

The CIO Monthly Perspective

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BACK TO THE FUTURE

An era of scarcity's uninvented return

According to Google's Frightgeist website, the most popular costumes for Halloween 2021 were witches, rabbits, dinosaurs, Spider-Man, and Cruella de Vil. For financial markets, I suppose it was a toss-up between Vengeful Fossil Fuels and Sticky Inflation, although investors were not spooked at all, at least for now. The S&P 500 Index shook off its September decline and surged to new highs as if these twin threats would have little negative impact on the economy and corporate profits.

The sudden scramble for fossil fuels, from coal to natural gas, across Europe and Asia not only sent commodity prices higher, but also put the butterfly effect into full swing - the energy crunch is leading to shortages in unexpected places across the supply chain. For example, China, which has a near-monopoly for manufacturing magnesium, has materially cut back this power-intensive production. With magnesium being a key ingredient in aluminum alloys, a decline in China's magnesium exports is threatening the world's aluminum supply, which could disrupt everything from vehicle production to food packaging. The supply crunch has also resulted in hoarding as well as double-ordering, further fueling upward pricing pressure. Higher inflation expectations appear to have become mainstream as the 5-year breakeven inflation rate soared to nearly 3%, the highest levels in this data series going back to 2002. Investors have priced in two rate hikes by year-end 2022, which is likely ahead of the Fed's policy roadmap. It appears that the market is warning the Fed that it is at risk of falling behind the curve on inflation.

Congressional Democrats' ambitious reconciliation bill took some unexpected turns in recent weeks. Much to the chagrin of many progressives, the Build Back Better Act's price tag was trimmed from the initial \$3.5 trillion to \$1.85 trillion, and capital gains, individual, and corporate tax rates will likely not be raised. The credit goes to Arizona's feisty first-term Senator Kyrsten Sinema, whose unyielding opposition to hike individual and corporate tax rates caught her fellow Democrats by surprise. If passed, it would be an early Christmas present to investors as many have expected the corporate tax rate to rise to 25%. However, many companies that paid little in federal taxes on their 2020 earnings will have to pay their "fair" share in the future as there will be a 15% minimum corporate tax rate.

Corporate earnings for the third quarter were mostly better-than-expected, but there were some notable misses due to component shortages (e.g., Apple) and higher fulfillment costs (Amazon). While supply chain disruptions could be viewed as transitory and sales deferred, labor related issues may turn out to be more persistent. Investors have so far stayed with the "glass half full" narrative to position for a Santa rally, assuming the Fed will not play the Grinch by sounding too hawkish.

THE CONSUMMATE OIL MAN

Ahmed Zaki Yamani, better known as Sheik Yamani, was never selected as Time Magazine's "Person of the Year." However, he was the driving force behind the magazine's 1974 selection, King Faisal of Saudi Arabia, for effectuating what the magazine called "the greatest and swiftest transfer of wealth in all history," and the "new reality of Arab power." Behind the façade of a slightly pudgy but charming man with a well-groomed goatee, Yamani was the mastermind who transformed Saudi Arabia into a dominant oil powerhouse and then weaponized it for geopolitical gains.

Born in 1930 into a family of Shariah scholars and religious judges in Mecca, the devout Yamani received a bachelor's degree in law in Cairo and was sent by the Saudi government to study in the U.S., where he earned two master's degrees in law from NYU and Harvard. Upon returning home in 1956, he founded the country's first private law firm and became an advisor to the government. In 1959, Crown Prince Faisal invited Yamani to be his legal advisor as he was impressed with the young man's negotiation skills. In 1962, the 32-year-old Yamani was named the oil minister even though he had never worked in the industry. In 1964, Faisal became the king after winning a power struggle that forced his half-brother Saud to abdicate.

When Yamani became the Saudi oil minister, the country was saddled with debt and its oil interests were controlled by the predecessors to Exxon Mobile and Chevron. Yamani led the negotiations to increase the Saudi government's control of oil interests and pursued an expensive strategy of investing in spare production capacity that would enable the country to quickly ramp up and down output, thereby increasing its influence on the market and prices.

