DJIA 24133.78 **A** 358.51 1.5%

NASDAQ 8730.16 ▲ 1.1%

STOXX 600 335.44 ▲ 1.8%

10-YR. TREAS. ▼ 20/32, yield 0.655%

OIL \$12.78 **▼** \$4.16

GOLD \$1,711.90 ▼ \$11.60

YEN 107.25 **EURO** \$1.0830

What's News

Business & Finance

The U.S. government reopened the pipeline for small-business loans and grants, triggering a chorus of fresh complaints about delays and glitches. A1

- **♦ Detroit's car makers** are targeting May 18 to resume some production at their U.S. factories after shutting down plants in March amid the spread of the coronavirus. A1
- ◆ The economic earthquake unleashed by the pandemic is likely to trigger a wave of corporate distress and bankruptcy unseen in years. B1
- **◆** Apple is pushing back the production ramp-up of its flagship iPhones coming later this year by about a month due to fallout from the pandemic. B1
- ♦ Air traffic may not bounce back for two or three years, Boeing's CEO said. outlining the tough out-
- look for global aviation. **B1 ◆ GE's turnaround efforts** have stalled and the firm's outlook is clouded after betting much of its future on the aviation industry. **B2**
- **♦ U.S. crude futures** for delivery in June slid 25% to \$12.78 a barrel, drop-
- ping near a 21-year low. B11 ◆ **Stocks rose**, with the Dow and S&P 500 both advancing 1.5% and the Nasdaq gaining 1.1%. **B11**
- **♦** The U.S. pork industry and regulators are discussing the prospect of euthanizing thousands of pigs, after coronavirus outbreaks closed major processing plants. B1
- ◆ China's top business and commerce regulator is investigating Luckin Coffee. **B5**

World-Wide

- **◆ Texas, Ohio and** other states took steps to ease lockdown orders and reopen their battered economies, as reported U.S. coronavirus cases neared one million. A4
- ◆ The Trump administration is prepared to send all 50 states enough tests to screen at least 2% of residents for the coronavirus.
- a senior official said. A4 **♦ The president said** he was skeptical of providing funding for states in the next round of coronavirus relief. A4
- **♦** A dozen of America's top scientists and a collection of billionaires and industry titans have teamed up to mount a Manhattan Project for Covid-19. A1
- **◆** The Supreme Court ruled that the government is obliged to pay billions to health insurers that sold consumer policies on exchanges created by the ACA. A2
- **♦** The administration is tightening export-control curbs to prevent U.S. companies from sending products abroad that could bol-
- ster China's military. A3 ◆ China adopted tough new cybersecurity rules for buyers of technology gear, which could place foreign tech products at a disadvantage in the Chinese market. **B4**
- ♦ North Korea's Kim remained absent amid continuing speculation that he may be incapacitated or dead. Seoul officials reasserted that they believe he is alive. A16
- ♦ Harvard University said it is leaving the door open for a fall semester without students on campus. A3

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Heard on Street. B12	Weather A11
Life & Arts A10-11	World News A16



Vending Machines Get a New Line of Business in Berlin



IN SERVICE: Face masks were for sale in a subway station vending machine, with the sign 'Masks Here,' in Berlin on Monday. Because of the coronavirus pandemic, all public-transport passengers in the city must wear facial protection.

U.S. Car Makers Pencil In May 18 As Manufacturing Restart Date

By MIKE COLIAS AND BEN FOLDY

Detroit's car companies are targeting May 18 to resume some production at their U.S. factories after the companies shut down their plants in March amid the spread of the coronavirus, according to people familiar with the plans.

Executives from General Motors Co., Ford Motor Co. and Fiat Chrysler Automobiles NV in recent days tentatively settled on the timeline after talks with United Auto Workers leaders and Michigan Gov. Gretchen Whitmer's office, the people said. The UAW last week ex-

pressed concern that reopenfactories early next month—as earlier target dates had called for-wouldn't provide enough time to develop safety protocols to protect workers from the risk of infec-

The companies continue to work with the union on drawing up safety protocols for reducing exposure risk for workers and have made progress in recent days, although they haven't completed those terms, the people said. A UAW spokesman declined to comment.

A Ford spokeswoman said the company hasn't decided when it will restart North American factories. "We are continuing to assess public health conditions, government guidelines and supplier readiness to determine when the time is right to resume production," she said.

Last week, Ms. Whitmer ex-Please turn to page A9

THE **CORONAVIRUS** PANDEMIC

States push to expand workers' compensation, A3

Doctors say children less vulnerable to virus, A7 Wary Europe to keep extra ICUs open, A9

U.K. Leader Back at Work



Prime Minister Boris Johnson, who recovered from Covid-19, said a lockdown couldn't yet be lifted. A16

Scientists, Billionaires Mount Manhattan Project for Covid-19

Secret group culls promising research, passes it on to White House

By Rob Copeland

A dozen of America's top scientists and a collection of billionaires and industry titans say they have the answer to the coronavirus pandemic, and they found a backdoor to deliver their plan to the White House.

The eclectic group is led by a 33-year-old physician-turned-venture capitalist, Tom Cahill, who lives far from the public eye in a one-bedroom rental near Boston's Fenway Park. He owns one suit, but he has enough lofty connections to influence government decisions in the war against Covid-19.

These scientists and their backers describe their work as a lockdown-era Manhattan Project, a nod to the World War II group of scientists who helped develop the atomic

bomb. This time around, the scientists are marshaling brains and money to distill unorthodox ideas from around the globe.

They call themselves Scientists to Stop Covid-19, and they include chemical biologists, an immunobiologist, a neurobiologist, a chronobiologist, an oncologist, a gastroenterologist, an epidemiologist and a nuclear scientist. Of the scientists at the center of the project, biologist Michael Rosbash, a 2017 Nobel Prize winner, said, "There's no question that I'm the least qualified."

This group, whose work hasn't been previously reported, has acted as the go-between for pharmaceutical companies looking for a reputable link to Trump administration decision makers. They are working remotely as

Please turn to page A6

Delays, **Glitches** Mar Loan Relaunch

By Yuka Hayashi

WASHINGTON—The U.S. government reopened the pipeline for small-business loans and grants, triggering a fresh chorus of complaints from lenders and borrowers about delays and glitches plaguing the approval process.

Demand overwhelmed the Small Business Administration's electronic loan portal shortly after it opened Monday morning, according to banking-industry groups that said the process was also stymied by lastminute changes in guidance on how to submit applications.

"The SBA's systems were not designed to and are not capable of handling the volume of loans banks processed over the last several weeks for small businesses," said Richard Hunt, chief executive of the Consumer Bankers Association, which represents national and regional banks.

Mr. Hunt said the problems included extended periods when loans couldn't be processed, as well as system instability.

At Resource Bank, an Illinois community lender located Please turn to page A2

Positive Tests Curb Plasma Donations

By Amy Dockser Marcus

Close to four weeks after recovering from a Covid-19 infection. Jennie Novakovic went to her local hospital hoping to donate blood plasma to help severely ill patients.

Instead, she learned she wasn't eligible to donate. She tested positive again for the disease.

"I assumed I was fine," said Ms. Novakovic, who got the Covid-19 swab test in the screening before plasma dona-

tion. "It hit me all over again." Programs are ramping up all over the country to collect convalescent plasma from recovered Covid-19 patients. Re-

searchers are hoping the antibody-rich plasma can help neutralize the coronavirus when transfused into patients who are severely ill.

But some people who want to donate find out they can't because they are still testing Covid-positive. They are symptom-free, have come out of self-quarantine or isolation and more or less resumed Please turn to page A6

Fed Breaks Its Taboos To Prop Up Economy

By NICK TIMIRAOS AND JON HILSENRATH

The Federal Reserve is redefining central banking.

By lending widely to businesses, states and cities in its effort to insulate the U.S. economy from the coronavirus pandemic, it is breaking century-old taboos about who gets money from the central bank in a crisis, on what terms, and what risks it will take about getting that money back.

And with large-scale purchases of U.S. Treasury securities, the Federal Reserve is stretching the boundaries for what a central bank will do to finance soaring federal debtactions that move it deeper into political decisions it usu-

ally tries to avoid. Fed leaders don't like doing any of this. They believe they

have no better alternative. None of us has the luxury of choosing our challenges; fate and history provide them for us," Fed Chairman Jerome Powell said in a speech this month. "Our job is to meet the tests we are presented."

Economists project the central bank's portfolio of bonds, loans and new programs will swell to between \$8 trillion and \$11 trillion from less than \$4 trillion last year. In that range, the portfolio would be twice the size reached after the 2007-09 financial crisis and nearly half the value of U.S. annual economic output.

It would make its role in the economy far greater than during the Great Depression or World War II, according to Wall Street Journal calculations. The portfolio had reached \$6.57 trillion by April

"The Fed is being sent on a mission to places it has never been before," says Adam Tooze, a Columbia University history professor who writes about fi-Please turn to page A8 'Welcome To Your Flight, Nathan'

Decline in travel means flying gets personal

By TE-PING CHEN Maybe everyone was run-

ning late, Juan Grimaldo thought. It was earlier this month at

the Phoenix airport, and Mr. Grimaldo, 22, had just arrived at his gate. He had finished a stint working on a construction site and bought a cheap American Airlines ticket home to El Paso, Texas. He knew the coronavirus pandemic would keep most people at home, but there wasn't another passen-

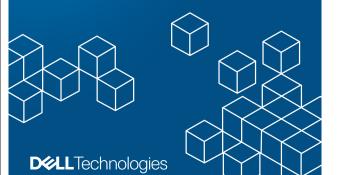
ger in sight. As he approached, the gate attendant greeted him by name. That was odd, he thought. He boarded, be-

Please turn to page A8

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U.S. Must Pay Health Insurers Under the ACA

By Brent Kendall

WASHINGTON—The preme Court ruled that the federal government is obligated to pay billions of dollars to health insurers that sold consumer policies on exchanges created by the Affordable Care Act, the Obama-era health-care overhaul law.

The court, in an 8-1 opinion by Justice Sonia Sotomayor, said Monday that lawmakers had created rare obligations for the government under an early ACA program that sought to mitigate financial risks for insurers and encourage them to sell affordable policies on the exchanges.

Congress couldn't shirk that commitment after the fact in spending legislation, and insurers have a valid basis for bringing legal claims, Justice Sotomayor wrote in a 31-page

"These holdings reflect a principle as old as the nation itself: The government should honor its obligations," she said.

The decision clears insurers to seek roughly \$12 billion under the program. Early on, Obama administration officials believed the now-expired program could remain budgetcompany profits and losses during the first few years of the exchanges, from 2014 to 2016. But those hopes missed the mark, especially after changes in implementing regulations initially altered the pool of consumers seeking insurance coverage.

Fewer healthy people participated in the exchanges than anticipated, leading to larger financial losses than many insurers expected. Funding for the ACA "risk corridors" program was supposed to come at least partially through funds collected from insurers that did well on the exchanges. Those collections, however, were far short of what was needed to reimburse insurers that fared poorly, and the industry argued the government was legally obligated to cover the difference.

After the ACA was enacted, Congress, spurred by critics of the law like Sen. Marco Rubio (R., Fla.), included provisions in broader spending legislation that effectively prohibited the government from making payments under the program.

Justice Sotomayor's opinion for the court said that nothing in the ACA's text required the program to be budget-neutral. The court also said the health neutral by balancing insurance law didn't dictate that pay-

Court Sidesteps Decision on Guns

WASHINGTON-The Supreme Court dismissed a challenge to a New York City gun restriction, finding no dispute to resolve because lawmakers had repealed the rule on taking firearms beyond the five boroughs.

But the court's pause may be short-lived. Three conservative justices dissented from the decision, while a fourth signaled he was ready to expand access to firearms in future cases.

Monday's case involved premises licenses, which allow possession of a handgun at the registered address but generally don't permit the weapon to be carried elsewhere. Individuals with premises licenses could go to target

ments to unprofitable insurers

depended on how much the

government collected from in-

case before the Supreme Court

included Blue Cross and Blue

Shield of North Carolina.

Moda Health Plan Inc. and

Land of Lincoln Mutual Health

surers who fared better. Insurers that brought the ranges under the now-rescinded regulation, but only those within city limits. In 2013, New York's affiliate of the National Rifle Association and gun owners filed suit challenging the regulation, contending it violated Second Amendment rights the Supreme Court expanded in a 2008 decision, District of Columbia v. Heller.

Although a 2010 decision extended the Heller decision beyond the District of Columbia to the 50 states, since then the Supreme Court has turned down subsequent petitions seeking to further extend gun rights. The court's most conservative justices have voiced increasing impatience with the majority's hesitancy. In a 31-page dissent Monday, Justice Samuel Alito made clear his frustration.

"The City fought petitioners tooth and nail in the District

"The federal government

made a clear commitment in

the interest of building stable

markets and making coverage

more affordable for individu-

als and small employers," said

Matt Eyles, president and CEO

of America's Health Insurance

Plans, a trade group repre-

The Alliance of Community

senting insurers.

Court and the Court of Appeals, insisting that its old ordinance served important public safety purposes," Justice Alito wrote, joined in most or whole part by Justices Clarence Thomas and Neil Gorsuch. "But once we granted review, the City essentially attempted to impose a unilateral settlement that deprived petitioners of attorney's fees. And those fees would likely be substantial," he wrote.

The case was far from moot, he argued because of ambiguity over the effect of the new rules and the possibility that the city owed the gun owners damages.

Justice Brett Kavanaugh agreed with the majority that the New York case was moot. But he stressed his agreement with Justice Alito's broader view of gun rights.

-Jess Bravin

Health Plans, which represents nonprofit health plans, said the decision "will help inject much-needed stability in the market, at an especially uncertain time."

Some nonprofit insurance cooperatives folded when they didn't receive the risk-corridor payments they were expecting, including Land of Lincoln.

"Today the court has made it possible to trust in government promises, even if they are broken in the midst of discord and dysfunction," said Mark Rust, a lawyer who had

advised the firm. Wells Fargo said in an analyst note that Humana Inc. and Centene Corp. could see some of the biggest benefits of the Supreme Court's ruling, with Humana alone originally expecting more than \$600 mil-

invest these dollars in enhanced services to members and the communities it

spokeswoman said.

Planting Season Pinched in Pennsylvania



TOUGH GOING: Cleveland Ott & Son supplies garden centers and farm stands in Graterford, Pa. Many businesses in the sector have been hit by a state shutdown

Glitches Mar Loan Relaunch

Continued from Page One outside of Chicago, bankers successfully submitted half a dozen loans soon after the opening—but said the SBA's portal became unresponsive within an hour and remained down the rest of the day.

"This is very frustrating," said Kevin McArtor, the bank's director of business services. "I have a sense that money is going to go quickly, and here we are, we are locked out somehow while others drain the bucket."

The Paycheck Protection Program got off to a bumpy start on April 3 as businesses rushed to get \$350 billion of forgivable loans to help them survive fallout from the coronavirus pandemic. The loans are made by banks and other lenders and can be forgiven if companies use the money primarily to retain staff and for approved

THE WALL STREET JOURNAL

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(USPS 664-880) (Eastern Edition ISSN 0099-9660) (Central Edition ISSN 1092-0935) (Western Edition ISSN 0193-2241)

Published daily except Sundays and general legal holidays. Periodicals postage paid at New York, N.Y., and other mailing offices

Postmaster: Send address changes to The Wall Street Journal,

Letters to the Editor: Fax: 212-416-2891; email: wsj.ltrs@wsj.com

Editorial and publication headquarters: 1211 Avenue of the Americas, New York, N.Y. 10036

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expenses such as rent. After funds were exhausted on April 16, Congress appropriated last week an additional \$310 billion for loans, which many have predicted would be insufficient to meet demand.

Seeking a smoother process, the SBA unveiled on Sunday steps aimed at preventing system crashes and smoothing out distribution of funds among participating banks.

As part of that effort, the agency asked banks to submit applications in batches of 15,000 loans when its ETran loan portal reopened Monday morning. But by midday, the batch size was cut to 5,000, SBA spokesman Jim Billimoria said, a change made to address complaints by smaller banks that they were cut out of the process by the minimum.

The SBA said it had processed more than 100,000 PPP loans through more than 4,000 lenders by late Monday afternoon.

"Unprecedented demand is slowing E-Tran response times," SBA Administrator Jovita Carranza wrote in a tweet, adding that twice as many users were accessing the loanprocessing system Monday af-

ternoon, compared with any day during the initial round of the program. "The SBA is actively working to ensure system security and integrity when loan processing continues.'

Ms. Carranza defended her agency's performance overall in an opinion article last week, writing that in the first phase of the program it effectively processed 14 years of loans in 14

"The PPP is working, even if it hasn't been glitch-free," Ms.

The SBA said it had processed more than 100,000 PPP loans on Monday.

Carranza wrote in USA Today on April 20. "The SBA has been working day and night, seven days a week, to add capacity and to identify and correct technical challenges."

The SBA has said nearly 5,000 lenders participated in the program during the first round, and around 60% of the loans were approved by banks

with \$10 billion in assets or less. An analysis conducted by economists from the University of Chicago and the Massachusetts Institute of Technology showed that among the top 20 U.S. banks by asset.

large regional banks such as

Truist Financial Corp., PNC Fi-

nancial Services Group and

KeyBank played active roles

during the first round of the paycheck program. The top four banks—JPMorgan Chase & Co., Bank of America Corp., Wells Fargo & Co. and Citigroup Inc.—accounted for smaller shares of the program compared with

their normal-time presence in

small business lending. For example, Truist Bank was responsible for 3.1% of the total loan volume for the first round, compared with its 2% share during normal times. JP-Morgan had a 3.8% share during the first round, well below its 6.5% share at normal times, while Wells Fargo, among the largest small-business lenders normally with a 6.5% share in the market, provided just 0.04% of the program loans, according to the report.

On Sunday, the SBA clarified eligibility rules amid a

wave of outrage over rules that enabled public companies such as Shake Shack Inc. and Ruth's Hospitality Group Inc., owner of the Ruth's Chris Steak House chain, to qualify for loans.

The SBA said in its new 12page guidance issued on Sunday that public companies with "substantial market value and access to capital markets' are unlikely to qualify for loans under the program, expanding on guidance issued by the Treasury Department last week. It added that any such borrower that applied previously can return the money by May 7 without being penalized.

More than 235 public companies have disclosed receiving more than \$880 million in paycheck loans, according to a Wall Street Journal analysis of securities filings as of Monday afternoon. And 21 companies have disclosed plans to return \$275 million, the Journal found.

Ruth's and Shake Shack are among those returning the

-Anthony DeBarros and Inti Pacheco contributed to this article.

lion under the risk-corridors program. "Humana's goal remains to

serves," the company said. The Trump administration has argued against the ACA in various court proceedings

even as it continues to enforce the law for now. The Justice Department, which defended the adminis-

tration in court, is disappointed in the ruling, a The lone dissenter to Mon-

day's ruling was Justice Samuel Alito, who said it was unclear whether federal law provided the insurers a legal right to go to court and seek damages from the federal gov-

U.S. WATCH

2020 CAMPAIGN

Pelosi Endorses Biden for President

Former Vice President Joe Biden received endorsements from House Speaker Nancy Pelosi and a prominent lawmaker from the Democratic Party's progressive

In a video posted to her political Twitter account, Mrs. Pelosi (D., Calif.) praised the presumptive Democratic presidential nominee for his integrity and work helping the nation recover from the 2008 financial meltdown.

Also on Monday, Rep. Pramila Jayapal (D., Wash.), a co-chair of the Congressional Progressive Caucus and a surrogate for Sen. Bernie Sanders during his campaign for the Democratic nomination, said that she was endorsing

Mr. Biden in the general election. Some prominent Democratic lawmakers have held off on endorsing Mr. Biden.

Rep. Alexandria Ocasio-Cortez (D., N.Y.), for example, has said she is looking for more-progressive policies from Mr. Biden.

-Natalie Andrews

Judge Says Governor Can't Shut Gun Range

A gun range must be allowed to open to customers despite a statewide executive order requiring nonessential businesses to close to slow the coronavirus, a

judge ruled Monday.

The order issued by Lynchburg Circuit Judge F. Patrick Yeatts says federal and state protections on the right to bear arms outweigh any emergency authority held by Democratic Gov. Ralph Northam to order the gun range closed.

The SafeSide gun range in Lynchburg filed the lawsuit challenging the governor's executive order, along with Gun Owners of America, the Virginia Citizens Defense League and the Association of Virginia Gun Ranges.

Attorney General Mark Herring's office had argued the governor's emergency powers to protect public safety in a pandemic should be upheld. Mr. Herring, a Democrat, said his office is now analyzing its legal options. Judge Yeatts said state law limits the governor's power to regulate guns even in an emergency.

—Associated Press

WISCONSIN

Five Shot Dead, Suspect in Custody

Five people were found shot to death Monday inside a Milwaukee home, and the man who dialed 911 to report the killings has been taken into custody, the city's police chief said.

The police department received a call around 10:30 a.m. from a man who said his family was dead, Chief Alfonso Morales said. When officers arrived at the house they found five victims ranging in age from 14 to 41. the chief said. He said investigators recovered a weapon and believe the shooter acted alone.

—Associated Press

CORRECTIONS ゼ AMPLIFICATIONS

The Federal Reserve wants to make it easier for consumers to access cash in moneymarket accounts at banks during the pandemic. A U.S.

Watch article Saturday about the Fed's move incorrectly referred to money-market funds. Ben Horowitz, co-founder of the venture-capital firm An-

dreessen Horowitz, once

wrote that the most difficult

skill he had to learn as a chief

executive "was the ability to

manage my own psychology." An Exchange essay Saturday about leadership incorrectly attributed that statement to Marc Andreessen. The essay also misspelled the last name of Starbucks Corp.'s former CEO Howard Schultz as

The name of Alvarez & Marsal North America LLC was given incorrectly as Alvarez & Marshall in a list of bankruptcy advisers in a Busi-

ness & Finance article Monday about Diamond Offshore Drilling Inc. filing for bankruptcy protection.

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Commerce Restricts **Exports** To China

By KATY STECH FEREK

WASHINGTON—The Trump administration is tightening the country's export-control restrictions to prevent U.S. companies from sending products abroad that could strengthen China's military.

The rules, announced by the Commerce Department on Monday, expand the list of U.S.-made products and technology that need to be reviewed by national security experts before shipments can be sent overseas. The restrictions also apply to U.S. shipments destined for Russia and Venezuela.

The rules give Commerce Department officials more power to stop U.S. products in semiconductor, aerospace and other industry sectors from being shipped abroad. The effort is meant to prevent China, Russia and Venezuela from getting their hands on advanced domestic technology for weaponry, military aircraft or surveillance technology

"Certain entities in China, Russia, and Venezuela have sought to circumvent America's export controls, and undermine American interests in general, and so we will remain vigilant to ensure U.S. technology does not get into the wrong hands," Commerce Secretary Wilbur Ross said in a statement.

A representative at the Chinese Embassy in Washington didn't respond to a request for comment.

The tighter restrictions come after U.S. national security offi-

The rules also apply to U.S. shipments destined for Russia and Venezuela.

cials have sounded the alarm about Beijing's efforts to blur the lines between the operations of private Chinese businesses and the country's growing military, U.S. officials have said Chinese leaders are increasingly pressuring private businesses to acquire foreign technology to help the People's Liberation Army get the expertise it needs to build a world-class military capable of challenging the U.S.

in Asia and beyond. The push, a concept called military-civilian fusion, includes pressure that Chinese leaders put on private companies to bid for defense contracts. In a 2018 speech, President Xi Jinping called military-civil fusion "a necessary choice for achieving the party's goal of a strong mili-

tary for the new era." It is too early to tell how severely the new rules will restrict the flow of U.S.-made products overseas, because that will hinge on whether Commerce officials green light transaction requests, said Kevin Wolf, a former Commerce Department official who now advises companies as a Washington exportcontrol lawver.

John Neuffer, president of the Semiconductor Industry Association trade group, on Monday urged U.S. officials to keep America's position as a leader in the global semiconductor industry in mind as they implement the new rules.

"While we understand military-civil fusion trends demand smart and targeted national security responses, we are concerned these broad rules will unnecessarily expand export controls for semiconductors and create further uncertainty for our industry during this time of unprecedented global economic turmoil," he said.

Under the rules, more exporters will need to apply for Commerce Department licenses before shipping products overseas.

Specifically, Commerce officials said they intend to broaden the definition of "military end use," which exporters use to determine whether they can send out a shipment without a government review. That expanded definition will include products that support or contribute to operation, installation, maintenance, repair, overhaul, refurbishing, development or production of military items.

 Beijing sets new rules for buying equipment....

States Push to Expand Benefits

Employees won't have to prove on-the-job infection to receive workers' compensation

By Russell Gold AND LESLIE SCISM

More states are changing or reconsidering rules to ensure that nurses, paramedics, firefighters and others battling the novel coronavirus have unimpeded access to workers' compensation benefits if they are infected.

Officials are trying to balance the needs of individuals and employers overwhelmed by the pandemic's economic fallout. Expanding such access could add tens of billions of dollars in added costs for insurers, which would seek to pass them on to employers.

Manufacturing associations and other business trade groups have begun to fight the most sweeping expansions of the rules, arguing they will lead to higher insurance premiums and make it more difficult to restart the economy.

Several states with large outbreaks, including New York, New Jersey and Louisiana, haven't changed their rules: If workers can't prove they were infected on the job—possibly an uphill climb their claims could be denied.

'I'm worried it is going to be hard to prove where you got it from," said Oren Bar-zilay, president of the union that represents New York City Fire Department paramedics and emergency medical technicians. "They're going to say, 'How do you know where you got exposed?'

Last week, his union began filing Covid-19-related workers' claims. Mr. Barzilay said five union members who he believes were infected on the job have died since the pandemic began.

Workers' compensation coverage is mandatory for most businesses across the U.S. It pays for medical care and lost wages of people injured on the job, and funeral expenses to their dependents if they die. Insurers collect premiums from employers and pay claims out of this money.

Workers' comp is one of the biggest product lines for the insurance industry by premium volume, with employers paying \$48.3 billion to insurers in 2018, according to trade group Insurance Information Institute.



Fire Department of New York paramedics put on personal protective equipment as they respond to an emergency call in the Bronx.

Most workers' compensation claims stem from workplace injuries, but some involve illnesses acquired on the job. Generally, these are covered as long as it is specific to the job—such as certain respiratory illnesses for firefighters—and not a case of the flu acquired from a sick coworker.

The rapid spread of the coronavirus-which novel causes the Covid-19 diseaseamong essential workers presents a problem for the centurv-old workers compensation system.

The insurance industry is facing an unforeseen scenario in which multitudes of claims could be arbitrated through a workers' compensation hearing, where coverage will be determined on a case-by-case basis," said Drew Scott of Scott Insurance Agency in Stratford, Conn., which sells the coverage to businesses.

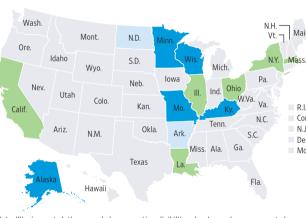
About a half-dozen states have changed their rules since late March so that front-line workers are presumed to be eligible for workers' comp unless their insurance carrier can prove they were infected outside of work. Normally, workers have the burden to prove they were hurt or infected on the job.

States that have adopted these so-called presumptive eligibility measures vary in

Covering Front-Line Workers

States are changing or reconsidering rules and laws governing access to workers' compensation coverage for health-care workers, firefighters and other essential workers who are infected with the coronavirus.

- Infected workers are presumptively eligibile for workers' compensation Modified rules making it easier for workers to get
- Pending legislation would expand access to workers' compensation



Note: Illinois enacted, then repealed, presumptive eligibility rules. Lawmakers are expected

Source: National Council on Compensation Insurance

who is covered. Most cover law-enforcement and healthcare workers providing primary care. Illinois went further, covering corrections officers, grocery-store clerks and others deemed essential workers.

Trade groups representing Illinois manufacturers and retailers filed suit last week to roll back their state's rule

change. The complaint argued that under the new rules, employers faced "a daunting Sophie's Choice: acquiesce to paying the employee's medical bills at the outset, or face harsh penalties for attempting to overcome the virtually irrefutable rebuttable presumption regarding Covid-19

A state judge on Friday is-

sued a temporary stay requested by the business groups, and the Illinois Workers' Compensation Commission repealed the rules in an emergency meeting on Monday, citing the cost and length of the legal challenge. A spokeswoman for Gov. J.B. Pritzker said he was committed to changing the rules to provide help to essential workers.

California's legislature is considering passing a bill similar to that of Illinois. The California organization that sets rates for workers' compensation insurance estimated the legislation could raise costs annually by \$11.2 billion, about 61% of the overall cost of that state's insurance. It estimated there could be 472,900 claims, including 3,300 claims of death benefits.

"It's early and this is still developing," Travelers Cos. Chief Executive Alan Schnitzer told analysts in the insurer's April 21 earnings call about the impact of the state actions. "In terms of exactly how it's going to play out, I think we'll have to see."

Workers' comp profit margins could be affected in the near-term, he said. Eventually, the higher costs would be passed on to employers, "increasing the cost of workers' comp insurance going forward."

Tenants Press for Rent Strike in May

AND NICOLE FRIEDMAN

Ysvelia Silva planned to spend this spring training for the New York City Marathon. Instead, she is calling neighbors in her apartment complex and urging them not to pay rent next month.

She and other tenant organizers say the majority of residents at a group of 17 buildings in Queens, N.Y., have committed to a rent strike effective May 1. The neighborhood's five-story brick buildings of mostly affordable housing belong to a larger complex called the Cosmopolitan Houses.

"Life has changed completely here," said Ms. Silva, 66 vears old, who closed her small leather-importing business due to coronavirus. Most of her neighbors, she said, are out of work or running out of money. Some are also infected with the virus. "No one goes through the trouble to do this because they want to. We're not paying rent out of necessity."

Where most rent strikes arise from disputes between tenants and building owners, organizers say this one is meant to prod lawmakers into offering more rental assistance during the crisis.

Ms. Silva's part of Queens has been hit hard by coronavirus. The nearest hospital. Elmhurst Hospital Center, is among the most overburdened in the city and has been called "the epicenter of the epicenter" of the pandemic by the local city councilman.

Many of the residents can't afford rent next month, organizers say. Others are able to pay but say they won't, to help bring more attention to the

The Queens strike is part of a nationwide effort to get ten-



'Life has changed completely here,' says Ysvelia Silva of Queens, N.Y.

ants to stop paying rent on May 1 as they contend with widespread joblessness and economic hardship. Groups in California, Chicago, Philadelphia and elsewhere also are organizing strikes beginning that day.

About one-third of U.S. households are renters, and nearly half of them were paying more than 30% of their incomes on rent and utilities before the coronavirus pandemic struck, according to the Harvard Joint Center for Housing Studies. While the federal government quickly offered forbearance options to many homeowners last month, assistance for most renters has been more varied by city and state.

Landlords say rent payments are essential for them to pay their mortgages, taxes and building-maintenance costs. Almost 90% of apartment

households paid all or at least part of their April rent by the 19th, a lower rate than normal, according to the National Mul-

tifamily Housing Council. Cosmopolitan Houses' general manager, Steve Stadmeyer, said most of the com-

plex's tenants paid their rent in April and that staff has been directing tenants to programs that can help them financially. He declined to comment on whether the landlord

would negotiate May rent. "We are grateful that the majority of residents have continued to pay their rent because it allows us to keep our buildings clean and residents and staff safe during these challenging times for our community," he said in a statement. "Building porters and handymen are working every day in the epicenter of this pandemic. It means a lot to us that we have been able to keep them working."

In New York, rent strikers want state lawmakers to impose a "universal cancellation of any rent, mortgage, or utility payments owed or accumulated during the length of this crisis," according to a document called the Rent Strike Toolkit that is being circulated by tenant groups. They are asking people who can afford their rent to join the strike, in the hopes of sending a more powerful message to elected officials.

Some strikers say that landlords will need help, too, and that government action could be coupled with financial assistance to pay for building staff and maintenance.

Carol Moss, who lives in the same building as Ms. Silva, said she hadn't heard about the strike.

"I know that feeling. I worked for 40 years for my last job and I know what it's like to not be able to do something, but you still make do," said Ms. Moss, who has lived in her apartment since 1978 and is retired. She will pay her May rent, she said. "I have to have somewhere to go."

Harvard's Fall Semester Might Take Place Online

By Douglas Belkin

Harvard University said that due to the uncertainty caused by the coronavirus pandemic, it is leaving the door open for a fall semester without students on campus.

We cannot be certain that it will be safe to resume all usual activities" by autumn, university provost Alan Garber wrote in a note to the school Monday. "Consequently, we will need to prepare for a scenario in which much or all learning will be conducted remotely."

The coronavirus has killed more than 50,000 people in the U.S., and Massachusetts, home to Harvard, has endured the third-largest number of fatalities. Colleges and universities across the country sent students home in March, moved classes online and canceled inperson summer programs. Now, they are scrambling to figure out how to proceed when the new academic year begins.

Harvard has significant influence across higher education, and its announcement could impact how other institutions proceed. Purdue and Brown universities are among schools planning to resume inperson classes in the fall, as long as conditions allow. Others such as George Washington and Stanford said they wouldn't make a decision until later this year. Some universities said they are considering reopening in January 2021.

A Harvard spokesman declined to comment on whether tuition and fees would be adjusted, if classes are held re-

motely.

Crisis Strengthens Nationalist Currents



CAPITAL JOURNAL By Gerald F. Seib

Here are some side effects of the coronavirus:

Immigration has been restricted. Lawmakers from both parties resolve that the U.S. will never again be so depen-



suppliers for critical goods. Washington has pulled back from the leading global health organi-

dent on foreign

zation. Longstanding connections to both China and Saudi Arabia are being questioned.

In short, the nationalist sentiment running through the American body politic has picked up strength and speed as a result of the virus crisis. It may already have been, as onetime Trump political adviser Steve Bannon asserted in an interview, that "the age of populism and nationalism is upon us," but the pandemic is fueling the trend.

Some public figures, of course, have urged Americans to draw the opposite conclusion. The rapid spread of a virus shows how interconnected the world really and inevitably is, this line of argument goes, meaning the U.S. has no choice but to unite with other nations to handle such transnational problems.

Early in the coronavirus crisis, for example, Kenneth Duberstein, who was White House chief of staff for President Reagan, asserted that "the American people are realizing that this is a global village." He added: "America is not an island. If Americans understand this as a result of the crisis, it will force our system to develop reality." Others have made the same case.

Yet for some Americans, the virus will enhance the belief that globalization has gone too far, leaving the U.S. needlessly at risk in a dangerous world and too dependent on others. For them, the impulse to wall off America has grown, not shrunk.

**** uch sentiments were

well established by the presidential campaign and election of President Trump, who pushed for a rethinking of the basic tenets of globalization that had prevailed for a generation. A group of foreign-policy scholars put it in this way in an article in the new edition of Foreign Affairs magazine: "For decades, American foreign policy elites in both parties

embraced liberal internation-



Migrants lined up at the Paso del Norte border bridge in Ciudad Juarez, Mexico, last week.

alism, the idea that Washington should sustain and expand a global order that promoted open markets, open polities, and multilateral institutions. But Trump has repeatedly attacked the key pillars of liberal internationalism....

That presidential impulse has been on display in the coronavirus crisis. The two most obvious examples were the president's decision to withhold green cards for immigrants for 60 days, and his decision to suspend American payments to the World Health Organization. Both steps have limited immediate impact, but

a powerful symbolic effect. Notably, Mr. Trump didn't block new, legal immigrants by arguing that their arrival would be a threat to Americans' health, but rather that

they would pose a threat to

their livelihood as they seek work in the rebound from the coronavirus slump. That bolsters an economic argument Mr. Trump had been making well before the pandemic. His WHO suspension, meantime, plays into another

coronavirus effect, an impulse to reduce links to China. Mr. Trump argued that the WHO had been complicit with

China in playing down the spread of the coronavirus at the outset, and later on in Beijing's lack of transparency about its dangers.

hat skepticism of China is compounded by a broad belief, soon to be explored further in congressional hearings, that the U.S. had grown too dependent on China for the manufacture of crucial drugs and medical supplies. Mr. Trump has openly argued, on this and other fronts, for a move toward a broad made-in-America movement in response.

The impulse to decouple from the world isn't likely to be limited to China. Saudi Arabia has aroused deep resentment in America's energy-producing states by embarking, concurrent with the onset of the coronavirus economic slump, on a push to flood the world market with oil in an apparent effort to drive out competitors. Those Saudi competitors start with Russia but also include American energy companies that have in recent years helped the U.S. achieve virtual energy independence.

That turn of events inevitably will raise questions about America's commitment to defend the Saudi kingdom. Why, some will ask, is the U.S. spending a lot of money to defend oil producers in the Persian Gulf when the biggest of those oil producers, Saudi Arabia, is seeking to put American oil companies out of business?

The coronavirus economic shock could have one other impact on America's global position: The giant budget deficits it is producing may well, over time, reduce taxpayers' willingness to spend the dollars needed to maintain a robust security presence abroad. Mr. Trump already had been arguing the U.S. was spending too much money defending others. With less money available now, he has been doubling down on that argument.

Major Increase In Tests Promised

By MICHAEL C. BENDER AND BRIANNA ABBOTT

WASHINGTON—The Trump administration is prepared to send all 50 states enough tests to screen at least 2% of residents for the new coronavirus a senior administration official said Monday, with the aim of rapidly expanding supplies in the coming weeks as the nation's leaders look to reopen parts of the economy.

President Trump met with heads of major retailers, pharmacy chains and testing labs on Monday, including Walmart Inc. and CVS Health Corp., and the White House released what it called a blueprint on its testing plans.

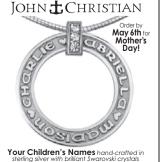
Adm. Brett Giroir, the administration official overseeing coronavirus testing efforts, said the federal government would be able to supply every state with the supplies and tests they need to "dramatically increase" the number of

The lack of widely available coronavirus tests has been a chief complaint from business leaders who the Trump administration leaned on for ecoadvice. President nomic told reporters on Trump March 6 that anyone who wanted a test could get a test, a promise that remains unfulfilled.

CVS said it would expand its coronavirus testing operations, offering self-swab tests at as many as 1,000 of its pharmacy parking lots and drive-thru windows by the end of May, with the goal of processing up to 1.5 million tests a month. Walgreen Boots Alliance Inc. also said it is ramping up testing capacity.

Experts would like four million or more people tested per week nationwide, in order to cast a wide net and cover a significant percentage of the population not already known to be sick, or even to have symptoms.

States including Georgia and New York have already tested more than 2% of their populations.



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Officials Move to Ease Curbs in Some Areas

Texas, Ohio and other states took steps to ease lockdown orders and reopen their battered economies, as reported U.S. coronavirus cases neared one million.

Leaders in states hit harder by the pandemic, however,

> By Jennifer Calfas, Elizabeth Findell and Newley Purnell

were moving more slowly and urging people to stay home as officials sought to expand testing capacity and create

social-distancing orders in the U.S., states from Mississippi to Tennessee to Colorado began to permit some businesses to reopen Monday, welcoming customers back and letting some employees return to work. Over the weekend, some businesses had resumed in Georgia, Oklahoma, Alaska, Texas and South

malls, movie theaters, museums and libraries in Texas will be allowed to open Friday at 25% capacity, Republican Gov. Greg Abbott said Monday. He will allow a stay-home order now in place to expire Thursday.

done its job," he said. "Now it is time to start a new course."

phased reopening as a test. The country's second-most-populous state has relatively low rates of Covid-19, but among the lowest testing rates, leading critics to say there is no way to know how prevalent the virus really is.

cautioned that lifting restricsurge in new cases. Health experts say states shouldn't reopen unless they keep new daily infections below estab-



contact-tracing teams. After weeks of closures and

Carolina, with social-distancing

measures in place. Retail stores, restaurants

"The executive order has

Many are watching Texas's

Public-health officials have tions hastily could lead to a



Seats were marked off for social distancing at a Waffle House in Brookhaven, Ga., Monday, with the state lifting some restrictions.

Coronavirus Daily Update

As of 9:31 p.m. EDT April 27

988,189

lished thresholds, show capac-

ity for expanded testing, and

have public-health workers

World-wide cases

Confirmed

56,255 u.s. deaths World-wide deaths

Source: Johns Hopkins University Center for Systems Science and Engineering Hopkins University. The U.S.,

with more than 988,000 cases,

accounted for about a third of

global infections. ready to track new infections. coronavirus Infections continued to rise cases world-wide Monday in Massachusetts with nearly topped three million, with 55,000 confirmed cases remore than 211,000 deaths, acported, the third-highest of any cording to data from Johns state, and nearly 3,000 deaths.

111,337 **U.S.** recoveries

893,872

World-wide recoveries

Gov. Charlie Baker urged residents to stay home and continue practicing social distancing.

Louisiana Gov. John Bel Edwards said Monday he will extend the state's stay-at-home order by two weeks to May 15. While some Southern states have begun reopening, Louisiana isn't ready, he said.

In the worst-hit states of New York and New Jersey. governors are still reporting a sizable number of new infections and deaths, though they have pointed to signs of the virus slowing. New York Gov. Andrew Cuomo has outlined a phased reopening for the state, centered on Centers for Disease Control and Prevention guidelines that permit reopenings after a 14-day drop in the

state's hospitalization rate. Mr. Cuomo, a Democrat, said Monday he would likely extend lockdown orders, set to expire May 15, in parts of the state most affected by the vi-

rus, including New York City. In New Jersey, Democratic Gov. Phil Murphy outlined benchmarks for the state before it begins a phased reopening.

Trump Questions Bid to Provide Money to States

By Natalie Andrews AND CATHERINE LUCEY

WASHINGTON—President Trump said he is skeptical of providing funding for states in the next round of coronavirus relief legislation, throwing into doubt the administration's support for hundreds of billions of dollars sought by Democratic leaders and state governors of both parties.

"Why should the people and taxpayers of America be bailing out poorly run states (like Illinois, as example) and cities, in all cases Democrat run and managed when most of the

other states aren't looking for bailout help?" Mr. Trump tweeted Monday. "I am open to discussing anything, but just

In the run-up to the passage

of the most recent stimulus bill

last week, Mr. Trump said he supported more state and local funding in the next round, and Democrats and the Trump administration said it would be a priority in the talks. But since then, Senate Majority Leader Mitch McConnell (R., Ky.) has termed the potential aid a "blue state bailout" for the troubled pension funds of large Democratic-controlled states.

"We do want to help [states] with expenses that are directly related to the coronavirus outbreak," said Mr. McConnell in a Fox News Radio interview on Monday. "But we're not inter-

ested in helping them fix ageold problems that they haven't had the courage to fix in the past." Mr. McConnell also said health-care providers and busi-

nesses need protection from

potential lawsuits related to

the crisis, calling it his "red line for the next negotiation." New York's Democratic Gov.

Andrew Cuomo defended his state on Monday as the "number-one giver," saying "nobody puts more money into the pot" than the state, referring to the amount states pay in taxes compared with how much funding they receive from the federal government.

Illinois Sen. Tammy Duckworth, a Democrat, called the president's tweet "a ridiculous statement from someone who is supposed to be the President of the UNITED States of America," in a tweet of her own. "We are in all in this together and

it's literally the Federal Government's job to help every state weather a national crisis.'

month,

passed a \$2.2 trillion aid pack-

age with \$150 billion for state

Congress

Last

money can be used only for coronavirus-related expenses. Another round of stimulus spending that Mr. Trump signed into law last week included more money for small businesses and hospitals, but no additional state and local

and local governments, but the

Some governors raised the issue of direct aid for states during a conference call with the president Monday, according to a recording of the con-

versation listened to by The Wall Street Journal. Oklahoma Gov. Kevin Stitt, a Republican, asked for more time before Congress decides on whether and how to allocate money to states in another round of stimulus legislation.

The last bill "has not even re-

ally hit our state yet," he said.

New Jersey Gov. Phil Mur-

phy, a Democrat, made a pitch for direct aid, saying the money would fund core emergency services and keep government workers from being laid off.

The National Governors Association has asked for an unrestricted \$500 billion for states, and some governors have said they may need to lay off first responders and teachers if Congress doesn't help. Illinois Senate President Don Harmon asked Congress for more than \$40 billion, including \$10 billion to help its struggling pension program, according to his spokesman.

In an acknowledgment of the strains municipalities are facing, the Federal Reserve said on Monday said it would expand a program it is establishing to provide financing to state and local governments squeezed by declining tax revenue.

THE WALL STREET JOURNAL.

Tuesday, April 28, 2020 | A5



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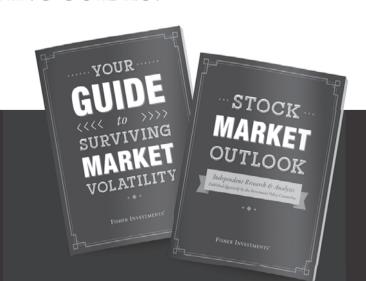
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THE CORONAVIRUS PANDEMIC



Plasma Donations Are Slowed

Continued from Page One their normal lives. Learning they remain Covid-positive is unsettling and confusing, both for the prospective donors and for the doctors and scientists trying to understand what it means and advise them on what to do.

Doctors in South Korea reported that some people who recovered from Covid-19 and tested negative for the infection became sick again. Researchers testing blood from Covid-19 patients found the immune system produces protective antibodies to the infection, but don't know how long they are protective.

The Food and Drug Administration guidelines for convalescent plasma donation state recovered patients must be symptom-free for 28 days before they can donate, or at least 14 days with a negative Covid-19 test. "The FDA is open to discussing alternative approaches to our guidance with

individual firms," a spokesman said. He said decisions are made on a case-by-case basis.

Data on the number of positive Covid-19 tests obtained during plasma-donation screening aren't widely available. At University Hospital in Madison, Wis., part of UW Health, 16% of potential donors swabbed between 14 and 28 days postsymptoms still tested positive, said William Hartman, an anesthesiologist and investigator on a national convalescent-plasma study there. The furthest-out positive test was 24 days after symptoms resolved, he said.

As the number of recovered Covid-19 patients seeking to donate plasma rises, the meaning of a positive test remains a source of debate and discussion. Some convalescent plasma programs, such as one run by Mount Sinai Hospital in New York, have stopped performing Covid-19 tests on proplasma donors. spective Mount Sinai performs antibody tests. Those who are eligible make plasma donations at New York Blood Center.

Judith Aberg, a professor of infectious diseases at Mount Sinai Health System, said "observational data"—that people who go weeks without symptoms aren't infecting others—led to the change. "I understand why



Jennie Novakovic, seen with her family, donated plasma for Covid-19 treatments. A nurse checks on a patient who received a transfusion.

some people want to retest. It makes them feel more secure to have a negative swab," she said.

But current evidence indicates that positive results in recovered patients are likely because of "fragments of dead virus" that won't cause infections but are picked up by the test, Dr. Aberg said.

A New York Blood Center

A New York Blood Center spokesperson said, "We are working closely with the FDA to continually refine our collections process."

Ania Wajnberg, medical director for the Serum Antibody Donor Identification program at Mount Sinai, said more studies will eventually have to be done to know for sure. She had been telling prospective donors who got positive swab tests, "We really don't think you are contagious anymore to the best of our knowledge, but it is a very

hard uncertainty, like many things with this disease."

The convalescent-plasma-collection study at NorthShore University HealthSystem in Evanston, Ill., where Ms. Novakovic went, has continued to swab potential donors. "I don't care if you are without symptoms beyond 28 days. Everyone who comes in gets a swab," said Thomas Gniadek, principal investigator of that study. Potential donors who test positive are told to return seven to 10 days later to be tested again.

Ms. Novakovic, 43 years old, of Wilmette, Ill., said she and her husband invited a couple from the neighborhood over for dinner on Friday, March 13. "We sat a reasonable space apart from each other," she said. The neighbors brought their own beer. After they left, she picked up one of the unopened bottles

and put it in the refrigerator. Two days later, she started feeling sick, with fever, chills, excruciating headaches and pain all over her body. "I felt like someone was sitting on my chest," she said. Fearing she might have a Covid-19 infection, she sequestered herself in her room. Her two children, ages 14 and 12, took care of themselves during the day, while her husband, a physician, was at work. On March 17, the neighbor called and said he had tested positive for Covid-19. Ms. Novakovic recalled that left-behind beer bottle. She and her husband got Covid-19 tests; her results were positive, her

husband's negative.
By April 17, when Ms. Novakovic went to donate her plasma, she had recovered but was still cautious around family and friends. When her mother came to visit, she remained in the backyard. She wore a mask and gloves when shopping at the supermarket.

When she learned she was still positive, Ms. Novakovic said, "I started to cry. I felt like a leper and that no one will want to come near me because I tested positive again." Her mother said she wouldn't visit until Ms. Novakovic's test results came back negative. Her doctor told her she didn't have to completely isolate herself but should practice social

distancing.

Last Friday, April 24, Ms.

Novakovic returned to the blood center, got swabbed again and waited in trepidation for the results. The test was negative. That afternoon, Ms.

Novakovic donated plasma.

—Sumathi Reddy contributed to this article.

Manhattan Project for Covid-19

Continued from Page One an ad hoc review board for the flood of research on the coronavirus, weeding out flawed

The group has compiled a confidential 17-page report that calls for a number of unorthodox methods against the virus. One big idea is treating patients with powerful drugs previously used against Ebola, with far heftier dosages than have been tried in the past.

The Food and Drug Administration and the Department of Veterans Affairs have already implemented specific recommendations, such as slashing manufacturing regulations and requirements for specific coronavirus drugs.

National Institutes of Health Director Francis Collins told people this month that he agreed with most of the recommendations in the report, according to documents reviewed by The Wall Street Journal and people familiar with the matter. The report was delivered to cabinet members and Vice President Mike Pence, head of the administration's coronavirus task force.

Dr. Cahill's primary asset is a young lifetime of connections through his investment firm. They include such billionaires as Peter Thiel, Jim Palotta and Michael Milken—financiers who afforded him the legitimacy to reach officials in the middle of the crisis. Dr. Cahill and his group have frequently advised Nick Ayers, Mr. Pence's longtime aide, and agency heads through phone calls over the past month.

No one involved with the group stands to gain financially. They say they are motivated by the chance to add their own connections and levelheaded science to a battle that has been strained on both state and federal levels.

"We may fail," said Stuart Schreiber, a Harvard University chemist and a member of the group. "But if it succeeds, it could change the world."

Steve Pagliuca, co-owner of the Boston Celtics and the cochairman of Bain Capital—as well as one of Dr. Cahill's investors—helped copy edit drafts of their report, and he passed a version to Goldman Sachs Group Inc. Chief Executive David Solomon. Mr. Solomon got it to Treasury Secretary Steven Mnuchin.

The group's members say they are aware that many of their ideas may not be implemented, and could be ignored altogether by the Trump administration.

This account is based on interviews with scientists, businesspeople, government officials, as well as a review of related documents.

Break out

Only two years ago, Dr. Cahill was studying for his M.D. and Ph.D. at Duke University, conducting research on rare genetic diseases and wearing \$20 Costco slacks. He assumed he would continue the work after graduation.

Instead, he reconnected with a friend who introduced him to a job at his father's company, the blue-chip investment firm the Raptor Group.

Dr. Cahill got hooked on investing, particularly in life sciences. He reasoned he could make a bigger impact by identifying promising scientists and helping them troubleshoot problems than doing research himself.

