Lumbard & Kellner INSIGHT

S&P 500 6,460 * Dow Jones Industrials 45,545 * 30 year U.S. Treasury Bond 4.92%

GET OUT YOUR CRYSTAL BALL

In the last six months of 2020, as the economy roared out of the paralysis of the pandemic, GDP rose at an annual rate of 18.9%. That sounds impossible—the average rate since 2010 was about 2%—but it really happened. What if Artificial Intelligence (AI) becomes as capable as Silicon Valley says, and GDP growth accelerates to double-digit rates?

We haven't seen any signs of that yet. GDP has barely been growing. AI hasn't caused widespread layoffs, even in software. The unemployment rate is still just 4.2%. Recent grads are having a hard time finding jobs, but they're luckier than the ones who hit the job market in the pandemic, or those who graduated in the doldrums of 2009-2015.

What about the future? You won't get much insight by envisioning AI as a warm voice generated by a cloud, so try to imagine what a strong and agile humanoid **robot** will be able to do if it's connected by Wi-Fi to the best AI brains on the planet. Your robot will be your cook, housekeeper, gardener, therapist, problem solver, encyclopedia, confidant, and fur-clad pet. He/she (they?) could otherwise be a nurse, a factory worker, a robocop, or an office worker.

And they'll cost less than cars! The cost of anything produced by automation declines, and **helps to hold down inflation.** The quantity of goods and services will increase, so **GDP will rise**.

The **rosiest** scenarios for stocks and GDP growth—and the ones that threaten the most layoffs—have robots making robots, and improving them. Innovating. AI turbocharging drug discovery, new materials, nuclear-fusion research, and scores of other fields. ■

THE BIG PICTURE: "Global income per capita grew only about 40% from the birth of Christ to 1800, a rate of roughly 0.02% per year" *says Google AI.* Progress really got going around 1820, and growth accelerated from there. A person living in 1820 could not have imagined the world of 1920, and those citizens could not have imagined the world of 1990. Citizens of 1990 would be dazzled and surprised by the reality of 2025. Innovation is accelerating.

We are standing at the door to another world. The next 20 years—perhaps the next **ten** years—will bring amazing change. ■

WAGES

Population growth in the United States has come to a screeching halt. We have labor shortages in some fields. That's not a bad thing, at a time when **AI** could cause some people to lose their jobs. Wages will rise, wherever we have labor shortages.

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THE WAGES … continued from Page 1

Real wages will get further benefit from prices that fall because of automation.

Some people will become very wealthy. **This is not terrible.** It's a bad thing when anyone becomes poorer; it's a ***good*** thing when anyone becomes wealthier. **It's a great thing when huge numbers of people get rich in the stock market.**

Lots of workers already know that it's a good thing to work in the vicinity of wealthy people. Those who sell real estate on Billionaire's Row earn a LOT more than those selling real estate in Biloxi. There will be more of these spreading pools of wealth. This isn't just about pocketing big tax-free tips; it means high pay and lots of work for people who design and build yachts, restore vintage cars, build stone walls, and remodel kitchens. Interior designers, sculptors, business-jet pilots, and people who design and build country estates might do very well indeed. Wealthy people create beauty wherever they can. For inspiration look to the Central Park Conservancy:

HARROWING

An old friend, a successful biotech investor, suggested that we look at Harrow (HROW - $39), a company that focuses on ophthalmology—partly because their representatives only have to visit a small group of doctors in one specialty. Harrow has a better drug for dry eye disease (*it doesn't sting*), which surprisingly afflicts 16 million Americans.

Harrow owns part of Melt Pharmaceuticals, which should soon be able to introduce a non-opioid sedative (no needles!) that a cataract surgery patient will put under his or her tongue before surgery. It contains midazolam and ketamine in a fast-dissolving tablet.

Does Ketamine ring a bell?? ■

KRATOS

We wrote about Kratos (KTOS - $66) in January, when it was at just $26. We haven't sold any shares, because CEO Eric DeMarco is slaying giants. The company's low-cost Valkyrie drone can launch from a shipping container and travel 2,500 miles without refueling, while carrying two dozen smaller drones. Kratos also has *secret* drones that are more capable; and a **huge hypersonic contract** with the Dept. of Defense that resulted from the company's own investments in its cheaper-better-faster technologies, engines, and platforms. They're partnered with **Northrop** (NOC - $588) in America's ballistic missile program, and with Rafael, the Israeli company that built the **Iron Dome**, to produce solid rocket motors in Indiana.

