,000, according to Johns Hopkins University data.

Coming weeks are expected to further stress hospitals already in crisis, said doctors and public-health officials, with infections spread during holiday gatherings leading to more waves of patients in emergency rooms. “Many hospitals have reached a crisis point and are having to make many tough decisions about patient care,” said Christina Ghaly, director of the Department of Health Services in Los Angeles County, where Covid-19 deaths recently surpassed 10,000.

Three hospitals have notified California officials of plans to implement “crisis care,” or standards used to decide how to prioritize treatment when there aren’t enough resources to care for all patients. The California Department of Public Health said the “state immediately responded to mitigate the situation so that those three hospitals are not rationing or



At Kaiser Permanente Baldwin Park Medical Center, the crush of patients has left almost no space in the emergency department.

ALLISON ZANICHA FOR THE WALL STREET JOURNAL ©

withholding care—and are no longer in crisis care mode.”

Hospitals urgently need staff, said officials, and are offering sizable bonuses to recruit new workers, asking retirees to return to the workforce and suspending some surgery to redeploy health-care workers from operating rooms to help out with other patients. Doctors and nurses are exhausted and anxious, they said, as they care for more patients.

As of New Year’s Eve, L.A. County health officials said they had vaccinated more than 11,000 front-line health-care workers.

Hospitals inundated by the surge are reporting shortages of critical supplies, including oxygen tanks for ventilators and sterile water, which is critical to safely operating machines that push air into the lungs.

“We ran out of beds last week,” said Chris Van Gorder, chief executive of Scripps Health in San Diego, which also asked the county for additional ventilators. A shipment of the machines he ordered in March arrived last week. The five-hospital system in late December got half its order of sterile water, as national demand exceeded supply.

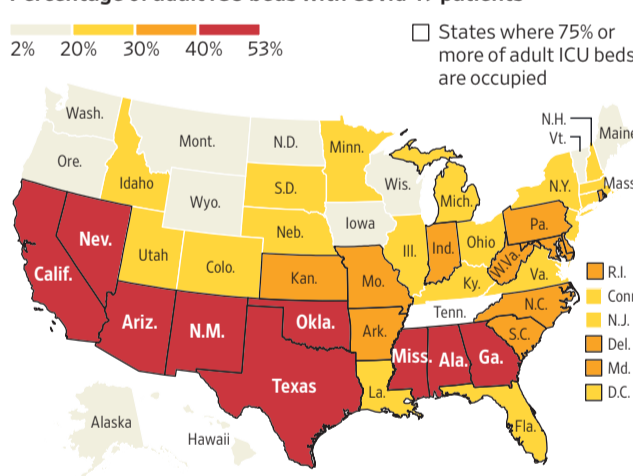
“It’s a desperate time,” Dr. Toner of Johns Hopkins said. “This is what we have been warning about for a year now. If we let our hospitals get overrun, we’re going to see a lot more deaths, not only among Covid patients, but heart attacks and strokes.”

At Kaiser Permanente Baldwin Park Medical Center, the

Overrun

States with intensive-care units near capacity are swamped with Covid-19 patients, who in some cases have occupied half of ICU beds.

Percentage of adult ICU beds with Covid-19 patients



Note: Tennessee is not included due to data reporting discrepancies. Includes hospitals that reported all data elements needed to calculate the percentage. Occupancy for inpatient beds only. Data reported as of Dec. 31.

Source: U.S. Department of Health and Human Services

crush of Covid patients has left almost no space in the emergency department. Offices have been converted into exam rooms and many non-Covid patients are sent to a tent outside.

An entryway between two sets of sliding doors had been repurposed as a space to treat people who came in by ambulance and needed emergency care before it was possible to determine whether they had Covid.

“We have patients waiting 12 hours to get seen. A lot of patients give up and go home,” said Dicky Shah, assistant chief of the emergency department at Baldwin Park Medical Center. “It feels like we’re in wartime.”

Baldwin Park is part of the corridor east of Los Angeles that’s been pummeled by Covid-19. A working-class city of 75,000 people, 75% of its residents are Latino. Overall in Los Angeles County, Latinos are contracting the virus at more than twice the rate of white residents, according to data from the county, in part because they are more likely to be essential workers and to live in more crowded homes.

On New Year’s Day, Los Angeles county public-health officials reported 20,414 new daily cases, another record,

and 207 deaths. More than 7,600 people in the county were hospitalized with Covid-19, with more than 1,590 of those in intensive care units.

At Baldwin Park Medical Center, the overcrowded ICU has meant emergency room doctors must raise the bar for who they admit, sending some home they would have typically kept, Dr. Shah said.

“We don’t have a choice,” he said. “Our hospital is so full that we’ve started admitting only patients once they’re really sick.”

The hospital, which can typically manage 150 to 160 patients, has held more than 200 patients in recent weeks, said Ramin Davidoff, executive medical director of the Southern California Permanente Medical Group. “What we’ve tried to do is to prepare for absolute worst-case scenarios,” he said. “We’re right at that worst-case scenario.”

The hospital has rapidly expanded to four intensive care units from one, and pulled nurses from across Kaiser to work in ICU teams, allowing nurses to care for more patients. The strategy hasn’t compromised care, Dr. Davidoff said.

The staffing changes, rapid expansion and makeshift units

have distressed some staff. Silvia Espinoza, a full-time ICU nurse, worked her first shift in an ad hoc unit Friday, starting at 3 a.m. She was still at work 15 hours later.

“It’s terrible,” she said. “We don’t have the proper staff. We don’t have the proper equipment. Our doctors are not here all the time because we now have three different ICUs.”

Staff propped doors open on the makeshift unit, allowing them to see into rooms but also allowing air to flow. Filters in patient rooms worked to suck air outside from contagious patient rooms.

Ms. Espinoza said she works alongside nurses deployed from elsewhere in the hospital and cares for a growing number of patients. “It’s actually very dangerous, because they go into a panic. They don’t know what to do,” she said of working with nurses not accustomed to the ICU. “One ICU nurse should have max two patients. That’s not happening. We have three. Now they’re telling us they’re going to give us four.”

Staff shortages

The staffing shortages have been the toughest to manage, Dr. Davidoff said. Kaiser Permanente is able to transfer patients across its 15 hospitals in Southern California to relieve strain on those hardest hit by the pandemic. The hospital has a better supply of personal protective gear for workers than it did in the summer, he said, and has enough ventilators.

Across Los Angeles, hospitals have been pushed to their capacity. Cedars-Sinai has halted 80% of scheduled procedures to free staff and space for coronavirus patients, helping to increase its ICU capacity by 50%, said Jeffrey Smith, its chief operating officer.

Yet Cedars-Sinai, which includes one of the largest hospitals in Los Angeles County, has stopped accepting transfers except those required under federal law.

About 90 minutes east of Los Angeles, Mountains Community Hospital now largely cannot transfer patients to larger hospitals for intensive



Dr. Dicky Shah of Baldwin Park.

GREATER NEW YORK

Mayor Looks to Speed Up Vaccinations

City aims to give one million doses by end of January; certain areas are on priority lists

By KATIE HONAN

New York City officials plan to administer one million doses of the Covid-19 vaccine by the end of January, as the city moves to increase vaccination efforts beyond health-care workers and first responders and into communities hit hard by the coronavirus.

Mayor Bill de Blasio said the goal was attainable, although challenging, and would include opening up 250 vaccination sites inside school gymnasiums, community health centers and at some facilities currently used to test for the virus.

The city would also need support from the federal and state governments, including additional authorization to vaccinate those who are in groups of different priority for receiving the shot, the mayor said.

"We need to go into overdrive now. We need every day to speed up and reach more



you're keeping the vaccines as cold as possible, as long as possible," he said. There are personnel and other staffing issues, Dr. Lee added, as well as concerns about securing the shots to avoid theft.

With a second dose required weeks after a person is given the first, providers will have to make sure people return to the same location, and there is a system to make sure only those authorized to receive the vaccine get it.

After the city works through the health-care workers, first responders and others who are designated for priority vaccination, it will focus on a list of hard-hit neighborhoods officials compiled this summer.

Many criteria, including Covid-19 fatality rates and socioeconomic factors, went into selecting the neighborhoods, a spokeswoman for Mr. de Blasio said. Among the areas listed are the Lower East Side and Chinatown in Manhattan, Hunts Point and Mott Haven in the Bronx, Brownsville and East New York in Brooklyn, Jamaica and Corona in Queens and Stapleton and St. George in Staten Island.

Mr. de Blasio said these

places were certain to get the vaccine first but that other neighborhoods could be added.

City Councilman Mark Levine, who chairs the council's health committee, said he was concerned about equity and the pace of distributing doses.

"The neighborhood prioritization list is six months out of date, and it would certainly have to be updated based on the horrible fall surge," he said. Some hard-hit neighborhoods, such as Elmhurst in Queens, aren't on the list.

State Assemblyman Simcha Eichenstein, who represents neighborhoods in Brooklyn that have large Orthodox Jewish populations, said he hasn't been told the criteria to be designated a priority neighborhood.

His district isn't included on the list, despite seeing some of the highest in Covid-19 transmission rates in recent months.

"I think we should roll it out as to who comes first in line, because who's potentially at greatest risk?" he said. "It's about saving lives. It's not about saving particular neighborhoods."

As of Dec. 31, the city had administered 88,410 doses of the more than 430,000 it has received.

people," Mr. de Blasio, a Democrat, said at a news conference Thursday.

So far, the city has administered a fraction of the vaccines it has received since being granted authorization in mid-December, according to city data. As of Dec. 31, the city had administered 88,410 doses of the more than 430,000 it has

received, according to city data. The priority has been among health-care workers, and most vaccine doses have been given at local hospitals and nursing homes, officials said.

Getting doses to the more than eight million residents could take months and would mark the largest vaccine distri-

bution in the city's history, Mr. de Blasio said.

Establishing so many secondary vaccine sites outside of health-care settings creates challenges, according to Bruce Y. Lee, a professor at the CUNY Graduate School of Public Health and Health Policy.

"You have to set up these stations or situations where

MTA Tests Ways To Protect Riders From Covid-19

By PAUL BERGER

The nation's largest transit operator, New York's Metropolitan Transportation Authority, is trying to figure out how to move people safely during the coronavirus pandemic. So far, it hasn't been easy.

Some solutions are proving challenging as the science surrounding the virus shifts. Moreover, the techniques must work in an industry that moves millions of riders in all weather, often on equipment built decades ago.

The MTA is spending hundreds of millions of dollars scrubbing stations, commuter trains, subways and buses. It also is investing millions of dollars to test new technologies in a trial-and-error approach.

"We are trying to figure this out as we go," Mark Dowd, the MTA's chief innovation officer, said in an interview.

The MTA, which has an annual budget of \$17 billion, spent \$1.3 million on a pilot program to sanitize subway cars and buses using ultraviolet light. But the authority gave up on the technology because the process of emptying the vehicles, setting up the equipment and using it isn't practical on a fleet numbering in the thousands, Mr. Dowd said.

The authority spent \$775,000 on antimicrobial sprays that were supposed to

kill viruses and bacteria for days or weeks after they were applied to surfaces. Mr. Dowd said most of the sprays proved ineffective.

The MTA's latest pilot is a test of technology that uses ultraviolet light and an electrical field to kill viruses and bacteria inside a railcar's ventilation system. It is currently being tested on one car on Metro-North Railroad and one car on Long Island Rail Road.

The efficacy and safety of using electrical fields in mass-transit vehicles is unknown, according to some specialists.

Brian Buckley, executive director of laboratories at Rutgers Environmental and Occupational Health Sciences Institute, said using electrical fields to purify air is an emerging technology that can create a byproduct that carries a potential, if small, risk to human health. Mr. Buckley said more study of the technology is needed.

MTA officials said they reviewed test data from the equipment manufacturer and discussed the safety of the systems before piloting the technology. The officials said they test for harmful byproducts before and after the equipment is switched on and haven't detected any such byproducts in their vehicles. The pilot program is being conducted with researchers from the U.S. Environmental Protection Agency.

Officials of the state of Connecticut, which relies on the



Metro-North Chief Mechanical Officer James Heimbuuecher described a test of an air filtration and purification system on a railcar in October.

MTA to carry 95% of its rail commuters on several Metro-North lines, say they have a high degree of confidence in the railroad.

Connecticut transportation officials have taken a more basic approach to fighting the virus on its bus and rail services, which are operated by third parties.

Rich Andreski, Connecticut's bureau chief for public transportation, said he and his colleagues commissioned a report from Yale University to assess best practices for making rail travel safe during the pandemic.

Mr. Andreski said the report was needed, in part, because of the way scientific opinion has shifted from the importance of cleaning surfaces toward the need to filter out virus particles in the air.

The Yale researchers re-

jected technologies such as ultraviolet light as impractical for cleaning surfaces in vehicles. Instead, they recommended the state focus on basics, such as ensuring riders wear masks and social distance to the greatest extent possible while the agency improves ventilation.

The researchers told Connecticut officials that their railcar ventilation systems already exchange air with outdoor air every six minutes, limiting the risk to riders. "That was an eye opener for us," Mr. Andreski said.

Krystal Pollitt, an assistant professor of epidemiology at Yale School of Public Health, recommended the state upgrade the filters on heating, ventilating and air-conditioning systems, from a class of filter that removes 50% of aerosols to a filter that re-

moves 80% of aerosols, which would further reduce risk to riders.

Transit agencies currently are able to maintain social distancing on most trains and buses because ridership is low. Weekday commuter rail ridership in the New York metropolitan region is down more than 70%.

Ridership is likely to remain low for some time because many white-collar workers continue to work remotely and many nonessential businesses remain closed.

Studies and reports have drawn conflicting conclusions about the extent to which the coronavirus spreads on mass transit.

The MTA says trains and buses haven't been linked to Covid-19 clusters in the U.S. or overseas. But the authority did recently team up with the U.S.

Department of Homeland Security and Massachusetts Institute of Technology to study how the virus might spread through a subway car or bus.

Mr. Dowd said basics such as mask-wearing and ventilation are important. But he said it is also up to transit agencies to test new products that might help reduce risk for passengers.

In November, Metro-North released a feature in the railroad's customer phone app that tells riders how much available space there is in each car of an approaching train.

"We are not going to have people in the trains unless we can convince them it's safe," said Catherine Rinaldi, Metro-North's president. "And we need to be innovating constantly to be able to identify the technology to keep them safe."

STATE STREET | By Jimmy Vielkind

Lawsuit Challenges New York State's Ethics Commission



In 2018, when state Senate staffer Erica Vladimer publicly accused her

boss, Bronx state Sen. Jeff Klein, of forcibly kissing her outside an Albany bar, advocates and officials from both political parties called for an independent investigation.

Mr. Klein denied the allegation. He asked the Joint Commission on Public Ethics, a watchdog entity charged with enforcing state ethics laws, to investigate. Nearly three years later, the case is still pending. Mr. Klein is out of office and filed a lawsuit in state Supreme Court in Albany last month saying JCOPE no longer has jurisdiction to pursue the matter because it waited too long to act and the alleged kiss wasn't related to any government decision-making.

A ruling in his favor could limit JCOPE's authority to investigate claims of sexual misconduct. For JCOPE crit-

ics such as state Sen. Liz Krueger, the continuing saga shows the need to create a better mechanism for complaints involving state officials.

"Clearly, it's not working," said Ms. Krueger, a Democrat from Manhattan. "You want to go as high and independent as you possibly can get. And the dilemma, frankly, is that we don't have that system."

Jay Musoff, Mr. Klein's lawyer, said he was "confident that any investigation would determine that Jeff did not abuse any state resources or that his alleged conduct did not affect state business." Mr. Musoff said JCOPE was "kicking the can down the road."

A JCOPE spokesman declined to comment on Mr. Klein's lawsuit. He said it was up to state lawmakers to determine the commission's structure and powers.

Gov. Andrew Cuomo, a Democrat, pushed to create JCOPE after assuming his office in 2011. The commis-

sion's 14 members are appointed by the governor and leaders of the state Legislature. JCOPE was charged with policing executive- and legislative-branch employees for violating the state's ethics laws, and overseeing lobbying.

The commission can issue private guidance letters, levy fines or refer its findings for criminal prosecution. In 2019, JCOPE processed 209 matters, according to its annual report. The commission sent 17 notices that it had opened preliminary investigations and secured \$172,550 in fines and settlement payments.

It has handled several sexual-misconduct cases but isn't the only venue available to alleged harassment victims. There are internal processes at state agencies, overseen by the Governor's Office of Employee Relations, as well as the state inspector general's office and the Division of Human Rights. Alleged victims can also bring

a lawsuit.

Ms. Vladimer left Mr. Klein's staff about a month after their alleged encounter, which she said took place after the enactment of the state budget on March 31, 2015. She now works as an attorney for a nonprofit organization. She said the current options available to complainants are

Critics of the panel say the matter shows the need to create a better mechanism.

too hard to navigate.

"It's too convoluted in a way that protects the system," she said. "If you have to sit down and ask, 'Where does an accusation like this go to be investigated in a fair and effective way?'—that's the proof that we have to do so much more."

Mr. Klein's lawsuit has

shined an unusual spotlight on JCOPE by placing key documents into a public court docket. While there were some preliminary exchanges, JCOPE didn't vote to open a formal investigation into the matter until February 2019. By then Mr. Klein, a Democrat, was no longer a senator, having lost his 2018 re-election bid.

JCOPE said in a December 2019 investigative report that evidence showed Mr. Klein kissed Ms. Vladimer without her consent and, in doing so, he violated the public trust. State law provides Mr. Klein an opportunity to respond to the investigative report before an independent hearing officer, who makes proposed findings of fact and recommends a disposition.

During a hearing, Mr. Klein denied the allegations and raised questions about the timeliness of JCOPE's investigation. In a June 2020 report, hearing officer Richard Rifkin upheld JCOPE's

timeliness but recommended that the matter be dismissed. He didn't address the veracity of Ms. Vladimer's allegation.

"A single unwanted kiss, without anything more" wouldn't violate the public trust provision of state law because the alleged action wasn't related to a decision-making process in state government, he said in his report, a copy of which was included with Mr. Klein's lawsuit.

In August 2020, JCOPE commissioners rejected Mr. Rifkin's dismissal recommendation and ordered him to conduct a new hearing on the facts of the allegation. Commissioners said Mr. Rifkin's belief that sexual misconduct needed to involve a governmental decision process like a promotion was "exceedingly narrow."

A JCOPE spokesman declined to comment further.

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GREATER NEW YORK

Web Series Explore Covid and the City

By CHARLES PASSY

For actors, directors and other film and theater professionals in the New York metropolitan area, it would be hard to imagine a tougher year than 2020. But for at least a couple of industry veterans, a solution of sorts has emerged: They have each created their own streaming series, based on life in the city during the pandemic.

In the spring, playwright Charles Messina launched “The Honeyzoomers,” working with theatrical producers Jill Menza and Jeremy Long. The web series is something of a homage to the classic television sitcom “The Honeymooners” and thus is recorded in black and white. It chronicles a brother (played by Johnny Tammara) and sister (Joli Tribuzio) who have been living in the same apartment during the pandemic and contending with each other’s quirks and foibles. Mr. Messina has created a new episode every week for 30-plus weeks.

More recently, actor Steve Greenstein created “Covid Ditty,” a web effort that depicts life in a working-class Bronx neighborhood, set in the pandemic present. Mr. Greenstein, who stars in the series himself, has released four episodes to date.

Few would mistake “The Honeyzoomers” and “Covid Ditty” for slickly produced, prime-time television viewing. But that is arguably part of their charm. Both efforts, which can be found on YouTube and other online outlets, are from New Yorkers: Mr. Messina grew up in Manhattan’s Greenwich Village and still lives in the borough, while Mr. Greenstein calls the Bronx’s Kingsbridge section home.

Both are made with limited production budgets of just a few hundred to a few thousand dollars per episode. The creators said the projects are meant to keep them busy and to honor the city and its residents at the same time.



Steve Greenstein, in black, directed an episode of ‘Covid Ditty,’ which depicts working-class life in a Bronx neighborhood, in September.

“It started as a labor of love,” said Mr. Messina, a playwright whose works have been staged off-Broadway and who is the writer and co-lead producer of “The Wanderer,” a musical based on the life of rock great Dion DiMucci that is being targeted for Broadway.

For Mr. Greenstein, the inspiration came as he walked through his neighborhood during the pandemic and saw all the signs of struggle and survival. In fact, he devotes an entire episode of “Covid Ditty” to an account of a Chinese restaurant and its efforts to keep the doors open. Though a fictionalized tale, it feels close to the current reality.

Mr. Greenstein, whose credits range from appearances in a touring Broadway show to the television series “Pose,” says he always wanted to make films when he was young, but it proved too costly

and time consuming.

“Now, you can make a movie in the palm of your hand,” he said, though he does shoot “Covid Ditty” with an actual camera crew.

There are challenges in doing a small-scale streaming

The creators say the projects are meant to keep them busy and honor the city.

production during the pandemic. Mr. Messina decided to have the actors record their parts in separate locations for social-distancing purposes and then have the results edited so it looks as if they are appearing together. For some episodes, including one capturing the siblings as they shared a

pandemic Thanksgiving dinner, that proved very challenging.

But Ms. Tribuzio, who in addition to appearing in the series as the sister also handles the editing, sees it as part of what gives the series a certain vibe.

“It became something more than a tricky little way to make it work. It became an artistic choice,” she said.

Other New York-based actors have found their own ways to keep the creative juices flowing throughout the pandemic.

Peter Riegert, who is based in Hyde Park, N.Y., and is known for his work in such films as “Local Hero” and “Crossing Delancey,” just launched a podcast series, “Vocal Heroes,” featuring interviews with artists and thinkers who have inspired him. Brooklyn-based actor Sean Hudock created an audio-

play version of “Macbeth” with a group of performers and director Joseph Discher and streamed it on demand during a brief period over the fall as a benefit for the Actors Fund, a nonprofit organization that supports artists.

Mr. Hudock said the production was very much an effort to stay active in a time when work had dried up.

“I’m just a person who constantly needs to be collaborating and telling stories,” he said.

As for the creators of “The Honeyzoomers” and “Covid Ditty,” they hope to continue their efforts in the short, if not long, term, perhaps bringing them to a major subscription-based streaming platform, even in the post-pandemic era.

“The more I get into it, the more I see it could be expanded beyond Covid,” Mr. Greenstein said.

GREATER NEW YORK WATCH

NEW YORK CITY

Rose Decides He Won’t Run for Mayor

Former U.S. Rep. Max Rose said Sunday he won’t run for mayor of New York City after all.

Mr. Rose said that he has decided not to enter the race to succeed fellow Democrat Bill de Blasio, who is term limited. Mr. Rose, an Army combat veteran, defeated incumbent Republican Dan Donovan in 2018 to represent a congressional district that includes all of Staten Island and a slice of Brooklyn. He served one term in Congress but lost to state Assembly member Republican Nicole Malliotakis in November.

He had told supporters in an email last month that he was exploring a run for mayor.

The race already includes City Comptroller Scott Stringer, Brooklyn Borough President Eric Adams, former U.S. Housing Secretary Shaun Donovan and former de Blasio counsel Maya Wiley. Former Democratic presidential candidate Andrew Yang has been meeting with civic leaders in advance of a possible mayoral campaign announcement.

—Associated Press

LONG ISLAND

Chain-Reaction Crash Leaves 2 Men Dead

Police on Long Island are investigating a crash that left two men dead.

The crash occurred on William Floyd Parkway in Yaphank. According to Suffolk County police, 70-year-old Robert Manganaro had stopped his 2004 Chevrolet Suburban at a red light at an intersection at about 7:30 p.m. Saturday when he was rear-ended by a 2017 Honda Accord.

The impact sent Mr. Manganaro’s vehicle into the intersection, where it collided with a 2018 Nissan Maxima. The driver of the Accord, 41-year-old Clydon Bazzey of Mastic Beach, and Mr. Manganaro, of Yaphank, both died. The driver of the Maxima had minor injuries.

—Associated Press



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Applications to business schools are on the rise, but the management degree isn't a good fit for everybody

By **PATRICK THOMAS**

As people look for inventive ways to ride out the coronavirus-induced economic downturn, some are angling to go back to business school. We asked four experts to explain when it makes sense to invest the time and money required to earn a traditional, two-year masters of business administration.

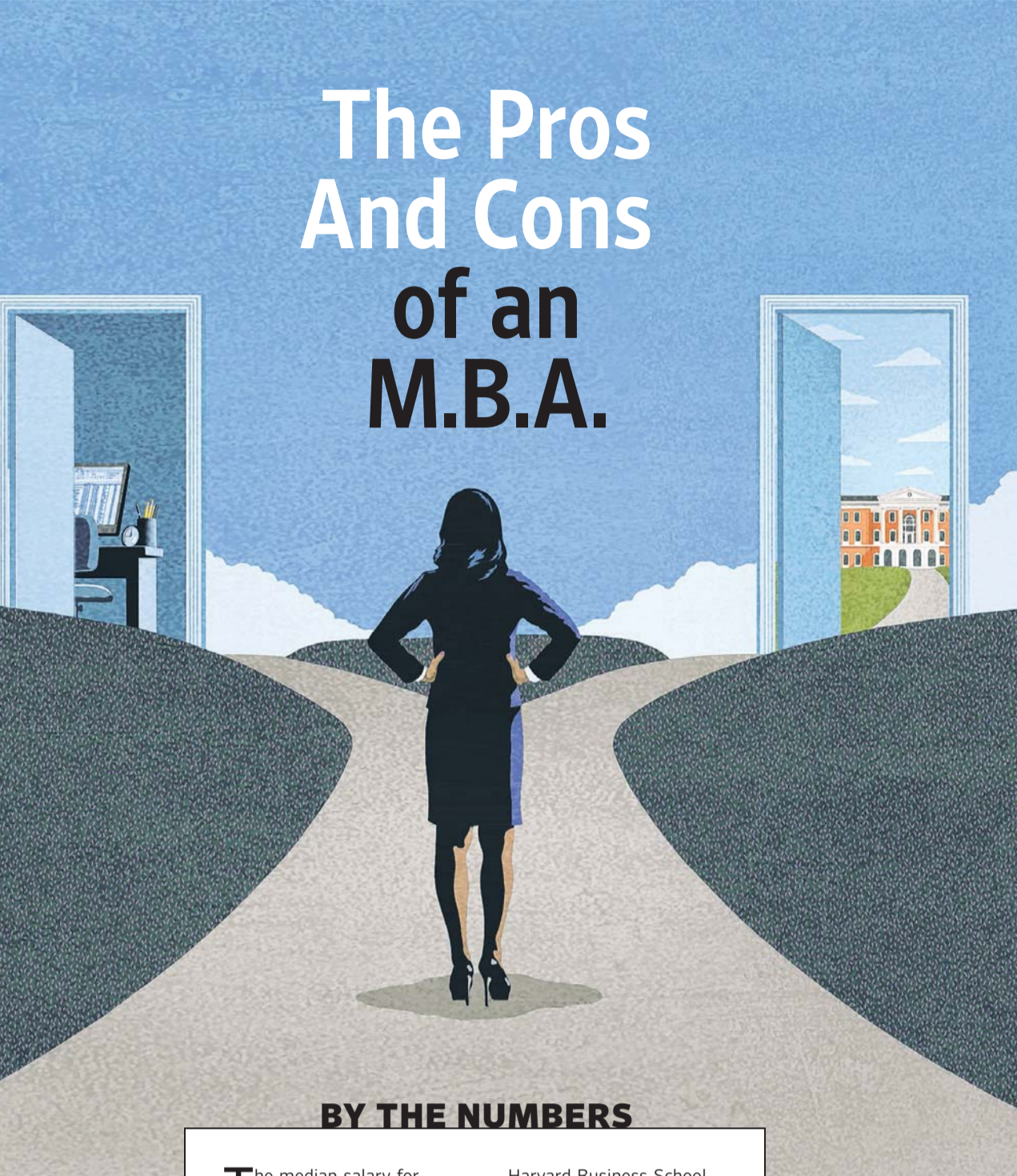
Admissions coaches, former deans and M.B.A. program coordinators generally agree that the sweet spot for potential degree seekers is during their mid- to late-20s—perhaps early 30s—when people are more likely to have the financial and personal flexibility to go back to school. Good candidates also tend to want a career change. The degree has its detractors; Tesla CEO Elon Musk recently suggested too many M.B.A.s may be hurting companies' ability to think creatively.