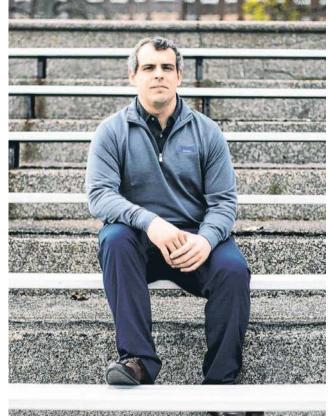
After a stint at Raptor, he formed his own fund, Newpath Partners, with \$125 million from a small group of wealthy investors, including Silicon Valley stalwart Mr. Thiel and private-equity founders like Mr. Pagliuca. They were attracted to his blunt approach, as well as his interest in tackling intractable problems.

In early March, as Covid-19 deaths mounted, Dr. Cahill was intrigued and a little depressed with the state of research on the virus. "Science and medicine were the furthest things removed from everything happening," he said.

His investors peppered him with questions about the virus, and he organized a conference call to share some against-the-grain ideas on how to accelerate drug development and the like. He expected about 20 people.

When Dr. Cahill tried to dial in the meeting, he was rejected because the call had reached capacity. Then his cellphone buzzed from a New York number. It was National Basketball Association Commissioner Adam Silver. He, too, wanted the meeting's access code.

Newpath's deep-pocketed investor base had spread word of the call, and hundreds of people were on the line, most of whom he had never met, including Mr. Milken.



Tom Cahill, founder and managing partner at Newpath Partners in Boston, who became leader of the group Scientists to Stop Covid-19.

When he finally got on the call, Dr. Cahill took a deep breath and said he had been working with friends to whittle down potential Covid-19 treatments to the most promising. He said he largely dropped his investing work to focus on a hunt for a cure.

After an hour, he hung up and found his email inbox full of ideas and offers to help, including from Mr. Milken's team.

Dr. Cahill received a handful of notes from advisers to the vice president. They also had been on the call.

The scientist-investor had gained a platform. All he needed was a plan.

Tracing contacts

One of Dr. Cahill's first calls was to Mr. Schreiber, a founder of several private companies.

Mr. Schreiber looped in a longtime friend, Edward Scolnick, former head of research and development at pharmaceutical giant Merck & Co., where he helped develop 28 drugs and vaccines. Dr. Scolnick was blunt. A vaccine would take at least 18 months to hit the market, he told Mr. Schreiber, "if you're damn lucky."

Mr. Schreiber responded, "What about six months?"

The team drew up a list of roughly two dozen companies that could benefit from their recommendations and pledged to sell any shares in them immediately.

Much of the early work in-

volved divvying up hundreds of scientific papers on the crisis from around the world. They separated promising ideas from dubious ones. Each member blazed through as many as 20 papers a day, around 10 times the pace they would in their day jobs. They

Dr. Cahill's primary asset is a long list of connections through his investment firm.

gathered to debate via videoconference, texts—"like a bunch of teenagers," Mr. Rosbash said—and phone calls.

bash said—and phone calls.

Personal hygiene went by the wayside. Michael Lin, a Stanford University neurobiologist, began disabling the camera on his phone to protect his vanity. "A couple of days, I've had seven or eight Zoom meetings, which will itself I'm sure cause some kind of disease," joked David Liu, a

Harvard chemical biologist.

The team pledged to try to block out politics—not an easy task in the noise and fury of a presidential election year.

Hydroxychloroquine, a malaria drug promoted by the president, was dismissed after the group's resident expert, Ben Cravatt of Scripps Research in La Jolla, Calif., determined it was a long shot at best. The drug received only a passing mention in the group's final report.

The group also disparaged the idea of using antibody testing to allow people back to work if their results showed they had recovered from the virus. Mr. Cravatt, a chemical biologist, declared it "the worst idea I've ever heard." He said that prior exposure may not prevent people from giving the virus to others, and that overemphasizing antibody testing might tempt some people to intentionally infect themselves to later obtain a glean bill of health.

tain a clean bill of health.

The group's initial three phases of recommendations, contained in its report, center on leveraging the scale of the federal government. For instance, buy medicines not yet proven effective to encourage manufacturers to ramp up production without worrying about losing money if the drugs fail. Another is to slash the time required for a clinical review of new drugs to a week from nine months or a year.

The group next needed to get their recommendations to the right people in the Trump administration. For that, Dr. Cahill tapped another well-placed billionaire.

An introduction

Brian Sheth, co-founder of private-equity firm Vista Equity Partners, and a Democrat, had been watching the effort gather steam from his home in Austin, Texas. He was an early investor in Dr. Cahill's fund and had been on the first call. His expertise was technology, though, not immunology.

He was friendly with Thomas Hicks Jr., the Dallas businessman and co-chairman of the Republican National Committee. Mr. Sheth introduced Mr. Hicks to Dr. Cahill's group.

The connection cinched ties between a group of mostly liberal scientists from left-leaning institutions with a Republican stalwart who hunts birds

ing institutions with a Republican stalwart who hunts birds with Donald Trump Jr.

In his first chat with the group, Mr. Hicks said, "I'm not a scientist. Make it clear enough for me, and then tell

me where the red tape is."

A major concern of the scientists was the FDA. The scientists had in their research identified monoclonal antibody drugs that latch onto virus cells as the most promising treatment. But to make the medicine in sufficient quantities, one drugmaker, Regeneron Pharmaceuticals Inc., would have to shift some of its existing manufacturing to Ireland. FDA rules required a

monthslong wait for approval.

Mr. Scolnick, who had tussled with bureaucracy during the AIDS epidemic, tried reaching the FDA. The call ended poorly after bureaucrats told the group they had the pandemic under control. In a group call afterward, one of the scientists said of the FDA:

"They're the problem here."
Dr. Cahill got in touch with
Mr. Ayers. Once the group
briefed the vice president's
aide on the bottleneck, Mr. Ayers said he knew who to call.
That evening, March 27, Regeneron received a call from
the FDA. They had permission,
starting immediately, to shift
production to Dublin.

"That was proof positive that what we were doing was starting to work," Mr. Rosbash said.

The group also made inroads with the VA, the largest health-care system in the U.S. The scientists pushed its medical staff to allow veterans with Covid-19 to join existing studies in such areas as prostate cancer, to see if already-approved drugs might be effective against the virus. They spoke to the VA's chief medical officer and secretary about the proposal and learned the initiative was being fast-tracked.

Mr. Pagliuca spoke to Charles Baker, the Republican governor of Massachusetts, on the phone about the report. The governor, Mr. Pagliuca said, planned to adopt elements of the plan.

With much of their scientific proposals under advisement, or already in the process, the group has an eye on the post-Covid-19 world. Mr. Pagliuca pushed the scientists to add a fourth phase to the plan—reopening America.

The ideas include development of a saliva test, and scheduling tests at the end of the workday so results are available by morning.

Group members have con-

tinued their discussions with administration officials in recent days, hoping their confidential plan turns to action.

"We need the entire nation—government, business and science—to unite to defeat this," Mr. Pagliuca said.

THE CORONAVIRUS PANDEMIC

A Neurosurgeon Takes On a New Role



as the new coronavirus forces big changes in how we

work, The Wall Street Journal is looking at how different people are coping with the stresses and risks. For earlier articles in the series, visit wsj.com/makingitwork.

By Lauren Weber

Three or four nights a week, Elizabeth Fontana drives from her Manhattan apartment to a hospital on the border between Queens and Long Island for her 12-hour shift in a Covid-19 intensive-care unit. During every commute, a close friend calls to check in on her.

"It has been such a comfort to know there is at least one good thing to look forward to every night I have to work," she said. As a doctor in the middle of the coronavirus crisis, she spends most of her time tending to the needs of critically ill patients and trying to comfort their families.

A neurosurgeon by training, Dr. Fontana, 42, was redeployed to the Covid-19 unit at Long Island Jewish Valley Stream in March. Before the pandemic, her typical days were filled with brain and spinal surgeries and consultations with patients. Now, from 8 p.m. to 8 a.m., she monitors patients' ventilators, draws their blood and keeps in touch with their relatives.

She volunteered for redeployment as the number of patients coming in began to snowball. "There's an enormous burden on the critical

care staff."

To brush up her skills and lighten the load on the lead doctors in the Covid-19 unit, she took a two-hour course in

Caring for Covid-19 patients has prompted a profound sense of loss and sadness, says Dr. Fontana. Once

ventilator management.

patients get to the point of needing to be on a ventilator in the ICU, their prognosis isn't good.

"Thirty percent of them are getting off the ventilator," she said. "That means seven people are dying for every three that are not. It's a lot of death."

She feels helpless for families who don't have the chance to see their loved ones in their final moments. "People really need to bear witness, and when you take that away from them it becomes really difficult to process loss."

At Long Island Jewish Val-

ley Stream, doctors have become better at understanding the virus's signals, including when someone is close to death. They try to bring families in when there is still time to say goodbye.

After caring for patients, Dr. Fontana comes home to two daughters, ages 1 and 5. She's a single mother, and the family lives with an au pair. In some ways, says Dr. Fontana, her new schedule suits family life a bit better since she is home during the days.

Dr. Fontana wonders how the pandemic will affect her children, especially her older daughter.

"For the first week, she refused to go outside, she was saying 'I don't want to catch the virus,' " says Dr. Fontana.



Elizabeth Fontana with Zara, left, and Scarlett, her daughters

Kids Less Vulnerable to Virus

By Jason Douglas

Doctors are increasingly confident that children are less affected by the new coronavirus than adults, a finding that could aid governments considering next steps in reopening economies.

Medical professionals recognized early in the global pandemic that children generally appeared to be less susceptible to falling ill from the new bug, with fewer confirmed cases, hospital admissions, serious complications or deaths than their parents or grandparents.

Only 1.7% of nearly 150,000 infections were found in people under 18 years of age, according to a nationwide analysis of U.S. data published this month by the Centers for Disease Control and Prevention.

Now a review of 67 studies from across the world by a network of child-health experts who pore over evidence to aid clinicians has found broadly the same pattern. From Wuhan in China, where the outbreak began, to the U.S. and Europe, children are far less likely than adults to suffer gravely from Covid-19, with most showing few symptoms. Available data shows only a tiny proportion have succumbed and died.

The review also turned up a more tantalizing, though less certain, finding: That children may be less susceptible than adults to catching the virus at all, meaning they are less likely to spread it, too.

Some experts caution, though, that while the evidence is persuasive it is incomplete, and there are still risks to some children's health and the wider community from Covid-19, the disease caused by the virus, if schools open their doors too soon or without new safeguards to limit infection.

In a sign of how the full picture is still unclear, pediatric doctors in the U.K. issued an alert Sunday urging colleagues to be on the lookout for children showing inflammation of the heart and other symptoms of a rare condition known as Kawasaki disease, which they said may or may not be linked to Covid-19.

However, the review's broad findings, if borne out by further research, should ease concern that reopening schools risks sickening children or spreading the illness undetected through young people who show no outward signs of infection, disease experts say.

"The fear of these silent assassins in the community who don't have any symptoms and are infecting everyone else—more and more evidence is consistently showing us that this is probably not the case," said Alasdair Munro, clinical research fellow in pediatric infectious diseases at University Hospital Southampton, England, and one of the authors of the review.

Noel McCarthy, professor of epidemiology at Warwick Medical School, added that evidence "clearly offers reassurance for policy makers thinking about school openings and other forms of communal child care."

The findings come as Western governments weigh when to reopen schools and childcare facilities as part of a The youngest people tend to have the fewest hospitalizations for Covid-19.

Children lined up to enter a school in Denmark, which has reopened many of its elementary schools.

Hospitalizations by age, per 100,000 people

300 Totals from March 2 to April 12

250 AGE

200 \$\$85+\$\$
150 \$\$65-74\$\$
100 \$\$18-49\$\$

Source: Centers for Disease Control and Prevention

broader easing of economically costly lockdown measures aimed at slowing the spread of the virus.

More than 100 countries have closed schools nation-wide, affecting some 840 million children, according to the Organization for Economic Cooperation and Development, a club of mostly rich countries, with knock-on effects for their economies as parents miss work to care for them.

vork to care for them.

For Joy Lawn, professor of

maternal, reproductive and child health at the London School of Hygiene and Tropical Medicine, the evidence doesn't yet support the conclusion that children are less prone to infection than adults, though she agrees it does seem kids aren't as badly affected if they do contract it. The lower rate of confirmed cases more likely reflects limited testing and the fact children tend to have only mild symptoms, she said.

But she said she was also concerned about wider effects on children's health from prolonged lockdown measures, especially in poorer countries, where there is growing evidence that they are missing essential vaccinations and mothers are skipping the hospital to have riskier births at home.

"Although children are not the focus of this epidemic, children are most vulnerable to the indirect effects," she said.

Why young children appear to be less affected by Covid-19 is a mystery. The phenomenon is all the more puzzling because similar respiratory diseases, such as influenza, tend to disproportionately attack youngsters as well as the very old.

If I've recently recovered from COVID-19, how can I help?

Are homemade masks effective?

What help can telehealth provide and what will it cost?

Which states are in lockdown?

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THE WALL STREET JOURNAL.

THE CORONAVIRUS PANDEMIC

Some Passengers Fly Solo

Continued from Page One mused. A sea of empty rows gaped. "Then it hit me," he says. "I was the only one on the plane."

To fly is an experience that upends a sense of space and time. In the wake of the coronavirus, with millions of Americans sheltering in place, that is truer than ever. Airports sit eerily empty, symbols of how the virus has devastated the economy and airlines in particular. Air passenger numbers are down a whopping 95%, according to U.S. government data, with many airline workers laid off or furloughed.

Thousands of people-essential workers, people traveling to be with their familiesare still flying. Airlines say they are transporting key personnel and crucial cargo. Terms for federal aid also reguire them to maintain a certain level of service, even on routes with little or no demand, turning some commercial planes into the equivalent of private jets. Captains personally welcome passengers aboard. Extra snacks are doled out. Everyone marvels at the strangeness of it all.

Mr. Grimaldo bought a \$32 one-way economy ticket, flight attendants encouraged him to move up to first class. "I picked my bag up real quick and made it over there as fast as I could," he says. They offered to take his picture. They had been taking photos for a lot of solo passengers lately, they said.

"It was really cool to see them be so super casual and personable," Mr. Grimaldo says, adding that during the flight, they joked and chatted with him about work and familv. "That was definitely my favorite part."

Ana Parra, 20, a student in Honolulu, also found herself the only passenger when flying home on United Airlines to Palm Springs, Calif., to be with family last month. As she boarded, she says employees were joking, saying "look at this girl, she's the only one, she has her own private

Ms. Parra was tickled that the captain addressed his announcements to his lone passenger. "He was like, 'Ma'am, make sure you're buckled up,' " she says.

A flight attendant gave her a bag bursting with extra pretzel packets. Though Ms. Parra usually prefers to sleep on planes, she said it seemed rude to do so and stayed awake. When they landed, the worker who brought the stairs out to the tarmac joked he should roll out a red carpet.

Many passengers described the spectacle of near-empty planes and airports as spooky or apocalyptic. When traveling this month from London to San Francisco, Joshua Ieuan Williams, 21, says he counted six passengers aboard a plane that would normally seat hundreds. During a layover in Newark, he says he went nearly two hours without seeing another soul, even as music kept playing overhead. "It felt like I was in a zombie film," said Mr. Williams, a London-based singer who moved to be with family after the pandemic hit.

Though airport shops were closed, Mr. Williams was pleased he could still buy hot Cheetos-a snack he had craved while abroad-at an unmanned kiosk offering selfcheckout. "It was like, it's the end of the world, but at least I

have hot Cheetos," he says. Nathan Hiatt, 23, flew home to Stillwater, Okla., after his school, Arizona State Univercanceled in-person classes. The sole person on his flight, Mr. Hiatt ended up sit-



Juan Grimaldo ended up flying first class for \$32 on a flight to El Paso, Texas. He was the only passenger on the plane.

ting in first class, though since it was a small plane, he wasn't particularly impressed by the additional legroom.

He did appreciate the extra level of personal service, though: "Welcome to your flight, Nathan," one airline staffer intoned over the intercom before takeoff.

Airlines say they continue to operate flights as an essential service, and that cancellations also might risk delays in the arrival of vital cargo, such as medical equipment.

Before Covid-19 struck, Tom Kramer, 39, an emergencyroom doctor, had been scheduled to work several April shifts at a rural hospital outside St. Louis. Though his wife worried about him getting on a plane, he decided to keep the assignment.

He needn't have worried: On his flight home, he was the passenger. only plane's Though he says he's accustomed to ignoring in-flight announcements, just before takeoff, he snapped to attention when the captain personally welcomed him on board. "He 'Good morning Mr. Kramer, thanks for joining us on our flight to Philadelphia,' " he recalls.

Despite the cataclysmic industry upheaval, some remain sticklers for protocol. While the waiting area was deserted and gate attendants had told Dr. Kramer there were no other passengers, they still called every boarding group. "I thought that was the absolute funniest thing," he says. Dr. Kramer was boarding group

For Blake Gilliland, 21, who ecently flew Southwest Airlines home to Fort Myers, Fla., after visiting his fiancée in Chicago, the experience of being the only passenger made a powerful impression. "I looked behind me and there wasn't a soul behind or in front of me," says Mr. Gilliland, a student at Florida Gulf Coast University. "And I'm on a major commercial airline on a huge jet."

The flight itself was comfortable, he says-but unsettling. "When you're quarantining by yourself, it's hard to think outside your own little world," he says. On the plane, that changed. "You realize, wow," he says. "How many people had this flight booked? And every single one of them canceled, except me."

Fed Breaks Taboos for **Economy**

Continued from Page One

nancial crisis and war. Due to the financial and economic shocks caused by the virus, he says, central-bank officials "are being sucked into a series of entanglements that they cannot control and that they normally will not touch with a long pole."

Many government policy makers, including past Fed critics, support its actions this time, though political calculations could change quickly.

"This should be considered a very freakish Black Swan event," says Sen. Pat Toomey (R., Pa.), who criticized the Fed after the last crisis for enabling large federal budget deficits. Last month, he helped advance the \$2.2 trillion economic-rescue legislation in Congress that puts the Fed at the center of the government's economicrescue efforts.

Among risks the Fed is taking: that some programs won't work, that officials won't be able to unwind them, that politicians will grow accustomed to directing the central bank to fix problems its tools aren't designed to solve, and that public discontent about the central bank's choices will erode its authority over time.

This last risk is prominent because the Fed's tools are better suited to helping large firms that borrow in capital markets than small ones that don't.

"Capitalism without bankruptcy is like Catholicism without hell," Howard Marks, director of investment fund Oaktree Capital Management LP, said in a letter to shareholders this month, writing 10 that "Markets work best when participants have a healthy fear of loss." Mr. Marks in a later interview said he didn't want to imply Mr. Powell's actions were wrong: "The fact that something can have negative, unintended consequences. doesn't mean it's a mistake.'

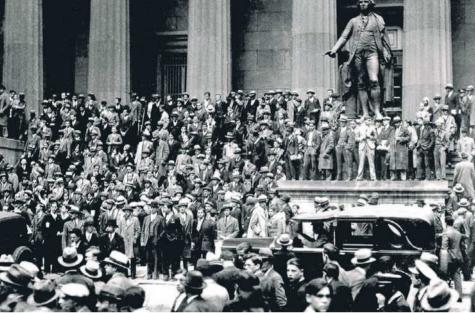
Mr. Powell defines the government's task from a different moral perspective. "People are undertaking these sacrifices for the common good," he said in his speech. "We need to make them whole to the extent we have the ability."

After cutting interest rates to near zero in mid-March, the Fed began a torrent of bondbuying programs to stabilize markets. Between March 16 and April 16, it bought Treasury and mortgage securities at a pace of nearly \$79 billion a day. By comparison, it bought about \$85 billion a month between 2012 and 2014.

Second wave

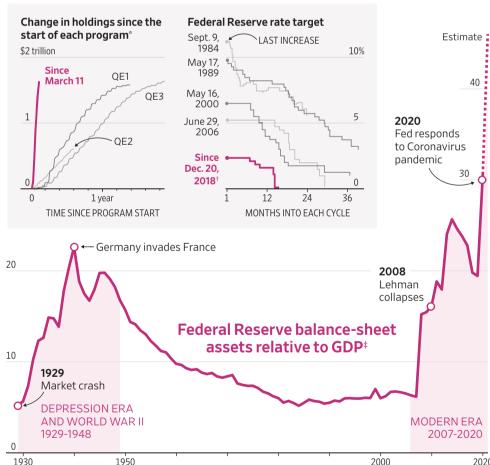
The central bank is preparing a second wave, programs in partnership with the Treasury to get loans directly to companies and state and local governments. Congress has armed the Treasury with \$454 billion to work in cooperation with the

central bank for the effort. The Fed will lend as much as 10 times the amount Congress



The Fed's economic role will be greater than in the Great Depression; a 'Black Thursday' scene, Oct. 24, 1929.

The Fed's portfolio of bonds, loans and new programs will swell to \$8 trillion-\$11 trillion, economists estimate.



Treasurys, mortgage-backed securities and Fannie Mae and Freddie Mac debt 🕆 Midpoints of range shown for each cycle 🕏 Figures are as of year end, except final two. First 2020 assets figure is as April 22. Final 2020 estimate is based on WSJ Survey of Econor analysts' balance-sheet estimate, \$9.5 trillio

Sources: Federal Reserve Bank of St. Louis (rates, holdings, assets); Commerce Department (GDP)

appropriated, with the Treasury taking the first losses on loans that go bad. The Treasury has so far committed around 40% of those funds to some of nine different programs, leaving room to expand them or deploy others.

Congress called upon the Fed in part because it developed capabilities to intervene during the 2008 banking crisis and is positioned like few other institutions to move fast. It also entered the crisis outside a partisan fray marked by distrust between congressional Democrats and the Trump administration, lawmakers and analysts say. And Mr. Powell's measured response to President Trump's attacks on him over the past two years have

dispelled concerns among lawmakers that the central-bank chief would be a footman for the president.

"The Fed is not naturally

suited to do this," says Douglas

Holtz-Eakin, a Republican former director of the Congressional Budget Office, "but the Treasury is using the Fed as its arm because the Fed is better at setting up these facilities and getting the money out." The Fed has a unique power,

the ability to create money by crediting banks with funds they can lend. That helps it guide the cost of money, which is the interest rate. Low rates and money print-

ing spurred consumer-price inflation after World War II and during the 1970s. Fed officials don't see that as a risk now because the economy is sinking.

Bigger federal borrowing needs will make it costly for the Treasury should interest rates eventually rise. "If the economy recovers and inflation is a problem, that will be the test," says former Fed Chairwoman Janet Yellen. That isn't a problem now. If it ever is, she says, "I think the Fed is going

to win out on that." The Fed said Monday it would expand a forthcoming program to provide financing to state and local governments squeezed by declining tax revenue. It will buy debts of up to three years in maturity issued by up to 261 municipal borrowers, including the 50 states, the District of Columbia, counties of at least 500,000 residents and cities of at least 250,000. It had initially said it would limit such purchases to counties of at tion to the states.

least two million and cities of at least one million, in addi-The Fed has long seen lending to states and cities as a political minefield. Its initial population restriction for municipal borrowers has already invited blowback. In a letter to Mr. Powell this month, Rep. Maxine Waters (D., Calif.), chairwoman of

the House Financial Services

Committee, said the program

would have excluded 35 cities most heavily populated by African-Americans. Sen. Mike Crapo (R., Idaho),

chairman of the Senate Banking Committee, sent Mr. Powell a letter the same day noting none of the municipalities in his state would be eligible and expressing unhappiness rural communities might be left behind.

Several analysts have said if lawmakers want more aid for local governments, they are better positioned to provide grants to states rather than rely on the Fed to make loans.

Fed officials worry they might end up holding municipal debts borrowers can't repay. Left unanswered are questions such as what role it would play in a bankruptcy and if it would support the borrower or line up vith other creditors to get its noney back.

"The Fed doesn't want to be in a position to say, 'You have to raise taxes or cut pay to policemen or firemen," says Scott Alvarez, the Fed's general counsel from 2004 to 2017.

The central bank experienced awkward moments in the previous crisis managing assets it held due to its bailout of investment bank Bear Stearns Cos.—including when it foreclosed on a shopping mall in Oklahoma City and sold a portfolio of debt on Red Roof Inn hotels after its bankruptcy.

The Fed's corporate-debt backstops have been extended to include so-called fallen angels, companies recently downgraded to junk status. It also will provide financing to investors in business-loan funds known as collateralized loan obligations, or CLOs.

Many private-equity funds added debt to their portfolio companies before the crisis in the junk-bond and CLO markets. By supporting junk bonds and CLOs, the Fed could be helping private-equity funds that made their portfolio companies vulnerable before the crisis with heavy debt burdens.

Fed officials have concluded they need to offer broad support to corporate-debt markets to prevent credit from drying up and producing even more wide-scale bankruptcy and job loss. "I'd be willing to take more credit risk than I would have before this situation," says Cleveland Fed President Loretta Mester, "because this is a huge, unprecedented, negative shock."

The Fed's \$600 billion Main Street Lending Program will be its most complicated task. current and former Fed officials say. For the first time since the Great Depression, the Fed will lend directly to small and midsize businesses. offering loans of up to four years through banks.

"The Fed took a hit to its reputation when it was seen as having facilitated the 2008 bailout of Wall Street and leaving Main Street un-helped," says Vincent Reinhart, former Fed economist and now chief economist at asset-management firm Mellon. "They're not going to do that again.'

The challenge isn't just deciding who gets money. It is also how much to charge and

on what terms. Central bankers live by "Bagehot's Dictum," named for the 19th-century British writer who edited the Economist magazine. To stop a panic, Walter Bagehot said, a central bank should lend freely against good collateral at an interest rate a bit higher than normal.

Brian Sack, the director of global economics at investment fund D.E. Shaw who ran the New York Fed's markets desk after the last crisis, says that might not be well suited for the moment. Punitive rates implied by Bagehot might not be appropriate, and collateral is hard to size up in a mandatory shutdown. His addendum to Bagehot, he says: "Lend more freely than Bagehot under some circumstances.'

The Fed doesn't want to lend to businesses that aren't viable, says Ms. Mester, the Cleveland Fed president. It also doesn't want to let viable ones fail because cash flow is temporarily cut off. Distinguishing between the two is the challenge—especially now.

The Fed limited how much debt small firms can have before qualifying for Main Street program loans. It is requiring banks to hold 5% of each loan to insulate itself from becoming a dumping ground for bad debts. Borrowers will face restrictions on executive compensation and dividend payments. The Treasury will take the first \$75 billion of any losses.

Main Street danger

One danger is that the Fed revives Wall Street, where its tools have been tested, while the Main Street program falls short, says Glenn Hubbard, a Columbia economics professor who was chairman of the Council of Economic Advisers under President George W. Bush.

Unlike in the 2008 bailouts, where the Fed and Treasury turned profits on bank rescues, Mr. Hubbard says, officials shouldn't be concerned about recouping the Treasury's investment. "If the Fed doesn't lose money," he says, "that says they weren't lending to borrowers who needed the money."

Another danger is that Congress gets used to asking the Fed to intervene. The central bank has aggressively guarded its independence, especially after it succumbed to President Nixon's pressure to goose the economy ahead of the 1972 election and was later blamed for the resulting inflation.

Last month, Fed lawyers helped nix legislative language that would have had Congress explicitly directing the Fed to launch lending programs, according to people familiar with the negotiations.

The Fed's actions represent a level of cooperation with Congress and Treasury not seen since World War II. Back then, the central bank held down long-term interest rates to help finance war spending and the recovery. The Fed successfully pressured the Truman administration to agree in 1951 to end that policy.

Ms. Yellen and former Fed Chairman Ben Bernanke say the Fed's independence would be more seriously imperiled if it didn't act boldly to protect the economy. "This is why the Federal Reserve was invented," says Ms. Yellen, "to do emergency lending in a crisis."

Wary Europe to Keep Extra ICUs Open

AND MARCUS WALKER

ROME—As pressure on Europe's hospitals eases with the number of coronavirus patients in intensive-care units decreasing, badly hit countries such as Italy now face decisions about what to do with the extra wards they scrambled to build.

Most countries want to keep them, fearing a second wave of infections.

The Papa Giovanni XXIII Hospital in Bergamo, one of Italy's worst-hit towns, increased its intensive-care beds to more than 100 from 76 as it fought to cope with a deluge of critically ill coronavirus patients in March. It still has 52 virus patients in intensive care, down from a peak of 92.

Having bought many ventilators, the hospital will continue using its new ones, keeping older equipment in reserve in case virus infections pick up after Italy loosens its national lockdown.

Pietro Brambillasca, an intensive-care doctor at the Papa Giovanni, worries that Italy hasn't suppressed the virus enough to be safe against a second wave of infectionsand that citizens' adherence to distancing will fade when the national lockdown begins to unwind in May.

"Economic-disaster fear will prevail over public-health concerns," Dr. Brambillasca said. "We have to trust in the sense of responsibility of Italians."

Hospitals' experiences around Europe have varied greatly. Some countries, inINGRESSO

cluding Germany, have maintained many spare hospital beds throughout the pandemic, with the number of severely ill people staying relatively low.

Other countries, especially Italy and Spain, have suffered bad outbreaks concentrated in certain regions, putting severe strain on hospitals in the worst-affected areas.

In northern Italy's Lombardy region and the area around Madrid, gurneys bearing people wearing oxygen masks filled hospital corridors and makeshift wards in the worst weeks of the pandemic's first wave. High infection rates among medical personnel added to the strain on health systems.

Bergamo's Papa Giovanni among the hospitals where, for several weeks, the number of severely sick people rose faster than the number of beds, forcing doctors to choose whom to put in intensive care and whom to exclude-knowing many of the latter would die as a result.

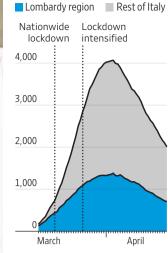
That crisis is now easing a bit. In Italy, the number of virus patients in intensive care has dropped to 1,956 from a peak of over 4.000 in early April. The overall number of hospital cases is also falling.

In Spain's hard-hit Madrid region, hospitalized cases have dropped by almost half to 5,892, while those in intensive care have fallen by one-third to 873.

Less than half of the U.K.'s critical-care beds, a broader category that includes intensive care, are now being used to treat coronavirus patients, down from nearly 60% in April.

The U.K.'s National Health Service rushed to create extra beds for patients with Covid-19, the disease caused by the virus. Nonurgent operations were canceled, and the army was drafted to help build seven extra hospitals, including one in a

Patients in Intensive Care



Source: Italian government

Medical staff conducted serological tests at the Pesenti-Fenaroli Hospital in Alzano Lombardo, Bergamo, Italy, last week.

vast convention center.

Most of the extra beds are now empty. The NHS expects to keep them in the coming months as it gradually resumes treatments that were canceled. U.K. authorities are also concerned that coronavirus infections could pick up and so plan to keep the extra capacity.

France more than doubled intensive-care beds equipped with extensive lifesupport machinery. Elective procedures were canceled. Staff, equipment and beds were redirected to coronavirus units. France now has 10,500 such beds. Just over 7,000

were filled during the peak of the health crisis.

Health authorities are planto start returning France's hospital system to normal operations. But they intend to maintain an elevated number of intensive-care beds in case of a rebound in infec-

Nowhere was Europe's hospital crisis more acute than in Lombardy, where the shortage of beds and equipment for critically ill patients contributed to the high death toll. More than 13,000 virus deaths in Lombardy are officially con-

"We are gradually moving toward something that looks like normality," said Giovanna Perone, director of emergency services at Spedali Civili hospital in Brescia, another hardhit city in Lombardy.

At the height of the emergency in March, the hospital converted an old laundry room into an 80-bed ward for Covid-19 patients. These days, fewer than a dozen patients usually spend the night there, and the hospital is considering shutting the facility in the coming weeks.

Elsewhere in the hospital, nonurgent procedures will soon resume

But Dr. Perone says the emergency isn't over. "Things are just calming down," she said. "But we need to see how the country's reopening will be handled and whether people will follow the rules."

—Max Colchester in London and Matthew Dalton in Paris contributed to this article.

Infections Drop in Japan, Where Rules Are Optional

By Alastair Gale

TOKYO—Tokyo reported its lowest daily level of new coronavirus cases in more than three weeks, a fresh sign that Japan may be suppressing the outbreak without compulsory social distancing and with limited testing.

Unlike many Western countries, Japan hasn't imposed a lockdown backed with fines or penalties. Instead, Prime Minister Shinzo Abe has asked people to reduce their contact with others by 80% and encouraged businesses to reduce hours of operation or close. Restaurants may open but are asked to close by 8 p.m.

Japan also has shunned widespread testing for the virus, instead targeting clusters of infection when they appear in an effort to snuff out further spread.

On Monday, Tokyo reported 39 new cases of infection in the capital, the lowest total since March 30. New cases often are lower on Mondays because they reflect test results from Sunday, when many hospitals are closed, but the latest figure was less than half that of every other Monday in April.

The downtrend in new cases is reflected in national data. Across Japan, the rate of increase of coronavirus infections fell to 1.5% on Sunday from 12% a day after Mr. Abe asked people in major cities to reduce activity under a state of emergency on April 7.

Japan has reported 13,385 infections and 351 deaths, a death toll lower than in many

Japan appeared at risk of an exponential surge in infections in late March and early

April as many people went about their business as normal, including joining parties held in parks during a threeday weekend to view cherry blossoms. But following Mr. Abe's dec-

laration of a state of emergency and an expansion to the entire country on April 16, pedestrian numbers have fallen sharply in city centers. Japan's relatively low level

of testing—fewer than 10,000 tests each day-has led to concerns among medical experts that the true level of infection may be far larger than reported.

The number of confirmed infections is the tip of the iceberg. It's probably about 10 times as large," said Hiroshi Nishiura, a member of a panel of medical experts advising the government, at a news conference on Friday.

Dr. Nishiura advocates more testing, but believes Japan can suppress the epidemic by reducing social interaction by 80%. He proposed the target to Mr. Abe based on mathematical modeling of the spread of viruses.

If the downtrend continues, Japan, like South Korea and some European nations, would tackle the question of how to reopen slowly without exposing itself to a new flood of cases. So far, Mr. Abe hasn't said much about how that would happen.

For now, Japanese leaders are calling on people not to let down their guard. Next week, the nation will be on vacation for several days during the annual Golden Week period, when people traditionally travel to visit friends and family. "Let's stay home in Tokyo and save lives," Tokyo Gov. Yuriko Koike said on Monday.

New Zealand Claims Win Over Outbreak

By RACHEL PANNETT

SYDNEY-New Zealand declared a victory over the new coronavirus, the culmination of a tough social experiment that contrasted with less-restrictive efforts by Western countries to contain the pathogen but not eradicate it.

One new case was confirmed on Monday, the final day of a roughly monthlong lockdown that Prime Minister Jacinda Ardern described as the strictest constraints placed on New Zealanders in modern history.

The country's 4.8 million citizens were ordered to stay home on March 23 and not to socialize with anyone outside their household "bubble" for at least four weeks. Excursions had to be essential, and solitary. In grocery stores, customers lined up six feet apart, avoiding even eye contact—an oddity in a small country that prides itself on its community

"There is no widespread undetected community transmission in New Zealand," Ms. Ardern said on Monday. "We have won that battle."

Governments are balancing the relaxation of coronavirusrelated shutdowns against the risks of fueling fresh outbreaks of the virus and against economic pain. A paper published in the journal Science on April 14 said that one-time lockdowns likely won't be enough and that physical-distancing measures may need to be in place intermittently until 2022.



New Zealand's isolation as a small island economy helped it avoid the kind of outbreaks seen elsewhere. But it also makes it vulnerable to future flare-ups, if it relaxes current

restrictions on travel. Ms. Ardern said New Zealanders needed to remain vigilant and life wouldn't return to normal soon, leaving the door open for the restrictions to be tightened if infection rates rise again. There have been 1,122 cases confirmed in New Zealand, with 19 deaths, most of them elderly people with prior health conditions.

Under the newly loosened restrictions, schools and child-

care centers can reopen, although children should study from home if possible. More businesses can reopen as long as they don't physically interact with customers.

"Provided we do not have an awful rebound in coming months, we stand virtually unique as the first country to defeat the virus and with the lowest direct human costs,' said Peter Gluckman, who until recently served as the country's chief science adviser.

New Zealand had fewer than 100 cases and no deaths when it went into lockdown, hoping that by reacting quickly it could avoid the rapid community spread seen elsewhere. Ms. Ardern said modeling showed New Zealand could have had as many as 1,000 cases a day if the virus were allowed to spread unchecked.

Still, New Zealand's strategy has been controversial. A group of six scientists had said striving for elimination is bound to fail and would generate worse economic and health outcomes than the virus itself.

The lockdown brought the country to a virtual standstill. A recession is expected: The most dire forecasts predict New Zealand's economy could contract by as much as 10%, and the jobless rate will triple its 4% rate in December to the highest levels in nearly 30 years.

Sue Mushet, a 55-year-old neonatal nurse who lives by herself in the New Zealand capital, Wellington, had felt her social support slipping away. She would usually go for coffee with her nursing pals to debrief after a stressful shift, but that

was no longer allowed. Her job had also become more stressful because of new Covid-19 regulations: The hospital recently made the heartwrenching decision to restrict visitors to one per baby in the

neonatal intensive-care ward. Staff had to choose between mothers and fathers: "So of course we chose mothers because they need to feed their babies," she said.

Ms. Ardern said the restrictions would be reviewed in two weeks, with the potential for them to be relaxed further.

Car Makers See May 18 Restart

Continued from Page One

tended an executive order closing the state's nonessential businesses through May 15 to combat the state's outbreak.

Ms. Whitmer's administration has declined to specify whether auto assembly is considered an essential economic activity under the order. A heavy concentration of

the companies' factories and their supply base is in Michigan, and auto makers so far have voluntarily idled their

The May 18 start date would apply to all of the Detroit companies' U.S. factories, even in states where stay-athome orders are lifting sooner, the people familiar

with the discussions said. The timing would allow the auto makers to complete

safety protocols with the UAW

and give parts suppliers more time to prepare shipments, the people said.

The ambiguity around the companies' restarting plans has left many automotive suppliers unsure of whether they can legally run their assembly lines or recall workers in preparation of filling orders for customers with plants outside of Michigan. supplier executives, consultants and attorneys have The car companies have

said they would provide protective gear for workers when they return and will try to maintain social-distancing protocols in their plants through measures such as dividers between work stations.

Foreign auto makers, who have nonunionized workforces based primarily in Southern states, have plans to resume production sooner. Toyota Motor Corp. said it plans to Both restart some factory work

May 4. Honda Motor Co. is targeting May 11. The Detroit companies began closing their factories

around March 20, as positive

Covid-19 cases at car factories

began popping up and much of American society went into lockdown.

The companies have continued to sell vehicles at their dealerships, though at sharply reduced levels even with heavy discounts and 0% financing promotions.

But the plant shutdowns have essentially choked off revenue, because car companies are paid by dealers when vehicles are shipped from the

Fitch Ratings estimates Ford burned through at least \$8 billion in cash in the first month of the shutdown, while GM used at least \$5 billion. The auto makers have been

working to preserve cash. GM on Monday suspended its dividend, a step Ford took last month, a day after it said it would close its North American factories because of the pandemic.

companies have tapped credits lines of more than \$15 billion, and Ford

raised an additional \$8 billion in debt. Fiat Chrysler hasn't suspended its dividend but has

tapped nearly €8 billion (\$8.7

billion) from its existing credit lines while adding a separate €3.5 billion credit line, which remains untapped.

The Italian-American auto maker is completing a merger with Peugeot maker PSA Group, which would include a €5.5 billion special dividend paid to Fiat Chrysler shareholders when the deal closes.

Fiat Chrysler said Monday it is resuming production at a van factory in Italy after establishing fresh health and safety measures, the latest car company to test the waters of reopening factories in Europe.

Roughly 6,000 employees returned to work at the plant in Sevel, Italy, which the company jointly operates with PSA Group.

Some operations are also resuming at plants in Cassino, Pomigliano, Termoli and Mirafiori to supply necessary components to the Sevel

Volkswagen AG also said Monday it has resumed vehicle production, at its Wolfsburg plant in Germany at 10% to 15% of capacity.

-Nora Naughton contributed to this article.



A doctor, left, and an official participate in a demonstration of drivethrough testing for the coronavirus in Fujisawa southwest of Tokyo.

On the Hunt for Earlier New York Cases

Pathologists are trying to determine whether the virus was in the state before March

By Melanie Grayce West AND BEN CHAPMAN

Medical researchers are doing detective work to see if the novel coronavirus was in New York before March, undertaking studies of flu swabs and deaths that could challenge the official timeline of the infection's arrival in the

Pathologists at Manhattan's Weill Cornell Medicine are examining about 20 bodies that were permitted to be autopsied. These patients died at the hospital in February and March, and researchers are trying to determine whether one of those deaths may have been due to Covid-19, the disease caused by the new coronavirus, said Alain Borczuk, vice chairman and director of anatomic pathology.

One case, in particular, prompted researchers to seek additional testing from the Centers for Disease Control and Prevention.

Dr. Borczuk wouldn't say when that patient died, and it isn't known vet if the infection was the cause of death. But the death could move the hospital's first case back a number of weeks, he said.

The presence of an untypical lesion in the upper airway, which has been seen in a number of patients who have died from confirmed cases of Covid-19, is partly what triggered researchers to re-examine the earlier deaths.

"We don't know what the answer will be," he said of the findings. "Once you have an idea what the disease looks like you can go back."

Medical researchers around the country are working to de-



Medical workers wheeled a deceased patient behind a privacy screen at the Brooklyn Hospital Center on Monday as a woman walked by.

termine when the virus first appeared in the U.S. Some findings already have led epidemiologists and government officials to rethink when the disease started to spread.

Last week, officials in Santa Clara County, Calif., said the first U.S. death from the novel coronavirus occurred in early February with the death of a 57-year-old woman, challenging longstanding timelines of the pandemic.

Previously, the first known U.S. deaths from Covid-19 involved two nursing-home residents in the Seattle area who died Feb. 26.

As of Monday morning, New York accounted for 30% of the 965,933 infections in the U.S. and nearly a third of the country's 54,877 deaths, according to Johns Hopkins University, which has been tracking the disease.

The first confirmed case of coronavirus in New York was March 1, according to state and city officials. The initial patient was a Manhattan woman who had traveled to Iran and worked in health

On March 14, Gov. Andrew Cuomo announced that the state's first confirmed coronavirus death had occurred that morning. A review by the New York City Department of Health and Mental Hygiene has since identified two earlier deaths, on March 11 and March 12, and two on March 14, according to officials. The city was notified by the city's medical examiner of the March 11 death on March 15, said a spokesman for the Department

of Health and Mental Hygiene. Researchers at the Icahn

School of Medicine at Mount Sinai have found there was "untracked global transmission between late January to mid-February," according to research published in April. Those researchers found

that the virus had been circulating in New York City as early as mid-February, with versions of the disease that originated in Europe or North America.

Andrew Badley, head of the Mayo Clinic's Covid research task force, said knowing when there was a first case and a first death helps to understand the rate of spread of a disease. It is the "most important variable that gets plugged into predictive models about how many cases there will be

in the future," he said.

Researchers at the Mayo Clinic in Rochester, Minn., who had been studying the flu and the common respiratory syncytial virus, are now examining stored specimens to determine how early coronavirus was circulating in the U.S. before the official first cases, Dr. Badley said.

It is likely that researchers would find cases of coronavirus infection "going back months, possibly years," he

The Office of Chief Medical Examiner for New York City isn't reviewing deaths in the city from January and February to determine whether any were coronavirus-related, said Aja Worthy-Davis, a spokes-

"We are not currently look-

ing back at our January and February cases, but are following these scientific develop-

ments closely," she said. On Thursday, Gov. Cuomo said searching for virus-related fatalities in December and January would be chal-

"If you then go back to December and January and start to look at the number of deaths and check them for a Covid-related death, I don't even know how you'd do that practically," he said.

Spokesmen for the New York State Department of Health and for Mr. Cuomo didn't respond to requests for comment.

The spokesman for the city's health department said the agency had no evidence of an increase in influenza-like activity beyond what is expected for February. Flu was still circulating then, but it was on the decline, he noted.

"We will review what mechanisms we have in order to confirm if the virus was circulating earlier than our first confirmed case," the spokesman said.

The CDC routinely performs rapid sentinel surveillance, a common epidemiological effort to determine how many people are infected with a disease now and how many were infected in the past.

The city's health department spokesman said the CDC requested from the agency 549 anonymous samples from six local hospitals. The samples were from people who tested negative for flu and other respiratory viruses from Feb. 29 to March 20. Of that group. 6.6% of the samples tested positive for Covid-19.

The health department spokesman said the city didn't find Covid-19 in samples that preceded the city's first positive case on March 1.

–Josh Barbanel contributed to this article.

States Lay Out Criteria for Reopening Economies

By Joseph De Avila

The governors of New York and New Jersey on Monday said they can reopen economies in their states when a reshows declines in Covid-19 cases and hospitalizations for 14 consecutive days and hits other benchmarks.

New York Gov. Andrew Cuomo said at a news conference that parts of the state, excluding the hard-hit downstate region, could begin to open up as soon as May 15. A region would have to reach the 14-day criteria to reopen, he said.

"We have to be smart about it," Mr. Cuomo said. "As we said, there is no light switch be ramped up in New York and

where you flick a switch and everybody goes back to doing what they are doing."

New Jersey Gov. Phil Murphy didn't give a timetable for reopening, but said his state would need to hit similar benchmarks before he starts pulling back on restrictions that have kept businesses closed to prevent the spread of the new coronavirus.

"Until we give the public confidence that they should not be fearful, we cannot take further steps," he said. "A plan that is needlessly rushed is a plan that will needlessly fail."

Both governors, who are Democrats, said testing must New Jersey to lift restrictions.

The states are preparing to assemble teams of thousands of workers to implement a contact-tracing program to get in touch with those who have had contact with infected people and may be infected them-

The states also are looking to secure space that could be used to isolate patients in the future so they don't infect others.

In New York, 337 more Covid-19 deaths were reported Monday, bringing the statewide total to 17,303. New Jersey reported 106 additional deaths Monday for a total of 6,044 fatalities.

The number of people hos-

slightly by 20 patients on Monday; it was the 14th consecutive day of declines for the state. In New Jersey, there were 166 fewer people hospi-

pitalized in New York fell

Testing must be ramped up in New York and New Jersey

talized for the state's sixth straight day of declines.

New York will soon be conducting antibody tests for

estimate for how many have been sick with the virus. The state plans to test 2,000 police officers and firefighters in New York City and 1,000 transit workers. An additional 3,000 health-care workers in the state also will be tested. "We want to know exactly

front-line workers to get an

where those front-line workers are if they have been infected," Mr. Cuomo said. "We want to make sure people are getting help."

The state also released new results from antibody tests of 7,500 New Yorkers. The results showed that nearly one in four New York City residents in the study tested positive. That figmillion people from New York City may have been infected, Mr. Cuomo said.

ure indicates that about two

On Long Island, 14.4% tested positive in the antibody study. In Westchester and Rockland counties, that figure was 15.1%, and for the rest of the state it was 3.2%.

In New York City on Monday, Mayor Bill de Blasio said the city plans to close 40 miles of streets to make room for side walk widening and additional bike lanes during the next month to make social distancing easier. An additional 60 miles will be closed in the future in areas that have been the hardest hit by the virus, he said.

Majority Backs Rules, Poll Shows

By JIMMY VIELKIND

A broad majority of New York voters support state requirements to wear face coverings in public and keep schools and most businesses closed until May 15 to stop the spread of the novel coronavirus, a poll released Monday found.

Gov. Andrew Cuomo, a Democrat, also received record-high marks for his handling of the outbreak in the state, according to a survey of 803 voters conducted last week by the Siena College Research Institute.

"Mired in middling poll numbers for the last two years, Cuomo is feeling the love from New Yorkers of all stripes in year three of his third term, and his first global pandemic," poll spokesman Steven Greenberg said. "His 71-28% job performance rating this month bests last month's all-time high, and is up strikingly from a negative 36-63% rating just two months ago."

The poll found 92% of voters surveyed supported the governor's executive order requiring New Yorkers to cover their nose and mouth if they are in a public place where social distancing isn't possible. The order went into effect

April 17.

Eighty-seven percent of voters said they support keeping schools and nonessential businesses closed until May 15.



Gov. Cuomo ordered New Yorkers to wear masks in public places where social distancing isn't possible.

The margin of error in the poll was plus or minus 3.7 percentage points.

The state will begin reopening its economy on a regional basis, starting with the construction and manufacturing sectors, Mr. Cuomo said.

The restart would be premised on a decline in new coronavirus cases, which would be measured by an expansion of testing for both infections and antibodies, which indicate a person has had the virus. Last week, several hundred

people protested outside the state Capitol in Albany asking leaders to begin reopening the economy.

The poll found that a majority of New Yorkers, 69%, said the state couldn't reopen

businesses without widespread testing. The level of support was higher in New York City than

upstate counties, but in both

areas more than 60% of voters agreed.

The poll also found that more New Yorkers, 78% of those surveyed, trusted the businesses can reopen than they did President Trump.

governor to determine when Eighty-four percent of respondents approved of Mr. Cuomo's handling of the crisis,

compared with 34% who ap-

proved of Mr. Trump's ap-

proach.

State Cancels June **Presidential Contest**

By JIMMY VIELKIND

New York election officials took the unprecedented step on Monday of canceling the state's Democratic presidential primary to stem the spread of the novel coronavirus.

Democratic commissioners of the State Board of Elections approved a resolution that removed 10 candidates from the primary ballot who had publicly stated they were suspending their campaigns. That included Vermont Sen. Bernie Sanders, whose campaign said Sunday that it would like the primary to move forward.

The primary was scheduled for June 23.

State lawmakers included a provision in the state budget approved earlier this month that allowed for the removal of candidates and people who were on the ballot as their delegates to the Democratic Party's nominating convention

in August

Republicans canceled their presidential primary in March, when only President Trump fulfilled the requirements to secure a spot on the ballot.

Residents in many parts of New York still will vote on June 23 in primaries for state and local offices, as well as seats in the U.S. House of Rep-

two Democratic commissioners on the state Board of Elections, said he was concerned that holding a presidential primary would unnecessarily expose voters and election workers to the coronavirus. He noted that Mr. Sanders endorsed former Vice President Joe Biden's bid for the nomination on April 13.

"What the Sanders supporters want is essentially a beauty contest that, given the situation with the public-health emergency that exists now, seems to be unnecessary and, indeed, frivolous," Mr. Kellner said. "I think that it's time for us to recognize that the presidential contest is over.'

When he suspended his campaign on April 9, Mr. Sanders said he hoped to continue to amass convention delegates during coming primaries so he would have influence over the party's rules and platform. On Sunday, a lawyer for Mr. Sanders's campaign asked election officials to hold the primary.

"Removing Sen. Sanders from the ballot would undermine the Democratic Party's interest in self-governance and unification," the lawyer, Malcolm Seymour, said in a letter.

Representatives for the Biden and Sanders campaigns didn't return emails seeking Douglas Kellner, one of the

comment.

