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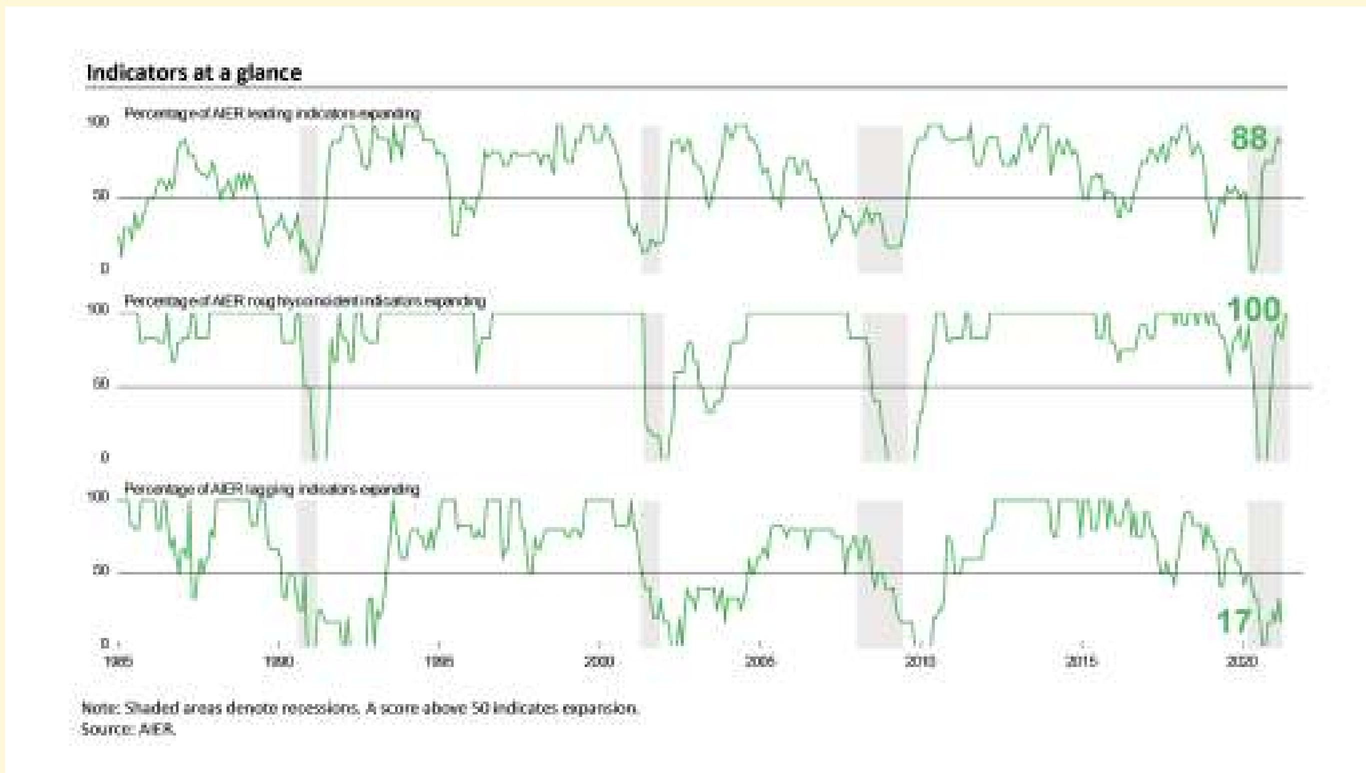
BUSINESS CONDITIONS MONTHLY

Robert Hughes
SENIOR RESEARCH FELLOW

AIER Leading Indicators Index Suggests Continued Economic Growth



Note: Shaded areas denote recessions. A score above 50 indicates expansion.
Source: AIER.

Summary

AIER's Leading Indicators Index posted a slight decline in April, coming in at 88 versus 92 in March. Despite the pullback, the April result marks the eighth consecutive month above the neutral 50 level. The Roughly Coincident Indicators index remained at 100 in April. The back-to-back perfect results for the Roughly coincident Index follow four months between 83 and 92. The Lagging Indicators Index fell back to 17 from 33 in the prior month (see chart). Overall, the latest results for the business cycle indicator indexes suggest continued economic expansion in the months ahead.

The distribution of vaccines and cessation of restrictive government lockdown policies remain the driving force behind the economic recovery. As restrictions are eased, economic activity increases. While risks associated with the spread of Covid-19 (especially as the virus mutates) linger, the economy is on a clear recovery path with broadening economic activity. Other risks in the short term include shortages of materials, rising prices, and lingering logistical issues. Overall, the economic outlook is tilted to the upside.

Leading and Roughly Coincident Indicators indexes remain strongly positive

The AIER Leading Indicators index fell slightly to 88 in April, decreasing by four points from 92 in March. The March reading was the highest level since 2018. The April result is the eighth month in a row above the neutral 50 threshold and suggests continued overall economic expansion in the months ahead.

Among the 12 leading indicators, ten were in a positive trend in April, with just one trending unfavorably, and one trending flat or neutral. The unfavorable trend came from the Treasury yield spread, which was also in an unfavorable trend in March. The neutral trend result came from real new orders for consumer goods. This indicator showed a positive trend in March. Given the strong results from other measures of consumer spending, it is likely this indicator will return to a positive trend in the near future.

Overall, the Leading Indicators index remained above the neutral 50 level for the eighth consecutive month, suggesting continued expansion is likely. Over the last eight months, the leading indicators index has averaged 78.7, the highest level since November 2018. Government policies restricting consumers and businesses are slowly being removed, supporting a recovery in economic activity. However, mutations in the virus that causes Covid-19 could lead to a resurgence of the disease, causing renewed lockdown policies and threatening future growth. Despite the risk, economic activity is strengthening, and the overall economic outlook is tilted to the upside.

The Roughly Coincident Indicators index held at a perfect 100 reading in April with all six individual Roughly Coincident indicators continuing to trend higher. The back-to-back perfect results follow four months of readings in the 83 to 92 range and are the first consecutive perfect result since November-December 2018. The Roughly Coincident Indicators index has been above the neutral 50 level for seven consecutive months, posting an average reading of 85.7, the highest since May 2019.

AIER's Lagging Indicators index dropped to a 17 reading in April, down from 33 in March and matching the February reading. The Lagging indicators index remains well below the neutral 50 threshold posting 12 consecutive months below 50, with the last 11-months at 33 or less including back-to-back readings of zero in September and October 2020. The average over the last 11 months is 18.9, the weakest 11 month run since October 2010. Just one indicator changed trend in the latest month: the composite short-term interest rate indicator, dropping to an unfavorable trend from a favorable trend. Overall, five indicators were trending lower, one indicator was trending higher, and none were in a neutral trend.

U.S. Economy Posts Widespread Gains in the First Quarter

Real gross domestic product increased at a 6.4 percent annualized rate in the first quarter, up from a 4.3 percent pace in the fourth quarter. Over the past four quarters, real gross domestic product is up 0.4 percent, but the level is still 1.5 percent below the pre-pandemic trend and 0.9 percent below the fourth quarter 2019 peak.

Real final sales to private domestic purchasers, a key measure of private domestic demand, rose at a very robust 10.6 percent annualized rate in the first quarter, versus a 5.5 percent pace in the fourth quarter. The rebound still leaves this important measure 1.2 percent below trend but at a record high, eclipsing the previous peak in the fourth quarter of 2019.

Gains were widespread across the different sectors of the economy. Real consumer spending rose sharply in the first quarter, increasing at a 10.7 percent pace compared to a 2.3 percent rate in the fourth quarter. The gain was the result of rises in spending on durable-goods (up 14.4 percent) nondurable-goods (14.4 percent), and services (4.6 percent). Business fixed investment increased at a 9.9 percent annualized rate in the first quarter of 2021. That gain was led by a 16.7 percent jump in spending on equipment and a 10.1 percent gain in intellectual-property investment. Those gains were partially offset by a decline in spending on business structures where spending fell at a 4.8 percent rate, the sixth consecutive decline in a row.

Residential investment, or housing, rose at a 10.8 percent annual rate in the first quarter compared to

a 36.6 annualized gain in the prior quarter. Housing has shown resilience throughout the pandemic as extremely low interest rates combined with widespread remote working policies and the desire by some people to move away from virus epicenters has supported increased demand.

Businesses liquidated inventory at a $85.5 billion annual rate (in real terms) in the first quarter versus accumulation at a $62.1 billion rate in the fourth quarter, subtracting 2.64 percentage points from first-quarter growth after adding 1.37 percentage points in the prior quarter.

Exports fell at a 1.1 percent pace while imports rose at a 5.7 percent rate. Since imports count as a negative in the calculation of gross domestic product, a gain in imports is a negative for GDP growth, subtracting 0.77 percentage points in the first quarter. The drop in exports subtracted 0.1 percentage points. Net trade, as used in the calculation of gross domestic product, subtracted 0.87 percentage points from overall growth.

Government spending rose at a 6.3 percent annualized rate in the first quarter compared to a 0.8 percent decline in the fourth quarter, contributing 1.12 percentage points to growth versus a 0.14-point reduction in the fourth quarter of last year.

Retail Sales Surged to a Record High in March

Retail sales and food-services spending surged 9.8 percent in March, the second sharp jump in the last three months. The strong performance pushes total retail spending to a new record high and well above the most recent nine-year trend. From a year ago, retail sales are up 27.7 percent.

Core retail sales, which exclude motor vehicle dealers and gasoline retailers, posted an 8.2 percent jump for the month, putting that measure at a new record high as well. Core retail sales are up 17.9 percent from a year ago and are also well above the nine-year trend.

The strong performance in March was broad-based across the categories shown in the report with all thirteen major categories reporting a gain in sales. The gains were led by a 23.5 percent jump in sporting goods, hobby, musical instruments and book stores sales, followed by an 18.3 percent surge in clothing and accessories store sales, and a 15.1 percent gain in motor vehicles and parts sales.

April Auto Sales Hit the Highest Level Since 2005

Sales of light vehicles totaled 18.5 million at an annual rate in April, above the 18.0 million pace in March. The April result was the first month above the 16 to 18 million range and the fastest pace since July 2005. Unit sales plunged in March and April 2020 to 11.4 million and 8.7 million annual rates, respectively. The pace of sales in April 2020 was the lowest on record since this data series began in 1976 and follows a run of 72 months in the 16 to 18 million range from April 2014 through February 2020. Recent strength is a positive sign for consumer spending but may also be partially attributed to a potential chip shortage with consumers looking to accelerate purchases before inventories decline and prices rise.