When the Yom Kippur War broke out in October 1973, Yamani convinced several members of OPEC to cut back oil production and raise the price of crude oil from \$3 per barrel to \$5.12 to punish Western countries who supported Israel. The oil supply shock triggered a recession in the U.S. that lasted from November 1973 through to March 1975 and sent inflation to double digits. Yamani became the public face of the oil embargo and was reviled by people who had to deal with gas rationing and lines that were hours-long. However, he was a hero at home as oil prices had surged to nearly \$12 per barrel by the time the oil embargo ended in March 1974. Yamani then went against other OPEC countries by pushing for price reductions as he was cognizant that persistently high oil prices would tank the global economy and encourage development of alternative energy sources.

Yamani's charmed life was disrupted by two tragic events in 1975. In March 1975, he was standing next to King Faisal at a reception when his royal patron was assassinated by a nephew who fired two shots into the King's head point-blank. As the royal guards subdued the assassin, Yamani alertly yell for them to spare the prince's life so he could be interrogated. In December of that year, Yamani and several other OPEC oil

Equity Markets Indices ¹	9/30/21 Price	10/31/21 Price	MTD Change	YTD Change
MSCI All Country World	710	745	5.0%	15.3%
S&P 500	4308	4605	6.9%	22.6%
MSCI EAFE	2281	2336	2.4%	8.8%
Russell 2000 ^{®2}	2204	2297	4.2%	16.3%
NASDAQ	14449	15498	7.3%	20.3%
TOPIX	2030	2001	-1.4%	10.9%
KOSPI	3069	2971	-3.2%	3.4%
Emerging Markets	1253	1265	0.9%	-2.1%

Fixed Income

2-Year US Treasury Note	0.28%	0.50%	22	38
10-Year US Treasury Note	1.49%	1.56%	7	64
Bloomberg US Agg Corp Sprd	0.84%	0.87%	3	-9
Bloomberg US Corp HY Sprd	2.89%	2.87%	-2	-73

Currencies

Chinese Renminbi (CNY/\$)	6.44	6.41	-0.6%	-1.9%
Brazilian Real (Real)	5.44	5.64	3.6%	8.4%
British Pound (\$/GBP)	1.35	1.37	-1.6%	-0.2%
Euro (\$/Euro)	1.16	1.16	0.1%	5.7%
Japanese Yen (Yen/\$)	111.3	114	2.4%	10.4%
Korean Won (KRW/\$)	1184	1169	-1.3%	7.6%
U.S. Dollar Index (DXY)	94.23	94.12	-0.1%	4.7%

Commodities

Gold	1757	1783	1.5%	-6.1%
Oil	75.0	83.6	11.4%	72.2%
Natural Gas, Henry Hub	5.87	5.43	-7.5%	113.7%
Copper (cents/lb)	409	437	6.8%	24.1%
CRB Index	229	238	3.8%	41.7%
Baltic Dry Index	5167	3519	-31.9%	157.6%

Source: Bloomberg

ministers were taken hostage at a conference in Vienna by the notorious Venezuelan Marxist terrorist with the pseudonym Carlos the Jackal.

Carlos and his team of terrorists killed three people, took sixty hostages, and forced the Austrian government to read a communiqué about the Palestinian cause on the radio and TV every two hours to avoid further execution. The next day, the terrorists took 42 hostages on a plane and flew to Algiers. Carlos told Yamani that their final destination was Baghdad, where he and another hostage, Iranian oil minister Jamshid Amuzegar, were to be executed. Yamani and Amuzegar were each handed a piece of paper to write their wills. All the hostages were eventually released a day later, after Saudi Arabia allegedly paid \$20 to \$50 million to Carlos to abort his

plan and spare Yamani and Amuzegar's lives.

After Iran's Islamic Revolution triggered a round of panic buying, recession-induced demand weakness and new supplies of oil from Norway and the North Sea created a glut in the early 1980s. Yamani's gamble on flooding the market with cheap oil to drive out higher cost producers turned out to be an exercise in futility. His reign as the world's most powerful oilman ended in 1986, when he lost favor with King Fahd, the fourth monarch that he had served under.

Yamani went on to leverage his wealth and connections to live a privileged life in Europe. However, he had always kept bodyguards around as he was fearful that the terror mastermind behind Carlos the Jackal would still want him dead. He passed away at a ripe old age of 90 in London this past February. The prodigal son finally returned home as his body was buried in the Al-Mualla Cemetery after a funeral prayer at the Grand Mosque in Mecca.