GREATER NEW YORK





Hajnal Pivnick, left, and Frank London are part of a group organizing what it is billing as a 'symphonic fanfare' Wednesday night, inviting musicians with a range of talent to participate.

Musicians Plan Symphony for City in Crisis

By Charles Passy

During the pandemic, New Yorkers have saluted health-care professionals and other essential workers every evening at 7 p.m. with claps, shouts and lots of banging on whatever instruments—or kitchen gear—are on hand.

Now, three local musicians are attempting to turn that cheer, a tradition that originated in China and has been picked up in Italy and elsewhere, into what they bill as a "symphonic fanfare" this Wednesday night. And they are inviting all New Yorkers, from beginning students and rank musical amateurs to prominent artists, to participate.

"We can play together from a distance," said Frank London, a composer, trumpeter and bandleader who is part of

the group behind the effort.

The other organizers include husband-and-wife musicians Dorian Wallace and Hajnal Pivnick, who are the founders of Tenth Intervention, a New York-based music

series and artist collective.

The trio is calling the piece "For Our Courageous Workers," an 11-minute opus, broken into four parts, with a score that is more like an emotional road map.

The work will unfold with periods of "Cheering," starting at 7 p.m., "Reflecting" at 7:03, "Catharsis" at 7:06 and "Gratitude" at 7:09.

Those with instruments on hand are invited to play specific things at specific times—string players will be given one set of notes during "Cheering" and "Reflecting," while keyboard players will be given others, for example.

Full details can be found on Tenth Intervention's website.

Amateurs can participate in other ways, too. During "Cheering," they are encouraged to do as they normally would during the 7 p.m. salute: "clap, cheer, bang on pots

Conversely, during "Reflecting," they are instructed to "breathe, listen and reflect."

The "Catharsis" section will be more of a wild jam, with a basic set of instructions: "Play



Lenox Hill Hospital health workers thank New Yorkers who cheer for those battling the pandemic.

anything!" And "Gratitude" calls for instrumentalists to all play a single note—B flat, to be exact—while everyone else sings "Ah" on any note of choice

Mr. London said he came up with the idea for the piece a little more than a week ago. His thought: It is time to give New Yorkers a new way to cheer.

"They need something to juice it up," said Mr. London, who is especially known for his work with Grammy Awardwinning band the Klezmatics.
Mr. London worked with his

collaborators to develop the score and get the word out quickly about the event. The trio has tapped a network of cultural and other organizations, from the Kaufman Music Center in Manhattan to the Brooklyn Conservatory of Music, to share the details with their respective communities.

Brian Drye, program director at the Brooklyn Conservatory of Music's community school, said he hopes the event would be repeated on a regular basis, so that it builds on itself. "I definitely could see this happening again," he

So far, the organizers haven't committed to anything after Wednesday. They also admit it is difficult to say how many New Yorkers will end up

participating.

If anything, Mr. Wallace said the idea isn't necessarily to repeat the event so much as to inspire artists and others to think creatively during the

pandemic.
"I don't think it matters if this project has a life beyond" this week, he said.

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LIFESARTS

Happy Hour Gets Earlier In Lockdown

Many social drinkers find they are consuming more as they look to cheer up or relieve stress

Change from year earlier in U.S.

retail alcohol sales*

Total alcohol sales

*for six-week period ending April 11.

Beer and cider

By Ray A. Smith And Bojan Pancevski

y her third week of social distancing, Amanda Marie Ramos noticed that she was finishing a bottle of wine faster than usual. "Typically if I even open a bottle on a Friday night, I make it last all the way till Sunday night, and sometimes I may not even finish it then," said the 39-year-old married mother of two, who lives in Canandaigua, N.Y. "But lately I'll finish a bottle that night, or in two, depending on who I'm FaceTiming."

Ms. Ramos, a registered nurse with the University of Rochester's

Spirits

Wine

pediatrician's office, is one of many social drinkers who typically go for beers, wine or cocktails once or twice a week, or only on weekends and special occasions. Now, she finds herself drinking more than usual under quarantine. "What else is left to do after

the house is cleaned, feasts have been made, and bike rides and walks have been had?" she said.

Stuck at home and unable to visit bars and restaurants, social drinkers are drinking more to wind down, or "wine" down, after frenzied days juggling working from home and managing children or families. To relieve pandemic anxiety, or to preserve a positive outlook and social routines in a dark time, many have participated in virtual cocktail hours or poured a drink for a video call with friends.

Celebrity chef Ina Garten went viral earlier this month after posting on Instagram a two-minute video mixing her favorite Cosmopolitan in a pitcher, pouring some into a giant cocktail glass, then taking a sip—at 9:30 in the morning. Her caption reads: "It's always cocktail hour in a crisis!" So far, the clip has been viewed more

than three million times.

Sales of alcohol at U.S. liquor and grocery stores have risen nearly 26% from the week ended March 7 through the week ended April 11, compared with the same period a year ago, according to research firm Nielsen. Online alcohol sales have soared week after week, Nielsen added, while many states are temporarily allowing restaurants and bars to make home deliveries or sell wine and cocktails for takeout.

Alcohol sales are also up in Europe. In Spain, one of the countries hit hardest by the virus, wine sales surged by 60%, while beer purchases went up 80%, according to a survey by the retail magazine In-

foretail. In Germany and the Netherlands, wine and spirits purchases from supermarkets rose by 30% during the lockdown, according to GfK, a global market-research firm.

Åsa Linderborg, a Swedish author, wrote an essay in the country's largest-circulation

newspaper, Aftonbladet, about how the stress of the epidemic, compounded by anxiety about job and recession fears among her friends, drove her to start drinking at 11 a.m.

"I wonder how many people feel, like I feel, that one, two, three glasses is the only way to suppress anxiety?" Ms. Linderborg said.

The World Health Organization has called on governments world-wide to warn citizens that increased drinking at home could be a slippery slope into alcoholism. "With routines out of the window, we might well find ourselves reaching for a drink more often," says Dr. Aiysha Malik, an officer in the WHO's Department of Mental Health and Substance Abuse.

Excessive drinking could lead to serious problems including mental health issues, domestic violence and accidents, said Jonathan Avery, di-

rector of addiction psychiatry at Weill Cornell Medical College in New York. Even social drinkers should watch that their increase doesn't slip into a problem. "It's so in our culture that this is how one responds to a difficult life moment, by drinking," Dr. Avery said. "If you look at a movie, what do people do after a breakup or after losing a job? Drink."

Many social drinkers, though, say they are partaking with moderation.

Sean Leahy, an account representative at a Portland, Ore.-based company, and his wife, who works in property management, are both working from home. Mr. Leahy said the two will have drinks after work four to five times a week compared with two to three times before stay-at-home orders. "These are unprecedented times and our 'normal routines' are inevitably changing as a result," the 31-year-old says. "I'm not worried about

More Zoom calls mean more wine for some. Celebrity chef Ina Garten went viral with a giant cocktail on Instagram.

any long-term health issues or any dependency."

Susan Kent, of Stanley, N.Y., now drinks a glass of wine before bed. "I get up at a quarter after five in the morning, and at 10 o'clock at night when you're still wound up and you know you can't go to sleep, one glass of wine helps me relax," said the 53-year-old hospital secretary. It is something she started four weeks ago to take her mind off of the virus, how hard it could hit her area and whether her job is safe.

"I know drinking more is obviously not good for you, but it's almost easier to justify because you have the time and easier access," said Eric Turner, of Greensboro, N.C. The 34-year-old, who works in financial services, might once have had one or two drinks two nights a week and maybe on a Saturday, "now it seems like it's becoming more frequent, two, three, four nights in a row."

Julia Dugan, a 27-year-old administrative assistant in Maryville, Tenn., said her drinking has increased since she no longer has to wake up at 6:30 a.m. every day to head to work. "If I want to have a few more beers in the evening, you know, it's not a problem," she says. The mental health office where she works now rotates workers so Ms. Dugan's work schedule sometimes means she goes into the office one day a week. "During the week I hardly ever drink, but, shoot, I only worked one day a week so I'm like why not crack a beer? It's not like I'm getting wasted every evening. It's not excessive."

By Ellen Byron

GOODBYE RUSH HOUR and business suits. Hello robots and mood-boosters.

Just three months after releasing its forecast of this year's biggest global consumer trends, market researcher Euromonitor International on Monday updated its predictions to reflect a major impact from Covid-19. Some shifts have taken hold much faster than Euromonitor expected, notably the home's transformation into a multifunctional refuge used for work, school, leisure and exercise. But the pandemic has stalled other trends—relaxing previously rising privacy concerns and damping interest in reusable products.

"As we all know, life has been turned on its head," Alison Angus, head of Euromonitor's lifestyle research, says in a webinar released Monday. Here are Euromonitor's updated predictions for big global consumer trends:

Privacy Concerns Ease: Euromonitor forecast in January that consumers would be less trusting of companies using their data without transparency, adequate security and opt-out options. But Covid-19 put those worries on hold, it says.

"Right now, consumers are more focused on the virus, that's their fear," says Ms. Angus. "They're prepared to pause their privacy concerns and share data in the name of public health." Even as lockdowns ease, Euromonitor expects privacy worries to remain on hold as online shopping and payments continue to be a necessity rather than a choice.

Friendly to Robots: Consumers have suddenly become far more comfortable with robots and other types of artificial intelligence per-

Coronavirus Trends: Homebodies, More Robots and Less Privacy



The pandemic has accelerated the transformation of the home to a refuge used for work, school, leisure and exercise.

forming jobs traditionally done by humans. Euromonitor earlier this year noted that consumers were buying more AI-enabled home appliances and virtual assistants, like Amazon.com Inc.'s Alexa. But now, such devices have a new draw, says Ms. Angus. "Voice-control technology limits the need to touch surfaces so much, so that's why they are appealing," she says.

Robotic innovation is further driven by businesses investing in technologies that offer no-contact services and deliveries.

Heightened Distraction: Shorter attention spans mean that people expect information to be as accessible as possible in the quickest possible time. Earlier this year, Euromonitor cited this as the "catch me in seconds" trend and called for businesses to offer more per-

sonalized content in easily digestible messages. The pandemic has deepened consumers' distraction because they are overwhelmed by fast-changing information, and the lines between work, rest, play and exercise have blurred at home.

Slower Mobility: The coronavirus has "all but stalled" demand for better transportation options, which Euromonitor in January had said was on the rise, Ms. Angus says. Before the virus, people were seeking easier navigation through crowded cities, including more public transportation and more opportunities to share bikes, scooters and even helicopters. Now such needs have waned.

More Inclusivity: Demand for products and services that emphasize "inclusivity for all," including peo-

ple with physical and mental disabilities, is a trend that has been strengthened by the novel coronavirus, Euromonitor says. As more travel destinations, education courses, entertainment venues, business meetings and cultural institutions emphasize their online accessibility, disabled communities benefit. And a rising sense of community is fueled when more people are helping those in need, putting pressure on businesses to include disabled communities, Ms. Angus says. "As we come out of lockdown, most of us will have experienced firsthand the isolation many individuals with disabilities cope with daily," she says. "This is increasing our community spirit everywhere."

Homebodies: The multifunctional home is a prediction that came true

"overnight," Ms. Angus says. As access to broadband grew, Euromonitor in January had predicted that more consumers would become reluctant to leave their homes. Amid the coronavirus-fueled lockdowns, consumers fully retreated to their homes and immediately transitioned to working, learning, exercising and socializing there.

Local Pride: The pandemic has fueled consumer demand for more local brands and products, Euromonitor says. Overnight, international travel and supply chains closed. Meanwhile, the virus has created a feeling of "getting through this together" and wanting to support local businesses and communities to keep them going, Ms. Angus says.

Fewer Reusables: "This is another trend that coronavirus for now has halted," says Ms. Angus. Euromonitor initially predicted more circular business models that aimed to promote sharing, reusing, refilling and renting to avoid waste. But now, concerns over health and touching products that have previously been used have led consumers to again embrace disposable products, Ms. Angus says. "Clean comes before green," she says.

Taking Care: At the start of 2020, well-being was a top priority as consumers sought products that offered mood enhancement and brain-function boosts, Euromonitor reported. Amid the pandemic, that concern is heightened as many people struggle with isolation, fear of the unknown and anxiety. "Covid-19 will reset people's behavior and priorities," she says. "They'll be favoring consumption patterns that prioritize the self."

 For Tuesday's Arts in Review articles, please see WSJ.com.

LIFE **営 ARTS**



Demand for In-Home Care Rises

By Clare Ansberry

OVER THE PAST three years, Paula Newbaker has relied on inhome caregivers to help with her 88-year-old mother, who has dementia.

When the new coronavirus began spreading last month, Ms. Newbaker and the caregivers decided that the risks were too great for them to continue coming to the home in western Pennsylvania. Since then, her mother has become more disagreeable and lost some mobility. While Ms. Newbaker is eager to have the caregivers back, she's cautious.

As older adults shelter in place, an alreadystretched caregiver network faces new strains.

"I don't know when we are going to feel safe enough for that,"

The coronavirus is putting a new focus on the importance of home care and the strains on its workers and the people relying on them. Some families are canceling in-home care as they fear risks of contagion for older parents and relatives. Others are taking loved ones out of nursing facilities, hoping to avoid a deadly outbreak, and now looking for home-health aides. At the same time, the virus is a threat to the home-care workers, who are out in the community providing hands-on care for average wages of \$12-\$13 an hour.

Even before the pandemic, demand for home-health aides was

expected to exceed supply by more than three million in the next decade. Until there is a vaccine that can protect those most at risk, the need for these workers, whether paid by individuals or through Medicare and Medicaid, is expected to remain high. "The most vulnerable to Covid are going to be staying home longer than the rest of us and are going to need help to keep them safe," says Janet Kim, spokesperson for Caring Across Generations, an advocacy group for paid and family caregivers.

A month ago, none of the 600 home-care providers represented by the Ohio Council for Home Care and Hospice had reported infections among workers, says Joe Russell, the council's executive director. "Now everyone does have some of their work force quarantined or actually sick," says Mr. Russell, who organized a drive for donations of personal protective equipment to home-care agencies that didn't have enough. The Centers for Medicare and Medicaid Services issued guidelines for home health-care agencies, recommending wearing face masks and giving flexibility to allow telehealth for some services.

Data on the impact of Covid-19 on home-care workers is scarce. The Centers for Disease Control and Prevention reported that as of April 9 in the U.S. more than 9,200 health-care professionals, a much broader sector, had been infected with the coronavirus, and said it was likely an undercount. Bianca Frogner, director of the Center for Health Workforce Studies at the University of Washington in Seattle, estimates that if all such workers were tested, around 425,000 direct-care workers-which includes home-health



Top, Ernest Jackson, 93, relies on Sheila Bingham Jones of Home Instead Senior Care. Paula Newbaker, above, looks after her mother, Rae, without caregivers now.

aides, personal-care aides and nursing assistants—would test positive, based on data as of April 22 from Washington state, New York, the Centers for Disease Control and Prevention and Johns Hopkins University. The actual positive cases will depend in part, she says, on how well workers are protected with equipment.

Yet demand continues to rise. In the last three weeks, Jeff Huber, CEO of Home Instead Senior Care, has seen an increase in the number of people looking for in-home care, as well as the degree of their need. The average hours of care per client has risen to 30 hours a week from 20-25, he says. "These are people coming out of hospitals to make room for more Covid-19 patients," says Mr. Huber, whose Home Instead has more than 1,100 home-care franchises world-wide.

Anne Cassista, of Ashland City.

Tenn., recently took her 92-year-old husband, Floyd, out of a memorycare unit of a psychiatric facility because she was no longer able to visit him due to Covid-19 restrictions. He entered the unit in early April and his condition had deteriorated.

"I know we are both coming to the end of the journey, but I didn't want him to die without me holding his hand," says Mrs. Cassista, 85, and a former ballet dancer. They have been married 15 years, since they met at church, where Mr. Cassista passed the collection basket.

To bring him home, Mrs. Cassista needed help. She assembled a team, including privately paid caregivers who come four days a week for four hours. Her husband has been home since April 15 and is eating better and able to walk and carry on conversations, she says.

The coronavirus also has upended home-care arrangements for

those with disabilities. Katrina Simons, 32, a community-program specialist for the University of Minnesota, has cerebral palsy and relies on a team of part-time workers coming into her Minneapolis apartment to get her in and out of bed, bathed, dressed and fed. She needs three hours of help in the morning and four in the evening and pays \$13.25 an hour.

In mid-March, several caregivers who were college students told her they were going home because classes were canceled. "I lost four

staff in 48 hours," says Ms. Simons. A week ago, another helper quit to do child care for a family that asked that she work exclusively for them because of the virus risks, offering to pay her \$20 an hour.

Now Ms. Simons's home-care setup is tenuous. Filling in various shifts are a waitress who was laid off from a pizza shop at the airport, a musical therapist who lost her job, and an apprentice in a welding program that was suspended. She expects most of them to eventually return to their fulltime jobs and programs.

T've always been worried about a staff shortage, and I worry about it getting worse during Covid-19," she says. "It's not a job many people would take. They can earn more collecting unemployment."

Many home-care aides continue to work, taking extra precautions to keep themselves and the people they care for safe.

Sheila Bingham Jones, 55, arrives five mornings a week at the home of Ernest Jackson, 93, one of the first African Americans in the Marine Corps. When packages arrive, she disinfects the contents outside the house. She sprays the bottom of her shoes or brings an extra pair, and wipes down counters, door handles, phones, and remote controls when she arrives. If she uses his debit card to buy groceries, she sanitizes it after and keeps it in a Ziploc bag. "I'm on heightened mental alert," she says.

When she told Mr. Jackson he could no longer come into the grocery store or bank with her, he initially objected. "I had to sit down and explain the seriousness of what is going on," says Ms. Bingham Jones, who takes the same precautions when she stops in to see her 87-year-old mother, who lives with her brother.

She never considered not coming to care for Mr. Jackson. "It's my job, but I love what I do," she says.

Ms. Newbaker, in western Pennsylvania, left her public-relations job in Washington, D.C., three years ago to help care for her mother-Eralda, known as Rae-who has dementia and spinal stenosis. Two caregivers were coming to their home two mornings a week.

When the coronavirus began spreading and the state issued a shelter-in-place order, she and her caregivers decided it was best they didn't come.

It's been difficult, says Ms. Newbaker. The home-care workers brightened their days. They bathed her mother, got her to take her medication and exercise, all things that she resists when her daughter

"It's taking a toll on both of us," Ms. Newbaker says.

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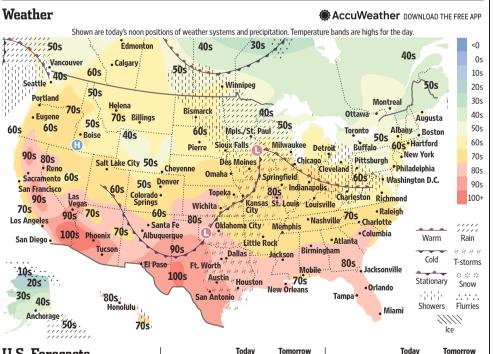
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U.S. Forecasts

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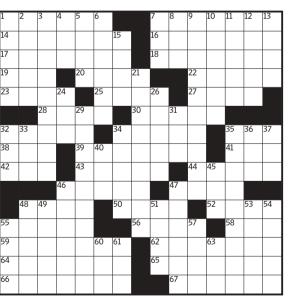
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The WSJ Daily Crossword | Edited by Mike Shenk



By Zhouqin Burnikel

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German Soccer Tries Social Distancing

The Bundesliga sets new guidelines as teams return to practice—bagged lunches, long passes and no showers

By Joshua Robinson

he Borussia Dortmund players hadn't kicked a soccer ball in almost two weeks when the club reached out with a surprising invitation. While the rest of the sports world sheltered on exercise bikes, they were being summoned back to practice.

What they found there didn't look anything like the sessions they were used to. The players could train only in pairs and soccer was now, apparently, a noncontact sport. But by sticking to the new guidelines, Dortmund has been back at the office with the German government's blessing since the week of March 30. And as some of the first athletes to emerge from quarantine, the team has gained rare insight into the coming shape of not just pro sports, but everything else:

Work from home was weird. Work from work is even weirder.

"We started training in twos, then fours, then sixes, and now eight—always respecting the government's rules," midfielder Axel Witsel said. "So far, we haven't been able to do anything with ball possession or small-sided games."

Yet real games with real stakes and a possible championship are just around the corner. With the coronavirus pandemic under relative control in Germany, the country's top soccer division hopes to return to empty stadiums as early as May 9. Teams haven't played a minute of 11-on-11 soccer in more than six weeks.

How best to reboot for elite competition with all the right precautions is anyone's guess. No one has ever faced a stop-start quite like it. So Dortmund's coaches have to make it up as they go along while the whole planet watches. Simply by being first, Ger-

man soccer clubs are writing the playbook for sports teams everywhere to get back to business. "We have to be creative," head

coach Lucien Favre said.

At practice, Dortmund now practices social distancing. Coaches who previously designed every aspect of training to foster togetherness are reinventing their entire workplace to keep their staff apart. Players remain in small groups, grab bagged

and take showers at home.

Working on set pieces is out of the question—corner kicks come with too much jostling. Tackles are banned for the moment too. The

lunches prepared by the team chef,





only upside, Favre said, is that his team can focus on individual skills that they never have the chance to hone anymore.

"They stay 10-15 yards away from each other, passing the ball, moving, and we go all the way to the goal like that," said Favre. "It's even better for respecting social distancing than before."

Off the pitch, everything has been adjusted for players to breathe as little of anyone else's air as possible while they're on Dortmund's campus. The senior squad has commandeered every locker room at the facility, right down to those belonging to the youth teams. At no time do they dress in the presence



German soccer teams are back in training and hoping to resume their season in May. But for now, at socially distanced practices, soccer is a noncontact sport. Left, Manuel Akanji leaves a training session with a bagged lunch.

of more than two other players. Even then, all they do is pull on a jersey and change their shoes. When practice is over, the still-sweaty Dortmund players skip ice baths, massages, and showers and hop back in their cars.

"It's old-school, like when we were kids in little clubs," Witsel said.

Except this is a club in contention for the German league title.
With nine games to go, Dortmund is just four points behind the leader,
Bayern Munich, which is also back in socially distanced training.

Should the battle resume on May 9, the Bundesliga will be weeks ahead of its neighbors. Just next door, France will still be under full lockdown. Belgium and the Netherlands have given up trying to pick up this season altogether.

Those who do harbor dreams of playing again in the near future are paying close attention. Italy intends to let pro teams practice from May 18. La Liga in Spain is giving serious thought to dates in June. And the English Premier League is also exploring options through the summer. What everyone can already agree on is that pro sports are a long way from unfolding in front of fans again. In cities like Milan and Liverpool, soccer learned the hard way that jam-packed matches were ideal vectors for infection.

Dortmund has recent experience with empty stands than most. Its last game before European soccer ground to a halt was played behind closed doors at Paris Saint-Germain on March 11. Dortmund lost 2-0 in front of 45,000 empty seats.

"We lacked the adrenaline that you get from fans," Witsel said. "Even when you play on the road and the whole stadium is against you, you've still got something pushing you....But we're going to have to get used to it."

ave to get used to it."

For Dortmund in particular, this

will take some adjustment. The club normally fills its cavernous home stadium with 80,000 supporters every other weekend, making it the best attended ground in Europe. Under German soccer's new protocol for the league, attendance will be closer to that of a small movie theater.

The players' main goal now is to make sure they're in proper shape. They did their best at home after the club shipped them all exercise bikes. And now they have the pleasure of running on actual soccer fields.

Favre, meanwhile, used the layoff to study extra game tape, a luxury he didn't have when Dortmund
was playing twice a week. Then
once he ran out of Dortmund game
tape, he killed time the same way
as sports fans everywhere else: he
rewatched classic tape. Nothing
blew him away more than a 1974
World Cup match between the
Netherlands and Brazil.

Favre had remembered it as a supreme display of offensive skill. What he'd forgotten was that referees also let defenders get away with murder. "Seeing it now, I nearly fell out of my seat!" he said. "There's an assault on the pitch every five minutes!"

Rampant fouls weren't the only jarring sights. After two months of social distance, everything about pre-pandemic game footage came with shock value: the bumping stands, the abundant hugging, the crowded penalty areas, the players trading jerseys full of microbes.

It was a highlight reel of everything you're no longer supposed to do. But Favre knows that none of them will be coming back anytime soon, even when soccer does.

JASON GAY

I Teach School Now. It Isn't Going Well.



If one penguin lays two
eggs, and four penguins lay four eggs,
then six penguins will
lay...oh, what do I
know about penguins?

Can't someone ask me about the NFL draft? Bill Belichick did the draft with his dog!

Hi. My name is Jason. I used to write about sports, but now that job is relegated to the funny hours, in the early light, among the chirping birdies, or in the dark, after my family has snoozed off for the evening. Like many parents, my 9-to-5 workday is now consumed by teaching "virtual" school—in my case, for a 5-year-old and a 7-year-old, a pair of innocent children suddenly at the mercy of a father who misspelled "San Francisco" halfway through his Super Bowl column.

This isn't one of those columns in which the author gives smart advice about how to teach children in quarantine. There is no smart advice here. I'm lousy at this. My children are plunging in aptitude with each passing minute. Thanks to their dad, they're on the verge of delinquency and mayhem. I think I saw one of them try to carve "Black Sabbath" into the kitchen table with a pocket knife. I swear they've started smoking in the bathroom.

But these kids are stuck with me as long as this goes on. That's because their mom is a teacher herself—a real teacher, not a moron, like me. When she steps in and runs virtual school, it actually resembles a school. But a lot of the day, she's tucked away in another room, teaching her own students, while daddy is out on the living room

couch, tormented by phonics for the first time in decades

first time in decades.

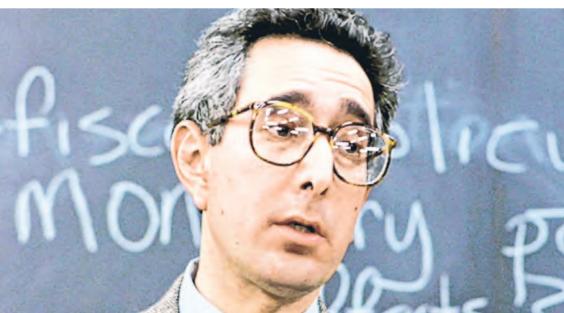
I know what you're thinking:
Your kids are 5 and 7 years old.
How hard can it be? I got news for

you, friends. School has changed. You or I would be road kill in first grade in 2020. Today's students have real work, every day. If my kids don't do it, they're going to wind up in some dead-end job, like newspaper sports columnist.

I want to be clear: My family and I, we're lucky. There are too many children out there with unstable living situations, or limited access to technology to make virtual schooling work. Quarantined at-home education isn't an "equalizer"; it's quite the contrary, penalizing the same students habitually penalized by an imbalanced system.

We're fortunate. I'm grateful.
Let me tell you how virtual
school works in my home. My wife
and I wake up in the morning, make
the kids' breakfast, and then start
yelling at them to get dressed for
virtual school. I call this "opening
yell." Then the kids run around for
20 minutes ignoring everything we
say.

After that, it's time for "morning meetings," aka group Zoom calls with their respective classes. I don't know if you've ever been on a Zoom call with 20 pre-K students, but it's the most adorable thing I've ever seen, and I've seen baby pandas on YouTube. You've got a screen full of kids, half of them still eating breakfast in their unicorn pajamas, crosstalking and howling at each other ("I had pancakes!") until the teacher can't take it anymore, and mutes them all. Then they begin their



Anyone? Jason Gay is finding out what many teachers already know—getting students to pay attention is hard work.

school day, talking about quantum physics or magical llamas or whatever 5-year-olds talk about.

You need to keep an eye on your children during school Zoom calls. A couple of weeks ago, I left the 7-year-old alone in his morning meeting, and when I returned, he grandly announced that he had taken out his pet gecko and fed it a live cricket while his entire first-grade class watched. I do not know if he was telling the truth, because 7-year-olds have been known to be fabulists. If he was telling the truth, however, he probably has sewn up the election for second-grade class president.

Eventually, things settle down, and we focus on the lessons of the day. I don't want to sell my kids short—they're both lovely, intelligent children, probably the most lovely, intelligent children in the history of the planet, and in no way am I biased, it's simply a fact. They're just stuck with a crummy teacher. When I can get them to lock in, they ace the work. The first-grader has iPad-based assign-

ments, which means he gets to use the iPad. He can't believe his luck. He acts like he found \$10,000 in a shoebox.

I admit: There have been moments when he has darted off before finishing the final problem, and I'm sitting there, with the iPad, fairly certain of the answer to 10 minus 3, and I think Oh, who would be the wiser, if I just finished this *up?* But it's a slippery slope: answer a first-grader's math question one day, and then you're hiring a landscape architect to build them a volcano for science class, and from there, it isn't that long a road to photoshopping their head atop a rower's body for a college application, and getting raided by the FBI and winding up in the slammer.

I leave it unfinished. But I know

the answer. Six.

Seven. San F-r-a-n-c-i-s-c-o. Not San F-

r-a-n-s-i-s-c-o.

Teachers are miracles. I know there are some cranks out there who think teachers are just slapping

together e-homework and calling it a day, but that's pure nonsense. The effort required to move an entire curriculum from a live classroom online—in a matter of days—is astonishing. I know, because it's happening in the other room. And at night. And in the a.m. And on the weekends. It never stops.

weekends. It never stops. We're doing the best we can. Early on, I tried so hard to avoid descending into chaos, that helpless feeling of: the wheels have come off. But the longer this goes on, the more I realize: the wheels are always off. That's the status quo of quarantine—along with the endless, dull anxiety of a spring gone sideways. I've learned to appreciate those moments that happen once in a while, when the children are engaged and learning, figuring it out independently, and there's a brief period of feeling OK about the world. The wheels have briefly come on. A minute later, it's back to the chaos, and that's fine. I'm no teacher, but after the past month we've all had, I figure chaos is a learning experience, too.

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OPINION

Communists in Brooks Brothers



Bv William McGurn

before the 1989 Tianan-Square men massacre, pro-democracy demonstrations in Kong Hong small, were quiet affairs

In those hal-

years

that were lucky to attract a dozen or two people. After one such rally on a sleepy Sunday, the leader of the city's fledgling democracy movement, legislator Martin Lee, offered me a lift back to my office.

The conversation turned to family, and Mr. Lee mentioned his father. A former Kuomintang general who had fought the Japanese in the years before and during World War II, he settled his family in Hong Kong once the Communists had prevailed in China's civil war in 1949. Mr. Lee mused on his father's advice.

"He's always telling me, 'Martin, you can never, ever trust the Communists.'

Mr. Lee's father has since passed away. The Hong Kong that once provided refuge for his family is gone too. Today's Hong Kong has now arrested and criminally charged Martin Lee for participating in a prodemocracy protest. The old general's words ring loudly in my ears: "Never, ever trust the Communists."

In consequence a new generation is getting a hard lesson that Communists are real, as are the lies and violence

Covid-19 does

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necessary to keep them in power. As Lenin made amply clear, Communists have only contempt for the "bourgeois' idea of objective truth, replacing it with a morality that holds "truth" to be whatever is expedient for the party at that moment.

Communism has always been far more about Lenin than Marx—that is, about getting and holding power, rather than any economic arrangement. And it's extraordinary how consistent the lies and violence have been across time and geography, given the many different flavors of communism. There's scarcely a Communist Party in the world that doesn't have a mass killing or two in its past.

Chinese Communism has particularly benefited from the West's naiveté. When Maoism first appeared, it was hailed as a more authentic and humane form of communism than its brutal Soviet rival. Then came the persecutions and purges and the Cultural Revolution, which left millions of innocent Chinese dead in its wake.

In 1989, when Chinese citizens raised a Goddess of Democracy on Tiananmen Square, some pinned their hopes on the People's Liberation Army: Surely the people's army would never fire on the people. In fact, PLA soldiers proved quite adept at firing on the people. And to this day Beijing refuses to come clean about how many it killed at Tiananmen.

Over China's Communist

history the Western left has often treated as a relic of the been egregious at excusing Beijing's behavior, sometimes apologizing for Chinese communism at its bloodiest moments. In fairness, however, the anti-Communist right has not been without its own

They follow Lenin's idea of 'truth,' even if they send their children to Harvard.

China's opening to foreign trade and investment-which many of us supportedproved tremendously successful at lifting ordinary Chinese out of desperate poverty. As genuine an achievement as this has been, the mistake was assuming that just because communists traded in Mao jackets for Brooks Brothers and sent their children to Harvard Business School, they would be transformed into Jeffersonian democrats who play by liberal rules. Instead, the Chinese Communist ruling class has learned it can have

Except truth. This is the one thing no Communist can afford. In his famous 1974 essay "Live Not By Lies," Alexander Solzhenitsyn said the only way for an individual to resist was to refuse to participate in the everyday lies required to get by in any Communist society.

In the West, communism is

past, with figures such as Castro, Che and Mao reduced to cartoons on T-shirts. But real Communists are alive and well. So are the lies they tell to keep themselves in power. whether it's spreading disinformation about the origins of coronavirus, denying the concentration camps that hold at least a million Muslim Uighurs, or releasing videos of PLA military exercises to intimidate the people of Hong Kong into submission.

Most Westerners look at Hong Kong, observe that the big protests from last year have gone away, and believe the way ahead is by letting things continue to cool down. Hong Kong people, after all, aren't looking to overthrow China's government; all they want is to be left alone. So Westerners have a hard time fathoming why Beijing is being so heavy-handed, treating an elderly barrister who wouldn't harm a soul as a criminal.

But this isn't how a Communist thinks. He sees protests in Hong Kong as a challenge that must be crushed, at all costs. And when he looks at that 81-year-old lawyer, he doesn't see a gentle old man. He sees an enemy brandishing the most fearsome weapon of all: the truth.

Until we understand this, we will never understand the wisdom behind a Chinese patriot's prophetic warning to his son: Never, ever trust the Communists.

Write to mcgurn@wsj.com.

BOOKSHELF | By Mark G. Spencer

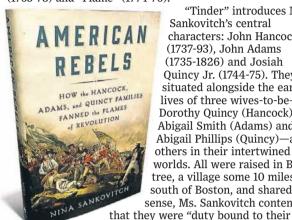
The Boston **Tinderbox**

American Rebels

By Nina Sankovitch (St. Martin's, 400 pages, \$29.99)

he American Revolution has no shortage of good historians. Intrinsically interesting, it was "pregnant with events" of importance, wrote Mercy Otis Warren, one of its earliest students. Even those who lived through it saw it in widely differing ways, regardless of which side they were on. There is little surprise, then, that the revolution remains fundamentally contested. New histories continue to add to our rich understanding of it by approaching the conflict from innovative vantage points, uncovering additional primary sources or shining light into its hitherto obscured nooks and crannies.

In "American Rebels: How the Hancock, Adams, and Quincy Families Fanned the Flames of the Revolution," Nina Sankovitch, an independent scholar and the author of "The Lowells of Massachusetts," presents the revolution through three of colonial Boston's better-known families. Her book has three parts: "Tinder" (1744-64), "Spark" (1765-73) and "Flame" (1774-76).



"Tinder" introduces Ms. Sankovitch's central characters: John Hancock (1737-93), John Adams (1735-1826) and Josiah Quincy Jr. (1744-75). They are situated alongside the early lives of three wives-to-be-Dorothy Quincy (Hancock), Abigail Smith (Adams) and Abigail Phillips (Quincy)—and others in their intertwined worlds. All were raised in Braintree, a village some 10 miles south of Boston, and shared a sense, Ms. Sankovitch contends,

communities, their families, and their colony." "Spark" moves the action to Boston. There, a mob "fed by liquor and frustration and anger" in the wake of the Stamp Act of 1765 descended on Lt. Gov. Thomas Hutchinson's home, destroying it. Others, like Hancock, met at the Green Dragon Tavern to drink, talk business, plot their next moves, and, after May 16, 1766, at the Bunch of Grapes Tavern to toast the Stamp Act's repeal. But, with the Townshend Acts of 1767 came new taxes—on items such as paper, paint and tea—and more colonial resistance to them.

John and Abigail Adams were now living in Boston, too that "Noisy, Busy Town," as Abigail described it. Soon, more than 4,000 British troops, "one to every four inhabitants of the town," arrived to impose order. When Hancock was charged in 1768 with evading taxes on a large shipment of imported wine, Adams, his friend and lawyer, defended him. "As Adams prepared for trial," writes Ms. Sankovitch, "the happy days spent in the white house on Brattle Square during John and Abigail's first months in Boston seemed like a distant memory."

The Boston Massacre heightened tensions further, hardened colonial resistance to British policy and, for some, presented an opportunity to establish their mettle. As lawyers, for instance, Adams and Quincy defended Capt. Thomas Preston and his men, who were charged with manslaughter.

In part three, Ms. Sankovitch quotes her favorite source, Abigail Adams: "The flame is lit, and like lightning, it catches from soul to soul." Here, the author's narrative traverses more familiar territory: the Intolerable Acts of 1774, which included blockading Boston's harbor, and Massachusetts's response through the Suffolk Resolves, declaring "a boycott of all British goods." The battles of Lexington and Concord erupted the following year; the Battle of Bunker Hill not two months later. We follow Adams to Philadelphia for Continental Congress meetings and the drafting of the Declaration of Independence, but not before we accompany Quincy to England to collect information and sway opinion.

In the 'Noisy, Busy Town,' among the tight-knit Hancock, Adams and Quincy families, rebellion caught fire and passed 'from soul to soul.'

"American Rebels" reminds us that as momentous events unfolded, the stuff of daily life carried on—courtships, marriages, family gatherings; houses were constructed, careers furthered, gout and consumption endured by some. Ouincyone of those who suffered from consumption—emerges from the shadows. "Well-educated and well-mannered, soft-spoken and charming," Ms. Sankovitch writes of him as he voyaged southward in 1773, "of all the Sons of Liberty Josiah was best suited to the task of bringing the southern brothers into the fold of resistance against Britain." One wonders what his contributions might have been, had he not died in 1775. Returning home from England, he succumbed to his tuberculosis at the age of 31, shipboard in Gloucester Harbor, 'too ill to disembark, or even be carried to land.'

For all it has to offer, "American Rebels" also has its shortcomings. Despite its focus on family life and personal correspondence, some of its central figures-Adams, for instance—come across as flat. Descriptions are sometimes overdone or unconvincing, or both, as when "Adams took a moment to grasp Abigail by the shoulders, the older children clustered around her skirts and little Thomas in her arms." The book's tone can be curtly homiletic, while its argument is unduly vague. Far too little is said about the history of ideas, especially political ones, while what is said is occasionally inconsistent or askew—Scottish Enlightenment writers are subsumed with "English"; Tacitus is better described as a historian than a "philosopher." Observations are often left underdeveloped. To notice, for example, that Quincy's law commonplace book quoted David Hume on its cover-"From law arises security; from security curiosity; and from curiosity knowledge"—is useful. But unpacking the quotation requires situating it in Hume's discussion demonstrating "the advantages of free states," like republics. For Quincy, a rebel-

The bibliography upon which "American Rebels" draws is patchy and dated, reflecting a text that scavenges past historical works but tends not to engage with them. General readers may be better served by competing popular histories—Rick Atkinson's "The British Are Coming" and David McCullough's "John Adams," among sundry others—or by the many professional historians—George C. Daughan, Eric Hinderaker, Mary Beth Norton and others-whose accessible narratives are also historiographically informed. Many of these books, and others that go unnoticed by Ms. Sankovitch, convey a deeper

in-waiting, that is where the significance lay,

Mr. Spencer, a professor of history at Brock University, is the author of "David Hume and Eighteenth-Century America."

sense of Boston's rebels and the revolution they wrought.

The Century of Bioweapons



GLOBAL By Walter Russell Mead

massive global impact shows how effective such a weapon could be. That will have consequences.

The current pandemic, we may hope, won't live up to its full hype. It may be less destructive and even less costly than many feared. Reliable treatments may soon become available, and societies will figure out ways to protect the most vulnerable while allowing the normal business of life to resume. Covid-19 will presumably at some point become through antiviral therapies a manageable hazard, like HIV/AIDS before it, or be conquered by a vaccine.

Yet less than three months after the first known Covid-19 death in the U.S., more Americans have died of this disease than fell in battle during the Vietnam War. It has disrupted more lives, thrown more people out of work, and at least temporarily closed more businesses than the

Great Depression. And of course the U.S. is not alone. Much of the world has been shut down; global trade has been upended in ways not seen since World War II, and the spreading already on course to dwarf the consequences of the 2008-09 financial crisis.

The political consequences of the pandemic are only beginning to emerge. In Europe it has ripped open the wounds left by the financial crisis, with indebted southern countries furious over what they see as a lack of solidarity from the frugal north.

Yet by the standards of past pandemics, Covid-19 is a relatively mild disease. Many of those infected appear to remain asymptomatic; only a very small percentage of cases require hospitalization, and of those, more end in recovery than in death. World-wide. Covid-19 has killed about 200,000 people. That estimate numbers will grow, but compared with the Spanish influenza, smallpox or the Black Death, Covid-19 has a long

It turns out, however, that our technologically sophisticated global way of life is a lot more vulnerable to disruption than the simpler world of our ancestors. Not only can diseases that once traveled on foot or horseback now hitch rides on jet aircraft; the intricately balanced elements of a modern economy can be thrown into chaos by a few weeks of quarantine.

These truths mean that both at the national and global level we will have to devote far greater resources to public health. But they economic and geopolitical mean more than that. There create organisms on demand. adapt.

over whether the coronavirus escaped from a wet market or a research laboratory. Wherever it came from, the virus has provided the world with an extraordinary demonstration of the power of weaponized biology.

The 20th century was the Age of Physics, when scientists first learned to split the atom and create weapons powerful enough to destroy civilization.

The coronavirus's disruptive effects will inevitably inspire evil minds to action.

is subject to revision, and the The 21st century looks now to be an Age of Biology, when the capacity to unleash gene-engineered plagues on one's opponents—or their crops—can provide countries with a strategic advantage.

Imagine a country whose scientists produced something like the coronavirus and also a vaccine. The virus could be released, causing chaos and destruction, but one could protect one's own people from the plague—and offer the vaccine to the world if one's demands were met. Now imagine a jihadist group or other criminal organization with the

same power. Over time, the danger will grow as humanity develops better and more efficient ways to hack the genetic code and

fallout from the pandemic is has been much controversy Biological laboratories, even sophisticated ones. cheaper to build and easier to hide than the factories necessary to enrich uranium and develop nuclear weapons.

Weaponizing disease was practiced long before the modern era. Attacking Hittites seem to have driven infected people into enemy lands as early as 1000 B.C. In 1346, attacking Mongols catapulted the corpses of plague victims into the besieged Crimean city of Caffa. More recently, both Axis and Allied governments developed biological weapons during World War II, and Japan deployed them on a significant scale in its war against China-including the use of ceramic bombs containing bubonic-plague-carrying fleas against the city of Ningbo.

In a post-Covid future. some countries and nonstate actors will be tempted to seek the capacity to create plagues, and every country will need to defend against them. The ability to recognize new diseases quickly and to develop treatments and vaccines has become a cornerstone of national defense.

Resilience also matters. Hardening cities, health systems, businesses and supply chains to make them less vulnerable to disruption must be a priority for the future.

This will be hard and expensive, but as Margaret Thatcher used to say, "There is no alternative." The world has changed, and we must

Don't Reward States for Bad Decisions

By Rick Scott

ongress has taken significant action over the past two months to address the unprecedented economic crisis brought on by the coronavirus pandemic.

We've pumped hundreds of billions of dollars into the health-care system, significantly boosted unemployment insurance that directly helps those who have lost their jobs, created a loan program to help small businesses, and provided funding to reimburse states and local governments for coronavirus-related expenses.

There's more Congress can do, but one thing we absolutely shouldn't do is shield states from the consequences of their own bad budgetary decisions over the past few decades.

The debate began last week when Majority Leader Mitch McConnell made the point plainly. "There's not go-

bail out state pensions by borrowing money from future generations."

Democrats predictably expressed outrage. They claim that refusing to support hundreds of billions of dollars in bailouts for state and local governments amounts to telling police officers, firefighters

There's a good reason Florida doesn't need a bailout, while Illinois and New York do.

and schoolteachers to "drop dead," as New York's Rep. Max Rose put it on the House floor. That kind of rhetoric only distracts from Democrats' true aim: using federal taxpayer dollars to bail out poorly run states—typically, states controlled by Democrats.

When I became Florida's

Republican side," he said, "to huge budget shortfall and had lost 832,000 jobs in four years. I had to make tough choices. We cut taxes every year—more than \$10 billion over my eight years in officeand saw revenues increase everv year. The state went from losing hundreds of thousands of jobs over four years to adding almost 1.7 million in eight. We turned a \$2.5 billion budget shortfall into a \$4 billion surplus, with \$3 billion a year in the rainy-day fund.

Florida's pension system was funded at 83.9% when I left office, and for the first time in state history all three credit-rating agencies rated the state's general-obligation bond at AAA. Compare that to states like Illinois, California and New Jersey, whose pension systems are funded at 38.4%, 68.9% and 35.8%, respectively, despite significantly higher taxes.

Florida is well-positioned to address the coming shortfall in revenue without a bailout. ing to be any desire on the governor in 2011, we had a The state may need to make U.S. senator from Florida.

some choices, which is what grown-ups do in tough economic times. And if we need to borrow a small amount in the short term to get us through this economic crisis, that borrowing will be cheaper thanks to our AAA bond rating and the reduction in state debt.

New York Gov. Andrew Cuomo said it was "irresponsible" and "reckless" not to bail out states like his, a state with two million fewer people than Florida and a budget almost double the size of ours. The opposite is true. It's irresponsible and reckless to take money from America's taxpayers and use it to save liberal politicians from the consequences of their poor choices.

American families make responsible budgetary decisions day. Well-managed states like Florida have done it for years. It's time for New York, Illinois and California to do the same.

Mr. Scott, a Republican, is a

REVIEW & OUTLOOK

The Chief Justice Ducks on Gun Rights

cowers to Senate

Democratic threats.

hat an enormous abdication. The Supreme Court ducked its first Second Monday, and the only plausi-The Court majority

ble explanation is that Chief Justice John Roberts wanted to avoid becoming a target of vengeful Senate Democrats.

In an unsigned per curiam opinion, the Chief joined the

four liberals and a (conflicted) Justice Brett Kavanaugh in declaring moot a challenge to New York City's onerous gun regulation (New York State Rifle & Pistol Association v. City of New York). At issue is a New York City rule that prevents residents with gun licenses from transporting their guns from their city homes to shooting ranges and homes outside the city. Obtaining even a "premises" license requires a \$431 fee and police investigation into an applicant's mental health, criminal history and moral character. It can take six months.

After the High Court accepted the case, the city revised its ban to let the plaintiffs tote their guns (locked and unloaded) "directly" between residences and other permitted destinations. The state Legislature passed a similar law. Case moot, New York politicians declared.

Rhode Island Senator Sheldon Whitehouse and four other Democrats also weighed in with an amicus brief threatening the Justices if they didn't follow their orders to drop the case. "The Supreme Court is not well," they wrote. "Perhaps the Court can heal itself before the public demands it be 'restructured in order to reduce the influence of politics."

The majority buckled and ignored previous rulings to do it. As Justice Alito writes, the Court's precedents hold that "a case 'becomes moot only when it is impossible for a court to grant any effectual relief whatever to the prevailing party." Plaintiffs want to transport their

firearms without worrying about getting arrested if they stop somewhere along the way. Amendment case in a decade on The city even admitted in oral arguments that

> it's unclear whether this is allowed. Justice Alito says this and more make the rule's violation of the Second Amendment "not a close call."

Justice Kavanaugh's role here is curious because, while

he joined the majority on mootness, he wrote a concurrence agreeing with the dissent on the Second Amendment merits. This looks to us as if he is trying to protect the Chief Justice from being the fifth vote, and the sole "conservative," providing a liberal victory while making clear he's still a solid vote himself for gun rights. The phrase for this is too clever by half.

Justice Kavanaugh may agree with the Chief that the Court needs to avoid political controversies, especially with Democrats threatening to pack the Court if they win the White House and Senate in November. But the Court's timidity on gun rights amid Senate threats means that liberal and media intimidation will escalate. The Court hasn't taken a Second Amendment case in a decade, even as cities and states erode its landmark *Heller* decision bit by bit. The Court is sending a signal that the Second Amendment is the exception in the Bill of Rights, a second-class freedom.

"By incorrectly dismissing this case as moot, the Court permits our docket to be manipulated in a way that should not be countenanced," Justice Alito warns. He's right but too polite.

The Chief Justice is carving out a reputation as a highly political Justice whose views on the law can be coerced with threats to the Court's "independence." The danger for the Court is that, in bending to these threats, the Chief is compromising the very independence he claims to want to protect.

ObamaCare's Latest Taxpayer Beating

The Supreme Court says

Congress must pay for

risk-corridor losses.

**** he Affordable Care Act has cost taxpayers a bundle, and now the Supreme Court says they are on the hook for bil-

lions of dollars in additional payments to insurers even though Congress never appropriated the money. The ruling will be even more expensive if it encourages more lawsuit demands for unappropriated funds from other statutes.

That's the meaning of Monday's 8-1 ruling upholding payments to health insurers for socalled risk corridors in ObamaCare's first three vears (Maine Community Health Options v. *U.S.*). Congress created the scheme to lure insurers to offer policies in the insurance exchanges, promising to make up for losses resulting from mispricing in the early going. Democrats claimed the program would pay for itself because the payments would come from

other insurers that made money. That would be no, Speaker Pelosi. Many insurers tried to attract customers by offering cheap plans that lost money. Over three years the risk-corridor plan was \$12 billion in the hole. Meanwhile, Republicans won the House in 2010 and refused to appropriate the money

to make up for those insurance losses. They called it a "bailout" for insurance companies, and attached language in spending bills that barred the Obama Administration from making risk-corridor payments despite language in ObamaCare saying the Secretary of HHS "shall pay" to insurers that lost money.

The insurers sued, and now comes the Supreme Court to say they are owed the money because Congress created an "implied" right

> of action in ObamaCare. This is a slippery subject because the Court has recently been reluctant to read implied rights of action into law unless Congress has been explicit. Justice Samuel Alito

makes this good point in his lonely dissent, and you can bet other potential litigants will be scouring other laws for "shall pay" lan-

Congress writes laws all the time that authorize payments for this or that purpose only to decide later to appropriate less money or none at all in any given year. The appropriation power controls in the end, and the Constitution says no money shall be spent unless Congress appropriates it. The executive has no power to spend money without Congressional approval, as Democrats have been lecturing us about President Trump's "emergency" spending for the Mexico border wall.

Let's hope the Court is reading this as a nar row one-time exception to its implied-right wariness. As Chief Justice John Roberts well knows, ObamaCare seems to invite legal exceptions and invented jurisprudence. Justice Alito strikes us as having the stronger legal argument, but the majority doesn't agree and now taxpayers will pay for another ObamaCare provision that had to pass before we found out what was really in it.

The Central Bank That Ate Japan

The Bank of Japan buys

the entire economy

to fight Covid-19.

with meetings at the Bank of Japan, the Federal Reserve and European Central

Bank. Thank Tokyo for going first, and delivering a warning about the limits, and dangers, of firing monetary bazookas at the coronavirus crisis.