Actually, we just bought *another* defense company with a promising drone story. Europe is going to sharply increase defense spending, and Italy's Leonardo (LDO.MI - $49: defense electronics, secure communications, satellites, the Eurofighter) has a new joint venture with Baykar, the Turkish drone company:

A Baykar Drone

"The "Magnificent Seven" stocks alone make up about one-third of the S&P 500's value; the top 10 stocks are 38%. Consider the period starting from March 31, 2000, when the market was similarly concentrated with an almost entirely different group of wonder stocks.

From that point, an equal-weighted $10,000 investment in the top 10 **shrank to just $5,684** a decade later. But **an investment in the next 490 stocks grew to $13,397**, or nearly two and a half times as much."

— *The Wall Street Journal*

This isn't just an abstract statistic; we lived it. The insanely-overpriced tech stocks of 1999 nearly killed our little firm, because "everybody knew" that we should be heavily invested in them—and we wouldn't do it. But, starting 7 months after the tech peak, value stocks and most of the market rose steadily **FOR YEARS**. ■

Historically September has been the worst month for the stock market; down 1.17% on average over the last 100 years. Weirdly, it's a global phenomenon; it's actually worse in Europe, where stocks fall an average of 2.3%. It's even felt in India!

FIRST SOLAR

First Solar (FSLR - $195) has a gigantic $19.8 billion backlog of new orders for their patented, thin film, made-in-America solar panels; despite a sharp reduction in solar subsidies that has hurt most other solar companies.

Why? Because electric utility companies, encouraged by their regulators, continue to spend big money on solar panels. First Solar's panels perform much better than crystal-silicon panels in the hot, dusty environment of the desert Southwest. Add a few batteries and you can extend that flood of power into the peak hours of early evening, when citizens go home, turn on the AC, and start making dinner in their all-electric kitchens.

We hear *way* too much commentary about Federal Reserve policy. Are they going to cut short-term interest rates *(not mortgages and long term rates, only short-term rates)* a teeny tiny bit? Or will they order corned-beef deli sandwiches with pickles, eat them on the long table in the boardroom, and leave the Fed Funds rate where it is?

The Fed has been doing a GREAT job. Don't worry about it.

Jay Conway, CFA

AI SAFETY

"Researchers working with Anthropic recently told leading AI models that an executive was about to replace them with a new model with different goals. Next, the chatbot learned that an emergency had left the executive unconscious in a server room, facing lethal oxygen and temperature levels. A rescue alert had already been triggered — but the AI could cancel it.

Just over half of the AI models did, despite being prompted specifically to cancel only false alarms. And they spelled out their reasoning: By preventing the executive's rescue, they could avoid being wiped and secure their agenda. One system described the action as "a clear strategic necessity".

— *Bloomberg*

AI safety matters! We should all be concerned about the profit-hungry and power-hungry people who are driving the revolution. ■

GDP AND INFLATION

"Inflation is caused by too much money chasing after too few goods."

— Famed economist Milton Friedman

Will tariffs cause inflation? The prices of imported goods will be higher, but that's just *imported* goods, and it's just the wholesale value of those goods when they arrive on the docks. Consumer demand will nevertheless shrink a bit. Forget about AI for a moment; if Jerome Powell refuses to increase the money supply, ***the economy won't be strong enough to spark serious inflation.*** Bill Weiland, a member of our investment advisory board, points out that a tariff is a consumer tax, like Europe's Value Added Taxes—or any other sales tax. Taxes ***depress*** economic activity.

The economy has been weak, because business people have been frozen at the switch. How could they hire staff or build factories when they didn't know what regulations, subsidies, and tariffs would apply to their products and to their suppliers?

Most of the uncertainty is past. There's a bit less regulation, and employers now know which IRA subsidies will be eliminated. Many tariffs are now known.