Breaking down sales by origin of assembly, sales of domestic vehicles rose to 13.9 million units versus 13.6 million in March, a gain of 1.7 percent, while imports rose to 4.7 million versus 4.3 million in March, a rise of 7.2 percent. The domestic share came in at 74.8 percent in April versus 75.8 in March.

Breaking down by size of vehicle, April light-truck sales totaled 14.4 million at an annual rate versus a 14.0 million rate in March, a gain of 2.4 percent. Car sales were 4.1 million at an annual rate versus 3.9 million in March, a rise of 5.3 percent.

The light-truck share stood at 77.7 percent for April, completely dominating the car share of 22.3 percent. The dominant share of light-trucks continues a long-term trend. As recently as March 2013, the split between cars and light-trucks (SUVs and pick-up

trucks) was about even, with both segments selling about 7.8 million at an annual rate.

Core Capital-Goods Orders Hit Another Record High in March

New orders for durable goods posted a gain in March, rising 0.5 percent following a drop of 0.9 percent in February. Total durable-goods orders are up 2.4 percent from a year ago. The March gain puts the level of total durable-goods orders at $256.3 billion, the fourth highest on record after the January reading of $257.2 billion, $256.4 billion in September 2018, and the record-high level of $292.4 billion in July 2014.

New orders for nondefense capital goods excluding aircraft or core capital goods, a proxy for business equipment investment, rose 0.9 percent in March after falling 0.8 percent in February, putting the level at $73.2 billion, a record high. This important category had been in the $65 to $70 billion range for several periods over the past 15 years before dropping to $61.3 billion in April 2020. The $61.3 billion pace was the slowest since June 2017. Core capital-goods orders have been above $70 billion for six consecutive months.

Five of the seven major categories of durable goods shown in the report had gains in the latest month. Among the individual categories, primary metals rose 1.2 percent, fabricated metal products gained 3.6 percent, machinery orders added 1.0 percent, computers and electronic products rose 0.5 percent, and the catch-all "other durables" category was up 2.3 percent. The two decliners were electrical equipment and appliances, down 1.5 percent, and transportation equipment, off 1.7 percent. Within the transportation equipment category, motor vehicles and parts gained 5.5 percent while nondefense aircraft fell 46.9 percent and defense aircraft dropped 20.2 percent.

The report on durable-goods orders highlights the strength of the business sector. While government lockdowns have caused extraordinary damage across the economy, as government restrictions are eased, signs of recovery have grown stronger. The manufacturing sector (along with housing) is one of the more robust areas and capital spending reflects that strength.

April Manufacturing Survey Suggests Strong Demand, Materials Shortages, and Rising Prices

The Institute for Supply Management's Manufacturing Purchasing Managers' Index eased back to 60.7 in April, a decline of 4.0 points over the 64.7 percent result in March. April is the eleventh consecutive reading above the neutral 50 threshold. Over the past 11 months, the Purchasing Managers' index has averaged 58.1, the highest since January 2019. The survey results suggest that the manufacturing-sector recovery continues to gain momentum.

Among the key components of the Institute for Supply Management's most recent survey, the New Orders Index came in at 64.3 percent, down 3.7 percentage points from 68.0 percent in March. The New Orders Index has been above 50 for 11 consecutive months and above 60 for 10 consecutive months. The 10-month average is 64.6, the highest since September 2004. The new export orders index, a separate measure from new orders, rose to 54.9 versus 54.5 in March. The new export orders index has been above 50 for 10 consecutive months.

The Production Index registered a 62.5 percent result in April, down from 68.1 percent in March. The index has been above 50 for 11 consecutive months and above 60 for the last 10 months. The 10-month average is 62.9, the highest since October 2004.

The Employment Index fell in April, losing 4.5 percentage points to 55.1 percent in April. The employment index had been one of the weaker components but has now been above 50 for five consecutive months and six of the past seven months.

The Backlog-of-Orders Index rose again, coming in

at 68.2 percent in April, up from 67.5 percent in the prior month, the highest level since the series began in 1993.

Customer inventories in April are still considered too low, with the index remaining below 50 at 28.4 percent versus 29.9 percent in the prior month (index results below 50 indicate customers' inventories are too low. The index has been below 50 for 55 consecutive months and is the lowest since this index began in 1997. Insufficient inventory may be a positive sign for future production.

The prices index, reflecting what manufacturers pay for input materials, rose to 89.6 in April, up 4.0 points from 85.6 in March and the highest level since July 2008. Rising input costs reflect shortages of materials, often related to production issues as well as logistical and delivery problems.

Supplier deliveries slowed again in April with the index falling slightly to 75.0 from 76.6 but still a very high level.

Housing Starts and Permits Rise in March as Headwinds Grow

Total housing starts rose to a 1.739 million annual rate from a 1.457 million pace in February, a 19.4 percent increase. The March recovery was expected as weather conditions in significant portions of the country were unfavorable in February and significantly depressed activity. From a year ago, total starts are up 37.0 percent.

The dominant single-family segment saw starts rise 15.3 percent for the month to a rate of 1.238 million. After the March rebound, single-family starts are up 40.7 percent from a year ago.

Starts of multifamily structures with five or more units surged 30.0 percent to 477,000 and are up 26.9 percent over the past year.

For housing permits, total permits rose 2.7 percent to 1.766 million in March. Total permits are 30.2 percent above the March 2020 level. Single-family permits were up 4.6 percent at 1.199 million while permits for two- to four-family units added 25.5 percent to 59,000 but permits for five or more units declined 3.6 percent to 508,000.

Home construction has been one of the strongest parts of the economy over the past year and excluding the plunge in activity during the government-enforced lockdowns in early 2020, single-family housing activity has been on an upswing for most of the last decade, recovering from the housing bubble and collapse of the late 2000s. The post-lockdown recovery has been supported by a surge in demand as consumers sought less dense housing.

The surge has also been supported by low mortgage rates with rates falling to multi-decade lows. However, conditions may be starting to change. Mortgage rates have been rising over the past several weeks, moving about 50 basis points higher off the low. Rates are likely to continue drifting higher as economic activity normalizes and market distortions from monetary policy initiatives are removed. Even with a move higher, rates are low by historical comparison.

Another headwind to continued gains in housing activity is rising home prices. Home prices have been rising fairly steadily since the bursting of the housing bubble and increases have accelerated sharply during the pandemic. The combination of rising mortgage rates and rising home prices should act as a powerful headwind to future demand.

New Single-Family Home Sales Jump in March

Sales of new single-family homes rose sharply in March, increasing 20.7 percent to 1.021 million at a seasonally-adjusted annual rate from a 846,000 pace in February. Sales are an astonishing 66.8 percent above the year-ago level. Sales were up in three of the four regions of the country in March with strong double-digit gains in the Northeast, the South, and the Midwest but a 30.0 percent drop in the West. From a year ago, sales are also up in three regions: 78.4 percent in the Midwest, 90.1 percent

in the South, and 108.7 percent in the Northeast, but down 2.0 percent in the West.

While sales of new single-family homes rose in March, sales in the market for existing single-family homes, which account for around 90 percent of total existing-home sales, fell 4.3 percent, coming in at a 5.30 million seasonally adjusted annual rate. From a year ago, sales are up 10.4 percent. The March pace is the ninth consecutive month above the 5 million mark but is down from a recent peak of 6.01 million in October 2020.

The total inventory of new single-family homes for sale was unchanged at 307,000 in March, leaving the months' supply (inventory times 12 divided by the annual selling rate) at 3.6, down 18.2 percent from February and 44.6 percent below the year-ago level. The median time on the market for a new home was unchanged in March, coming in at 3.6 months.

The total inventory of existing single-family homes rose 3.4 percent to 900,000 but is down 31.3 percent from March 2020. The months' supply rose to 2.0 from 1.9 in February.

Outlook tilted to the upside

The U.S economy continues to show significant progress on the path to recovery. The AIER Leading Indicators index posted its eighth consecutive month above the neutral 50 threshold, suggesting continued expansion in coming months. The Roughly Coincident Indicators index posted a second consecutive 100 reading, confirming the strengthening economic recovery.

Easing government restrictions is leading to increasing economic activity. Risks remain, however. Virus mutations could result in a reacceleration of the spread of Covid-19 and spark new government restrictions on consumers and businesses. In the meantime, stronger growth is occurring but some challenges with logistics and shortages are pressuring prices. Overall, the outlook is tilted to the upside.

CAPITAL MARKET PERFORMANCE

(Percent change)

	April	Latest 3M	Latest 12M	Calendar Year 2020	2019	2018	Annualized 3-year	5-year	10-year
Equity Markets									
S&P 1500	5.1	12.8	45.5	15.8	28.3	-6.8	16.1	15.0	11.7
S&P 500 - total return	5.3	13.0	46.0	18.4	31.5	-4.4	18.7	17.4	14.2
S&P 500 - price only	5.2	12.6	43.6	16.3	28.9	-6.2	16.5	15.2	11.9
S&P 400	4.4	16.5	65.5	11.8	24.1	-12.5	13.3	13.3	10.4
Russell 2000	2.1	9.3	72.9	18.4	23.7	-12.2	13.7	14.9	10.1
Dow Jones Global Large-Cap Index	4.1	8.5	41.3	14.7	23.8	-10.4	11.4	14.5	7.0
Dow Jones Global Large-Cap ex-U.S. Index	2.5	4.9	38.9	8.8	18.2	-15.7	4.7	10.0	2.1
STOXX Europe 600 Index	1.8	10.5	28.6	-4.0	23.2	-13.2	4.3	5.1	4.4
Bond Markets									
iShares 20-plus Year Treasury Bond ETF	2.4	-8.8	-16.9	16.4	11.5	-4.2	5.2	1.4	4.0
iiShares AAA - A Corporate Bond Fund	0.8	-3.0	-1.2	7.1	9.1	-5.2	3.5	1.1	NA
Commodity Markets									
Gold	3.9	-4.7	3.9	24.8	18.7	-1.7	10.5	6.5	1.4
Silver	7.8	-5.6	68.7	46.8	16.7	-8.3	16.5	7.7	-6.1
Refinitiv CoreCommodities CRB total return index	8.0	14.7	70.6	-9.3	11.8	-10.7	1.0	2.8	-5.4

Sources: Barrons, Dow Jones, Frank Russell,
iShares, Standard & Poor's, STOXX Europe 600, Refinitiv.