ENERGIEWENDE - MAKING FOSSIL FUELS HISTORY

In an interview in 2000, Yamani had said, "The stone age did not end because the world ran out of stone, and the oil age will end long before the world runs out of oil." It was a bold statement at the time as renewable energy was not yet commercially viable and crude oil was abundant and dirt cheap – oil was stuck in a two-decade slump with prices well below its 1981 peak of \$39 per barrel. A few years later, however, rising demand from emerging markets and slowing production growth from mature oil fields led to an epic price surge that lifted crude oil briefly above \$140 per barrel in July 2008. While oil prices subsequently collapsed to the mid-\$30s as a result of the Great Financial Crisis, they later managed to climb above \$100 per barrel by 2011 due to continued demand growth from emerging markets, especially China.

The combination of the U.S. shale energy boom and improved energy efficiency finally brought the price of crude oil below \$100 per barrel for good since August 2014. Many developed countries also started a concerted effort to accelerate the transition to renewable energy as a response to climate change. Germany was especially aggressive in its energy transition, or *Energiewende*, as it sought to decommission all of the country's nuclear power plants by the end of 2022. While nuclear power is considered carbon-free, the Fukushima accident in 2011 has given enormous popular support to Germany's anti-nuclear movement, which dates to the 1970s and is one of the driving forces behind the rise of the Green Party.

The transition to renewable energy was also supported by major developing countries such as China and India, as many of their metropolises are frequently blanketed with fog-like smog in the winter. Since the middle of the last decade, local Chinese officials were given renewable energy quotas, and the government has even shut down some older, highly polluting coal-fired power plants. However, while China boasts having

cut the share of coal in the country's power generation from 68% in 2012 to 57% in 2020, it has continued to build new coal-fired plants to meet its growing energy needs. It was estimated that in 2020 alone, China built over three times as much new coal power capacity as the rest of the world.

This global transition to cleaner energy has marked the beginning of the decline for coal, the earth's most abundant fossil fuel. While the U.S. does not have a national energy transition plan like Germany, many utilities seized on the rising supply of natural gas from the shale energy boom to replace coal. It led to a wave of bankruptcies among coal producers during the second half of the last decade. COVID-19 dealt another blow to the fossil fuel industry as the synchronized global lockdown in the spring of 2020 created so much excess supply that the WTI crude oil price dropped to a closing low of *negative* \$37.63 per barrel on April 20, 2020. Many investors could not get out of oil and gas stocks fast enough, driving the weight of the energy sector to just 3% of the S&P 500 Index in the autumn of 2020. The bearish sentiment on fossil fuel was so pervasive that *Sierra Magazine* declared "The End of Oil is Near" on its September/October 2020 cover, and the December 5th issue of *The Economist* featured the caption, "Making coal history" on the cover page.

REVENGE OF FOSSIL FUELS

In July 2021, British media started warning that a shortage of heavy goods vehicle (HGV) drivers could cause supplies of food and goods to run short. By mid-September, some people suddenly became concerned that there could be a shortage of gasoline. When the media reported long queues and sporadic fights at petrol stations, it triggered panic buying of gasoline across the U.K., reminiscent of the days of gasoline rationing courtesy of Sheik Yamani's 1973-74 oil embargo. The shortage became more pronounced between September 23rd and 29th, after BP announced that it was forced to temporarily close some petrol stations due to a shortage of truck drivers. The situation was finally brought under control after the government dispatched military personnel to drive fuel tankers and to provide logistical support.

While the media spotlights were fixated on the U.K.'s petrol stations in September, more serious energy shortages started to surface across China, India, and Europe. Due to a combination of stronger-than-expected power demand and regulatory restrictions on coal burning, utilities in China and India suddenly found themselves in serious shortages of fossil fuels. China reacted with rolling blackouts across half of the country's provinces followed by aggressive purchases of fossil fuels from overseas markets and targeted liftings of electricity price caps. In India, half of its power plants had less than three days' worth of coal inventory at the end of September, prompting the government to order Indian coal miners to boost production. In Europe and the U.K., below average natural gas inventory, as a result of a cold winter in early 2020 and a drop in wind power generation, led to panic buying of

natural gas. These sudden scrambles for fossil fuels have sent energy prices soaring. Chinese and Indonesian coal prices have surged as much as 190% and 215%, respectively, since the start of the year while European natural gas prices have gone up by 6-fold in early October. Crude oil prices have also risen to the mid-\$80s per barrel, the highest levels in seven years.