The Bank of Japan unveiled a raft of new measures Mon-

day. Governor Haruhiko Kuroda will buy government bonds in unlimited quantities, up from an annual cap of ¥80 trillion (\$746 billion). The BOJ also increased its limits on purchases of longerterm corporate bonds and short-term commercial paper by ¥15 trillion, to a total of ¥20 trillion, and doubled its annual limit on purchases of exchange-traded funds and real-estate investment trusts to €12 trillion and €180 billion.

Some of this is jawboning. Unlimited government bond purchases mean little, despite the impending debt issuance to fund Prime Minister Shinzo Abe's new ¥108 trillion spending plan. Under the BOJ's "yield-curve control" policy, Mr. Kuroda already has promised to maintain a short-term policy rate of minus-0.1% and a yield of zero on 10-year government bonds. Since no investor bets against the BOJ, Mr. Kuroda didn't need to fill his purchase quota before and probably won't need to buy more now.

But the expanded purchases of corporate debt and equities are real, and a major problem. The BOJ already owns an outsize portion of listed equity in Japan via the decade-old ETF purchase program, and we warned last month that this distorts prices by encouraging investors to bet on the central bank rather than corporate managers or the economy.

Now the central bank plans to gobble up the corporate debt market, too. The new limit on commercial paper amounts to about 45%

his is a busy week in central banking of outstanding debt in that market, and the BOJ is pledging to buy some 15% of longerterm corporate bonds. Oh, and the BOJ also

will buy as much as 50% of any company's commercial paper and 30% of its bonds up to caps of ¥500 billion and ¥300 billion.

Japan has avoided a liquidity crisis in the wake of

Covid-19 and Mr. Kuroda should aim to keep it that way. But companies everywhere face serious questions about how to prepare for a postpandemic world of adapting supply chains and social distancing. Private investors help guide this process with the signals they send about their willingness to buy stocks or lend money at a given price or yield.

Mr. Kuroda says his move is a response to increased funding pressures for Japanese companies. But those pressures aren't pressing in absolute terms and may be more market signal than market panic. The average yield on threemonth commercial paper hit a recent peak of 0.65% earlier this month—up from zero in March but hardly extortionate by historical standards. Toyota is issuing three-year bonds with a 0.19% coupon, the Journal reported last week. That can seem high only by comparison to the 0.001% it paid in October.

Central banks justify these interventions as averting liquidity panics amid governmentmandated economic shutdowns. But the more adventurous they become, the more they blur the line between market stabilization and market suffocation. Investors can play a critical role in guiding companies emerging from this crisis. As the emergency enters a new phase and businesses try to recover from the pandemic disaster, central banks need to make sure private investors still are driving the market.

LETTERS TO THE EDITOR

Medicare for More Works Well for Democrats

Regarding Benedic Ippolito and Chris Pope's "Joe Biden's Medicare for More Mistake" (op-ed, April 17): Democrats intent on expanding Medicare are unlikely to pay a political price for helping mostly well-off baby boomers. If they were playing a game of health-care checkers, it might not make sense to fight for Medicare eligibility at age 60, but in a longer game of chess, the new five-year tranche of Medicare-eligible Americans has only a political upside. Medicare for All in 2020 is still too threatening to seniors now dependent on Medicare, but the modest eligibility-age change is incremental and politically feasible.

ObamaCare was sold as a starter home for a public-option mansion and Medicare at 60 is an addition. More important, the private-insurance house becomes even less affordable, with fewer tenants helping to pay the mortgage. As the authors note: "Hospitals now are effectively required to treat Medicare enrollees at rates averaging 59% less than what hospitals receive from employersponsored insurance plans. In 2015, adults 60 to 65 accounted for 6% of the U.S. population but 17% of costs paid by private insurers." Carve that demographic group out of the private market and hospitals will need to get an even higher portion of costs paid by those not yet in Medicare.

The left's goal is to chip away at the private market until companies and employees cry Uncle Sam. If age 60 doesn't make the private system unsustainable, the age can be lowered to 55. Even though most initial beneficiaries of a drop in Medicare's eligibility age aren't poor and uninsured. Democrats can accept that somewhat unpleasant reality on the way toward a Medicare for All check-

JOHN FINLEY Hampton, Va.

There are many people between the ages of 60 and 65 who would like to retire but cannot because they would lose their health insurance. David Kahn

Stony Brook, N.Y.

Do the authors have employersponsored health coverage? Like many people, I lost my job at age 60, five years after breast cancer. Since then I have been working as an independent contractor, like many people my age, and have to pay \$1,100 a month for health insurance, with a \$5,500 deductible.

We need health care for all, like France, with the ability to get private-care insurance at a minimal cost if one wants it.

Have you ever considered that many people in my age bracket (60-64) don't have a choice other than to pay high premiums like I do? After all, the number one cause of bankruptcy in the U.S. is health care.

LILLIAN HARRISON

On Interruption Insurance and Contract Law

Chubb CEO Evan G. Greenberg's analysis of business interruption coverage is based on acceptance of the right of contracting parties to allocate responsibility for risks ("What Won't Cure Corona: Lawsuits," op-ed, April 22). Legislation to reallocate covered risks after an uncovered event has occurred is like permitting a mortgage company to increase the interest rate on a fixedterm loan because it needs capital. Legislators and courts have historically often ignored Article I of the Constitution's limitation on impairment of contract rights in favor of social engineering that is very often misguided, ineffective and more costly than the problems to be fixed. Don't legislate private parties allocation of risks. Also, our common-law English ancestors imposed all litigation costs-including attorney fees—on the losing party in the lawsuit, providing a market-based yellow light on filing frivolous law-

A Chinese lab or wet market caused the trillions of dollars of damages we face from the coronavirus, not the insurance companies being asked to pay damages.

CEO, Laufer Insurance Services

There is another question of liability protection for businesses as America reopens. Unlike insurance, this is a prospective question not for the courts, but for Congress, which has yet to act.

Businesses such as airlines, res-

taurants, amusement parks, sports franchises, gyms, barber shops, theaters and concert venues won't be able to reopen without protection from coronavirus liability.

Measures like temperature taking, immunity certificates, testing and contact tracing don't work in a commercial setting. Testing is notoriously unreliable and lacks lasting validity. Immunity certificates affix a stigma of inferiority to people in perfect health simply because they have not produced antibodies (arising from the infection). Contact tracing is downright creepy. Making customers occupy every third seat or table won't work for most businesses. But trial lawyers will find fault with any business that doesn't do these things.

Trial lawyers will push back against liability limitations in the name of public safety. To qualify for immunity, businesses should be required to disclose these risks conspicuously and to make them part of the terms of admission.

No one is forcing any at-risk person to visit Disney World or attend a Major League Baseball game. But this doesn't mean the entire public DAVID LAUFER should be denied this freedom, which is what will happen if busi-Oxnard, Calif. nesses are required to test their customers and physically distance them. Health care is principally the responsibility of informed individuals acting in their best interest, not the state and not trial lawyers. We all suffer if Congress fails to act.

CREIGHTON MELAND Hinsdale, Ill.

Think Carefully Before Remaking the USMC

Regarding your editorial "Deterring China on a Coronavirus Budget" (April 11): The concept of prepositioning small Marine units with rockets along a defensive line east of China creates a vulnerability to surprise attack by massed Chinese missiles against lightly defended units. A unit of 50 to 100 Marines is more of a reconnaissance unit designed to observe and report but not engage superior enemy forces. If the Marines possess a great number of rockets, they'll be easier to locate. If they keep the numbers small, they'll rely on resupply and be easier to locate. Gen. David Berger wants Tomahawk missiles which are a complex system normally launched from submarines, ships and large aircraft.

Your editorial points out once the Marines established a significant foothold on Pacific islands during World War II, they were difficult to dislodge. With the exception of Guadalcanal, the U.S. Navy eventually became an overwhelming air and surface force the Japanese could not beat. If you go back to the start of the Pacific War, a coordinated Japanese attack on islands resulted in the loss of Wake, Guam, the Philippines and the Dutch East Indies.

COL. ALAN B. WILL, USMC (RET.) Suffolk, Va.

It is important to note that Gen. Berger has warned of the need to do extensive additional modeling and

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exercising before fully adopting the new concept. There are sound reasons to question the proposed rede-

The one enduring lesson of the U.S. deterrence strategy of the past

75 years is that designing the military around a single contingency, in this case a major war with China, has always been a mistake. When this error is compounded by building the new force on small units with limited firepower that are only relevant to the first salvo of that war, you have a recipe for disaster. These units will have little capacity for self-defense and are likely to be brushed aside by the amphibious forces China will have a decade

Daniel Goure The Lexington Institute Arlington, Va.

Pepper ... **And Salt**

THE WALL STREET JOURNAL



"Instead of swamp, think wetland."

OPINION

Ultraviolet Light Takes **Political** Heat

By Josh Disbrow

ran an obscure pharmaceutical company until a few days ago. Then we got famous. Early in the Covid-19 pandemic, Aytu BioScience made a commitment to find ways to help. One of those ways came through our newly formed relationship with a prominent Los Angeles hospital.

On April 20 we put out a press release titled "Aytu BioScience Signs Exclusive Global License with Cedars-Sinai for Potential Coronavirus Treatment." The treatment is called Healight, and it was developed by research physicians at the hospital's Medically Associated Science and Technology Program. The technology, which has been in development since 2016, uses ultraviolet light as an antimicrobial and is a promising potential treatment for Covid-19.

Trump's musings prompt social-media censorship of information about an experimental treatment.

Aytu and Cedars-Sinai have engaged with the Food and Drug Administration to pursue a rapid path to human use through an Emergency Use Authorization. But hardly anyone noticed—until Thursday, when President Trump mused, ". . . supposing you brought the light inside the body . . ."

My team and I knew the president's comments could trigger a backlash against the idea of UV light as a treatment, which might hinder our ability to get the word out. We decided to create a You-Tube account, upload a video animation we had created, and tweet it out. It received some 50,000 views in 24 hours.

Then YouTube took it down. So did Vimeo. Twitter suspended our account. The narrative changed from whether UV light can be used to treat Covid-19 to "Aytu is being censored.'

These days, politics seems to dictate that if one party says, "The sky is blue," the other party is obligated to reply, "No, it's not, and you're a terrible human being for thinking that." That leaves no room for science, in which the data speak for themselves, regardless of ideology. and only when they're ready. Unfortunately, the visceral excitement of political conflict draws far more clicks and better ratings than the methodical world of science.

Technologies like Healight, which if borne out through clinical studies may represent a viable way to kill coronaviruses, aren't provided the clear-headed consideration they deserve but are instead flushed into the political mosh-pit of "us vs.

Twitter, YouTube and Vimeo are under enormous pressure from political activists. They also need to ensure that information on their platforms is safe and accurate. That's exactly why Aytu decided to post videos and tweet about Healight.

We at Aytu BioScience are confident that treatments for Covid-19 will be found. We hope we can help. But above all we hope science will ultimately speak louder than poli-

There is still much work to do on Healight—much to study, and much to verify. But I can assure you that. should the FDA approve this technology to treat Covid-19 or other infections, no physician will check a patient's party affiliation before beginning treatment.

Mr. Disbrow is CEO of Aytu Bio-Science Inc.

The Cares Act Blame Game Begins

By Don McGahn

'm shocked, shocked to find that gambling is going on in here," exclaimed police chief Captain Renault as he closed the bar where he had been betting in "Casablanca." The same faux-shock is sweeping the political landscape, but this is no movie. Sen. Elizabeth Warren has fired off a strongly worded letter demanding an investigation of the Paycheck Protection Program. Massachusetts Attorney General Maura Healey sent letters to bank CEOs asking for information about their administration of the program. Rep. Alexandria Ocasio-Cortez has accused Republicans of prioritizing the claims of major restaurant chains.

To fend off critics, Treasury Secretary Steven Mnuchin has warned of "severe consequences" for some businesses that obtain loans under the Cares Act's permissive statutory terms. The Justice Department's criminal division has announced it is watching for fraudulent loan applica-

Certainly, when the government moves hundreds of billions of dollars under a broad, urgent mandate, there will be some unexpected results and even some funny business. But existing safeguards are built to restrict that. How many more do we need? Lots more, according to some.

For a brief moment, it seemed as if Washington enjoyed a bipartisan commitment to confronting the threat to the economy posed by the novel coronavirus. The stated purpose of the Cares Act was simple: Get money to those who need it quickly. As Speaker Nancy Pelosi said in late March, "for the first time, we have grants from the SBA"—the Small Business Administration—"and, thanks to Secretary Mnuchin—he is



Sen. Elizabeth Warren

facilitating this by not just all of the loans going through the SBA, but going through banks with the SBA, which makes this all go much faster.' Senate Minority Leader Chuck Schumer echoed the point: "To all Americans, I say help is on the way, big help and quick help."

Whether one agrees or disagrees with the approach, the Cares Act was crafted to distribute cash via banks as quickly as possible and with few

Politicians, who wrote the law, are heaping scorn on banks and businesses for following it.

strings attached. It was built for speed, not precision. To get a loan, a business must certify that "current economic uncertainty makes this loan request necessary to support the ongoing operations of the Applicant."

A lax standard, to be sure. But is anyone really going to question that there is "current economic uncertainty"? And that such uncertainty makes a loan request "necessary" to support operations? There is no statutory requirement that a company would go under but for the loan, or that it must, with any degree of certainty, prove need in a detailed way. Hotels and restaurants were given additional statutory leeway: a per location size standard. Regardless of what the goal-post movers now claim they intended, the Cares Act says what it says, and its loose language was sold as a feature, not a bug.

But now, to Washington's faux shock, headlines announce that big business has gobbled up loans meant for small business. Policy makers are rushing to shift blame away from themselves and on to the banks and businesses. Never mind that the Cares Act permits the loans to which Sen. Warren, Rep. Ocasio-Cortez and others now object.

This is precisely the wrong way to confront a crisis threatening the health and livelihoods of millions of Americans. Congress passed a law designed to get funds out the door quickly, with massive bipartisan support. Talk of investigations and oversight will have the opposite effect. This isn't the Troubled Asset Relief Program, under which the government bought up the toxic assets of floundering banks in 2008. This is supposed to be taxpayer money moving quickly to those who need it.

Banks have been conscripted into service, serving as convenient processors, and businesses have been told payroll help is on the way. But now some politicians want a doover, and official Washington is bowing to their demands. New, after-thefact agency "guidance" is essentially rewriting the statute, adding a slightly stricter standard to businesses that applied for and received loans. Anyone having second thoughts about taking PPP money has until May 7 to give it back. Needless to say, the power to rewrite a law rightfully belongs to Congress alone, not agencies.

When one has been around Washington long enough, these dramas become predictable. Congress passes a law that seems like a good idea. People and businesses follow it. Critics swarm in and declare problems. Then comes the rewriting, oversight and grandstanding. Investigations by the Justice Department, state attorneys general, congressional committees and inspectors general will begin shortly. That the Cares Act largely allows the things that will be investigated won't matter.

Now banks and businesses are spooked. Hesitation over processing applications for relief will slow disbursal. But some politicians will get what they want—a chance to stand on their soapboxes. It doesn't have to be this way.

Mr. McGahn is a partner at the law firm Jones Day, where he is a cohead of the government regulation practice. He served as White House counsel, 2017-18.

How Louisiana Reopened After Hurricane Katrina

By Emily Chamlee-Wright

s governors sort out plans for when and how to ease coronavirus-induced restrictions, it's business and community leaders bevond the statehouses who will actually make it happen. My fellow researchers and I saw something similar after Hurricane Katrina.

On Aug. 29, 2005, a breach in the Industrial Canal levee submerged St. Bernard Parish, southeast of New Orleans. Six weeks later, Doris Voitier, superintendent of the parish's public schools, pledged that the district would have a place for any student who signed up at the Nov. 1 registration. With the help of local contractors and businesses, through deals sealed with a promise and handshake, by mid-November St. Bernard had a functioning school with 20 portable classrooms.

At every turn, Ms. Voitier—who is still superintendent—had to circumvent the Federal Emergency Management Administration's procurement policies. FEMA officials seemed more concerned with historic preservation and endangered-species guidelines than getting kids back to school. "We had no patience for excuses, for bureaucracy, or for any obstacles that would delay our reopening," Ms. Voitier said in 2007, when she accepted the John F. Kennedy

Profile in Courage Award.

A global pandemic is a different kind of catastrophe. This time, officials had more time to prepare, and people are stuck in their homes, not displaced from them. Covid-19 will leave buildings, though perhaps not businesses, intact.

Yet in both cases, government solutions are encroaching on private civil society with potentially devastating consequences. In post-Katrina New Orleans, city leaders championed eminent domain to take over communities badly damaged by floodwaters. Military police barred residents from entering neighborhoods deemed too dangerous. As government continued to occupy these areas-either literally or through policies that delayed the return of residents and businesses—the likelihood of a robust recovery dimmed.

This Katrina lesson is relevant today: Once government occupies civil society with top-down control, it will tend to overpolice and stay too long. Few officials want to risk lifting the lockdown orders, lest they face public scrutiny if something goes wrong. The result is systematic overcaution. which expands government control.

The longer government occupies private spaces, the less civil society can tap its capacity for resilience and recovery. After an initial surge of coronavirus infections, communities will

have new capacity in people who have acquired at least some immunity to Covid-19. That immunity won't be perfect, so many public officials will default to their bias toward overcaution. In doing so they will rob the rest of us of the capacity those citizens could bring to the workforce and vol-

Lesson for the pandemic: Once government occupies civil society, it will tend to overstay its welcome.

untary efforts. We need to prepare for the moment when the pandemic's peak has passed, so that we can begin to roll back government's presence in our communities.

After Katrina, community leaders made the difference for their neighborhoods. Father Vien Nguven organized the Mary Queen of Vietnam community in New Orleans East to rebuild the church at the center of their neighborhood, though the mayor's office preferred residents to postpone until a comprehensive recovery plan was in place.

Then there was Latoya Cantrell, president of the Broadmoor Improvement Association. After the Bring New Orleans Back Commission released a proposed map for a rebuilt New Orleans with the diverse neighborhood of Broadmoor reimagined as green space, Ms. Cantrell fought back. Working with Broadmoor residents, she developed a home-grown plan for neighborhood recovery that rendered moot the commission's topdown proposal.

"Government cannot rebuild the social capacity of the community," Ms. Cantrell told us in 2008. "The people do that." Ms. Cantrell is now the mayor of New Orleans.

Rebuilding civil society after the pandemic and the lockdowns will require a new generation of business and community leaders, who will open businesses that government officials deem nonessential, along with houses of worship, schools, day-care centers and universities—even though this will entail some risk.

Not all will be in a position to resume services quickly and safely, but some will. Those first movers will shoulder the burden of designing solutions specific to their industries. They will be criticized, but those who follow through will play a critical role in the return of civil society.

Ms. Chamlee-Wright is president of the Institute for Humane Studies and a co-author of "How We Came Back: Voices from Post-Katrina New Orleans:

I Take the Coronavirus Lockdown Personally

By Joseph Epstein

shall doubtless be taken for an egotist or at least a solipsist when I say that I resent the coronavirus, and resent it personally. True, I have no relatives or friends who have been attacked by it, and I pray that this fortunate record will remain intact. But I resent its intrusions into my daily routine and its making me aware of what a prisoner, albeit a contented prisoner, I am of that routine. Mv davs are for the most part the

same, which is how I like them. I arise at the same time (6:30 a.m.), fix

the same breakfast (tea and toast with jam) and spend the first 90 or so minutes of the day reading. I check the headlines and opinion pages of The Wall Street Journal, the obituaries (the only news that stays news) online in the New York Times, two blogs and two websites. I shower, put on one or another version of the same duds (khaki or corduroy trousers, a plaid or checked button-downcollar shirt, beige socks, loafers) I have been wearing most of my life. I then return to my computer in the hope of tapping out a page or two of which I am not entirely ashamed. Thus far the coronavirus has changed none of my morning routine.

At lunch the problem begins, B.C. (before Covid-19), I had lunch with friends at least once a week, often twice, occasionally three times. Some of these friends and I go back to high-school and even grammarschool days. Our conversations are mostly jokey, gossipy, taking up the subjects of sports, politics, movies, the good old days, the bad old days. I miss these lunches sorely. I even miss the waiters. Owing to the dread virus, our usual restaurant in Chicago is closed. My friends (chiefly older players) and I are in self-imposed guarantine, and social life has been put, like the world itself, on hold.

I have gone for a brief walk or two, but my great outings—once, perhaps twice, a week-are to Whole Foods, across the street from our apartment building. I go shopping adorned with a blue paper mask and a pair of white rubber gloves. The mask makes breathing rather difficult, and while I wear mine grudgingly, I note that I look askance on fellow shoppers who do not wear a mask. In the store I move quickly down the aisles, keeping wherever possible my distance from everyone else. When I check out, I do so with a credit card, which I rarely did while grocery shopping B.C. The card lessens the human exchange with the checkout person,

The disruption of my daily routine reminds me I was a prisoner of that routine—a very contented prisoner.

who needn't make change and possibly touch or breathe on me or I on him or her. Shopping, once a leisurely and pleasant business, has become slightly dangerous and best dis-

ten I went to the bank, a block and a half away, where I have been banking for 30 or so years, and chatted up the tellers and a few of the bank officers. Now I use the outdoor ATM. On the way home, I used to stop at the library, which devotes a small room to sale books, where over the years I've found some swell things. But the library is closed, and so, too, is the excellent Amaranth Used Bookshop, which has a strong classical section. The coronavirus has retired the minor-league flâneur in me.

about the coronavirus. Only the weather forecast is free of virus talk, and, since no sports are being played, the sports segment is scarcely existent. Local officials, from governor through mayors through heads of hospitals, appear in their Cassandralike roles. Family of the virus's fatal victims are brought on camera crying over their losses. (In journalism they used to say that "if it bleeds, it leads"; nowadays the saying is "if it weeps, it keeps.") The national television news is, if anything, drearier: virus, virus, virus, usually led off by the president's daily announcements about his administration's brilliant handling of the coronavirus ("Trumpetings," as I have come to think of them) and opposing politicians' complaints about that handling. That leaves the evening, in which

I call chiefly on old movies and British detective stories to lift me back into a B.C. world. They often succeed in doing so, though I have noticed that while British detective stories do not often show people being killed, they have a fondness for scenes in morgues and forensic labs, thereby choosing the gruesome over the violent. And the gruesome brings one back to the inescapable subject of the coronavirus.

I believe I have established that I lead a quiet, even an impressively dull life, dull but mine own. I eagerly await the departure of this blasted virus, so that I might have it back.

Mr. Epstein is author, most recently, of "Charm: The Elusive Enchantment."

PUBLISHED SINCE 1889 BY DOW JONES & COMPANY

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patched quickly.

After lunch I ran a few errands. Of-

The local 5 o'clock news on television is no relief, being almost solely

Twin Shocks Roil Nigeria Economy

Africa's largest crude producer struggles amid oil-price plunge, fallout from outbreak

By Joe Parkinson And Benoit Faucon

The crash in oil prices and the economic fallout from the coronavirus together pose what could be an existential threat for Africa's largest economy and biggest crude producer.

Nigeria, a country of 200 million people, is slashing production faster than any other major oil economy following the precipitous plunge in global prices. Cargo ships full of Nigerian crude have nowhere to go, with much of the world on lockdown. Nigerian oil companies are desperately competing to fill the last few empty tankers still left at sea.

The result is a twin shock for an economy that has become a symbol of how virusinduced economic pain is now cascading from wealthy nations to the developing world.

"When there's no more vessels to load the crude, then the entire world collapses," said Kola Karim, chairman of Shoreline, Nigeria's third-largest oil producer. "You will have serious, serious security implications. Unrest."

Across the global south, the sequencing of the virus has been inverted, with countries in Africa, South Asia and Latin America suffering an economic crisis before an exponential rise in virus cases. Dozens of developing nations are now forecast to suffer their greatest economic declines on record despite having relatively few confirmed coronavirus cases.

In Nigeria, where oil accounts for 60% of government revenue and 90% of foreign exchange, the government has already slashed its 2020 budget by \$5 billion and approached the In-



A Nigerian soldier observes temperature checks at the border between Abuja and Nasarawa.

ternational Monetary Fund for \$7 billion in emergency funding. Nigeria's break-even oil price is \$133, the highest in the world due to high refining costs and government corruption, according to Fitch Ratings. Now, with prices for several oil benchmarks having fallen below zero, Nigeria is generating losses for every barrel it produces.

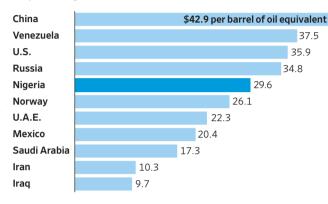
At least seven vessels carrying 12 million barrels of unsold Nigerian oil—seven days of production—are currently stranded at sea, according to data-analytics company Vortexa. The tankers come from production from fields run by Royal Dutch Shell PLC and Exxon Mobil Corp.

But stopping the pumps is also risky, industry experts say, because some wells are too old to be restarted once they go idle. Once it runs out of ships willing to collect its crude, it may be forced to permanently close the taps on decades-old wells.

"Nigeria is a drug addict about to go cold turkey," said

While producers all over the world are hit by the oil rout, Nigeria is an outlier in the global oil market: an oil-dependent economy with the production costs of an industrialized nation.

Average 2019 cash costs for oil fields for selected oil-producing countries



Note: Cash costs includes all costs (investments, operational costs) and gross taxes Source: Rystad Energy UCube

Matthew Page, a former state department official in Nigeria now at London-based think tank Chatham House. "Its governmental structures, predicated on dividing up the national cake of petroleum revenues, are now unsustainable."

While producers are hit by the oil rout, Nigeria is an outlier in the global oil market: an oil-dependent economy with the production costs of an industrialized nation.

Oil Minister Timipre Sylva said in an interview that Nige-

ria is cutting output by 23% this month and some streams have shut as they are no longer economically viable. "We are not comfortable. But I believe we are at the rough bottom," he said. "We can only go up."

A country of more than 500 languages with deep regional and religious divisions, some Nigerian commentators have long warned that oil is the glue that holds the fractious society together.

More than 90% of Nigeria's 206 million people work in the informal sector, meaning the government's lockdown of major cities risks depriving tens of millions of people of the cash they need to survive. The number of people confirmed to have died from the coronavirus is low but the pandemic has penetrated the highest political office, killing the president's chief of staff, one of the country's most powerful men.

The true scale of the virus in the country is unknown: In the state of Kano, home to 10 million people, authorities on Thursday said they were investigating a "mysterious" sharp rise in deaths, while testing for the virus has been suspended because of a lack of kits.

Nigeria has weathered a series of oil shocks in the past and has in recent years sought with limited success to reduce its dependence on crude. But the International Energy Agency has warned Nigeria is considerably less prepared to tackle this slump as gross domestic product has shrunk by almost a third in five years. The economy had been projected to grow 2.5% this year, slower than its population, until the coronavirus tipped it into a likely recession.

"Some people are trying to pretend this will blow over, but it is different to every other shock we've faced," said Dolapo Oni, an industry analyst from Lagos at Richardson GMP, a Canadian wealth-management firm.

Another Day Passes With Kim Not Seen

By Timothy W. Martin And Andrew Jeong

SEOUL—North Korean dictator Kim Jong Un remained absent Monday, as state media reported his thank-you letter to construction workers and Seoul officials reasserted that they believe he is alive.

Mr. Kim hasn't been seen in public since April 11, generating rampant speculation that he may be incapacitated or dead.

South Korean President Moon Jae-in, delivering remarks to senior aides on the second anniversary of his first inter-Korean summit with Mr. Kim, didn't mention his counterpart's health. Instead he said he would rely on his "trusted" relationship with Mr. Kim as a springboard for advancing joint railway and health-care projects by the long-hostile neighbors.

In the past day, a senior Moon administration adviser told Fox News that Mr. Kim is "alive and well," while South Korea's unification minister said there were no signs of the kind of activity that would be expected if he had died: "We have enough intel to confidently say there are no unusual movements in North Korea."

The speculation about Mr. Kim's health began when he failed to show for a nationally broadcast April 15 celebration marking the birth anniversary of his grandfather, North Korean founder Kim Il Sung—a major holiday. But his sister and uncle also were absent.

Until then, state media this year had covered at least 17 appearances by Mr. Kim, from visiting a fertilizer factory to observing weapons launches to attending a hospital groundbreaking. But there have been gaps: Over a period of about three weeks in January and February, neither the country's main newspaper, Rodong Sinmun, nor the state-run Korean Central News Agency ran photographs of him in public.

The speculative cascade intensified after an April 20 report by the Seoul-based Daily NK—which says it has sources inside North Korea—that Mr. Kim is recovering from heart surgery. Subsequent reports have had him in a coma or even dead. Others have suggested Mr. Kim is simply lying

On Monday, Mr. Kim's message of thanks to construction workers building a beach resort in the Wonsan area was covered both by Rodong Sinmun and the state broadcaster. But there were neither photos nor any mention that he had addressed the workers in person.

low to avoid the coronavirus.

Iran-Tied Groups Seek Lift in Health Effort

By Isabel Coles And Nazih Osseiran

Iran-backed groups in Lebanon and Iraq have mounted highly publicized campaigns against the new coronavirus as they seek to bolster their reputations and regain their footing after coming under pressure from popular protests.

Outbreaks in the two countries are small so far, at least according to official figures, and government health systems have so far managed to treat the sick. Many of the initial cases in Lebanon and Iraq, and much of the Mideast, trace back to travelers from Iran, the regional epicenter of the pandemic.

Still, Hezbollah and Iraqi groups supported by Tehran have gone into overdrive, setting up field hospitals and launching Covid-19-awareness drives, showcasing their organizational strength.

Their efforts have added capacity to fragile health-care systems degraded by years of conflict and bad governance that critics say these Iranian-backed groups have helped perpetuate.

"It is useful that we feel ourselves part of a world war against the coronavirus," Hezbollah leader Hassan Nasrallah said in March.

Some of Hezbollah's political rivals have sought to blame the Shiite group for bringing the virus to Lebanon. The group says it has been testing and quarantining personnel who have moved among Lebanon, Syria, Iraq and Iran.

Lebanon has recorded roughly 700 officially confirmed cases and 22 deaths, though in reality those numbers are likely to be higher, given limits to testing. The country next week plans to begin easing a lockdown that has compounded a deep economic crisis.

Coronavirus cases are treated in Lebanon's main government hospital in Beirut. The country's past two health ministers have been appointed by Hezbollah, and the current government is exclusively made up of the group and its allies.

Though Hezbollah controls the government, it deploys its own infrastructure. It says it has prepared 32 medical in the wide swath of the country where it is the de facto administration and provides health-care services. The group said it has mobilized 1,500 doctors and 3,000 nurses.

centers and two field hospitals

Hezbollah "is very effective," said a doctor based in Lebanon who has consulted for the government during the coronavirus pandemic. "They have places where you can put in patients and screen them and treat them, and that is what the government should be doing in other areas."

In Iraq, Iranian-backed militias are accused of involvement in a violent crackdown by security forces that killed more than 500 people, according to the country's human-

rights commission. Now the same groups, known

as the Popular Mobilization Forces or PMF, are using slick promotional videos to advertise their public-health efforts. Kataib Hezbollah, which the

Kataib Hezbollah, which the U.S. blames for a spate of deadly rocket attacks targeting its troops, is among the groups to have opened field hospitals.

Iraqi Health Ministry spokesman Saif al-Badr said the PMF had provided logistical support and helped the public realize the danger posed by the coronavirus.

"Any logistical help from any side is appreciated," said Haider Ali Hantoush, a physician who heads the publichealth section in the Dhi Qar governorate south of Baghdad.

WORLD WATCH

SYRIA

Israeli Strike Kills 4 Gunmen, 3 Civilians

Israeli warplanes flying over Lebanon fired missiles toward areas near Damascus early Monday, killing three civilians, the Syrian military and state media said. A war-monitoring group said four Iran-backed fighters also were killed.

The military said Syrian air defenses shot down some of the missiles in the attack. The Britain-based Syrian Observatory for Human Rights said the missiles hit positions belonging to Iran and its regional proxies, killing four fighters and causing damage south of Damascus. It didn't give the nationalities of the dead gunmen, only saying they weren't Syrians or members of Lebanon's Hezbollah group.

The airstrike is the fourth in Syria in less than a month and comes amid rising tensions between Israel and Lebanon's militant Hezbollah group.

The Syrian military statement gave no other details about the attack or what it targeted specifically. Syria's state SANA news agency said shrapnel from the Israeli missiles hit homes in the Damascus suburbs of Hajira and Adlieh, killing three people there and wounding four.

Israel didn't comment on the Syrian report. In the past, Israel has acknowledged carrying out scores of airstrikes over the years

—Associated Press



UNITED KINGDOM re

Back at Work, Leader Encourages Patience

Prime Minister Boris Johnson urged his nation to be patient Monday, arguing that easing social and economic restrictions too soon would create a second deadly rise of coronavirus infections.

On his first day back at work in three weeks after a bout of Covid-19 that left him dangerously ill, Mr. Johnson said Britain had reached the moment of "maximum risk" in its outbreak. He said the nation was reaching "the end of the first phase of this conflict" but warned that a quick end to the shutdown set to last at least until May 7 isn't in sight.

"I refuse to throw away all the effort and the sacrifice of the British people and to risk a second major outbreak," Mr. Johnson said, who appeared thinner but betterrested than when he was last seen in public early this month.

in public early this month.

As of Monday, Britain had re-

corded 21,092 deaths among people hospitalized with Covid-19, the fifth country in the world to surpass 20,000 deaths. Thousands more are thought to have died in nursing homes.

—Associated Press

YEMEN

Separatists Urged To Honor Riyadh Deal

A Saudi-led coalition mired in a yearslong war in Yemen on

Monday urged Emirati-backed southern separatists to honor the terms of a Riyadh peace deal and share control of the port city of Aden with the country's internationally recognized government.

ment.
The statement by Saudi Arabia comes after the separatists'
Southern Transitional Council again claimed sole control on Sunday of Aden, a Red Sea port that serves as the seat of the internationally recognized government as Yemen's Shiite rebels,

known as Houthis, hold the country's capital, San'a. The statement didn't say what Saudi Arabia would do if the council refused.

The council's decision adds more complexity to the grinding war in Yemen that has pushed the Arab world's poorest nation to the brink of famine and killed more than 100,000 people.

The Yemeni Foreign Ministry on Monday urged the transitional council to heed the coalition's

—Associated Press

BUSINESS & FINANCE

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THE WALL STREET JOURNAL.

Tuesday, April 28, 2020 | **B1**

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Companies Face Wave of Distress

By MIRIAM GOTTFRIED

The economic earthquake the coronavirus has unleashed is likely to trigger a wave of corporate distress and bankruptcy unseen in years.

Stav-at-home orders and the meani to me ligation for the following following for the following following for the following followin

Stay-at-home orders and the shutdown of nonessential business have driven broad swaths of the U.S. economy into panic mode, ending a long period of calm as markets rose and cheap capital abounded. In industries that were already in a precarious position before the crisis, including retail and energy, the pandemic has tipped many companies over the edge. A host of oil companies have sought chapter 11 protection, while J.C. Penney Co. and Neiman Marcus Group Inc. are expected to file for bankruptcy

Companies in areas that were previously stable, such as the automotive, travel and leisure industries—and even health care—may soon face similar pressures.

U.S. corporate debt downgraded to selective default, meaning a borrower has failed to meet one or more of its obligations, totaled \$64.1 billion for the 12 months ended April 17, according to S&P Global Ratings. That represents only a slight uptick over the pace at the end of January, but the numbers are about to

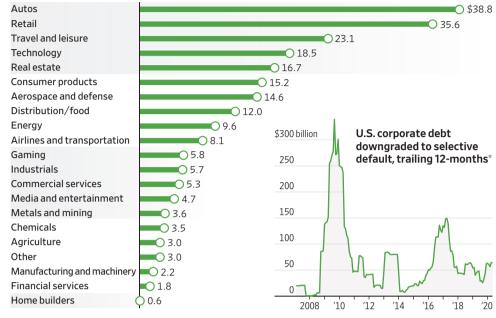
get a lot more bleak.

In the coming months, that figure could top the roughly \$340 billion reached at the height of the financial crisis, according to the worst-case-scenario estimates from S&P. Even in a less-grim scenario, the figure could approach levels reached after the dot-com bust in the early 2000s.

Companies of all stripes are scrambling to avoid a reorganization of their capital structures and operations, default or bankruptcy. Many have tapped lines of credit and slashed costs. Many, such as Carnival Corp., Expedia Group Please turn to page B2

U.S. companies borrowed around \$230 billion from revolving lines of credit between March 1 and April 9.

Drawdowns by sector, in billions



Overcrowded Barns Hamper Pork Industry

Sources: Goldman Sachs (drawdowns); S&P Global Ratings (debt)

*Through April 17

By Jacob Bunge And Kirk Maltais

The U.S. pork industry and agricultural regulators are discussing the prospect of euthanizing thousands of pigs, after coronavirus outbreaks closed major processing plants.

The U.S. pork industry typically slaughters around 510,000 pigs daily for bacon, hams and sausage. Covid-19 outbreaks among plant workers have forced closures of facilities that typically process roughly one-fifth of the daily total, or 105,000 pigs a day, leading to a backup on farms and raising the prospect of having to euthanize them and then render or bury the carasses.

"It's happening across the state," said Mike Naig, agriculture secretary for Iowa, which produces about one-third of U.S. pork. "It's not yet widespread, but there is wide-

spread planning."
While large-scale euthanasia isn't yet taking place, farmers said, options being considered include recruiting skeleton crews to operate closed pork plants' kill lines, or finding empty buildings where hogs can be put down with carbon

dioxide gas.

As farmers accumulate thousands of hogs that have nowhere to go, they risk overcrowding barns that are due to take deliveries of new piglets in the near future. Euthanasia is the most humane option in some cases, said a spokesman for the National Pork Produc-



U.S. livestock and poultry production was already high headed into the coronavirus pandemic. A hog farm in Minnesota.

"We're facing gut-wrenching, never-before-seen kind of decisions," said Gene Noem, who finishes hogs in Howard County, Iowa, and serves as treasurer of the National Pork Board. Mr. Noem doesn't have to immediately look into disposing of his excess hogs at his 5,000-head farm because they aren't yet full size, he said.

The crisis for pork producers is deepening, with Smithfield Foods Inc., Tyson Foods Inc., and JBS USA Holdings Inc. among the major meatpackers to temporarily close plants after workers contracted Covid-19. Others plants have been forced to process fewer pigs as workers stay home for fear of contracting

the virus.

John Tyson, chairman of Arkansas-based Tyson, on Sunday warned that millions of livestock and poultry would be destroyed due to plant closures, at the same time grocery stores are struggling to replenish meat cases due to plant closures.

plant closures.
"The food supply chain is

breaking," Mr. Tyson wrote in a post on Tyson's website.

U.S. livestock and poultry production was high headed into the coronavirus pandemic, but meatpacking plants—reliant on human labor in sometimes tight quarters—have become bottlenecks for converting originals into food

converting animals into food. Please turn to page B10

Apple Slows New iPhone Output

Ву Үоко Кивота

Apple Inc. is pushing back the production ramp-up of its flagship iPhones coming later this year by about a month, according to people familiar with the changes, as the coronavirus pandemic weakens global consumer demand and disrupts manufacturing across Asia, the heart of the consumer electronics supply chain.

Apple is forging ahead with plans to release four new iPhone models later this year, people familiar with its plans say. The phones, some with 5G connectivity, will vary in price and come in three sizes—5.4 inches, two measuring 6.1 inches, and one at 6.7 inches, all featuring organic lightemitting diode, or OLED, screens, the people said.

Apple's annual product refresh fuels the majority of iPhone sales for an entire year, making new phones the linchpin of a business segment that accounts for more than half of the company's total revenue.

Investor anticipation for this year's 5G release helped send Apple shares to record highs before the pandemic hit, as analysts predicted the devices would lift a mature product line that last year failed to ship more than 200 million units for the first time since 2015.

Apple declined to comment.
Apple usually unveils new iPhone models in mid-September and begins selling them before the end of the month. To do so, it usually ramps up mass-production in the early summer, building up inventory around August.

This year, while Apple would still be building some of the new phones in the July-to-September period, the mass-production ramp-up will slide back by about a month, the people said.

Apple is slashing the number of handsets that it plans to make in the second half of this year by as much as 20%, one of the people said. It isn't clear whether the slashed amount for 2020 would be pushed back into 2021 for manufacturing.

The Cupertino, Calif., tech giant is set to report quarterly earnings on Thursday.

Meanwhile, Foxconn Technology Group—Apple's biggest supplier and a major assembler of iPhones in China—has halted hiring at its main iPhone plant in Zhengzhou in recent weeks, according to people involved in the com-

Please turn to page B4

Local Newspapers Stumble, Ineligible for Rescue Loans

Seattle Times Co. received a nearly \$10 million loan last week as part of the federal government's rescue program for small businesses. The money is helping the publisher avoid layoffs and payroll cuts for its staff of 700, despite a plunge in advertising revenue during the coronavirus pandemic.

By Keach Hagey, Jeffrey A. Trachtenberg and Lindsay Wise

The Arkansas Democrat-Gazette is in essentially the same financial distress as the Times, with a similar size workforce among its parent's publications. Yet it isn't eligible for the aid and had to furlough or cut pay for 10% of its 900 employees this month.

The reason: its parent company, **WEHCO Media** Inc., has more than 1,000 employees—the Small Business Administration's maximum size for news-

papers to qualify for the forgivable loans.

Across America, most of the newspaper industry is in the same boat as the Democrat-Gazette, while the Times is one of the exceptions. Papers representing more than 80% of U.S. circulation are disqualified from the government's Paycheck Protection Program because of the way their companies are structured, according to data from the Alliance for Audited Media.

The issue has prompted a bipartisan push in Congress to either amend PPP rules to make an exception for local news, or get news organizations other forms of aid in the next stimulus bill.

news, or get news organizations other forms of aid in the next stimulus bill. "Without it, you are going to see a significant number of newspapers closing," said Seat-

Fisco.

The steps many struggling papers took over the past 15 years to stay afloat—round af-

tle Times Co. President Alan

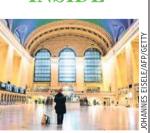
ter round of mergers and consolidation, selling to private-equity buyers, taking on mountains of debt—now prevent the industry from getting meaningful federal help.

While many local papers are now owned by big chains or other conglomerates, they still see themselves as local businesses, staffed by local journalists, reliant on local business for advertising and driven by a mission that advocates say has grown more important during the pandemic.

The thirst for local information during the pandemic has boosted web traffic and subscriptions at many news outlets. But the shuttering of the retail businesses that have long been their biggest advertisers has sent revenue into free fall.

Layoffs, furloughs and pay cuts have affected roughly 33,000 news organization employees nationwide since the start of the crisis, according to *Please turn to page B2*

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COMMUTING

Health concerns over public transit are a hurdle to some offices reopening. **B6**



BUSINESS

Luckin Coffee under investigation by China's top commerce regulator. **B5**

Airplane Makers Are Downbeat on Revival

By Andrew Tangel And Doug Cameron

Air traffic may not bounce back for two or three years, **Boeing** Co. Chief Executive David Calhoun said, outlining the tough outlook for global aviation to the plane maker's shareholders on Monday.

"The health crisis is unlike anything we have ever experienced," Mr. Calhoun said at the annual meeting. "It will be years before this returns to pre-pandemic levels."

mr. Calhoun laid out the coronavirus pandemic's toll on the industry: Global airline revenues are set to drop by \$314 billion this year. In the U.S., more than 2,800 planes are idled. Passenger demand is down 95% from last year.

more than 2,800 planes are idled. Passenger demand is down 95% from last year.

"We are in an unpredictable and fast-changing environment, and it is difficult to estimate when the situation will

stabilize," he added. "But when

it does, the commercial market

will be smaller and our cus-

tomers' needs will be different."

Mr. Calhoun offered few specifics about production cuts or planned job cuts, leaving more details for Wednesday, when Boeing reports first-quarter results. Boeing has been weighing production cuts and considering a plan to cut its workforce by about 10%.

To save cash, Boeing has suspended its dividend, and Mr. Calhoun said it wouldn't resume paying one for some years. The plane maker will need to borrow again this year, and it will need to repay that debt over the next three to five years, he said.

The Chicago aerospace giant's customers have been canceling and deferring plane orders, intensifying financial strains stemming from the 737 MAX debacle following the global grounding of that air-Please turn to page B2

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GE's Reliance on Aviation Business **Backfires as Pandemic Halts Travel** By Thomas Gryta

R	By Thomas Gryta
Regeneron PharmaceuticalsB4 RenaultB12 Royal Dutch ShellB12	General Electric Co. for decades was the ultimate conglomerate, selling everything from microwave ovens to mov-
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"People know they will survive, but the stock shows they don't expect much more than that," Melius Research analyst Scott Davis said. GE's aviation business,

shrouded by

port on Wednesday.

tional setbacks, it shed businesses and bet much of its future on the aviation industry. Now that the coronavirus pandemic has crippled airlines, GE finds its turnaround efforts have stalled and its future is

Credit-ratings firms have warned of downgrades, and its share price has plumbed new lows ahead of its quarterly re-

uncertainty.

which manufactures and maintains jet engines for **Boeing** Co. and Airbus SE, is now its largest with \$32 billion in annual sales and its most profitable division. GE is also one of the world's biggest jet owners, leasing more than a thousand planes to airlines through its GE Capital.

The company had been betting on steady profits from those businesses to carry it through a restructuring of its power unit, which was wounded by a glut in the market for power-plant equipment.

GE, like many companies confronting the economic damage of the coronavirus, has cut thousands of jobs and pulled its full-year financial forecasts. It also has refinanced some of its debts to give CEO Larry Culp more time to turn around the business.

One major institutional investor said he just started feeling good early this year about GE's recovery, but now sees the clock being reset. For those watching the stock, they see little benefit in the short term.

GE already has warned firstquarter profits will be materially below its prior estimate of 10 cents a share, or roughly



The company's stock has plumbed new lows ahead of its quarterly report on Wednesday.

\$900 million, and it still expects cash flow to be about

negative \$2 billion.

GE declined to comment, citing the quiet period before reporting quarterly results. In a recent appearance on CNBC, Mr. Culp said GE Aviation is "doing what we need to do to address cost and cash actions so that we can weather the storm however it plays out."

Some investors and analysts expect large accounting charges to adjust for the aviation division's long-term service contracts that are now predicted to be less profitable, along with cuts to the carrying value of some assets like passenger jets owned by GE Capital.

In the past few years, the company has cut its dividend twice to a token penny a share, sold major businesses like transportation and oil, and worked to streamline existing divisions. In February its stock price rallied back above \$13. It now sits at \$6.26.

JPMorgan analyst Steve Tusa, a longtime bear on the stock, recently criticized GE for its accounting assumptions and for putting all its chips on the aerospace sector that had seen

strong growth for years.

"We understand that no one could have predicted a Covid-19-like event, but the same was said about Oil & Gas. Locomotives and Power before they collapsed," he said.

GE's profit plunged in recent vears, dragged down by hidden costs in its financial-services unit and mismanagement of its

The unit that makes jet engines had benefited from years of investment.

core power business. The troubles prompted GE to break itself apart and overhaul its management and board. Mr. Culp joined the board in early 2018 and took over as CEO later that year, and pursued a plan to streamline the company.

The aviation business was an exception, as it benefited from years of investments, including the launch of GE's most advanced engine to power Boeing's MAX program. Vertical Research

Partners predicts it may take six years for the fleet of commercial aircraft to get back to 2019 levels of activity.

Mr. Davis of Melius Research sees significant value in GE's aviation business even if it doesn't produce cash flow for the next three years, because customers will need its service and parts for decades to come.

One advantage for GE now, compared with years past: It has built itself a large cash cushion. It recently closed the sale of its biopharma business to Danaher Corp. for \$20 billion in cash.

Some analysts were critical of the deal for selling the highgrowth business. More recently several investors cheered the move because the previous plan of spinning off the entire healthcare division as a separate public company likely would run into problems in the market turmoil.

Credit-ratings firms have acknowledged GE's liquidity is healthy but also flag that its plans to lower debt face delays and the recovery of its key businesses may take years. Earlier this month, Moody's Investors Service changed its outlook on GE's debt ratings to negative, a prelude to a possible downgrade.

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Reeling

a tracker compiled by the NewsGuild-CWA, the largest journalists' union. The U.S. has lost 2,100 newspapers—or one in four—since 2004, leaving 1,800 communities without a news source, according to research from the University of North Carolina. Shriveling print ad revenue and difficulty competing for digital ad dollars with tech giants was pushing even more outlets to the brink before the pandemic exacerbated the situation.

Proposals for government aid range from directing federal ad dollars to local media to loosening rules for local papers that belong to larger conglomerates.

Lawmakers in both parties pushed unsuccessfully to include the latter provision in the most recent coronavirus aid package. In the Senate, Sens. Maria Cantwell (D., Wash.), John Kennedy (R., La.), Amy Klobuchar (D., Minn.) and John Boozman (R., Ark.) sent a letter to Senate leadership calling the viability of local news "essential to public health," but the provision ultimately didn't make it into the bill.

Loosening the rules got tougher after brand-name restaurant chains drew outcry after obtaining forgivable loans intended primarily for smaller businesses, according to people familiar with the negotiations. Some companies returned the money last week. The Treasury Department has updated its guidance for PPP loans, saying big public companies with access to capital were "unlikely" to qualify.

"I think the sympathy for local news remains," said David Chavern, chief executive of the News-Media Alliance, which represents nearly 2,000 news outlets. "We are going to keep pushing the point into the next stimulus bill.'

Big newspaper companies could be eligible for assistance Congress provided for larger corporations in its emergency relief efforts. But unlike the PPP loans, which can be forgiven if used to keep employees on the payroll, those other loans would have to be repaid. "They are just a lot less attractive," Mr. Chavern said, adding that many newspaper companies already have a lot of debt.

Some publishers are uncomfortable about getting help from the federal government.

"We are always open to considering ways to sustain journalism. However, we would never allow ourselves to be perceived as dependent on or influenced by government funding," said an executive at Gannett Co., the country's largest chain, with 261 dailies.

Gannett, which wouldn't qualify for a PPP loan and didn't apply for one, anticipates a roughly 30% decline in second-quarter advertising revenue, according to people familiar with the matter. Already, it has announced furloughs, pay cuts and layoffs across its staff of more than 20,000, although Gannett says the layoffs are part of its continuing integration process and unrelated to the coronavirus pandemic.

Gannett is a good example of a large company for which raising new debt—whether from the government or in private-capital markets— can be costly. To finance its recent merger with New Media Investment Group Inc., Gannett took on \$1.8 billion in debt financing at an interest rate of

Some news outlets are ineligible for PPP loans because their parent company owns large businesses unrelated to news. The Star Tribune in Minneapolis is ineligible because it is considered an "affiliate" of businesses controlled by owner Glen Taylor, including the Minnesota Timberwolves, according to the paper's publisher and chief executive, Michael Klingensmith.

The Star Tribune's ad revenues from the current quarter are down more than 40% year over year, he said, leading the company to institute furloughs for about 500 employees.

Walter Hussman Jr., publisher of the 200-year-old Arkansas Democrat-Gazette. thought this would be the year the paper returned to profitability. Instead, ad revenue is down more than 50% in April. "Before this, newspapers were really struggling," he said. "The question now is whether they are going to be able to survive."