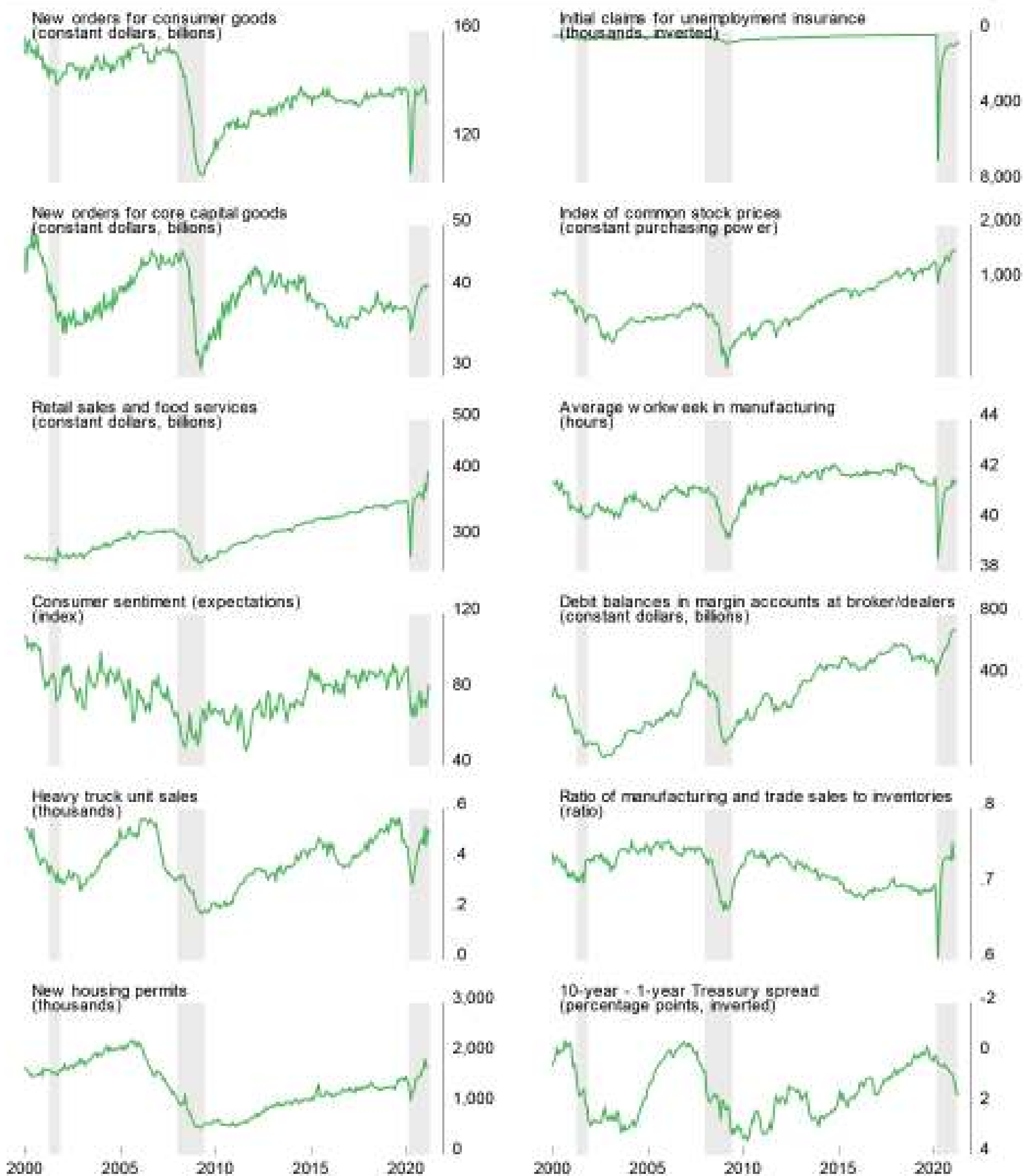
CONSUMER FINANCE RATES

(Percent)

	April	Latest 3M	Latest 12M	Average for Year 2020	2019	2018	Average over Period 3-year	5-year	10-year
30-yr. fixed mortgage	3.1	2.9	3.0	3.1	3.9	4.5	3.8	3.8	3.9
15-yr. fixed mortgage	2.4	2.3	2.4	2.6	3.4	4.0	3.2	3.2	3.2
5-yr. adjustable mortgage	2.8	2.8	3.0	3.1	3.6	3.8	3.4	3.3	3.1
48-month new car loan	5.2	5.2	5.1	5.1	5.4	5.0	5.2	4.9	4.8

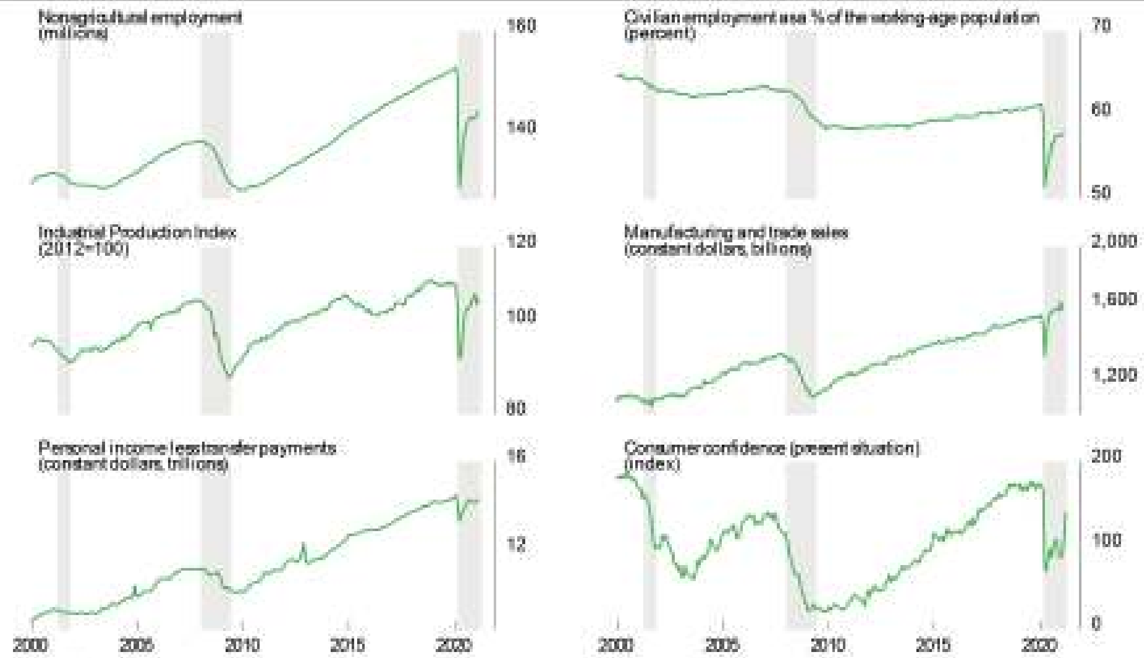
Sources: Bankrate, Federal Reserve.

LEADING INDICATORS (2000-2021)



Note: Shaded areas denote recessions.
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, The conference Board, Census Bureau, Department of Labor, Federal Reserve, Institute for Supply Management, Standard & Poor's, AIER (Refinitiv).

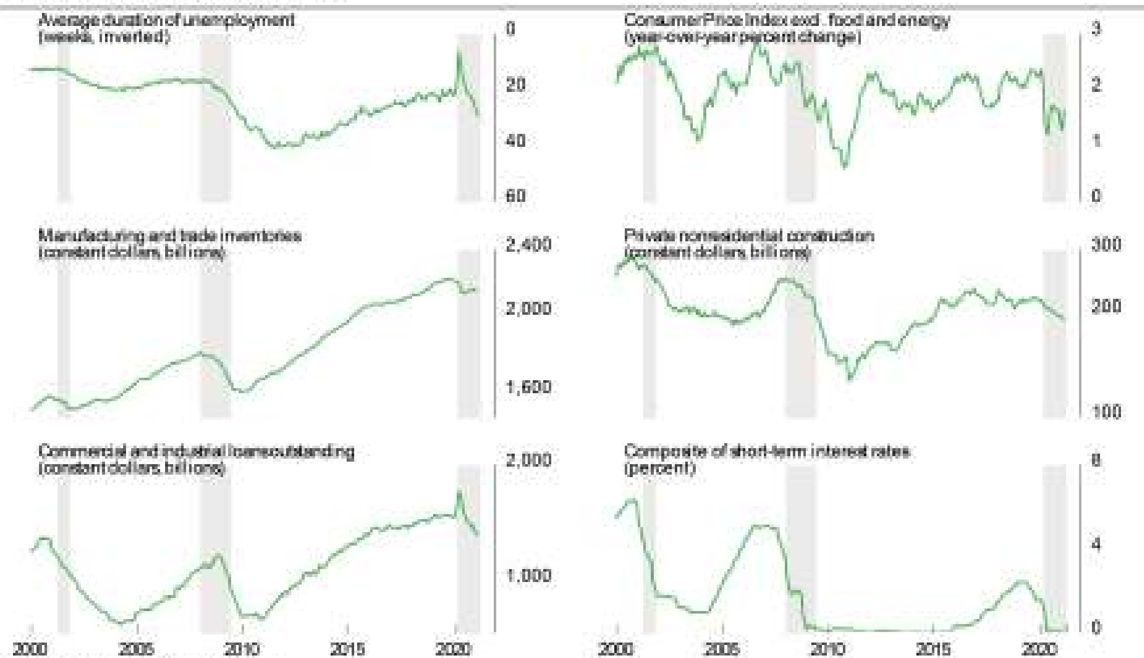
ROUGHLY COINCIDENT INDICATORS (2000-2021)



Note: Shaded areas denote recessions.

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, The conference Board, Census Bureau, Department of Labor, Federal Reserve, Institute for Supply Management, Standard & Poor's, AIER (Refinitiv).

LAGGING INDICATORS (2000-2021)



Note: Shaded areas denote recessions.

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, The conference Board, Census Bureau, Department of Labor, Federal Reserve, Institute for Supply Management, Standard & Poor's, AIER (Refinitiv).