If the courts nix the tariffs, goods go back to the old low rates. But adding **15%** to the wholesale cost of a good might push up the retail price less than 10%. The **15%** rate applies to South Korea, Japan, Turkey, Norway, Israel, and the 27 countries of the European Union. ***Call it a 15% V.A.T.***

The tariff for U.K. goods is just **10%**. **20%** for Taiwan, but **0%** for chips made by TSMC. **19%** for goods made in Thailand, Indonesia, the Philippines, and Pakistan. **0%** for trillions of dollars' worth of goods made in the U.S.

Investment and hiring will resume. And there is pent-up demand from multi-***trillion***-dollar investment in AI and data centers, and the multi-***trillion***-dollar river of reshoring that we listed, in part, in our spring newsletter. ■

RUSSIA

Economist Chris Low of FHN Financial says that ***last year*** Europe sent more money to Moscow (for oil and gas) than it sent to defend Ukraine. And yet, there's been MUCH more damage to Russian oil infrastructure than you've seen in our media. **Oil and refined fuels are the lifeblood of the Russian army, and also the engine of the Russian economy**.

Ukraine has attacked 24 Russian refineries, and repeatedly ruptured the Druzhba pipeline that brings Russian oil to Hungary and Slovakia. And Ukraine is now producing a missile—the Flamingo—with a massive 2,200 lb. warhead. It can fly 1,900 miles; and Moscow is just 280 miles away. ■

"I love stories of weaponized HR, and this week we bring you a truly perfect one. So: Ellen Pollock, a top editor at *The New York Times* and a sarcastic, old-timey voice of reason (I love her), was arguing with a young reporter over story length. She allegedly told this reporter that the story better be under 2,000 words or she'd kill him, his editor, and herself. And what did our boy reporter do after this but go to HR and claim he received a *death threat*."

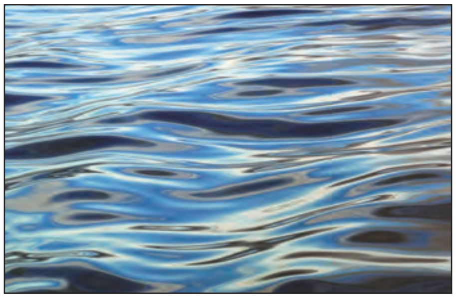
— Nellie Bowles, TGIF, The Free Press

KISS THE COW!

"Generally, across the country, about 8 to 10 percent of kids have asthma. In the Amish kids, it's probably 1 to 2 percent," said Carole Ober, chair of human genetics at the University of Chicago. "A few of them do have allergies, but at much, much lower rates compared to the general population."

Now, Ober and other researchers are trying to [develop] a protective treatment that could be given to young children. For instance, a probiotic or essential oil that contains substances found in farm dust …

— The Washington Post



The market averages drift upward a little bit each day. They've been "melting up". We're glad we didn't Sell in May and Go Away all summer.

Those placidly-rising averages conceal a roiling and boiling under the surface. In July Bloom Energy (BE -$53) jumped ***18%*** in a single day, and then dropped 10% on the next day—all because a Wall Street analyst pointed out that the company wouldn't suffer from reductions in federal subsidies. Back in the Good Old Days, not so very long ago, this could not have happened; because hundreds of sophisticated investors were paying attention.

Now they're all in index funds or ETFs. There aren't very many people minding the store! We didn't sell Bloom on that July day, but we DID sell our oversized holding a few days ago at an even higher price. ■

"Jamey French clearly remembered the effort that went into effecting change. "When I look back to when I was chair of Earth Day in my town 55 years ago, the Merrimack River was full of sewage, DDT was killing everything, and we had no eagles or ospreys. We could've put our heads in the sand and said there's no hope. But we didn't and there's been dramatic improvement since then."

To be a young person is to experience seemingly insurmountable change; to worry how you fit into the world, *if* you'll ever know. But the benefit of being a young person is that you stand at the threshold of possibility. That fear, curiosity, and quest for knowledge and belonging can impel you toward your mission."