Mr. Hussman supports changing the small business rules so that newspapers like his would qualify.

The idea of directing federal advertising dollars-for publicizing things such as the census and new programs—to lomedia has gained momentum.A majority of House and Senate members have signed a bipartisan letter calling for such a measure.

"Any advertiser regardless of their government affiliation would be helpful to us at this time," said Grant Moise, publisher of the Dallas Morning News, which is owned by A.H. Belo Corp.

Others in the industry and Congress are pushing for public funding that would be granted directly to local news organizations in the next aid package. Sen. Richard Blumenthal, (D., Conn.) described that funding pool as potentially hundreds of millions of dollars. "We're really investing in democracy," he said in an interview.

Jet Makers DownbeatOn Revival

Continued from page B1 craft after two fatal crashes took 346 lives.

Calhoun's remarks echoed those of Guillaume Faury, CEO of Airbus SE, who said the European plane maker was bleeding cash and needed to cut costs and jobs.

"The survival of Airbus is in question if we don't act now." Mr. Faury said in a letter to

employees last week. Airbus on Monday said it would furlough 3,200 employees at its wing manufacturing plant in the U.K. Furloughed workers would be placed on the U.K.'s job retention scheme, which uses public funds to cover up to 80% of employees' salaries. Airbus said it would then top that up to as much as 90% of regular pay depending



Boeing will need to borrow again this year and will need to repay that debt within years.

on salary level.

Boeing has been in talks with the U.S. government over potentially billions of dollars in taxpayer help as it faces the aviation industry's increasingly bleak outlook.

With demand plummeting for new aircraft during the pandemic, Boeing last weekend walked away from a \$4 billion

deal for Brazilian regional jet maker Embraer SA's commercial arm. Embraer said Monday it has started arbitration over the failed deal.

Boeing said Monday it would resume production at its North Charleston, S.C., factory where it builds 787 Dreamliners. The factory has been halted since April 8 due to the

virus outbreak. The resumption of operations, scheduled to begin Sunday, follows factory restarts in the Seattle area.

Mr. Calhoun said the pandemic is spurring reflection on how the plane maker will design airplane cabins in the future, including how air circulates. "There's going to be a lot of learning in this process," he said.

Despite the outlook, Mr. Calhoun expressed longer-term optimism for Boeing, the aviation industry and future of travel.

"People will still want to fly, and they will fly," he said. "I believe we will return to a robust market. It's a question of how long it takes."

Boeing's board nominees won a majority of votes in shareholders' election, despite two influential proxy advisory firms' recommending votes against some kev directors because of their role in the 737

MAX crisis. Boeing shares fell 30 cents Monday to \$128.68, while Airbus shares dropped 2.4% to €51.07 in European trading. Both stocks are down nearly 61% in 2020.

Companies Face Wave

Continued from page B1 Inc. and Airbnb Inc., have issued new equity or debt to public investors or private-equity firms.

For some, those efforts could tide them over until conditions improve. But should the recession prove deeper than envisioned, there could be a second—potentially bigger-wave of corporate restructuring later this year as companies labor under the weight of additional debt taken on during the shutdown, advisers warn.

"We will definitely see an uptick in defaults and an uptick in restructurings," said William "Tuck" Hardie of investment bank Houlihan Lokey Inc. "The question is: Is it a

2,000-foot mountain or is it

Mount Everest?"

U.S. companies drew down about \$230 billion from revolving credit lines from the beginning of March through April 9, according to an analysis by Goldman Sachs Group Inc. The largest portion—about 17%—went to companies in the automotive industry, with about 15% going to retailers and 10% to travel and leisure purveyors.

Those figures don't include new revolver borrowings by companies without publicly traded bonds or those financed by private lenders, many of which are private-equitybacked and were already highly indebted.

Hard-hit companies have taken on additional debt on top of using their credit linesand some might have effectively boxed themselves in by doing so. Carnival earlier this month sold \$4 billion worth of senior secured notes backed by assets like its cruise ships. Tving up those assets will make it difficult for the company to go back to the debt market if it

needs to raise more cash, ac-

cording to a person familiar with the company's capital

For private-equity-backed companies, which are typically bought using a heavy helping of debt and a relatively small amount of equity, having little to no revenue can be even more painful. Loans to fund new buyouts had average debt of 5.93 times earnings before interest, taxes, depreciation and amortization in 2019—the highest since 2007, when the average was 6.23 times, according to S&P Global Market Intelligence's LCD.

Working in their favor is that 85% of leveraged loans issued in 2019 were "covenant lite," giving borrowers more breathing room. That figure has risen steadily over the past decade as investors clamored for yield. In 2010, only 10% of leveraged loans were covenant lite, according to data compiled by J.P. Morgan Asset Management.

Also backstopping companies owned by buyout funds: Firms have about \$2 trillion in unspent cash to invest in private markets, with most of that dedicated to private equity, according to alternativeinvestments manager Hamilton Lane Inc. Much of the dry powder is in the hands of the biggest firms, however, and companies' fate will be determined by their owners' willingness to iniect more capital at a time when future prospects are precarious.

The universe of companies facing distress stretches well beyond private equity, said Steve Zelin, head of restructuring at investment bank P.IT Partners. "It doesn't matter if you were five times levered or two times levered prior to the current crisis if you are now not generating any revenue."

Investment firms that specialize in distressed investing have been gearing up for more action. Oaktree Capital Group LLC aims to raise \$15 billion for what would be the biggest-ever distressed-debt fund, according to a person familiar with the matter. Apollo Global Management Inc. has already invested more than \$10 billion since the beginning of March in credit and private-equity.

BUSINESS NEWS

PPG Says Volume of Sales Will Decline

By Austen Hufford

PPG Industries Inc. said it paint-and-coatings expects sales volumes to decline by about one-third in its second quarter, with factories closed and people driving and flying less due to the pandemic.

The Pittsburgh maker of paints and coatings for houses, cars and planes on Monday withdrew its guidance for the year. PPG said the pandemic hurt sales by \$225 million in its first quarter, leading sales to fall 6.8% to \$3.38 billion, below what analysts expected. "Our first-quarter results reflect a sudden and wide-ranging deterioration in global demand," Chief Executive Michael Mc-Garry said. Shares fell 2% after hours.

PPG said sales of paint for cars and planes declined as production stopped at major manufacturers. Fewer miles traveled meant less wear and tear on vehicles. Mandated paint store closures in some areas as the virus spread also hurt sales in March, PPG said.

In response to the decline in demand, PPG said it was speeding up cost cuts that would now result in savings of up to \$90 million this year, up from \$75 million expected previously.

PPG also said it had taken out loans to boost its cash position. The company ended March with \$1.9 billion in cash and short-term investments, up from \$1.3 billion at the end of 2019. In April, the company entered into an additional \$1.5 billion credit facility.

PPG reported a profit of \$243 million, or \$1.02 a share, for the quarter, down from \$312 million, or \$1.31 a share, for the same period a year earlier. On an adjusted basis, the company brought in \$1.19 a share in earnings, above the \$1.17 expected by analysts.



People wearing face masks queue to get their temperatures checked before entering a shopping mall in front of a company store in Beijing earlier this month.

Adidas Warns of More Virus Pain

By RUTH BENDER

BERLIN-German sportsgear maker Adidas AG Monday said it expected the coronavirus pandemic to hit sales and profit even harder in the second quarter than the first, painting a picture of a slow recovery for the hard-hit retail

The world's second-largest athletic gear maker by revenue after Nike Inc. posted a 95% drop in profit in the first three months of the year as the pandemic forced it to close stores in China, its biggest individual market, Korea and Japan, before other countries followed with lockdowns in

Western consumer companies that have posted earnings in recent weeks have sent mixed messages about the economic reopening in China, with some reporting brisk business there while others, such as Adidas, describe a slow recovery.

With more than 70% of

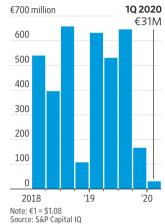
stores still closed around the world and first trends from China indicating that consumers are dragging their feet after weeks of lockdowns, Adidas warned that the company could suffer even more in the three months through June.

After sales slid 19% to €4.75 billion (\$5.14 billion) in the first quarter, the company predicted they would drop more than 40% in the second quarter, compared with the same period last year.

Net profit, which fell to €31 million in the first quarter, could swing to a loss.

"We're living in unprecedented times, not just for the globe but also for Adidas," Chief Executive Kasper Rorsted told reporters.

Adidas, which has invested heavily in expanding its presence in China in recent years, was among the hardest-hit foreign retailers when the country enforced drastic lockdowns early this year. Sales in Greater China, which make up 23% of Adidas sales, dropped Adidas's quarterly net profit



58% in the first quarter and Adidas had to take back millions in products to manage inventories, which weighed on profits.

Adidas said traffic to its stores in China was normalizing but that the first weeks after the shutdowns showed that it would take longer for customers to start buying again. The so-called conver-

sion rate—the portion of store visitors who make a purchase-is improving week by week but not yet back to what it was before the shutdowns, said Mr. Rorsted.

"When people have been in quarantine for six or eight weeks, it takes some time for people to return to normal," said the CEO. He is optimistic, though, that China will return precrisis double-digit growth rates in the second half of the year.

Mr. Rorsted said Adidas was trying to apply what it learned in China to other parts of the world where retailers are expected to open throughout May and June. One lesson is to keep consumers engaged online before stores reopen.

Adidas refrained from providing a full-year outlook, saying there was still too much uncertainty about the pace of reopenings and the speed of the recovery in China. In Europe, only roughly 20 Adidas stores are open again.

In the meantime, Adidas

took steps to ride out the crisis. It got approval for a €2.4 billion government-backed loan earlier this month to shore up its cash reserves.

The company is also investing in online sales, which grew 35% in the first quarter, a sharp rise but not sufficient to offset physical store sales. In most countries on lockdown, it took two to three weeks after store closures for online sales to begin to pick up, Mr. Rorsted said.

E-commerce, he said, would play an even greater role for Adidas after the pandemic. The company has set up a task force to track and hunt digital sales opportunities, is investing in online marketing campaigns and is training additional staff to boost online sales.

Mr. Rorsted said he was confident about Adidas's longterm prospects as consumers wanted to stay fit and healthy through sports. Things should return to normal after a dip in 2020, he said.



Saudis Buy \$500 Million Stake In Events Business Live Nation

By Anne Steele

Saudi Arabia's sovereignwealth fund took a \$500 million stake in Live Nation Entertainment Inc. as the world's largest concert promoter faces a year or more without being able to stage any events.

The Saudi Public Investment Fund disclosed Monday that it has taken a 5.7% stake in the company. Live Nation's stock, which had halved this year, rose 12% on the news to \$42.86.

The investment, which was passive and purchased on the open market, makes the sovereign-wealth fund Live Nation's third-largest shareholder, behind Liberty Media Corp. and the Vanguard Group.

Live Nation had been set to have its best year ever in 2020 amid a booming live-events

But it has been particularly exposed amid mandates for lockdowns and social-distancing protocols driven by the coronavirus pandemic. Beyond a decimated summer concert

season-normally the most lucrative time of year—it isn't clear when or how the concert industry might be able to hold events again.

Live Nation, which also owns Ticketmaster, the dominant ticketing provider, has said it has enough cash on hand to last the year.

The company has taken cash-saving measures in recent

The company, which also owns Ticketmaster, is slashing costs.

weeks, reducing top executives' pay by as much as 50%, with Chief Executive Michael Rapino forgoing his full salary. Live Nation has said it also would implement hiring freezes and furloughs, reduce its use of contractors and cut discretionary spending, including on travel, marketing, repairs and maintenance.

Live Nation has faced fans complaints that their money was tied up in tickets for events that have been postponed but not formally canceled.

The company has introduced a new policy allowing consumers to ask for a refund on any ticket for as many as 30 days after a new date is announced.

On top of the unwieldy challenge of rescheduling thousands of events, the company will also have to wade through a costly refund process.

The investment wasn't directly orchestrated by Live Nation management, according to a person familiar with the matter, and didn't involve the company selling shares to the

Hollywood recently has cooled on cash from Saudi Arabia after the kingdom's role in the 2018 murder of journalist Jamal Khashoggi. Talent firm Endeavor LLC last year said it returned a \$400 million investment from the same fund that took the Live Nation stake.

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PERSONAL TECHNOLOGY | By Nicole Nguyen

Find the Best 'Buds for Your Phone and Ears



Just in case there aren't enough wireless earbuds options, here comes an-

other: Google's second-generation Pixel Buds are available in the U.S. starting Monday, and in more countries in the coming months.

Now that you're likely working and trying to keep fit at home-and in need of good earphones for all of the above-you're probably wondering about your best wirefree options.

Generally, over-ear headphones have superior sound quality and noise cancellation compared with wireless earbuds. But as a wearer of glasses and earrings. I find wireless earbuds more comfortable for longer stretches of time. Plus, the portability can't be beat.

You'll just need to remember to clean them: Earbuds can increase bacteria in the ear canal, so you should wipe them down at least once a week, especially after sweating, according to the American Academy of Otolaryngology. Another caveat is that wireless earbuds have tiny lithium-ion batteries. which decay over time. After about 18 months (or 500 charging cycles), that battery life will begin to reduce noticeably, and because the batteries can't easily be replaced, you'll have to buy a new pair.

While they can work with any Bluetooth phone, computer or tablet, earbuds work best with devices made by the same company.

Google Pixel Buds (\$179) Battery life: 5 hours listening time; 2.5 hours talk time Voice assistant: Google As-

Killer feature: Comfortable;

case makes a great fidget toy Not so great: No noise can-

The new Pixel Buds have the best case of any wireless earbuds I've tested. The case's smooth rounded pebble shape makes it easy to flip open with one hand. Maybe too easy: I can't stop snapping it open and closed.

The unique low-profile design is what sets the buds' hardware apart. Competitors have stems that easily get caught on hair, or bulky plastic bodies that cause pain after long periods. The comfortable Pixel Buds don't seem to have these prob-

Setup with a Google Pixel phone is simple. I opened the case and the phone immediately asked if I wanted to connect the headset. This capability actually works with any device running Android 6.0 or later.

The Pixel Buds' Adaptive Sound feature subtly turns the volume up or down based on the environment's noise. As the engine of a distant motorcycle revved, my music got louder. The buds also use accelerometers to detect jaw movement. When they sense you're talking, their built-in microphones focus on your voice and reduce background sounds.

Music and calls sound good on the headphones, but whenever there was too much external noise it was obvious the Pixel Buds don't have noise-canceling technology.

Apple AirPods Pro (\$249)

Battery life: 4.5 hours listening time; 3.5 hours talk

Voice assistant: Siri Killer feature: Noise cancellation; easy switching be



Google's new Pixel Buds





Apple's AirPods Pro

tween an iPhone, Mac, iPad, Not so great: The price tag

The AirPods Pro are the upgrade version of the original white cyborg earrings Apple first introduced in 2016. AirPods were initially mocked—vears later, the buds are all anyone wants for their birthday.

tween multiple Apple devices

Amazon's Echo Buds

What makes the AirPods compelling is how they work with other Apple devices. If you're fully invested in the ecosystem, no other headphone will pair as quickly or seamlessly as the AirPods can, even when switching be-

Apple Watch and back again. But you'll pay for it. The Pros cost \$249, and I'm focusing on the upgrade version here, because I've found the active noise cancellation essential for working in a home you share with others. It's quite effective—perfect for tuning out your partner's morning meeting.

The AirPods Pro also has Transparency, which lets you hear outside sounds. The Galaxy Buds and Echo Buds have a similar feature, but the AirPods' version sounds the most natural.

To switch between Transparency and noise cancellation, control music or activate Siri, vou squeeze the stem. That gesture is much more pleasant than competitors' tap controls, which can feel like you're knocking directly on your eardrum. Like the Pixel Buds, the

AirPods Pro are comfortable. I don't get the same plugged-up ear feeling as I do with other earbuds, in part due to the oval soft silicone tips. They're proprietary, which means if you lose one, you'll have to buy \$8 replacements from Apple.

Samsung Galaxy Buds+ (\$150)

Battery life: 11 hours Voice assistant: Google Assistant, Siri or Bixby Killer feature: Superlong battery life Not so great: Not comfortable for long periods

I couldn't wear Samsung's Galaxy Buds+ for more than an hour. This is where I'd typically stop the reviewear discomfort is a clear deal breaker for an ear-based gadget-but the earbuds are impressive in other ways that are difficult to ignore.

For one, I verified Samsung's claim that these buds last 11 hours on a single charge-more than double the battery life of the competitors listed here. When the batteries do run out, just 3 minutes in the case gives the buds an hour of juice. When the case itself is depleted, you can charge it on the back of any newer Galaxy phone with PowerShare wireless charging.

The Ambient Sound feature amplifies outside noise with too much white noise to feel natural, but it's nice to use during calls.

It's just too bad the Gal-

axy Buds didn't work for my ears, but maybe they'll work for yours.

Amazon Echo Buds (\$130)

Battery life: 5 hours listening time

Voice assistant: Alexa. Google Assistant or Siri Killer feature: Bose-branded noise reduction at a decent price

Not so great: Occasional pairing mishap

Amazon doesn't make a phone (anymore), but it did enter the wireless-earbud arena with a competitive offering. The Echo Buds feature Bose Active Noise Reduction for \$130, less than any of the other buds listed here—even the original nonoise-cancellation AirPods. And they're surprisingly good at blocking out the click-clack of a loud typist or a neighbor's barking dog. Of course, the Echo Buds

don't offer the bells and whistles that the others do. There's no wireless charging. The design isn't as svelte. The case is on the bulkier side and the magnets don't always perfectly pull the earbuds into the right position. Sometimes, I'll open the case and one of the buds isn't charged. Setup and pairing isn't nearly as seamless as it is with same-brand pairing. Alexa is also built into the buds, but it has trouble hearing your voice commands on a crowded street.

Otherwise, the Echo Buds sound great and maintain a reliable connection. If you're looking for a no-frills wireless headset, it's a solid option.

Maybe wait until Prime Day or another shopping holiday, when there might be an even better deal on them.

China Sets

Part of Covid-19 Drug Study Is Halted Early

By Joseph Walker

Regeneron Pharmaceuticals Inc. and Sanofi SA said they would shut down part of a study exploring whether their arthritis therapy could treat certain hospitalized Covid-19 patients because the drug looked unlikely to help them.

An early look at continuing trial results indicated the therapy, named Kevzara, wasn't helping patients who were hospitalized with a severe form of Covid-19, the disease caused by the new coronavirus, but don't require a ventilator's assistance with breathing, the companies said.

The study will continue, however, for an even sicker set of hospitalized Covid-19 patients who require the help of ventilators or other high-flow oxygen support, the companies said on Monday.

In the second, sicker group of patients, the drug showed a relatively small potential benefit over placebo—substances with no actual pharmaceutical effect—though that will need to be confirmed in the continuing study, the companies said.

Ramp-Up Of iPhones Delayed

Continued from page B1

erations

pany's worker recruitment op-

mally known as Hon Hai Pre-

cision Industry Co., declined

to comment, saying it doesn't

discuss specific production fa-

Investors and analysts have

been anticipating a shipment

delay of this year's 5G iPhones

since Apple said in February it 🗐

would miss revenue projec-

partly because the coronavirus

Taiwan-based Foxconn, for-

Results are expected in June. "There's still hope it might

help, but more modest than people hoped," Regeneron Chief Medical Officer George D. Yancopoulos said in an interview. "It doesn't look like the magic panacea that everyone would've wanted for the pandemic."

Dr. Yancopoulos said the results underscored the need to perform placebo-controlled studies of potential treatments for Covid-19 and not rely on anecdotal reports that have circulated in the medical community as doctors have worked to find treatments.

"We don't want mirages, we don't want fake cures, we want real therapeutics that make a difference," he said.

Kevzara was approved in 2017 to treat rheumatoid arthritis, a disease caused by an immune system that attacks healthy tissue.

Researchers theorized the drug might help Covid-19 patients whose immune systems go haywire in response to the new coronavirus.

and Sanofi Regeneron launched a U.S. clinical trial

last month to study the drug's ability to stop the hyperactive immune response of some coronavirus patients that is thought to contribute to a higher risk of death. The companies began studying the drug based on a small, nonplacebo-controlled study in China that showed a similar drug helped nearly all study subjects recover from Covid-19.

The study will continue for a sicker set of hospitalized patients.

The trial was divided into two parts: a smaller, phase 2 study and a larger, phase 3 study.

Normally the third phase follows completion of the second, but the companies began conducting the two simultaneously to more quickly determine whether the drug worked in treating Covid-19. It usually takes years to advance drug studies into phase 3, which is usually the final stage before a drug is considered for regulatory approval.

Both phases compared Kevzara to placebo in two groups of hospitalized patients. Patients were assigned to a "severe" group if they were receiving oxygen support short of being on ventilators or receiving high-flow oxygen through nasal tubes: a second group was termed "critical" if they were on ventilators, receiving high-flow oxygen support or in an intensive-care unit.

An independent committee monitoring the study found that the severe patients receiving Kevzara in the phase 2 segment appeared to do worse than the placebo group, the companies said.

In the larger phase 3 segment, severe patients did about the same in both the Kevzara and placebo groups.

The committee recommended that the companies stop treating severe patients because the drug was unlikely to help them, the companies

The severe group taking

placebos did better than the companies had expected, which Dr. Yancopoulos said indicated the course of the disease in hospitalized patients still isn't well understood.

If the study didn't have a placebo group, it may have looked as though the drug was helping patients recover, though they would have even without treatment, Dr. Yancopoulos said. Data from the phase 2

study suggests the drug may help some critical patients, but the results will have to be confirmed in the phase 3 study, the companies said.

Among critical patients receiving placebo, 55% died or were on ventilators after the study, compared with 46% of patients treated with 200 milligram doses of Kevzara, and 32% of patients receiving 400 milligram doses of Kevzara, the companies said.

At the advice of the independent committee, the companies said they would continue treating critical patients in the phase 3 study using only the 400 milligram dose or placebo.

New Rules For Buying Equipment By Yifan Wang China adopted tough new

cybersecurity rules for buyers technology equipment, which could place foreign tech products at a disadvantage in the Chinese market.

The new procurement rules, announced Monday by the Cyberspace Administration of China and set to take effect June 1, require operators of "critical information infrastructure" to go through a cybersecurity review process when ordering goods and services that may affect national security. They had been among draft regulations that Beijing released mid-2019 as U.S.-China

The CAC didn't say what the status was for other draft regulations released around the same time, including changes that would restrict the outflow of personal data from China.

trade talks came to a halt.

Among the draft regulations, in an effort to flesh out an existing cybersecurity law, the purchasing rules had been of special concern to American businesses already worried about barriers in China. In a statement about the final version posted online, the CAC said the rules weren't intended to restrict or discriminate against foreign companies. "Our policy of welcoming overseas products and services into China's market changed," it said.

Under the new rules, before signing a contract, companies must submit procurement documents, purchase agreements and an analysis of the deal's potential national-security impact for government review. The procedure normally will wind up within 45 working days but may take three months or more in complicated cases, said the CAC, which will lead the interagency scrutiny. The Ministry of Public Security is among the other agencies involved.

The CAC offered no new details on which companies

contributed to this article.



tions for the current quarter The company usually increases production of new phones in early summer.

pandemic had limited iPhone production. Apple has been doubly Bernstein analyst Toni Sacstruck by the coronavirus panconaghi said in a recent report demic-first in China, where it that investors shouldn't worry closed stores and its assemabout a delay unless Apple blers shut plants, eroding fails to ship the iPhone before the 2020 holiday season, its

tivities at its headquarters in Silicon Valley.

While some stores in Asia have reopened and factories have resumed production, Ap-

The company relies on the U.S. and Europe for about twothirds of its total sales and those markets are suffering under a historic economic con-

The coronavirus pandemic and resulting travel restrictions have changed the way many companies develop products, as engineers find themselves unable to visit distant labs or suppliers to make immediate adjustments to components or products. Unable to travel to China

earlier this year, Apple's U.S. engineering team used video calls to guide Chinese colleagues through iPhone prototype assembly at factories in Asia, people familiar with the matter said.

Apple has delayed iPhone shipments in the past. In 2017, the high-end iPhone X went on sale in November following production glitches, while the iPhone 8 and iPhone 8 Plus went on sale in September.

The later release pushed sales of the flagship iPhone X into the company's fiscal year ended September 2018, when the higher-priced device lifted annual iPhone revenue 17% from a year earlier to a record \$165 billion.

would be affected. –Yoko Kubota

iPhone supplies—then in the ple faces uncertainties in contraction after governments —Lekai Liu U.S. and Europe, where it had sumer demand in the midst of shut down most businesses to and Tripp Mickle contributed to this article. biggest sales period. to also shut stores and halt aca global economic downturn. curtail the virus's spread.

Bayer Says Roundup Resolution Is Slowed

By Ruth Bender

BERLIN—**Bayer** AG's firstquarter profit rose as customers of the German company's farming and drugs businesses stocked up amid the coronavirus pandemic.

But Bayer said the pandemic also slowed progress on resolving its high-stakes legal battle with U.S. plaintiffs alleging the company's Roundup herbicides cause cancer.

Sales increased 4.8% to €12.85 billion (\$13.91 billion), beating analyst expectations. Net profit rose to €1.49 billion from €1.24 billion a year earlier. Bayer said it couldn't predict how the pandemic would affect its business, positively or negatively, over the rest of the

Sales at the consumer health unit, which produces aspirin and had been struggling to boost sales in recent years, rose 13.5% in the quarter when stripping out currency changes and the loss in sales from brands sold last year. The anticoagulant medication Xarelto also continued to drive Bayer's business, with people stocking

In the crop science business, which includes recently acquired Monsanto, sales benefited from the advanced purchases of its seeds, fungicides and pesticides in Europe and the Middle East as well as a substantial increase in acreages in the U.S.

Bayer has been negotiating a settlement over the claims that Roundup, which was inherited from Monsanto, cause cancer. The total number of plaintiffs rose to 52,500 as of April 14. Bayer said it would continue to engage in mediation but that now, more than ever, it would be careful about how much it would agree for a settlement, citing a looming recession and liquidity challenges.

Bayer Says | Chinese Regulator Raids Luckin

By Jing Yang

China's top business and commerce regulator is investigating **Luckin Coffee** Inc., after the Nasdaq-listed coffee chain revealed that much of its 2019 sales were fabricated and caused losses for many investors.

More than a dozen officers from the country's State Administration for Market Regulation raided Luckin Coffee's headquarters in Xiamen on Sunday, demanding full access to the company's accounts, transaction records and internal systems, according to a person familiar with the matter. The on-site investigation is likely to continue through the week, the person added.

Luckin confirmed the probe Monday, saying in a statement that it is "actively cooperating" with the market regulator and providing information about its business. The company also said its stores across the country are operating normally. The Chinese regulator didn't respond to a request for comment.

The probe into Luckin by one of China's most powerful business regulators marks the most significant action taken so far by Chinese authorities, which earlier this month publicly condemned the upstart coffee chain for its accounting misconduct. It also points to a conundrum facing regulators in both the U.S. and China when it comes to reining in financial misdeeds of U.S.-listed Chinese companies.

Luckin went public on the Nasdaq Stock Market in May 2019 and raised more than \$1.5 billion from investors over the past year, taking advantage of a rising share price that was buoyed in part by its inflated quarterly results. The company disclosed April 2 that as much as 2.2 billion yuan (\$310 million) in sales transactions were fabricated by some employees, and that an internal investigation is being conducted. Its American depositary shares have been suspended from trading since April 7.



The coffee chain disclosed April 2 that as much as \$310 million in sales were fabricated by some employees, A store in Beijing.

While the company is listed in the U.S., its holding company is incorporated in the Cayman Islands and most of its operations are in China.

For years, the Securities and Exchange Commission and the Public Company Accounting Oversight Board have been unable to inspect audits of Chinese companies whose securities trade on U.S. stock exchanges. That has prevented them from getting information needed to bring enforcement actions against companies that may have engaged in securities fraud.

In the wake of Luckin's accounting scandal and the disclosure of inaccurate financial statements by another U.S.-listed Chinese company this month, the SEC last week warned investors about the "significant risks" of investing in companies from China and other emerging markets. For such companies, "there is substantially greater risk that disclosures will be incomplete or misleading and, in the event of investor harm, substantially

Short Sellers Scan U.S.-Listed Firms

Numerous U.S.-listed Chinese companies have been targeted in recent years by short sellers critical of the companies' financial reporting. Most of those targeted companies, however, have defended the accuracy of their accounts.

On April 7, New York-listed **TAL Education Group**, which provides tutoring services to students in China, said it suspected an employee had forged contracts in a business unit that contributed to 3% to 4% of

less access to recourse, in comparison to U.S. domestic companies," the SEC said.

The probe by China's business regulator was likely in response to the SEC's criticism, as well as an attempt by Beijing to tackle the thorny situation, according to Nana Li, senior re-

the company's estimated revenues. TAL said it had turned the employee over to local police. The company's stock has fallen 7.9% since the disclosure.

Luckin shares lost more than 80% of their value—crystallizing more than \$5 billion in investor losses—after the company said April 2 that it had suspended its chief operating officer and several employees for fabricating much of its sales from the second to the fourth quarter of 2019. The company said a special board committee is conducting an independent investigation into the matter together with a law firm and a forensic accounting firm.

search analyst at the Asian Corporate Governance Association in Hong Kong.

The China Securities Regulatory Commission, which regulates listed companies, earlier this month denounced Luckin's misconduct and said it would investigate the company in ac-

cordance with international regulations. The Chinese securities regulator, however, has limited supervisory authority over foreign-listed companies' capital markets activities. It said Monday that it has been in touch with the SEC and PCAOB after Luckin disclosed account-

ing irregularities.

The State Administration for Market Regulation, on the other hand, regulates the business activities of all companies that operate in China, regardless of their ownership, and oversees issues ranging from approving business licenses to antitrust reviews. It has the authority to impose fines on companies and even revoke business licenses.

The loss-making company was founded in 2017 and expanded rapidly into one of China's largest coffee chains, opening more than 4,500 stores by the end of 2019 and using discounts and scores of mobile coupons to lure customers.

—Zhou Wei contributed to this article.

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BUSINESS NEWS

Mass Transit Poses Hurdle To Reopening

As corporate executives plan how to safely bring employees back to work in the office, a thorny issue has arisen over which they have no control: public transportation.

The mass transit systems that allowed some of the world's most densely populated financial capitals to grow and flourish for a century, including New York City and Tokyo, are emerging as a major concern because of the novel coronavirus pandemic. Challenges with commuting could keep offices in those locations shut for longer than other places where people can more easily drive to work, human resources and real-estate executives say.

Companies are starting to consider alternatives to mass transit, such as company car allowances, private bus services and leasing smaller office space in suburban locations closer to where many workers live.

"Extremely large companies might offer to subsidize people's purchases of private vehicles or subsidize rental cars," said Lindsay Burke, cochair of the employment practice at law firm Covington & Burling LLP.

To avoid putting workers through a public commute, some companies are considering leases to open smaller sat-

chler, chief executive of realestate investment firm RXR Realty. He is getting calls from office tenants in Manhattan looking for space in the New York borough of Queens and Westchester County, where rents are cheaper and many employees have cars.

Mr. Rechler decided to open smaller spaces for his own employees after running a ZIP Code analysis on RXR's New York area workforce. He plans to launch satellite offices in Brooklyn, Long Island City, Uniondale and Westchester, with the goal of reducing the number of people using public

Some employees say they fear using public transportation because they might come in contact with a fellow passenger infected with Covid-19, the illness caused by the coronavirus, and they won't be able to avoid people who refuse to follow state or local mandates to wear masks or other face coverings in public.

The pandemic could significantly alter the way many companies operate, with more employers willing to embrace work-at-home arrangements long after offices are reopened. Already, some executives have said they would work differently going forward.

Anaplan Inc., an enterprise



Firms are considering alternatives to public transportation that carry less coronavirus risk. New York's Grand Central Terminal.

software company with employees in San Francisco, London and Tokyo, will soon hold focus groups to ask workers how they feel about returning to the office, said Marilyn Miller, the chief people officer.

"There's a whole series of things that have to be thought through before they even get to the front door of the office." she said of the company's plans to reopen. Those employees who are more dependent on buses, trains and subways may choose to work from home longer than employees who are less dependent on public transportation, Ms. Miller said.

Once inside the workplace,

social distancing can be maintained through one-way hallways, limiting elevator use to one person at a time and closing corporate cafeterias and providing boxed lunches instead, planners say.

The more fundamental issue that could restrict reopening in a place such as New York City is "Can people even get to work?" said Mary Good, chief people officer of Squarespace Inc. For weeks, Squarespace executives have been analyzing floor plans and meeting on video calls to create a detailed office-by-office plan to bring workers back.

Some U.S. offices are highly reliant on public transit, Ms. Good said. New York's subway system moved more than 8.6 million riders on a typical weekday before the pandemic.

Some companies are considering the idea of setting up private van or bus services. NewYork-Presbyterian, one of New York's largest private health-care systems, is using private coach buses to run about 30 routes around the city and surrounding areas, allowing essential medical workers at its hospitals to bypass the subway and commuter trains. Capacity is capped at 50% on each bus to ensure distancing, and a cleaning person scrubs interior surfaces after

every trip, said Joe Jenuso. who runs the hospital system's facilities and real estate.

Debbie Spero, a manager of sales and new business development for a staffing and consulting firm in Manhattan, takes the train from her Upper West Side apartment to midtown. She said she's concerned about being able to keep 6 feet away from other riders in a subway car. "Do I trust people in the subway? Absolutely not," she said. "On the other hand, what are my options for getting to my office? Not so many."

> –Konrad Putzier and Lauren Weber contributed to this article.

Shipbuilding Investment Hits 11-Year Low Amid Pandemic

By Costas Paris

The economic fallout from coronavirus restrictions helped cut investment in shipbuilding to its lowest level in 11 years in the first quarter, with work at Asian shipyards nearly halted and owners holding back on orders as global demand for goods nosedived.

"Contracting activity was extremely limited in the first quarter of 2020, with the economic impact of the Covid-19 outbreak negatively affecting investor sentiment," shipbroker Clarkson PLC said Monday in its monthly World Shipyard Monitor report.

Clarkson said 100 vessels of all types were ordered in the first three months of 2020 at \$5.5 billion, a 71% decline from last year's first quarter and the lowest total since the second quarter of 2009. Chinese yards got 55 orders in the quarter and South Korean yards got 13 orders, representing falls of

50% and 81%, respectively. The firm expects orders to keep sliding as a global downturn in trade deepens, and that the number of overall orders will decline by 26% this year. "The continued escalation of the coronavirus outbreak is likely to have a severe



The downturn will be costly for shipyards in Asia where liquefied-natural-gas carriers, which cost about \$180 million each, are built.

impact on newbuild order potential in 2020," Clarkson said.

Clarkson said seaborne trade, which stands at around 12 billion metric tons, will contract by 600 million metric tons this year, the biggest fall in more than 35 years. The firm forecasts that overall trade of goods moved on ships will shrink 5.1% in 2020 from last year, compared with a 4.1% annual decline during the

2008-09 financial crisis. The falling orders affect every type of ship, from container vessels that move the world's manufactured goods to highmargin natural-gas carriers where South Korean and Chinese vards had pinned their

hopes for growth this year. Orders for dry-bulk carriers and tankers also are drying up even though China is resuming commodity imports and energy traders are booking tankers to store oil on the back of the crude-price collapse.

The trade lapse will directly

hit the Korean and Chinese yards that control around half of the global shipbuilding capacity, according to marine data provider VesselsValue.

South Korea's **Hyundai** Heavy Industries Co. and Daewoo Shipbuilding & Marine Engineering Co. are merging, and so are China Shipbuilding Industry Corp. and China State Shipbuilding Corp., combinations undertaken to help rationalize operations and cut costs amid declining orders over the past three years.

The yards were making more space to build liquefied natural gas carriers, which cost around \$180 million apiece, about three times more than other types of ships, and generate profit margins that are at least twice as high as other ships.

"Then the virus hit and the bottom fell off," said a senior executive at the China Association of the National Shipbuilding Industry, China's state-run yard trade body. "It's bad times, so we have to lure in orders. Depending on the customer and the type of ships, Chinese yards will be offering up to a 20% discount on new orders."

The LNG market was surging before the pandemic, mainly on demand from China

merce platform and to expand

wholesale channels such as de-

closely with Laura Ashley man-

agement and PwC to figure out

what the company's brick-and-

Laura Ashley has 77 stores in

Laura Ashley's sales through

partment stores.

and India, which are turning to gas rather than coal for power generation and heating.

Clarkson said the global order book for LNG carriers in the first quarter stood at 2,915 vessels, the lowest tally since 2004, when the natural-gas market was a fraction of what it is now. The broker said travel restrictions also are delaying orders, as carrier executives are unable to meet with shipyard engineers and planners for the detailed work that goes into

planning vessel specifications. "We got a bulker and a small boxship on order which are already a month late and we can't send our people to China to check on the progress of work," said an Indonesian owner, who requested anonymity. "How can you buy a ship when you can't be at the yard to make sure it's being

put together properly?" Clarkson said Chinese yards that had suspended work in February under Beijing's coronavirus restrictions had mostly resumed production by mid-March. But deliveries may be held up because critical parts like navigation systems provided by European suppliers have been delayed, and some shipowners are seeking

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BERKSHIRE HATHAWAY

Annual Meeting to Be Minus an Aide

"Woodstock for Capitalists" will be missing one of its lead singers this weekend.

Warren Buffett's Berkshire Hathaway Inc. said only Mr. Buffett and Greg Abel, Berkshire's vice chairman of non-insurance operations, will be physically present at this year's annual meeting on Saturday.

That means Mr. Buffett's most trusted partner, Berkshire Vice Chairman Charlie Munger, won't be in attendance. The meeting usually brings thousands to Mr. Buffett's hometown of Omaha, Neb., but this year it was scaled back to a webcast because of the pandemic.

—Geoffrey Rogow GORDON BROTHERS GROUP

Laura Ashley Brands

Are Acquired a firm that specializes in liqui-

Gordon Brothers Group LLC, dating brick-and-mortar retailers, sees increasing opportunities in buying and reviving the brands behind bankrupt retailers.

The Boston firm recently bought the brands and intellec-



CORPORATE WATCH

Warren Buffett at last year's annual meeting.

tual property behind Laura Ashley Holdings PLC, the British apparel and furnishings retailer. The company had been in administration, the U.K. equivalent of bankruptcy, since March.

the U.K. after closing down "The volume of opportunities about 70 others, according to its administrator, Pricewaterto acquire or invest in businesses with major global brands houseCoopers LLP. Its brick-andhas increased dramatically since mortar stores are temporarily the start of the global panclosed due to the pandemic, demic," said Ramez Toubassy, though online sales continue. president of Gordon Brothers' Gordon Brothers is working

brands division. Gordon Brothers plans to invest in the company's e-commortar footprint will look like. Mr. Toubassy said. –Soma Biswas

to push back payments.

HAVERTY FURNITURE

Chain Begins Process Of Reopening Stores

Haverty Furniture Cos. said it would begin the process of reopening its stores and resume its delivery and distribution oper-

The company said it would reduce its workforce of 3.495 by about 1,200 given the dramatic shock from the pandemic and uncertainty of its effects.

Haverty said it expects to reopen 108 of its 120 stores by May 1 and anticipates all locations to be open by the middle of the month. The company is planning a phased approach as it restarts its business, with limited staffing and shorter hours, adjusting as the pace of busi-

ness dictates. The company will extend furloughs for about 730 workers by another 30 days, it said, adding it will continue to pay health benefits during this time.

"The recall of these team members will depend upon the level of Haverty's business," the company said.

—Stephen Nakrosis

MARKETS DIGEST

EQUITIES

Dow Jones Industrial Average

24133.78 △ 358.51, or 1.51% High, low, open and close for each trading day of the past three months.

Trailing P/E ratio 19.16 18.51 P/E estimate * 20.58 16.71 Dividend vield 2.74 2.16 All-time high 29551.42, 02/12/20

S&P 500 Index

2878.48 41.74, or 1.47% High, low, open and close for each trading day of the past three months.

Trailing P/E ratio 22.54 21.98 P/E estimate * 20.98 17.61 Dividend vield 2.14 1.90 All-time high 3386.15, 02/19/20

Nasdaq Composite Index

8730.16 △ 95.64, or 1.11% High, low, open and close for each trading day of the past three months. Trailing P/E ratio * 26.82 23.67 P/E estimate *† 25.63 21.55 Dividend vield *1 1.00 0.99 All-time high: 9817.18, 02/19/20



Bars measure the point change from session's open 15000 Feb. Mar. Apr.

*Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.; †Based on Nasdag-100 Index



2000 <u>......l.........l...............</u> Jan. Feb. Apr.



_____ Feb.

Major U.S. Stock-Market Indexes

-			Latest				52-Week —		%	chg —
	High	Low	Close	Net chg	% chg	High	Low	% chg	YTD :	3-yr. ann.
Dow Jones										
Industrial Average	24207.65	23840.61	24133.78	358.51	1.51	29551.42	18591.93	-9.1	-15.4	4.8
Transportation Avg	8381.45	8145.63	8317.42	225.02	2.78	11304.97	6703.63	-23.0	-23.7	-3.3
Utility Average	810.80	799.12	805.80	10.71	1.35	960.89	610.89	3.6	-8.3	4.4
Total Stock Market	29116.11	28698.29	29022.02	514.91	1.81	34631.28	22462.76	-4.3	-12.1	5.4
Barron's 400	601.01	586.37	598.76	17.32	2.98	746.64	455.11	-16.6	-18.2	-2.4
Nasdaq Stock Marke	et									
Nasdaq Composite	8754.57	8697.37	8730.16	95.64	1.11	9817.18	6860.67	7.1	-2.7	13.0
Nasdaq 100	8887.62	8803.88	8837.66	51.06	0.58	9718.73	6978.02	12.7	1.2	16.6
S&P										
500 Index	2887.72	2852.89	2878.48	41.74	1.47	3386.15	2237.40	-2.2	-10.9	6.4
MidCap 400	1621.74	1564.01	1613.53	63.16	4.0	7 2106.12	1218.55	-18.3	-21.8	-2.7
SmallCap 600	751.16	720.35	745.84	30.70	4.2	9 1041.03	595.67	-23.7	-27.0	-4.7
Other Indexes										
Russell 2000	1289.18	1243.47	1281.88	48.82	3.96	5 1705.22	991.16	-19.8	-23.2	-3.3
NYSE Composite	11301.31	11086.96	11264.84	246.94	2.24	14183.20	8777.38	-13.4	-19.0	-0.9
Value Line	399.62	383.59	398.04	14.45	3.77	562.05	305.71	-27.8	-27.9	-9.0
NYSE Arca Biotech	5428.38	5334.24	5399.75	86.97	1.64	5399.75	3855.67	13.7	6.6	14.3
NYSE Arca Pharma	662.34	657.16	659.31	5.85	0.89	670.32	494.36	13.4	0.9	8.8
KBW Bank	73.27	69.63	72.93	3.89	5.64	114.12	56.19	-28.8	-35.7	-7.5
PHLX [§] Gold/Silver	119.05	114.33	117.69	0.14	0.12	117.69	66.14	66.0	10.1	13.2
PHLX [§] Oil Service	28.61	26.66	27.90	-0.22	-0.79	95.36	21.47	-70.7	-64.4	-43.4
PHLX [§] Semiconductor	1740.14	1715.75	1725.04	22.48	1.32	1979.50	1286.84	11.7	-6.7	19.0
Cboe Volatility	36.44	32.51	33.29	-2.64	-7.35	82.69	11.54	153.9	141.6	47.6
8										

Late Trading

 $Most-active \ and \ biggest \ movers \ among \ NYSE, NYSE \ Arca, NYSE \ Amer.$ and Nasdaq issues from 4 p.m. to 6:30 p.m. ET as reported by electronic trading services, securities dealers and regional exchanges. Minimum share price of \$2 and minimum after-hours volume of 50,000 shares.

Most-active issues in late trading

		Volume			After Hour		
Company	Symbol	(000)	Last	Net chg	% chg	High	Low
Finl Select Sector SPDF	X LF	21,682.4	22.50	0.02	0.09	22.57	22.41
SPDR S&P 500	SPY	7,365.5	286.54	-0.51	-0.18	287.53	286.45
General Electric	GE	4,056.4	6.43		unch.	6.45	6.39
Bristol-Myers	BMY	3,475.9	62.61	0.05	0.08	62.95	62.35
Snap	SNAP	3,436.8	16.92	0.01	0.06	16.98	16.86
Stars Group	TSG	3,265.1	25.55		unch.	25.55	25.55
MGIC Investment	MTG	3,023.5	6.80	0.17	2.56	6.80	6.63
Hudbay Minerals	HBM	2,995.6	2.55	0.08	3.24	2.55	2.47
Percentage gai	ners						
RTI Surgical	RTIX	73.2	3.01	0.97	47.55	3.25	2.04
Quotient	QTNT	332.5	9.57	1.98	26.09	9.57	7.59
Syndax Pharmaceuticals	s SNDX	69.7	13.99	2.48	21.55	14.91	11.45
AIM ImmunoTech	AIM	612.5	2.12	0.22	11.58	2.38	1.89
F5 Networks	FFIV	485.8	144.50	13.58	10.37	144.85	130.00
And losers							
Harmonic	HLIT	71.8	5.80	-0.76	-11.59	6.58	5.00
GameStop CI A	GME	220.1	5.50	-0.32	-5.50	5.92	5.50
UMB Financial	UMBF	68.7	45.19	-2.59	-5.42	47.78	45.19
FuelCell Energy	FCEL	130.2	2.27	-0.11	-4.62	2.39	2.27
TCF Financial	TCF	60.5	25.00	-0.65	-2.53	26.60	25.00

Trading Diary

Volume, Advancers, Decliners

Volume, A	uvancers,	Decimer 2
	NYSE	NYSE Amer.
Total volume*	969,514,815	22,900,378
Adv. volume*	804,569,728	13,190,713
Decl. volume*	159,384,018	9,148,963
Issues traded	3,019	267
Advances	2,329	158
Declines	644	100
Unchanged	46	9
New highs	31	3
New lows	9	3
Closing Arms†	0.81	1.09
Block trades*	5,482	227
	Nasdaq	NYSE Arca
Total volume*3	3,693,805,041	334,121,775
Adv. volume*2	,765,487,354	222,875,854
Decl. volume*	897,352,063	109,362,562
Issues traded	3,335	1,435
Advances	2,553	1,098
Declines	698	326
Unchanged	84	11
New highs	67	12
New lows	12	29
Closing Arms†	1.19	2.17

Block trades 21,559 1,680 * Primary market NYSE, NYSE American NYSE Arca only. '(TRIN) A comparison of the number of advancing and declining issues with the volume of shares rising and falling. An Arms of less than 1 indicates buying demand; above 1indicates selling pressure.

International Stock Indexes

§Nasdaq PHLX

Interna	itional Stock	Index	es		
Region/Countr	y Index	Close	Net chg	— Latest ———— % chg	YTD % chg
World	The Global Dow	2607.18	49.24	1.93	-19.8
	DJ Global Index	366.07	6.59	1.83	-15.7
	DJ Global ex U.S.	210.16	4.10	1.99	-20.3
Americas	DJ Americas	662.46	11.33	1.74	-12.9
Brazil	Sao Paulo Bovespa	78238.60	2907.99	3.86	-32.3
Canada	S&P/TSX Comp	14642.11	221.75	1.54	-14.2
Mexico	S&P/BMV IPC	34968.09	381.27	1.10	-19.7
Chile	Santiago IPSA	2685.43	93.02	3.59	-19.5
EMEA	Stoxx Europe 600	335.44	5.85	1.78	-19.3
Eurozone	Euro Stoxx	316.55	7.24	2.34	-21.6
Belgium	Bel-20	3036.44	93.46	3.18	-23.2
Denmark	OMX Copenhagen 20	1169.02	5.23	0.45	2.9
France	CAC 40	4505.26	111.94	2.55	-24.6
Germany	DAX	10659.99	323.90	3.13	-19.5
Israel	Tel Aviv	1415.35	8.81	0.63	-15.9
Italy	FTSE MIB	17380.21	521.32	3.09	-26.1
Netherlands	AEX	512.19	7.25	1.44	-15.3
Russia	RTS Index	1083.68	2.36	0.22	-30.0
South Africa	FTSE/JSE All-Share	49527.23		Closed	-13.2
Spain	IBEX 35	6731.78	117.88	1.78	-29.5
Sweden	OMX Stockholm	587.95	7.51	1.29	-13.6
Switzerland	Swiss Market	9758.82	133.17	1.38	-8.1
Turkey	BIST 100	101267.36	2508.40	2.54	-11.5
U.K.	FTSE 100	5846.79	94.55	1.64	-22.5
U.K.	FTSE 250	15952.72	265.30	1.69	-27.1
Asia-Pacific					
Australia	S&P/ASX 200	5321.40	78.78	1.50	-20.4
China	Shanghai Composite	2815.49	6.97	0.25	-7.7
Hong Kong	Hang Seng	24280.14	448.81	1.88	-13.9
India	S&P BSE Sensex	31743.08	415.86	1.33	-23.1
Japan	Nikkei Stock Avg	19783.22	521.22	2.71	-16.4
Singapore	Straits Times	2549.40	31.23	1.24	-20.9
South Korea	Kospi	1922.77	33.76	1.79	-12.5
Taiwan	TAIEX	10567.27	219.91	2.13	-11.9
				0.40	

Percentage Gainers...