The Failure of Imperial College Modeling Is Far Worse than We Knew

PHILLIP W. MAGNESS

Senior Research Fellow

Afascinating exchange played out in the UK's House of Lords on June 2, 2020. Neil Ferguson, the physicist at Imperial College London who created the main epidemiology model behind the lockdowns, faced his first serious questioning about the predictive performance of his work.

Ferguson predicted catastrophic death tolls back on March 16, 2020 unless governments around the world adopted his preferred suite of nonpharmaceutical interventions (NPIs) to ward off the pandemic. Most countries followed his advice, particularly after the United Kingdom and United States governments explicitly invoked his report as a justification for lockdowns.

Ferguson's team at Imperial would soon claim credit for saving millions of lives through these policies – a figure they arrived at through a ludicrously unscientific exercise where they purported to validate their model by using its own hypothetical projections as a counterfactual of what would happen without lockdowns. But the June hearing in Parliament drew attention to another real-world test of the Imperial team's modeling, this one based on actual evidence.

As Europe descended into the first round of its now year-long experiment with shelter-in-place restrictions, Sweden famously shirked the strategy recommended by Ferguson. In doing so, they also created the conditions of a natural experiment to see how their coronavirus numbers performed against the epidemiology models. Although Ferguson originally limited his scope to the US and UK, a team of researchers at Uppsala University in Sweden borrowed his model and adapted it to their country with similarly catastrophic projections. If Sweden did not lock down by mid-April, the Uppsala team projected, the country would soon experience 96,000 coronavirus deaths.

I was one of the first people to call attention to the Uppsala adaptation of Ferguson's model back on April 30, 2020. Even at that early date, the model showed clear signs of faltering. Although Sweden was hit hard by the virus, its death toll stood at only a few thousand at a point where the adaptation from Ferguson's model already expected tens of thousands. At the one year mark, Sweden had a little over 13,000 fatalities from Covid-19 – a serious toll, but smaller on a per-capita basis than many European lockdown states and a far cry from the 96,000 deaths projected by the Uppsala adaptation.

The implication for Ferguson's work remains clear: the primary model used to justify lockdowns failed its first real-world test.

In the House of Lords hearing from last year, Conservative member Viscount Ridley grilled Ferguson over the Swedish adaptation of his model: "Uppsala University took the Imperial College model – or one of them – and adapted it to Sweden and forecasted deaths in Sweden of over 90,000 by the end of May if there was no lockdown and 40,000 if a full lockdown was inforced." With such extreme disparities between the projections and reality, how could the Imperial team continue to guide policy through their modeling?

Ferguson snapped back, disavowing any connection to the Swedish results: "First of all, they did not use our model. They developed a model of their own. We had no role in parameterising it. Generally, the key aspect of modelling is how well you parameterise it against the available data. But

to be absolutely clear they did not use our model, they didn't adapt our model."

The Imperial College modeler offered no evidence that the Uppsala team had erred in their application of his approach. The since-published version from the Uppsala team makes it absolutely clear that they constructed the Swedish adaptation directly from Imperial's UK model. "We used an individual agent-based model based on the framework published by Ferguson and coworkers that we have reimplemented" for Sweden, the authors explain. They also acknowledged that their modeled projections far exceeded observed outcomes, although they attribute the differences somewhat questionably to voluntary behavioral changes rather than a fault in the model design.

Ferguson's team has nonetheless aggressively attempted to dissociate itself from the Uppsala adaptation of their work. After the UK Spectator called attention to the Swedish results last spring, Imperial College tweeted out that "Professor Ferguson and the Imperial COVID-19 response team never estimated 40,000 or 100,000 Swedish deaths. Imperial's work is being conflated with that of an entirely separate group of researchers." It's a deflection that Ferguson and his defenders have repeated many times since.

As it turns out though, Ferguson and the Imperial College team were being less than truthful in their attempts to dissociate themselves from Sweden's observed outcomes. In the weeks following the release of their well-known US and UK projections, Ferguson and his team did in fact produce a trimmed-down version of their own modeling exercise for the rest of the world, including Sweden. They did not widely publicize the country-level projections, but the full list may be found buried in a Microsoft Excel appendix file to Imperial College's Report #12, released on March 26, 2020.

Imperial's own projected results for Sweden are nearly identical to the Uppsala adaptation of their UK model. Ferguson's team forecast up to 90,157 deaths under "unmitigated" spread (compared to Uppsala's 96,000). Under the "population-level social distancing" scenario meant to approximate NPI mitigation measures such as lockdowns, the Imperial modelers predicted Sweden would incur up to 42,473 deaths (compared to 40,000 from the Uppsala adaptation).

The Imperial team did not specify the exact timing of when they expected Sweden to reach the peak of its outbreak. We may reasonably infer it though from their earlier US and UK model, which anticipated the "peak in mortality (daily deaths) to occur after approximately 3 months" following the initial outbreak. That would place Sweden's peak daily death toll around mid-June, or almost the exact same time period as the Uppsala team's adaptation.

Figure I: Imperial College Model for Sweden, March 26, 2020

It turns out that Viscount Ridley's line of questioning was correct all along. The Uppsala adaptation of Ferguson's model not only projected exaggerated death tolls in Sweden. Ferguson's own projections for Sweden advanced similar numbers, all wildly off the mark from what happened.

Imperial College's multi-country model used its earlier and more famous projections for the US and UK to claim validity for its more expansive set of international extrapolations. As Ferguson's team wrote on March 26, 2020: "Our estimated impact of an unmitigated scenario in the UK and the USA for a reproduction number, R0 , of 2.4 (490,000 deaths

and 2,180,000 deaths respectively) closely matches the equivalent scenarios using more sophisticated microsimulations (510,000 and 2,200,000 deaths respectively)" that they released a few weeks prior. If Imperial's US and UK projections matched, a similar validity could be inferred for the other countries they modeled in the multi-country report.

The Imperial College team fully intended for its multi-country model to guide policy. They called on other countries to adopt lockdowns and related NPIs to reduce the projected death toll from the "unmitigated" scenario to "social distancing." As Ferguson and his colleagues wrote at the time, "[t]o help inform country strategies in the coming weeks, we provide here summary statistics of the potential impact of mitigation and suppression strategies in all countries across the world. These illustrate the need to act early, and the impact that failure to do so is likely to have on local health systems."

Failure to act, they continued, would lead to near-certain catastrophe. As Ferguson and his team wrote, "[t]he only approaches that can avert health system failure in the coming months are likely to be the intensive social distancing measures currently being implemented in many of the most affected countries, preferably combined with high levels of testing." In short, the world needed to go into immediate lockdown in order to avert the catastrophes predicted by their multi-country model.

(Note: Imperial College also included a third possible mitigation scenario for stricter measures on top of general population NPIs, aimed at further isolating elderly and vulnerable people, projecting it could reduce Sweden's numbers to between 16,192 and 33,878. They further modeled a fourth possible "suppression" scenario consisting of a severe lockdown that would reduce human contacts by 75% for the duration of the pandemic and maintain them for a year or more until population-wide vaccination was achieved. It predicted 14,518 deaths. Sweden clearly did not adopt either of these approaches).

One year later we may now look back to see how Imperial College's international projections performed, paying closer attention to the small number of countries that bucked his lockdown recommendations. The results are not pretty for Ferguson, and point to a clear pattern of modeling that systematically exaggerated the projected death tolls of Covid-19 in the absence of lockdowns and related NPIs.

Figure II compares the Imperial College model's projections for its "social distancing" scenario and "unmitigated" scenario against the actual outcomes at the one-year mark after its release. These projections reflect an assumed replication rate (R0) of 2.4 – the most conservative scenario they considered, meaning Imperial's upper range of projections anticipated substantially higher death tolls. The countries examined here – Sweden, Taiwan, Japan, and South Korea – are distinctive for either eschewing lockdowns and similar aggressive NPI restrictions entirely or for relying on them in a much more limited scope than Imperial College advised. The United States, where 43 of 50 states adopted lockdowns of some form, is also included for comparison.

Figure II: Performance of Imperial College Modeling in 4 Non-Lockdown Countries & the United States

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As can be seen, Imperial College wildly overstated the projected deaths in each country under both its "unmitigated" scenario and its NPI-reliant "social distancing" scenario – including by orders of magnitude in several cases.

Similar exaggerations may be found in almost every other country where Imperial released projections, even as most of them opted to lock down. The Imperial team's most conservative model predicted 332,000 deaths in France under lockdown-based "social distancing" and 621,000 with "unmitigated" spread. At the one year mark, France had incurred 94,000 deaths. Belgium was expected to incur a minimum of 46,000 fatalities under NPI mitigation, and 91,000 with uncontrolled spread. At the one year anniversary of the model, it reached 23,000 deaths – among the highest tolls in the world on a per capita basis and an example of extreme political mismanagement of the pandemic under heavy lockdown to be sure, but still only half of Imperial College's most conservative projection for NPI mitigation.

Just over one year ago, the epidemiology modeling of Neil Ferguson and Imperial College played a preeminent role in shutting down most of the world. The exaggerated forecasts of this modeling team are now impossible to downplay or deny, and extend to almost every country on earth. Indeed, they may well constitute one of the greatest scientific failures in modern human history.

– April 22, 2021

The Everything Bubble and What it Means for Your Money

COLIN LLOYD
Contributor

In the aftermath of the Black Plague which swept across Europe between 1347 and 1353, wiping out between 30 and 60% of the population, the European economy changed dramatically.

Source: Jeremy Norman – HistoryofInformation.com

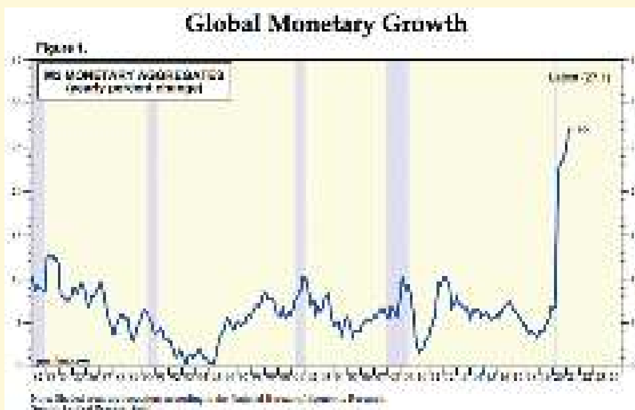
The Black Plague had a lasting socioeconomic impact; for example, towns and cities emptied, and the sudden reduction in the labour force saw wages rise. Meanwhile attitudes towards death – and life – changed. The Latin phrase, *carpe diem, quam minimum credula postero* – seize the day, place no trust in tomorrow – epitomised this profound shift in attitudes.