"The reason you would get an M.B.A. is if you were successful but you don't think your career is moving at the rate you want it to or you think you're in the wrong part of an industry," says Blair Sheppard, former dean of Duke University's Fuqua School of Business and current global head of strategy and leadership for PwC, the accounting and consulting firm. "The other way to think about an M.B.A. is, it's a fresh start on everything," he says. "It's a good life reset."

The Price of Admission

Some top jobs encourage an M.B.A. as a prerequisite, says Judith Hodara, co-founder and director of M.B.A. admissions consulting firm Fortuna Admissions and former head of M.B.A. admissions at the University of Pennsylvania's Wharton School.

Many Wall Street firms highly encourage the degree as a ticket to advance in investment banking or private equity, though it's not always necessary, Ms. Hodara says. Associates and analysts at banks and other financial firms who have two to three years of experience are



The Pros And Cons of an M.B.A.

BY THE NUMBERS

The median salary for M.B.A. graduates in 2020 was \$105,000, outpacing other master's degrees in business by tens of thousands of dollars, according to a September survey of corporate recruiters conducted by the Graduate Management Admission Council. Starting salaries for graduates of highly ranked programs or M.B.A.s going into lucrative fields were even higher.

Harvard Business School 2020 graduates, for instance, received the following compensation, the school says:

- \$150,000** Median base salary
- \$30,000** Median signing bonus
- \$165,000** Median base salary for M.B.A.s entering consulting
- \$150,000** Median base salary for M.B.A.s entering financial services
- \$140,000** Median base salary for M.B.A.s entering tech

experts say it can be better to get an M.B.A. in your late 20s because you have more years of higher earning potential ahead of you. That's because the cost of some traditional programs can range between \$100,000 and \$200,000, or

more, once living expenses are factored in on top of tuition and fees. Some M.B.A. candidates choose to take out loans so they can put their career on hiatus for two years while they attend school, but it can be harder to justify taking on a six-figure debt load in your late 30s or 40s, particularly once you have a mortgage or your own children's college expenses to plan

central feeders to many top schools.

M.B.A. candidates also appear to get favored status in parts of the tech world, such as for product manager positions, says Ms. Hodara.

Young and Free

Ann Harrison, dean of the University of California Berkeley's Haas School of Business, says the typical M.B.A. applicant has three to five years of work experience, giving them an opportunity to explore where they want to go in their life.

While some highly ranked programs, such as Harvard Business School, do offer support for families, such as housing resources, networking opportunities and a

variety of clubs for students with families, the two-year, full-time M.B.A. format is ideal for singles and those with more flexibility in their life, Ms. Hodara says.

"Are you willing to do long-distance with a partner? If you have a family, will they come with you?" she says she asks prospective students to consider.

Financially, several admissions

for, says Kofi Kankam, chief executive of Admit.me, which coaches M.B.A. prospects on how to apply.

A Plan to Pivot

Aside from age and stage-of-life considerations, the traditional M.B.A. experience is ideal for people who don't have the necessary skills to advance in their current career or are looking to make a career switch that will lead to a big salary increase, Mr. Kankam says.

"If you are in publishing and want to go into finance, or you are in teaching looking at consulting, those are big shifts. And if that's the case, then certainly you should be looking at going," he says of the M.B.A.'s ability to help catapult people into new positions and industries.

The degree doesn't make sense for people who have lost a job because of performance issues or lack former bosses who can write letters of recommendation that are needed to apply, Mr. Kankam adds.

The degree also doesn't make financial sense for people who plan to work in sectors where getting an M.B.A. won't result in the kind of substantial salary increase that justifies taking on student debt.

"If you work for something like a non-profit and you're making \$30,000 to \$45,000 a year and still have undergraduate debt, it doesn't make sense to go to B-school," Mr. Kankam says. "It's going to be a huge amount of debt and your job prospects won't allow you to manage that debt."

Consider All Options

There are many alternatives to the traditional, two-year M.B.A., including part-time, one-year, executive and online M.B.A. programs, as well as shorter degrees tailored to high-demand skill sets, such as data analytics, experts say.

Shorter M.B.A. and other business degree programs have proliferated recently as a way to attract professionals turned off by the idea of pausing their careers for full-time studies or taking on additional student debt.

"If you're in a business you like and your career is going fine and if you want an M.B.A., just do a part-time," says Mr. Sheppard of PwC, adding that people in their 40s and 50s may also consider an executive M.B.A. program while working in order to climb in the ranks of middle management.

How to Negotiate a Better Severance if You Are Laid Off

By **DEBORAH ACOSTA**

Once your employer has given you a termination notice, the chances are your tenure is over. Although there are a few exceptions, it would be difficult to save your job.

"I've represented probably 10,000 people who have lost their jobs," says Wayne Outten, the founding partner and chair of Outten and Golden LLP, an employee-side law firm. "The number of people where the company reversed their decision and unfired them is extremely rare."

Although you might be overwhelmed, the most important thing to do right now is to focus on negotiating the best terms you can and to be aware of all the options available as part of a severance package. Don't waste time passively waiting for things to happen to you. This is an opportunity to negotiate something that is fair and equitable for both you and your employer.

"Negotiating a severance package is a difficult moment in everyone's life, but it can be an opportunity to carve out an agreement that everyone benefits from, and it can be the next step in somebody's career," says career coach Paolo Gallo. "It's not necessarily a funeral."

Determine what is most important to you and ask for it

Think about your goals and the employer's needs, and where the

two align. "An organization has the duty to listen to what is important to people, and people have the duty to find out what's important to the organization, and then find a compromise," Mr. Gallo says.

If you have considered starting your own consulting business, for example, you could negotiate an arrangement that allows you to stay on as a consultant while pursuing other opportunities. "As an HR director I signed dozens of these kinds of agreements," Mr. Gallo says. This can help a company to decrease its staff and benefits costs while retaining your services and institutional knowledge. At the same time, your association with the company can help you attract new clients while you set up shop.

If you need time to find a job and don't want to be unemployed while looking, you can request that your severance be paid out in installments over a period of time and that your name stays on your employer's website until you find your next job.

The vesting period on your 401(k) is the amount of time you must work for your company before you gain access to its payments to your plan. Your payments, on the other hand, vest immediately. If your plan hasn't fully vested, you can ask your employer to pay you the difference between the full and vested balances, or you can request to delay your termination date until it vests. You can also



Though you may be overwhelmed, focus on getting the best terms you can.

ask your employer to cover your health-insurance costs until you find a new job.

"Don't think about how much money you can squeeze out of the organization," says Mr. Gallo. "Think about what else might be important to you."

Check your contract or employee handbook—and the law

While companies usually aren't legally required to provide severance pay, some employers do, and they have policies for how it works. Read through your contract or employee handbook to make sure your employer is following its policy. If there is a discrepancy, point it out during your negotiation.

Sometimes companies provide

severance pay to avoid any potential lawsuits. If you fall under certain categories, you may have a legal claim against your employer, Mr. Outten says.

For instance, it is illegal for an employer to let you go because of a protected status, such as your race, gender, age, national origin, religion or a disability. It is also illegal to fire you in retaliation for a protected activity, such as raising concerns about the actions of someone in your company. In both cases, the burden of proof is on you.

Keep in mind that employers usually pay severance benefits only after the employee signs a release not to bring claims against the company, so it may make sense to consult with an employment attorney if you have any concerns.

Negotiate with the person who has the power and will to help you

In negotiating your severance package, it is important to take stock of how long you have been with your employer, what your position is within the organization and what your contributions have been. Severance pay is usually reserved for salaried employees, and those who have served the longest reap the greatest reward.

However, don't underestimate the three P's in this equation: power, personality and politics. In particular, you should aim to negotiate with someone who has the authority and the willingness to help you. "Talk to the right people," says Don Wylie, a managing partner at the recruiting firm Lucas Group. "Sit down with those people who have been your mentors, your allies."

Describe why the package is inadequate, and point to everything you contributed to the company during your tenure. If you can quantify your contributions—such as saving the company a lot of money due to an innovation you contributed to, or additional sales you brought in by winning an important client—even better. When companies lay off a large group of employees, they sometimes swipe with a broad brush and forget about the individual contributions.

Don't hesitate to explain your personal situation if necessary. "As a general rule, nobody wants to see another human being suffer," Mr. Wylie says. "Look at your personal financial situation and how that's going to strain. If you don't ask and you don't explain, obviously you're not going to get anything."

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FROM TOP: ILLUSTRATION BY FEDERICO CASTALDI; CHAA LOFTIN; GREG VILLARREAL

Should You Join a Startup Right Now?

The allure of taking a job at a fledgling company got more complex in 2020



AT WORK
KRITHIKA VARAGUR

Chaa Loftin applied to more than 100 different jobs last year while completing his computer science bachelor's degree at the University of North Carolina at Pembroke. Exactly zero of those résumés went to startups, though he would soon have exactly the kind of STEM degree such companies seek out. He didn't like the idea of high turnover rates or gambling on an untested venture amid the uncertainty of the pandemic. Instead, he starts this month as a software engineer at IBM, founded in 1911.

"One of the most important things I was looking for in a company is the tenure of its employees," the 27-year-old says. "At IBM, it tends to be around the five-to-seven year mark, and when I spoke with upper-level management, they discussed possible career paths for me and really emphasized growth within the company, which for me, as a millennial, is really important."

Startup jobs in industries from payments to social media have become steadily more popular, says Lisa Cohen, an associate professor at McGill University's business school who studies startups. Many young workers fantasize about getting in early at, say, the next Facebook, tantalized by the rewards that come when a sink-or-swim enterprise proves itself viable.

But that allure was severely tested in a year dominated by the pandemic, which has thrown the economy into tumult and increased the desire of job seekers like Mr. Loftin for stability.

"Traditionally, the value of a startup job is that you can have a bigger im-

pact on a small team, that you can try lots of different things, that startups often have stronger cultures, and that you might hit it big if the company proves to be very successful," Dr. Cohen says. The downsides include more risk, less structure, fewer mentors and a less-clear career path. "With Covid, that risk has increased a lot," she says.

Nearly 70,000 tech-startup employees world-wide lost jobs between March and the early summer, including more than 25,500 in the San Francisco region, according to a July report by U.K.-based brokerage BuyShares.co.uk. According to the latest edition of a long-running report on recruiting trends from Michigan State University, published in October, a quarter of 1,036 U.S. employers surveyed closed open positions or rescinded offers made to graduating students in response to the pandemic.

Ana Maria Villegas, a 21-year-old recent graduate in economics from Georgia State University, says that before the pandemic hit, she was intrigued by the growth opportunities available at small businesses and startups. But she completely reoriented her job search toward stability in the fall. She will start as a government and public services analyst at Deloitte in February.

"Big firms have more leverage to respond to the unique stresses of the pandemic," she says. She particularly appreciates Deloitte's clear policies allowing for time off if a family member gets sick.

There may soon be more startup jobs up for grabs for those willing to risk it. The first half of 2020 saw a steep drop-off in venture-capital funding to U.S. startups, but new businesses are re-

bounding. There was a 41% increase in new business applications in the final full week of 2020 compared with exactly one year prior, according to the Census Bureau's Business Formation Statistics. The Penn Wharton Budget Model estimated in November that the applications from the first three quarters of 2020 could lead to about 120,000 additional jobs.

There are steps you can take during the hiring process to ensure that it's worth the leap of faith in an uncertain time.

"I encourage my clients to 'interview' any company that offers them a job," says Marjorie Kalomeris, a New York City career coach. For a startup, she suggests asking about its funding and looking over its financials independently, evaluating its growth potential and gauging the credentials and leadership style of the founders, who tend to have outsized impact in such companies.

"You should also set boundaries," she says. "Startups typically have ridiculous hours, so if you don't set expectations early on, it can be hard to change that in a remote-work environment." Salaries can be hard to nudge in this climate, she says, but there is room to negotiate perks like stipends to set up home offices.

Some startup founders agree that there are now more job seekers than ever, but say that the most in-demand talent still needs some convincing to take a chance on a fledgling company.

Nicholas Donahue, co-founder of Atmos, a platform for designing and building custom homes, says that being accepted in 2020 to the prominent accelerator Y Combinator gave a crucial boost to his company's profile.

The endorsement was particularly helpful in bringing in engineering prospects. "It got us a decent amount of press, so people who are really passionate about our niche field have actually been reaching out to us directly on LinkedIn or email," he says. To get potential hires to the finish line, he says he has offered higher equity and signing bonuses.

Others have been convinced to join startups this year by the founders' pedigrees.

Kim Rodgers joined Tomo, a Connecticut-based fintech startup focused on home buyers, as its head of human resources in December, shortly after being recruited through LinkedIn in October.

"I decided to take the leap while the company was still in stealth mode, because it was really well-funded and was run by two former Zillow executives with a track record of success," she says.

Some of today's headline-making companies, including Airbnb and Uber, formed during the 2007-09 recession.

That's partly why Tim Michaelis, an assistant professor of entrepreneurship at Northern Illinois University, still recommends all of his undergraduate students try their best to get hired at a startup, even during the pandemic.

"To me, it's like a rotational program, in terms of how many responsibilities you can take on early in your career," he says. "I would often get pushback that it's not as secure as a big company like Google or IBM. But I don't think there's a person in the country who truly feels secure in their jobs right now. So there's never been a better time to take a risk on a startup."



Chaa Loftin, top, and Ana Maria Villegas, took jobs at established companies.



Bevy Smith's Takeaways On Career Reinvention

By RAY A. SMITH

A meltdown in a luxury Milan hotel while on a business trip in 1999 is what made Bevy Smith, then a successful 33-year-old fashion and beauty advertising director at Vibe magazine, realize she needed to switch careers.

Her job felt like the movie "Groundhog Day," she says, and the frequent travel was causing her to miss out on important moments with family and close friends.

Now the host of celebrity talk show "Bevelations" on the Radio Andy channel of SiriusXM, Ms. Smith describes her journey in her book, "Bevelations: Lessons From a Mutha, Auntie, Bestie," out Jan. 12. After other moves that included a stint as a fashion-advertising executive at Rolling Stone magazine, she finally made inroads in her dream field of entertainment at the age of 38, a late start in most industries, but especially in Hollywood.

The 54-year-old's second-career trajectory included hitting it off with Andy Cohen, the Bravo execu-

tive behind the "Real Housewives" franchise. He tapped her for TV projects and the radio show on his SiriusXM channel. (Mr. Cohen's book imprint, a partnership with Henry Holt & Co., published "Bevelations.") She also faced setbacks, including the cancellations of two television talk shows she co-hosted: "Fashion Queens," on Bravo, which ended in 2015, and the syndicated "Page Six TV," cut in 2019.

In her book, the lifelong Harlem resident discusses the racial-justice protests, her bout with Covid-19 and dealing with the death of her 95-year-old father, Gus Lee Smith, from the virus in April.

As the new year brings thoughts of new goals, Ms. Smith talked with The Wall Street Journal about career reinvention. Edited from an interview:

Covid-19 has prompted or forced some people to consider changing their careers. What advice would you give on breaking into a new career when a lot of us are still social distancing?

Utilize social media. If you're looking to pivot, it's a really

great tool because it can help you reestablish yourself in a totally different space. What I've found on social media right now is that people really are looking to help others. There are certain industries and certain people that are doing quite well during the pandemic, and what I've noticed is that those people are really wanting to help.

What about people who were thinking about going into a new career before the pandemic and now they're in limbo—should they hold off until the economy gets better?

It really does depend on how

risk-averse you are. I have a very high tolerance for risk. In the book, I talk about seven years between quitting my Rolling Stone position and getting to "Fashion Queens." Seven years! Do you have the stuff to let the chips fall where they may and stay the course and actually thug it out for seven years? Because it could be that long. It could be longer.

You write about going broke between your old career and your new one. What tips would you give to people on their finances while they're embarking on a new career or reinvention?

I advise seeking out a financial planner who can help you. My financial plan was, "Oh wow, I have enough money to pay my rent for like two years." That was the extent of it.

What tips would you give people who are miserable in their career but still have to show up at work while they have reinvention on their mind?

I leaned heavily on my friends. My best friend Aimee, I would call her every day when I was at Rolling

Stone. Every morning I would be like, "I cannot believe I have to do this." And she'd be like, "Hold on. It's not that much longer. You can do it. You can make it through."

One of the "Bevelations" in your book is, "It Gets Greater Later." What tips would you give to people who are considering changing their careers and concerned about ageism?

I would advise surrounding yourself with young people in that space. There's a great new app called Clubhouse. Go into those "rooms" that are focused on the industry that you're interested in. If you're not in Clubhouse, do that on Facebook, do that on Twitter.

Don't be intimidated by the fact that they are so much younger than you. What I find is, whatever the young people are doing, there's always something we can impart to them to help them make their journey a little easier. And they appreciate it.

What advice would you give to people who might have second plans because they're getting rejection?

As a salesperson, know it's just the beginning of the dance. You got in the room for them to be able to tell you no. Someone thought enough of you to say, "Yes, come in, we'll take the meeting with you." That's a big deal. That means you're on the right path.



SiriusXM radio host Bevy Smith draws lessons from her career ups and downs.

ERIN PATRICE O'BRIEN FOR THE WALL STREET JOURNAL

ARTS IN REVIEW

ART REVIEW

A Lesson in Aging Gracefully

By WILLARD SPIEGELMAN

New York

For anyone seeking refuge from pandemics and politics, nothing could be more healthful than “David Hockney: Drawing From Life” at the Morgan Library & Museum (through May 30). A show intimate and expansive, it makes the polished parquet floors and high ceilings of the galleries glow with warmth and love. Originating at Britain’s National Portrait Gallery, it is also the first exhibit to focus on Mr. Hockney’s portraits on paper.

Mr. Hockney is one of the few modern artists (along with Calder and Matisse) guaranteed to convey unabated pleasure. Matisse famously said he wanted to make “an art of balance, of purity and serenity...a soothing, calming influence on the mind, something like a good armchair which provides relaxation from physical fatigue.” Calder’s mobiles, his playful circus of light-as-air objects in three dimensions, bring smiles to adults and children alike.

For his part, Mr. Hockney fills his pictures with clarity imbued with charity that anyone can understand. Born in 1937, he is also, perhaps, the last in a line of Old Masters who have profited from academic training. That he honors tradition and simultaneously reinvents it (and himself) testifies to his energetic abundance.

Like Rembrandt and Picasso, both of whom are kindly overseeing presences here (as is Ingres, superb draftsman, master of the line), Mr. Hockney has been constantly self-revising and experimental. From pencil, pen and ink, charcoal, crayon, watercolor and gouache, through etching, lithography, photography and collage, to pictures on iPhone and iPad, there is practically no medium uncongenial to his talent.

The multiplicity of formal experiments in the show is balanced by the mere handful of its depicted subjects. A total of 126 pictures (plus iPad drawings and several of the artist’s sketchbooks) depict David; his mother; Gregory Evans, a lover who metamorphosed over the years into a friend; the textile designer Celia Birtwell, a longtime muse; and the printer Maurice Payne, an artistic



David Hockney’s ‘Self Portrait With Red Braces’ (2003), left, and ‘Gregory’ (1978), above

collaborator. The media change, the subjects do not.

Or, rather, the subjects change because they age, and Mr. Hockney has dutifully recorded time’s inevitable progress in those faces and bodies, especially his own, that he has lived with for decades. A consummate draftsman, he also possesses a child’s—or an intellectual’s—insatiable curiosity and a willingness to do new things, or do the old things in a new way.

Drawing is both the start and the heart of Hockney’s genius. People tend to associate him with his flamboyantly colored oils of California sunshine and water, but the delicate intimacy of pen or pencil is where he began. He has always been a draftsman.

Whether it’s the young faunlike Gregory sleeping; the septuagenarian Laura Hockney sitting primly in a chair, arms folded; pensive, long-legged Celia gazing

away; Maurice, head tilted to his right and looking somber—Mr. Hockney knows how to be both thorough and speedy. He has said that he always begins with the head, especially the eyes, and he creates essences through his seemingly off-handed way of sketching that makes his sitters seem both delicate and solid.

Color adds occasional vibrancy. A nude Celia, drawn in crayon in 1975, looks like a Boucher nymph. Gregory, in 1999, done in pencil and gouache, wears a bright blue painter’s smock and a red cravat, but his head and curly hair are done in pencil. Hockney made an inkjet printer computer drawing of Maurice (2008), filled with his signature bright colors. The sitter, radiant and sober, looks straight out at us.

As a self-portraitist, Mr. Hockney is without contemporary peer. His earliest piece in this show is a

1954 pencil drawing of an earnest, mop-headed 17-year-old schoolboy, with what would become his signature big round glasses, and a right hand adjusting the Windsor knot of his tie. Only the face, neck and right hand are finished, but this is enough detail for us to know, especially in retrospect, that we are looking at the work of a mature artist who did not need to fill up an entire piece of paper to get his points across. Another self-portrait from the same year is a brightly colored collage on newsprint, the boy looking serious and vibrant.

Three decades later, perhaps as a response to the AIDS crisis, Mr. Hockney took it upon himself to do a self-portrait almost every day for two months, in charcoal. These touching pictures, the artist looking straight out at us, project both delicacy and vulnerability, nobility and weariness.

The most moving pictures, three-quarter length, ink on paper, are the latest: four of Celia, two each of Maurice and Gregory, done in 2018-19. Ripeness is all. The subjects are all old. In beautiful color, Celia smiles into the distance with a knowing acceptance. Gregory, manspreading in a comfy chair, seems tired but resigned; Maurice, stoic and calm. They have all profited from the Old Master’s attention and they have inspired him. The collaboration says something about our shared humanity as well as an artist’s fecundity. Drawing from life, Mr. Hockney has also created life.

David Hockney: Drawing From Life
Morgan Library & Museum, through May 30

Mr. Spiegelman writes about books and the arts for the Journal.

DAVID HOCKNEY/RICHARD SCHMIDT (2)



OPERA REVIEW

Satisfying, Bite-Sized Operas

Naomi Louisa O’Connell in ‘The Wait,’ left; Raphaëla Mangan and Rachel Croash in ‘Close,’ below

By HEIDI WALESON

With opera gone digital due to the Covid-19 pandemic, fans can experience voices, composers and opera companies they might never otherwise have heard. The Irish National Opera commissioned short (five- to eight-minute) pieces from 20 Irish composers. Recorded in Dublin’s Gaiety Theatre with the RTÉ Concert Orchestra and filmed in a lively variety of styles, the resulting “20 Shots of Opera,” available free, is an exhilarating journey through up-to-the-minute lyric creativity. Unlike the experience of losing yourself in the lengthy grandeur of more traditional operas, you absorb these intimate quick takes like jolts of recognition.

In the opening comedy, “Mrs. Streicher” by Gerald Barry, the best-known of the composers, a tenor sits at a table ranting furiously about servants and laundry, with interjections from a tuba. The text is from Beethoven’s letters. Several pieces explore separation: In Ena Brennan’s “Rupture,” a soprano duels with her inner, critical voice; in Hannah Peel’s “Close,” two women have an awkward first in-person, socially distanced date. One powerful group of works looks at death: In Alex Dowling’s “Her

Name,” a sweet-voiced choirboy mourns his mother; Michael Galen’s “At a Loss” is a large-scale diva turn, as the soprano awaits news of her mother’s death; Andrew Hamilton’s “Erth Upon Erth” is a wordless howl, starting with a woman’s mouth in close-up and ending with her zipped into a body bag on a gurney.

Operas made just for film can inspire highly creative visuals. “Verballing” by David Coonan employs black-and-white animation. A female police officer, getting schooled in how to question a murder suspect, sings just one word—“Yeah,” repeated higher and higher. The instructions appear only in type, and as the tension mounts, the background dissolves so that her white face floats in a sea of darkness. In the hilarious “A Message for Marty (or ‘The Ring’)” by Conor Mitchell, two sisters call out an ex (who dumped one of them by text); the jittery cellphone picture, the tacky costumes, and the escalating fury, plus a snippet of Wagner, is opera extremism in modern dress.

Most of the pieces are for women’s voices, exploring different timbres and expressivity. I was struck by the fierce intensity of mezzo Naomi Louisa O’Connell in Emma O’Halloran’s “The Wait,” and

sensus.” The team has further developed their technique with “Only You Will Recognize the Signal,” dubbed a “serial space opera,” which was released over seven weeks in live, 10-minute episodes and is now available as a 70-minute stream through Feb. 17, 2021; pay what you wish. “Signal” has background video, designed by David Bengali. The close-up images of six singers (a seventh is only heard), performing from separate locations, are occasionally superimposed on one another. Ms. Sankaram’s ingenious score, with its urgent, repetitive vocal motifs and electronic accompaniment, builds tension and sustains interest over this much longer, more sophisticated story line, while Mr. Handel’s text offers tragicomedy with a light touch.

On a luxury spacecraft, five travelers, immigrating to a distant planet, awaken prematurely from therapeutic hypothermia. Alone in their pods, they frantically relive the histories—which include one another—that they were trying to escape, as the ship’s computer, Bob (baritone Christopher Burchett), works ineffectually to solve the



the simple, folk-like cadences of Benedict Schlepper-Connolly’s “Dust,” a lament for the natural world, poignantly sung by Michelle O’Rourke. And the insidiously floating and twisting soprano line of “Libris Solar,” sung by Claudia Boyle, made me want to hear something longer from composer Jennifer Walshe.

Back in the early months of lockdown, director Kristin Marting, composer Kamala Sankaram, librettist Rob Handal and the arts center HERE experimented with digital opera in their 10-minute Zoom piece, “All Decisions Will Be Made by Con-

* * *
On Site Opera’s live productions have geographical context—like “The Secret Gardener” in an actual garden. Its latest project, “The Beauty That Still Remains: Diaries in Song” (\$120 for the complete set), creates an emotional landscape for all of us confined to our homes. Three sepia-toned, hand-written diaries arrive in the mail. Each looks like a relic, dug out of an attic or an archive. You follow an internet link to an audio recording, and the first-person account on the pages becomes a haunting voice, the dead speaking from the distant past.

The series, directed by Eric Eichorn, with pianist Howard Watkins as the sensitive accompanist, has its own dramatic arc. It begins with Leoš Janáček’s “The Diary of One Who Vanished,” a straightforward, fictional drama of a farm boy who falls in love with a Roma girl and leaves his family for her, sung in an English translation. The doodles in the diary match the plaintive youthfulness of Bernard Holcomb’s tenor; the buildup of anxiety in the first group of songs gives way to the seductive allure of Vanessa Cariddi’s mezzo, and a magical trio of background voices.

In Dominick Argento’s “From the Diary of Virginia Woolf,” we are in the real world: The writer’s musings, seen in her tiny, crabbed handwriting, are overlaid by the listener’s own knowledge of Woolf’s books, her life and her suicide. Argento’s eloquent settings turn the prose into poetry; Ms. Cariddi captures its intimacy and introspection, and its sense of random fragments that coalesce to form a whole. Finally, in Juliana Hall’s “A World Turned Upside Down,” taken from the diary of Anne Frank, the immortal teenager’s slender voice is shrouded by global catastrophe. It begins with the gleeful giggles of a 13-year-old, and Cristina Maria Castro’s soprano seems to grow up as the entries get more somber and the sense of claustrophobia and doom overtakes the young author.

Ms. Waleson writes on opera for the Journal and is the author of “Mad Scenes and Exit Arias: The Death of the New York City Opera and the Future of Opera in America” (Metropolitan).

IRISH NATIONAL OPERA (2)

SPORTS

Alabama, Ohio State Took Different Paths

The Crimson Tide navigated the coronavirus pandemic with little disruption, while the Buckeyes were rocked by it

By LAINE HIGGINS

A year ago, Alabama rang in 2020 with a New Year's Day bowl win that was no salve for the bitter taste of missing the College Football Playoff for the first time in its short history. Ohio State was in Columbus, licking its wounds after a crushing semifinal playoff loss to Clemson in the Fiesta Bowl.

Both programs felt snakebit by dream seasons derailed and vowed to return to college football's pinnacle in 2021. Now, Alabama and Ohio State have made good on their offseason vows by making it to this year's championship game in Miami Gardens, Fla., on Jan. 11. Their paths to the 2021 College Football Playoff Championship could not have been any different, however. No. 1 Alabama was not immune from coronavirus-induced uncertainty, but played its entire pandemic-season schedule without incident, a model of discipline. No. 3 Ohio State was a model of disruption, played just six regular season games and never quite conquered the virus.