Sources: FactSet; Dow Jones Market Data

		— La	itest Sess	ion —		- 52-Wee	k ——
Company	Symbol	Close	Net chg	% chg	High	Low	% chg
Yield10 Bioscience	YTEN	7.91	2.76	53.59	58.80	3.50	-81.5
Erytech Pharma ADR	ERYP	7.50	2.19	41.24	8.22	3.50	-3.6
Arcturus Therapeutics	ARCT	30.53	7.96	35.27	31.82	5.70	287.4
Covetrus	CVET	11.62	2.85	32.50	33.50	4.05	-64.7
CNFinance Holdings ADR	CNF	4.62	1.08	30.51	6.59	3.40	-22.7
Taiwan Liposome ADR	TLC	5.50	1.25	29.41	8.54	2.48	-5.5
Neonode	NEON	3.55	0.80	29.09	3.80	1.09	0.6
NN	NNBR	3.09	0.67	27.69	11.70	1.35	-66.5
Greenlane Holdings	GNLN	2.90	0.62	27.19	19.00	1.02	-83.4
DarioHealth	DRIO	9.45	2.00	26.85	18.60	3.02	-40.2
ProSh Ult Bloom Crude Oil	sco	56.88	11.78	26.12	67.35	11.17	281.7
Piedmont Lithium ADR	PLL	6.39	1.32	26.10	12.73	4.00	-37.0
AudioCodes	AUDC	28.76	5.70	24.72	29.43	9.00	73.5
Axsome Therapeutics	AXSM	95.00	18.60	24.35	109.94	13.64	429.0
Tenneco	TEN	4.72	0.89	23.24	23.48	2.21	-78.9
Most Active Sto	cks						

Most Active Stocks

		Volume	%chg from	d atest 9	ession—	52-W	eek
Company	Symbol	(000)	65-day avg	Close	% chg	High	Low
Aytu BioScience	AYTU	129,881	570.5	2.02	44.29	2.99	0.34
Inovio Pharmaceuticals	INO	121,355	243.9	13.70	-6.10	19.36	1.92
Vislink Technologies	VISL	117,671	873.6	0.29	42.50	8.00	0.11
Finl Select Sector SPDR	XLF	109,354	23.2	22.48	3.40	31.38	17.49
General Electric	GE	106,727	11.2	6.43	2.72	13.26	5.90
Ford Motor	F	90,901	-5.5	5.17	6.16	10.56	3.96
SPDR S&P 500	SPY	77,376	-54.1	287.05	1.44	339.08	218.26
Transocean	RIG	68,721	137.4	0.84	-12.64	8.84	0.76
Oasis Petroleum	OAS	67,995	147.2	0.53	-13.08	6.27	0.24
American Airlines Group	AAL	66,878	43.2	10.02	-2.81	34.99	9.09
* Volumes of 100,000 shares or	more are ro	unded to t	he nearest t	housand			

Track the Markets Compare the performance of selected global stock indexes, bond ETFs, currencies and commodities at WSJ.com/TrackTheMarkets

Percentage Losers

Company	Symbol		atest Sess Net chg	ion — % chg	High	52-Wee	ek ——— % chg
Verastem	VSTM	2.11	-2.03	-49.03	4.67	0.83	-5.6
Mesoblast ADR	MESO	11.59	-3.86	-24.9 8	20.57	3.12	97.1
PS Ult Bloomberg Crude	UCO	12.42	-4.11	-24.86	612.00	11.00	-97.9
ETRACS S&P GSCI Crude Oil	OILX	6.13	-1.88	-23.47	38.18	4.36	-83.8
Chesapeake Energy	CHK	31.50	-8.44	-21.13	602.00	12.30	-94.7
CS X-Links Crude Oil ETN	USOI	5.30	-1.31	-19.82	24.25	5.00	-78.1
Ideal Power	IPWR	2.05	-0.49	-19.29	5.50	1.08	-53.3
Copa Holdings Cl A	CPA	41.33	-8.83	-17.60	116.88	24.00	-48.2
Chembio Diagnostics	CEMI	12.87	-2.67	-17.18	15.89	2.25	74.4
Income Opportunity Realty	IOR	8.32	-1.68	-16.80	15.00	8.32	-24.4
Sutro Biopharma	STRO	9.23	-1.82	-16.47	12.75	6.00	-8.6
Micro US Big Banks 3X Inv	BNKD	22.52	-4.23	-15.80	97.12	21.47	-44.2
Celldex Therapeutics	CLDX	2.54	-0.47	-15.61	4.05	1.50	-33.3
VS 2x VIX Short Term	TVIX	200.99	-36.46	-15.35	1000.00	38.33	1.8
DB Gold Double Short ETN	D77	3 82	-0.69	-15 22	6.08	3 22	-25.0

Volume Movers Ranked by change from 65-day as

Volume IVIOVE	Ranked by Change from 65-day average											
Company	Symbol	Volume (000)	%chg from 65-day avç	Latest S Close	Session % chg	52-W High	eek Low					
Yield10 Bioscience	YTEN	34,099	13589	7.91	53.59	58.80	3.50					
GI X Scientific Beta US	SCIU	1,095	7885	29.95	2.64	36.66	22.50					
Davis Select Intl ETF	DINT	2,812	5470	15.84	2.88	20.04	12.99					
Davis Select U.S. Equity	DUSA	1,664	4326	21.62	2.32	27.32	16.92					
FinTech Acqn Corp. III	FTAC	1,577	2350	10.13	-0.10	10.27	9.75					
Xtrackers MSCI All China	CN	97	1706	32.48	1.16	36.42	28.00					
Torm	TRMD	1,349	1694	9.45	-1.87	48.86	6.80					
PIMCO Dyn Mult US	MFUS	862	1537	25.97	2.37	33.30	20.26					
DarioHealth	DRIO	300	1322	9.45	26.85	18.60	3.02					
Nordic American Tankers	NAT	62,283	1171	7.20	23.08	7.25	1.66					

* Common stocks priced at \$2 a share or more with an average volume over 65 trading days of at least 5,000 shares †Has traded fewer than 65 days

CREDIT MARKETS

-19.8

0.85%

1.60%

1.65%

1.65%

1.70%

877-247-2559

888-201-6505

855-730-7283

866-805-8663

0.69

Consumer Rates and Returns to Investor Selected rates U.S. consumer rates

1267.41

A consumer rate against its benchmark over the past year

SET

Sources: FactSet; Dow Jones Market Data

Thailand

5-year CDs Bankrate.com avg†: **Ally Bank** New York, NY **Citizens Access** 1.50 Westwood, MA Five-year CD yields Goldman Sachs Bank USA 1.00 New York, NY Federal-funds 0.50 American Express National Bank target rate New York, NY First Internet Bank of Indiana

MJJASONDJFMA	١	First Internet Bank of Indiana						1.//%
2019 2020		India	napolis,	IN			888-8	373-3424
Interestrate		ate (%) - Week ago	— 52 Low (k Rang 4 6		High	3-yr chg (pct pts)
Federal-funds rate target	0.00-0.25	0.00-0.25	0.00				2.25	-0.75
Prime rate*	3.25	3.25	3.25	(5.50	-0.75
Libor, 3-month	0.84	1.10	0.74	•			2.58	-0.33
Money market, annual yield	0.31	0.32	0.31	•			0.78	0.01
Five-year CD, annual yield	0.85	0.86	0.85				2.01	-0.46
30-year mortgage, fixed [†]	3.62	3.57	3.52				4.23	-0.39
15-year mortgage, fixed†	3.21	3.15	2.95	(3.69	-0.01
Jumbo mortgages, \$510,400-plus	3.70	3.63	3.54				4.71	-0.84
Five-year adj mortgage (ARM)†	3.27	3.26	3.26	(•		4.78	
New-car loan, 48-month	4.30	4.28	4.26		•		4.81	1.19
Bankrate.com rates based on survey of ov banks.† Excludes closing costs.	er 4,800 on							n's largest krate.com

Treasury yield curve

Forex Race Yield to maturity of current bills, Yen, euro vs. dollar; dollar vs.



Sources: Tradeweb ICE U.S. Treasury Close; Tullett Prebon; Dow Jones Market Data

Corporate Borrowing Rates and Yields

Bond total return index	Close		d (%) — Week ago	— 52-W High	/eek — Low	Total Re 52-wk	turn (%) 3-yr
U.S. Treasury, Barclays	2477.590	0.550	0.520	2.470	0.490	14.17	5.78
U.S. Treasury Long, Barclay	s 4962.170	1.210	1.180	2.910	0.980	37.74	13.73
Aggregate, Barclays	2229.700	1.420	1.440	3.020	1.320	10.55	5.11
Fixed-Rate MBS, Barclays	2214.640	1.260	1.410	3.200	0.930	7.36	3.96
High Yield 100, ICE BofA	2834.467	7.933	7.244	10.740	4.516	-6.660	0.683
Muni Master, ICE BofA	562.776	1.831	1.637	3.441	0.959	3.406	3.370
EMBI Global, J.P. Morgan	780.309	6.612	6.418	7.480	4.523	-5.026	0.061
Sources: J.P. N	Morgan; S&P	Dow Jon	es Indices:	Bloombe	ra Barclav	s: ICE Dat	a Services

CURRENCIES & COMMODITIES

Currencies

U.S.-dollar foreign-exchange rates in late New York trading

	U.Sdollar forei	gn-excn	iange ra	ates i	П
				US\$vs,	
	C		∕lon —	YTD chg	
	Country/currency	in US\$	per US\$	(%)	
	Americas				
	Argentina peso	.0150	66.4618	11.0	
	Brazil real	.1770	5.6496	40.6	
	Canada dollar	.7125	1.4036	8.1	
	Chile peso	.001167	856.80	15.9	
	Colombiapeso	.000248	4035.44		
	Ecuador US dollar	1	1		
	Mexico peso		24.6925	30.4	
	Uruguay peso	.02315	43.1900	16.3	
	Asia-Pacific				
	Australian dollar	.6465	1.5468	8.6	
	China yuan	.1411	7.0864	1.8	
	Hong Kong dollar	.1290		-0.5	
	India rupee	.01312			
	Indonesia rupiah	.0000650		10.8	
	Japan yen	.009324		-1.3	
	Kazakhstan tenge	.002319		13.0	
	Macau pataca	.1252		-0.4	
	Malaysia ringgit	.2295		6.5	
	New Zealand dollar	10017	1.6532	11.3	
	Pakistan rupee		160.950	3.8	
	Philippines peso	.0197		-0.1	
	Singapore dollar	.7049	1.4186	5.4 5.8	
	South Korea won Sri Lanka rupee	.0008180			
	Taiwan dollar	.0051929		0.4	
	Thailand baht	.03080		9.1	
.	riidiidiiu Darit	.0000	22.470	7.1	

			US\$ vs,
C		√lon —	YTD chg
Country/currency	in US\$	per US\$	
Vietnam dong	.00004263	23457	1.2
Europe			
Czech Rep. koruna	.03968	25.200	11.1
Denmark krone	.1452	6.8859	3.3
Euro area euro	1.0830	.9234	3.6
Hungary forint	.003045	328.45	11.2
iceland krona	.006807	146.91	21.3
Norway krone	.0951	10.5104	19.7
Poland zloty	.2387	4.1895	10.4
Russia ruble	.01343	74.472	20.0
Sweden krona	.0998	10.0188	7.0
Switzerland franc	1.0250	.9756	0.8
Turkey lira	.1431	6.9861	17.4
Ukraine hryvnia	.0369	27.1038	14.5
UK pound	1.2429	.8046	6.7
Middle East/Afri	ca		
Bahrain dinar	2.6463	.3779	0.2
Egypt pound	.0635	15.7501	-1.9
Israel shekel	.2855	3.5028	1.4
Kuwait dinar	3.2173	.3108	2.5
Oman sul rial	2.5968	.3851	0.02
Qatar rial	.2746	3.642	-0.1
Saudi Arabia riyal	.2660	3.7595	0.2
South Africa rand	.0532	18.7858	34.2

Close Net Chg % Chg YTD% Chg

WSJ Dollar Index 93.98 -0.26-0.28 4.93

Sources: Tullett Prebon, Dow Jones Market Data

Commodities Monday 52-Week Close Net chg High % Chg % Chg Low % chg DJ Commodity 437.18 -31.94 -13.00 647.86 -29.73 -2.89 433.70 TR/CC CRB Index 108.00 -4.76 -4.22 187.39 106.29 -41.36 -41.87 Crude oil, \$ per barrel 12.78 -4.16 -24.56 63.91 -37.63 -79.87 -79.07 Natural gas, \$/MMBtu 1.819 0.073 4.18 2.862 1.552 **-29.85** -16.90 Gold, \$ per troy oz. 1711.90 -11.60 **-0.67** 1756.70 1269.70 33.89

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Mini

Sept S&P!

Futures Contracts Metal & Petroleum Futures Copper-High (CMX)-25,000 lbs.; \$ per lb. July 2.3520 2.3002 **Gold (CMX)**-100 troy oz.;\$ per April 1731.90 1731.90 1745.80 1745.80 2.3240 **2.3450** 0.0085 89,829 1720.00 1723.80 -11.80 1749.20 1746.50 1750.00 1750.80 1724.50 1730.00 1728.70 -11.00 1730.90 -10.60 74,066 13,057 1746.70 1753.00 1726.80 1731.40 -10.30Feb'21 1744.90 1744.90 1729.50 Palladium (NYM) - 50 troy oz; \$ per troy oz **1732.30** -10.30 **1903.10** -110.70 1593.60 1593.60 1890.90 -110.70 1894.80 -90.50 2260.00 **A** 2029.40 2260.00 1875.00 1998.90 6,176 1995 00 1995 00 1881.50 1888.50 -89.10 **Dec** 1891.80 1891.80 1815.00 **Platinum (NYM)**-50 troy oz;\$ per troy oz 1874.60 April 793.00 755.00 755.01 July 780.80 788.30 767.60 Silver (CMX)-5,000 troy oz.; \$ per troy oz. 776,60 767.60 42,412 15.430 15.665 15.490 15.635 15.360 **15.201** -0.053 July 15.490 15.635 15.300 15.201 -0.055 Crude Oil, Light Sweet (NYM)-1,000 bbls; \$per bbl. 11.88 12.78 21.13 17.78 21.05 18.08 21.42 -3.14 -2.44 381,943 158,292 24.00 23,36 23,84 28.73 33.80 27.46 33.19 -1.01 284,380 -0.36 108,056 28.43 27.01 Dec'21 33.66 33.80 32.00 < .6104 -.0363 .7036 -.0292 Gasoline-NY RBOB (NYM)-42,000 gal; \$ per gal. .6724 .7095 **June** .6920 .7095 .6710 **.6849 Natural Gas (NYM)**-10,000 MMBtu;\$ per MMBtu. .6849 -.0152 1.701 1.867 1.850 1.927 1.593 1.765 1.819 1.916 250,919 .021 2.115 2.025 2.153 .025 176,813 2.313 2.401 2.317 2.193 .045 111,217 Oct .051 Jan'21 3.009 3.081 2.992 3.080 .058 76,275 Agriculture Futures Corn (CBT)-5,000 bu.; cents per bu. 315.75 323.00 315.00 -9.75 614,622 322.00 313.25 Oats (CBT)-5,000 bu.; cents per bu. 300.50 309.00 292.00 305.00 2.00 **July** 282.50 282.75 278.00 **Soybeans (CBT)**-5,000 bu; cents per bu. 278.00 282.50 -1.00 1,713 827.25 835.25 838.75

846.25

289.30

294.40

533.00

476.25

Soybean Oil (CBT)-60,000 lbs.; cents per lb. 25.15 25.61

Rough Rice (CBT)-2,000 cwt.; \$ per cwt.

1656.00 1700.00

July 1459.50 1504.00 ▼ 143. **Wheat (CBT)**-5,000 bu; cents per bu.

Wheat (KC)-5,000 bu.; cents per bu.

Soybean Meal (CBT)-100 tons; \$ per ton 287.80

292 60

25.40

529.50 532.50

475.25

			ntract			Open .
	Open	High hi	lo Low	Settle	Chg	interest
Cattle-	Feeder (CME) -50,0	000 lbs.; cents	per lb.		
April	120.250	121.875	119.500	120.400	.600	1,042
Aug	128.075	128.750	126.025	127.275	.875	15,609
Cattle-			lbs.; cents per	lb.		
April		87.825	84.600	84.800	175	1,254
June		84.875	82.725		1.425	116,846
			lbs.; cents per l			
May	54.300	56.275	53.800		3.750	2,466
June		55.275			3.750	77,006
			ft., \$ per 1,000			
May		318.30			-6.70	491
July	310.30			308.40	-4.60	1,433
Milk (CI	VE) -200,0	00 lbs., cen	its per lb.			
April	13.18				01	3,041
June	11.51		11.51	11.95	.29	4,933
			ns;\$ per ton.			
May		2,372				4
July	2,341			2,330	7	79,141
			cents per lb.			
May		107.00			60	866
July	107.35	109.10			55	78,782
			2,000 lbs.; cent			
May	9.58	9.75			52	60,099
July	9.70	9.84			43	356,665
) -112,000 lbs.;	cents per lb).	
July		25.90				1,783
Sept	26.00	26.00		26.00	05	3,134
			; cents per lb.			
May	53.93					14
July	55.48	56.48			62	104,580
			000 lbs.; cents			
May			110.45		1.45	1,839
July	109.10	112.75	109.00	112.20	3.60	6,801
		Interio	at Data E.			
		intere	st Rate Fi	itures		
Ultra T	reasury	Bonds (C	BT) - \$100,00	00; pts 32nd	ls of 1009	6
June		228-240	224-070	224-270	-3-19.0	1,040,286
Treasu	ry Bonds	S (CBT) -\$1	00,000; pts 32			
June	181-290	182-030	180-080	180-180	-1-14.0	983,299
Sept		180-210	178-250			165
Treasu	ry Notes	(CBT)-\$1	00,000; pts 32	2nds of 100	%	
June			138-185 138-120			3,197,040
Sept	138-270	138-270	138-120	138-140	-15.0	53,159
5 Yr. Tr	easury M	Notes (CE	ST) -\$100,000;		of100%	
June	125-107	125-115	125-055 125-015	125-067	-6.2	3,548,417
Sept	125-067	125-082	125-015	125-022	-6.7	35,951
2 Yr. Tr	easury M	Notes (CE	ST) -\$200,000	; pts 32nds	of 100%	
June	110-054	110-057	110-042	110-048	-1.0	2,507,905
Sept					-1.2	15,646
30 Day	Federal	Funds (:BT) -\$5,000,0	000; 100 - d	ailv avg.	
April	99.9525	99.9525	▲ 99.9475	99.9475	0050	223,243
May	99.9225	99.9275	99.9200	99.9250		275,198
10 Yr. D	el. Int. R	ate Swa	ps (CBT) -\$10	00,000; pts	32nds of	100%

			0,000; pts 32i			2 107 0 10		
June	139-000		138-185			3,197,040		
Sept	138-270		138-120			53,159		
) -\$100,000;					
June	125-107	125-115		125-067				
Sept	125-067		125-015			35,951		
2 Yr. T			`)- \$200,000;					
June	110-054				-1.0	2,507,905		
Sept		110-097	110-085			15,646		
30 Day	/ Federal	Funds (CB	T) -\$5,000,0	00; 100 - d	aily avg.			
April	99.9525	99.9525 🛦	99.9475	99.9475	0050	223,243		
May	99.9225	99.9275	99.9200			275,198		
10 Yr.	Del. Int. R	late Swap	S (CBT)-\$10	0,000; pts	32nds o	f100%		
June	105-315		105-200		-13.5	68,515		
Eurod	ollar (CME	•)-\$1,000,00	0; pts of 100%	6				
May	99.4825	99.5200	99.4775	99.5000	.0250	411,680		
June	99.6050	99.6300	99.6000	99.6050	.0050	1,582,293		
Sept	99.6750	99.6850	99.6650	99.6750	.0050	1,567,778		
Dec	99.6500	99.6600	99.6400	99.6500		1,110,052		
		Curre	ncy Futu	res				
Japan	Japanese Yen (CME)- ¥12,500,000; \$ per 100¥							

.9355

.7128 .7130

1.2455

Canadian Dollar

.7084

.7092

1.2369

British Pound (CME)-£62,500; \$ per £

May

July	483.50	485.50	477.75	479.50	-3.75	130,110	
Cash	Pric	es ws	J.com/co	ommod	lities		

836.50

291.50

25.47

1697.50

524.75

470.50

285.00

291.00

24.64

25.09

1623.00

518.25

521.25

468.50

▼ 1432.00

-3.00309,837

-1.10

-.03

36.50

33.50

-5.75 179,166

-4.25 11,852

174,781

1,134

Monday, April 27, 2020

.9328

.9332

.7123

.7124

1.2422 .0070

.9300

.7084

.7085

1.2359

(CME)-CAD 100,000; \$ per CAD

.0016 134.391

.0032 111,885

1,569

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.

	Monday		Monday		Mond
Energy		Aluminum, LME, \$ per metric ton Copper,Comex spot	*1473.0 2.3820	Wheat - Hard - KC (USDA) \$ per bu-u Wheat,No.1soft white,PortId,OR-u	4.805 6.140
Coal, C.Aplc., 12500Btu, 1.2SO2-r, w Coal, PwdrRvrBsn, 8800Btu, 0.8SO2-r, w	55.200 11.550	Iron Ore, 62% Fe CFR China-s Shredded Scrap, US Midwest-s,m	83.4 236	Food	
Metals		Steel, HRC USA, FOB Midwest Mill-s	468	Beef, carcass equiv. index	224.4
		Fibers and Textiles		choice 1-3,600-900 lbsu select 1-3,600-900 lbsu	224.4 211.0
Gold, per troy oz Engelhard industrial Handy & Harman base Handy & Harman fabricated LBMA Gold Price AM LBMA Gold Price PM Krugerrand,wholesale-e	1717.00 1714.95 1903.60 *1727.25 *1715.90 1774.55	Burlap,10-oz,40-inch NY yd-n,w Cotton,11/16 std lw-mdMphs-u Cotlook 'A' Index-t Hides,hvy native steers piece fob-u Wool,64s,staple,Terr del-u,w	0.5700 0.5176 *65.90 23.000 n.a.	Broilers, National comp wtd. avgu,w Butter,AA Chicago Cheddar cheese,blk,Chicago Cheddar cheese,blk,Chicago Milk,Nonfat dry,Chicago lb. Coffee,Brazilian,Comp Coffee,Colombian, NY	0.527 1.145 109.2 119.0 81.0 1.031
Maple Leaf-e American Eagle-e Mexican peso-e Austria crown-e Austria phil-e Silver, troy oz. Engelhard industrial Handy & Harman base	1791.62 1791.62 2065.29 1675.52 1791.62 15.2000 15.2180	Barley,top-quality Mnpls-u Bran,wheat middlings, KC-u Corn,No. 2 yellow,Cent IL-bp,u Corn gluten feed,Midwest-u,w Corn gluten meal,Midwest-u,w Cottonseed meal-u,w Hominy feed,Cent IL-u,w	n.a. 108 2.8950 117.9 503.8 278 110	Eggs,large white,Chicago-u Flour,hard winter KC Hams,17-20 lbs,Mid-US fob-u Hogs,lowa-So. Minnesota-u Pork bellies,12-14 lb MidUS-u Pork loins,13-19 lb MidUS-u Steers,TexOkla. Choice-u Steers,Feeder,Okla. City-u,w	0.905 14.0 n.a 53.4 n.a 1.435 95.0
Handy & Harman fabricated LBMA spot price	19.0230 *£12.4000	Meat-bonemeal,50% pro Mnpls-u,w Oats,No.2 milling,Mnpls-u	345 3.1750	Fats and Oils	
(U.S.\$ equivalent) Coins,wholesale \$1,000 face-a Other metals LBMA Platinum Price PM Platinum,Engelhard industrial Palladium,Engelhard industrial	*15.3150 14185 *763.0 767.0 1953.0	Oats,No.z. miling,Mnpisz- Rice, Long Grain Milled, No. 2 AR-u,w Sorghum,(Milo) No.2 Gulf-u Soybeans,No.1 yllw IL-byu Wheat,Spring14%-pro Mnpls-u Wheat,No.2 soft red,St.Louis-bp,u	28.50 7.3750 293.00 8.1900 n.a. 5.4400	Corn oil,crude wet/dry mill wtd. avgu,w Grease,choice white,Chicago-h Lard,Chicago-u Soybean oil,crude;Centl IL-u Tallow,bleach;Chicago-h Tallow,edible,Chicago-u	42.230 0.300 n.a 0.242 0.345 n.a

KEY TO CODES: A=ask: B=bid: BP=country elevator bids to producers: C=corrected: E=Manfra, Tordella & Brooks; G=ICE: H=American Commodities Brokerage Co. M=monthly; N=nominal; n.a.=not quoted or not available; R=SNL Energy; S=Platts-TSI; T=Cotlook Limited; U=USDA; W=weekly, Z=not quoted. *Data as of 4/24 Source: Dow Jones Market Data

Borrowing Benchmarks | wsJ.com/bonds **Money Rates**

April 27, 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.

0.50

	Infl	ation		
	March in le		Chg Fron Feb. '20 N	
U.S. consi	ımer pri	ce inde	ex	
All items Core		3.115 7.312	-0.22 0.02	1.5 2.1
lr	iternati	onalı	rates	
	Latest	Week ago	_ 52- High	Week – Low
Prime rat	es			
U.S.	3.25	3.25	5.50	3.25
Canada	2.45	2.45	3.95	2.45
Japan	1.475	1.475	1.475	1.475
Policy Rat	tes			
Euro zone	0.00	0.00	0.00	0.00

Britain	0.10	0.10	0.75	0.10
Australia	0.25	0.25	1.50	0.25
Overnight	repurc	hase		
U.S.	0.08	0.01	3.40	-0.07
U.S.	gover	nmen	t rates	;
Discount				
	0.25	0.25	3.00	0.25
Federal fu	nds			

0.5.	gover	· · · · · · · · · · · · · · · · · · ·	traces	
Discount				
	0.25	0.25	3.00	0.25
Federal fu	nds			
Effective rate	0.0600	0.0700	2.4700	0.0600
High	0.1500	0.1500	3.0000	0.1400
Low	0.0300	0.0300	2.3800	0.0200
Bid	0.0400	0.0500	2.4000	0.0100

Kev	Interest	Rates
,		

Data are annualized on a 360-day basis. Treasury yields are per annum, on actively traded noninflation and inflation-indexed issues that are adjusted to constant maturities. Data are from weekly Federal Reserve

release H.1	5.								
	Weel	Ended -	52-W	eek —		Wee	k Ended	52-We	eek —
	Apr 24	Apr 17	High	Low			Apr 17	High	Low
Federal fun	ds (effe	ctive)			6-month	0.14	0.21	2.46	0.06
r cucrurrun	0.05	0.05	2.44	0.05	1-year	0.17	0.21	2.43	0.15
	0.07	0.05	2.44	0.05	2-year	0.21	0.22	2.33	0.21
Commercia	l paper				3-year	0.26	0.27	2.30	0.26
Nonfinancial					5-year	0.36	0.38	2.34	0.36
1-month	0.38	0.37	2.42	0.37	7-year	0.51	0.55	2.43	0.51
2-month	0.48	0.58	2.43	0.48	10-year	0.61	0.68	2.55	0.61
3-month	0.91	0.91	2.45	0.91	20-year	1.00	1.11	2.78	1.00
Financial					Treasury yie	elds (s	econda	rv mark	et)
1-month	0.08	n.a.	2.43	0.08	1-month	0.09	0.14	2.39	0.00
2-month	n.a.	n.a.	2.46	1.16	3-month	0.12	0.17	2.39	-0.01
3-month	n.a.	n.a.	2.48	0.98	6-month	0.14	0.21	2.39	0.06
Discount wi	indow	orimar	y credit	t	TIPS	0121	0.21	2.57	0.00
	0.25	0.25	3.00	0.25	5-vear	-0.29	-0.44	0.51	-0.55
Treasury yi	elds at	consta	ınt		7-year 10-year	-0.40 -0.41	-0.47 -0.47	0.55 0.60	-0.52 -0.47
1-month	0.09	0.15	2.43	0.01	20-year	-0.28	-0.30	0.80	-0.30
3-month	0.12	0.17	2.44	0.01	Long-term avg	-0.16	-0.13	0.92	-0.16

Federal-funds rate is an average for the seven days ended Wednesday, weighted according to rates on broker trades; **Commercial paper rates** are discounted offer rates interpolated from sales by discounted averages of dealer bid rates on nationally traded certificates of deposit: Discount window **primary credit rate** is charged for discounts made and advances extended under the Federal Reserve's primary credit discount window program; rate is average for seven days ended Wednesday, Inflation-indexed long-term TIPS average is indexed and is based on the unweighted average bid yields for all TIPS with remaining terms to maturity of 10 years or more;

 $Sources: Federal\,Reserve; for\,additional\,information\,on\,these\,rate\,data\,and\,their\,derivation\,on\,their\,derivation\,on\,their\,de$ please see, www.federalreserve.gov/releases/h15/data.htm

Offer	0.0700 0.	0800 2	.5000	0.0500
Treasury b	ill auctio	n		
4 weeks	0.090	0.150	2.390	0.000
13 weeks	0.120	0.125	2.385	0.000
26 weeks	0.150	0.145	2.395	0.080
Se	condary	/ marl	ket	
Fannie Ma	е			
30-year mort	gage yields			
30 days	2.332	2.377	3.802	2.281
60 days	2.399	2.446	3.824	2.341
Othe	r short-	term	rates	
	١	Week	−52-\	Neek –
	Latest	ago	high	low
Call money	,			
	2 00	2 00	4 2 5	2.00

Can mone	y			
	2.00	2.00	4.25	2.00
Commerci	al paper	(AA fin	ancia	l)
90 days	n.a	n.a.	2.58	0.58
Libor				
One month	0.43763	0.66738	2.48588	0.43763
Three month	0.84075	1.09763	2.57900	0.74050
Sixmonth	0.89313	1.07588	2.63850	0.73538
One year	0.92513	0.98213	2.74550	0.74350
Euro Libor				
One month				
Three month	- 0.17 4	-0.167	-0.142	-0.539
Six month		-0.083	-0.052	-0.491
One year	-0.037	-0.003	0.008	-0.441
		Value		
	atest	Traded	High	Low
DTCC GCF	Repo Inc	lex		
Treasury	0.084	45.620	6.007	0.002
MBS	0.096	75.260	6.699	0.011

Treasury	0.084	45.620	6.007	0.00
MBS	0.096	75.260	6.699	0.01
Notes on da	ta:			
U.S. prime ra				
loans posted U.S. banks, ar				
Other prime				
lending pract				
Discount rat				
GCF Repo In				
Corp.'s weigh				
applicable CL				
U.S. dollars. F			are I ulle	ett
Prebon rates	as or 5:30 p).m. ⊵ I .		
Sources: Fed	eral Reserv	e Bureau	of Labor	
Statistics: DT			o. <u>Labo</u> i	
Tullett Prebo				

		Contr	act			Open			Contra	nct			Oper
	Open	High hilo	Low	Settle	Chg	interest		Open	High hilo	Low	Settle	Chg	interes
	1.2369	1.2459	1.2363	1.2425	.0070	158,588	Sept				2861.00	39.40	11
ss F	ranc (CN	VE) -CHF 125,0	000; \$ per Cl	HF			Mini S	&P 500 (ME) -\$50 x inc	dex			
	1.0290	1.0313	1.0253	1.0265	0006	35,907	June	2829.00	2881.25	2812.75	2869.00	39.50	3,316,404
	1.0351	1.0333	1.0287	1.0296	0005	68	Sept	2829.00	2873.25	2806.00	2861.00	39.50	29,535
trali	ian Doll	ar (CME)-AU	D 100,000;	\$ per AUD				&P Midca	10 400 (CME)-\$100 x in	dex		
	.6400	.6472	.6383	.6465	.0084	408	June	1555.10	1618.50	1537.90	1609.70	65.20	74,284
	.6388	.6473	.6384	.6466	.0084	124,566	Sept	1434.70	1610.50	1546.40	1617.10	65.20	1
icar	ı Peso (CME)-MXN5	00,000;\$p	er MXN				lasdag 10	O (CME)-\$20	x index			
	.03957	.04033	.03982	.04022	.00044	1,027	June	8766.00	8898.00	8730.00	8824.25	55.25	178,734
	.03966	.04019	.03960	.04003	.00044	103,449	Sept		8883.00	8722.50	8812.50	54.50	1,772
(CN	1E)- €125,	.000;\$per€							00 (CME) -\$5				_,
	1.0822	1.0865	1.0818	1.0837	.0033	1,892	June		1289.30	1217.80	1277.50	52.90	545,049
	1.0833	1.0873	1.0824	1.0844	.0033	535,847	Sept		1286.80	1217.50	1276.00	52.70	4,158
									00 (CME) -\$5				.,
		Inde	x Future	es			June		1582.30	1550.80	1577.50	27.00	7,801
. D.I	Inducti	rial Averag	O (CDT) dr	er tanadanı					X (ICE-US)-\$1				.,
נטו					2/11	(4300	June	100.27	100.37	99.84	100.10	34	31,483
	23647 23510	24100 24008	23535 23471	23999 23923	341 343	64,385 697	Sept	100.39	100.40	99.90	100.11	32	681
EO				23923	545	097	Бере	100.57	100.10	,,,,,	100111	.,,_	001
500		(CME)-\$250:		2040.00	20.40	00.474						-	
	2833.80	2869.20	2813.80	2868.90	39.40	98,464						Sourc	e: FactSet

Bonds | WSJ.com/bonds

Tracking Bond Benchmarks

Return on investment and spreads over Treasurys and/or yields paid to investors compared with 52-week highs and lows for different types of bonds

Total return close	YTD to		Index			6) — High	Total return close	YTD to		Index		/ield (% t Low	
Broad N	larket E	Bloombe	erg Barclays				Mortga	ge-Back	ed Blo	omberg Barclays			
2229.70		4.7	U.S. Aggregate	1.420	1.320	3.020	2214.64		3.1	Mortgage-Backed	1.260	0.930	3.20
U.S. Cor	porate	ndexes	Bloomberg Barclays	5			2166.66		3.1	Ginnie Mae (GNMA)	0.990	0.490	3.16
3175.02		1.1	U.S. Corporate	2.750	2.220	4.580	1306.14		3.1	Fannie mae (FNMA)	1.370	1.110	3.22
2898.95		0.3	Intermediate	2.360	1.760	4.400	2006.80		3.1	Freddie Mac (FHLMC)	1.350	1.080	3.23
4657.43		2.4	Long term	3.410	2.950	4.930	562.78	-0.5		Muni Master	1.831	0.959	3.44
663.93		3.6	Double-A-rated	1.920	1.670	3.360	396.31	-0.7		7-12 year	1.789	0.924	3.44
817.03	-1.5		Triple-B-rated	3.370	2.570	5.350	449.24	-0.8		12-22 year	2.223	1.224	3.69
High Yie	eld Bond	is ICE B	ofA				426.87	-3.2		22-plus year	3.108	1.765	4.12
417.40	-10.6		High Yield Constrain	ed 8.476	5.151	11.400	Global G	overnn	nent J.F	P. Morgan†			
344.97	-21.2		Triple-C-rated	16.368	10.558	19.071	609.98		4.6	Global Government	0.610	0.390	1.42
2834.47	-11.2		High Yield 100	7.933	4.516	10.740	857.69		6.7	Canada	0.870	0.590	1.86
377.22	-10.5		Global High Yield Constrai	ned 8.444	4.893	11.310	399.34	-0.2		EMU§	0.578	0.109	0.96
296.20	-9.9		Europe High Yield Constrai	ned 5.834	2.464	8.183	766.38		1.0	France	0.240	-0.160	0.60
U.S Age	ncy Blo	omberg	Barclays				547.26		2.1	Germany	-0.340	-0.740	0.14
1848.51		4.4	U.S Agency	0.750	0.730	2.570	297.74	-0.1		Japan	0.200	-0.070	0.26
1610.58		3.1	10-20 years	0.590	0.590	2.460	605.38		1.6	Netherlands	-0.150	-0.540	0.25
4241.71		11.2	20-plus years	1.560	1.170	3.050	1099.87		9.4	U.K.	0.500	0.390	1.54
2718.47	-0.4		Yankee	2.250	1.920	3.500	780.31	-11.5		Emerging Markets **	6.612	4.523	7.48
	ned index obal Inde		dividual issuer concentr	ations to 2	2%; the	High Yie	eld 100 are th		-	ds † In local curren E Data Services; Bloomberç	,		

Global Government Bonds: Mapping Yields

Yields and spreads over or under U.S. Treasurys on benchmark two-year and 10-year government bonds in

		Country/			—— Yі	eld (%)			Spread Unde	r/Over U.S. Treası	urys, in basis	points
	Coupon (%)	Maturity, in years	Latest(•)-2	-1 0 1	2 3	4 Previous	Month ago	Year ago	Lat	est	Prev	Year ago
	0.375	U.S. 2	0.232	•		0.225	0.246	2.286				
	1.500	10	0.653	•		0.606	0.683	2.500				
.,	2.000	Australia 2	0.232 🔺	•		0.229	0.254	1.343	0.0		0.4	-94.3
У	2.500	10	0.921	•		0.892	0.929	1.788		26.8	28.6	-71.2
	0.000	France 2	-0.511 🔺	•		-0.548	-0.652	-0.539	-74.3		-77.3	-282.6
	0.000	10	0.022 🔻	•		0.027	-0.068	0.354	-63.1		-57.9	-214.7
	0.000	Germany 2	-0.674 🔺	•		-0.710	-0.708	-0.597	-90.6		-93.4	-288.3
	0.000	10	-0.453 🔺	•		-0.471	-0.477	-0.018	-110.6		-107.6	-251.9
	1.000	Italy 2	0.678 🔻	•		0.847	0.198	0.538		44.5	62.3	-174.8
	1.350	10	1.756 🔻		•	1.877	1.319	2.583		110.3	127.1	8.3
	0.100	Japan 2	-0.175 🔻	•		-0.168	-0.170	-0.155	-40.8		-39.3	-244.1
	0.100	10	-0.037 🔻	•		-0.022	0.010	-0.047	-69.1		-62.8	-254.7
	0.400	Spain 2	0.023 🔻	•		0.076	-0.267	-0.278	-20.9		-14.9	-256.4
	0.500	10	0.896 🔻	•		0.951	0.528	1.032		24.3	34.6	-146.8
	0.500	U.K. 2	0.078 🔺	•		0.066	0.130	0.733	-15.4		-15.9	-155.3
	4.750	10	0.302 🔺	•		0.292	0.364	1.145	-35.1		-31.3	-135.6

Close (\$)

9.66

238

1.36

Corporate Debt

Hewlett Packard Enterprise

Price moves by a company's debt in the credit markets sometimes mirror and sometimes anticipate, moves in that same company's share price.

160

-70

April 1, '23

Investment-grade spreads that tightened the most... Spread*, in basis points -Symbol Coupon(%)

2.250

HPE

Synchrony Financial	SYF	3.950	Dec. 1, '27	405	-54		456	17.62	3.83
Oaktree Specialty Lending	OCSL	3.500	Feb. 25, '25	510	-41		n.a.	4.03	5.22
Capital One Bank		3.375	Feb. 15, '23	265	-35		272		
Enable Midstream Partners	ENBL	4.950	May 15, '28	837	-34		897	3.79	1.61
American International	AIG	4.875	June 1, '22	112	-32		144	24.18	3.55
Spirit Realty	SRC	3.400	Jan. 15, '30	485	-28		425	27.69	6.50
And spreads that	widen	ed the	most						
Dow Chemical		3.625	May 15, '26	239		91	255		
Interpublic	 IPG	3.625 5.400	May 15, '26 Oct. 1, '48	239 403		91 62	255 n.a.	 15.73	6.72
			, . ,						
Interpublic	IPG	5.400	Oct. 1, '48	403		62	n.a.	15.73	6.72
Interpublic Discover Bank	IPG 	5.400 4.200	Oct. 1, '48 Aug. 8, '23	403 264		62	n.a. 265	15.73 	6.72
Interpublic Discover Bank Credit Agricole	IPG ACAFP	5.400 4.200 7.875	Oct. 1, '48 Aug. 8, '23 Jan. 23, '49	403 264 543		62 32 29	n.a. 265 503	15.73 	6.72

Toyota Motor **TOYOTA** 3.419 July 20, '23 High-yield issues with the biggest price increases...

				———Во	ond Price as % of face value -		Stock Performance		
Issuer	Symbol	Coupon (%)	Maturity	Current	One-day change	Last week	Close (\$)	% chg	
Avis Budget Car Rental		5.750	July 15, '27	54.750	6.75	65.000			
Hertz		7.625	June 1, '22	39.250	6.25	63.625			
Owens & Minor	OMI	4.375	Dec. 15, '24	83.250	5.25	81.750	7.79	6.42	
Envision Healthcare	EVHC	8.750	Oct. 15, '26	35.000	5.00	29.500			
Wolverine Escrow	WAIR	8.500	Nov. 15, '24	68.250	3.50	76.000			
NuStar Logistics		5.625	April 28, '27	88.250	3.00	75.000			
L Brands	LB	7.500	June 15, '29	72.927	2.92	n.a.	11.50	11.54	
Montage Resources	MR	8.875	July 15, '23	82.280	2.78	n.a.	6.24	2.46	
And with the high	ıaest nri	ice decr	20250						

And with the big	And with the biggest price decreases										
KAR Auction Services	KAR	5.125	June 1, '25	80.250	-6.20	95.110	14.40	6.35			
SM Energy	SM	6.125	Nov. 15, '22	34.500	-3.75	39.323	1.78	-3.26			
American Airlines	AAL	3.750	March 1, '25	43.250	-3.66	54.000	10.02	-2.81			
Diamond Offshore	DO	4.875	Nov. 1, '43	8.920	-3.58	13.000	0.94				
Newmark	NMRK	6.125	Nov. 15, '23	92.353	-3.51	96.750	3.85	9.38			
Transocean	RIG	6.800	March 15, '38	18.000	-3.50	23.000	0.84	-12.64			
Realogy		9.375	April 1, '27	62.500	-3.50	79.250					
Occidental Petroleum	OXY	4.400	Aug. 15, '49	55.938	-3.31	59.500	14.15	2.46			

*Estimated spread over 2-year, 3-year, 5-year, 10-year or 30-year hot-run Treasury; 100 basis points=one percentage pt.; change in spread shown is for Z-spread.

Dividend Changes

Dividend announce	ement	s fro	n April 2	27.							
Company	Symbol	Yld %	Amount New/Old	Frq	Payable / Record	Company	Symbol	Yld%	Amount New/Old	Frq	Payable / Record
Increased						Foreign					
Dorchester Minerals	DMLP	16.2	.4779/36124	Q	May14/May04	Brasil DistrGrupo Pao ADR	CBD	2.8	.10518	Α	Jun22/May05
Hess Midstream	HESM	9.7	.431/.4258	Q	May14/May04	Southern Copper	SCCO	2.5	.20	Q	May26/May13
People's United Finl	PBCT	5.9	.18/.1775	Q	May15/May01	Triton International	TRTN	7.0	.52	Q	Jun25/Jun11
Dadwaad						Triton Intl Pfd. A	TRTNpA	9.2	.53125	Q	Jun15/Jun08
Reduced						Triton Intl Pfd. B	TRTNpB	9.3	.50	Q	Jun15/Jun08
Blackstone Group	BX	3.8	.39 /.61	Q	May11/May04	Triton Intl Pfd. D	TRTNpD	8.7	.42969	Q	Jun15/Jun08
Community West Bancshares	CWBC		.045/.055		May29/May08	Triton Intl Pfd. Series C	TRTNpC	8.9	.46094	Q	Jun15/Jun08
Holly Energy Partners	HEP	10.2	.35 /.6725	Q	May14/May04	Unilever ADR	UL	3.5	.4445	Q	Jun04/May15
USD Partners	USDP	37.9	.111/.37	Q	May15/May05	Waste Connections	WCN	8.0	.185	Q	May19/May05
Initial						Special					
Dime Com 5.5% Pfd. A	DCOMP	6.0	.38	Q	May15/May06	MSB Financial	MSBF		.22		May26/May12

KEY: A: annual; M: monthly; Q: quarterly; r: revised; SA: semiannual; S2:1: stock split and ratio; SO: spin-off.

UDR

UGI Uber

Sym Close Chg

29.27 30.08 1.03

UDR 37.62

UGI

UI 163.17 8,52

Sym Close Chg

SHOP 628,58 -14,61

BIGGEST 1,000 STOCKS

0.30 1.48 6.26 6.36 PPL

-2.85 Paccar

1.87

0.44

1.46

2.55

MCD 185.89 MCK 143.28 MPW 16.31

MDT 100.76

MRK 83.98

s **MRCY** 84.91

MelcoResorts MLCO 15.78 0.67 MercadoLibre MELI 589.47 18.20

MetLife MET 34.42 1.12
MettlerToledo MTD 735.26 21.88

 MicrochipTech
 MCHP
 84.71
 2.70

 MicronTech
 MU
 45.28
 1.12

 Microsoft
 MSFT
 174.05
 -0.50

Nike

Novocure

Nucor

Nutrien

NVIDIA

OGE Energy ONE Gas ONEOK

OReillyAuto

Omnicom

ON Semi

OpenText Oracle

Orange

PG&E

PLDT PNC Fin

POSCO

PPD PPG Ind

Paylocity PayPal

Peloton

Pentair

Penumbra

OccidentalPetrol **OXY**Okta **OKTA**

OldRepublic ORI

Oshkosh OSK OtisWorldwide OTIS

OldDomFreight ODFL 142.60

NuanceCom

Stock

MizuhoFin

MongoDB

Moody's

Mylan

NXP Semi

Netease

Netflix

Nasdaq NDAQ NationalGrid NGG

NatlRetailProp NNN

Natloilwell NOV 12.35

Natura&Co NTCO 12.30 NetApp NTAP 42.70

Neurocrine NBIX 101.67
NewOrientalEduc EDU 120.04

NY CmntyBcp NYCB 10.16

NewsCorp B NWS 9.60 NextEraEnergy NEE 243.60

NielsenHoldings NLSN 13.16

Nordson NDSN 161.76
NorfolkSouthern NSC 166.87
NorthernTrust NTRS 79.91

NorthropGrum NOC 344.81

NortonLifeLock **NLOK** 21.28 Novartis **NVS** 89.59 Novartis NVS NovoNordisk NVO

NomuraHoldings **NMR**

NKE 89.37

4.02 0.09

65.14 0.23

NVCR 73.90

NUE 40.50

NTR 35.29

s **NUAN** 19.57

OGE

OGS OKE 86.51 28.52 -0.54 0.86

ORLY 389.50

ORI 15.81 OHI 27.57 OMC 54.34

OTEX 37.07

ORCL 53.37 ORAN 12.21

PCG 10.48 -0.13

PKX

PPL 25.55 0.06

PTC 66.28 PCAR 68.81

PRA HealthSci PRAH 89.39

PackagingCpAm **PKG** 90.16 PagSeguroDig **PAGS** 21.55 PaloAltoNtwks **PANW** 196.88

PanAmerSilver PAAS 21.78

ParkerHannifin PH 141.70
Paychex PAYX 68.56

Pegasystems **PEGA** 78.16

People's UtdFin PBCT 12.26 PepsiCo PEP 134.46

PaycomSoftware PAYC 226.10 14.30

PCTY 92.88 PYPL 120.53

PTON 31.78 PBA 20.46 PNR 33.18

PNR 33.18 PEN 189.29

14.15

15.39

48.22

25.08

105.49

35.74 1.24

22.10 96.00

NYTimes A NYT 31.39 0.79
NewellBrands NWL 13.49 0.58
NewMarket NEU 428.14 15.88
Newmont NEM 62.61 -0.50
NewsCorp A NWSA 9.46 0.63

MidAmApt MAA 110.68

Moderna MRNA 48.05 Mohawkinds MHK 83.74

MolinaHealthcare MOH 170.87

MolsonCoorsA TAP.A 63.53 MolsonCoorsB TAP 44.59 Mondelez MDLZ 51.48

MonolithicPower MPWR 193.87 MonsterBev MNST 60.52

MorganStanley MS 39.31 Morningstar MORN 141.84 MotorolaSol MSI 154.44

MDB 160.38

MCO 254.56

MYL 16.14 NICE NICE 168.27 3.40
NRG Energy NRG 33.68 1.08
NVR 2990.70143.33

NXPI 97.13 NDAQ 111.63

58.60

30.86

NTES 359.24 10.29

NFLX 421.38 -3.61

0.79

0.61

0.69

1.00 26.25 3.46

0.41 **2.63**

0.72 7.49

0.97

0.02

1.68

1.33

4.17

0.09

4.45 0.35

Sea

Seagate SealedAir

Schlumberger **SLB** SchwabC **SCHW**

ScienceApplicat **SAIC** 87.47 ScottsMiracleGro **SMG** 128.57

SeattleGenetics SGEN 147.48

SempraEnergy SRE 128.80
SensataTechs ST 36.50
ServiceCorp SCI 37.11

ServiceCorp SCI 37.11 ServiceNow NOW 308.60

ShawComm B **SJR** 16.68 SherwinWilliams **SHW** 511.46

ShinhanFin SHG 25.27 3.06

ShawComm B SJR

SE 55.34

16.05 -0.06

36.84

5.66

32.20 0.93

MitsubishiUFJ MUFG

MobileTeleSys MBT

Net Sym Close Chg

3.98 2.34

8.27 0.07

4.25

0.13

0.05

2.59

PerkinElmer

How to Read the Stock Tables

How to Read the Stock Tables
The following explanations apply to NYSE, NYSE
Arca, NYSE American and Nasdag Stock Market
listed securities. Prices are composite quotations
that include primary market trades as well as
trades reported by Nasdag BX (formerly Boston),
Chicago Stock Exchange, Cboe, NYSE National and
Nasdag ISE.
The list comprises the 1,000 largest companies
based on market capitalization.
Underlined quotations are those stocks with
large changes in volume compared with the
issue's average trading volume.
Boldfaced quotations highlight those issues
whose price changed by 5% or more if their
previous Closing price was \$2 or higher.

I-New 52-week high.
I-New 52-week low.
dd-Indicates loss in the most recent four

dd-Indicates loss in the most recent four quarters.

FD-First day of trading.
h-Does not meet continued listing standards
If-Late filing
q-Temporary exemption from Nasdaq requirements.
t-NYSE bankruptcy
v-Trading halted on primary market.
vj-In bankruptcy or receivership or being reorganized under the Bankruptcy Code, or securities assumed by such companies.