The current pandemic, whilst utterly tragic, has been far less catastrophic, but due to the policy response it too appears destined to leave its mark in changing patterns of living and working. Unlike the 1350's, however, where the changing price of goods and services signalled imbalances in supply and demand, the valiant monetary and fiscal actions of governments and institutions have distorted this price discovery mechanism.

During the first months of the lockdown, economic growth declined and the price of many equities – and even bonds – fell rapidly. Central banks responded, as they had during the Great Financial Crisis (GFC) of 2008/2009, by cutting interest rates, or, where interest rates could be cut no further, by increasing their purchases of government bonds and other high grade securities. As a result of these purchases, major central banks balance sheets have swollen to $29trln: –

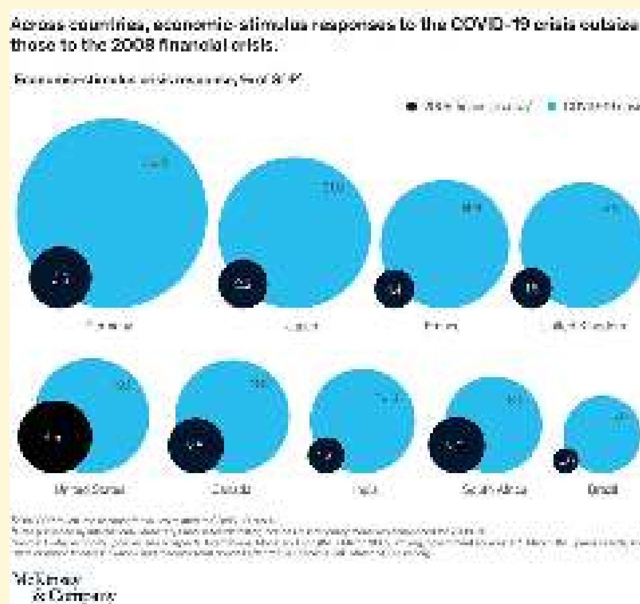
Source: Yardeni, Haver Analytics

The effect of central bank actions has spilled over into a ballooning of global money supply: –



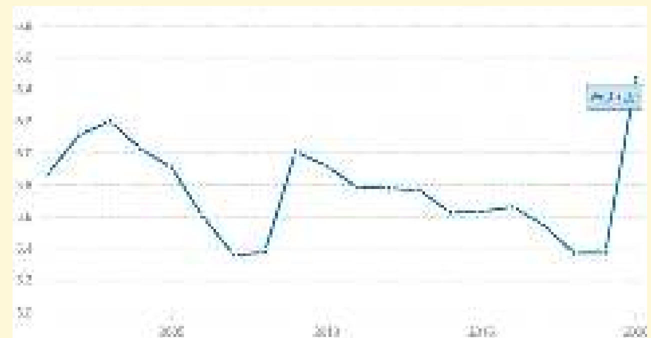
Source: Yardeni, Federal Reserve

Governments, cognizant of the limitations of their central banks, also reacted, providing loan guarantees, supporting the furloughing of employees and sending direct payments to the rising ranks of the unemployed. The chart below, which is from July 2020 and therefore does not account for the recent US $1.9trln spending package, nor the $2trln infrastructure proposal, shows the scale of these endeavours in comparison to the fiscal largesse of the GFC: –



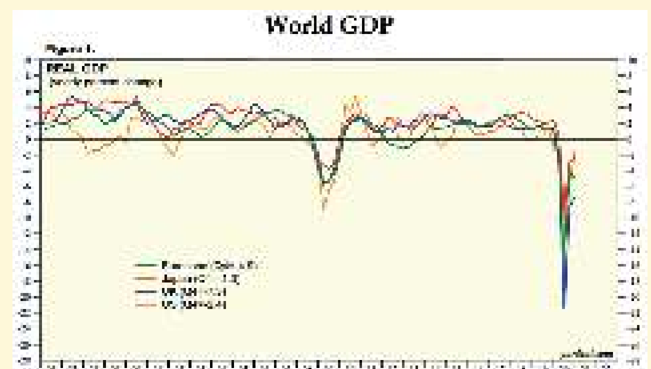
Source: McKinsey

The impact of lower interest rates, buying of bonds and increased fiscal spending might be expected to have inflationary consequences but it has been leaning against the headwind of sharply rising global unemployment: –



Source: World Bank

The rise in unemployment was itself a response to a dramatic decline in economic growth: –



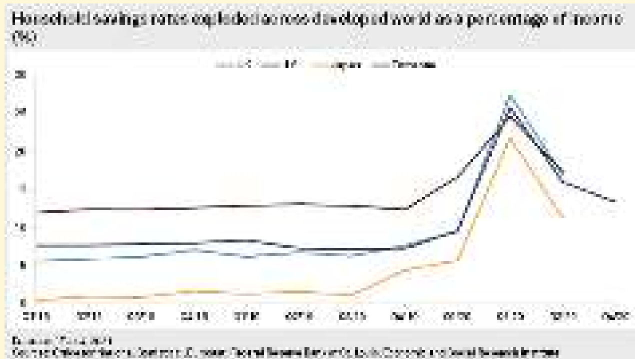
Source: Yardeni

US unemployment data is beginning to improve but, as the IMF WEO April 2021 reveals, Europe may take much longer to respond. Euro area unemployment is expected to rise from 7.9% in 2020 to 8.3% in 2022. Forecasting unemployment, however, together with many other economic variables, has become much more challenging since the variance between estimates has expanded: –

Source: Federal Reserve

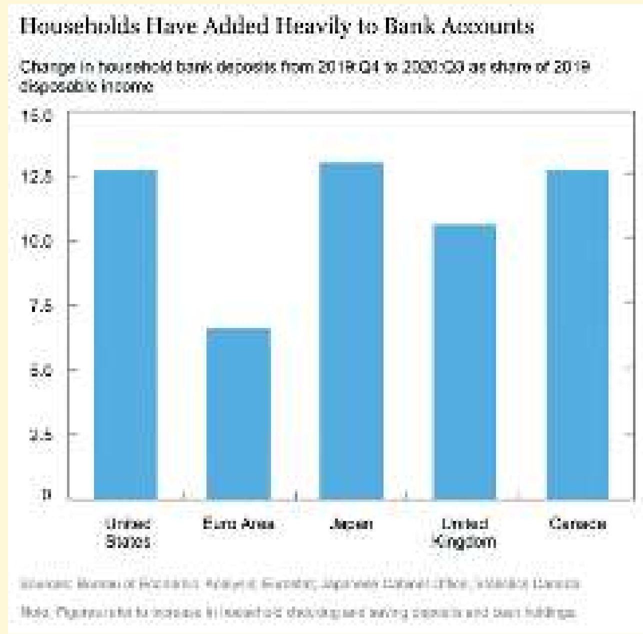
Savings Surge

A natural side effect of rising unemployment, furloughing of staff, together with reduced mobility and economic activity, during the waves of pandemic lockdowns, has been a rise in household savings: –



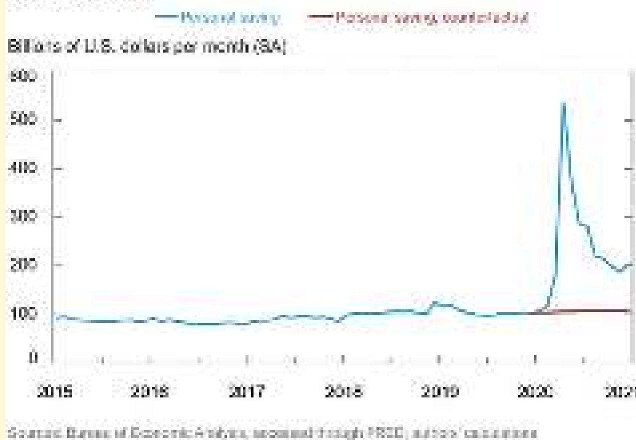
Source: S&P Global, ONS, Eurostat, Federal Reserve

The initial recipients of this spring tide of excess savings were the banks: –



Source: Federal Reserve, BEA, Eurostat, Japan Cabinet Office, Statistics Canada

Oxford Economics estimates that US savings rose $1.6trln, Eurozone households added Euro470bln and those of the UK, £170bln. Estimates from Moody's put the figure even higher, suggesting that the global pool of excess savings may now have reached $5.4trln – roughly 6% of global GDP. Since we are only interested in the impact of 'excess savings' rather than 'all savings,' the next chart is informative. It shows the monthly change in US savings: –



Source: Federal Reserve, BEA

What will be done with these pools of saving? They may remain in bank accounts, be used to pay down debt, spent on goods and services or invested. In a recent article – What Is behind the Global Jump in Personal Saving during the Pandemic? The Federal Reserve reveals the impact during Q1-Q3 last year: –

Source: Federal Reserve, BEA, Eurostat, Japanese Cabinet office, Statistics Canada

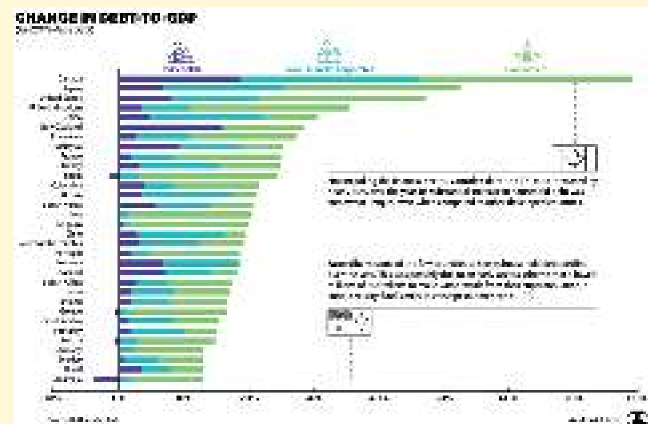
Debt Binge

The next chart shows global debt and the debt to GDP ratio: –

Source: IIF, BIS, IMF, National sources

Such estimates probably underestimate financial sector debt and do not account for OTC derivatives, which, according to the Bank for International Settlements have a net value of $609trln.