Yet both teams, which have now won 12 and seven games, respectively, have played their way to the final.

Alabama punched its ticket to Hard Rock Stadium first on Friday, defeating No. 4 Notre Dame 31-14 in the Rose Bowl, which this year relocated to AT&T Stadium in Arlington, Texas, due to rising coronavirus cases in Southern California. Alabama's pair of Heisman Trophy finalists—quarterback Mac Jones and wideout Devonta Smith—connected for three touchdown receptions and stud running back Najee Harris turned in a highlight-reel of a game with 126 rushing yards and one gravity-defying hurdle over a Notre Dame defender.

Yet the aspect of Alabama's performance that drew the most praise from Coach Nick Saban was its adherence to strict health protocols designed to mitigate viral spread.

"I'm really proud of the way our players have handled disruptions all year long," said Saban. In a testament to his trust in the team, the Alabama coach allowed players return home to their families for the Christmas holiday—a gambit that could have proved folly had an athlete's cross-country travel introduced the virus into the locker room. No other team that competed in Friday's semifinal allowed players to leave campus between conference championships on Dec. 19 and the first round of the playoff 12 days later.

"I can't verify we didn't have somebody go someplace they weren't supposed to go, but if they did we'll certainly confront them," said Saban. "Because if a player did that, he actually doesn't just put himself at risk, he's putting his



Ohio State coach Ryan Day, above, with his team before the Sugar Bowl. Alabama receiver Devonta Smith, below, scored three touchdowns in the Rose Bowl.

teammates at risk when he comes back. And that's the one thing our players have been pretty good about so far this year."

Alabama doesn't disclose the results of its thrice-weekly coronavirus testing, but has seemingly avoided major outbreaks. The most notable personnel absences, receiver Jaylen Waddle and center Landon Dickerson, were the result of leg injuries in October and December, respectively, rather than viral infections. The Crimson Tide saw only one game postponed—because its opponent, Louisiana State, did not have enough healthy players to go forward with kickoff.

The only person affiliated with the team with a known positive Covid-19 result was Saban. The coach contracted the virus the week of Thanksgiving and watched the Iron Bowl against Auburn from his living room after recording a false positive in October. His absence hardly registered: Alabama crushed its in-state rival 42-13 with offensive coordinator Steve Sarkisian, who last week won the Broyles Award given to the top assistant coach in college football, at the helm.

If the Crimson Tide exemplified how to get through a pandemic season relatively unscathed, Ohio State was an example of achieving greatness in spite of adversity and viral disruptions.

"Not being able, as the head coach and the leader of the program, to look people in the eye and let them know what's coming next...that's the biggest challenge,"



said Buckeyes coach Ryan Day of the pandemic season. "That wears on you."

In late summer, the Buckeyes spent five weeks in limbo, after the Big Ten Conference first postponed the season and then revived a shortened version of it in late October.

Then three of Ohio State's nine games were canceled, dozens of players and several coaches were sidelined by positive tests and contact tracing and the team required a last minute rule change from the Big Ten's top brass to get a shot at winning its fourth consecutive league title.

"This is one of my favorite teams I've been around. Maybe not

because of what's gone on all the time on the field. But more importantly this team is so tough. They've been through so much and they haven't flinched," Day said after defeating Northwestern in the Big Ten Championship on Dec. 19. He was even more effusive leading up to Friday night, calling the Buckeyes' 2020 run "a great story in overcoming so much."

Both teams' victories Friday were followed by noteworthy personnel developments on Saturday.

In the wee hours of Saturday morning, Ohio State quarterback Justin Fields revealed that his torso was "pretty messed up" after he absorbed a crushing "targeting" hit late in the second quarter that

got Clemson linebacker James Skalski ejected from the Sugar Bowl. Fields missed just one play, a time during which he said he received "a shot or two" of an unspecified substance in the medical tent, and muscled through the rest of the game despite being in pain on "each and every throw."

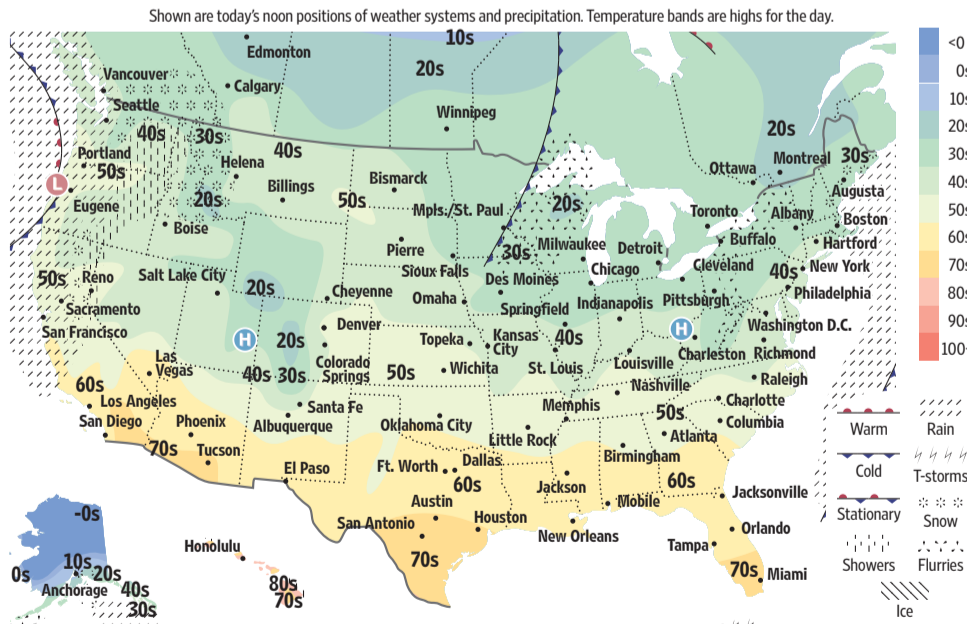
"Pretty much my whole right is sore. That's messed up. And a little, my hip," said Fields following the game. "But they [Ohio State's team physicians] didn't really give me a diagnosis at all."

Fields has eight more days to rest up before the national championship, but with the extent of his injuries unclear it is not known whether he will be healthy enough to play. Ohio State has not released details on his condition. Some have suggested that the quarterback, who is slated to be a top pick in the next NFL draft, might benefit from opting out of the title game to prevent further injury. Fields has not said whether he intends to play against Alabama.

Then on Saturday, Alabama had its own bombshell. Sarkisian, the offensive coordinator who previously was a head coach at Washington and Southern California, revealed he would trade crimson for burnt orange as Texas's new head coach. The news came within minutes of the university's surprise decision to fire fourth-year coach Tom Herman. Sarkisian has not yet given an indication about whether he will stay with Alabama to call plays through the national championship.

Weather

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U.S. Forecasts

s., sunny; p.c., partly cloudy; c., cloudy; sh., showers; t., storms; r., rain; sf., snow flurries; sn., snow; l, ice

Table with 3 columns: City, Today, Tomorrow. Lists major cities and their weather conditions.

Table with 3 columns: City, Today, Tomorrow. Lists international cities and their weather conditions.

The WSJ Daily Crossword | Edited by Mike Shenk

Crossword puzzle grid with 13 columns and 69 rows. Includes clues for 1-34 and 36-68.

THE JOCLAR VEIN | By Kevin Christian & Brad Wilber

- Across: 1 Rescues from the pet shelter, say; 7 Crunch's rank?; 11 "60 Minutes" aier; 14 Sea ___ (spiny creature); 15 Black-and-white treat; 16 Horse morsel; 17 *Craft by which quotations are put on pillows; 19 Had dinner; 20 Wand-waving org. at the airport; 21 Yarn; 22 Specialized market; 24 IRS identifiers; 26 *Nick Jonas, to Joe Jonas.

- Down: 1 Cousins' mothers; 2 Attire; 3 Coastal city in San Diego County; 4 Deg. requiring a defense; 5 Pinball fail; 6 Tennis shoes, informally; 7 Murrered tenderly; 8 R&B singer Lennox; 9 Signing tool; 10 "Ask me later!"; 11 Main seating section in many a plane; 12 Use the tub; 13 Ranch grazer; 18 Ball bend; 23 Cry on recognizing an ambush; 25 Musical intervals that are nearly octaves; 27 Ho-hum; 28 Fury; 30 Modern: Prefix; 32 Underground resource; 33 Pot-draining aid; 34 Pig enclosure; 36 Plan together, as a scheme; 37 ___ we having fun yet?; 38 Forerunners of taxis, in brief; 40 Text alternative; 41 Commotion; 42 In need of cheering up; 47 Fairy king in "A Midsummer Night's Dream"; 48 Smaller than small; 49 Contaminate with a bug; 50 Wild card, at times; 51 "A Promised Land" memoirist; 52 Play matchmaker for; 53 Deceive; 55 Verb for which synonyms can be found at the beginnings of the starred answers; 56 Selfish sort; 59 Workplace-regulating org.; 63 Texter's "Here's what I think..."; 64 Colossal; 65 Colossal weight

Previous Puzzle's Solution

Grid showing the solution to the previous crossword puzzle.

The contest answer is RING IN THE NEW. As hinted at by the clues to ONE and DOWNS, take the last three letters of the four long down answers to spell the contest answer.

Solve this puzzle online and discuss it at WSJ.com/Puzzles.

REVIEW & OUTLOOK

The Election Rejectionists

As Americans like to tell the world, a hallmark of democracy is the willingness to accept defeat and the peaceful transfer of power.

The GOP stunt over the Electoral College will hurt the country and the party.

Democrats in 2016 abused the FBI to push the Russia collusion myth and refused to accept Donald Trump's legitimacy.

But the main issue now is that too many Republicans refuse to accept Mr. Trump's defeat. More than 100 House Members and, as of this weekend, at least 12 Senators say they will formally object to the Electoral College count.

* * *

The leading culprit here is Mr. Trump, who as always refuses to accept responsibility for defeat. Recall that he also claimed the Iowa caucus result was stolen in 2016 when he lost to Ted Cruz.

The damage is spreading as Mr. Trump puts pressure on other Republicans to take up his lost cause. A dozen Senators have issued a statement demanding an Electoral Commission that would investigate claims of fraud and report within 10 days.

Note that the Senators in their statement don't allege specific acts of fraud. Instead they cite "allegations of fraud and irregularities" that feed "deep distrust" of the results—distrust they and the President are feeding.

The courts have rejected every Trump campaign attempt to intervene in the state results, often by judges appointed by the President. Mr. Trump's lawyers make charges in public that they won't even bring to a court, perhaps because they know there are penalties for speaking falsely before judges.

As Republican Sen. Pat Toomey has shown, the voting evidence from Pennsylvania is that Mr. Trump lost fair and square. Republicans down ballot did well. Mr. Trump did relatively better in Philadelphia in 2020 than in 2016, but he lost ground in the suburbs and his margin shrank even in some rural counties he won.

The Electoral College gambit won't work this week because House Democrats won't go along,

but imagine if Republicans ran the House and did. Eighty-one million Americans who voted for Mr. Biden would be disenfranchised by an insider scheme. The political response would be volcanic, and understandably so.

Republicans might vote to convict. In our view this week's exercise is also unconstitutional. The text of the original charter, elaborated by the 12th Amendment, gives state legislatures the power to appoint electors.

The Electoral Count Act of 1887, which the House and Senate will act upon, is unconstitutional in giving Congress the ability to second-guess those state decisions. In stretching this law for a partisan exercise, Republicans are also giving Democrats more ammunition to use in their campaign to overturn the Electoral College in favor of a direct popular vote.

This is the fire Republicans are playing with, no matter their political calculation. Some may figure the vote Wednesday is merely symbolic; they can show solidarity with Mr. Trump's voters and dodge a primary challenge in 2022.

* * *

This is also a lousy political strategy for returning to power. By indulging Mr. Trump, Republicans are helping him divide the party and remain as a potential kingmaker. This could hurt what should be their very good chance to retake the House in 2022.

The GOP electoral focus now should be on minimizing the damage of the Biden-Nancy Pelosi agenda, and that includes making the case for reforms to restore trust in elections. This is mainly a state duty, but the national party can do better at exploiting the rules as they exist.

The good news is that many Republicans have been willing to stand up for proper constitutional conservatism. That includes the Federalist Society judges appointed by Mr. Trump who have made independent rulings based on the evidence. They have made their Democratic critics look foolish.

Credit as well to Senators Mitch McConnell, John Thune, Ben Sasse, Roger Wicker, Mr. Toomey, among others, who seem poised to support the election result as the Constitution advises. Their votes this week will look even better in the long light of history.

What's at Stake in Georgia

What's the difference in policy between a Senate run by Chuck Schumer with 50 Democrats and one run by Mitch McConnell with 51 or 52 Republicans? That's the question that matters for the next two years, so it's worth explaining the stakes with realistic specificity in Tuesday's Georgia Senate runoff.

Here's the difference between a Democratic and Republican Senate.

and the tax increases are sure to be retroactive to Jan. 1, 2021. Forget about extending the temporary provisions of the 2017 tax reform.

Some of our friends think Democrats couldn't blow up the 60-vote legislative filibuster rule with a mere 50 votes. Their confidence hangs on West Virginia's Joe Manchin, who says he supports the filibuster.

But if the filibuster stays, Mr. Biden will need to compromise to get GOP votes for an infrastructure bill, new ObamaCare subsidies or repealing Section 230 on tech liability.

But if the filibuster goes, so do bipartisan restraints. Statehood for the District of Columbia and Puerto Rico become possible, with four new Senate seats to cement a Democratic majority.

Nancy Pelosi's narrower majority in the House might constrain some of this. But she proved in 2010 with ObamaCare that she is willing to sacrifice swing-district Members to pass progressive priorities.

All of this is what the candidates should be debating in Georgia. But President Trump has obscured the stakes with his claims of November vote fraud and demand for \$2,000 Covid checks.

LETTERS TO THE EDITOR

Woke Teachers Don't Understand the Classics

Meghan Cox Gurdon's op-ed "Even Homer Gets Mobbed" (Dec. 28) describes how some educators are using the ubiquitous terms "racism" and "sexism" to attack classic literature.

RON COPE Chicago

Dealing with his family's shame from involvement in the Salem witch trials, Nathaniel Hawthorne tried in "The Scarlet Letter" to expose the roots of fanaticism.

DIANNE STILLMAN Brooklyn, N.Y.

After reading about #DisruptTexts, the latest intersectional jihad, I don't know whether to laugh or cry. These latter-day Jacobins want to confine history to a permanent now.

DEREK RIDGLEY Nederland, Colo.

Do the book-banning teachers believe that students who harbor no discriminatory views will become racists or sexists because they read a book that includes characters with such traits? If so, they have misdiagnosed the causes of discrimination.

ROB FRISCH Chicago

Ban "The Odyssey" and "The Scarlet Letter"? I can't think of a better way to get teenagers to read them.

BRIAN BRANDT Lansdale, Pa.

What is acceptable these days? In "The Odyssey" Athena essentially rules the universe. Powerful women such as Circe are key characters, and

Odysseus's wife, Penelope, runs the house for 20 years while he is away, outsmarting more than 100 suitors.

PETER L. STEINBERG Brookline, Mass.

How ironic to learn that, driven by contemporary critical theory, Lawrence (Mass.) High School has junked "The Odyssey," along with its evocation of the virtues of marital fidelity.

PAUL McHUGH Baltimore

Mrs. Gurdon does a great disservice not only to Lawrence High School, but to the public discourse around K-12 education. First, let us correct the record: No ban exists. Our school teams provide students an essential literary foundation through a diverse blend of authors, works and genres spanning thousands of years from the classic canon to the far-too-underappreciated.

The featured works change regularly, but these and countless more are always available to our teachers and students to be read, referenced and taught. Revisiting curriculum to meet the needs of a given year is a commonplace practice.

We should hold space for constructive conversations about education without demonizing teachers. Mrs. Gurdon chose to feed into readers' most cynical impulses, resulting in our school district and staff receiving misguided invective fueled by the very things she decries—ignorance and intolerance.

CYNTHIA PARIS Superintendent Lawrence Public Schools

How Government Subsidized the Opioid Crisis

There are many bad actors in the opioid crisis and the government is right to go after them. But your editorial "Scapegoating Walmart" (Dec. 30) is correct: Walmart's pharmacies are not among them. Our government is scapegoating and suing the private sector, when the most important driver of the crisis was the federal government's indiscriminate financing.

A 2019 report by the White House's Council of Economic Advisers shows that the share of opioid pills paid for by the government went from 17% to 60% through the initial phase of the epidemic, from 2001 to 2010, when prescriptions dominated misuse, and didn't stop there.

Without government subsidies, it would have cost between \$26,000 and \$53,000 a year to buy the pills to maintain an opioid addiction out-of-pocket.

The large prescription-based crisis would have been infeasible without government funding. Innovation into illegal opioids, which lowered the "price of a high" through fentanyl, was profitable only because of the large demand already generated by the prescription crisis. The government would make greater strides toward limiting the crisis by looking inward, not only outward, for its causes.

Prof. Tomas J. Philipson University of Chicago
Mr. Philipson was acting chairman of the Council of Economic Advisers (2019-2020).

Vanguard Politics Presents The Same Old Class Barrier

Regarding Scott C. Johnson's "Revolution Consumes New York's Elite Dalton School" (op-ed, Dec. 30): Wokesters will predictably claim that conflicts at the Dalton school are "intersectional," but in this case the intersection has nothing to do with race.

ADJUNCT EM. PROF. STEPHEN M. MAURER University of California, Berkeley

Georgia Rabbis Disagree About Warnock and Israel

Barton Swaim's op-ed "What Warnock Believes About Israel" (Dec. 17): mentions the Jewish Democratic Council of America's letter endorsing Georgia Democrat Raphael Warnock for U.S. Senate.

"Rev. Warnock misused his pulpit to bear false witness," they write. In sermonizing about his visit to Israel he claimed, "We saw the government of Israel shoot down unarmed Palestinian sisters and brothers like birds of prey."

CHARLES D. EDEN Atlanta

Pepper ... And Salt

THE WALL STREET JOURNAL



"This is my first high school reunion. Previously I wasn't successful enough."

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

OPINION

Pharmacies Can Get Shots in Arms

By Scott Gottlieb

The federal government built a Covid vaccine delivery scheme to track every dose shipped to the states. Information like location and travel history is available in a software platform developed for "Operation Warp Speed" called Tiberius, so that public-health officials can make sure the limited supply is allotted carefully and fairly.

To speed up vaccine distribution, let national chains like CVS and Walgreens take a role.

First, the government needs to ship more inventory. Right now, the feds are holding back up to 55% of doses. The idea is to make sure there is supply to give everyone a second dose, within three weeks for Pfizer and four weeks for Moderna.

Second, the distribution system needs improvement. Standing up vaccination sites and encouraging people to go get the shot is expensive and takes time.

Another reality: The demand for vaccines may not align with those who are eligible. Essential workers may stand to benefit a lot, but what if there's more demand among those over 65?

New variants of the virus that appear more contagious increase the urgency to deploy the vaccine as fast as possible.

Dr. Gottlieb is a resident fellow at the American Enterprise Institute and was commissioner of the Food and Drug Administration, 2017-19. He serves on the boards of Pfizer and Illumina.

By Phil Gramm And Mike Solon

When President Obama's last Treasury secretary, Jack Lew, made the extraordinary claim that the Obama economic recovery failed because Washington "stopped [spending] too soon last time, and fiscal tightening after 2010 slowed the recovery" it sounded like another over-the-top argument for more stimulus.

Did the Obama recovery atrophy because spending tightened after 2010? Tightened compared with what? Between the start of the subprime mortgage crisis and the end of the recession in mid-2009, net new spending of \$1.6 trillion was enacted.

But what happened after 2010? At 23.4%, 2011 had the second-highest level of federal spending as a share of GDP since World War II—almost one-fourth higher than the postwar average before the Obama era.

When the recovery began some six months into the Obama administration, the Office of Management and Budget and the Congressional Budget Office both confidently predicted an

One Trump-Era Notion Biden May Want to Embrace

By Susan Dudley And Sally Katzen

The last days of any administration will see "midnight" regulations and other last-ditch agency actions to try to cement the departing appointees' priorities before the new guys take office.

The 31-page opinion, which was posted online last week, concludes that presidents "may direct independent agencies to comply with EO 12866"—an executive order issued by President Clinton in 1993 and reaffirmed by both Republican and Democratic presidents since.

Until last week, independent regulatory agencies like the Federal Communications Commission and the Securities and Exchange Commission were excluded from OIRA

The Era of Nonstop Stimulus



PHIL FOSTER

economic boom, with real GDP growing an average of 3.6% from 2010-13. Meanwhile, the Federal Reserve projected 3.4% growth for 2010-11. These predicted growth levels were well within the historic norm for postwar recoveries, and were buttressed by the largest stimulus package in U.S. history—larger than all previous postwar stimulus programs combined.

Spending didn't speed the last recovery, but Biden's team is keen to keep the money flowing endlessly.

To further help the economy, the Fed initiated a massive monetary easing. The Fed purchased, or offset by purchasing other securities, more than 55% of all federal debt issued during 2010-13—far more than the 10% of government debt the Federal Reserve purchased during the entirety of World War II.

Yet the greatest stimulus, the biggest deficits and the largest monetary accommodation were no match for the negative onslaught of Mr. Obama's program of tax, spend and control. Economic growth from 2010-13 averaged less than 2.1%, half the 4.2% average growth rates in the

four-year periods following the previous 10 postwar recessions. The Obama recovery didn't falter for lack of sustained stimulus; it was shackled from the beginning by his economic program.

The suggestion that anything less than stimulus levels of spending is economically harmful is effectively a call for a new era of permanent stimulus. This appears to be what Messrs. Biden and Lew, and future Treasury Secretary Janet Yellen, are now proposing.

Because Mr. Biden's proposed program is little more than Mr. Obama's tax, spend and regulate agenda on steroids, and because his appointees are merely grayer retreats of the Obama administration, it is excessively optimistic to believe that his stimulus will do any more good for the economy than Mr. Obama's did.

In reality, stimulus spending has nothing to do with good long-term

review and the cost-benefit requirement. These agencies are usually headed by bipartisan boards whose members serve staggered terms. The president nominates but can't remove them except for good cause.

The latest memo walks through the possible objections to the president's authority over rulemaking by independent agencies and finds them lacking. By itself the opinion doesn't change anything except to provide a basis for equal treatment of all agencies—whether executive branch or independent—that issue regulations with the force of law.

All Pence Can Do Is Count the Votes

By Alan Charles Raul And Richard Bernstein

Texas Rep. Louie Gohmert has argued that the Electoral Count Act of 1887 is unconstitutional. Therefore, he claims, Vice President Mike Pence is empowered by the 12th Amendment to reject 73 Biden-Harris electoral votes from five states when Congress meets to certify the 2020 election results on Jan. 6.

Neither the vice president nor Congress has the power to reject electoral

agencies to comply with the well-accepted requirements of the 1993 executive order. Substantial research shows that agencies not subject to EO 12866 requirements typically don't undertake cost-benefit analysis and present less evidence than executive-branch agencies about whether a rule will achieve a desired goal.

Independent regulators should analyze the costs and benefits of new rules, like executive agencies do.

Notably, the memo is dated October 2019 but it wasn't posted until Wednesday. Executive branch officials often ask the Justice Department Office of Legal Counsel to provide opinions regarding the legality

economic outcomes and everything to do with political outcomes. What is socialism except a permanent stimulus? When private investment buckles under confiscatory taxes and productivity falters with the decline of private innovation, socialism employs unending stimulus to substitute public "investment" for real private investment, and public initiative for private initiative in research and development funding.

The case for another stimulus appears entirely political. The most recent Commerce Department estimate for the third quarter of 2020 has real GDP up at an annualized rate of 33.1%—largely offsetting the record decline in the second quarter.

Household income is higher than it was before the pandemic, retail sales rose from Nov. 1 through Christmas by 2.4% compared with last year, total household savings are near a record level, the economic harm of the latest wave of infections is far less than the damage from earlier one, and consumption, based on all economic indicators, is set to leap when pent-up demand is unleashed as the vaccine reduces the virus transmission rate.

With or without permanent stimulus, if tax, spend and control policies are about to return, the economy won't stay strong. And if private investment and individual initiative falter under such a program, a permanent stimulus will be demanded. How does it end? With Treasury debt already set to reach 108% of GDP, and Fed assets to finance that debt already 7.8 times the precrisis level in 2008, it isn't a question of if government is going to run out of other people's money, but when.

Mr. Gramm is a former chairman of the Senate Banking Committee. Mr. Solon is a partner of U.S. Policy Metrics.

of desired executive actions, but the office rarely shares those opinions beyond the requesting parties. There is no indication that President Trump will try to make any process changes based on the opinion (if he did, they would likely be rescinded by Mr. Biden on Inauguration Day). But the memo makes it clear that the option is available to improve the quality of regulations, which would be a valuable instrument for advancing Mr. Biden's goals.

Ms. Dudley is director of the George Washington University Regulatory Studies Center. Ms. Katzen is professor at New York University Law School. They served as OIRA administrators in the George W. Bush and Clinton administrations, respectively.

Notable & Quotable: 1876

A Saturday Evening Post editorial, Dec. 9, 1876:

The madman who would recklessly scatter matches in a powder magazine would soon be placed where his freaks would be harmless. There are crazy heads of the press just now . . . who for sensational purposes are appealing to partisan spirit already raised to the highest pitch by the exciting political contest through which the country has just passed. . . [T]hreats of violence, bloodshed, and civil war are covertly or openly uttered apparently with the hope of influencing the result, or at least of keeping up an excitement and profiting by it.

such firebrands to be scattered harmlessly. Disappointed office-seekers, men wrought up by party feeling, gamblers who have large sums staked upon the issue, desperate speculators mindful of fortunes rapidly acquired during the recent war and ready again to peril the nation to fill their pockets, and that large class of thoughtless men who are ready to rush into any tumult, are not slow to catch at such incendiary utterances.

Such words, whether thoughtlessly or maliciously uttered, should be met with the sternest indignation. . . . No wrong would be so monstrous as the kindling of civil war, and those who even indirectly lead their followers to its contemplation are guilty of a higher crime than the worst of election frauds.

officials and courts from each of the five states in question did exactly that. And by Dec. 14, the states certified that the electors who won were those who voted for Biden-Harris.

All the 12th Amendment says is that in a joint session of Congress on Jan. 6, "the [electoral] votes shall then be counted." The word "counted" provides no basis for anyone to override anything. When a person counts the number of games his favorite team has won, that person has no power to alchemize losses into wins.

The narrow word "counted" also contrasts sharply with Congress's constitutional powers concerning congressional elections. Section 5 of Article I expressly provides: "Each House shall be the Judge of the Elections, Returns, and Qualifications of its own members." The 12th Amendment would not have used the much narrower word "counted" to give the vice president or Congress the power "to be the Judge" for presidential elections.

This traditional understanding has supported more than two centuries of peaceful transitions of power. In 2005, when one senator and 31 House members objected to Ohio's electoral votes, those Democrats broke the law and violated what the Supreme Court described in its 2020 decision on the Electors Clause as "the trust of a Nation that here, We the People rule." So will the many more Republicans who, unfortunately, will do so on Jan. 6.

Mr. Raul is a partner at Sidley Austin and former associate counsel to President Reagan. Mr. Bernstein is a retired appellate attorney.

THE WALL STREET JOURNAL.

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It was a tough year.
The whole world was put on pause.
It seemed like everything was stopped, stalled, or cancelled.

But we want you to know that in all corners of the world,
humanity made progress.

We want you to know that in our corner,
we made an electric car.

And it's the quickest,
most aerodynamic,
longest range,
luxury electric car in the world.

So yes, it was a tough year.
But progress was made.

And progress is everything.

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BUSINESS & FINANCE

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THE WALL STREET JOURNAL.