THE ERA OF GREENFLATION

These synchronized energy crunches are partially a result of aggressive decarbonization policies and years of underinvestment in fossil fuels. While the transition to renewables is critical in fighting climate change, policymakers might have underestimated the complexity of this undertaking and the geopolitical ramifications.

There are valid reasons for why it is so hard to wean the world off conventional fossil fuels - they are high in energy density (the amount of energy per unit of volume), easier to store, and less costly. The modern industrialized world would not have been realized if not for these highly efficient but unfortunately carbon-intensive fuels. The transition to renewable energy is thereby more costly - or inflationary - and at times less dependable if Mother Nature fails to cooperate. Unfortunately, the energy crunch in Asia and Europe will result in, at least for the coming winter, the worst possible environmental and economic combination - greater consumption of highly polluting coal, and punishingly high energy prices at a time when inflation has already been pushed up by pandemic-induced disruptions and stimulus-fueled demand. Higher energy prices work like an insidious tax hike that takes a toll on the disposable income of households. Manufacturers will be confronted with rising input costs and will pass some of them along to consumers in the form of price hikes. As a case in point, with natural gas as the main input for fertilizer production, the Green Markets North America Fertilizer Price Index has hit record highs, which will likely push food prices even higher.

While some of the vulnerabilities of renewable energy were exposed by this energy crunch, the transition to cleaner energy is irreversible. Higher fossil fuel prices will make it easier to cost-justify the transition. What is unclear is how much China and India will defy international pressure as they reconsider the role of coal in their national energy security. I suspect they will wind up adopting more natural gas as well as nuclear energy as viable transition fuels. Indeed, nuclear energy is likely to gain more acceptance as a zero-emission and reliable energy source. Some in Germany are asking the government to reconsider the plan to decommission all of the country's nuclear power plants by the end of 2022. Greater overseas demand for natural gas should be a positive for U.S. shale players, assuming they can continue to ramp up production even under more onerous regulations.

The geopolitical winners, at least in the short to intermediate

terms, are Russia and OPEC. Russia, as the main natural gas supplier to Europe and China, has the strongest geopolitical sway. Russia is already capitalizing on Europe's desperate need for gas to force a quick approval of the controversial Nord Stream 2 gas pipeline, which was opposed by the U.S., Ukraine, and several other Central and Eastern European countries. Chancellor Merkel's idealistic *Energiewende* has unwittingly made Germany a near-vassal state of President Putin. Saudi Arabia's de facto ruler, Crown Prince Mohammed bin Salman - whom the Biden Administration had snubbed in early 2021 - can now leverage the country's spare oil production capacity in dealing with the White House, which needs OPEC's help in capping gasoline prices going into the mid-term election. Higher oil prices might also embolden Iran to be more intransigent in the nuclear negotiation.

While crude oil prices could conceivably spike above \$100 per barrel if we are hit with a colder-than-usual winter, the important thing to monitor is the black gold's futures curve, or prices for future delivery dates going out several years. Crude oil is currently priced to drop below \$60 per barrel beyond 2025. OPEC and Russia will likely try to adjust their supply to realize higher price equilibria where they can extract sufficient economic rent without driving their customers to accelerate the transition away from fossil fuels. They are unlikely to appreciably increase their capital spending as part of their existing reserves are already at risk of becoming stranded assets down the road. As such, their free cash flow could be quite impressive in the near to intermediate terms.

THE LABOR CRUNCH

Since hitting record lows in the summer of 2020, U.S. oil and gas drilling activities have steadily rebounded. However, hiring qualified workers has become one of the biggest issues for oilfield service companies despite generous wage increases. These labor shortages and skill mismatches are endemic across industries and beg the question of whether the pandemic has sustainably swung the bargaining power pendulum in favor of labor over capital.