Setting aside derivatives, here is a breakdown by debt type for a selection of larger countries: –



Source: IIF, Deutsche bank, Visual Capitalist

During 2020, relative to GDP, government debt rose from 89% to 105%, and financial sector debt to a more moderate 81%. Meanwhile, non-financial private sector debt swelled to 165% and non-financial corporate debt to 100%, helped by debt moratoria and loan guarantee programs. Many large firms, particularly in the U.S. and Japan, increased borrowing simply to bolster their cash holdings. Despite rising savings, household debt even managed to increase, from 61% to 65% of GDP, encouraged by cheap mortgages and the resilience of residential real estate: –

Source: The Economist, OECD, Land Registry, S&P CoreLogic

Elected government officials will be afraid to stem these price rises, as they hope that homeowners will feel wealthier which should feed through, eventually, to consumption. A belated exception is New Zealand, which extended its 'bright-line test' to reign in price increases which hit 23% annualised in March. This smacks of window dressing, as increasing the time an investment property must be held in order to gain tax breaks, from 5 years to 10, is hardly aggressive. Meanwhile, to avoid political censure, they have also introduced incentives for first-time buyers, desperate to get on the first rung of the property ladder. The UK government response to rising residential property prices has been more predictable, allowing the maximum loan to value to rise to 95%, creating an even more leveraged residential market.

Of course the price of housing also responds to changes in supply. This is the picture in the US, where, despite feverish building activity, the supply of existing homes remains severely constrained: –

Source: Goldman Sachs, NAR, III Capital Management

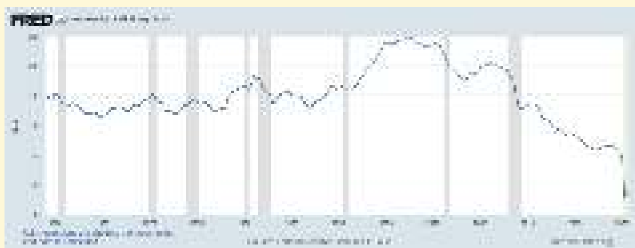
The purchasers of this dwindling supply of residential real estate look increasingly like the 'haves' rather than 'have nots' – 14% of all US mortgage applications made in February were for second homes, compared to just 7% in April 2020. Similar patterns are evident in other countries. Little wonder, then, that household debt has risen.

If household savings are not being used to pay down debt, that leaves three choices; continued saving (in other words lending to the banks at near zero interest), consumption or investment. The rising price of stocks and resilience of bonds suggests savings are flowing into liquid asset markets: –

Source: CNBC, BoA, EPFR Global

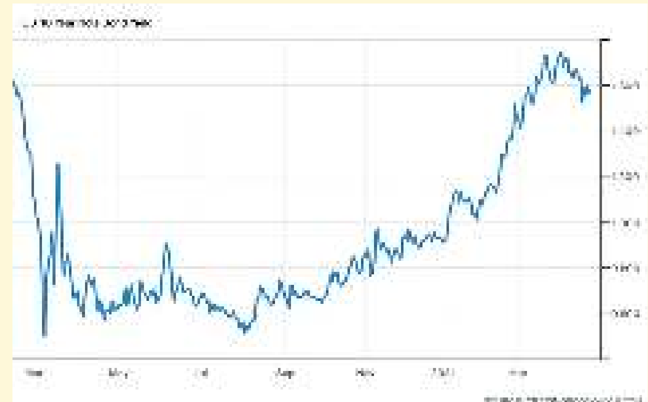
Bond markets are more difficult to gauge, as they are not the retail investors' first port of call. However, central banks continue to expand their balance sheets and the majority of the assets they purchase remain government and agency bonds. Meanwhile, many institutions are required to maintain liquidity in their portfolios, making them reluctant buyers of fixed income securities despite negligible or negative real yields.

Other assets have also increased in price, including an array of commodities and cryptocurrencies. Some of this price appreciation is due to supply constraints but in many instances demand is driving prices higher. This may be because investors fear that the combination of fiscal and monetary expansion, combined with supply chain constraints and trade tensions, will awaken the slumbering giant *inflation*. This picture must be tempered, for as money supply has expanded dramatically, its velocity has continued to decline. The chart below shows US M2 but similar patterns are evident in other developed markets: –



Source: Federal Reserve

The US Treasury Bond market, led by the eponymous bond vigilantes, took flight in February and March: –

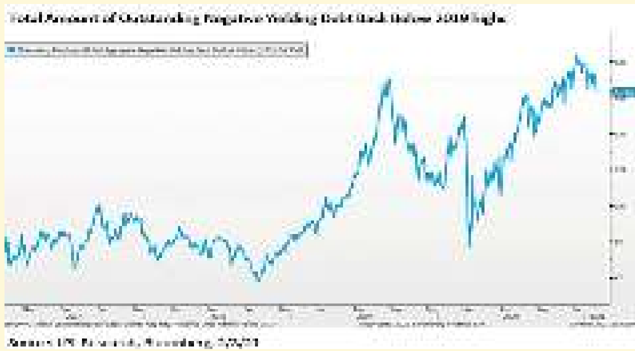


Source: Trading Economics

The bond market regained composure thanks to the palliative tone of the Federal Reserve, elegantly expressed in a recent speech by Governor Lael Brainard – Remaining Patient as the Outlook Brightens (emphasis mine): –

> *…The emphasis on* ***outcomes rather than the outlook*** *corresponds to the shift in our monetary policy approach that suggests policy should be patient rather than preemptive at this stage in the recovery.*

Many developed market government bonds remain close to the zero bound, yet yields have risen from their nadir at the end of 2020. As of 2nd March a mere 17% of sovereign issuance enticed investors with a negative yield to maturity: –

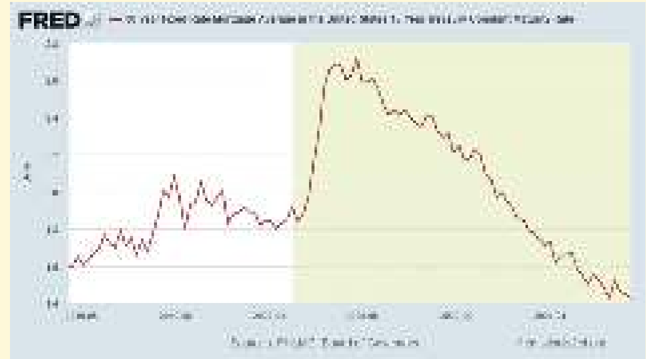


Source: LPL Research, Bloomberg

The *quest for yield*, which has driven investors into riskier assets for more than a decade, continues to provide an alternative to low or negative-yielding government paper. The dark blue line on the chart below shows the narrowing of the credit spread of BBB corporate bonds even as US 10-year yields rose: –

Source: Amundi, Bloomberg

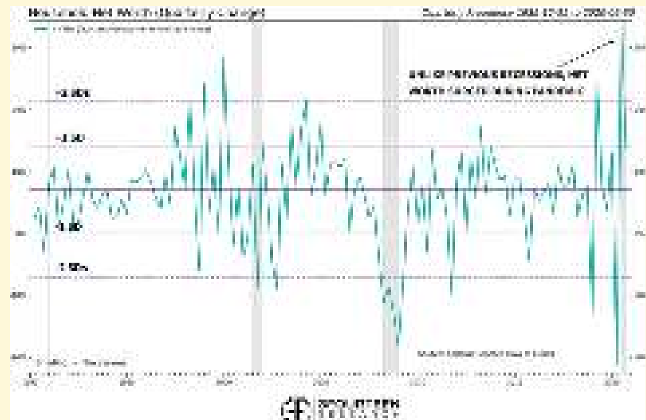
This *yield compression* is seen even more starkly in the spread between US 10-year and 30-year US mortgages: –



Source: Federal Reserve

Household Wealth

Considering the constrained nature of the US residential housing market and the fact that the 30-year Mortgage to 10-year Treasury spread is at its narrowest since July 2011 one can hardly be surprised at the appreciation of residential real estate prices. In fact the inflation of *The Everything Bubble* means that, unlike previous recent recessions, during the recent pandemic household net worth has actually risen: –



Source: Gavekal, 3 Fourteen Research

The Great Reopening

Looking back over the last year, it is unsurprising that asset markets have risen. As lockdowns end and life returns towards *the new normal*, the key

question is, what percentage of excess savings and recent investments will be redirected towards consumption and how quickly?

The Conference Board Global Consumer Confidence Index hit an all-time high of 108 in Q1, 2021, up from 98 the previous quarter – this is the highest reading since the survey began in 2005. Confidence rose in 49 out of 65 markets. When the UK reopened retail outlets, after four months, on April 12th, year-on-year footfall surged +516%, but it was still down -15.9% on the equivalent day in 2019. According to a Mintel Survey, 34% of UK consumers still feel unsafe visiting stores. Full lockdown restrictions in the UK will not end until June 21st. The road to reopening will be gradual.

The US Morning Consult Consumer Confidence Index reveals a similar picture: –

Source: Morning Consult

Morning Consult indices of 15 other economies show the same pattern, yet in each case a larger share of lower income households reported a deterioration in their financial position over the past year.

Goldman Sachs estimates that nearly two-thirds of excess savings in the US are held by the richest 40%, and they predict that the majority of these savings will be saved rather than spent. As of Q3, 2020 the top 20% of households by wealth held $10.2trln in liquid assets, the next 20% owned $2.3trln, whilst the balances of the remaining 60% amounted to just $2.7trln. As of end Q4, 2020 the top 20% garnered an additional $1.5trln of savings, and the remaining 80% accumulated just $0.7trln.

This breakdown between richer and poorer households is important. A recent Federal Reserve study revealed that, under normal circumstances, households in the bottom quintile spend $0.97 of every dollar earned, while those in the top quintile spend just $0.48. A February Bank of America survey, asking more than 3,000 people how they would use another stimulus check, reveals a similar result – only 36% said they would spend the money.

If only $570bln out of $5.4trln of excess savings has been invested in stocks so far this year, there would appear to be a powerful put option under the stock market, but is this the correct conclusion? Without consumption spending, corporate profits will disappoint. Without consumption, demand-pull inflation will melt away, leaving only supply-chain bottlenecks to prop up inflation forecasts. Unemployment is still elevated, union membership continues to decline and new private capital expenditure will arrive cautiously. The bond vigilantes may have come to their *inflationary* senses, for government bond yields have already started to decline.