Monday, January 4, 2021 | B1

Last Week: S&P 3756.07 ▲1.43% S&P FIN ▲1.89% S&P IT ▲0.91% DJ TRANS ▼0.13% WSJ IDX ▼0.52% LIBOR3M 0.238 NIKKEI 27444.17 ▲2.95% See more at WSJ.com/Markets

Investors Bet on 'Everything Rally'

Expectations are high that vaccines and stimulus will keep markets surging

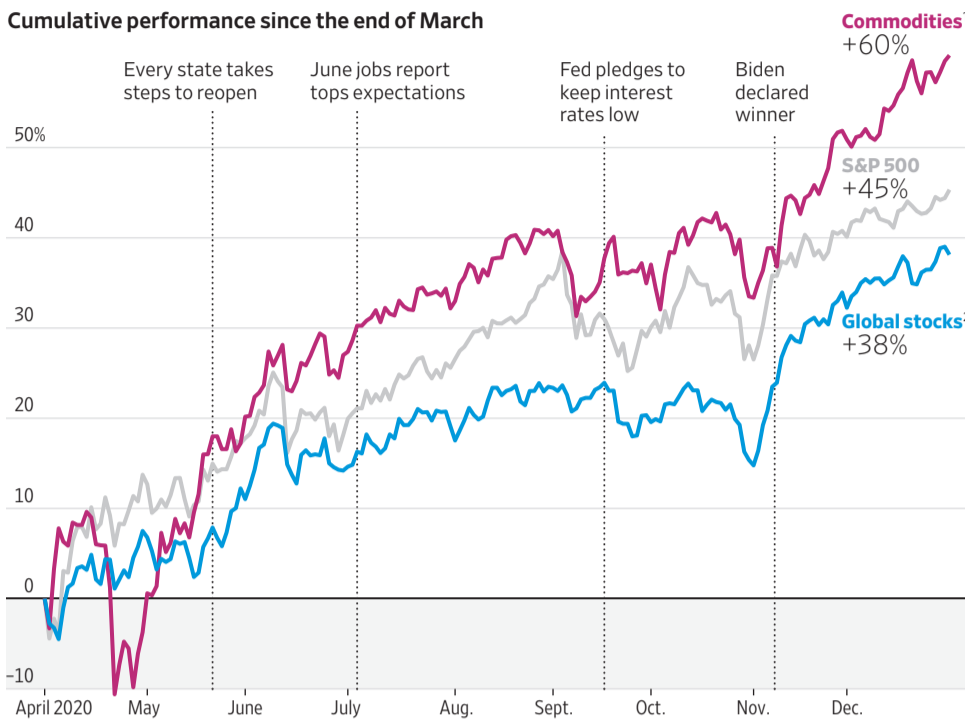
By AMRITH RAMKUMAR

Investors ended one of Wall Street's wildest years by piling into everything from bitcoin to emerging markets, raising expectations that a powerful economic comeback will fuel even more gains.

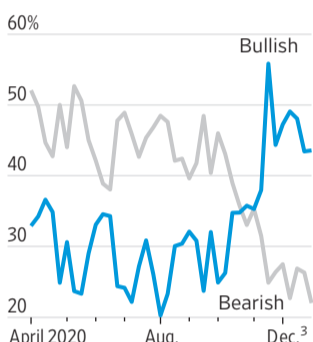
The vast climb, known as the "everything rally," accelerated late in the year, sending the S&P 500 to its 33rd record of 2020 last week. Following an early-year collapse, the broad U.S. equity gauge, global stocks and an index of raw materials each rose at least 35% from the end of March through the end of the year, only the third time in figures going back five decades that all of those investments have climbed so much in such a short time, according to Dow Jones Market Data.

The S&P 500 ended the year up 68% from its March lows after losing more than one-third of its value in about a month. Government bond yields, which fall as prices rise, remain near all-time lows. Meanwhile, corporate bond yields also dropped after early-year turmoil. That means many bond investors ended the year with gains.

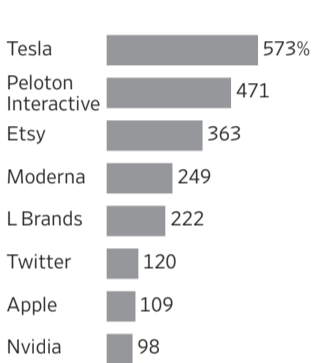
After the eye-popping rise during a global pandemic highlighted confidence that central banks and governments would prop up the world economy, many investors expect the delivery of vaccines to buoy markets.



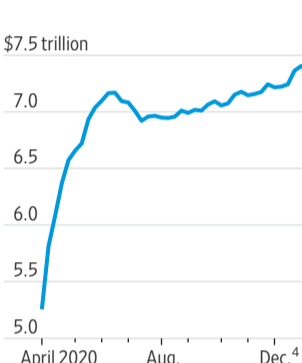
Percentage of investors who believe stocks will rise or fall in the next six months



Share-price performance since the end of March 2020



Federal Reserve's balance sheet, weekly



Sources: FactSet via Dow Jones Market Data (performance); American Association of Individual Investors (investor sentiment); Federal Reserve Bank of St. Louis (Fed balance sheet)

tors expect the delivery of vaccines to buoy markets. Gauges of sentiment from organizations including the American Association of Individual Investors show bearishness at multiyear lows. Meanwhile, tens of billions of

dollars have recently plowed into exchange-traded and mutual funds that track stocks. Both of those trends have preceded past pullbacks, signaling excessive optimism to some cautious investors. Some are drawing parallels to

the outside gains late in 2017 and early 2018, before trade tensions and higher interest rates roiled markets. "Investors can't get enough risk—whatever it is," said Emily Roland, co-chief investment strategist at John Han-

cock Investment Management. "Momentum is a powerful force, and we don't want to fight it."

The firm is maintaining its investment in U.S. stocks in line with the benchmark it tracks and favoring the economically sensitive industrial sector. At the same time, it is avoiding increasing its stockholdings and sticking with a neutral position in bonds.

Analysts still see potential speed bumps, including a recent surge in coronavirus cases and a pair of Georgia runoff races this week that will determine which party controls the Senate under President-elect Joe Biden. Democrats winning control could prompt concerns about higher taxes for corporations and investors with capital gains, traders say. Wagers on greater fiscal spending also could hurt bonds and send yields higher.

Yet, many observers still expect ultralow interest rates to continue supporting bonds while pushing investors to reach for higher-yielding assets. With many U.S. technology stocks at records, many investors are buying shares of economically sensitive companies, commodities and shares of companies in emerging markets, all of which remain below their peaks.

Their gains highlight optimism that the economy will boom in the second half, even if the next few months offer hurdles to the recovery.

"We're really encouraging our clients to look beyond" anticipated turbulence in the first half, said Meghan Shue, head of investment strategy at Wilmington Trust. The firm increased its investments in U.S. stocks and emerging

◆ Streetwise: Ghosts of past bubbles resurface..... B9

Tesla Hits Record in Deliveries, But Short Of Target

By REBECCA ELLIOTT

Tesla Inc. fell just shy of its goal of delivering at least half a million vehicles after the Covid-19 outbreak temporarily closed the company's lone U.S. car plant.

The Silicon Valley electric-car maker on Saturday said it delivered a record 499,550 vehicles globally last year, up from roughly 367,500 the previous year. Analysts surveyed by FactSet on average expected 493,000 Tesla deliveries in 2020. Tesla said it produced 509,737 vehicles last year.

The company's resilience during the pandemic that has reduced road travel and damped auto sales globally has fueled investor exuberance for the electric-car maker. Its stock soared more than 700% last year.

Chief Executive Elon Musk, via Twitter, hailed the figures as a "major milestone," adding

Roku Bids To Acquire Quibi's Content

Quibi is in advanced talks to sell its content catalog to Roku Inc., according to people familiar with the matter, as the short-form streaming service winds down its operations following an unsuccessful run.

By Amol Sharma, Benjamin Mullin and Cara Lombardo

Quibi, which was founded by movie mogul Jeffrey Katzenberg, raised \$1.75 billion with an ambitious plan to develop high-end content for mobile phones. But the service, which launched in April, never gained traction and Quibi said in October it was shutting down.

Roku, which sells the most popular streaming-media player in the U.S., is pushing aggressively into content with its own ad-supported app, the

Risk Takers Count on Asset-Backed Bonds

By MATT WIRZ AND SAM GOLDFARB

Bargains on Wall Street are hard to find after the fierce 2020 rally that swept through stock and bond markets. Some investors are sifting through complex securities that were among the hardest hit during the panic of this past spring.

Bonds backed by commercial real estate and corporate loans traded for less than 50 cents on the dollar after the pandemic hit and margin calls triggered forced selling. Their

recovery has lagged behind the broad market rebound that followed, in part because the sell-off wrought havoc with the finances of many firms that buy these securities.

But now, with vaccine distributions rolling out and many other asset classes having rallied to prices few expected to see, fund managers see attractive returns in the year to come.

The risk is plain to see. The bonds are rated below investment grade and can be linked to properties and companies

with high vulnerability to the pandemic, like hotels, mall retailers and airlines.

Still, relatively low prices mean the bonds offer "protections you can't find anywhere else with this kind of yield," said Jay Huang, the head of structured credit investments at CIBC Asset Management who buys collateralized loan obligations, Wall Street reformulations of lower-rated debt. "There's still a ton of catching up to do versus the broader market."

CLO managers buy up bun-

dles of corporate loans, then slice them up and repackage them into bonds with credit ratings ranging from the safest triple-A to much riskier single-B. Investors like Mr. Huang are buying up the lower-rated bonds, which pay higher interest rates but are first to take losses if corporate defaults rise.

In late December, such CLO securities offered an additional yield, or spread, of 8.8 percentage points to 13 percentage points above the benchmark London interbank offered rate,

or Libor. That is far more than the 2.9 to 4.1 percentage-point spread paid out by conventional corporate bonds with the same credit ratings, according to data from BofA Securities and ICE Data Services.

Bonds backed by real-estate loans are also attracting bargain hunters.

In November, hedge-fund manager Brigade Capital Management snapped up bonds backed by a \$240 million mortgage loan to the owner of two luxury hotels in Portland,

Icahn Sells Much Of Herbalife Stake

By CARA LOMBARDO

Carl Icahn sold over half his stake in Herbalife Nutrition Ltd. and is relinquishing his seats on the nutritional-supplements company's board, taking a step back from a longtime investment he fiercely defended against an onslaught from rival activist investor William Ackman.

Mr. Icahn sold about \$600 million of his 16% Herbalife stake back to the company in recent days, the company said late Sunday.

That leaves him with a roughly 6% stake, valued at \$400 million. Given that his holdings will go below the level stipulated in an agreement Mr. Icahn has with the company, he also plans to give up the five board seats held by his representatives, the company said.

The move helps cement a big win for the octogenarian billionaire, who is estimated to have made well over \$1 billion on the investment.

Mr. Icahn has been Herbalife's largest shareholder since 2013. He stuck with the company through challenges from

Mr. Ackman and regulators and the resignation of its chief executive after he was caught on tape encouraging a colleague to skirt expense-account rules.

Mr. Icahn first bought into the stock in late 2012. The investment represented a high-profile challenge to Mr. Ackman, who had bet against the company and crusaded against its business model, which relies on a network of distributors, calling it a pyramid scheme. The company has said it is a legal multilevel-marketing organization and fought him at every turn.

The two big-name activists' opposing bets led to a public showdown, with Mr. Ackman predicting the stock would go to zero and the men trading jabs in a shouting match on live television. Mr. Ackman largely exited from his \$1 billion, five-year losing bet in 2018.

Mr. Icahn's agreement with the company in 2013 gave him two seats and he later took more on what is now a 13-member board. His representatives include former deputy

INSIDE



BOSS TALK
Yum Brands CEO orders up fast-food growth for a to-go future. **B5**



HEARD ON THE STREET
Before investing in the U.S. mortgage machine, learn the risks. **B10**

PERSONAL TECHNOLOGY | By Nicole Nguyen

Time to Work Out From Home

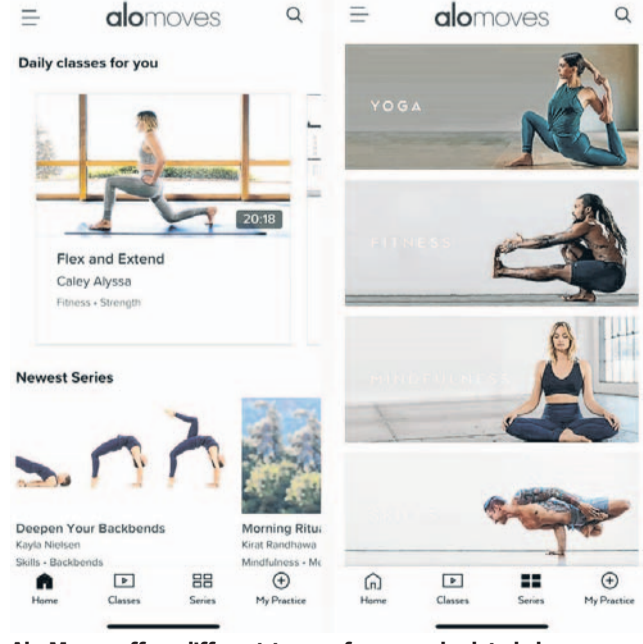


In the Before Times, a postwork workout was a must. When the pandemic shut my gym and local yoga studio down, I turned to apps to get my routine back. So. Many. Apps.

There are three basic categories of digital workouts: ◆ **Freebies** include free apps and YouTube workouts. These are great for getting your feet wet. YouTube is where you can try virtually any kind of workout. The downside is you have to spend time hunting for one, and that might keep you from exercising.

◆ **Premium programs** are like Netflix for fitness. You pay between \$5 and \$25 a month, generally, to access a large library of on-demand workouts. These apps aim to be one-stop shops for exercise.

◆ **Zoom studios** are the virtual version of high-end bricks-and-mortar fitness offerings. They're pricey, but working out alongside others in real time and getting webcam-enabled instruction can be worth it.



Alo Moves offers different types of yoga and related classes.

exercise, of course, is showing up to do it. These are workouts I turned to again and again this year. But fitness is a highly personal thing—and the instructors, music selection and exercise styles vary widely from app to app. For some, live classes are a good way to stay accountable. For others, short workouts that

can be squeezed into a busy day are most important. My biggest advice: Take advantage of free trials before subscribing. (On iOS and Android, for "free" trials that require you to sign up, you can immediately unsubscribe to avoid being charged.)

Please turn to page B4

INDEX TO BUSINESSES

These indexes cite notable references to most parent companies and businesspeople in today's edition. Articles on regional page inserts aren't cited in these indexes.

Index table with columns A through Z listing various companies and their corresponding page numbers.

BUSINESS & FINANCE



Among the companies that have plans to merge with a SPAC are electric-vehicle maker Fisker and real-estate company Opendoor.

INDEX TO PEOPLE

Index table with columns A through Z listing various individuals and their corresponding page numbers.

SPACs Face Fewer Curbs

Publicity, forecasts of rapid growth have become routine for IPO alternatives

By ELIOT BROWN

In the run-up to an initial public offering, startups typically hunker down in a quiet period, keeping their executives out of the media to avoid running afoul of regulatory requirements.

For numerous executives that took their startups public in 2020 by merging with a special-purpose acquisition company, or SPAC, there was a different, perfectly legal approach: lengthy interviews with obscure YouTube channels frequented by individual traders, appearances on cable news, and projections that call for billions in revenue.

Publicity and forecasts of rapid growth have become routine aspects of the booming IPO alternative of going public through SPACs. The use of what are called blank-check companies, which go public with no assets and then merge with private companies, surged in 2020, raising a record \$82.1 billion in 2020, up from \$13.5 billion in 2019, according to Dealogic.

Startups that went public through SPACs, including many nascent companies with no revenue, have said they were attracted to the relative speed and certainty of the process, which can be completed months faster than some IPOs.

But as the tool gains favor, there are concerns about the regulatory differences between the two modes of going public. The prospect of wooing retail traders through media and inherently speculative projections brings heightened risk to stock-market investors, according to some venture capitalists and corporate-governance experts.

Because many of the companies are so young, the forecasts make them seem very attractive, said David Cowan, a partner at venture-capital firm

Bessemer Venture Partners, who said he has short positions in several SPACs—meaning he is betting the stocks will fall from current levels. “These forward projections are a loophole to the guardrails the SEC has put in place to protect investors,” he said.

The Securities and Exchange Commission requires company executives to stay in a quiet period during the weeks around a public listing. Regulators don't want companies to be marketing their stock to unsophisticated investors outside of a regimented process.

Similarly, companies generally don't include projections in IPO documents because of regulations that put them at high risk for litigation if they miss those plans. Startups that go public through SPACs face fewer constraints because the deals are considered mergers.

The SEC didn't respond to requests for comment. Departing SEC Chairman Jay Clayton told CNBC in September that he was focused on ensuring that SPACs offered the “same rigorous disclosure” as IPOs.

Many of the companies going public through SPACs say they were drawn to the process by the readily available funding—not the regulatory differences.

For Fisker Inc., an electric-vehicle startup that in July announced a deal to go public by merging with a SPAC, “the driving factor was the ability to raise money,” a company spokesman said.

Fisker has ambitious plans but little in terms of product or revenue today to show investors. While it had about 50 employees last spring, it disclosed projections to investors that called for it to hit \$13 billion in revenue in 2025, up from zero in 2020.

The founder, Henrik Fisker, went on cable television repeatedly and remained prolific on social media.

After the deal's announcement—but before the merger

programming and true-crime shows. Quibi has struck deals with producers that allow Quibi to exhibit their shows on its service for seven years. Some of the contracts suggest that the content can't be aired on other platforms, some people familiar with the deal terms said.

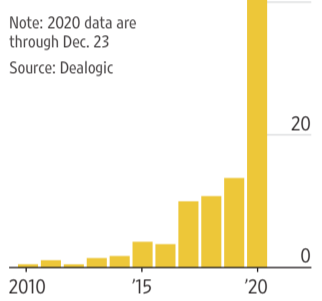
One person familiar with Roku's view said the contract terms wouldn't prevent the company from showing the content on its service. A deal with Quibi would be an important step in Roku's efforts to build a content base of its own. Viewership of Quibi's high-production-value shows was stunted in part because the app went live just as the coronavirus pandemic was forcing millions of Americans to stay home—a setback for a service designed for people on the go.

Making these shows exclusively available on the company's Roku Channel, a free app offering movies and shows that Roku launched in 2017, likely would boost the appeal of an app that mostly lets users stream content traditionally available elsewhere.

Lure of a Blank Check

The use of special-purpose acquisition companies surged in 2020.

Total raised by SPACs in the U.S., in billions



Note: 2020 data are through Dec. 23

Source: Dealogic

ble the company's revenue last year. The stock of his SPAC rose 35% the day the merger was announced. Mr. Palihapitiya and Opendoor declined to comment.

Many startup chief executive officers going public through SPACs have appealed to more-tailored venues. After hydrogen electric-truck startup Nikola Corp. said it was going public through a SPAC merger in March, founder Trevor Milton conducted many interviews with hosts of podcasts and YouTube channels frequented by small investors. He talked about the billions of dollars in future revenue the company expected and rejected criticism from people who said Nikola's expected valuation was too high.

Jason MacDonald runs the YouTube finance channel JMac Investing, which he says attracts a crowd of individual investors interested in SPACs. It had just a few thousand viewers this summer, but he got an interview with Mr. Milton in May, in which the Nikola founder talked about the company's high valuation, saying, “The business model is there, the profitability is there.”

Mr. MacDonald's viewers have grown—he has more than 26,000 followers—and he has interviewed another CEO going public through a SPAC. He hopes for others.

“Every halfway-interesting SPAC, I'm reaching out to these companies,” Mr. MacDonald said. He said he is offering companies the chance to keep stoking interest with individual investors. “It's going to be an interview, but it's not hard-hitting,” he said.

Tesla Hits Record in Deliveries

Continued from page B1 that during the early days of Tesla he wasn't certain the company would make it—a sentiment he has previously expressed.

Tesla in the coming months faces a difficult task as it looks to introduce additional vehicle models and open new factories in Germany and Texas as part of Mr. Musk's growth ambitions.

Tesla's deliveries last year were buoyed by demand in China. Tesla began delivering cars from its new Shanghai plant in late 2019. Those sales helped to offset production

company said its delivery figures were conservative and could be revised.

The surge in deliveries has stoked Wall Street expectations for Tesla to post a record profit for the period and its first full year in the black when it reports 2020 fourth-quarter earnings in a few weeks. It would continue Tesla's run of five quarters in a row of profit that led to the company's inclusion in the S&P 500 index last month.

Tesla's performance through the pandemic differed from that of most of its rivals. Auto sales in much of the world languished last year as Covid-19 kept people home and put many out of work. Researcher LMC Automotive forecasts that 2020 demand for vehicles will be 14% below 2019 levels.

As sales recover globally, some see a window of opportunity for electric-vehicle makers to gain market share. Hybrid and electric vehicles, consulting firm Deloitte estimates, will make up around 12.1% of new vehicle sales world-wide in 2025, compared with roughly 3.6% in 2020.

Tesla, which last year became the world's most valuable auto maker, has lofty growth ambitions. The company said it plans to produce 20 million cars annually by 2030.

Tesla hasn't formally released a target for 2021 vehicle deliveries, but Mr. Musk said during the company's third-quarter earnings call that it likely would be in the vicinity of 840,000 to one million cars. The company Saturday said it was now also producing Model Y SUVs in China “with deliveries expected to begin shortly.”

To underpin its plans, the company is working to expand its car-making footprint to four facilities from two. Tesla aims this year to open a factory near Berlin, its first in Europe, and add a second U.S. plant that it is building outside Austin, Texas. Mr. Musk also has said that the company plans to begin selling vehicles in India this year.

In a first, a full-year profit is expected after a dizzying 2020 stock climb.

slowdowns in the U.S., where Tesla had to close its Fremont, Calif., plant for several weeks starting in March as local authorities imposed restrictions on businesses to slow the spread of the virus.

Tesla ended the year with 180,570 deliveries in the final quarter, a record topping the 139,593 vehicles that went to customers in the previous three-month period.

Deliveries were dominated by the Model 3 car and Model Y sport-utility vehicle that started going to customers in the midst of the pandemic. Tesla said it delivered a combined 442,511 Model 3s and Model Ys last year and a combined 57,039 Model S luxury sedans and Model X SUVs. The

Icahn Sells Herbalife Shares

Continued from page B1 ties Jonathan Christodoro and Nicholas Graziano long-time general counsel Jesse Lynn.

Herbalife has a market value of about \$6.3 billion. Its shares were roughly flat in 2020 but are up several fold in the past decade.

The company in November reported better-than-expected third-quarter earnings and

said it expected fourth-quarter sales to rise by 10% to 20% year over year. It also named a new chief financial officer.

Herbalife has been buying back stock, and the deal with Mr. Icahn comes after the company offered to buy a large portion of his shares at the last closing price of \$48.05, people familiar with the matter said.

Mr. Icahn took it up on the offer partly because he sees no need for additional activism at the company, they said.

Mr. Icahn sold \$550 million of Herbalife shares in 2018, telling The Wall Street Journal at the time that “There's an old Icahn rule, when you make over \$1.5 billion on a situation, you sell a bit.”

Roku Seeks Content From Quibi

Continued from page B1 Roku Channel, which offers movies and shows produced by other companies. A deal with Quibi would give Roku a roster of exclusive programming.

Under the terms the companies have discussed, Roku would acquire rights to Quibi's library, the people familiar with the matter said. Financial terms of the proposed deal couldn't be learned. The deal talks could still fall apart.

Quibi's shows, with episodes fewer than 10 minutes in length, feature stars such as Anna Kendrick, Liam Hemsworth and Sophie Turner. The shows include “Most Dangerous Game,” a thriller about human-hunting, “Dummy,” a series about a talking sex doll, and “Murder House Flip,” a fusion of home-improvement

Advertisement for X-CHAIR ergonomic office chair, featuring the X-HMT logo and text: 'Introducing an Ergonomic Heat and Massage Chair for Work and Home. As low as \$50 per month*'. Includes details about shipping, trial, and pricing.

BUSINESS NEWS

Fiat Leader Nears A Milestone Event

Shareholders to vote on merger with PSA, closing the industry's biggest deal in decades

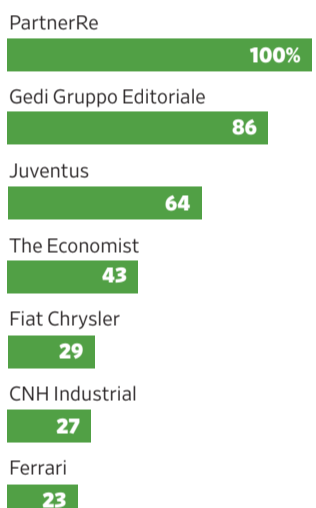
By ERIC SYLVERS

MILAN—John Elkann inherited the leadership of Italy's most famous industrial family as a soft-spoken 28-year-old with limited work experience and facing the immediate task of saving a nearly bankrupt Fiat.

Now, more than 16 years later, Mr. Elkann stands on the cusp of completing the merger of Fiat Chrysler Automobiles NV and Peugeot maker PSA Group. The deal, which is expected to create the world's third-largest car maker by vehicle sales, seals Mr. Elkann's legacy and ends his family's centurylong undisputed control of the Italian-American car maker and the company's previous incarnations.

Shareholders of both companies are set to approve the merger on Monday, and the closing could come as soon as this month, according to people familiar with the situation. The new company will be called Stellantis, which incorporates a Latin word meaning "to brighten with stars," and will present Mr. Elkann with new challenges, including managing relations among major shareholders.

Exor's stakes in various companies



Mr. Elkann, who is Fiat Chrysler's chairman and will take the same position at Stellantis, has become an adroit deal maker since rising to the top of the family in 2004. Though his transformation from a recent college graduate who rarely spoke in public to a key figure behind the largest car-industry deal in decades hasn't come without hiccups.

The grandson of Gianni Agnelli and the fifth generation of the dynasty that had a hand in founding Fiat in 1899, Mr. Elkann negotiated a previously planned merger with Renault SA. He then pulled the plug after deciding the French state, a Renault shareholder, was too unwieldy a partner.

Mr. Elkann had maintained relations with the Peugeot family, a large PSA investor, even as he prepared to merge Fiat Chrysler with Renault, their rival. Mr. Elkann personally delivered the news of that merger to Robert Peugeot, who heads his family's investment firm, according to people familiar with their discussion. That personal touch helped smooth the way for Mr. Elkann when he got back in touch with Mr. Peugeot after the Renault deal fell apart, the people said.

Mr. Elkann declined to comment.

While the coronavirus pandemic scuttled or delayed other previously announced deals, Mr. Elkann kept the merger on track. He personally negotiated adjustments that cut the cash dividend to be paid to Fiat Chrysler shareholders while guaranteeing a similar total payout over the longer term, said a person familiar with the negotiations.

Mr. Elkann's emergence as a deal maker has run parallel with his increasing ability to corral the more than 100 members of his extended family. Together, they own 53% of Exor, the holding company that gives them a 29% share of Fiat Chrysler and controlling stakes in Ferrari NV, Italian soccer team Juventus, the

Economist Group and other assets.

Exor's rich dividend payments and an average annual gain of 25% in the company's share price over the past decade have helped Mr. Elkann win the support of his family. He also built cohesion among his cousins through family rituals, including a yearly soccer game and dinner, according to several Agnelli family members.

Exor's board includes Mr. Elkann, his sister and just two other family members, so he holds periodic meetings attended by representatives of the family's nine main branches. While no decisions are taken at those meetings, family members say they appreciate the get-togethers to keep abreast of developments beyond what they read in the newspapers.

As chairman of Stellantis, Mr. Elkann will likely have to navigate rocky relations with Italian unions and the government in Rome. Fiat Chrysler has butted heads with both in recent years. While the merger has generally been cheered in Italy, there is angst among workers who fear for the long-term viability of Fiat Chrysler's underused Italian factories.

Carlos Tavares, PSA's chief executive who will hold the same title at Stellantis, is expected by company observers to spend much of his time in Paris, further shifting the company's center of gravity north of the Alps. Fiat Chrysler is registered in the Netherlands, has its tax domicile in the U.K. and makes almost all of its profit from the North American business.

Mr. Elkann has defied some prognosticators who said he would eventually sell all or part of Exor's stake in Fiat Chrysler to invest in faster-growing businesses.