One contributing factor to the labor crunch is a surge in early retirements driven by a COVID-19-induced "life is too short" mindset and material gains in people's retirement nest eggs. It's estimated to have accounted for roughly 1.7 million experienced workers bidding *sayonara* as the labor participation rate among people 55 years old and above has dropped from 40.3% in February 2020 to 38.6% in September 2021. Another factor may be childcare related as some parents would prefer to stay home with their kids rather than leaving them at daycare centers or with nannies during the pandemic. Generous jobless benefits - the extra \$300 weekly payment - had likely played a role as well.

The tight labor market has led to higher voluntary turnover, as the employee quit rate has hit a record high of 2.9% in August (the data goes back to 1999). This 2.9% quit rate is a monthly

figure; it implies nearly 35% voluntary turnover on an annual basis, which is a serious problem for employers.

With the generous jobless benefits having expired in early September, the tight labor market should start to see some relief in the coming months. However, the vaccine mandate from the Biden Administration and various state and local authorities could create another round of labor crunches. Federal employees and government contractors are mandated to be fully vaccinated by November 22nd and December 8th, respectively. The Occupational Safety and Health Administration (OSHA) has been directed to draft rules requiring companies with more than 100 employees to mandate coronavirus vaccinations or weekly testing.

The reaction to the vaccination mandate has been quite varied by geography (blue vs. red states), industry (white collar vs. manufacturing), as well as income and education strata. The healthcare and technology sectors are more accepting of the mandate, while manufacturing companies are most reluctant. Lower-income workers are less likely to support the mandate than high-paid professionals. However, most companies surveyed are concerned that instituting a vaccine mandate will lead to higher employee turnover.

For some companies, the decision to implement the vaccine mandate may depend on how effectively unvaccinated employees can push back. Southwest Airlines had planned to put unvaccinated employees on unpaid leave after December 8th. However, under pressure from pilots who staged sickouts resulting in thousands of flight cancellations, the company decided to scrap the vaccine mandate. This about-face could embolden employees at other companies to protest against the mandate. While it is estimated that many companies would eventually have more than 90% of their employees vaccinated, losing a low percentage of their workforce due to noncompliance will still create operational and logistical issues in the upcoming busy holiday travel and shopping season.

Another potential complication with the work environment is the vaccine's fading efficacy. The Pfizer/BioNTech vaccine's efficacy is shown to decline to mid-40% six months after the second dose. That is, the probability of breakthrough infections for people who are double dosed rises over time, although the protection against hospitalization and death remains at around 90%. It means that twice-jabbed individuals around us could be contagious, just like the unvaccinated. If so, what's the point of a vaccine mandate when your vaccinated coworkers with only 40% protection are allowed to roam around the office? I suspect it is just a matter of time before the government defines "fully vaccinated" as having had three shots. In that case, should twice vaccinated individuals who had suffered breakthrough infections be compelled to get another booster shot despite their elevated natural immunity? Should young people who still have 90% protection against hospitalization, but are at risk of getting myocarditis or blood clots as a side effect, be forced to get a third jab? Will employees who had only two shots be let

go? These are complex moral, philosophical, technical, and political questions for policymakers and business leaders to consider, and a one-size-fits-all initiative cannot satisfactorily address all the real-life nuances.

POLITICIZATION OF VACCINES

While COVID-19 will continue to disrupt our supply chain and the labor market in the near term, I am optimistic that societies will adapt and eventually put the pandemic behind us. The world has come a long way in dealing with this public health crisis over the past eighteen months. We now have a better understanding of SARS-COV-2's transmission mechanism and the case fatality rates for different age groups. Our amazing scientists have developed vaccines and as well as promising therapeutics, such as Merck's antiviral pills, as well as Regeneron and GlaxoSmithKline's monoclonal antibody therapies. A randomized trial also showed that fluvoxamine, a cheap generic drug used against depression, can reduce the need for hospitalization among high-risk COVID-19 patients.