Lower bond yields, however, will support the stock market, as they have done for the last decade, and so too will excess savings. Add in cheap finance and *The Everything Bubble* looks set to continue. The melt-up from here will be gradual and there is room for some sharp corrections as the base effect of last year's disinflation spooks the *inflation bears*.

As for what is really happening? *The Everything Bubble* is a grand illusion, money is growing more plentiful, credit more available. Asset prices are not really rising; it is the value of money which is being systematically undermined. "I wonder whether the motto for this pandemic will be *carpe diem, quam minimum credula pecuniae* – seize the day, place no trust in money?"

– April 28, 2021

The Buffett Indicator: Reasons for Doubt

GREGORY VAN KIPNIS

Chairman of the Board

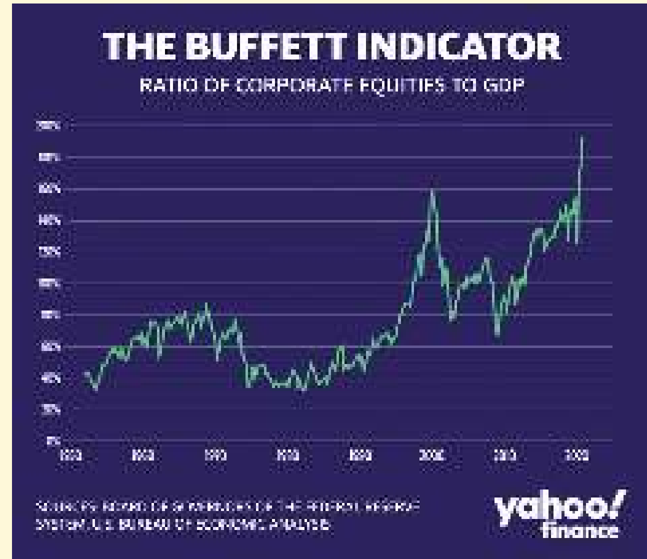
Recently Tesla CEO Elon Musk asked Ark Investment CEO Cathy Wood about her view concerning the Buffett Indicator, which is pointing to a historic overvaluation in stocks and hence suggests a coming crash. She first insinuated that it was outdated. Then she said her team would have a closer look.

As tempting as it is to believe that there is a simple formula out there to reveal the future of financial markets, there are good reasons for doubt. While no measure or method can be expected to be an unfailing determinant of market valuation, the reputation of the Buffett Indicator itself is likely overvalued.

In an article in January I concluded that the S&P 500 was fairly valued. That study was based on a detailed analysis of price-earnings ratios. The conclusions rested on a proper understanding of the importance of expected earnings and dividends rather than the backward-looking Shiller CAPE ratio. I did not believe the Buffett Indicator was relevant to the analysis then because it did not focus on what matters most – earnings.

Nonetheless, there is an infatuation with this indicator, which Buffett made popular – so much so that it has reached a fever pitch. The indicator measures the ratio of the market value of publicly traded stocks to the nominal value of GDP. That is, a ratio of asset values to the value of production of all goods and services produced in a given year in the US.

The ratio has increased dramatically to about 200% from the 40-80% range in the period leading up to late 1999.



The Indicator implies a relationship between the value of stocks that do business all over the world with what is produced in the US. There is no explicit link to earnings, dividends, interest rates or risk.

Corporations that trade on the US stock exchanges are global in nature. They do business all over the world. In fact, some of those corporations have major subsidiary operations overseas.

Approximately 40-50% of the revenues and profits of US companies are derived from sales overseas. That percent has grown over the decades. The importance of foreign earnings varies across companies from very high for Apple to nil for local utility companies.

Publicly traded companies have increased in importance in the US economy, more than doubling by value over the last 30 years. What that means is that less and less of the income produced from business activity in the US is from privately held

business entities. More and more entrepreneurs have sought to monetize the value of their enterprises by taking them public or selling them to public companies. That trend is accelerating with the advent of SPACs.

This means more and more of the profits earned by US business are emanating from publicly traded companies. The best proxy for this comes from data from Standard and Poor's, which calculates the total dollar value of reported profits by companies in the S&P 500 index. The S&P 500 index, though it includes only about an eighth of all US companies traded on US exchanges, and 80% of the capitalization value of all traded companies, does capture over 90% of all the profits captured by publicly traded companies. That is because so many small traded companies have little or no earnings.

Below is a chart of the trend of the importance of publicly traded profits to all income generated in the US economy. The denominator is National Income (NI) rather than GDP, but they are roughly equivalent. The sum of all sources of income in the US (NI), such as wages, salaries and earnings, are roughly equal to the value of all goods and services produced in the final market (GDP).

If we roughly estimate that half the growth in the Buffett Indicator comes from the increased importance of foreign earnings to US corporations, and another half of the growth comes from the increased amount of profits emanating from publicly traded companies, you will nearly eliminate all the upward trend in the Buffett Index.

There are other reasons for the Buffett Indicator ratio to be trending higher. Corporate earnings are growing nearly twice as rapidly as the growth in nominal GDP.

In conclusion, the Buffett indicator, though at high historical levels, is not per se signaling that the market is overvalued.

– April 16, 2021

Burning Issues of Government Spending

THOMAS L. HOGAN
Senior Research Fellow

The Biden administration recently proposed a $2 trillion spending plan supposedly aimed at improving the country's infrastructure. The White House's "fact sheet" says the plan will make "investments that leading economists agree will give Americans good jobs now and will pay off for future generations."

Despite these claims by the administration, most economic research shows that government spending during economic expansions, even on investments such as infrastructure, is wasteful and unproductive. On net, the Biden plan is unlikely to create good jobs now or other benefits in the future.

When is government spending productive?

Government spending can, in some cases, help improve economic activity. During times of recession, for example, government spending programs can be used to hire unemployed workers when private companies may be unwilling or unable to do so. Ideally, fiscal stimulus can push the economy back towards a long-run stable growth path.

The problem is that government spending also crowds out private spending in two ways. First, some spending is used to hire away workers and resources from private companies. During times of economic expansion, there are fewer unemployed workers to draw upon, so higher spending tends to drive up prices with little increase in production. Second, spending must be financed by taxes or by issuing government debt, either of which reduces the funds available for private investment projects.

Economists try to determine whether a program creates net benefits for the economy by measuring the "multiplier" of government spending. A multiplier greater than 1 indicates that $1 of government spending produces more than $1 of total spending in the economy. A general finding of this research is that increases in spending can be productive during a recession since it can draw upon workers and resources that are currently unemployed. In an expansion, however, increased public spending tends to crowd out private spending, causing a reduction in total spending.

In a recent study, for example, economist Valerie Ramey reviewed the academic research on the effectiveness of government spending. For periods of economic expansion, most studies found multipliers in the range of 0.6 to 0.8 but possibly as high as 1. So although it is possible that $1 of government spending could potentially create $1 of total spending in the economy, a more likely estimate is $0.80 or less.

The United States has rebounded from the 2020 recession and is currently in a period of economic expansion. The national unemployment rate is down to its long-run average of 6 percent, with many US states exhibiting historically low rates of 4 percent or less. Given the current state of the economy, the research indicates that increasing government spending is more likely to be wasteful than productive.

Is infrastructure investment special?

One argument for Biden's spending plan is that improving infrastructure will make the economy more productive. The spending plan is framed as an investment that will pay off by improving economic productivity in the future.

This argument, however, is misguided for two

reasons. First, politicians do not have the right information to decide what is a good investment and what is not. They always claim to know exactly what the economy needs, but there is no reason to believe they have particular insight as to where spending is most productive.

Second, funds channeled through the political process are more likely to be spent on pet projects rather than on productive investments. We're sold the dream of modern European-style airports and maglev high-speed rail. In reality, we'll be expanding the airport in Bumbleweed, Nowhere from three terminals to five, despite the fact that they only use one. Because spending that benefits constituents and special interests is what gets politicians reelected, no matter how wasteful the project.

Does anyone really believe that politicians will ignore their own political incentives and do what is best for society?

If not, why would we expect their spending decisions to be especially productive?

To test whether it is actually beneficial for the economy, economists Ethan Ilzetzki, Enrique Mendoza, Carlos Végh looked specifically at government investment spending, such as infrastructure projects, to see if it improves long-run productivity. They found that it does not. In high-income countries, even investment spending has long-run effects of only $0.66 per $1 spent.

Their study also found that spending is less effective in countries with higher levels of government debt, which crowds out private investment. Once debt exceeds 60 percent, as it does in the United States, the multiplier is actually negative. This again indicates that increased government spending will be wasteful and unproductive.

Who wants to waste money?

Politicians benefit from wasteful spending. They always claim it will improve the economy, even though the evidence says otherwise. The debate around fiscal spending is like the panel discussion, "Should the Government Stop Dumping Money Into a Giant Hole?"

Yes, that's from *The Onion*, but such is the current state of the discussion.

Any spending at the federal level is subject to inefficient political incentives and a wasteful bureaucratic process that crowds out private investment. These issues affect even the most productive and well-intentioned projects. When the economy is not in recession, $1 of government spending increases total spending by $1 at most. Research shows that it's more likely to be worth $0.80 or less.

Government spending starts with taking money from taxpayers and setting 20 percent of it on fire. Even if the remaining funds were spent on very efficient projects, they have very little chance of creating net benefits for the economy.

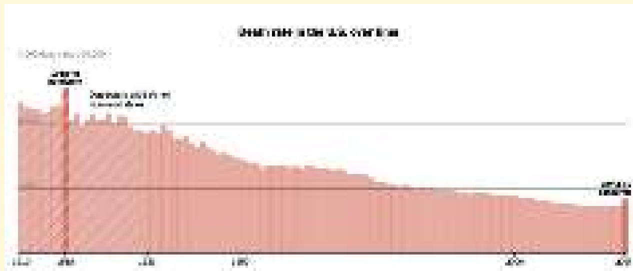
– April 29, 2021

Are Covid Fatalities Comparable with the 1918 Spanish Flu?