Mr. Tavares will take the wheel of Stellantis once the deal closes, but Mr. Elkann will be called upon to help navigate the disparate interests of the new company's array of large investors, which will include Exor, the Peugeot family and the French government.

"Elkann will have to shift from deal maker to the role of mediator," said Giovanni Favero, a professor in the management department at Ca' Foscari University in Venice. "The American, Italian and French interests will try to pull the company in different directions."

Mr. Elkann, who speaks English, Italian, French and Portuguese, has steered through difficult waters in the past, including when he became leader of the family. The company had lost almost €6 billion, equivalent to \$7.3 billion, and cycled through four CEOs in the two years before he took over in 2004, and the most likely prospect for the troubled car maker at that time looked to be bankruptcy or a takeover by a group of banks holding billions of euros in debt convertible into Fiat shares.

Mr. Elkann immediately hired Sergio Marchionne as CEO, a move that changed his family's fortunes. As Mr. Marchionne righted the listing Fiat, Mr. Elkann began to learn from the executive, who would become his mentor and close friend.

While the pandemic scuttled other deals, Mr. Elkann kept the merger on track.

In the 2½ years since Mr. Marchionne's death, Mr. Elkann has taken more of a leadership role. The mild-mannered Mr. Elkann doesn't tend to raise his voice in public, denigrate competitors or browbeat journalists—as the swashbuckling Mr. Marchionne tended to—but those who know him attribute his doggedness in searching for a partner to merge with Fiat Chrysler to the influence of the CEO he hired when he was 28.

While Mr. Elkann has had success with some of his recent investments, in particular the 2015 takeover of reinsurer-

PartnerRe, most of the surge in Exor's share price over the past decade can be traced to Mr. Marchionne's managerial and financial acumen. The pressure is on Mr. Elkann to keep that going.

Throughout his professional career, he has helped his chances by surrounding himself with experienced people. He knows Warren Buffett and regularly attends Berkshire Hathaway's annual meeting in Omaha, Neb. Mr. Elkann bought PartnerRe after consulting with Ajit Jain, Berkshire's vice chairman of insurance operations and a possible successor to Mr. Buffett.

Exor's Partners Council, which advises company executives, is chaired by George Os-



The deal is expected to create the world's third-largest car maker and seals John Elkann's legacy.

borne, a former U.K. Treasury chief, and recently added to its ranks Daniel Ek, founder of Spotify Technology SA, as well as Ruth Porat, chief financial officer at Google parent Alpha-

bet Inc.

When Mr. Elkann set up a fund within Exor to invest in startups, he tapped some of Silicon Valley's most famous investors for advice. And,

when he decided to buy majority control of a Chinese fashion company last month, he invested alongside French fashion giant Hermès International SA.

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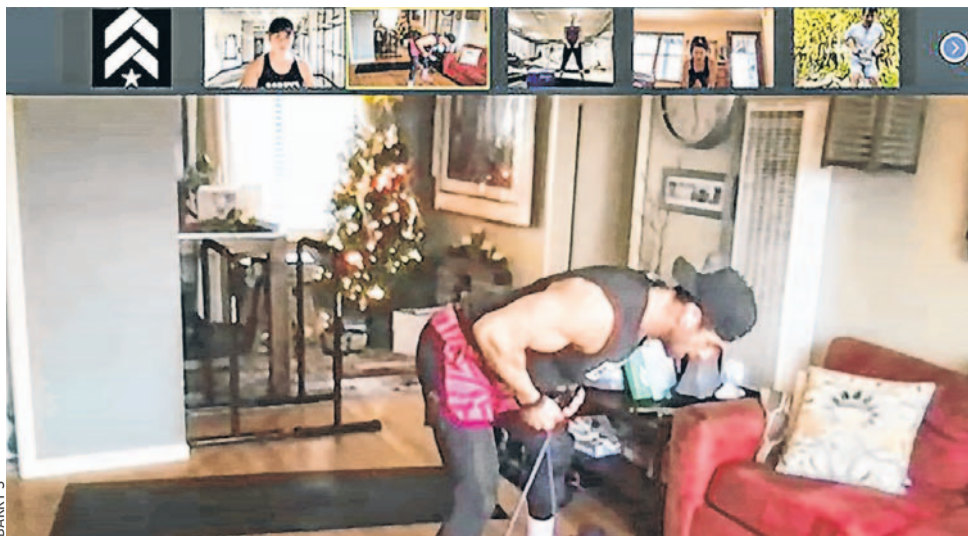
Time to Work Out From Home

Continued from page B1
Freebies
Nike Training Club
Platforms: iOS and Android
What to like: The Nike Training Club app includes workouts focusing on strength, endurance and mobility. From yoga to body-weight cardio, there's something for every skill level. An integration with Apple Watch shows your heart rate, the upcoming drill and play/pause controls.

Before the pandemic, premium "trainer-led classes" cost \$15 a month or \$120 annually. Nike made those 15- to 60-minute workouts free once so many people ended up stuck at home.
Not so great: NTC doesn't come with music.

The Body Project
Fitness Blender
Cycling with Kristina Girod
Yoga with Adriene
Platform: YouTube
What to like: YouTube videos are a good way to try out different styles of fitness before committing to a program. I like these channels because they offer variety and regularly upload new content. A paid membership unlocks additional workouts and coaching.
Not so great: You'll sit through the occasional ad, and there's no option to download workouts to do offline.

Premium Programs
Peloton Digital
Price: \$13 a month
Free trial: One month
Platforms: iOS, Android, web, Apple TV, Amazon Fire TV, Roku, Android TV
What to like: A subscription includes live-streamed classes and Peloton's library covering 11 disciplines, such as cycling, strength training, yoga and meditation. The app's music-themed classes span a range of genres and the instructors provide motivation and tips on form. You can see



Instructor-led Barry's At-Home sessions are live and participants can get personalized adjustments.

which users are doing a workout alongside you and send or receive digital high-fives.

The experience is best with some equipment (such as weights or a basic stationary bike paired with a cadence sensor). But the outdoor running feature is my favorite. The audio-guided workouts are led by pros, peppered with tips, and set to music that matches the interval's effort.

Not so great: While classes can be preloaded, you can't take them offline. So if your at-home gym is a Wi-Fi-less basement, Peloton isn't a good choice. App users also can't see how their metrics compare with other members—the leaderboard is exclusive to those who own the company's bike (\$1,895 and up) and treadmill (\$2,495 and up), plus pay for the all-access \$39-a-month membership.

Apple Fitness+
Price: \$10 a month/\$80 a year
Free trial: One month
Platforms: iPhone, iPad, Apple TV HD (fourth generation) or Apple TV 4K

What to like: With one subscription, everyone in your iCloud household (up to six people) gets access to the on-demand library. There's studio-style cycling, interval training, treadmill runs, yoga, core, strength, rowing and dancing, plus "mindful cool-downs" (aka stretching). All of the workouts include modifications for beginner and intermediate practitioners. The

sessions are short—the longest are 45 minutes.

Not so great: The program is for Apple Watch owners (Series 3 and newer) only. The service is hard to find, as a new tab inside Apple's Fitness app. You can't stream the workouts through Apple's AirPlay, which is supported by some TVs and streaming boxes; you'll need a newer Apple TV to watch workouts on your TV.

Obé Fitness
Price: \$27 a month, \$65 a quarter, \$199 a year
Free trial: One week
Platforms: iOS, web, Roku, Amazon Fire TV

What to like: There are 22 live classes a day, taught by friendly instructors. There's a backlog of thousands of on-demand videos. In live classes, instructors often shout out users by name—though they can't see you. The workouts are focused on disciplines like barre, sculpt, dance and Pilates. Cardio boxing and the trampoline-assisted "bounce" workout are two of the more unique offerings. There are workouts tailored for children (with a Kidz Bop soundtrack) and seniors (featuring low-impact chair exercises). The "workout party" feature lets you share the experience with seven friends over video chat.

Not so great: The workouts feature one type of music—a generic upbeat mix with popular hits sprinkled in—and there's no option to toggle music off.

Alo Moves
Price: \$20 a month/\$199 a year
Free trial: Two weeks
Platforms: iOS, Android, web, Apple TV, Chromecast

What to like: Alo Moves features different types of flow yoga plus yoga-themed strength, barre and Pilates classes. I like the multiday series, focused on one workout type, where each class builds on the next. The guided meditations are excellent.

Not so great: Alo Moves' large library can be overwhelming, and the class names (e.g. "Drop In" and "Coming Home") aren't always informative. The beginner offerings are minimal.

Zoom Studio
Barry's At-Home
Price: \$20 a class; \$70 for 5 classes; \$120 for 10 classes
Free trial: None
Platforms: Zoom

What to like: The bootcamp fitness chain went virtual with its workout. You can choose from Barry's signature treadmill and weights classes as well as body weight, resistance bands and weights. The instructor-led, 45-minute sessions are live, and participants can switch their webcams on to get personalized adjustments.

Not so great: There are occasionally technical difficulties. (Zoom requires strong Wi-Fi on both ends.) While first-timers get two classes for the price of one, there isn't a trial period.

Video-Chat Firms Seek Real-Life Feel

By ANN-MARIE ALCÁNTARA

When Claire Cheng, a 20-year-old student at Massachusetts Institute of Technology, wanted to host a virtual mixer for a school club, she decided to use a video platform by Gather Presence Inc. that mimics the real-life experience of a party.

As attendees "walked" closer to someone on the platform via an avatar, their video would appear faintly at first and eventually become permanent and static.

"It is more of a relaxed feeling," Ms. Cheng said, comparing it to other videoconferencing platforms. "Even if everyone is in the same room, not everyone's video shows up on your screen. It is supposed to imitate real life."

As the coronavirus pandemic put a halt to many social gatherings and business meetings, a crop of small technology firms this year emerged with the aim of diversifying or reinventing the video-call experience. Zoom Video Communications Inc. and Microsoft Corp.'s Microsoft Teams were leaders in the space, but others tried to add on to the experience, creating virtual worlds or making the format more dynamic.

Platforms like Zoom and Microsoft Teams added new security enhancements and other features to make the typical video call more interactive. This past summer, Zoom and DTEN Inc. unveiled a \$599 touch-screen device with the video-chat software preinstalled. Zoom is testing other enhancements, including a feature called OnZoom that would function as a marketplace to find virtual events.

More updates are on the horizon, particularly to address a hybrid work environment where people split time between working at home and in the office, said Esther Yoon, group manager for product marketing at Zoom.

"We're going to have to make

sure that whether you're in the office or whether you're working from home your voice has equal weight," Ms. Yoon said.

Zoom's competitors have made similar product updates. Microsoft Teams added a feature called "Together Mode" in July that aims to re-create the feeling of being in a room together over video and removing the gallery view. Fans who wanted to watch National Basketball Association games this past season used Together Mode to do so. Alphabet Inc.'s Google Meet in September introduced a whiteboard feature and a blurring tool to let users wash out their background.

But while many of the major videoconferencing companies have shown impressive growth and demand, there will be room for industry-specific video chatting tools and platforms, said Brianne Kimmel, founder and managing partner of Worklife Ventures, a venture fund that invests in companies creating work tools.

"In the short term, Zoom is still the category leader when it comes to the majority of professional calls," Ms. Kimmel said. "Where I see a lot of innovation happening are more on the personal calls, or new experiences that kind of sit at the intersection of work and life."

Many startups have popped up as well to address the growing usage of video chatting. Gather and Sophya.AI, a product from Sage Learning Inc., both offer a virtual world mixed in with videoconferencing. Gather lets users customize their spaces, allowing them to re-create apartments or campuses in a virtual setting. Sophya creates personalized models for the companies that want them.

Part of what the startups are trying to solve for is an issue called "Zoom fatigue" many people feel, which is perpetuated by only seeing other people's heads, said Chris Ross, vice president, analyst at Gartner Inc.

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BUSINESS & FINANCE

Fast-Food CEO Orders Up Online Growth

By HEATHER HADDON

David Gibbs had just signed Yum Brands Inc.'s first restaurant acquisition in years and was planning a convention for nearly 1,000 of its fast-food franchisees world-wide when the pandemic crippled the global economy in March.

Suddenly the crisis threatened to wipe out much of the \$17 billion the company and its franchisees generate in annual dine-in sales across KFC, Taco Bell and Pizza Hut restaurants in more than 150 countries. Mr. Gibbs, a 31-year Yum veteran who became chief executive officer a year ago, went from advancing the company's expansion strategy to contending with thousands of closed restaurants.

Many large fast-food companies have since largely rebounded from the early pandemic shutdowns, and Yum's U.S. comparable sales rose in the third quarter from a year ago. But Mr. Gibbs says he is rethinking how Yum—which has upward of 50,000 restaurants, more than any other fast-food chain—can serve and deliver more to-go food longer term.

He is plotting a future where ordering fried chicken ahead online is routine, and Pizza Hut customers can get their orders placed in their trunks without having to enter a restaurant.

Meanwhile, hundreds of its U.S. Pizza Hut locations that mostly did dine-in business have closed permanently.

The 57-year-old Mr. Gibbs spoke to The Wall Street Journal by video from Yum's largely empty offices in Plano, Texas. Here are edited excerpts.

WSJ: What was a mistake Yum made early in the pandemic and how did you learn from it?
Mr. Gibbs: If I look back prior to the pandemic, I wish we had moved even quicker for Pizza Hut to be more of a delivery, carryout business and less reliant on dine-in. We've talked about that for years.



David Gibbs, whose Yum Brands has KFC, Taco Bell and Pizza Hut restaurants in 150 countries, is planning for a future in which ordering ahead for pickup is routine.

Sometimes big organizations can be bureaucratic. But I think we probably impressed even ourselves in how quickly we have pivoted.

WSJ: Drive-throughs have helped many fast-food chains stay busy during the pandemic. How is that influencing your development plans?
Mr. Gibbs: We're working on designs that have multiple drive-throughs. The Australia business started building a few test units with five drive-throughs on one building.

But the other part of the story is curbside carryout. You're seeing that not just in the restaurant industry, but in retail. It's great because of the drive-through constraints at our peak. No matter how great you are at drive-through, you can still fit only X amount of cars in a single line.

WSJ: Should front-line workers in food and restaurants get earlier access to vaccines?
Mr. Gibbs: We're very excited about the vaccine. When it's my turn, I will be in line to get it. We hope that all of our employees get it. But we know that there are others, like front-line health-care workers, who come ahead of us in the queue.

WSJ: Once vaccines are more universally available, will you require employees to get them or have your franchisees consider that?
Mr. Gibbs: We're studying the issue now and haven't made any determination. It is important to remember that 98% of our stores are run by those franchisees. So it's more complex than us just mandating that every store would need to get a vaccine.

WSJ: Even as vaccines begin to roll out, it is unclear when life will begin to return to normal. When do you anticipate that happening in fast food?
Mr. Gibbs: I don't know that normal looks exactly like it did prior to the pandemic. Consumers will probably be more aware of hygiene in restaurants, and we're looking at new ways of providing a safe environment.

WSJ: What management measures have you adopted that will last beyond the pandemic?
Mr. Gibbs: One of the biggest lessons I've learned is the power of authentic communication versus the formal written memo that somebody might send out. We gather up different groups of franchisees, corporate teams from all around the world on video

calls. We get literally hundreds of questions going through the chat function—real time, unfiltered. We learn from that.

WSJ: Do you support a \$15 minimum wage on a federal level and for your company and franchisees?
Mr. Gibbs: We support a national minimum wage, and we'll work under any minimum wage that is created by the government.

WSJ: How do you expect the dynamic between CEOs and the White House to shift in the new administration?
Mr. Gibbs: We're excited about working with the Biden administration and share their goal to build back better particularly as it comes to the economy and fighting inequality. We've been in over a hundred countries around the world for decades—

we've operated in any political environment.

WSJ: A theme of the pandemic has been simplification of menus, but some customers said Taco Bell has gone too far in removing options. Were you surprised by the uproar when Taco Bell removed Mexican Pizza?
Mr. Gibbs: I'm never surprised by the passion that our customers—particularly of Taco Bell—have for our iconic products. We can always bring Mexican Pizza back at some point if the demand is there.

WSJ: What has been your pandemic comfort food?
Mr. Gibbs: I'm going through the Taco Bell drive-through frequently. We introduced the grilled cheese burrito during the pandemic, and that is the definition of a craveable product for me and my college-age son.

Recovery, Tax Changes Are On Finance Chiefs' Minds

By NINA TRENTMANN

Chief financial officers last year raised billions of dollars to stabilize their companies' finances, cut costs and pivoted their businesses to respond to the coronavirus pandemic and the ensuing economic downturn.

As executives look ahead, vaccines against Covid-19 are expected to boost growth in the second half of 2021, as Americans return to offices, shopping malls and gyms.

These things could be top of mind for CFOs in 2021.

Economic recovery

Finance chiefs expect their companies' revenue to rise by an average of 6.9% in 2021, up from a 0.3% increase forecast for 2020, according to a recent survey by Duke University's Fuqua School of Business and the Federal Reserve Banks of Richmond and Atlanta. Executives will be monitoring potential setbacks to the economic recovery, especially in industries hit hard by the pandemic, such as travel, hospitality and bricks-and-mortar retail.

Corporate tax

President-elect Joe Biden has proposed raising the corporate-tax rate to 28%, up from the current 21%, alongside other measures. The new administration can shape tax policy even without a majority in Congress, for example by providing additional guidance on existing rules through the Treasury Department, said Greg Engel, vice chair for tax at KPMG LLP.

CFOs also will keep track of potential changes around taxation of global companies, as suggested by the Organization for Economic Cooperation and Development. Those plans could pick up pace in 2021.

Regulation

Finance executives are preparing for potential regulatory changes, including in areas such as accounting and audit.

Mr. Biden is expected to nominate a new head for the Securities and Exchange Commission, who would work toward increased regulatory scrutiny of companies' financial reporting. New leadership at the SEC could influence the agenda at the Public Company Accounting Oversight Board to include elements such as mandatory audit-firm rotation or stricter rules for auditors.

Trade

Executives will be on the lookout for potential changes to U.S. trade policies in relation to China, the European Union and other countries whose goods currently incur tariffs. Companies also will be dissecting the details of the new trade agreement between the U.K. and the EU, which was agreed in late December after years of negotiations.

Cash and capital expenditures

Finance chiefs ramped up their companies' liquidity in the early months of the coronavirus pandemic. Executives could reallocate some of these funds amid low interest rates, use them to pay for mergers and acquisitions, reduce debt or boost their pension plans. CFOs also are reviewing their spending plans for capital expenditures, especially in industries that have benefited from changing consumer tastes in recent months.

Mergers and acquisitions

Companies with cash reserves are expected to target the market for potential targets, said Robert Brown, chief executive of the North America business at Lincoln International, an investment bank. Private businesses also could take advantage of high stock valuations to plan an initial public offering, a direct listing or a transaction with a special-pur-

pose acquisition vehicle.

Remote work

A sizable number of U.S. employees are expected to work from home for a part of 2021 as the pandemic drags on, and seek flexible-work options in the future. Finance executives will be taking a closer look at their companies' real-estate footprint and assessing the pros and cons of moving offices. They will review potential investments to alter the layout of their offices and see whether increased levels of productivity—an outcome of widespread work from home in 2020—are here to stay.

Dividends

Many companies paused paying dividends or buying back shares at the onset of the pandemic. While some companies resumed those payments and programs in the second half of 2020, others have continued to hold back. In 2021, CFOs will be weighing dividend payments and share-repurchase programs against other uses of corporate cash. Timken Co., a North Canton, Ohio-based maker of engineered bearings and power-transmission products, plans to hike its dividend if the business does well, said finance chief Philip Fracassa. The company also could consider repurchasing shares if it doesn't do mergers and acquisitions, Mr. Fracassa said.

ESG disclosures

Finance chiefs likely will face more questions from shareholders about their businesses' performance in terms of environmental, social and governance issues, as investors pay more attention to these topics. Companies also could be required to disclose more information on carbon emissions, diversity and other social and sustainability metrics under the incoming Biden administration.

—Kristin Broughton and Mark Maurer contributed to this article.

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BUSINESS & FINANCE

EU Turns to Common Bonds

By PAUL J. DAVIES

The eurozone has always had a fundamental weakness compared with the U.S. when dealing with financial and economic crises: While its 19 countries share a currency and interest-rate policy, they have no common tax-raising or spending power.

In 2020, the European Union took a big step toward correcting that deficiency by starting to issue bonds on behalf of all member countries, known as common bonds. Beginning in 2021, some common bonds will be repaid through taxes raised by the EU.

This fiscal role for the EU is meant to be one-time, but policy made in the teeth of a crisis—in this case, the coronavirus pandemic—often sticks. Many investors and analysts say that a central ability to make taxation and spending decisions at the EU level will become permanent.

Europe's leaders signed two support packages to help the 19 eurozone members and eight other countries that don't use the euro cope with the Covid-19 crisis.

Almost €40 billion, equivalent to almost \$49 billion, of bonds were sold in 2020, and an additional €210 billion of bonds are expected to be sold in 2021, according to Pictet Wealth Management. Total funding from bond sales for the packages is expected to total €850 billion.

The EU has lent money to member countries before, through the European Financial Stabilization Mechanism, for example. But this time one of the packages, a €750 billion recovery fund, includes as much as €312.5 billion in grants that member countries won't have to repay. Instead, they will be covered by taxes raised at the EU level.

The recovery fund "is a very good first step towards a central fiscal capacity, towards something bigger," said Davide Oneglia, an economist at TS Lombard, a research firm in London. "There is no way back:



A central ability to tax and spend may become permanent. The European Parliament in Brussels.

These are supposed to be temporary programs, but it's a difficult policy to backpedal on."

A lack of a fiscal capability has been a source of instability in the past as each EU country was left to fund its own spending alone, contributing to big differences in borrowing costs between Germany, the Netherlands and France and the more indebted countries such as Italy, Spain and Greece.

It is a bit like if there were no central Treasury in the U.S. and poorer states such as Mississippi and Idaho had to fund themselves entirely without the help of taxpayers in rich states like Massachusetts or New York.

Almost €40 billion in common EU bonds have already been sold since late October under a €100 billion program that was quickly agreed upon to help countries fund efforts to keep people employed during Covid-19 shutdowns. That program, known as Support to mitigate Unemployment Risks in an Emergency, or SURE, lends money to the countries, which must repay the funds from their own tax bases. A benefit is that the common bonds are triple-A rated and cost less than what some weaker countries, such as Italy,

have to pay to borrow.

The 10-year SURE bond yields minus 0.42%, higher than Germany's minus 0.57%, but less than Italy's 0.54%.

The remaining €60.5 billion of SURE bonds are expected to be sold within the first few months of 2021. The first €150 billion in bonds from the recovery-fund program are expected to be sold this year, according to Pictet Wealth Management.

"Demand for the common bonds will remain very strong because the yield offers a premium to German bunds, but for a similar risk," said Frederik Ducrozet, a strategist at Pictet Wealth Management.

The bigger, €750 billion recovery fund will only start selling debt once all member countries have ratified the EU's long-term budget. That was only agreed upon in December after Poland and Hungary dropped their objections. The budget is unlikely to be fully ratified until April at the earliest.

The recovery fund will be split between loans and grants to member states. The grants will be paid for by the EU itself through measures such as a new tax on unrecycled plastic waste and a digital levy.

In the future, there might

also be a financial-transactions tax.

Among the biggest buyers of the SURE bonds have been central banks and other reserve managers eager to increase their holdings of euros. They bought nearly 40% of the 10-year bonds and 30% of the five-year bonds, for instance, according to the European Commission. Ordinary banks have also been big buyers, taking about 20% of each issue on average.

The bonds have faced a crowded market. Issuance in euros from governments and supranational bodies such as the EU has increased in 2020 to more than €630 billion, compared with more than €330 billion in 2019 and slightly less than that in 2018, according to Deutsche Bank.

One reason why huge government borrowing is being so easily digested by investors is that the European Central Bank is buying a lot of it. ECB purchases are expected to exceed the amount of new borrowing done by eurozone governments. The amount of bonds available for other investors to buy is forecast to shrink by nearly €450 billion, according to Bank of America. That would be the biggest contraction since 2016.

Buyers Bet On Bonds That Lag

Continued from page B1

Ore. The bonds were trading around 65 cents on the dollar, reflecting concerns about the tolls the coronavirus and political turmoil have taken on tourism in the city.

The prices imply that "no one will ever travel to Portland and stay in these high-end hotels again," said Dylan Ross, co-head of the structured finance team at Brigade that made the trade. Such doomsday scenarios are unlikely to pan out, and in the near term mortgage lenders are granting property owners forbearance to tide them over, he said.

Brigade bought similar debt backed by a Nashville, Tenn., hotel this past spring for around 60 cents on the dollar, Mr. Ross said. The bonds traded in December at around 88 cents on the dollar, according to data from ICE Data Services.

Brigade has been raising new funds to capitalize on the investment opportunity in low-rated asset-backed debt, a person familiar with the matter said. Other fund managers are doing the same. Hildene Capital Management launched a fund in May to buy lower-rated CLO securities. The investment vehicle returned around 26% in 2020, a person close to the firm said.

John Kerschner, head of U.S. securitized products at Janus Henderson Investors, has increased holdings of commercial mortgage-backed securities in the firm's multisector income fund to 9% from around 3%.

In more beaten-down parts of the market, he has focused buying on higher-rated bonds. At the same time, he has bought sub-investment-grade bonds in the multifamily housing, industrial and biomedical office subsectors.

"For funds like us, money managers, this is kind of the ideal opportunity to look at

what we think of as cheap bonds," he said.

Asset-backed bonds trade at higher yields than comparably rated corporate bonds during market turmoil because they have a less stable buyer base. Money moves quickly out of the sector when investors turn fearful and is slower to return when sentiment improves.

Toward the end of the year, spreads on CLO bonds with double-B ratings had tightened about 3.5 percentage points since May, retracing 64% of the amount that they widened earlier in the year, while spreads on speculative-grade corporate bonds had retraced 92%, according to data from BofA Securities and ICE Data Services.

The use of leverage by many buyers of asset-backed bonds also played a part in 2020's slow recovery, investors and analysts said.

When markets plunged earlier in 2020, many firms felt

The use of leverage by many buyers of the bonds played a part in a slow upturn.

pressure from banks to sell at steep losses to meet or prevent margin calls. Months later, some still don't have the buying power they once did.

A prominent example is residential mortgage real-estate investment trusts, which typically buy residential mortgage debt but can also purchase commercial mortgage securities.

Having met heavy pressure from banks, residential mortgage REITs in the FTSE NAREIT Mortgage REIT Index held \$324 billion of assets on Sept. 30, down 37% from the end of 2019, according to a Wall Street Journal analysis.

"A lot of people had good leveraged trades on, were testing them for a normal recession, and then the world fell apart," said Chris Flanagan, head of securitized products research at BofA Securities. The result was "the decimation of capital," which has dragged on the market.

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CLOSED-END FUNDS

Listed are the 300 largest closed-end funds as measured by assets. Closed-end funds sell a limited number of shares and invest the proceeds in securities. Unlike open-end funds, closed-ends generally do not buy their shares back from investors who wish to cash in their holdings. Instead, fund shares trade on a stock exchange. NA signifies that the information is not available or not applicable. NS signifies funds not in existence for the entire period. 12 month yield is computed by dividing income dividends paid (during the previous 12 months for periods ending at month-end or during the previous 52 weeks for periods ending at any time other than month-end) by the latest month-end market price adjusted for capital gains distributions. Depending on the fund category, either 12-month yield or total return is listed.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like Gabelli Div&Inc Tr GDV, General Amer GAM, JHancock Tax Adv Div HTD, etc.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like BlackRock Enh Int Div BGY, BlackRock Hlth Sr Tr BMEZ, BlackRock Res & Comm BCX, etc.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like Aberdeen Gbl Prem Prop AWP, Adams Natl Res Sources PEO, Alliantz AI & Tech Opps AIO, etc.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like Wells Fargo Income Oppy EAD, WstAstHf II HIX, Western Asset Hl Inc Opp HIO, etc.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like Apollo Tactical Income AIF, Ares Dynamic Crd Alloc ARDC, BlackRock Mlt-Sctr Inc BIT, etc.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like Nuveen Muni Val NUV, Nuveen Quality Muni Inc NAD, Nuveen Sel TF NXP, etc.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like Nuveen Sel TF 2 NXQ, Nuveen Sel TF 3 NXR, PIMCO Munilnc PMF, etc.