With the Delta variant wave subsiding in most countries, the normalization of daily activities has resumed. However, the new normal in some countries can be characterized as dystopian since the unvaccinated are shunned as dangerous miscreants. In Italy, the unvaccinated would have to be tested negative at their own expense every 48 hours to keep their government issued "Green Passes" valid. Failure to comply would strip them of their jobs, revoke their rights to use public transportation, and prevent them from entering indoor public venues. New Zealand's prime minister dismissively acknowledged that her country now has a two-tiered society. Some would applaud measures to isolate the unvaccinated on the belief that they are putting societies at risk. Some in the media have characterized the unvaccinated as public enemies or even domestic terrorists. I guess it is easier for some to denigrate the unvaccinated by conflating them with right-wing extremists, perhaps not realizing that some ethnic minority groups also have relatively lower vaccination rates.

This "us-versus-them" mindset runs the risk of further damaging our already frail social fabric and could potentially create a segregated underclass with their own shadow markets. Has anyone asked exactly what crimes the unvaccinated are guilty of to deserve ostracization? It seems that many of them are only "guilty" of fears - fears of severe side effects and unknown longer-term damages to their health.

I am sure some of us vaccinated folks have also had varying degrees of fear about the side effects. We *hope* there would be no longer-term issues. After all, the "warp speed" at which these vaccines were developed, tested, and rolled out is unprecedented. At the Milton Institute's Future of Health Summit in 2019, Dr. Fauci thoughtfully said, in response to the suggestion of a new form of flu vaccine, that it would take a *decade*, if the process works perfectly, to demonstrate that the new vaccine is "good over a period of years". So far, it's only

been 18 months since the first group of volunteers received mRNA jabs for COVID-19. So, how can we fault people for worrying about long-term risks in the absence of long-term safety data? It also seems like the government can do a better job in addressing some legitimate concerns. What are the regulators' positions on various Nordic countries' moratorium on the Moderna vaccine for people under 30 due to the risk of myocarditis? Why did OSHA waive a prior requirement that companies with vaccine mandates record and report their employees' adverse reaction to the vaccine? What recourse do people have if they are unfortunately harmed by the vaccine? Reuters recently reported that there is no recourse at this time as COVID vaccine makers have all been indemnified. It's great that these companies are reaping huge financial rewards for their innovations. However, I suspect it would go a long way to ease the fears among the unvaccinated if vaccine makers would voluntarily call for the indemnity to be removed. What liabilities are they worried about if the vaccines are as safe as the government claims?

With all that said, I believe the benefits of the vaccine outweigh the risks and would encourage people to get it. There is no doubt that vaccines have substantially lowered that the odds of hospitalization and death. However, with the case fatality rate at sub-1% and several therapeutics available, COVID-19 no longer looks like a dire emergency that requires forced vaccination, especially with fully vaccinated people being well protected. Of course, it's also reasonable to ask the unvaccinated to shoulder part of the expense should they become hospitalized after contracting COVID-19. In short, there needs to be a compromise to resolve this vaccine mandate issue. Democracy should be about persuasion, not coercion, and societies are better off with more empathy than enmity.

A WINTER OF DISCONTENT

Rising energy costs, supply chain disruptions, labor issues, and the possibility of another cold-weather induced COVID-19 wave will likely lead to a rather unpleasant winter ahead. The energy crunch is so bad that Santa Claus may not even have coal for naughty kids. Inflation has now gone mainstream despite central bankers' insistence on the transitory narrative, which is chipping away at their already thin credibility. The Fed is trapped among the ghost of 1970s inflation, speculative fervor fueled by years of easy money, and an economy built on low rates and high leverage.

While November and December have historically been stronger months of the year for equities, waning fiscal and monetary stimuli coupled with still elevated inflation portend higher volatility after the turning of the calendar to 2022. Such an environment warrants some conservatism, and I believe investors should focus on higher quality stocks with a history of earnings consistency. There are also opportunities arising from the energy crunch. Government spending on and incentives for alternative energy could accelerate, while traditional energy companies will likely generate greater free cash flow in the near to intermediate terms as they are unlikely to materially increase their capital spending.

One puzzling investment phenomenon year-to-date has been the underperformance of precious metals despite growing fears of sustained inflation or even stagflation. The indestructible gold has been the ultimate inflation hedge throughout history. Even today, in the land of hyperinflation, desperate Venezuelans are using hand tools to break shards off gold nuggets to pay for food and services. While cryptocurrencies might have taken the shine off gold, I still expect precious metals and the related mining stocks to gain traction over time, especially if stagflation becomes a bigger potential threat down the road.

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