5.20 ErytechPharma

0.17 Exelixis

ERYP

EXEL

Contra

GrowCoK InvGrBd

LowP r

Net YTD NAV Chg %Ret Fund

85.77 +1.41-14.0 Contrak

31.48 +0.73-27.8 GroCo

... NA

150.53 +3.58-20.7

GRMN 80.74

6.43 59.98

Fund

Dodge & Cox

DoubleLine Funds CoreFxdIncml NA

Balanced

Intl Stk

AJG 77.38

 Gartini
 GRAIN
 36.74

 Gartner
 IT
 113.95

 Generac
 GNRC
 98.85

 GeneralDynamics
 GD
 134.50

GeneralElec **GE** GeneralMills **GIS**

Gallagher

Gaming&Le

Garmin

Data provided by LIPPER

Wall Street Journal stock tables reflect composite regular trading as of 4 p.m. and changes in the closing prices from 4 p.m. the previous day.											
Monday, A	April 2	7, 2020	Net	Stock	Sym	Close	Net Chg	Stock	Sym	Close	Net Chg
Stock		Close		Bio-RadLab B	BIO.B	434.00	11.00	Danaher	DHR	169.51	4.44
A	В	C		BioMarinPharm B	BMRN		5.44 0.64	Darden Datadog		72.40 43.23	3.58 1.42
ABB ACADIA Pharm			0.51 0.96	BlackKnight E	3KI	49.40 70.99	1.65 2.03	DaVita Deere	DVA DE	78.95 139.70	4.95 1.07
AECOM AES	ACM AES	34.76 13.28	0.80 0.42	Blackstone E	3X	496.65 51.39	2.96	DellTechC DeltaAir	DELL DAL	40.19 22.16	0.50 -0.25
Aflac AGNC Invt		37.27 12.31	0.98 0.18	BookingHldgs E	SKNG	1402.99		DentsplySirona DeutscheBank	DB	41.10 6.69	1.79 0.74
Ansys ASETech	ASX	262.87 4.35	3.42 0.16	BorgWarner E	BAH BWA	77.10 28.06	1.24 0.98	I DexCom Diageo	DEO	335.05 136.45	2.61 3.39
ASML AT&T	Т	290.90 30.54	-0.94 0.83	BostonProps E	3XP	457.10 94.14	3.78	DiamondbkEne DigitalRealty		36.22 154.23	0.44 4.20
AbbottLabs AbbVie	ABT ABBV		0.89 1.10	BrightHorizons E			0.10 3.64	DiscoveryB		37.44 31.10	1.21 -2.89
Abiomed AcceleronPharma	XLRN		-5.05 0.05	Bristol-Myers E BritishAmTob E	3TI	62.56 37.80	0.31	DiscoveryA DiscoveryC		22.75 20.70	1.73 1.56
Accenture ActivisionBliz	ATVI	179.43 67.06	3.97 0.41	BroadridgeFinl E	BR	268.45 114.34	3.64 2.90	Disney DocuSign		106.06 108.25	4.87 3.18
Adobe AdvanceAuto	AAP		4.40 1.36	BrookfieldMgt E BrookfieldInfr E	3IP	32.74 38.96	0.87 1.64	DolbyLab DollarGeneral	DLB DG	60.05 179.49	1.25 3.51
AdvMicroDevices Aegon	AEG	56.49 2.44	0.31	Brown&Brown E Brown-Forman A E	BF.A	35.74 56.31	0.98	DollarTree DominionEner		80.27 78.52	5.73 0.60
AgnicoEagle	A AEM	76.25 60.82	0.50 -0.09		BRKR		-0.36 1.82	Domino's Donaldson	DPZ DCI	362.03 43.74	-5.26 1.56
AirProducts AkamaiTech	AKAM	222.26 103.07	5.48 0.29	BurlingtonStrs E			0.08 7.95	DouglasEmmet Dover	DOV	29.69 93.19	0.19 2.22
Albemarle Alcon	ALC	62.25 53.97	0.72	CBRE Group (BRE	252.88 41.39	9.49 1.40	Dow DrReddy'sLab	DOW RDY	34.44 52.63	1.32 0.81
AlexandriaRIEst AlexionPharm	ALXN	110.86	1.29 2.74	CF Industries C	Œ	106.28 28.37	1.51 0.37	Dropbox DukeEnergy	DBX DUK	20.80 86.75	0.60 1.06
Alibaba AlignTech	ALGN	203.69 196.67	-0.67 4.70	CH Robinson C		62.38 74.04	1.34 1.76	DukeRealty Dunkin'	DRE DNKN	35.72 60.82	1.42 3.38
Alleghany Allegion		549.02 99.07	2.50	CMS Energy C	CMS	187.75 58.00	5.03 -1.40	DuPont Dynatrace	DD DT	43.82 28.89	1.92 0.34
Allergan Allerate	LNT	188.24 50.34	1.34 0.36	CNH Indl C	NA	30.95 6.37	0.10	ENI EOG Rscs	E EOG	18.51 44.54	0.51 1.18
AllyFinancial			1.65 0.90	CRH C	RH	29.66	0.81 1.27	EPAM Systems			2.75 1.45
Alphabet A	GOOGL	1270.86	-2.93 -5.74	CVS Health C	SX VS	66.41	2.59 1.19	EastWestBncp EastmanChem	EWBC		1.75 2.08
Alphabet C Alteryx	AYX	114.02	-3.43 1.48	CabotOil C	OG	1858.15 21.09	0.65	Eaton eBay	ETN	82.54 39.63	3.68 0.28
AlticeUSA Altria	ATUS MO	39.75	0.34		ZR	9.24	0.79	ebay Ecolab Ecopetrol		187.51 9.74	7.43 0.23
Amazon.com Ambev	ABEV		80.0	CamdenProperty C CampbellSoup C		86.34 51.24	2.65 0.49	EdisonInt EdwardsLife	EIX	60.75	1.50
Amcor Amdocs	AMCR DOX	8.68 63.10	0.26 1.27		CM CNI	58.27 80.69	2.29 1.78	ElancoAnimal		24.66	0.81
Amedisys Amerco		191.99 275.23	5.49 22.69	CanNaturalRes C CanPacRlwy		14.02 231.16	-0.01 3.18	Elastic ElbitSystems	ESLT	62.19 134.06	6.41
Ameren AmericaMovil	AEE AMX	73.42 11.04	-0.22 0.14	Canon CanopyGrowth C	:AJ :GC	20.74 17.53	0.80 1.94	ElectronicArts EmersonElec	EMR	116.02 56.03	2.21
AmerAirlines AEP	AAL AEP	83.62	-0.29 0.39	CapitalOne C CardinalHealth C	OF CAH	59.19 51.93	3.04 1.61	Enbridge EncompassHealth		29.66 69.98	0.45 1.91
AmerExpress AmericanFin	AFG	85.06 64.51	1.89 2.86		SL G	124.56 24.44	6.47 1.86	EnelAmericas EnelChile	ENIC	7.87 3.64 7.23	0.16
AmHomes4Rent AIG	AMH AIG	23.65 24.18	0.63 0.83	CarMax F	CMX	74.97 12.98	4.01 1.07	EnergyTransfer EnphaseEnergy	ENPH	37.21	-0.52
AmerTowerREIT AmerWaterWorks	AWK	125.75	5.61 0.74	CarrierGlobal C	ARR	16.80	0.55	Entegris Entergy	ETR	52.16 101.31	0.95 3.78
AmericoldRealty Ameriprise	AMP	112.45	0.69 4.97	CaseysGenStores C Catalent C		155.80 63.22	2.03 2.83	EnterpriseProc Equifax	EFX	16.74 138.09	6.67
AmerisourceBrgn Ametek	AME	90.78 79.28	2.08 2.22		AT E	115.20 82.61	1.16 3.82	Equinix Equinor	EQNR	702.00 12.90	0.21
Amgen Amphenol	APH	242.43 87.53	6.15 1.36	Centene CenterPointEner C	NC NP	70.82 17.32	0.24 0.64	Equitable EquityLife EquityResdnt	EQH	16.42 62.76 65.30	0.42 2.33 1.31
AnalogDevices Anaplan	PLAN	108.03 40.14	2.11 0.96	CentraisElBras E CenturyLink C	BR TL	3.96 10.34	0.05 0.13	Erielndemnity A EssentialUtil	ERIE		6.82
AngloGoldAsh AB InBev	BUD	26.82 44.16	0.22 2.25		ERN	54.44 73.30	2.82 0.55	EssexProp EsteeLauder	ESS	252.07 165.30	10.46
AnnalyCap Anthem Aon		5.95 270.06 172.93	0.03 5.94 -2.61	CharlesRiverLabs C CharterComms C	HTR		3.28 -0.11	Etsy EuronetWorldwide	ETSY	69.28	3.09 4.19
Apartmtinv ApolloGlbMgmt	AIV	36.57 41.38	1.48 2.44	Chegg C	HGG	108.09 41.85	3.72 2.38	EverestRe Evergy	RE	175.72 59.26	4.91 0.75
Apple ApplMaterials	AAPL	283.17	0.20	CheniereEnergy L	.NG	456.84 42.80	0.87 0.93	EversourceEner ExactSciences	ES	85.57	-1.00 4.81
Aptargroup Aptiv	ATR APTV	112.58	8.46 2.77		CVX	32.98 89.71	0.70 2.70	Exelixis Exelon	EXEL	27.37 37.83	0.84
Aramark ArcelorMittal	ARMK	24.68	0.11	ChinaLifeIns L	:HWY .FC	10.59	2.14 0.28	Expedia ExpeditorsInt	EXPE	69.15 72.29	2.58
ArchCapital ArcherDaniels	ACGL	24.65	1.01	ChinaPetrol S	SNP	40.51 49.40	0.84	ExtraSpaceSt ExxonMobil		91.66 43.94	2.77 0.21
AresMgmt arGEN-X	ARES	34.98 146.14	1.29	ChinaTelecom C ChinaUnicom C	CHU	34.29 6.69	0.61 0.26	F5Networks FMC		130.92	3.60
AristaNetworks ArrowElec	ANET		1.10 3.51	Chubb C	В	883.07 106.53	0.60 2.51	FTI Consulting		138.00	3.32
AscendisPharma AspenTech	ASND		2.95 1.55	ChunghwaTel C Church&Dwight C	CHD	36.66 71.48	0.29	Facebook FactSet FairIsaac	FDS	286.07 309.66	
Assurant AstraZeneca	AIZ	108.37 51.48	3.72 0.30	Cigna C	CI	48.92 192.81	2.34 4.61	Fastenal FederalRealty	FAST	36.85 73.42	1.07 4.16
Astrazeneca Atlassian AtmosEnergy	TEAM	151.87	-0.45 1.14		TAS	82.03 212.47		FedEx Ferrari	FDX	127.29 158.50	4.23 2.15
Autodesk Autohome	ADSK	182.51 78.61	2.16 4.73	CiscoSystems C	:	46.56	0.54 3.46	FiatChrysler FidNatlFin	FCAU FNF	8.38 26.85	0.38
Autoliv ADP	ALV	62.27	1.52	CitrixSystems C			1.83 1.44	FidNatlInfo FifthThirdBncp	FIS	127.64 18.35	1.91 1.23
AutoZone Avalara	AZO	142.22 1060.52 87.76			CLX	23.61 189.05	-0.35 -1.60	58.com 51job	WUBA	51.88 64.13	0.50
Avalara Avalonbay Avangrid		160.75 45.57	2.65	Coca-Cola F	NET (O	24.47 46.78	1.19 1.35	FirstAmerFin		46.95 37.58	2.03 1.55
Avangrid Avantor AveryDennison	AVTR	14.21 114.00	0.62 0.17 5.46		GNX	49.84	1.18 1.04	FirstIndRlty FirstRepBank	FRC	104.71	4.66
AxaltaCoating BCE			0.69 0.52	CognizantTech C ColgatePalm	CL	71.03	2.23 -0.37	FirstSolar FirstEnergy Fiserv	FSLR FE FISV	43.26 43.51 99.18	2.42 1.19 2.89
BHP Group BHP Group	BHP BBL	39.50 32.75	0.43		MCSA	38.21	4.05 1.05	FiveBelow	FIVE	86.61	5.63
BP Group BP B2Gold	BP BTG	24.31 5.37	0.64	CommerceBcshrs C	BSH		2.38 2.25	FleetCorTech	FIVN FLT FLIR	97.76 232.26	0.47 9.64
BWX Tech Baidu	BWXT	53.42	1.71 -0.39	ConagraBrands C		7.14 34.60	0.57 0.42	FlirSystems FlowersFoods	FLO	41.25 22.69	1.59 0.46
BakerHughes Ball		13.60 67.57	0.18	ConocoPhillips C		53.85 37.15	0.76 1.06	FordMotor Fortingt	F	58.94 5.17	2.32 0.30
BancoBilbaoViz BancoBradesco	BBVA	2.88	0.12	ConEd E ConstBrands A S	ED STZ	82.67 163.15	0.03 4.32	Fortinet Fortis	FTS	105.64 38.95	2.37 0.94
BancodeChile BancSanBrasil	BCH	16.24	0.46 0.17	ContinentalRscs C Cooper C	LR	12.83 293.65	0.24 0.44	Fortive FortBrandsHome			3.64 3.10
BancsantChile BancoSantander	BSAC		0.17 0.75 0.06	Copart Coresite C	OR	76.07 122.52	2.24 1.77	FoxA FoxB	FOX	26.39 26.01	1.56 1.49
BankofAmerica BankofMontreal	BAC	23.47	1.29 1.79	Corning Corteva C	SLW CTVA	21.63 25.56	0.85 -0.71	Franco-Nevada FranklinRscs	BEN	135.57 16.84	-0.68 0.92
BankNY Mellon BkNovaScotia	BK	36.94 38.77	1.79 1.49 0.96	Costco C	OST		-1.77	FreeportMcM FreseniusMed		8.85 39.07	0.37 1.19
Barclays BarrickGold	BCS	4 50	0.11	CoupaSoftware C		168.89	-0.83 5.62		Н	I	
BauschHealth BaxterIntl		18.11	1.19	CreditAcceptance C	CACC			GCI LibertyA GDS Holdings			1.77 -0.69
BectonDicknsn BeiGene	BDX	270.00	1.83	CreditSuisse C CrowdStrike C	RWD		0.30 1.60	GFLEnvironmenta GSXTechedu	GFL	15.27 35.42	0.09 3.67
Berkley		52 90		CrownCastle C	.CI	163.80	2.19	Galapagos			

	_			_		-		
			NI-A					NI-A
Stock	Sum	Close	Net Chg		Stock	Svm	Close	Net Chg
				-				
GeneralMotors		22.45	0.50		JackHenry		163.47	4.36
Genmab Genpact	GMAB G	24.17 34.08	0.17 1.04		JacobsEngg JamesHardie	JHX J	79.79 12.17	-0.21 0.55
Gentex	GNTX	24.42	0.29		JazzPharma		110.10	2.95
GenuineParts		77.53	2.50		J&J	TNT	154.29	-0.57
GileadSciences		79.90	0.26		JohnsonControls		29.05	1.14
GSK	GSK	42.63	0.13		JonesLang	JLL	106.79	4.31
GlbBloodTherap		77.56	-2.73		JuniperNetworks		23.74	0.45
GlobalPayments		158.83	5.82		KB Fin	KB	28.00	2.68
GlobeLife GlobusMedical	GL	82.23 47.55	6.16 0.79		KKR KLA	KKR	24.96 166.06	1.35 1.14
GoDaddy	GDDY	67.49	0.10		KT	KT	9.63	0.13
GoldFields	GFI	8.01	-0.15		KSCitySouthern		131.83	0.42
GoldmanSachs	GS	183.54	6.54		Kellogg	K	65.10	1.00
Graco	GGG	45.83	1.21		Kemper	KMPR	68.35	2.73
Grainger		277.12	7.51		KeurigDrPepper		25.86	-0.43
Grifols	GRFS AVAL	20.73	0.49		KeyCorp	KEY	11.61	0.71
GpoAvalAcc GuardantHealth		4.03 79.02	-0.02 2.83		KeysightTechs KilroyRealty	KRC	96.33 62.26	-1.21 0.45
Guidewire	GWRE	90.04	2.87		KimberlyClark			-1.30
HCA Healthcare		110.89	3.06		KinderMorgan		15.02	0.40
HDFC Bank	HDB	40.59	0.64		KinrossGold	KGC	6.96	-0.13
HD Supply	HDS	28.39	0.54		KirklandLakeGold		43.32	0.45
HP	HPQ	15.03	0.03		Knight-Swift	KNX	37.38	1.50
HSBC Haemonetic	HSBC HAE	25.82 118.91	0.84 2.18		KoninklijkePhil KoreaElcPwr		43.66	0.46
Halliburton	HAL	8.91	0.05		KoreaElcPwr KraftHeinz	KEP	9.67 30.19	0.54 0.96
HartfordFinl	HIG	38.03	1.99		Kroger	KR	33.28	0.32
Hasbro	HAS	76.76	1.89		Line	LN	49.44	0.33
HawaiianElec	HE	39.99	0.47		LKQ	LKQ	22.77	1.44
HealthcareAmer		23.57	0.36		L3HarrisTech	LHX	192.70	2.85
HealthpeakProp			1.09		LabCpAm	LH	178.49	14.77
Heico Heico A	HEI.A	78.69 66.74	2.99 -0.03		LamResearch		54.77	-2.26 5.25
HenrySchein	HSIC	54.86	2.47		LamarAdv LambWeston		58.55	0.77
Herbalife	HLF	36.18	1.57		LasVegasSands		46.38	2.60
Hershey	HSY	135.11	-0.63		Lear	LEA	94.76	6.26
Hess	HES	43.17	0.71		LeggMason	LM	49.35	-0.14
HewlettPackard		9.66	0.13		Leidos		102.80	0.85
Hill-Rom	HRC	115.71	2.69		Lennar A	LEN	45.36	2.48
Hilton HollyFrontier	HLT HFC	75.19 29.76	3.82 1.20		Lennar B		34.56	1.86
Hologic		49.51	2.40		LennoxIntl LeviStrauss	LII LEVI	184.65 13.11	8.14 0.51
HomeDepot	HD	217.76	5.58		LibertyBroadbandA			1.07
HondaMotor	нмс	23.57	0.84		LibertyBroadbandC			0.96
Honeywell	HON	139.88	4.36		LibertyGlobal A		19.05	0.67
HorizonTherap		34.68	1.39		LibertyGlobal C	LBTYK	18.21	0.70
HormelFoods		46.65	0.04		LibertyFormOne A			1.97
DR Horton HostHotels	DHI HST	42.11 11.57	1.17 0.47		LibertyFormOne C			2.13
HowmetAerospace		11.41	0.47		LibertySirius C			1.80 2.21
Huazhu	HTHT	30.56	1.65		LibertySirius A EliLilly	LLY	161.29	-1.64
Hubbell		122.60	3.17		LincolnElectric		80.73	4.70
HubSpot		151.99	6.64		LincolnNational		31.87	1.66
Humana		373.52	4.43		Linde	LIN	184.58	3.11
JBHunt		104.65	3.05		LiveNationEnt	LYV	42.01	3.77
HuntingtonBcshs HuntingIngalls		188.26	0.75 3.76		LloydsBanking		1.47	0.03
HyattHotels	н	55.73	3.10		LockheedMartin Loews	LMT	378.57 32.56	-3.20 0.16
IAA	IAA	37.96	1.98				48.10	0.59
IAC/InterActive			-1.48		Lowe's		101.97	3.22
ICICI Bank	IBN	9.23	0.51		lululemon	LULU	226.89	12.34
ICU Medical	ICUI	230.89	5.29		Lumentum	LITE	81.11	2.43
IDACORP IdexxLab	IDA IDXX	92.38 275.85	0.20 4.05		LyondollPacoll	LYFT		2.36
IHS Markit	INFO	67.17	1.57		LyondellBasell		52.41	2.36
ING Groep	ING	5.31	0.28		N	I N		
IPG Photonics	IPGP	126.08	5.18	Ī	M&T Bank	мтв	110.32	5.26
IQVIA	IQV	131.88	3.02		MDU Rscs	MDU	23.06	0.79
ITT	ITT	52.12	2.65		MGM Resorts			1.29
IcahnEnterprises Icon		49.70 151.02	2.06		MKS Instrum			3.72
IDEX	IEX	156.29	3.57		MPLX	MPLX	16.75	0.08
IllinoisToolWks			5.00		MSCI		331.61	6.72
Illumina	ILMN	314.58	5.51		MagellanMid MagnaIntl	MMP MGA	41.80 35.97	1.25 0.78
Immunomedics			-0.11		ManulifeFin	MFC	11.62	0.78
ImperialOil	IMO	13.44	0.30		MarathonPetrol		26.45	0.69
Incyte Infosys	INCY	102.98 8.93	-0.50 0.17		Markel	MKL	900.92	21.38
IngersollRand		28.77	0.17		MarketAxess			
Ingredion	INGR	83.39	2.82		Marriott	MAR	85.27	4.56
i Inphi	IPHI	99.53	0.78		Marsh&McLen MartinMarietta		94.70	1.41 4.66
Insulet			-4.92			MRVL		0.30
Intel	INTC	59.47	0.21		Masco	MAS	41.53	1.48
ICE InterContinentI	ICE	92.35 44.73	3.43 2.82	ı	Masimo	MASI	214.33	6.26
IBM	IBM	125.92	1.20		Mastercard	MA	265.12	6.36
IntlFlavors	IFF	130.54	4.05			MTCH		-2.85
IntlPaper	IP	32.81	1.68		MaximIntProducts McCormickVtg			1.49 7.81
Interpublic	IPG	15.73	0.99		McCormick			

New Highs and Lows | WSJ.com/newhighs

McDonalds

MedicalProp

Medtronic

MercurySyste MetLife

Merck

24.43 0.90

3.63 3.80

JD 45.58 0.53

0.80

0.05 0.14

InvitatHomes INVH 22.58

iQIYI IQ IronMountain IRM

INTU 271.83

The following explanations apply to the New York Stock Exchange, NYSE Arca, NYSE American and Nasdaq Stock Market stocks that hit a new 52-week intraday high or low in the latest session. % CHG-Daily percentage change from the previous trading session.

4.23	session. % C	HG -Dail	y perce	ntage	e change from t	he prev	ious tr	ading	session.			
2.15 0.38					Monday,	Anril 27	2020					
0.60		_	0 M/I	0/	ı ıvıdılday, i			0/	ı		-0.144	
1.91	Stock	5 Sym ا	2-Wk Hi/Lo		Stock	Sym I	2-Wk li/Lo	% Chg	Stock		52-Wk Hi/Lo	
1.23					GreenVisionAcqnR	GRNVR	0.45	-10.4	Tradeweb	TW	56.30	
0.50	Н	ighs			HainCelestial	HAIN	28.09	0.9	TranslateBio	TBIO	15.00	1
-0.38	ATN Intl	ATNI	70.38	-0.7	HalozymeTherap	HALO	24.16	-0.4	USAutoPartsNtwk	PRTS	3.08	1
2.03	AlamosGold	AGI	8.32	0.6	I-Mab	IMAB	16.30	12.5	UltragenyxPharm	RARE	70.49	
1.55	AlbertonAcan	ALAC	10.66	1.4	Imara	IMRA	17.52	9.0	Vaxart	VXRT	4.12	2
4.66	AlnylamPharm	ALNY	147.41	-2.0	Incyte	INCY	104.81	-0.5	VeevaSystems	VEEV	191.76	-
2.42	ArcturusTherap	ARCT	31.82		Inphi	IPHI	100.22	0.8	Vermillion	VRML	1.59	-
1.19	AstraZeneca	AZN	51.84	0.6	Inseego	INSG	14.25	9.7	WeisMarkets	WMK	50.75	
2.89	Atlassian	TEAM	158.98	-0.3	KalaPharm	KALA	11.34	18.1	WernerEnterprises	WERN	42.38	
5.63	AudioCodes	AUDC	29.43	24.7	KerosTherap	KROS	31.30	-0.6	WestPharmSvcs		198.61	
0.47	AvadelPharm	AVDL	13.49	13.4	LegacyAcqnUn	LGC.U	11.68	1.9	WheatonPrecMet		40.15	
9.64	B2Gold	BTG	5.53	-0.2	Luminex	LMNX	36.17	3.7	Wingstop	WING	117.00	-
1.59	BioMarinPharm	BMRN	99.60	0.7	MartenTransport	MRTN	23.78	6.9	Y-mAbsTherap	YMAB	36.55	
0.46	Bio-RadLab B	BIO.B	434.00	2.6	Masimo	MASI	221.13	3.0	ZentalisPharm	ZNTL	32.80	
2.32	Bio-RadLab A	BIO	450.89	2.4	Materialise	MTLS	21.28	11.5	Zynex	ZYXI	16.21	
0.30	BiosigTech	BSGM	10.49	6.9	MonolithicPower	MPWR	194.42	4.2	Zynga	ZNGA	7.85	
2.37	BlackDiamond	BDTX	43.08	1.8	NordicAmTankers	NAT	7.25	23.1	1.2			
0.94	BostonBeer	SAM	464.42	4.1	NovoNordisk	NVO	65.41	0.4	L	ows		
3.64	CC Neuberger I	PCPL.U	10.12		OceanBioChem	OBCI	8.35	7.0	ATA Creativity	AACG	0.61	-1
3.10	CableOne		1904.86	2.4	Okta	OKTA	158.94	-2.2	AlbertonAcanWt			
1.56	CadenceDesign	CDNS	81.97	1.0	OraSureTechs	OSUR	16.26	2.7	AmericaMovil A	AMOV	10.41	
1.49	ChinaJoJoDrug	CJJD	2.39	10.4	OricPharm	ORIC	28.20	1.1	ArchCoal	ARCH	21.80	-
-0.68	ChromaDex	CDXC	5.38	8.6	ParamountGoldNV	PZG	1.38	4.2	BancoBBVA	BBAR	2.10	
0.92	ChurchillCapIII	CCXX	9.95	1.1	PetMedExpress	PETS	38.86	11.2	BancoMacro	BMA	13.59	-
0.37	Ciena	CIEN	49.14	5.0	QTS Realty	QTS	66.51	3.5	BlonderTongueLab	BDR	0.38	-
1.19	Compugen	CGEN	15.29	-2.2	QTSRealtyPfdB	QTSpB	148.77	3.2	ЕСМОНО	моно	4.41	
	Coresite	COR	123.88	1.5	Quidel	QDEL	143.97	2.6	Embraer	ERJ	4.90	-
	CyberOptics	CYBE	26.99	5.7	RedHillBio	RDHL	8.82		EmmisComm	EMMS	1.26	-2
1.77	Cytosorbents	CTSO	10.24	5.1	Repligen	RGEN	123.81		GlobalCordBlood	CO	2.86	
	Danaher	DHR	170.14	2.7	SandstormGold	SAND	7.96		Gogo	GOGO	1.46	-
-0.69	DexCom	DXCM	344.55	0.8	ScottsMiracleGro		129.76		GpoFinGalicia	GGAL	5.66	-
0.09	DigitalRealty	DLR	155.06	2.8	Sea	SE	56.00		IncomeOppRealty	IOR	8.32	-1
3.67	dMY TechA	DMYT	10.00	1.8	SeattleGenetics	SGEN	150.00		InnSuitesHosp	IHT	0.90	
-1.86	DocuSign	DOCU	109.45	3.0	ShenandoahTel	SHEN	54.70		KitovPharmaWt	KTOVV	0.00	-
2.10	DraftKingsWt	DKNGW	9.79	3.2	SilganHoldings	SLGN	34.91		LGLSysAcqnWt	DFNS.W	S 0.44	-1
1.65	DraftKings	DKNG	22.50	0.9	SocialCapHedII	IPOC.U	10.18		Perma-PipeIntl	PPIH	5.53	
1.82	EmergentBiosol	EBS	83.01		SpartanNash	SPTN	17.66		SecooHolding	SECO	2.13	
4.19	Envela	ELA	3.95	-8.2	Switch	SWCH	18.91		Transocean	RIG	0.76	
	Equinix	EQIX	707.02		TMSRHolding	TMSR			USBrentOilFd	BNO	5.93	
5 20	FrytechPharma	FRVD	2 22	11.2	Taronainti	TEDII	5.22	11 2	LInitodStatosOilEd	IISO	2 1 2	_1

3.2 TeladocHealth 0.5 ThermoFisherS

TEDU

TDOC 203.85

Net YTD NAV Chg %Ret Fund

13.22 +0.07 -2.9

8.22 41.2 TarenaIntl

	PKI	88.76	1.21	Shopify	SHOP	628.58	-14.61
Perrigo	PRGO	52.30	0.87	Sibanye-Stillwater	SBSW	7.81	-0.15
PetroChina	PTR	35.50	0.40	SignatureBank	SBNY	101.91	7.79
PetroleoBrasil	PBR	6.00	0.34	SimonProperty	SPG	57.19	5.70
PetroleoBrasilA	PBR.A	5.84	0.21	SiriusXM	SIRI	5.61	0.11
	PFE	38.33	0.95	Skyworks	SWKS	98.38	1.87
	PM	74.92	1.25	SlackTech	WORK	27.31	
	PSX	63.49	2.96	Smartsheet	SMAR	53.26	2.27
	PPC	20.53	0.89	SmithAO	AOS	42.53	
	PDD	51.19	1.62	Smith&Nephew	SNN	39.52	0.98
PinnacleWest			1.62	Smucker	SJM	120.85	3.05
	PINS	20.78	0.16	Snap	SNAP	16.91	0.91
PioneerNatRscs		81.86	4.41	SnapOn	SNA	125.04	8.97
PlainsAllAmPipe		8.05	0.42	SolarEdgeTech	SEDG	104.69	3.96
PlanetFitness			4.54	SolarWinds	SWI	16.18	0.73
		222.62	9.12	SonocoProducts		48.60	
PostHoldings			1.85	Sony	SNE	63.45	
PrincipalFin	PFG	31.69	1.71	Southern	SO	58.48	0.75
Procter&Gamble		117.45	-1.33	SoCopper		32.57	1.82
	PGR	82.96	0.09	SouthwestAir			
	PLD	91.84	2.80	SouthwestGas			0.04
		122.79	1.59	Splunk		132.61	
ProsperityBcshs		54.49	3.44	Spotify		140.25	2.41
PrudentialFin		59.26	3.48	Square	SQ	63.55	1.54
	PUK	25.96	0.35	StanleyBlackDck			
PublicServiceEnt		52.01	0.64	Starbucks	SBUX		2.16
PublicStorage		192.96	5.73	StarsGroup			0.45
	PHM	27.24	1.60	StateStreet	STT	61.29	
		41.59	0.31	SteelDynamics			1.39
		91.28	1.39	Steris	STE	149.67	1.85
		75.98	-0.06	STMicroelec	STM	25.68	0.67
QuantaServices		34.96	0.98	StoneCo		23.75	1.67
QuestDiag	DGX	116.02	9.40	Stryker	SYK	191.96	
1 Quidel	QDEL	.138.09_	3.49	SumitomoMits			
D	S			SunComms	SUI	136.04	
	. J			SunLifeFinancial		32.35	1.28
RELX	RELX	22.32	0.59	SuncorEnergy		15.81	
RPM	RPM	67.09	2.04	Suzano	SUZ	7.10	
RalphLauren	RL	74.82	6.52	SynchronyFin			0.65
RaymondJames	RJF	65.81	4.26	SyneosHealth			1.60
DouthoonTock		4E 07	1 6 4	Synopsys	SNPS	154.14	1.11

Sym Close Chg

Shopify

PKI 88.76 1.21

tealPage	RP	62.92	2.27	Sysco
tealtyIncome		51.31	1.39	-
teataPharm		167.32	6.85	T
egencyCtrs	REG	37.44	2.01	TAL Education
tegenPharm		547.52		TC Energy
RegionsFin	RF	10.48	0.69	TD Ameritrade
teinsGrp	RGA	105.38	4.09	TE Connectivity
telianceSteel		90.22	3.10	Telus
enaissanceRe		148.65	7.52	TIM Part
tepligen		117.98	1.55	TJX
tepublicSvcs	RSG	78.62	2.52	T-MobileUS
tesMed	RMD	162.77	1.77	TRowePrice
estaurantBrands	OSR	47.84	1.05	TaiwanSemi
exfordIndlRealty	REXR	40.36	1.71	TakeTwoSoftware
eynoldsCnsmr			0.82	TakedaPharm
tingCentral	RNG	233.45	-5.28	TandemDiabetes
tioTinto	RIO	46.89	0.39	Target
titchieBros	RBA	43.21	0.29	TechData
tobertHalf	RHI	45.51	1.45	↓ TeladocHealth
tockwell	ROK	181.68	7.09	TeledyneTech
ogersComm B	RCI	41.44	0.03	Teleflex
toku	ROKU	128.63	3.80	Ericsson
tollins	ROL	39.49	1.35	TelefonicaBras
toperTech	ROP	314.55	8.14	Telefonica
tossStores	ROST	90.83	5.34	TelekmIndonesia
toyalBkCanada	RY	60.48	1.60	10xGenomics
oyalBkScotland	RBS	2.73	80.0	Tenaris
oyalCaribbean	RCL	39.47	3.79	TencentMusic
toyalDutchA	RDS.A	35.82	0.79	Teradyne
loyalDutchB	RDS.B	34.68	0.82	Tesla
toyalGold		126.34	0.91	TevaPharm
tyanair	RYAAY	58.50	1.72	TexasInstruments
AP	SAP	116.86	0.37	Textron
&P Global	SPGI	291.19	7.25	▲ ThermoFisherSci
BA Comm		308.80	3.01	ThomsonReuters
El Investments		50.95	2.13	3M
K Telecom	SKM	19.25	0.25	Tiffany
S&C Tech	SSNC	52.37	1.16	Toro
VB Fin	SIVB		8.63	TorontoDomBk
alesforce.com		157.63	3.65	Total
anofi	SNY	50.63	0.78	ToyotaMotor
antanderCons	SC	13.47	0.50	TractorSupply

RaytheonTech RTX

4	SimonProperty SP		5.70		
1	SiriusXM SIR	5.61	0.11		
5	Skyworks SW	KS 98.38	1.87		4
5	SlackTech W0	RK 27.31	1.25	Unilever UN 49.13 -0.23	2
6	Smartsheet SM	AR 53.26	2.27	Unilever UL 51.51 -0.0	7
9	SmithAO AO	S 42.53	2.14		
2	Smith&Nephew SN	N 39.52	0.98	UnitedAirlines UAL 25.00 -0.5	ó
2	Smucker SJN	1 120.85	3.05	UnitedMicro UMC 2.61 0.0-	4
6	Snap SNA	AP 16.91	0.91	UPS B UPS 102.55 2.3	7
1	SnapOn SN.	A 125.04	8.97	UnitedRentals URI 111.03 4.99	8
2	SolarEdgeTech SEI	OG 104.69	3.96	US Bancorp USB 35.88 1.8	8
4	SolarWinds SW	16.18	0.73	UnitedTherap UTHR 111.58 0.3	7
2	SonocoProducts SO	N 48.60	1.59	UnitedHealth UNH 293.98 2.6	9
5	Sony SNI	E 63.45	0.49	UnivDisplay OLED 142.81 4.2	9
1	Southern SO	58.48	0.75	UniversalHealthB UHS 105.08 3.4	3
3	SoCopper SCO	0 32.57	1.82	VEREIT VER 5.03 0.3	5
9	SouthwestAir LU	29.11	-0.22	VF VFC 57.71 3.1	4
0	SouthwestGas SV	VX 78.18	0.04	VICI Prop VICI 16.31 0.7	3
9	Splunk SPI	K 132.61	3.98	VailResorts MTN 170.78 16.8	4
4	Spotify SPC	T 140.25	2.41		
8	Square SQ	63.55	1.54		
5	StanleyBlackDck SW	K 112.74	5.00		
4	Starbucks SBI	JX 77.74	2.16		
3	StarsGroup TS	G 25.55	0.45		
0	StateStreet ST	Г 61.29	3.88		
1	SteelDynamics STI	D 24.93	1.39		
9	Steris STI	E 149.67	1.85		
6	STMicroelec STI	VI 25.68	0.67		
8		NE 23.75	1.67		
0		K 191.96	3.84		-
9	SumitomoMits SM	FG 5.19	0.13		
	SunComms SU		9.30		
	SunLifeFinancial SLF	32.35	1.28	VistraEnergy VST 18.95 0.9	
9	SuncorEnergy SU	15.81	0.21		
4	Suzano SU		0.22	Vodafone VOD 13.84 0.20	
1	SynchronyFin SYI		0.65		
2	SyneosHealth SY	VH 52.05	1.60		_
6 4	Synopsys SNI	PS 154.14	1.11	VulcanMatis VMC 108.28 6.2	
7	Sysco SY	Y 54.92	1.84	VUICAIIIVIAUS VIVIC 100.20 0.2	•
9		.,		WXYZ	ł
5	TU	V			
1	TAL Education TAI	L 51.40	4.01	WABCO WBC 133.97 -1.19	
9	TC Energy TRI			VVEC Energy VVEC 91.52 -2.2	
9	TD Ameritrade AM		1.51	WEX WEX 118.91 8.8	
٠.	TE Connectivity TEI		3.32	VV.P.Carey VVPC 02.30 3.0	
9	Telus TU		0.16	WPP 35.05 1.0	
0	TIM Part TSI		0.16	Wabtec WAB 54.43 0.99	
2	TJX TJX		1.79	WalgreensBoots WBA 44.43 0.6	
5 2	T-MobileUS TM		0.11	Walmart WMT 128.30 -1.14	
7		W 106.50	6.16	WasteConnections WCN 87.96 2.23	
5	TaiwanSemi TSI		0.78	WasteMgt WM 101.13 2.6	
1	TakeTwoSoftware TTV		-1.95	vvaters vvai 195.01 3.6	
ı	rancimosortmale III	• • 162.73	1.//	Webses D. WCOD1E0.02 1.1	

	TAL Education		E4 40	4.04		WARCO	MRC	155.97	-1.19
	TAL Education		51.40	4.01		WEC Energy	WEC	91.52	-2.25
		TRP	45.79	-0.01		WEX	WEX	118.91	8.81
	TD Ameritrade			1.51		W.P.Carev	WPC	62.38	3,66
	TE Connectivity		73.47	3.32		WPP	WPP	35.65	1.67
	Telus	TU	16.18	0.16		Wabtec	WAB	54.43	0.99
	TIM Part	TSU	11.04	0.38		WalgreensBoots		44.43	0.69
	XLT	TJX	47.84	1.79		Walgreensboots		128.30	-1.14
	T-MobileUS	TMUS	90.91	0.11		WasteConnections		87.96	2.22
	TRowePrice	TROW	106.50	6.16			WM	101.13	
	TaiwanSemi	TSM	53.51	0.78		WasteMgt			2.65
	TakeTwoSoftware	TTWO	125.93	-1.95		Waters		195.01	3.69
	TakedaPharm	TAK	18.65	1.09		Watsco B		159.82	1.16
	TandemDiabetes			0.99		Watsco		161.91	1.41
	Target	TGT	109.88	2.06		Wayfair	w	128.81	6.40
			139.36	0.09		Weibo	WB	37.18	0.69
ı	TeladocHealth			1.36		WellsFargo	WFC	28.41	1.49
•	TeledyneTech		319.94	3.90		Welltower	WELL	45.94	1.88
		TFX	350.08		ı	WestPharmSvcs	WST	197.84	2.30
	Ericsson	ERIC	8.28	0.19		WesternDigital	WDC	43.09	2.40
	TelefonicaBras		8.37	0.19		WesternUnion	WU	19.13	0.63
	Telefonica	TEF	4.40	-0.01		WestlakeChem	WLK	42.33	1.63
	TelekmIndonesia		20.27	0.58		WestpacBanking	WBK	9.57	-0.29
		TXG		2.19		WestRock	WRK	30.49	1.61
		TS	76.19	0.30		Weyerhaeuser	WY	20.66	1.05
	Tenaris		13.02		4	WheatonPrecMet		39.72	0.10
	TencentMusic		11.03	0.28		Whirlpool		109.18	4.60
		TER	63.75	1.75		Williams	WMB	18.52	0.24
	Tesla		798.75			Williams-Sonoma			3.52
		TEVA		0.50		WillisTowers		175.99	-1.23
	TexasInstruments		115.78	1.85		Wipro	WIT	2.99	0.05
	Textron	TXT	28.16	1.13			WIX	132.50	-1.86
ı	ThermoFisherSci					Wix.com			
	ThomsonReuters		71.55	0.68		WooriFin	WF	21.28	2.33
			153.65	6.65		Workday		148.10	3.14
		TIF	124.99	-1.36		WynnResorts			6.16
	Toro	TTC	65.30	1.33		XP	ΧP	23.78	0.88
	TorontoDomBk		40.43	1.53		XPO Logistics		66.47	0.47
	Total	TOT	35.16	1.01		XcelEnergy	XEL	65.47	0.90
	ToyotaMotor	TM	124.20	1.64		Xilinx	XLNX		-0.93
	TractorSupply			1.11		Xylem	XYL	70.77	2.25
	TradeDesk	TTD	263.17	6.54		YamanaGold	AUY	4.77	0.01
ı	Tradeweb	TW	56.20	3.20		Yandex	YNDX		0.96
	TraneTech	TT	86.37	2.34		YumBrands	YUM	88.19	2.30
	TransDigm	TDG	317.45	12.53		YumChina	YUMC		1.98
	TransUnion	TRU	75.06	2.93		ZTO Express	ZTO	29.23	0.34
	Travelers	TRV	102.89	2.07		ZaiLab	ZLAB	64.55	1.10
	Trex	TREX	91.79	6.00		ZebraTech	ZBRA	220.93	12.31
	Trimble	TRMB	34.35	1.72		Zendesk	ZEN	73.74	0.34
	Trip.com	тсом	24.44	0.66		Zillow C	Z	43.01	2.31
		TFC	37.47	1.99		Zillow A	ZG	42.19	2.02
	Turkcelllletism		4.88	-0.05		ZimmerBiomet	ZBH	117.49	1.04
	Twilio		109.42	-0.53		ZionsBancorp		30.79	1.33
		TWTR		1.26		Zoetis	ZTS	127.42	1.51
		TYL	320.94	6.23		ZoomVideo	ZM	164.60	5.80
	.,	TSN	59.68	0.70		Zscaler	ZS	70.47	2.97
	UBS Group	UBS	9.78			Zynga	ZNGA		0.12
	ODS GLOUP	003	7.70	0.57	•	zy i iga	FINGH	7.74	0.12

Exchange-Traded Portfolios | WSJ.com/ETFresearch Largest 100 exchange-traded funds, latest session Monday, April 27, 2020 Closing Chg YTD Symbol Price (%) (%) **ETF** Closing Chg YTD Price (%) (%) iSh1-3YTreasuryBd iSh7-10YTreasuryBd iSh20+YTreasuryBd iShRussellMCGrowth SHY IEF TLT IWP 86.63 121.49 167.66 139.80 **ETF** CnsmrDiscSelSector XLY 114.35 1.87 CnsStapleSelSector FinSelSectorSPDR 58.88 0.29 IShRussellMucare...
IShUSTreasuryBdETF
JPM UItShtlncm
IPST
50.22
IPST
50.22
IPST
50.22
INIX 100.49
INI XLF 22.48 FVD 29.75 XLV 101.58 QQQ 215.56 -27.0 -0.46 0.02 HealthCareSelSect 1.29 -0.3 Chg InvscQQQI 0.80 1.4 InvscS&P500EW InvscS&P500LowVol iSh3-7YTreasuryBd iShCoreDivGrowth SPLV IEI DGRO 1.95 -13.9 -0.20 5.8 2.09 -14.1 1.24 -19.9 50.22 133.09 ... 0.1 -0.66 13.1 1.46 -19.4 GLD SPDR Gold 161.56 27.10 SchwabIntEquity 36.13 -0.20 4.1 1.79 -12.1 1.84 -12.9 1.66 -10.9 1.22 -3.4 -0.12 4.7 55.62 67.61 50.42 68.43 SchwabUS AggrBd SchwabUS BrdMkt iShCoreMSCIEAFE **IEFA** 52.26 IEMG IXUS 43.26 49.73 288.19 2.05 -19.5 1.57 -19.7 1.51 -10.8 iShCoreMSCIEM iShCoreMSCITotInt iShCoreS&P500 SchwabUS LC SchwabUS LC Grw SCHG SCHP 89.79 iShCoreS&P MC IJH 161.04 4.23 -21.8 Schwab US TIPs 59.31
 IShCores&P SC
 JJR
 61.22

 IShS&PTotlUSStkMkt
 ITOT
 63.91

 IShCoreUSAggBd
 AGG
 116.82

 IShSelectDividend
 DVY
 79.89
 4.26 -27.0 **1.77** -12.1 **-0.46** 4.0 **2.63** -24.4 1.47 -15.4 4.17 -21.7 1.44 -10.8 2.84 -18.5 SPDR DJIA Tr DIA 241.32 MDY SPY SDY XLK 79.89 64.56 SPDR S&P Div 87.66 iShEdgeMSCIMinEAFE EFAV **1.02** -13.4 TechSelectSector 89.39 -2.5 iShEdgeMSCIMinUSA iShEdgeMSCIUSAMom iShEdgeMSCIUSAQual iShFloatingRateBd FLOT -9.4 -5.5 59.41 1.59 UtilitiesSelSector 58.93 33.79 1.27 1.72 0.02 VanEckGoldMine 236.55 97.38 172.37 89.93 49.88 VangdInfoTech -2.0VangdSC Val iShGoldTr IAU 16.43 **-0.42** 13.3 VangdSC Grwth iShiBoxx\$InvGrCpBd iShiBoxx\$HYCpBd iShIntermCorpBd LQD 128.85 HYG 78.64 IGIB 57.45 EMB 97.78 **3.21** -13.3 **1.52** -8.5 -0.81 0.7 0.41 -10.6 -0.40 -0.9 -0.17 -14.6 VangdDivApp VIG VEA 114.03 35.18 35.75 45.33 43.25 177.05 VangdFTSEDevMk 1.38 -20.2 1.88 -19.6 1.32 -22.6 VWO VGK VEU iShJPMUSDEmgBd MBB 110.40 ACWI 67.99 EFA 55.94 SCZ 48.01 EEM 36.30 -0.05 2.2 1.63 -14.2 1.32 -19.4 iShMRSETE VangdFTSEAWxUS **1.43** -19.5 iShMSCI ACWI VangdGrowth -2.8 VHT VYM BIV VCIT VV 192.13 78.04 90.87 90.74 132.44 VangdHlthCr VangdHiDiv VangdIntermBd VangdIntrCorpBd iShMSCI EAFE SC **1.14** -22.9 iShMSCIEmgMarkets 2.02 -19.1 EWJ MUB PFF IWF iShMSCIJapan 51.59 **1.38** -12.9 iShNatlMuniBd iShPfd&Incm iShRussell1000Gwth -0.04 0.26 1.10 -1.9 -9.3 -3.2 VangdLC **1.54** -10.4 **2.64** -16.1 VV VO 149.41 VMBS 54.26 VNQ 75.24 VOO 263.90 °2.56 34.10 170.21 VangdMC VangdMBS VangdRealEst VangdS&P500ETF IWB IWD IWM IWV -16.8 iShRussell1000 158.20 **1.55** -11.3 iShRussell1000 iShRussell1000Val iShRussell2000 iShRussell3000 109.37 127.26 165.61 2.33 -19.9 3.96 -23.2 1.75 -12.1 VangdST Bond -0.02 BSV 82.56 2.4 -0.3 VCSH VangdSTCpBd 80.75 -0.06 IWR IWS IVW IVE IGSB 3.78 -22.0 -0.35 4.1 -0.14 0.7 1.41 -20.0 1.77 -11.9 129.27 87.26 56.97 44.57 144.14 48.76 71.26 185.34 iShRussellMid-Cap **2.89** -18.2 VanadSC VΒ 3.04 -24.8 1.00 -4.3 2.12 -18.4 VangdTotalBd VangdTotIntlBd VangdTotIntlStk BND BNDX VXUS VTI iShRussellMCValue iShS&P500Growth 106.19 53.42 110.89 2.13 -14.8 iShShortCpBd -0.24 -0.4 0.4 VangdTotalStk iShShortTreaBd SHV -0.03 VangdTotlWrld VT VTV 68.44 **1.69** -15.5 iShTIPSBondETF VangdValue 98.36

Mutual Funds

BerkHathwy A BRK.A 2812641804.00

BeyondMeat BYND 99.63 -9.15

TECH 208.87

WRB 52.90 2.66

BERY 38.19 1.52

74.57 2.69

27.71 -0.03 208.87 7.02

Berkley

N PerA p

BerryGlobal

NOTICE TO READERS

Cummins

 CrownHoldings
 CCK
 63.31
 4.09

 CubeSmart
 CUBE
 25.70
 0.42

DISH Network DISH 24.37 0.97

DTE Energy **DTE** 102.68 -0.34

CMI 151.44 3.67 **CONE** 74.71 1.96

Due to extreme market activity and delayed reporting of closing prices from the sources, some NAVs may reflect previous day's trading. Up-to-date mutual-fund data can be found online at WSJMarkets.com.