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Includes funds like Nuveen Sel TF 3 NXR, PIMCO Munilnc PMF, PIMCO Munilnc PML, etc.

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BANKRATE.COM® MMA, Savings and CDs

Average Yields of Major Banks Tuesday, December 29, 2020

Table showing average yields for National average, Savings, Jumbos, Weekly change, and Savings. Columns include Type, MMA, 1-MO, 2-MO, 3-MO, 6-MO, 1-YR, 2-YR, 2.5YR, 5YR.

Consumer Savings Rates

Below are the top federally insured offers available nationwide according to Bankrate.com's weekly survey of highest yields. For latest offers and reviews of these financial institutions, please visit bankrate.com/banking/reviews. Information is believed to be reliable, but not guaranteed.

Table with columns: Bank, Phone number, Minimum, Yield (%). Lists various banks and their savings rates for different terms like Six-month CD, One-year CD, Two-year CD, etc.

High yield jumbos - Minimum is \$100,000

Table with columns: Bank, Phone number, Minimum, Yield (%). Lists high-yield jumbo CD offers from various banks.

Notes: Accounts are federally insured up to \$250,000 per person. Yields are based on method of compounding and rate stated for the lowest required opening deposit to earn interest. CD figures are for fixed rates only. MMA: Allow six (6) third-party transfers per month, three (3) of which may be checks. Rates are subject to change.

Source: Bankrate.com, a publication of Bankrate, Inc., Palm Beach Gardens, FL 33410 Internet: www.bankrate.com

Income & Preferred Sec's Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists income and preferred securities funds.

World Equity Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists world equity funds.

U.S. Mortgage Bond Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists U.S. mortgage bond funds.

Investment Grade Bond Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists investment grade bond funds.

High Yield Bond Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists high yield bond funds.

World Income Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists world income funds.

National Muni Bond Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists national muni bond funds.

Specialized Equity Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists specialized equity funds.

General Equity Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists general equity funds.

Income & Preferred Stock Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists income and preferred stock funds.

Single State Muni Bond

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists single state muni bond funds.

High Yield Bond Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists high yield bond funds.

Other Domestic Taxable Bond Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists other domestic taxable bond funds.

Alternative Credit Inc

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists alternative credit funds.

World Income Funds

Table with columns: Fund (SYM), NAV, Close, Disc, Prem, Ret, 52 wk Ttl. Lists world income funds.

National Muni Bond Funds

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Borrowing Benchmarks | wsj.com/market-data/bonds/benchmarks

Money Rates

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 don't always represent actual transactions.

Table showing money rates for Inflation, U.S. consumer price index, International rates, Prime rates, Policy Rates, and Federal funds.

Notes on data:

U.S. prime rate is the base rate on corporate loans posted by at least 70% of the 10 largest U.S. banks, and is effective March 16, 2020. Other prime rates are not directly comparable; lending practices vary widely by location. Discount rate is effective March 16, 2020. DTCC GCF Repo Index is Depository Trust & Clearing Corp.'s weighted average for overnight trades in applicable CUSIPs. Value traded is in billions of U.S. dollars. Federal funds rates are Tullett Prebon rates as of 5:30 p.m. ET.

Sources: Federal Reserve; Bureau of Labor Statistics; DTCC; FactSet; Tullett Prebon Information, Ltd.

IPO Scorecard

Performance of IPOs, most-recent listed first

Table with columns: Company, SYMBOL, IPO date/Offer price, % Chg From Offer price, 1st-day close. Lists various IPOs and their performance.

Sources: Dow Jones Market Data; FactSet

Cash Prices | wsj.com/market-data/commodities

These prices reflect buying and selling of a variety of actual or "physical" commodities in the marketplace—separate from the futures price on an exchange, which reflects what the commodity might be worth in future months.

Table showing cash prices for Energy, Metals, Fibers and Textiles, Grains and Feeds, and Fats and Oils.

KEY TO CODES: A=ask; B=bid; BP=country elevator bids to producers; C=corrected; E=Manfra, Tordella & Brookes; H=American Commodities Brokerage Co.; M=monthly; N=nominal; n.a.=not quoted or not available; R=SNL Energy; S=Platts-TSI; T=Outlook Limited; U=USDA; W=weekly; Z=not quoted. *Data as of 12/30

Source: Dow Jones Market Data

Thursday, December 31, 2020

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Source: Dow Jones Market Data

Secured Overnight Financing Rate

December 31, 2020

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 don't always represent actual transactions.

Table showing secured overnight financing rate for Treasury bill auction, Overnight repurchase, U.S. government rates, Discount, Federal funds, and Call money.

Commercial paper (AA financial)

Table showing commercial paper rates for 90 days.

Libor

Table showing Libor rates for one-month, three-month, and five-year ARM.

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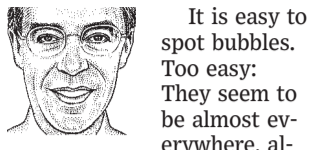
Libor

Table showing Libor rates for one-month, three-month, and five-year ARM.

MARKETS

STREETWISE | By James Mackintosh

Ghosts of Past Bubbles Resurfaced in 2020



It is easy to spot bubbles. Too easy: They seem to be almost everywhere, almost all the time. Worse still for those of us who try to spot excess, much of the stuff that was labeled frothy in recent years went on to make big money in 2020 for those who bought into it anyway.

The question for investors: Were the bubble calls just wrong? Or are we in a new era of wild speculation driven by cheap money that must inevitably come to an end?

I lean toward the latter. But the stunning performance of so many bubble stocks this past year shows that even if this turns out to be right eventually, there is plenty of scope to be horribly wrong in the meantime.

For one example, consider the bubble portfolio created in mid-2017 by Paul McNamara, an emerging-market fund manager at GAM. Featuring stocks and bonds labeled as bubbles by the financial Twitter community that year, it includes Tesla, Netflix, Tencent, a bitcoin fund, Canadian apartments, London property and long-dated U.S., Japanese and Argentinian bonds. Only one—the Argentinian 100-year bond—is down since being selected, having lost almost all its value.

If you had spread \$900 equally across the portfolio's nine holdings at the end of June 2017, you would now

have more than \$2,950, more than double what you would have got from the S&P 500. Remember, this was buying the stuff that many thought was already wildly overvalued.

Yet, the bubble-watchers were right on many of the stocks. Just not for long. Parts of Mr. McNamara's bubble portfolio appeared to burst, but then came roaring back in 2020. If there is a bubble, it is a double bubble.

The Grayscale Bitcoin Trust, which holds bitcoin for a 2% fee, dropped 90% from its 2017 peak, but in 2020 it almost quadrupled to again trade above the value of the bitcoin it holds. Tesla stock was below its mid-2017 price for most of the next 2½ years amid fights with regulators, fears about a cash shortage and missed production targets. Then it was electrified by the events of 2020, rising eightfold to become one of the largest companies in the world by market value.

Netflix and China's Tencent didn't reach their 2018 peaks again until they were boosted by lockdowns and cheap money on their way to a spectacular 2020.

Even some of the stocks that went through their own mini-bubbles and busts earlier in the decade returned to form last year.

The 2013 fad for 3-D printing turned out to be pure froth, and the leading

exponent, 3D Systems, is down 89% from its high. In 2020, it rose 20%, outpacing the S&P.

The 2011 excitement about rare-earth elements gave birth to the VanEck Vectors Rare Earth/Strategic Metals ETF. It is down 81% from that year's high, but gained 63% in 2020.

Solar collapsed with oil during the 2008 financial crisis, but was still frothy at the start of 2010. The Invesco Solar ETF (amusing ticker alert: TAN) fell 81% from 2010's high, which was already down more than half from its pre-financial crisis high. This past year it more than tripled.

Cheap money often fuels speculative fervor, and this time has been helped by bored work-from-homers finding that day trading is a way to gamble their stimulus checks.

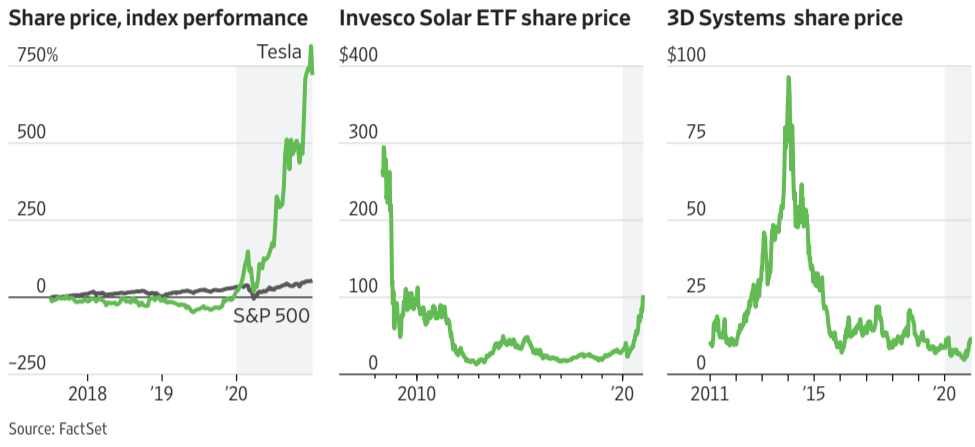
As usual the bubble stocks have a good story to tell about new technology and major shifts in consumption. They are helped by the superlow bond yields engineered by central banks. But their valuations and the scale of the price moves are extreme and probably unsustainable.

Probably. The danger for those of us calling out frothy markets isn't only that high prices could be justified by fast-growing profits, but that bubbles can always become more extreme. If you doubt that, just look at 2020.



Shares of Netflix, whose offerings include 'Ma Rainey's Black Bottom,' had a resurgence in 2020.

Bubbles of the past decade inflated again in 2020.



Markets Rally Seen Continuing

Continued from page B1
 markets in the past few months.

Companies including Apple Inc. that benefited from the stay-at-home trend ended the year with astonishing market values, while everything from electric-auto maker Tesla Inc. to copper producer Freeport-McMoRan Inc. also posted outside returns.

That underscores the increasing breadth of the rally, but lofty projections for both the tech sector and more growth-sensitive stocks remain a concern for some



Analysts still see potential speed bumps in the markets' climb. Outside an Apple store in Tokyo.

money managers.

"The expectations about certain segments are overcooked," said Lee Baker, president of Apex Financial Ser-

vices in Atlanta. He recommends clients favor banks and cheaper stocks tied to travel in the new year.

Fund managers surveyed

by Bank of America last month said they held less cash than the benchmarks they track for the first time since May 2013, another indi-

cation investors are moving money into riskier parts of the market. Many of those surveyed have increased their investments in areas such as emerging markets lately.

"Those markets have a lot more recovery potential," said Michael Kelly, global head of multiasset at PineBridge Investments. He has been favoring emerging markets as well as French and Spanish stocks in recent months, believing that an uptick in global growth, aided by government stimulus, will help them outperform.

Investors have been particularly encouraged by recent economic data showing the Chinese economy motoring ahead after the country largely contained the coronavirus, a boon for other emerging markets and producers of raw materials. Analysts now hope the U.S.

and Europe will catch up.

Even with the pandemic worsening in those regions, economic data have largely remained steady, with the rollout of vaccines giving consumers and businesses more confidence.

That also is helping the big rebound in stocks tied to pandemic-hit sectors including travel and leisure, but some investors are wary that those companies won't meet raised expectations as the recovery unfolds.

"You have to be careful on some of these reopening trades that the sentiment is not already priced in," said Victoria Fernandez, chief market strategist at Crossmark Global Investments. She is favoring faster-growing companies tied to technology infrastructure and waiting for a pullback to add to her positions.

Seacret Considers Bankruptcy Bid for WorldVentures

By BECKY YERAK

Seacret Direct LLC, a seller of beauty and wellness products, is considering making a bid for WorldVentures Marketing LLC, a travel business that filed for bankruptcy recently.

The potential purchase came to light last week when WorldVentures made its initial appearance in bankruptcy court after seeking protection from creditors last week.

Lawyers for WorldVentures said the company plans to sell itself or its assets.

The company said nearly two dozen potential buyers have signed nondisclosure agreements and that it is trying to line up a lead bidder for a court-supervised sale process.

Before the bankruptcy, WorldVentures and Seacret had been in discussions about a possible merger or acquisition, bankruptcy documents show.

In July, they struck a deal to allow WorldVentures sales representatives to buy and sell Seacret products and in November they signed a non-

binding letter of intent to try to complete a definitive asset purchase agreement.

Seacret remains a potential buyer of WorldVentures, Seacret lawyer Phillip Lamberson said during the hearing.

The Plano, Texas, WorldVentures blamed its chapter 11 filing partly on missteps by past management and the coronavirus pandemic.

WorldVentures and some of its sales representatives also have been investigated by regulators in several markets. Those investigations resulted in fines and hurt the brand's

reputation, said Erik Toth, chief restructuring officer for bankrupt affiliate Spherature Investments LLC, in a court filing.

Mr. Toth is also managing partner for Larx Advisors Inc., which has been hired as restructuring adviser during the reorganization.

The biggest source of revenue for WorldVentures is using independent sales representatives to market travel memberships and packages through subscriptions. The sale of monthly memberships allows the buyers in different

tiers to access travel opportunities. Another revenue generator for WorldVentures is requiring sales representatives to pay a recurring monthly fee for their own website, which provides access to online training tools, presentations, documents and other items that help the sales representatives manage their WorldVentures business.

During the hearing last week, Jason Binford, an assistant attorney general for Texas, said the state has a long history of customer complaints lodged against World-

Ventures. He told the court that WorldVentures has had a "spotty" history in responding to complaints.

Earlier, an individual who had sued WorldVentures in 2017 made a filing asking that spending be closely monitored.

The individual, WorldVentures sales representative Melody Yuri, who previously sought class-action status for a claim that the company was running a pyramid scheme, said WorldVentures basically had been shut down in Norway and Taiwan.



Walgreens Boots Alliance is expected to report lower quarterly earnings per share of \$1.03 on Thursday.

THE TICKER | MARKET EVENTS COMING THIS WEEK

Monday	Tuesday	Wednesday	Thursday	Friday
Construction spending 1.3% Nov., previous up 1.3% Nov., expected up 1.1%	ISM mfg. index Nov., previous 57.5 Dec., expected 57.0	EIA status report Previous change in stocks in millions of barrels Crude-oil stocks down 6.1 Gasoline stocks down 1.2 Distillates up 3.1	1.01/0.76 Lamb Weston Holdings, Inc. 3.01/3.12 EIA report: natural-gas Previous change in stocks in billions of cubic feet down 114 Initial jobless claims Previous 787,000 Expected 800,000 Int'l trade deficit, in billions Oct., previous \$63.1 Nov., expected \$67.0 ISM non-mfg index Nov., previous 55.9 Dec., expected 55.0 Earnings expected Estimate/Year Ago Conagra Brands, Inc. 0.73/0.63 Constellation Brands, Inc. Class A 2.40/2.14 Helen of Troy Limited	0.63/0.95 Micron Technology, Inc. 0.69/0.48 Walgreens Boots Alliance Inc 1.03/1.37 Nonfarm payrolls Nov., previous 245,000 Dec., expected 68,000 Unemployment rate Nov., previous 6.7% Dec., expected 6.8% Wholesale inventories Oct., previous up 1.1% Nov., expected down 0.1% Consumer Credit Oct., previous up \$7.2 bil. Nov., expected up \$9.0 bil.

* FactSet Estimates earnings-per-share estimates don't include extraordinary items (Losses in parentheses) ◆ Adjusted for stock split
 Note: Forecasts are from Dow Jones weekly survey of economists

HEARD ON THE STREET

FINANCIAL ANALYSIS & COMMENTARY

Investors, Learn Ins and Outs of Mortgage Machine

A lot has to happen to make 30-year loans at superlow interest rates possible so know the risks

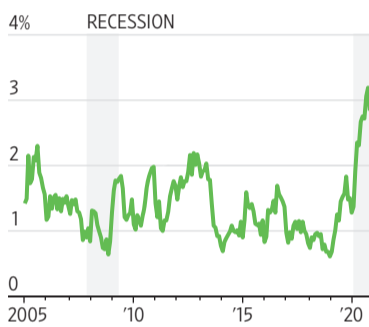
Every family needs a home, and so do the many risks created by the 30-year mortgage that is standard in America.

Finding an investor to take each of those risks is a job of the Rube Goldberg contraption that is the U.S. housing-finance industry. Investors who don't understand how it all fits together might one day find themselves scrambling for shelter.

Originators are probably the most familiar players to investors. They sit at the front of the process, and in many cases deal directly with borrowers. But for a mortgage with typical terms and size, they are usually not the player that ultimately owns the loan.

Some mortgages players bear the risk that a mortgage is repaid early, drying up the stream of payments.

Percentage of outstanding principal balance paid off-schedule, monthly



Source: Black Knight

One major reason is the U.S. housing market's unique system of taxpayer support, via the government-sponsored enterprises. **Fannie Mae** and **Freddie Mac** buy loans from originators, guarantee them and resell them to investors as agency mortgage securities. So in turn, many originators' economics are driven by the volume of loans they produce and sell via Fannie or Freddie. This business model also avoids lending risk and requires less capital, making it appealing to investors.

But selling loans is rather complicated. To get anyone else interested in buying or trading loans negotiated by third parties, a lot of things need to happen to commoditize a 30-year mortgage. Originators primarily sell into standardized pools of mortgages that are organized into half-point buckets of interest rates, like 2.5% or 3%. Investors buy slices of these pools in the form of a securitization.

That rate isn't the same as what the borrower is paying. A 3% mortgage might end up in a 2% pool. That's because to further standardize the loan, parts of the interest go to pay for other transformation services. One portion is for Fannie or Freddie, to cover their base cost to guarantee the mortgage, plus various adjustments based on the individual mortgage.

Another chunk is for a servicer,



ARIEL DAVIS

which handles collection from the borrower then pays out to investors, tax authorities and so on.

In exchange for this long-lasting stream of fees, servicers bear certain risks. For one, when interest rates drop, more mortgages are refinanced and prepaid early, causing servicers to lose those payment streams. Servicers also cover some missed payments before a mortgage actually defaults. In an economy where lots of people are missing payments, that can bite. The surge in payment deferrals during the pandemic, for example, fell hard on servicers.

Originators might also have to use private mortgage insurance if the loan-to-value ratio is too high for a guarantor, perhaps because the borrower is putting less than 20% down. Borrowers can pay this fee directly, or indirectly through a higher mortgage rate.

Even after paying for servicing and credit risk, an originator still

can't always count on a predictable sale price for each mortgage. Mortgage rates or the relative pricing between buckets might move during the long closing period, but borrowers like "locks" on offered rates. There is a huge market for future delivery of mortgages, known as the TBA market, or "To Be Announced," which is used to effectively hedge that rate risk for lenders. But it carries a cost that can vary with how long the protection lasts.

An emerging technology component of the business is using data and analytics to sync up the rate offered on a mortgage with how it might be hedged and sold, explains Vishal Garg, chief executive of Better, a digital homeownership company. "You can be a much better market participant by matching end-investor demand to the consumer," he says. "A traditional loan officer can't contemplate all the scenarios."

Originators have some natural counterparties that take on interest-rate risk. Demand from investors like mortgage real-estate investment trusts, informed by how cheaply they can fund themselves, helps drive pricing.

A big way rate risk manifests is that speed at which people prepay. This in turn can affect what investors are willing to pay, because securities derived from those mortgages essentially become shorter-lived. So even as originators enjoy the benefits of volume when lots of people are refinancing, they might earn less when selling mortgages. Of course, when the Federal Reserve is buying mortgage securities, and when rates on other fixed-income assets are so low, originators' profits selling mortgages can remain quite large.

Smart investors will understand how changes in the market would hit home in their portfolios.

—Telis Demos

Trump's Trade War With China Will Be Left for Biden to Win

At first glance, the Trump administration appears to have left President-elect Joe Biden with a strong hand to play in trade talks with China. But bringing things to a successful resolution will be challenging on multiple fronts.

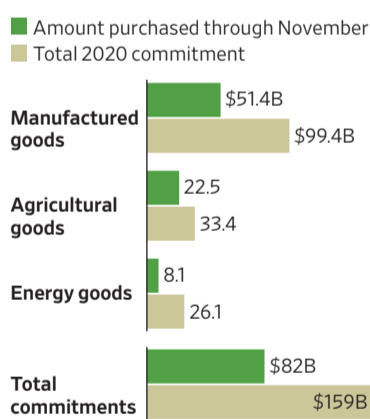
Despite the so-called phase-one trade agreement struck in January 2020, tariffs between the two nations remain elevated. U.S. levies on Chinese goods have gone from an average level of 3.1% in January 2018, before tensions kicked into high gear, to 19.3% now, according to an analysis by the Peterson Institute for International Economics. That is down only marginally from 21% before the deal. China's average tariffs have risen, too, from 8% before the trade war to 20.3% now.

At the same time, China is all but certain to miss its commitments to purchase a series of U.S. goods. By November, for instance, it had purchased only around two-thirds of the volume of agricultural products it committed to for the entire year, according to PIIIE.

In theory, this should give Mr. Biden a strong negotiating position. He has said he wouldn't immediately lift the tariffs, which should prove more punishing to China than the U.S., as its economy generally depends more on exports.

Yet the Chinese economy is performing strongly because the country curbed the spread of the coronavirus earlier and thanks to a pandemic-triggered surge in global demand for its exports, from face

China's purchase commitments vs. actual purchases of U.S. goods



Source: Peterson Institute for International Economics

masks to videogame consoles. Indeed, in November China's trade surplus hit a new monthly high in dollar terms of \$75 billion.

The most obvious way for the U.S. to add pressure would be to bring allies like Japan and Europe onto its side. Mr. Biden has pledged to do just this, but what exactly these allies are prepared and able to do remains unclear, said PIIIE Senior Fellow Chad Bown. The EU, for instance, lacks the strong executive powers that Trump employed to set tariff levels, Mr. Bown says. The investment deal that China and the EU just agreed to in principle raises further doubts as to the Europeans' willingness to confront Beijing.

The Democratic president-elect also risks falling into one of the same traps that ensnared his Re-

publican predecessor: having too many objectives. The Trump administration seemed to careen between an obsession with bilateral trade deficits—which the purchase commitments were intended to address—to a focus on China's abusive trading practices, including forced technology transfers and patchy enforcement of intellectual property rights. At times, administration officials spoke grandly of ambitions to fundamentally reshape the role of the state in the Chinese economy, a tall order that also plainly contradicted their demand that Beijing force businesses to purchase U.S. goods.

Mr. Biden would be wise to drop the purchase quotas, which make no economic sense and don't help win over allies. But he brings his own new objectives to the table. He has pledged to get tougher with Beijing on human rights abuses in Xinjiang and concerns over Hong Kong, and will likely seek greater Chinese cooperation on climate change and environmental issues. Balancing these will be difficult.

For all its faults, Trump's China trade war leaves Mr. Biden one helpful legacy: He demonstrated that it is possible to get tough on China without catastrophic economic consequences. China didn't seek to destabilize the U.S. by selling off its Treasury holdings, as some had feared. Indeed, interest rates on U.S. debt are lower than they have ever been. Disruptions to supply chains were painful but manageable, and income hits to farmers were at least partly offset by transfer payments.

A less hectic approach with fewer surprises would go a long way to minimizing disruption to business planning and financial markets, making negotiations less painful for the U.S. At the same time, a tight focus on intellectual property and technological security stands the best chance of winning over allies and achieving positive results over the long term.

Trump's trade war with China didn't cause the world to end. With the taboo on tariffs broken, future U.S. presidents will have a freer hand to negotiate with Beijing. That doesn't guarantee success, but it does make it possible.

—Aaron Back



HOLLIE ADAMS/BLOOMBERG NEWS

U.K. office leases are 10 years on average, which encourages tenants to push supply into the gray market during slowdowns.

Secondhand Market Will Squeeze Office Landlords

Office landlords have fared better than shopping-mall owners during the pandemic so far. However, they may soon be competing with their tenants as companies sublet space they no longer need.

Asking rents for offices in global hubs like London and New York have been surprisingly stable in 2020, even as many employees continue to work from home. Manhattan rents fell 3% in the third quarter compared with the same period of 2019, while rates for the best locations in the U.K. capital are down by roughly the same amount, Savills data shows.

Scratch the surface though, and these markets are becoming tougher for landlords. Few businesses will commit to a new lease until they understand how remote working will change their real-estate needs, so competition for tenants is intensifying. Any company that is willing to sign a 10-year lease in central London today can get up to 28 months rent-free, compared with the 24 months on offer before the pandemic.

Landlords' next challenge will come from tenants that are beginning to unload space they no longer want. Although companies cannot break leases without reputational damage, they are able to sublease all or part of their offices—an option that both Twitter and Airbnb have used recently.

Rents typically begin to fall when this secondhand supply reaches 30% of total office vacancy, according to property experts at Green Street. Sublet offices are offered at a discount, pressuring

landlords to slash rents in the primary market. Subleasing activity is already at this 30% threshold in San Francisco, numbers cited by Green Street show, while tenant-controlled space on offer in Austin, Texas, and Seattle is more than double the rate both cities recorded at the peak of the global financial crisis. So-called gray space is approaching one-fifth of vacant supply in Manhattan.

Across the Atlantic, Britain's commercial landlords such as **Derwent London** may be more vulnerable to the trend than peers in mainland Europe. U.K. office leases are 10 years on average, which encourages tenants to push supply into the gray market during slowdowns. In London, occupier-controlled space already makes up 30% of vacant supply based on Savills analysis.

Not every tenant wants to inherit the previous occupier's lease terms, and secondhand office space can be poorer quality. But sublets have appeal in a shaky economy. They often come fully fitted out, saving companies the cost of refurbishment. And rents tend to be cheaper than the going rate. In Manhattan, average asking rents for sublet properties are a fifth lower than signing a direct lease based on Colliers International statistics.

Investors in listed office landlords such as Manhattan-focused **SL Green** and U.K.-based **British Land** should look beyond headline rent figures to get a real idea where the market is heading.

—Carol Ryan



AGENCE FRANCE-PRESSE/GETTY IMAGES

The Chinese economy is performing strongly thanks in part to a surge in global demand for its exports, from face masks to videogame consoles.

YEAR-END REVIEW & OUTLOOK

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THE WALL STREET JOURNAL.

Monday, January 4, 2021 | R1



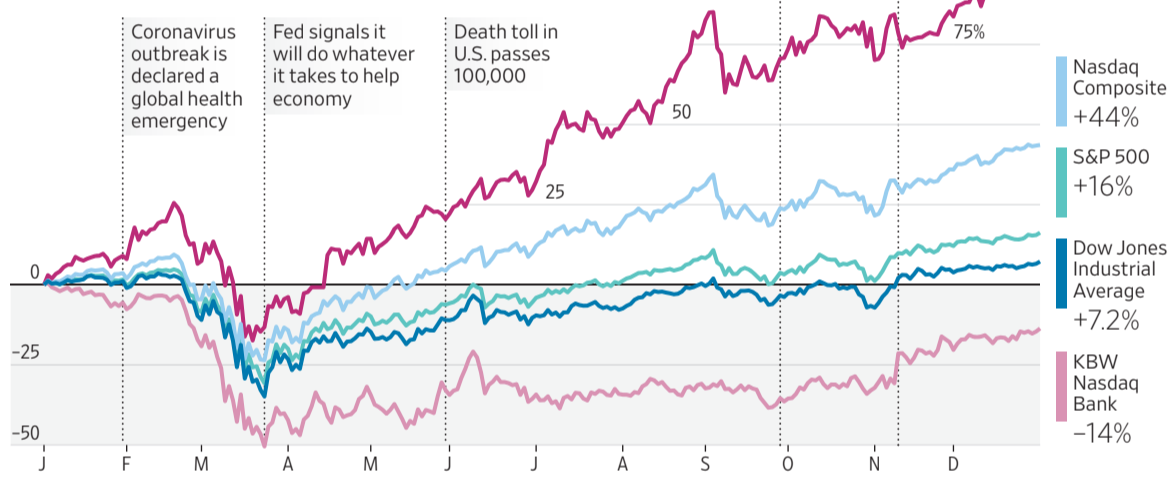
Airbnb, top left, whose logo was on a billboard in Times Square in December, had a strong stock-market debut. Top right, a Madison, Wis., theater was one of many that went dark in March. Below, Tesla became the most valuable auto maker in the world during 2020. Bottom left, the November elections brought Joe Biden the presidency but failed to deliver Democrats a 'blue wave' as had been predicted.