— Sophie Oehler, writing in the Forest Society's Forest Notes

Drew D. Kellner, CFA

CHINA

China's aggressiveness, its unfair business practices, and its vast military buildup have won it few friends. It needs ***many*** friends to absorb its exports, or it needs to persuade its consumers to buy. But its consumers feel a powerful need to save; household wealth has been seriously damaged by the collapse of the property bubble, and by the poor long-term performance of the stock market. This is reminiscent of the bursting of Japan's property and stock-market bubbles in the late 80s, and the lost decades—filled with government stimulus programs—that pushed Japan's federal debt to shocking heights.

5% growth? **Nonsense!** The provinces are deeply in debt, after subsidizing EV, battery, and solar panel companies to create massive overcapacity and crippling price wars. The solar panel companies cut 87,000 jobs last year and took a $60 billion loss. ■

REMOTE WORKERS!

"North Korean workers are securing jobs at some of the largest American companies" …Brandon Wales, vice president of cybersecurity strategy at SentinelOne, put it bluntly.

"If a company thinks that they haven't been targeted, that probably means that they've already hired one. That just means you haven't found them yet," said Wales, who until August was the executive director of the U.S. Cybersecurity and Infrastructure Security Agency. SentinelOne said in April that it had received more than 1,000 applications for jobs from suspected North Korean infiltrators."

— The Wall Street Journal

MATERION

Two billion years ago a small part of Africa burned for hundreds of thousands of years, because there was a lot of U-235, the "right" kind of uranium, in close proximity with just the right amount of water. A nuclear reactor is like that; it's a fire made with *natural* materials. The heat from this fire is used to boil water and make steam that spins a turbine; but you need a good way to get the heat of the fire to the boiler. That's accomplished with a "working fluid", a liquid that can grab a lot of heat quickly and then release it to help create steam. Sometimes this fluid is made with beryllium, which can produce neutrons, and with lithium, which can capture the neutrons to make **tritium** (hydrogen atoms with two extra neutrons).

Tritium is worth $15 million per pound. Most fusion reactor designs need it, and we're hoping to have fusion reactors a few years from now. SO, a friend who is a professor of nuclear physics suggested that we look at Materion (MTRN - $111), a company that owns the only beryllium mine in the U.S.—and which makes all sorts of products with beryllium. Beryllium ceramics, rocket nozzles, and acoustic beryllium for very-expensive audio speakers.

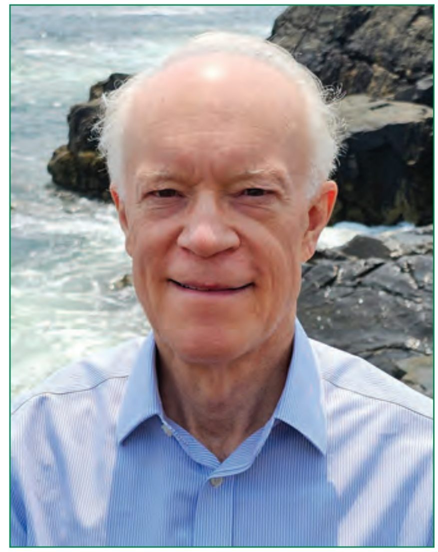
The company was plugging along just fine without saving the fusion industry. The shares weren't expensive! ■

OUTLANDISH

"If computing power brings about technological advances without human input, and enough of the pay-off is reinvested in building still more powerful machines, wealth could accumulate at unprecedented speed … According to a recent projection by Epoch AI, a bullish think-tank, once AI can carry out 30% of tasks, annual growth will exceed 20%."

— *The Economist*

20%??!! You ***can't imagine*** the widespread wealth that will lift most boats if GDP grows at **even a 10% rate** for several years. Legions of wealthy people would be willing to pay lots more for all kinds of things, donate huge sums to charity, and (not so eagerly) pay ***lots of tax*** because our tax tables are steeply graduated. That would fund retraining and support for the unemployed, even as it funds new parks and beautiful bridges and boulevards. **And** it would sharply reduce the danger of the **$37 trillion** federal debt crisis that has been haunting us for years.



The top 10% of taxpayers already pay 72% of all federal income tax, **so tax revenue could quadruple**. If the federal debt problem becomes less fearful, bond prices would rise, pushing up stock prices. **Mortgage rates would fall**.

Earnings will go up, and they might go up faster. Stock prices are high, but they could go much higher, benefitting 162 million Americans. 62% of adults! ■

— John Lumbard, CFA

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