Top 250 mutual-funds listings for Nasdaq-published share classes by net assets e-Ex-distribution. f-Previous day's quotation. g-Footnotes x and s apply. j-Footnotes e

Monday, April 27, 2020											
und	ΝΔΥ		YTD %Ret	Fund	NAV		YTD %Ret	Fund	NAV		YTD %Ret
merican Cei			_	NEcoA p		_		CorePlusBond			
ltra	51.40	+0.48	-1.5	NwWrldA	59.19	+0.94	-16.1	Intl Eq	9.88	+0.14	-17.6
merican Funds Cl A				SmCpA p	51.19	+1.00	-13.0	LargeCapValue	11.05	+0.25	-18.9
mcpA p	31.09	+0.38	-7.4	TxExA p	12.92	-0.01	-2.3	Dimensional I	Fds		
MutlA p	38.55	+0.51	-10.9	WshA p	41.64	+0.68	-13.0	5GlbFxdInc	10.79		0.6
alA p	26.89	+0.20	-5.3	Baird Funds				DFARIEst	33.74	+1.09	-17.1
ondA p	13.73	-0.04	5.7	AggBdInst	11.55	-0.05	3.9	EmgMktVa	21.16	+0.38	-26.2
apIBA p	55.52	+0.57	-11.4	CorBdInst	11.77	-0.05	2.5	EmMktCorEq	16.79	+0.26	-22.7
	44 70	. 0 . 0	110					I	10 (2	. 0 17	220

				ivioliday, i	Aprii 2	, 202	.0					SAIUSLGCPIIIUXFU	15.48	+0.22	-T0.5	lotalBond	TT.UT -(J.U4 .	1.8
			YTD				YTD					SeriesOverseas							
Fund	NAV	Chg	%Ret	Fund		_						SmCpldxInstPrem					10.52 -0	0.04	1.1
American (Century	Inv		NEcoA p	42.31	+0.48	-7.5	CorePlusBond									ınds		
Ultra	51.40	+0.4	8 -1.5	NwWrldA				Intl Eq				USBdldxInstPrem		-0.05	5.1	GlbA	50.80 +0).59-1	2.3
American F	unds Cl	Α		SmCpA p	51.19	+1.00	-13.0	LargeCapValue	11.05	+0.25	-18.9	Fidelity Advis	or I			FPA Funds			
AmcpA p	31.09	+0.3	8 -7.4	TxExA p	12.92	-0.01	-2.3	Dimensional I	Fds					+0.30	-8.0	FPACres	28.18 +0	0.39-1	6.7
AMutlA p	38.55	+0.5	1-10.9	WshA p	41.64	+0.68	-13.0	5GlbFxdInc	10.79		0.6	Fidelity Freed				Franklin A1			
BalA p	26.89	9+0.2	0 -5.3	Baird Funds				DFARIEst								CA TF A1 p	NA		
BondA p	13.73	3 -0.0	4 5.7	AggBdInst	11.55	-0.05										IncomeA1 p			2.5
CapIBA p	55.52	2+0.5	7-11.4	CorBdInst	11.77	-0.05	2.5	EmMktCorEq	16.79	+0.26	-22.7	FF2030	15.94	+0.16	-10.6	FrankTemp/Fi	ank Adv	1	
CapWGrA	44.72	2+0.6	0-14.0	BlackRock Fu	ınds			IntlCoreEq				Freedom2020 K							2.5
EupacA p	46.24	4+0.6	6-16.9	HiYldBd Inst	6.83		-10.5	IntSmCo	14.26	+0.19	-24.6	Freedom2025 K	13.02	+0.11	-9.0	FrankTemp/Fi	anklin A	١	
FdInvA p	53.86	6.0+	4-12.8	BlackRock Fu	ınds A			IntSmVa	13.84	+0.18	-28.5	Freedom2030 K	15.93	+0.16	-10.5	Growth A p 1	L05.46 +1	1.68 -	6.0
GwthA p	48.97	7 +0.4	8 -4.2	GlbIAlloc p	17.90		-6.8					Freedom2035 K							1.3
HI TrA p	8.78	3 -0.0	2-11.1	BlackRock Fu	ınds In							Freedom2040 K				FrankTemp/Fi	anklin C	:	
ICAA p	35.17	7+0.3	5-10.6	MultiAstIncome	10.00		-7.6	US CoreEq2								Income C t			2.5
IncoA p	20.45	5+0.2	5-11.2	StratIncOpptyIns	9.52		-3.7	US Small	25.92	+1.09	-25.7					FrankTemp/Te			
IntBdA p	13.96	ó.	4.4	Bridge Builde	r Trus	t		US SmCpVal	23.17	+1.14	-32.5					GlBondAdv p			5.2
N PerA p	42.63	3 +0.5	7 -9.8	CoreBond	10.70	-0.03	3.5	USLgVa	29.26	+0.83	-23.8	BluCh	106.84	+1.46	-0.8	Guggenheim	Funds Ti	ru	
				•				•				•				•			

COLELYCHICHII	11/-1		147-4	LOWF	27./7	0.00	20.,
TotRetBdI	NA		NA	Magin	9.84	+0.10	-3.5
Edgewood Gr	owth	Institu	iti	OTC	12.54	+0.12	-2.0
EdgewoodGrInst	38.57	+0.53	0.1	Puritn	21.80	+0.13	-3.8
Fidelity				SAIUSQtyldx	13.75	+0.20	-6.3
500ldxlnstPrem	99.85	+1.45	-10.4	SrsEmrgMkt	16.65	+0.24	-19.3
Contrafund K6	13.98	+0.08	-3.4	SrsGlobal	10.63	+0.15	-19.3
ExtMktldxlnstPre	52.17	+1.89	-18.2	SrsGroCoRetail	18.54	+0.19	4.5
IntlldxInstPrem	34.67	+0.49	-19.3	SrsIntlGrw	15.49	+0.20	-11.6
MidCplnxlnstPrem	19.45	+0.53	-17.7	SrsIntIVal	7.42	+0.15	-25.1
SAIUSLgCpIndxFd	15.48	+0.22	-10.5	TotalBond	11.01	-0.04	1.8
SeriesOverseas	9.19	+0.12	-14.7	Fidelity SAI			
				TotalBd	10.52	-0.04	1.1
TMktldxlnstPrem	79.80	+1.42	-11.6	First Eagle Fu	ınds		
USBdldxInstPrem	12.42	-0.05	5.1	GlbA	50.80	+0.59	-12.3
Fidelity Advis	or I			FPA Funds			
NwInsghtI	30.08	+0.30	-8.0	FPACres	28.18	+0.39	-16.7
Fidelity Freed	lom			Franklin A1			
				CA TF A1 p			
FF2025	13.04	+0.11	-8.9	IncomeA1 p	2.02	+0.01	-12.5
FF2030	15.94	+0.16	-10.6	FrankTemp/Fi	rank A	dv	
				IncomeAdv		+0.01	-12.5
				FrankTemp/Fi			
Freedom2030 K	15.93	+0.16	-10.5	Growth A p 1	105.46	+1.68	-6.0

15.22 0.07 2.7			0.07		Totalitetaliiboli	
13.24 +0.08 -2.9					PIMCO Fds	
8.79 +0.05-13.1					AllAsset	N
22.14 +0.24 3.7					TotRt	
22.19 +0.25 3.7						
11.79 -0.04 2.8					IncomeFd	
39.79 +0.80-20.5						
9.84 +0.10 -3.5					Income	
12.54 +0.12 -2.0						ls Ins
21.80 +0.13 -3.8	EqInc	16.10 +	+0.33-	16.7	IncomeFd	N
13.75 +0.20 -6.3					Price Funds	
16.65 +0.24-19.3						121.4
10.63 +0.15-19.3	CorePlusBd	8.57 -	-0.02	2.2	DivGro	47.3
18.54 +0.19 4.5	Lord Abbett	A			EqInc	24.7
15.49 +0.20-11.6	ShtDurIncmA p	4.03				76.5
7.42 +0.15-25.1 11.01 -0.04 1.8	Lord Abbett I	F			Growth	70.0
11.01 -0.04 1.8	ShtDurIncm	4.03		-3.2	HelSci	82.4
	Lord Abbett I				InstlCapG	42.9
10.52 -0.04 1.1	ShtDurInc p	4.03		-3.2	IntlStk	15.5
unda	Metropolitan	West			MidCan	83.7
50.80 +0.59-12.3	TotRetBd	11.33 -	-0.03	4.2	N Inc	9.5
	TOLKELBUI	TT'22 .	-0.03	4.4	NHoriz	59.9
28.18 +0.39-16.7	TRBdPlan	10.66	-0.02	4.4	OverS SF r	8.9
	MFS Funds C	lass I			P2020	20.2
ΝΔ ΝΔ	Valuel	37.47 +	-0.88	15.7	R2025	16.0

IntlEq

LrgCpStr

Parnassus Fds

ParnEqFd 42.8 PGIM Funds CI Z

42 84 +0 56 -8 7

UnitedStatesOilFd USO

US12moOilFd

Net YTD NAV Chg %Ret

5.22 11.2

TotRtnBdFdClInst 28.17 -0.09 4.7

JPMorgan I (Income	NA		N/
				PIMCO Fund			
EqInc	16.10	+0.33-	16.7	IncomeFd	NA		N/
JPMorgan R				Price Funds			
CoreBond	12.21	-0.04	3.8	BIChip	121.45	+1.06	-2.
CorePlusBd	8.57	-0.02	2.2	DivGro	47.34	+0.87	-10.
Lord Abbett				EgInc	24.77	+0.57	-22.
ShtDurIncmA p	4.03		-3.3	EqIndex	76.52	+1.11	-10.4
Lord Abbett	F			Growth			
Lord Abbett ShtDurIncm	4.03		-3.2	HelSci	82.48	+0.99	1.3
					42.90	+0.35	-2.
ShtDurInc p	4.03		-3.2	IntlStk	15.57	+0.19	-16.
Metropolitan	West			MidCan	83.76	+2.23	-12.
TotRetBd	11.33	-0.03	4.2	N Inc	9.56	-0.03	-0.
TotRetBdl	11.33	-0.03	4.4	NHoriz	59.99	+1.35	1.
TRBdPlan	10.66	-0.02	4.4	OverS SF r	8.93	+0.15	-20.
MFS Funds (lass I			DOOO	20.22		
Valuel	37.47	+0.88-	15.7	R2025	16.08	+0.18	-9.
MFS Funds I	nstl			D2U3U	23.13	+0.29	-10.
IntlEq	23.13	+0.40-	17.0	R2035	16.82	+0.23	-11.
Nuveen Cl I				D2040	22.72	+0.36	-12.
HYMunBd	NA		NA	Value	30.95	+0.62	-18.4
oakmark fur	ıas ınv	est		DDIMECAD	\d	rd.	
OakmrkInt	16.41	+0.37-	34.2	Growth r	34.39	+0.53	-16.0
via vvestbur	v ras			Caburah Fun	4-		
LrgCpStr	13.06	+0.16-	13.3	S&P Sel	44.28	+0.65	-10.

TSM Sel r

TIAA/CREF Funds

TotalReturnBond NA

	NAV		YTD %Ret	Fund	NAV		YTD %Ret	Fund	NAV		YTD %Ret	
d	NA		. NA			_		TxMCapAdm	147.67			_
n	stl			500Adml	265.98	+3.86		TxMIn r				
	NA		. NA	BalAdml								
	10.63	-0.03		CAITAdml								
s	Α			CapOpAdml r								
	NA		. NA	DivAppldxAdm								
s	12			EMAdmr	29.68	+0.41	-19.5	WelltnAdml	68.87	+0.57	-7.3	Totl
	NA		. NA	EqIncAdml	66.92	+1.25	-15.1	WndsrAdml	57.20	+1.54	-20.9	lots
s	Instl							VANGUARD				VAN
	NA		. NA	ExtndAdml	78.07	+2.83	-18.2	DivdGro	27.56	+0.47	-9.7	Ball
				GNMAAdml	10.80	-0.01	3.2	INSTTRF2015	22.18	+0.11	-3.5	DevN
	121.45	+1.06	-2.3	GrwthAdml	91.22	+0.97	-2.5	INSTTRF2020	22.68	+0.17	-5.9	DevN
	47.34	+0.87	-10.9	HlthCareAdml r	86.27	+0.82	1.1	INSTTRF2025	22.87	+0.22	-7.5	Extr
	24.77	+0.57	-22.3	HYCorAdml r	5.40	-0.01	-7.9	INSTTRF2030	22.88	+0.25	-8.9	Grw
	76.52	+1.11	-10.4	InfProAd	27.14	-0.03	4.9	INSTTRF2035	22.88	+0.28	-10.3	InPr
	70.01	+0.74	-4.6	IntlGrAdml	95.51	+1.56	-7.1	INSTTRF2040	22.87	+0.31	-11.6	Inst
	82.48			ITBondAdml	12.30	-0.04	5.0	INSTTRF2045	22.80	+0.34	-12.9	Inst Inst
	42.90	+0.35	-2.6	ITIGradeAdml	10.14	-0.02	2.4	INSTTRF2050	22.83	+0.34	-12.9	Mid
	15.57	+0.19	-16.5	LTGradeAdml	11.56	-0.14	7.4	INSTTRF2055	22.92	+0.34	-12.9	Mid
	83.76	+2.23	3-12.1	MidCpAdml	185.05	+4.64	-15.7	IntlVal	29.15	+0.48	-22.3	Sm(
	9.56	-0.03	-0.7	MuHYAdml	11.08			LifeCon		+0.11	-3.8	STIC
	59.99	+1.35	1.0	MuIntAdml	14.19	-0.02	-1.1	LifeGro	32.12			STIE
	8.93	+0.15	-20.2	MuLTAdml				LifeMod	26.70	+0.24	-7.5	Tota

IU	IVA	•••	IVA	VANGUARD I	ADMINAL		TXIVICapAuttii.	147.07 +2.	.59-T0.5	vvelisi	20.54 +
ln	ıstl			500Adml	265.98 +3.86	-10.4		11.33 +0.			39.88 +
	NA		NA	BalAdml	37.02 +0.34	-4.9	USGroAdml:	112.74 +1.			30.39+
	10.63	-0.03	3.8	CAITAdml	11.88 -0.02		ValAdml	38.40 +0.			
ds	Α			CapOpAdml r			WdsrllAdml				41.87 +
	NA		NA	DivAppldxAdm	30.95 +0.47	-8.1	WellsIAdml	64.30 +0.	.27 -2.0	TotBd2	11.41 -
ds	12			EMAdmr	29.68 +0.41	-19.5	WelltnAdml	68.87 +0.	.57 -7.3	TotIntl	14.31+
	NA		NA	EqIncAdml	66.92 +1.25	-15.1	WndsrAdml	57.20 +1.	54-20.9	TotSt	70.14+
ds	Instl			ExplrAdml	81.72 +2.63	-15.9	VANGUARD F	DS		VANGUARD I	
	NA		NA	ExtndAdml	78.07 +2.83	-18.2	DivdGro	27.56 +0.	.47 -9.7	Ballnst	37.03 +
						3.2	INSTTRF2015	22.18 +0.	.11 -3.5	DevMktsIndInst	
				GrwthAdml			INSTTRF2020	22.68 +0.	.17 -5.9	DevMktsInxInst	
	47.34	+0.87	-10.9	HlthCareAdml r	86.27 +0.82	1.1	INSTTRF2025	22.87 +0.	.22 -7.5	ExtndInst	78.07 +
				HYCorAdml r	5.40 -0.01	-7.9	INSTTRF2030	22.88 +0.	.25 -8.9	GrwthInst	91.22 +
				InfProAd	27.14 -0.03	4.9	INSTTRF2035	22.88 +0.	28-10.3	InPrSeIn	11.06 -
				IntlGrAdml			INSTTRF2040	22.87 +0.	31-11.6		257.03 +
	82.48	+0.99	1.3	ITBondAdml	12.30 -0.04	5.0	INSTTRF2045	22.80 +0.	34-12.9	InstPlus InstTStPlus	257.04 + 60.02 +
	42.90	+0.35	-2.6	ITIGradeAdml	10.14 -0.02	2.4	INSTTRF2050			MidCpInst	40.88 +
	15.57	+0.19	-16.5	LTGradeAdml	11.56 -0.14	7.4	INSTTRF2055	22.92 +0.	34-12.9		40.66 + 201.61 +
	83.76	+2.23	-12.1	MidCpAdml	185.05 +4.64	-15.7	IntlVal	29.15 +0.	48-22.3	SmCapInst	61.99 +
	9.56	-0.03	-0.7	MuHYAdml	11.08		LifeCon	20.14+0.	.11 -3.8	STIGradeInst	
	59.99	+1.35	1.0	MulntAdml	14.19 -0.02	-1.1	LifeGro	32.12 +0.	42-11.1	STIPSIxins	24.78 +
	8.93	+0.15	-20.2	MuLTAdml	11.58 -0.01	-1.7	LifeMod	26.70 +0.	.24 -7.5	TotBdInst	11.49 -
		+0.19			10.95 -0.01	-0.6	PrmcpCor	23.26 +0.	.37-16.7	TotBdInst2	11.41 -
	16.08			MuShtAdml	15.76		STAR	25.58 +0.	.26 -6.4	TotBdInstPl	11.49 -
		+0.29		PrmcpAdml r	124.44 +1.63	-13.7	TgtRe2015	14.64 +0.	.07 -3.6	TotIntBdldxInst	
		+0.23		RealEstatAdml	106.62 +3.55	-18.3	TgtRe2020	30.59 +0.	.23 -6.0	Totintlinstidx r	95.69+
		+0.36		SmCapAdml	61.99 +2.26	-21.6	TgtRe2025	18.34 +0.	.17 -7.6	TotltlinstPlid r	95.71+
_		+0.62	-18.4	SmGthAdml	60.66 +1.88	-13.1	TgtRe2030	33.20 +0.	.36 -8.9	TotStInst	70.18+
0	dyssey			STBondAdml	10.81	2.9	TgtRe2035	20.20 +0.	.24-10.3	ValueInst	38.40 +
	34.39	+0.53	-16.0	STIGradeAdml	10.69 -0.01	0.5	TgtRe2040	34.58 +0.	47-11.6	WCM Focus	Funds
ıd	_			STsryAdml	10.84	2.9	TgtRe2045	21.52 +0.	.32-12.9	WCMFocIntlGrwIns	17.18 +
		+0.65		TotBdAdml	11.49 -0.05	4.8	TgtRe2050	34.66 +0.	52-12.8	Western Ass	et
_		+0.88	-11.7	TotIntBdldxAdm			TgtRet2055			CoreBondI	NA
FI	unds			TotIntlAdmIdx r	23.93 +0.36	-19.7	TgtRetInc	13.65 +0.	.05 -2.5	CorePlusBdI	NA
	11.54	-0.04	4.7	TotStAdml	70.16 +1.24	-11.5	TotIntBdlxInv	11.40 -0.	.01 1.0	CorePlusBdIS	NA
				•			•			•	

	26.54 +0.11 -2.1
elltn	39.88 +0.33 -7.3
ndsrII	30.39 +0.60-16.5
NGUARD I	NDEX FDS
	41.87 +1.75-28.6
:Bd2	11.41 -0.04 4.5
Intl	14.31 +0.22-19.7
:St	70.14 +1.24-11.5
NGUARD I	NSTL FDS
Inst	37.03 +0.34 -4.9
MktsIndInst	11.34 +0.17-19.6
MktsInxInst	17.73 +0.28-19.5
ndInst	78.07 +2.84-18.2
wthInst	91 22 +0 96 -2 5

EVIVINGUIINITISC	11.12	. 0.	20	1/./
xtndlnst				
rwthInst	91.22	+0.	96	-2.5
ıPrSeln	11.06	-0.	01	5.0
	257.03	+3.	73-	10.4
stPlus 2	257.04	+3.	73-	10.4
stTStPlus	60.02	+1.	06-	11.5
lidCpInst				
1idCplstPl 2	201.61	+5.	06-	15.7
mCapInst	61.99	+2.	26-	21.6
TIGradeInst	10.69	-0.	01	0.5
TIPSIxins	24.78	+0.	01	0.3
otBdInst				
otBdInst2				
otBdInstPl	11.49	-0.	05	4.8
tlntBdldxlnst				
otintlinstidx r	95.69	+1.	45-	19.7
otItlInstPlId r	95.71	+1.	45-	19.7
otStInst				
alueInst		+0.	78-	17.2
/CM Focus F	unds			
CMEacIntlCnulae	17 10	Ψ٨	25	_0 1

Virus Pressures Higher-Risk Munis | Workplace Shift Adds

Though some municipal bonds have rebounded alongside other markets in the past few weeks, the economic impact of the coronavirus pandemic is weighing down some higherrisk issuers, increasing strain on muni borrowers and rattling some longtime investors.

U.S. state and local governments borrow from investors in the form of municipal bonds, pledging a range of taxes and fees to repay the debt. But with many businesses shut down, cities and counties are collecting far less in taxes on restaurant meals, hotel stays and car rentals. Meanwhile, states are being forced to distribute hundreds of millions of dollars in unemployment checks to residents from whom they recently collected income taxes.

Adding to the financial pressure in the nearly \$4 trillion municipal-bond market, major public pension fund investments are down by \$419 billion in the first quarter as a result of the virus, according to Milliman, a consulting and actuarial firm. Analysts at the major ratings firms are lowering municipal outlooks by the dozens.

The risk to investors is particularly high for muni borrowers including health-care facilities, charter schools, college dormitories and other projects not backed by wideranging government taxing power. Money managers are predicting increased defaults on these more speculative Several nursing homes, a jail and the Las Ve-Monorail have already warned creditors of repayment trouble.

The deterioration of municipal credit is usually slow, said Adam Stern, co-head of research at Breckinridge Capital Advisors, but the economic impact of the virus has accelerated the process. "It's now a very fast moving train," Mr. Stern said.

One potential tool for addressing the heightened finan-



The Las Vegas Monorail is among muni borrowers that have warned creditors of repayment trouble.

cial stress was brought up last week by Senate Majority Leader Mitch McConnell, who said states should be allowed to seek federal bankruptcy

Many cities and some states have wrestled for years with high annual pension payments underfunded retirement systems. Mr. McConnell, a Republican from Kentucky, cited that costly liability when he expressed on a radio show support for the idea of giving states access to the bankruptcy protection process.

But even cities and counties that have the legal ability to file for bankruptcy are much more likely to react to financial strain by reducing services and other spending rather than cutting payments to bondholders or pensioners, analysts said.

The route to recovery is less clear for riskier bonds backed by highway tolls, college tuitions and other more fickle

revenue streams, which amount to nearly \$1 trillion in outstanding muni debt, according to Municipal Market Analytics.

Investors piled into funds packed with these higher-interest bonds over the past several years as they searched for yield

Several nursing homes have warned creditors of repayment trouble.

and tax-free income, driving up prices. The S&P Municipal Bond High Yield Index has fallen more than 10% since the beginning of March, and some expect the deterioration to continue.

With bond prices under so much pressure, some investors are seeing bargains.

Almeida Investment Man-

agement Chief Executive Andrew Almeida said he purchased an AA rated New York state bond for sale March 23 at a 3% yield. The yield has since fallen to 1.75%. Prices rise as yields fall.

Overall the S&P Municipal Bond Index, which reflects the broader municipal market, has dropped about 4% from where it was at the beginning of March. It was down as much as 10% midway through last but has bounded somewhat thanks to a recovery in some higherrated issuers.

Among less-creditworthy bonds, the payment troubles have already begun.

The Las Vegas Monorail, which suspended service last month because of the coronavirus, received permission from investors to tap reserves on a \$13 million bond issue to cover operating costs. A New Mexico jail reported already dipping into reserves on its \$16 million bond issue to cover bond payments after Immigration and Customs Enforcement stopped transferring immigrant detainees into the facility as part of its virus control. Governments extend their taxexempt municipal borrowing powers to a wide range of projects, including health-care facilities, universities and other ventures thought to confer some public benefit.

Nursing homes, which have billions of dollars in municipal debt outstanding, have been reporting payment trouble as the virus has infected hundreds of residents.

One Florida retirement home cited increased costs for personal protective equipment and meal service as well as trouble attracting new residents in a filing this month announcing that it would be unable to make a scheduled debt payment.

move the carcasses before

they're broken down, said Ron Prestage, president of Prestage

Farms Inc., which raises pigs and runs a processing plant in

Hog farmers also have dis-

cussed setting up temporary

euthanasia sites where pigs

could be killed, according to

people involved in the talks, or

finding empty buildings where

hogs could be herded in and

euthanized with carbon diox-

the carcasses. One is to render

them, producing a low-value

fat to make products like pet

food. Some pork industry offi-

cials have cautioned that the

number and size of carcasses

could overwhelm rendering

plants. Carcasses could also be

composted and used as fertil-

crowding hog farmers are al-

tering hogs' diets and turning

up barn temperatures to simu-

late summertime conditions.

when pigs don't gain weight as

not have room to hold the ad-

ditional pigs, even if they pack

tions are not 100% solutions,

they're stopgaps to hold off

until the markets start again."

said Sherrie Webb, director of

swine welfare with the Ameri-

can Association of Swine Vet-

on fewer pounds.

Many hog producers may

"All of these alternative op-

Meanwhile, to prevent over-

izer.

quickly.

There are few options for

Cyber Risk To Deals

By David Uberti

The coronavirus has thrown deal making into disarray, and cvbersecurity experts say the workplace upheaval caused by the pandemic will complicate mergers and acquisitions when activity picks up. Countless employees are

working remotely on networks that might be vulnerable to attack, while others with access to confidential data have been laid off or furloughed. These developments accentuate cybersecurity issues crucial to good due diligence and business integration, experts say.

More risks hang over every potential deal, said Stacy Scott, managing director of risk-consulting firm Kroll Inc.'s cybersecurity and investiga-tions practice: "Are we buying a breach?"

Office closures have widened openings for cyberattackers as companies have scrambled to expand virtual private networks and other remotework capabilities. Employees' use of personal laptops, mobile phones and printers can also create more security weaknesses.

The scale and speed at which businesses pivoted to remote work could make routine security practices, such as two-factor authentication or use of mobile device management services, more difficult to track internally, said Steven Chabinsky, retired partner of counsel at law firm White & Case LLP.

Would-be buyers will have to validate during due diligence that target companies took proper precautions as they got workers online, Mr. Chabinsky said.

Those security questions extend to the due diligence process itself as more executives and lawyers work from home offices and communicate digitally, said Deborah Golden, U.S. cyber-risk services leader at consulting firm Deloitte

"When you think about the collaboration capabilities that are needed [in due diligence], how do you make sure you're adequately protecting things like data privacy?" Ms. Golden

Layoffs and furloughs at many companies could add risk, said Joe Nocera, a partner in PricewaterhouseCoopers LLP's cybersecurity and privacy practice. Current and former employees were the source of 56% of cybersecurity incidents, according to a PwC survey of executives published in 2018, the most recent infor-

mation available. Coronavirus-related lockdowns forced many businesses to permanently or temporarily revoke employees' access to computer networks with little

planning, Mr. Nocera said. "The idea that [companies] would remove thousands of employees' access to information overnight is something that they've historically not had to do with their security

systems," he said.

Buyers and sellers will have to show that they offboarded employees amid the confusion in a way that protected intellectual property, Mr. Nocera

AUCTION RESULTS

Here are the results of Monday's Treasury auctions. All bids are awarded at a single price at the market-clearing yield. Rates are determined by the difference between that price and the face value.

13-Week

\$176,934,283,200 \$159,119,489,900

(0.150%)

912828ZM5

Applications Accepted bids "noncomp foreign noncomp Auction price (rate)

99.969667 (0.120%)

0.122% 55.63% 912796WY1

0.150%) 0.152% 76.67% 9127962T5

TWO-YEAR NOTES Applications

Accepted bids noncompetitively Bids at clearing yield accepted

Cusip number The notes, dated April 30, 2020, mature on April 30,

The notes, dated April 30, 2020, mature

\$121,431,267,800 Applications \$16,445,400

Accepted bids
"noncompetitively Auction price (rate) Interest rate Bids at clearing yield accepted Cusip number 912828ZL7

Hog Farms Consider Euthanasia

Continued from page B1 With many restaurants closed, suppliers have been able to repurpose some restaurantbound products for grocery store meat cases. But many cuts and varieties ordinarily sold in bulk quantities can't be packaged for sale in stores.

Farmers acknowledge that nearly every pig they raise is bound for slaughter, but with a purpose—to produce food. Seeing animals they have spent months raising only to be destroyed and rendered or buried takes a deep emotional and financial toll, farmers said.

National grocers like Walmart Inc. and Costco Whole**sale** Corp. have been planning for meat supplies to run short, The Wall Street Journal reported last week. House Agriculture Committee Chairman Collin Peterson (D., Minn.) warned Monday that pork shortages could hit U.S. grocery stores next week, according to CNN.

"It's like building a brandnew home, and knocking it over once it's built," said Brady Reicks, whose family raises about 1.3 million hogs a year in



Farmers have discussed setting up temporary euthanasia sites. A hog farm in Illinois,

Pig producers said they generally have a bigger problem than chicken farmers and cattle ranchers. Poultry production largely is managed by major companies like Tyson, Pilgrim's Pride Corp. and Sanderson Farms Inc., which can reduce supplies by breaking eggs rather than hatching them. Cattle can be kept on pasture longer, and don't gain weight as fast as hogs do.

The USDA's Animal and Plant Health Inspection Service said Saturday it would set up a national center to work with

farmers hit by processingplant closures. The center will work with state officials to find other markets for livestock and poultry, or advise and help with euthanasia and disposal, the agency said. The USDA plans to draw equipment and supplies from its national veterinary stockpile, as the agency did in 2015 when more than 50 million chickens and turkeys were destroyed as the poultry industry worked to contain avian influenza outbreaks.

Mr. Naig, along with Iowa Gov. Kim Reynolds and the

state's U.S. senators, wrote to Vice President Mike Pence Monday to request further federal help in carrying out euthanasia on farms and in closed meatpacking plants. The letter also asked that farmers be compensated for hogs they had to destroy and requested mental health support for farmers.

try officials said.

Running slaughtering lines at closed pork plants, then trucking carcasses to rendering plants or landfills, could be one option, farmers and indus-

Some plants, though, aren't set up to kill livestock and re-

house, where he has been riding "A firm that philosophically

Companies' obligations to

the health of their workers, communities and other stakeholders is a hot topic these days. The Business Roundtable, a group of leading CEOs, last year said corporations have a duty to society Those stated priorities have

been tested in recent weeks. The pandemic has forced millions of layoffs and furloughs and called into question billions of dollars spent on stock buybacks by com-19th-century Delaware farmpanies now seeking federal aid.

With a razor-sharp pen and a sometimes caustic charm, Mr. Strine became the closest thing to a celebrity in the buttoned-up world of corporate law. He once called fashion designer Tory Burch's divorce, which had sparked a battle for corporate

Mr. Strine said he expects to continue teaching at Harvard University and the University of Pennsylvania, where he finished out the remainder of his corporate-law class this semester over video. He said he would abide by an unspoken practice of former judges to limit their

ways did," he said.

Jurist Who Molded Business Law Joins Top Firm

By Liz Hoffman

Leo Strine Jr., the sharptongued former head of Delaware's influential business court, is joining corporate-law giant **Wachtell**, **Lipton**, **Rosen**

Mr. Strine, 56 years old, will advise Wachtell's clients on mergers, litigation and other matters. He retired last fall as chief justice of the Delaware Supreme Court, a position he held for five years following a lengthy stint on the state's influential business court.

Delaware's courts play an outsize role in corporate governance because most big U.S. companies are domiciled in the state. White-shoe law firms including Paul, Weiss, Rifkind, Wharton & Garrison LLP and Wilson Sonsini Goodrich & Rosati have quickly snapped up their retiring judges.

Though quick to chide corporate boards that stepped out of bounds—and hand down sometimes expensive punishments-Mr. Strine mostly defended the rights of chief executives to manage and sell their companies without being second-guessed. Through a series of rulings over 20 years on the bench, he pushed a standard of review for mergers and other corporate actions that gives boards wide leeway.

No law firm is more identified with rousing corporate defense than Wachtell. The legal memos of its senior partner, Martin Lipton, are stirring defenses of CEOs and screeds

against activist investors, hostile



business court and Supreme Court.

acquirers and the temptations of short-term management. "Corporations have a big influence on society and with that influence comes big responsibility," Mr. Strine said from his out the coronavirus lockdown with his wife, college-age sons and springer spaniel puppy.

believes companies have a duty to be good contributors to society is a comfortable fit for me."

look past their stockholders to beyond maximizing profits.

control, a "drunken WASP fest."

courtroom appearances.

"If I wanted to keep going to court all the time, I'd just as soon come out in a robe and face the same direction I al-

Hopes for Reopening Economy Lift Stocks

betting that stimulus measures and the easing of coronavirus-lockdown measures around the world could help kick-start economic activity.

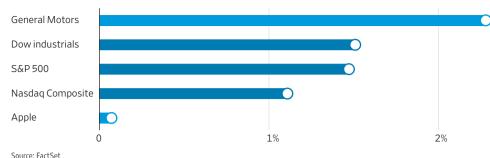
> By Anna Isaac, Xie Yu and Akane Otani

Some U.S. states allowed retailers, salons and other businesses to reopen over the weekend as new infections appeared to slow. To investors, the moves offered a tentative sign of hope—although many caution that the trajectory of the pandemic re-

MONDAY'S mains highly un-**MARKETS** certain.

"We don't yet know the full scale and the pace of lockdowns being eased, but it's important for confidence," said Edward Park, deputy chief investment officer at Brooks Macdonald. "Suggestions that factories will restart sooner rather than later suggest that the pressure on economic output in the data we've seen will be a shorter-lived phenomenon."

Share-price and index change, Monday



The Dow Jones Industrial Average gained 358.51 points. or 1.5%, to 24133.78. The S&P 500 added 41.74 points, or 1.5%, to 2878.48 and the Nasdaq Composite advanced 95.64 points, or 1.1%, to 8730.16.

Signs of the coronavirus pandemic's financial toll rippled across markets.

General Motors shares rose 50 cents, or 2.3%, to \$22.45 after the company said it was suspending its dividend and share-repurchase program as part of an effort to conserve cash.

Apple missed out on much

of the broader market's gains following a report that it was pushing back a ramp-up in production of new iPhones by about a month. The pandemic has dented

consumer demand for several products, as well as disrupted supply chains across the world. Shares of Apple ended the day up 20 cents, or 0.1%, to \$283.17 after trading lower earlier.

Later this week, investors say they will focus on the Federal Reserve and European Central Bank's meetings. Recent economic data and forecasts from many countries

Monthly issuance of

structured retail products

\$7 billion

have been weak, prompting policy makers to take steps and allocate huge sums to support businesses and individuals whose finances have taken a hit.

"Normally when you have a recession, there are a number of factors that are reining in credit and stimulus and that's not the case here," said Mark Haefele, chief investment officer at UBS Global Wealth Management.

U.S. companies—including Amazon.com, Apple and Facebook—are also scheduled to report first-quarter results in the coming days. They are likely to provide insights on how leaders of the biggest American businesses view prospects for the rest of the year. But the pandemic has made earnings forecasts even less reliable than normal, analysts and investors said.

Elsewhere, European markets climbed as countries including Italy and Spain signaled that they may loosen restrictions in the coming weeks. The pan-continental Stoxx Europe 600 rose 1.8%.

Italy unveiled a timetable for reopening its economy and restoring daily life beginning May 4 but warned that a resurgence in cases could lead to a return of restrictions. Spain allowed children to leave their homes after six weeks under one of the strictest lockdowns in the world.

Concerns about sovereign debt from Europe's most debtladen countries also showed signs of easing. Italian, Spanish and Greek bonds rallied after S&P Global Ratings on Friday held off on downgrading Italy's credit rating.

"Markets at the tail end of

Yield on 10-year Treasury

1.25

1.00 0.75

0.50

\$50 billion

Issuance of auto

asset-backed securities

Subprime Prime

last week were fixated on European political risk, and a run on debt markets triggered by a downgrade for Italy," said Mr. Park. "The lack of a downgrade offers some breathing space."

In Asia, Japan's Nikkei 225 stock index ended the day up 2.7%. The Bank of Japan scrapped its target for government-bond purchases and said it would nearly triple its holdings of corporate debt to aid fundraising by companies affected by the coronavirus pandemic. At midday Tuesday in Tokyo, the Nikkei 225 Stock Average was down 0.6%.

The Shanghai Composite closed 0.3% higher Monday after China's statistics bureau released data showing that industrial companies' profits in March were down 35% from a year earlier, a slight improvement from the 38% pace of decline in January-February. The benchmark was down 0.4% early Tuesday, while Hong Kong's Hang Seng Index was up 0.3%. S&P futures were 0.3% lower. The dollar was up at ¥107.30.

Esoteric Securities Shake Off Worries About a Recession

BY GUNJAN BANERJI AND JULIA-AMBRA VERLAINE

Investors are snapping up complex securities linked to some of the markets deemed most vulnerable to the coronavirus-driven economic slump, a sign that the yearslong reach for yield has survived the market shock.

Faced with withering share prices and falling yields on safe government bonds, portfolio managers are seeking out returns in an array of strategies that in some instances take them into esoteric corners of the financial markets. One popular spot is the market for asset-backed securities, typically bonds whose payments to investors are generated by the cash flows collected from a large pool of car loans, property leases or other agreements.

Despite worries about a recession, demand for bonds backed by U.S. auto loans has outstripped supply in recent days, bankers and investors said. A \$1 billion bond marketed this month by Santander Consumer USA was sold at yields lower than initially expected, people with the deal said.

In another closely watched deal, **Dell Technologies** Inc. last week sold approximately \$1.1 billion in debt backed by leases on equipment to big and small companies, including computers and servers. Meanwhile, sales of structured products geared toward individuals—including bets on stocks packaged into bonds hit a decade high in March.

The data show that individual and institutional investors remain willing to put money to work, even as uncertainty around the economic impact of the coronavirus pandemic lingers. Many analysts and traders said they have been struck by the extent to which some of these markets appear on the road recovering their full health, just weeks after trading was frozen with the news that many jurisdictions across the U.S. had imposed stay-athome orders and similar mea-

"I'm so shocked that we're here so fast," said Paul Norris, head of structured products at Conning, who oversees \$20 billion in securitized debt. He attributed the rapid bounceback to the Federal Reserve's expansive support for markets, saying he bought asset-backed securities recently because the Fed-inspired rally "created an opportunity for a lot of investors.'

ronment is confounding for many investors, with share prices rebounding even as bond yields remain near record lows and oil prices this month briefly fell below zero. Accordingly, investments that promise higher and steadier returns remain popular.

"That's a constant question from not just individual clients but institutional clients: Where do we go for yield?" said Mark Grant, chief global strategist of fixed income at B. Riley FBR Inc. "People want yield, they want income, they want money coming in.'

Issuance year to date in asset-backed securities stands at \$55 billion, according to JPMorgan Chase & Co. research analysts. That is down from \$77 billion over the same period last year, but the pipeline for more deals is filling up.

The market for assetbacked securities was shut down for nearly four weeks,

beginning in mid-March. That was a shorter period compared with the depths of the financial crisis, when inves-The current market envitors stopped buying securitizations for months.

About \$8 billion of subprime auto debt has been issued so far this year, according to JPMorgan, compared with \$10.1 billion during the same period last year. A total of about \$30 billion was is-

Demand for bonds backed by auto loans outstripped supply in recent days.

mand for the debt outstripped supply, according to bankers at Barclavs who led the deals. They were the first to hit since the pandemic rattled some of the safest corners of debt markets, including Treasurys and high-grade corporate bonds.

The nation's largest usedcar retailer, CarMax Inc., successfully priced bonds a week later. Enrique Mayor-Mora, chief financial officer of Car-Max, said the company was "pleased with investor demand," which allowed it to sell more debt than it had originally planned.

The heavy interest comes even though the market has grown riskier in light of the coronavirus pandemic. Subprime auto debt including some of Santander's is backed by some of the riskiest borrowers with typically lower credit scores.

Santander recently dispayment extension in March, up from roughly 1% in February, according to JPMorgan. Fitch Ratings recently said that its outlook on the autoloan sector has worsened in

light of the coronavirus pandemic.

Investors have also piled into exchange-traded products offering steady income and dividends, FactSet data show, ranging from funds promising consistent stock returns to risky exchangetraded notes offering payouts tied to commodities.

Issuance of structured products geared toward individual investors hit a decade high in March, the most volatile month in the stock market's history, according to industry publication Prospect News.

These types of products are built by banks using derivatives and often end up in the hands of individual investors who receive a future payout based on the performance of such assets as stocks or

In a corner of this market. so-called auto-callable notes have been popular this year, with issuance topping \$13 billion, according to data from mtn-i. A rise in share prices can trigger redemption of the

Oil Prices **Drop 25%** As **Storage** Dwindles

Oil prices tumbled anew Monday, falling near their lowest level since 1999, demonstrating that traders are warv of holding crude amid an expanding global glut.

> By Amrith Ramkumar. David Hodari and Joe Wallace

Monday's slide reversed a rebound from late last week, reflecting skepticism that coordinated supply cuts by the Organization of the Petroleum **Exporting Countries and allies** will prevent the world's oil storage from filling to the brim. Many North American producers are also being forced to curb output and shut in productive wells, but analysts say the moves came too late.

U.S. crude futures for delivery in June slid 25% to \$12.78 a barrel, dropping near a 21-year low from last week. The U.S. price benchmark started the year above \$60.

Traders said Monday's selling showed investors fear a replay of last week when one near-dated futures contract sank below zero.

"No one wants to be the person holding the bag," said Rebecca Babin, senior energy trader at CIBC Private Wealth Management. "They're looking at where storage capacity is and saying it's too close to call.'

In another sign of investors' anxiety about holding neardated futures contracts, United States Oil Fund said in a Monday filing it will sell its positions in the June U.S. crude contract this week and purchase contracts several months in the future. The largest oil exchange-traded fund has roiled markets in recent weeks because it holds a sizable percentage of the near-dated futures contracts.

Before recent changes to the

fund, those contracts would need to be sold each month before expiration and the ETF would purchase the next month's contracts, resulting in heavy selling pressure. That would allow traders to drive down the futures contract the ETF needed to sell and bid up the ones it needed to buy, profiting from the fund's "roll" process each month. The ETF's price has also tumbled-on Monday, it fell 16% to \$2.17.

Analysts are also watching supply cuts to see if they halt the weekslong crash. Starting Friday, globally coordinated cuts in production led by OPEC are set to kick in. Oil-producing nations have agreed to reduce output by 9.7 million barrels a day, approximately 13% of global supply.

Private-sector companies have already begun shutting off the taps. Baker Hughes's closely watched weekly report on drilling activity released Friday showed that the number of active oil rigs in the U.S. dropped by 60 last week to 378-down by almost half since March 13.

Italian Bonds Rally as Country Avoids S&P Downgrade

By Anna Hirtenstein AND ANNA ISAAC

Italian government bonds rallied Monday after S&P Global left the country's sovereign credit rating at two levels above high-yield status, offering a respite to investors concerned about

CREDIT MARKETS how the nation will cope with the economic

damage stemming from the coronavirus pandemic. The vield on Italy's benchmark 10-year bonds slid to 1.747% from 1.903% at Friday's

close. That is sharply lower than its 2.364% close in mid-March, at the peak of the global market turmoil. The extra yield investors demand for owning a 10-year Italian bond over a safer German bond has narrowed to its lowest level in

nearly two weeks. A downgrade into the speculative-grade category, as some investors had expected, could have triggered a selloff in Italian bonds by banks and pension funds that are mandated to hold only high-quality securities. The European Central Bank took steps Wednesday to mitigate such concerns by announcing that it would accept some junk-rated bonds as collateral for its loans. That means banks can continue to use government bonds of Italy or Spain as collateral for ECB loans, even if the countries' credit ratings were downgraded.

Investors hope that the ECB's policy makers will on Thursday offer more details about a widely anticipated recovery fund, or an increase to its €750 billion (\$814 billion) emergency bond-buying program, to support the region during the health crisis.

"We do think that the ECB will increase its purchases. which would be very supportive" for holders of Italian debt, said Seamus Mac Gorain, head of global rates at J.P. Morgan



Italy has Europe's highest death toll from Covid-19. A subway in Milan.

Asset Management. "This will be supporting spreads this week.

While the current program is substantial, it isn't large enough to counter the recession, Mr. Mac Gorain said.

Expectations around addirelief measures prompted a rally in Greek and Spanish government debt as

The yield on Greek 10-year bonds dropped to 2.237% Monday from as much as 3.885% on March 18, with investors anticipating that the ECB may absorb more of the nation's sovereign debt. Greek bonds are newly eligible for the central bank's bond-buying purchases, having been excluded from earlier programs. Yields on Spanish sovereign debt dropped to 0.910%.

Italy has the highest death toll from Covid-19 on the continent, with over 26,600 fatalities, though Spain has recorded more infections, according to data compiled by Johns Hopkins University. Italy was also the first to impose a stringent lockdown on its people, resulting in plummeting economic activity.

While Italy's debt load is poised to increase this year as it raises spending to prop up its economy, the ECB's moves to support the eurozone through the pandemic are acting as a backstop for its cost of borrowing, S&P said. The company maintained its negative outlook on Italian debt, which means a

downgrade is still possible. Moody's Investors Service said last week that it is expecting the economic downturn to be temporary and it shouldn't affect Italy's creditworthiness. The ratings company places Italy two notches above junk status.

closed that there was a sharp uptick in the number of peosued in 2019, near a decade ple seeking payment exten-When Santander and GM commodities. sions on their auto loans. About 7.5% of the loans back-Financial issued bonds backed by auto loans this month, deing its debt had received a



Most wind and solar projects are built by utilities and often funded by institutional investors. A solar farm in China.

Green Energy Won't Slip

Lower costs, incentives made wind, solar less susceptible to crude declines

As oil prices spiked in the late 1970s, then-President Carter installed solar panels on the roof of the White House. Historically, expensive crude spurred experiments to develop alternative energy sources and falling prices reversed the trend. But times have changed and today's ultralow oil prices aren't likely to slow the roll out of renewables.

What matters more today may be regulation. How far governments embed environmental priorities into post-Covid recovery plans is a question facing green-minded investors now.

Oil and renewables aren't direct substitutes. Oil is mostly used for transport and heating while renewables produce electricity. But there are crossover areas. Cars can have batteries or combustion engines; heating can be electric or diesel; and power plants can run on wind, solar, coal or natural gas, which is often a byproduct of oil produc-

Users have a choice upfront, but once they buy a technology, the fuel is locked in. That makes future price expectations more influential

than spot rates. Wind turbines and solar panels were once expensive and experimental, but thanks in part to state subsidies and incentives, their costs are now comparable to fossil fuels, and expected to keep falling.

For oil producers the relationship is more direct: High prices generate cash for pet projects. European oil majors, such as **Royal Dutch Shell** and **Total**, have recently invested billions of dollars in alternative-energy projects to trial how they might make money in the lower-carbon world envisioned by the Paris climate accord. Such funding is now at risk, but fortunately for the wider sector, the major oil companies represent only a fraction of global investment.

Most wind and solar projects are built by utilities and often funded by yield-hungry institutional investors-insurance companies, pension funds and the like. Renewable investments provide an almost bondlike long-term return. Low interest rates ease initial funding costs, running costs are low and the payback is secured through power-purchase agreements with

local governments, companies and

Government incentives were an important support for the industry in the last oil bear market, from 2014 to 2016. Projects can be costcompetitive now without government support, but incentives are still a consideration. Public help will likely be required to roll out electric-vehicle charging networks and the smart electricity grid and power-storage units crucial to letting intermittent renewables generate a greater share of the energy

For renewables investors, there are other risks besides the vagaries of government intervention. New sites can be hard to find—hence the growing popularity of offshore wind farms—power prices fluctuate and buyers must be able to pay over decades. The Covid-19 crisis could make raising debt more expensive, delay projects and clog up international supply chains.

Low crude prices are a recurring disaster for the oil industry. But on its path to maturity the wider renewable sector has developed some immunity. -Rochelle Toplensky

Americans have come to inti-

mately understand hoarding over

and other items have disappeared from store shelves, but it isn't the

phenomenon has appeared in the

exports. Worries about global rice

shortages ensued. The U.S. had

plenty of rice, but people none-

store shelves. An analysis con-

ducted by economists Harrison

Hong, Áureo de Paula and Vishal

Singh found that prices among

reputable retailers were slow to

the merchants didn't want to be

adjust higher, perhaps because

accused of gouging. Higher-in-

theless began to hoard, emptying

In late 2007, India banned rice

the past month as toilet paper

first time in recent history the

'Frac Holidays' Mean Pain for Oil Sector

Falling activity in U.S. shale puts pressure on service companies like Halliburton and Schlumberger

"Tank tops" and "holidays" may conjure up images of a relaxed summer barbecue, but they mean something altogether less pleasant in America's oil patch.

Last week, energy speculators got roasted by the plunge in U.S. oil futures prices to negative \$40 a barrel as they were forced to take a loss rather than accept physical delivery. Those in the industry already were aware that a crunch

Cushing, Okla., the delivery point for U.S. crude futures, was "nearing tank tops" in which its 80 million barrels of storage capacity was exhausted. Producers have been responding with savage cuts to their capital expenditures. A longwatched measure of oil and gas activity, the Baker Hughes rotary rig count, only tells part of the story. As of April 24 it had dropped to 465 in the U.S., down by 526 from a year earlier and 41% lower than the average in the first quarter.

But that rapid collapse actually understates the pullback in activity. Analysts at Citigroup note that the active frac count compiled by research firm Primary Vision is down by a far sharper 73% from the first quarter average. Fracking wells is the last step in releasing oil and gas from shale formations and "frac holidays" are awful news for oilfield service companies like Schlumberger, Halliburton and Baker Hughes on two fronts.

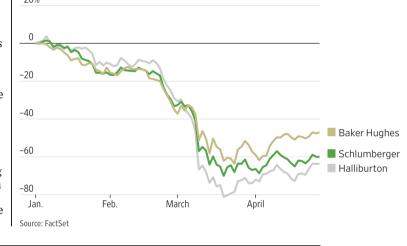
First, it means demand for things like fracking of already-drilled wells has dropped a lot more. For various contractual or business reasons, it sometimes still made sense to go ahead with drilling.

It also means that many of those drilled but uncompleted wells, or "DUCs" will be left idle. These represent supply that could be brought online quickly with relatively modest outlays in the future as soon as prices and demand recover. Before that happens, of course, the world will have to work through massive amounts of stored crude now building up.

The U.S. will feel disproportionate pain in this global glut because of the heavy cash needs of shale production. Service giant Schlumberger said 10 days ago that it expects customer spending to drop by 40% in North America this year and by 15% abroad. People and companies in the U.S. shale patch will have plenty of unwanted leisure time for at least the next several months.

-Spencer Jakab

Share-price performance, year to date



Fortunes Diverge At French Car Makers

The global auto industry hasn't needed special government help in the Covid crisis-until now. Investors are relieved that Renault will get a guaranteed loan, but doubts may follow.

Shares in the French car maker rose 9.9% on Monday after Finance Minister Bruno Le Maire confirmed over the weekend that talks were under way for a roughly €5 billion (\$5.41 billion) government-backed loan. The amount, which is still under negotiation, was slightly more than expected following comments made by interim Chief Executive Clotilde Delbos on Thursday, when Renault reported a roughly €600 million monthly cash burn alongside a quarterly sales update.

Consumer lockdowns have choked off most of the cash flows that car makers need to pay their staff and suppliers. Fortunately, most big manufacturers hit this roadblock with much healthier balance sheets than they had at the onset of the financial crisis 12 years ago, when a shift to small cars during a period of rising oil prices had already eroded profits, particularly in Detroit. Assuming the current trend toward a gradual economic reopening continues, most auto makers can survive on existing cash balances, big bank overdrafts and temporary cost reductions—including those made possible by Europe's subsidies for furloughed workers.

Renault, it appears, is an exception. On a call with analysts Thursday. Ms. Delbos portraved the government loan as a backup facility that it would be foolish to turn down, since it was available. But it is revealing that France's other car maker. **Peugeot**, did turn down the offer. Chief Financial Officer Philippe de Rovira said last week that the company's policy globally was to remain "as free as possible of public dependence."

Unlike Peugeot, Renault has in recent years struggled to generate cash from its own low-margin car sales. Cash has come instead in the form of dividends, both from its own lending division and from its roughly 43% stake in Japanese alliance partner Nissan. Unfortunately, Nissan's problems in the U.S. market, where sales have shifted decisively away from small cars, have forced it to cut its payout.

It was never in doubt that Renault would survive. Mr. Le Maire on Friday evening called the company, in which the French state owns a 15% stake, an "industrial flagship that belongs to our culture, our history." The question for investors is what conditions accompany the government loan. This is where Monday's share-price reaction may end up appearing

Renault stock has long traded at a discount to its industry peers, partly because of the risks of gov-

Accepting a guaranteed loan may not add materially to those risks, but it marks a depressing step in the wrong direction. Peugeot, in which the French government indirectly owns 12%, is evidence that public stakes need not be a barrier to a better stock-market rating. Yet companies do need to make a convincing show of independence.

0.7 times Renault 0.6

19

2015 '16

Source: FactSet

ernment meddling.

–Stephen Wilmot Price-to-sales multiples

government bonds. That might

ing its yield-curve control framecurrently inside the trading band government bonds would be purchased is a mystery.

Yield-curve control was introduced in the first place because the

OVERHEARD



come consumers hoarded more. perhaps because they had greater means, or because they were more attuned to the news on rice shortages.

Similar dynamics are playing out now. Reputable retailers have been cautious about raising prices, while third-party online retailers are charging a bundle. Once again, higher-income consumers seem to be hoarding more. Mr. Hong says his own recent shopping adventures in New York City's Upper West Side bear this out. There are empty shelves at his local Whole Foods, while his corner Gristedes, next to housing projects, remains well

stocked. The rich really are different.

Central Bankers Must Expand Imaginations

The Bank of Japan announced a raft of new policies Monday, as the coronavirus punishes global growth. Unfortunately these initiatives are old wine in new bottles.

Japan is often at the forefront of monetary policy, with a central bank that began experimenting to try to defeat slow growth and low inflation decades ago. But the decisions it made this week show it isn't just the tool kit of the world's central bankers that needs replenishing, but the imaginations of both fiscal and monetary policy makers.

The BOJ said it would purchase an unlimited amount of Japanese once have been seen as a credible commitment to large-scale stimu-

But the central bank isn't changwork, and 10-year bond yields are the BOJ aims for. So why any more

bank's rapacious purchases of bonds were turning a once-active market into an elephant graveyard, where trading volumes had col-

The BOJ also announced an expanded corporate-bond purchase program. That can reduce yields on short-term commercial paper a little but will likely have very limited impact relative to equivalent programs elsewhere.

The risk associated with longerdated Japanese corporate bonds never really rose at all this year. The total increase since 2020 began has meant less than a 0.1 percentage point rise in spreads on the ICE Bank of America Japan Corporate Index, compared with around 1.5 percentage points in the eurozone and 3 percentage points in the U.S.

The BOJ has all but exhausted its space on interest rates. It could cut again by a fraction of a percentage point into further negative territory, but the screams of fragile regional banks whose income has been crushed by low rates would grow louder.

Most of the options left are fiscal, and would require the BOJ to cooperate with the Ministry of Finance, which is inclined toward an austere view of state finances. Japan's 1947 Public Finance Act prohibits direct monetary pur chases of government debt.

Lifting that moratorium would allow the BOJ to engage in the same backstopping of government debt that Finance Minister Takahashi Korekiyo pursued during the Great Depression, or in policies like helicopter money, with direct payments to households financed by the central bank.

Short of such radical moves, it is hard to see what room the Bank of Japan has left to help.

Investors who have claimed central-bank ammunition is exhausted have been wrong-footed in 2020. The Bank of Japan's problem isn't that monetary-policy options are nonexistent. Rather that the current framework—and the imagination required for a new, more radical one—truly is.

-Mike Bird