Lessons From a Crazy Year In Financial Markets

A historic downturn and dizzying comeback show markets still have the capacity to surprise us all

Stocks bottomed out in March despite rising coronavirus cases and numerous setbacks related to efforts to contain the pandemic.

Index performance in 2020



Source: FactSet

By AKANE OTANI

Here is something many investors would have found difficult to believe during March's stomach-churning selloff: 2020 would turn out to be a stellar year for the stock market.

The Dow Jones Industrial Average closed the year at a record, rising about 0.7% on Thursday alongside the S&P 500, which finished the year up 16% at its own new high.

The market for initial public offerings is flourishing. Just weeks

ago, home-rental startup Airbnb Inc. made a stock-market debut so stunning that its chief executive was briefly left speechless on live television.

These are things that would be easy to imagine in boom times. But 2020 has been anything but that for the world outside Wall Street. The cold reality is that the market's rally has occurred in the midst of a catastrophic pandemic that has killed more than a million people, halted business and travel and wreaked havoc on the economy. Al-

though there are plenty of reasons for the market's comeback, not the least of which is the Federal Reserve's massive intervention, the staggering rally is still difficult to comprehend for many investors.

"The path we took to get here is something we never, ever, ever would have foreseen," said Ralph Bassett, head of equities for North America at Aberdeen Standard Investments.

Here are the lessons investors say they have learned from an unforget-

Please turn to page R2

New Army of Individual Investors Arrives, Flexes Its Muscle

By CAITLIN MCCABE

The online brokerage industry might be hard pressed to outdo the record-breaking year it experienced in 2020, but for now, few are betting against it.

Individual investors opened more than 10 million new brokerage accounts in 2020, JMP Securities estimates, a record. Interest isn't fading, either: App downloads for brokerage firms, while lower than earlier in the year, remain resilient, with the Robinhood Markets Inc. app expected to reach 500,000 downloads in December alone, data provided by the investment bank shows. Website traffic for well-entrenched brokerages, including TD Ameritrade Holding Corp. and E*Trade Financial Corp., continues to increase as well.

"You have this incredibly engaged customer," said Devin Ryan, senior research analyst at JMP Securities. "It appears that the end-customer is actually logging into their account more than they were at the beginning of the pandemic."

The year will be known as the time when individual investors dove into financial markets and doubled down, even in the midst of a global pandemic, strapping in for a roller-coaster ride that sent stocks plummeting—and then skyrocketing—in record time.

Driving the interest was a combination of factors that started with an industrywide shift to commission-free trading in 2019 but swelled as market volatility grew. As the coronavirus rolled across the U.S., millions of new investors found themselves stuck at home, some with extra time on their

hands to learn about the markets. Others, unable to bet on sports or visit casinos, found the stock market's outside swings presented the perfect outlet to make bets.

Individual investors opened more than 10 million new brokerage accounts in 2020.

In some cases, those wagers became a part of investing sensations, owing to the countless online forums where traders gathered to swap ideas. Similar to the online chat rooms that surrounded the late-1990s dot-com

bubble, social-media sites such as Facebook, TikTok and the messaging platform Discord became hubs to talk up trades, sometimes helping send shares of companies on a wild ride.

Some investors, including prominent figures such as Dave Portnoy, used the spaces to tout gains and lament losses. Mr. Portnoy, founder of the popular digital media company Barstool Sports Inc., began streaming trades to his followers, who now approach two million, on Twitter. "Stocks only go up," Mr. Portnoy would proclaim, reiterating the phrase that had become popular on internet messaging forums.

For a while, as stocks zoomed higher, the mantra seemed to hold up. Three months after markets bottomed in March, shares of companies from Moderna Inc. to Tesla Inc.

had all jumped 130% or more. Individual investors piled into those stocks while snatching up shares of smaller companies, too. Perhaps most notoriously, they sent shares of companies including Hertz Global Holdings Inc. and Chesapeake Energy Corp. soaring, despite the financial crises the companies faced. The companies, both of which filed for bankruptcy protection, were ultimately delisted from the New York Stock Exchange.

On peak trading days in 2020, individual traders are estimated to have accounted for nearly 25% of U.S. trading activity, Citadel Securities estimates. Overall, their share of total trading volume doubled to an average of 20% from 10% in 2019, Citadel said.

Analysts say individual traders

Please turn to page R3

INSIDE

FINANCE

Chinese markets shined last year, reflecting the country's economic revival during the pandemic. R2



ROMAN PILIPEV/SHUTTERSTOCK

Upheaval For Oil

For some, U.S. crude futures prices falling below zero added urgency to arguments about benchmarks. R3

CURRENCIES

A car dealership accepts bitcoin, but moves by others might make the digital asset more mainstream. R3



VEGAS AUTO GALLERY

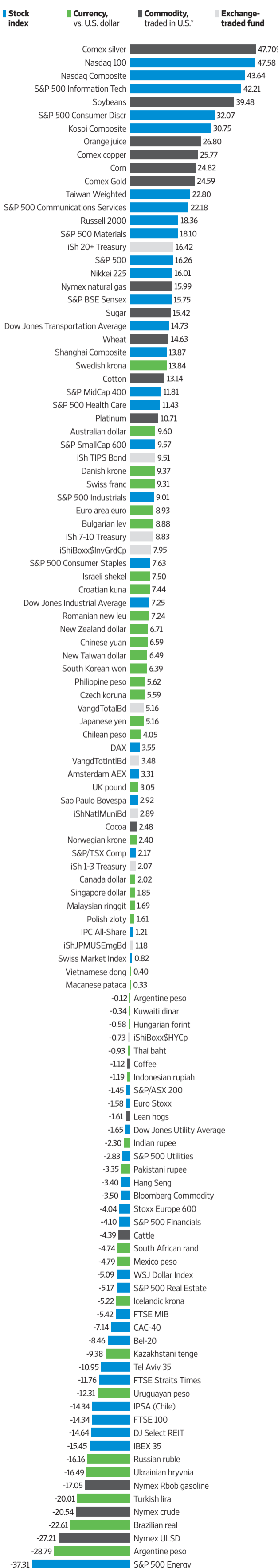
Coming Next Week

The quarterly Investing in Funds & ETFs report will appear on Monday, Jan. 11.

JOURNAL REPORTS | YEAR-END REVIEW & OUTLOOK OF MARKETS & FINANCE

Track the Markets: Winners and Losers

A look at how selected global stock indexes, bond ETFs, currencies and commodities performed for the year



Sources: FactSet (stock indexes, bond ETFs, commodities), Tullett Prebon (currencies)

Recovery Lifts Chinese Stocks

Investors and bankers expect country will continue to benefit from low global rates

By JOANNE CHIU

China's stock market ended 2020 on a high note, with a key benchmark up nearly 30% and at a multiyear high...

The move capped a year that broke records for stock issuance and brought a big run-up in share prices...

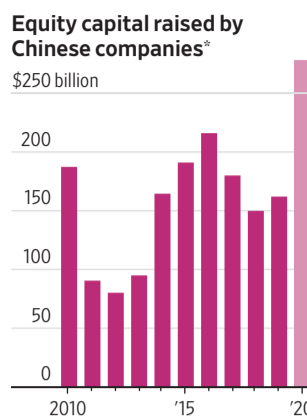
After the European Union and China agreed on terms of an investment accord, the CSI 300 Index—which tracks the top 300 stocks traded on exchanges in Shanghai and Shenzhen—rose 1.9% Thursday to reach its highest level since June 2015...

For 2021, investors and bankers expect China will continue to benefit from low global interest rates, and the huge amounts of funds sloshing around the world's financial system...

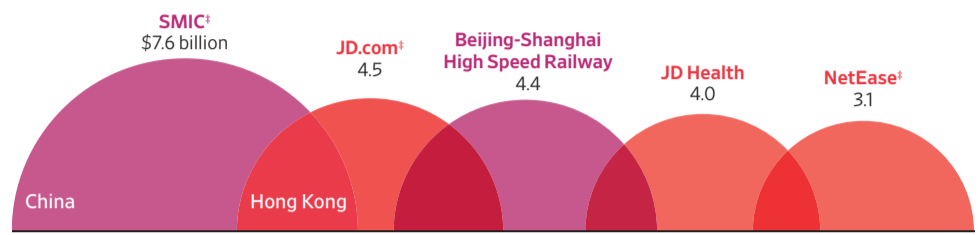
Magnus Andersson, regional co-head of equity capital markets at Morgan Stanley, said international investors are 'starved for growth' and so are keen on buying into good Chinese companies...

Likely initial public offerings in the near future include video-clip and live-streaming group Kuaishou Technology, and carpool and ride-hailing firm Dida Inc.

Other potential candidates include JD Logistics, a unit of



Largest Chinese listings of 2020



*2020 figure as of Dec. 30. Data is for global issuance and includes initial public offerings, secondary listings, follow-on stock sales and convertible bond deals.



e-commerce firm JD.com Inc., and Douyin, the Chinese sister to TikTok, which is owned by ByteDance Ltd., according to bankers and to media reports.

Aaron Arth, head of the financing group in Asia at Goldman Sachs, said Chinese technology, health-care and consumer companies would remain some of the region's most important issuers of equity.

In the year to Dec. 30, Chinese companies have sold more than \$279 billion of stock, up 72% compared with 2019, according to Dealogic.

As in 2020, secondary listings of companies whose shares trade on other exchanges are likely to be big business in 2021. This could include more U.S.-listed firms making a debut in Hong Kong...

Some companies will continue to seek out U.S. IPOs—even though the threat of potential forced delistings looms over Chinese stocks in America.

Aside from new listings, more foreign money is ready to pour into Shanghai- and Shenzhen-listed stocks, but the heady price gains seen recently are unlikely to be repeated.

The CSI 300 Index ended the year at 5211.29. Goldman Sachs analysts recently forecast it will reach 5600 by the end of 2021, up an additional 7.5%.

International investment in China's onshore stock and bond markets hit records in 2020, buoyed in part by index inclusions in recent years.

Among those who are bullish on China is Zurich-based Norman Villamin, chief invest-

ment officer for wealth management at Swiss bank Union Bancaire Privée. The bank handles about 20 billion Swiss francs, the equivalent of \$22.47 billion, in so-called discretionary portfolios that it manages on behalf of clients.

Mr. Villamin said China had moved quickly from recovering from the pandemic to 'outright expansion,' and his firm had built up Chinese holdings in the past six months.

Kevin Anderson, head of investments for Asia Pacific at State Street Global Advisors, said many Chinese companies merited attention from global investors, regardless of political tensions with the U.S.

He cited sectors such as online education, e-commerce and other technology-centered businesses, as well as trends such as China's growing middle class, and its increased spending on cutting-edge technological research.

-Xie Yu contributed to this article.

Lessons From a Crazy Year

Continued from page R1

Markets don't perfectly reflect the economy

When stocks bottomed March 23 and began to race higher, many observers were perplexed. Coronavirus cases were surging. Restaurants, stores and theaters went dark and millions of Americans queued up outside of career centers to apply for unemployment benefits.

The answer: The stock market often begins to recover far sooner than the economy. In the case of the financial crisis, U.S. stocks hit their nadir March 9, 2009. But it took seven years from that point for the unemployment rate to fall below precrisis levels.

Similarly, while stocks managed to charge higher in 2020, many economists don't expect the U.S. to recover all the jobs lost during the pandemic until 2023 or later.

'A lot of people said the market is disconnected to reality, but stocks are pricing in what's going to happen in six months to a year,' not what the economy looks like today, said Andrew Slimmon, managing director and portfolio manager at Morgan Stanley Investment Management. In the pandemic, investors who began betting on a stock recovery in the spring weren't assuming the economy was about to come roaring back—they were assuming things would be better some months down the line than they were at the time. And they were right.

'It's not until you have this

huge rally that suddenly people realize, 'Oh, the stock market isn't wrong, I've been wrong.'

It pays not to try to time the markets

With both the pandemic and the financial crisis, those who sold on bad news and waited for the economy to recover to get back into the market would have missed out on the bulk of stocks' upside.

The returns of a hypothetical investor who put \$10,000 into an S&P 500 index fund at the start of 1980 and missed the market's five best days through the end of August 2020 would be 38 percentage points lower than those of someone who stayed invested the whole period, according to a Fidelity Investments Inc. analysis.

'What the long-term investor needs to think about is over the next year or next two years, is the economy going to grow? Are corporate earnings going to grow? We think the answer to those points is yes, and because of that, we think the market has a pretty good foundation,' said Kelly Bogdanova, vice president for RBC Wealth Management's portfolio advisory group.

Forecasts are just forecasts

This time last year, Wall Street's top strategists identified the biggest risk to the markets as deteriorating trade relations between the U.S. and China. Trade all but fell off the radar for many money managers in 2020, quickly replaced by concerns about the coronavirus pandemic and the ensuing economic shutdown.

They also widely predicted modest gains for the S&P 500. But by March, analysts at BMO Capital Markets and Oppenheimer Asset Management said

they would suspend their year-end targets because of how difficult predicting the market's path had become. Others slashed their targets after the spring selloff, only to bump them up again after the summer rally. Goldman Sachs Group Inc. cut its year-end target to 3000 in March, then raised it to 3600 in August and to 3700 in November. The index closed the year at 3756.07.

Then of course, the elections brought their own missed predictions, most notably that the Democrats would take control of Congress in a 'blue wave.'

If anything, myriad examples of calls gone wrong show there is plenty of humility to be learned from markets, which regularly prove the smartest investors and strategists wrong.

'You always think about things trending through the

396%

The amount Zoom's stock rose during the year

influence of typical variables like macroeconomic policy, fiscal policy, global growth...but what tends to happen with big moves is unseen shocks,' Aberdeen's Mr. Bassett said.

The tech trade is only getting bigger

Investors predicting value would finally unseat growth were proved wrong yet again. In 2020, electric-car maker Tesla Inc. became the most valuable auto maker in the world and Airbnb made its debut on the public market with a valuation greater than that of Marriott International Inc., Hilton Worldwide Holdings Inc. and Hyatt Hotels Corp. combined. It also was the year when many technology companies disproportionately

benefited from a pandemic that has forced individuals to spend more time at home and online. Zoom Video Communications Inc. rose 396% during the year, roughly 24 times the S&P 500's gain. Online retailer Etsy Inc. added 302% while PayPal Holdings Inc. climbed 117%.

Appetite for newly listed technology stocks has been even more striking—so much so that a few companies, including Roblox Corp., decided to delay their planned IPOs to try to better understand how to price their shares.

It is the type of scenario that can make investors feel like the most reliable stock market play is simply betting on the fastest-growing technology stocks.

To be sure, an investor fixated on growth might have missed out on a number of cheaper, more 'old-school' stocks that benefited from the pandemic, such as Clorox Co. or Domino's Pizza Inc. Money managers who are overwhelmingly concentrated in growth stocks also have had the disadvantage of being hit particularly hard during recent market reversals, like in November when Pfizer Inc. released promising news about its Covid-19 vaccine. Stocks including Zoom and Peloton Interactive had one of their worst days of the year Nov. 9, logging double-digit percentage declines, although they quickly made up ground in the weeks that followed.

But none of that necessarily means 2021 will be the year that growth stocks take a back seat to value. Society as a whole was becoming more technology-oriented, even before the pandemic, Mr. Bassett said. The end of the coronavirus pandemic won't be a panacea to companies in already struggling sectors such as oil or bricks-and-mortar retail.

'I don't recommend buying companies that were tarnished goods before Covid,' Mr. Slimmon said.

JOURNAL REPORTS | YEAR-END REVIEW & OUTLOOK OF MARKETS & FINANCE

Bitcoin Looks to Gain Traction in Payments

PayPal's decision to let customers buy and sell could be a step toward mainstream

By **PAUL VIGNA**

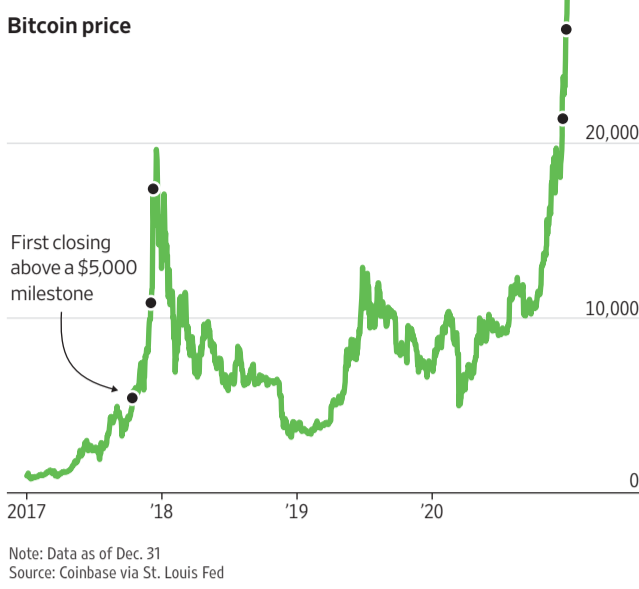
Vegas Auto Gallery, a luxury auto dealership in Las Vegas, has become a playground for wealthy bitcoin investors who want to cash in. The dealership recently sold two high-end sports cars—a 2017 Pagani Huayra Roadster and a 2019 Bugatti Chiron—to a customer who paid more than \$6 million in bitcoin, according to owner Nick Dossa, who says about 3% to 5% of the dealership's revenue comes from bitcoin transactions. Bitcoin prices more than tripled in 2020 and ended the year near \$29,000, making millionaires out of hordes of investors who piled in to ride the popular momentum trade. Professional investors such as Stanley Druckenmiller and companies like Massachusetts Mutual Life Insurance Co. began investing. Companies like Robinhood Markets Inc. and **PayPal Holdings Inc.** allowed their customers to buy and sell bitcoin. Despite those inroads, in-

dusty watchers say bitcoin must gain traction as a form of payment to become more ubiquitous. Spending it isn't easy. Few merchants accept it, and many people are still unfamiliar with the cryptocurrency. Its use is generally limited to high-end purchases, like those at Mr. Dossa's dealership.

Bitcoin, introduced in 2008, was designed to operate as a form of electronic cash, allowing users to exchange value as quickly and cheaply as sending an email. In practice, its adoption was hampered by several factors. In early years, it was difficult for average users to operate the digital wallets that stored their holdings. Many of the companies that tried accepting bitcoin in 2014 and 2015, including Expedia Group Inc. and Dell Inc., later quietly dropped it.

Bitcoin bulls say the tide could begin to turn soon. Two months ago, PayPal opened its platform up to bitcoin, allowing its 361 million users worldwide to buy or sell the asset. In early 2021, it will expand the options, allowing users to tap their bitcoin balances for payments to any of the 28 million merchants that use PayPal. That venture has the poten-

Bitcoin tripled in price last year, as a new crop of investors got excited about it.



tial to bring bitcoin into the mainstream. Still, there are several roadblocks on bitcoin's path to widespread use as a form of payment.

The first is bitcoin is notoriously volatile—about a month after peaking above \$19,000 in 2017, it had lost nearly half its value. For some sellers, that could mean charging a premium to customers

who pay in bitcoin to cover the risk of a sharp U-turn in price before they can convert the payment to dollars. In the case of Mr. Dossa's dealership, its fee for bitcoin buyers is 1% of the purchase price, equivalent to the transaction fee of BitPay, a payments-software startup that exchanged bitcoin for U.S. dollars and wired the money to Mr. Dossa.

The dealership doesn't assume any added risk by accepting bitcoin because BitPay converts the bitcoin to dollars before the transaction is completed. Another problem, though, that historically has affected currencies with resource limits, like gold or gold-pegged currencies: hoarding. With a limited supply, rising demand pushes up the price of bitcoin. When that happens, investors tend to tighten their grip rather than spend the currency. For national currencies, this can lead to deflationary spirals. Recent converts to bitcoin, focused on the price, may be reluctant to spend their holdings. For people who bought bitcoin when it was cheap, however, its rise has given their purchasing power a tremendous boost.

For this cohort, there is a logic to spending some of that money, said Société Générale forex strategist Kit Juckes. "If I bought into bitcoin at \$5,000 and today it's at \$23,000, and PayPal let me buy something cool, I might think this is a neat way to diversify," he said. "The pathway has to start from people who made money on the way up." An obstacle specific to U.S.

users is tied to how the Internal Revenue Service classifies bitcoin. In 2014, the agency declared it would treat bitcoin like property, not money—which means users selling bitcoin, no matter the reason, are subject to capital-gain taxes on that transaction. Firms like BitPay have services that help users navigate taxes. Another stumbling block is fees. Right now, bitcoin doesn't work well for small transactions because each transaction on the network includes a fee. The median transaction fee is currently around \$5, according to the website BitInfoCharts, but the average is more than \$9, and it varies wildly, depending on network traffic. (The fee rises when traffic is heavier). In 2020, the average fee was as low as 29 cents and as high as \$13. That makes bitcoin an unattractive option for users who might want to buy something small, say a \$4 cup of coffee at Starbucks. The fee, though, becomes less pressing for larger transactions, and bitcoin has become a network where big transactions are the norm. The average transaction value, according to BitInfocharts, is \$127,000. At that size, a \$9 fee to move money is negligible.

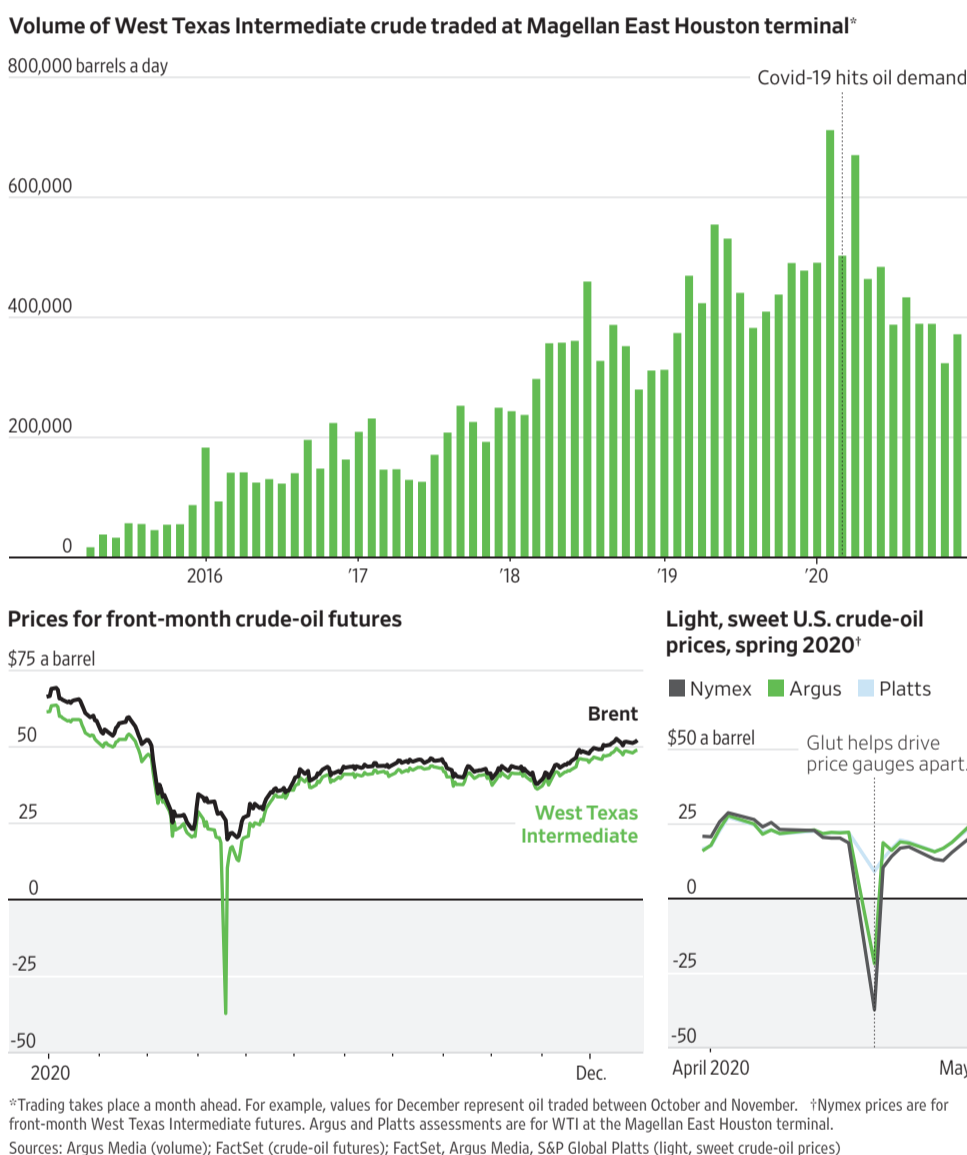
Oil's Turbulent Year Stirs Debate About Benchmarks

By **JOE WALLACE**

A tumultuous year in oil markets left the energy industry reeling and gave fresh impetus to a perennial debate: What is the best gauge of crude prices? The Covid-19 pandemic confined billions of people to their homes and shut or slowed portions of the global economy in 2020, crimping demand for oil. Depots, pipelines and vessels were flooded with crude, threatening to overwhelm the world's ability to store it. The crisis reached its crescendo in April, when the price of light, sweet U.S. crude futures dived below \$0 a barrel for the first time. Some traders were paying others to take oil off their hands. "What we saw was the single largest demand event in history," said Peter Keavey, managing director for energy products at CME Group, owner of the New York Mercantile Exchange, where U.S. crude futures trade. Prices have since somewhat recovered. But those jarring moves of the spring added urgency to arguments about whether benchmarks used since the 1980s adequately reflect the modern oil market. Newer gauges, including Shanghai-traded futures and a contract for Abu Dhabi's Murban crude that will make its debut in March, are expected to grow in popularity. A lot is riding on the choice of benchmark for oil producers, traders, refiners, and investors. Individual investors who were betting on a rebound in prices were burned when U.S. crude

futures tumbled below zero. The crash rippled through the physical market, where, for example, Saudi Arabia sets prices for exports to the U.S. using an assessment tied to futures prices. The emergence of the U.S. as an oil-exporting superpower in recent years, combined with a rapid growth in Asian demand and sliding production in Europe, have transformed flows of crude around the world. The pricing system based on three benchmark crudes—West Texas Intermediate in the U.S., Brent in Europe and Dubai in the Middle East—has broadly stayed the same. Crude oil comes in dozens of varieties that differ by density and sulfur content. WTI, Brent and Dubai act as reference points against which other grades are priced. They also are the basis for financial contracts that allow players in the oil market to hedge against and speculate on price swings. Benchmark prices are determined either on futures exchanges or by price-reporting agencies such as S&P Global Platts and Argus Media. Gaps between prices for WTI, Brent and Dubai send signals to traders about demand in different regions, or for crude with certain characteristics, encouraging oil to flow where it is needed. "2020 was a year when benchmarks and methodologies have been tested," said Vera Blei, head of oil and liquefied-natural gas markets at Platts. "A perfect storm hit." WTI endured the sternest test. The problem stemmed

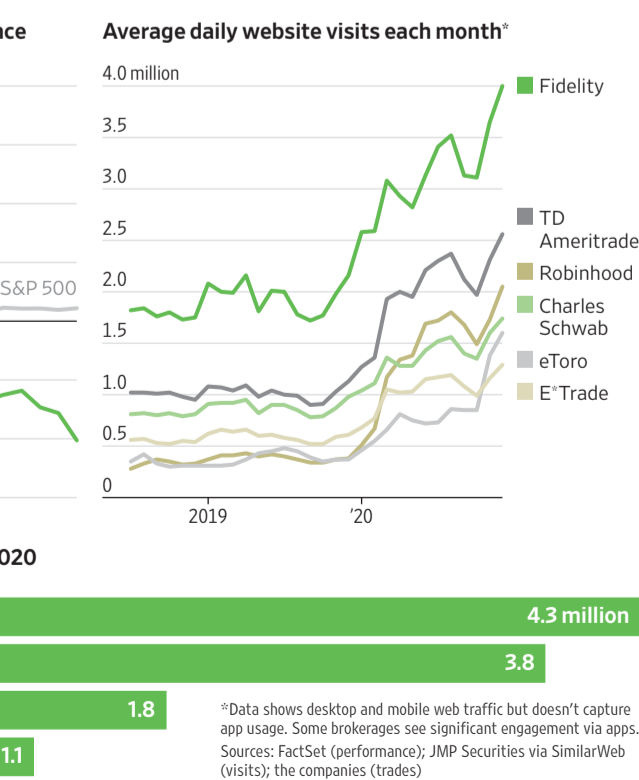
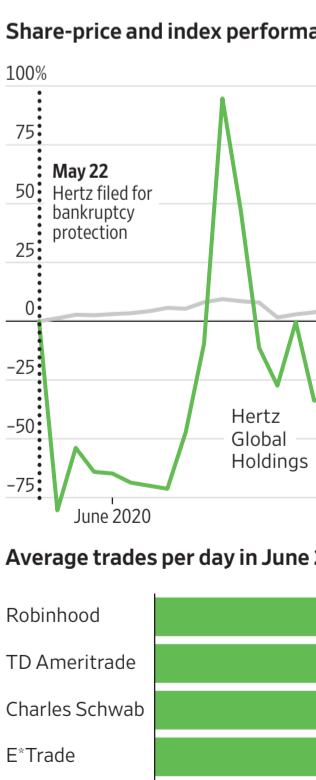
from Cushing, Okla., the main commercial storage location for U.S. oil. Anyone holding CME's futures contracts when they expire has to take hold of oil at the hub. That means the price of the contracts typically converges with oil prices at Cushing in the run-up to their last day of trading. As the May contracts came close to expiration, rapidly filling storage space in Cushing left traders reluctant or unable to accept delivery of the oil. That sent some WTI futures prices careening on April 20. By the end of the day, futures settled at minus \$37.63 a barrel, a precipitous decline whose causes are still disputed. It was a seminal moment in the market's history. For some, it also showed that the influence of local conditions at Cushing makes WTI an unsuitable benchmark. "We need to open up the benchmarks to be more reflective of global oil prices," said Greg Newman, chief executive of U.K.-based Onyx Capital Group, which specializes in oil swaps. "How can it be accurate if you're focusing on one tiny localized area?" Even before coronavirus, there was growing interest in assessing the price of crude at the Gulf Coast, home to other U.S. trading hubs. That is because there has been a boom in U.S. oil exports since a four-decade embargo on its shipments ended in late 2015. In September, the U.S. sent overseas more than 3 million barrels of crude daily, according to the Energy Information Administration, eight times more



¹Trading takes place a month ahead. For example, values for December represent oil traded between October and November. ²Nymex prices are for front-month West Texas Intermediate futures. Argus and Platts assessments are for WTI at the Magellan East Houston terminal. Sources: Argus Media (volume); FactSet (crude-oil futures); FactSet, Argus Media, S&P Global Platts (light, sweet crude-oil prices)

New Retail Investors Flex Muscle

Continued from page R1
likely make their biggest impact in driving share prices of smaller or less-popular companies, though they remain robust buyers of the same megacap technology companies and other stocks that institutional investors own. Webull Financial LLC said Tesla and **Apple Inc.** were the most popular stocks on its trading platform in 2020. TD Ameritrade pointed to **Amazon.com Inc.** and **PayPal Holdings Inc.** as among the most heavily purchased companies during November. Retail platforms—Robinhood, in particular—have become the subject of increasing scrutiny. In December, Massachusetts regulators filed a complaint against the company, saying it failed to protect users' assets and encouraged inexperienced customers to make risky trades.



Robinhood, which disputes the allegations, says it has added safeguards for options trading, which is generally considered to be a more complicated—and at

times riskier—strategy. It also maintains that only 13% of users who traded in any given month in 2020 made an options bet. "We see evidence that many

than it did the month the embargo ended. For traders looking to sell oil unleashed by the fracking boom to the rest of the world, prices at ports such as Corpus Christi, Texas, can be more relevant than those at Cushing's inland web of terminals and pipelines. WTI futures show no sign of being displaced as the primary gauge of U.S. crude

prices, said CME's Mr. Keavey. "Crude-oil infrastructure in the U.S. still revolves around Cushing," he said. Brent is wrestling with challenges of its own. Dated Brent, a gauge of prices for physical oil in northwestern Europe assessed daily by Platts, is used to price the majority of traded barrels of oil globally.

The trouble is that Brent, a grade of crude produced midway between Scotland and Norway, is running out, as are other kinds of crude in the North Sea. That has made Europe increasingly dependent on crude from the U.S., and prompted Platts in December to propose adding WTI Midland, produced in Texas, to its Brent calculations in 2022.

platform had reached more than 13 million. Analysts believe that number is now higher. The app popularized free trading, thanks, in part, to its mobile-first, easy-to-use platform and the promise of free stocks when signing up or referring friends to join.

Despite the attention on the riskier trades that investors executed, studies have found individual investors performed well in 2020. A June note from **Goldman Sachs Group Inc.** analysts found that a basket of the stocks most popular among individual investors had outperformed hedge-fund and mutual-fund favorites—as well as the broader market—since the March lows, due to individual traders' quicker embrace of value stocks. Other analyses from researchers similarly found that individual investors didn't significantly panic when markets tumbled in 2020, which rewarded them when stocks began rising.

Although a debate about the risks and rewards that online brokerages enable is likely to continue, few analysts or financial advisers argue that enticing people to begin investing

earlier is a bad thing. Studies have repeatedly shown that investing early can lead to bigger gains later in life. The recent introduction by online brokerages of tools such as fractional investing—or the ability to buy just a portion of a share—has made trading big-name companies more accessible, too.

The past year "created a new generation of investors that are seeking more," Mr. Ryan of JMP Securities said. "They want tools, they want education, they want to do more." Mr. Ryan noted that significant growth opportunities for brokerages are possible, especially if they continue to expand their product offerings. The ability to capture investors' wallets while they are young, and then work to become the main financial relationship in their lives via trading, banking, wealth management and other services offers some firms significant potential, he said.

"If you think about the customer today, I think there's a lot of attention on their small accounts," he said. "But these are small accounts today that in 20 years could be very large accounts."

JOURNAL REPORTS | YEAR-END REVIEW & OUTLOOK: MARKETS DIGEST

Top 10 Rankings

Global Mergers & Acquisitions

Table with 4 columns: Adviser, Value (\$billions), No. of Deals, Market Share%. Lists top 10 advisers for M&A deals in 2020.

Global Equity Capital Markets

Table with 4 columns: Bookrunner, Value (\$billions), No. of Deals, Market Share%. Lists top 10 bookrunners for equity capital markets in 2020.

Global Debt Capital Markets

Table with 4 columns: Bookrunner, Value (\$billions), No. of Deals, Market Share%. Lists top 10 bookrunners for debt capital markets in 2020.

Global Syndicated Loans

Table with 4 columns: Bookrunner, Value (\$billions), No. of Deals, Market Share%. Lists top 10 bookrunners for syndicated loans in 2020.

U.S. Mergers & Acquisitions

Table with 4 columns: Adviser, Value (\$billions), No. of Deals, Market Share%. Lists top 10 advisers for U.S. M&A deals in 2020.

U.S. Initial Public Offerings

Table with 4 columns: Bookrunner, Value (\$millions), No. of Deals, Market Share%. Lists top 10 bookrunners for IPOs in 2020.

U.S. Investment-Grade Bonds

Table with 4 columns: Bookrunner, Value (\$billions), No. of Deals, Market Share%. Lists top 10 bookrunners for investment-grade bonds in 2020.

U.S. High-Yield Bonds

Table with 4 columns: Bookrunner, Value (\$billions), No. of Deals, Market Share%. Lists top 10 bookrunners for high-yield bonds in 2020.

U.S. Core Leveraged Finance

Table with 4 columns: Bank, Revenue 2020 (\$millions), Revenue 2019 (\$millions), Mkt. Shr. (%). Lists top 10 banks for core leveraged finance in 2020.

Global Investment Banking

Table with 4 columns: Bank, Revenue 2020 (\$millions), Revenue 2019 (\$millions), Mkt. Shr. (%). Lists top 10 banks for global investment banking in 2020.

Dealogic Revenue analytics are employed where fees aren't disclosed. Source: Dealogic

Who's No. 1?

Top banks in Dealogic rankings across M&A, equity capital markets (ECM), debt capital markets (DCM) and loans, in 2020

Table with 3 columns: Product and Deal Type, No.1-Ranked Bank, Full Year 2020 Chg in share market from Full Year 2019 (share %). Lists top banks for various deal types.

Investment Banking

Table with 4 columns: Revenue Category, Bank, Revenue 2020 (\$millions), Revenue 2019 (\$millions). Lists top banks by revenue category.

Equity Capital Markets

Table with 4 columns: Market Segment, Bank, Revenue 2020 (\$millions), Revenue 2019 (\$millions). Lists top banks by market segment.

Dealogic Revenue analytics are employed where fees are not disclosed. Source: Dealogic

Market Boxscores

How the major indexes performed

Table with 4 columns: Index, Fourth-quarter performance, Close 12/31/20, % chg from 12/31/19. Lists performance of major market indexes.

Sources: Dow Jones Market Data; S&P Dow Jones Indices

How the 30 Dow Jones Industrials Performed

Percentage change in the fourth-quarter and year-to-date

Table with 6 columns: Company, 4th-qr close, Percent Chg 4th-qr, Percent Chg YTD, xxx-qr close, Percent Chg xxx-qr. Lists performance of 30 Dow Jones industrial companies.

Source: Dow Jones Market Data

Biggest Percentage Gainers...

Table with 7 columns: Company, Symbol, Close, Net chg, % chg, Low, Close (52-Week), High. Lists top percentage gainers in 2020.

Biggest Percentage Losers

Table with 7 columns: Company, Symbol, Close, Net chg, % chg, Low, Close (52-Week), High. Lists top percentage losers in 2020.

Most Active Stocks

Most heavily traded issues in 2020; composite volume, in millions

Table with 7 columns: Company, Symbol, Volume, Close, Net chg, % chg, High, Low (52-Week). Lists most active stocks in 2020.

Gainers and losers include common issues of \$2 or more listed on NYSE, Nasdaq, NYSE MKT or NYSE Arca at the beginning of the quarter.

IPO Scorecard

Best-performing U.S.-listed IPOs in 2020 ranked by % change in price from offer to last trade in the quarter

Table with 7 columns: Issuer, Exchange, Offer price, % Chg from offer, Pricing Date, IPO Value (\$ millions). Lists best-performing IPOs in 2020.

Worst-performing U.S.-listed IPOs in 2020 ranked by % change in price from offer to last trade in the quarter

Table with 7 columns: Issuer, Exchange, Offer price, % Chg from offer, Pricing Date, IPO Value (\$ millions). Lists worst-performing IPOs in 2020.

Source: Dealogic

Country-by-Country Derby

2020 stock-market performance, based on the S&P Global BMI (Broad Market Index) in U.S.-dollar and local-currency terms ranked by U.S.-dollar performance

Table with 6 columns: Country, U.S. dollar, Local currency, Country, U.S. dollar, Local currency. Lists 2020 stock-market performance by country.

Source: S&P Dow Jones Indices

Top 20 Global M&A Deals in 2020

Ranked by deal value excluding net debt of the target company.

Table with 5 columns: Acquirer, Target, Date Announced, Value (\$billions). Lists top 20 global M&A deals in 2020.

Top 20 Global IPOs Priced in 2020

Ranked by proceeds raised, including over-allotment

Table with 6 columns: Issuer, Exchange, Currency, Offer Price, Pricing Date, Value (\$ millions). Lists top 20 global IPOs priced in 2020.

Top 20 Global Bonds Priced in 2020

Ranked by face value, in U.S. dollars

Table with 6 columns: Issuer, Deal Type, Issuer Nation, Currency, Pricing Date, Value (\$ millions). Lists top 20 global bonds priced in 2020.

Source: Dealogic

Industry Groups

Best and worst-performing U.S. industry groups in 2020 based on the DJ U.S. Total Stock Market Index family

Table with 4 columns: Industry group, % chg from prev qtr, Industry group, % chg from prev qtr. Lists best and worst performing industry groups in 2020.

Source: S&PDow Jones Indices

JOURNAL REPORTS NEW YORK STOCK EXCHANGE 2020 TRADING SUMMARY

Stock listings show the year-end price-to-earnings ratio, 2020 high, 2020 low, and last trade as well as the net and percentage change from the previous year. Quotations include primary market trades as well as trades reported by Nasdaq OMX BX (formerly Boston), Chicago Stock Exchange, Cboe, CME, Euronext, Nasdaq ISE, NYSE National and PSX.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like AAR, ABB, ABBIndustries, ACCO Brands, ADC Therap, etc.

Dow Jones Industrial Average



Jan. Feb. March April May June July Aug. Sept. Oct. Nov. Dec.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like Avantor, Avera, Avery Dennison, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like B&G Foods, BCE, BEST, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like B&G Foods, BCE, BEST, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like B&G Foods, BCE, BEST, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like CONSOL Energy, CRH, CTS, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like Constellation, Containers, Continental, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like DCP Midstream, DB Holdings, DBA, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like eifBeauty, EMCOR, EMG, etc.

NYSE Markets Diary

Table with columns: Advances, Declines, Unchanged, Total Issues. Shows market activity for 2020, 2019, and 2018.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like EnableMidstream, Enbridge, EncompassHealth, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like ErosTX, EssentGroup, EssentialProp, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like FastAcqN, FSTU, FST, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like FedAgriMtgA, FedAgriMtgC, Federal Realty, etc.

Stock

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks like GAMCO Investors, GATX, GAT, etc.

Explanatory Notes

Figures are unofficial. Adjusted for stock split in the high-low range has been adjusted, and the adjustment is effective with the date of the split. Net change is from previous years adjusted close. cc-P/E ratio of 100more; dd-Indicates loss in the most recent four quarters

JOURNAL REPORTS NEW YORK STOCK EXCHANGE 2020 TRADING SUMMARY

Continued From Page R5

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including GlobalBlueWt, GlobalMedREIT, GlobalMedREIT, GlobalMedREIT, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including HCA Healthcare, HCL Group, HCL Group, HCL Group, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including IAA, IAA, IAA, IAA, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including J Alexander's, J Alexander's, J Alexander's, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including KAB Auction, KAB Auction, KAB Auction, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including LAIX, LAIX, LAIX, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including M&T Bank, M&T Bank, M&T Bank, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including J Alexander's, J Alexander's, J Alexander's, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including MyovantSciences, MyovantSciences, MyovantSciences, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including NACCOInds, NACCOInds, NACCOInds, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including OGE Energy, OGE Energy, OGE Energy, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including PBF Energy, PBF Energy, PBF Energy, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including PiedmontOffice, PiedmontOffice, PiedmontOffice, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including RELX, RELX, RELX, etc.

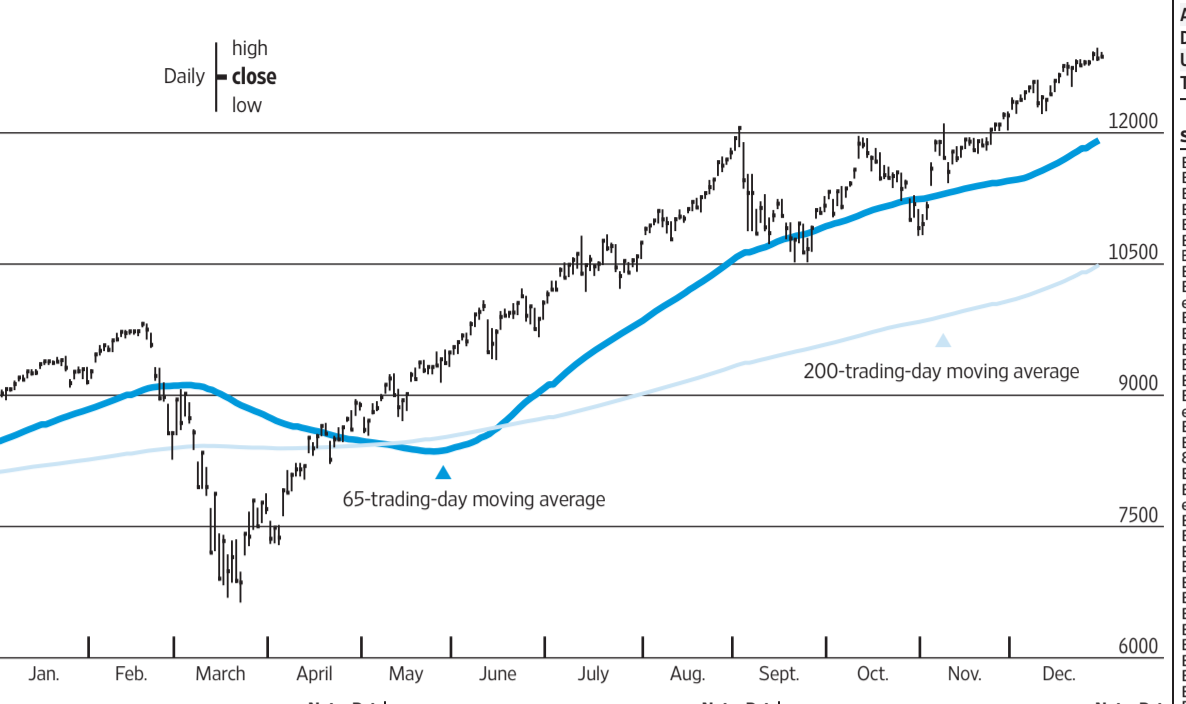
Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including RenRen, RenRen, RenRen, etc.

Table with 10 columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Lists various stocks including SAP Global, SAP Global, SAP Global, etc.

JOURNAL REPORTS NASDAQ 2020 TRADING SUMMARY

Stock listings show the year-end price-to-earnings ratio, 2020 high, 2020 low, and last trade as well as the net and percentage change from the previous year. Quotations include primary market trades as well as trades reported by Nasdaq OMX BX (formerly Boston), Chicago Stock Exchange, Cboe, EMEA, EdgeX, Nasdaq ISE, NYSE National and PSX.

Nasdaq Composite Index



Nasdaq Markets Diary

Table with 3 columns: 2020, 2019, 2018. Rows: Advances (2457, 2497, 1118), Declines (1466, 1029, 2265), Unchanged (4, 4, 6), Total Issues (3927, 3530, 3389)

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like AON, AcadiaPharm, ACI Worldwide, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like ArrowFinancial, ArrowheadPharm, ArtesianRscs, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like BurgerKing, BurningRockBio, BusFirstBsChs, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like CogenBio, CogentCom, CogentCom, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like EXFO, EagleBncpMT, EagleBulkShip, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like ABBQ Holdings, BCB Bancorp, BELLUS Health, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like BBQ Holdings, BCB Bancorp, BELLUS Health, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like BDB Tech, DBV Tech, DIRT Env, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like DBV Tech, DIRT Env, DIRT Env, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like FARO Tech, F5 Networks, F5 Networks, etc.

JOURNAL REPORTS NEW YORK STOCK EXCHANGE 2020 TRADING SUMMARY

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like 2Twater, TwoHarbors, TylerTech, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like UnitedHealth, Univac, Univar, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like Veoneer, Veritiv, Verizon, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like Wabtec, Waddell&Reid, Walker&Dunlop, etc.

Table with columns: Stock, Sym PE Hi Lo Last Net Chg Pct Chg. Lists various stocks like Williams-Sonoma, Wincen, Winn-Dixie, etc.

Continued From Page R6

Continued on Page R6

JOURNAL REPORTS NASDAQ 2020 TRADING SUMMARY

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for GDS Holdings, GAT Therapeutics, GRVITY, GSI Tech, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for JaksPacific, JJSnackFoods, JY, JY, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for KLA, KLX Energy, KVHinds, KVMN, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for Lgi Homes, LHC Group, LKQ, LPL Financial, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for Mcom Tech, MDC Partners, MEGE Energy, MGP Ingredients, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for IAC/InterActive, IBEX, ICFI, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for Mcom Tech, MDC Partners, MEGE Energy, MGP Ingredients, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for Mcom Tech, MDC Partners, MEGE Energy, MGP Ingredients, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for Mcom Tech, MDC Partners, MEGE Energy, MGP Ingredients, etc.

Table with columns: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. Includes rows for Mcom Tech, MDC Partners, MEGE Energy, MGP Ingredients, etc.

JOURNAL REPORTS EXCHANGE-TRADED PORTFOLIOS 2020 TRADING SUMMARY

Main table containing 10 columns of stock data: Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg. It lists various exchange-traded portfolios and their performance metrics for 2020.

Continued on Page R10

JOURNAL REPORTS NASDAQ PORTFOLIOS 2020 TRADING SUMMARY

Main table containing 10 columns of stock data: Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, PE, Hi, Lo, Last, Net Chg, Pct Chg. It lists various NASDAQ-listed portfolios and their performance metrics for 2020.

Continued on Page R10

STOCK MARKET REPORTS EXCHANGE TRADING SUMMARY

Main table containing stock market reports with columns for Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg, and various market data points.

JOURNAL REPORTS PREFERRED STOCKS 2020 TRADING SUMMARY

Main table containing 12 columns of stock data: Stock, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Hi, Lo, Last, Net Chg, Pct Chg. Includes sections A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.

JOURNAL REPORTS EXCHANGE-TRADED PORTFOLIOS 2020 TRADING SUMMARY

Table with 12 columns of exchange-traded portfolio data: Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg, Stock, Sym, Hi, Lo, Last, Net Chg, Pct Chg.

JOURNAL REPORTS | YEAR-END REVIEW & OUTLOOK OF MARKETS & FINANCE

HEARD ON THE STREET

FINANCIAL ANALYSIS & COMMENTARY

China's Capitalism Bumps Into Its Tech Goals

Power of country's state-owned enterprises to siphon off resources and box out competitors still looks like a potential Achilles' heel

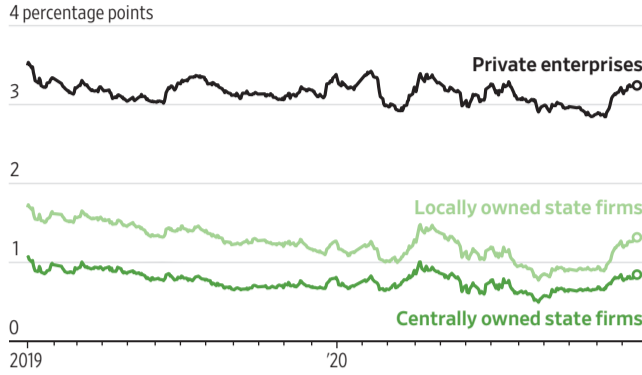
Can China's hybrid state-capitalist economy learn to worship—or at least genuflect a bit deeper—at the altar of efficiency? As relations with wealthier, technologically advanced countries deteriorate, that is probably the most crucial economic question of the 2020s.

There are signs of real progress, much of it ironically driven by foreign pressure and the fear of stagnation as links with more open economies erode. But the enduring power of Chinese state-owned companies and their pull over the financial sector still represent huge vulnerabilities.

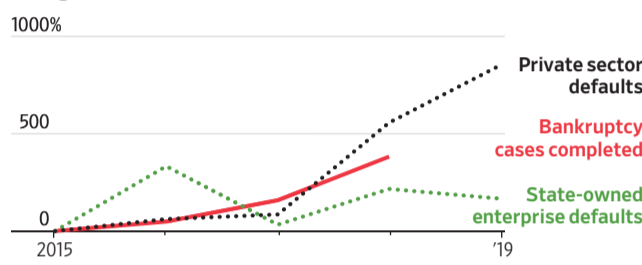
One clear and underappreciated example of progress is in intellectual property. Rhetoric from Washington notwithstanding, a majority of U.S. companies actually say IP protection in China is getting better, albeit from a low base, according to an American Chamber of Commerce survey. Since 2014, China has set up a system of specialized IP courts and litigation has exploded, with more than 481,000 IP cases in 2019, up nearly 50% from 2018.

New bankruptcy courts are also helping dispatch struggling companies more quickly, which could help address China's chronic problem with "zombie" companies and free up scarce resources. The average length of bankruptcy cases in China is high: around 1.6 years on average over the past decade, or 60% longer

Average credit spreads for Chinese industrial sector bonds

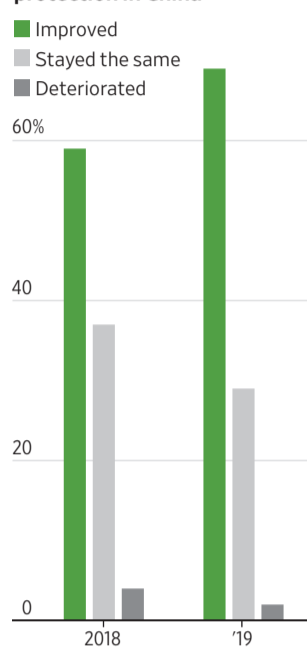


Chinese bankruptcies and onshore bond defaults, change from 2015 levels



*Fall 2019 survey was sent to 771 member companies, of which 372 completed the majority of questions. Sources: Wind (credit spread, defaults), Supreme People's Court of China (bankruptcies); American Chamber of Commerce in China (company views)

U.S. company views on intellectual property protection in China*



than in the U.S., according to a recent National Bureau of Economic Research working paper.

But cases handled by the special courts—now roughly half of total bankruptcies, up from a negligible percentage in 2011—proceed about 35% more quickly than those in regular civil courts. Bankruptcy cases have also skyrocketed in numerical terms, rising from less than 5,000 in 2015 to nearly 19,000 in 2018, according to the Supreme People's Court of China.

The news on bankruptcies

isn't all good, however. The recent surge in bankruptcies cases coincided with action against China's shadow banking system that fell heavily on private companies, which have less access to formal bank loans than their state-owned counterparts.

The enduring problem of parasitic state-owned enterprises remains obvious. Despite a spate of SOE bond defaults in November, the extra yield that private industrial companies pay to borrow compared with SOEs has barely budged, according to

data from Wind. Tough talk from Beijing has so far failed to comprehensively remove the impression that SOE debt is a safer bet.

That is a significant problem for China's technological ambitions. Notably, China's two poster children for technological prowess and global success—Huawei and ByteDance, owner of TikTok—are state-owned enterprises. ByteDance enjoyed early support from U.S. venture capital. Huawei grew up with various forms of state support but ultimately thrived competing head-to-

head in global export markets.

As relations with the U.S. erode, rising Chinese tech companies will probably encounter higher barriers to both foreign financing and foreign markets. If key internal Chinese markets remain unfairly tilted toward companies with good political connections, rather than the best products, China may struggle to birth many new companies truly pushing the technological frontier.

China's would-be semiconductor champions, many of them state-owned, are in fact running into trouble at an escalating rate. Tsinghua Unigroup has now defaulted on multiple bonds. Semiconductor Manufacturing International Corp. is being added to a U.S. government export blacklist, which could hamstring the company's ambitions to develop current-generation chips.

The troubles of these state chip makers are therefore shaping up as an interesting litmus test of how much play China is really willing to give market forces in high technology. If, for example, SMIC starts losing customers or quality suffers as a result of escalating U.S. restrictions, will Beijing pressure companies like Huawei to keep buying from them anyway? Will state banks stand behind them?

If so, that will mean fewer resources available for companies that might have a better chance of really

pushing the technological frontier—either in chip making or something else. SMIC already raised billions in new equity funding in 2020 and enjoys incredibly low bond finance costs: an SMIC bond maturing in 2022 currently yields just a little higher than a one-year central government bond, according to Wind data.

Beijing is essentially now engaged in a massive, long-shot attempt to build from the ground up an advanced semiconductor manufacturing capability that doesn't depend on foreign suppliers—churning through gargantuan amounts of the Chinese people's money in the process. Rather than trying to reinvent the wheel, a better economic strategy would be to mend its relations with the West and reform China's dysfunctional credit system—then import chips and let Chinese markets and Chinese companies decide what China is really good at.

Sadly, that seems unlikely, given the current leadership's ideological bent. If Beijing persists in a mercantile, actively hostile approach to core Western values and interests, the U.S. has options to respond. One strategy might be to do what it can to stay ahead at home by bolstering public investment in areas like research and education, while simultaneously taking targeted steps with allies to make Beijing's moonshot as costly and wasteful as possible.

—Nathaniel Taplin



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