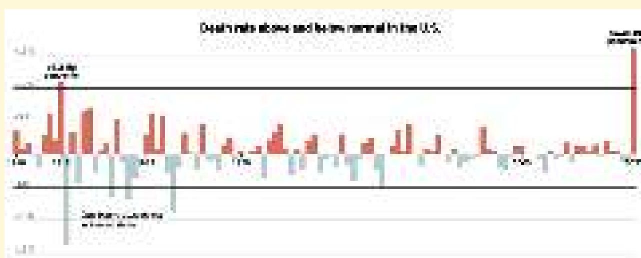
ETHAN YANG

Editorial Assistant

On April 23, 2021 *The New York Times* published an article titled "How Covid Upended a Century of Patterns in U.S. Deaths." The article lays out some data regarding the unprecedented uptick in the US death rate that occured in 2020.



As shown in the graph provided by the *New York Times*, US death rates have been steadily declining over the past century, likely due to advances in technology and living standards. Last year certainly signaled a noticeable break from this trend with a sizable increase in deaths, but not nearly the same as the 1918 Flu which is a universal benchmark for a killer influenza virus.



This graph provided by the *New York Times* indicates the spike in excess deaths in 2020, which is the number of deaths that have occured exceeding the predictions of standard death trends. This is of course all important information. Last year was certainly a horrific year with the outbreak of Covid-19, the lockdowns, and all the chaos that followed. It was a year of death and despair which should not be taken lightly.

Important Discussion: Deaths and Victims

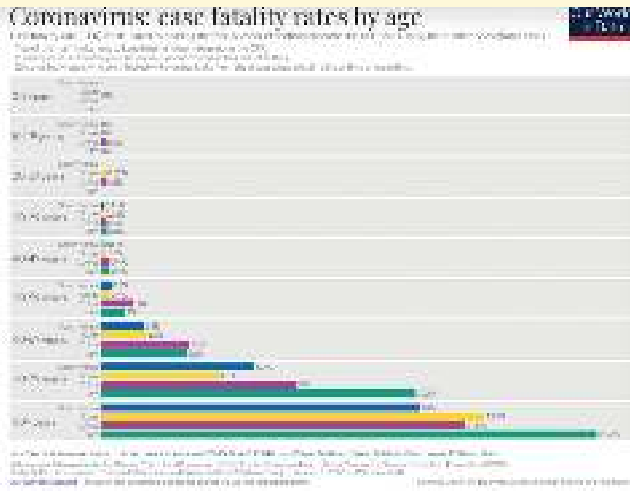
It is common to invoke comparisons with the 1918 Flu Pandemic, as that was an extremely devastating virus that rocked the world. The article makes multiple references to the 1918 pandemic but there are a couple that raise interesting questions for further investigation. The first point is as follows,

> "Combined with deaths in the first few months of this year, Covid-19 has now claimed more than half a million lives in the United States. The total number of Covid-19 deaths so far is on track to surpass the toll of the 1918 pandemic, which killed an estimated 675,000 nationwide."

Comparing the death counts between the 1918 Flu and Covid-19 without adjusting for population growth is extremely misleading. In 1918 the population of the United States was roughly 103 million, while near the end of 2020 it stood at roughly 330 million. According to CDC statistics compiled by a study in *JAMA* Covid-19 killed 345,000 people in 2020 and now stands at around half a million as stated by the *New York Times*. Adjusted for the population growth of over 200 million people and holding the death rates constant, the 1918 Flu would have killed over 2 million people if it occured today, which is more than four times greater than Covid-19.

Furthermore, the two diseases are vastly different

in terms of who is vulnerable. Covid-19's severe outcomes almost exclusively affect the elderly and the immunocompromised, particularly those over the age of 65, which is also approaching the life expectancy of a human. Furthermore 94 percent of Covid deaths occurred with preexisting conditions. It poses virtually no risk to children, minimal risk to young adults, and only seems to kill more than 1 percent of victims with those over the age of 65.



On the other hand the Spanish Flu was devastating to virtually all age groups and did not discriminate between the healthy and the unwell. The CDC writes the following about the 1918 Flu:

> "Mortality was high in people younger than 5 years old, 20-40 years old, and 65 years and older. The high mortality in healthy people, including those in the 20-40 year age group, was a unique feature of this pandemic."

It is clear that the comparison is flawed between the 1918 Flu and Covid-19, as the former was a devastating killer virus whereas the latter only poses a threat to vulnerable populations.

Too Much Statistical Noise

It is certainly worth investigating the noted increase in excess deaths in 2020 as that is obviously a problem. However, the article seems to suggest that Covid-19 was the main causal factor driving increases in death. Although that is certainly a reasonable intuition given that it is a novel virus, clearly there is far more at play.

The main issue to point out is that there were two health crises, not one. Covid-19 is certainly one but we cannot simply ignore the absolutely devastating and unprecedented use of lockdown policies that drastically upended all of society in a way that a virus could never accomplish.

The effects of lockdowns have been thoroughly studied by AIER and in a series of articles I noted just some of the damage to the economy, young people, and the normal functioning of society. All these disruptions led to adverse outcomes whether it be mental health issues, decline in living standards, or even disrupted healthcare procedures. In a press release the CDC noted that in May 2020, it recorded the highest number of drug overdoses ever recorded in a 12-month period.

A study in *JAMA* notes that although there was a substantial increase in overall deaths in 2020, Covid-19 was only one part of the problem, assuming all Covid deaths are directly attributable to Covid and not a comorbidity.

Some statistics of note are an increase in deaths due to heart disease, unintentional injuries, stroke,

and diabetes. Although more investigation would be needed to understand how all of this comes together, it wouldn't be absurd to believe that lockdown policies led to an increase in deaths due to their many disruptions to normal societal functions.

To cite one example of many, the Mackinac Center Legal Foundation recounts on one of its clients by writing,

> "One of the affected medical practices, Grand Health Partners, operates in the Grand Rapids area. It performs endoscopies and other elective surgeries, many of which were deemed nonessential by executive order. Due to the shutdown, many of their patients were not able to receive treatment and have suffered because of it."

Alongside exploring and cutting through the statistical noise posed by increases in death plausibly related to lockdowns, there still needs to be a discussion on quantifying the Covid-19 death count. Genevieve Briand, an economist at John Hopkins University, was subject to a massive degree of controversy for putting out a flawed but important lecture – later expanded into a research paper – that pointed out among other things that Covid-19 deaths may be inappropriately reclassified as deaths from other leading causes.

This is especially worthy of discussion given that the overwhelming majority of Covid deaths occur with comorbidities amongst eldery populations often nearing or exceeding life expectancy.

Key Takeaway

The data is clear; 2020 was a horrific year full of death and despair. *The New York Times*' article certainly does a great job at starting a conversation about this topic. However, its comparisons of Covid-19 and the 1918 Flu raises more questions than answers. Furthermore its presentation of data regarding increases in deaths requires more context.

Upon further investigation, it is clear that Covid-19 claimed many lives. However, it is also clear that there is a substantial presence of statistical noise from comorbidities and increases in death from other causes. This raises many questions not just about the collateral damage of our policy response, but also about whether we are even operating with the appropriate information to be making such decisions with people's lives in the first place.

– April 27, 2021

The Day that Trump Panicked, and Wrecked His Presidency

JOHN TAMNY
Research Fellow

> *"While my advisers tell me that the response to this new virus will be different in all fifty states because of something about "states' rights" in the Constitution, my billions of supporters in the U.S. and around the world can be sure that I won't abandon them. I will not sit back and watch liberal governors destroy this beautiful economy my policies have created.*
>
> *No great nation remains great by destroying businesses and jobs. So mark my words that if any governors in any of our 50 states locks down, those Governors will soon have a regular visitor with a big, beautiful 747 widebody to deal with: me. I will campaign endlessly in states that take away businesses, jobs and freedom from their people. Better yet, I'll embarrass loser Governors so clueless as to fight a virus with economic desperation. So let this serve as a warning: while it turns out my power over the states isn't absolute, it will soon seem like it is."*

Imagine if then-President Donald Trump had uttered those words last March. The world would arguably be a much different place today.

For background, readers familiar with Ronald Reagan's political history are also familiar with a saying that was routinely uttered by the people most ideologically close to the 40th president: "Let Reagan be Reagan" they would say. Don't try to change him, don't try to make him what he isn't, he's best when he's himself.

This is important with Donald Trump in mind. Since his election loss last fall there have been all manner of opinion pieces about how Trump would still be president if he'd laid off Twitter, if he'd sat back and let Joe Biden talk himself out of the job in the first debate, if he'd not picked so many fights with other Republicans, if he were more conservative, less conservative, if he'd gone silent with the media so that Biden could have once again talked himself out of the job….

Of course, missed by all of these counterfactuals was that if Trump had instincts of the restraint and moderation kind, then he wouldn't have been president in the first place. Only someone wildly audacious, only someone utterly bereft of self-awareness, only someone incapable of not being on the routine offensive would have ever had the nerve to run for president. And win. Trump had to be Trump, for good and bad.

Arguably the bigger problem for Trump was when he went against type. In particular, when advisors convinced him to not be himself. The view here is that Trump's failure to be himself cost him the White House, and also brought the American people much suffering. In truth, the two are related.

To see why, it's useful to travel back in time to the days and weeks before the lockdowns. President Trump said the new coronavirus was "no big deal," but so had *Vogue* editor Anna Wintour. New York Mayor de Blasio was still taking the subway to encourage the citzens. He was telling them to see movies too. The *New York Times* was preaching caution against overreaction and the taking of civil liberties. The cross-ideology consensus was, *relax*.

Some will say both sides had it right when they were preaching caution. Figure that the reflexively

alarmist *New York Times* has regularly reported the actual facts inside stories with alarmist headlines and alarmist slants. As such, careful readers of the Times have long known that the hospitalization rate for those infected with the virus is below 1 percent, that U.S.-based coronavirus-related deaths have very much associated with already very ill, very old people in nursing homes, and that in a broad sense death from the virus has really been death *with the virus* in consideration of the CDC-provided fact that somewhere north of 90 percent of those who died with the virus had other serious, life-threatening illnesses they were dealing with.

Back to Trump, imagine if he'd stuck to his guns and remained his normal, obstreperous self. If so, Trump arguably would have forced a shift in response that would have truly saved the U.S. and the world from needless heartache, tragedy, starvation, and presumably all three. Think about it.

If Trump had been dismissively Trump about the hysterically foolish notion of lockdowns, his contrarian ways would have given Republican governors across the country the political cover to similarly hold firm. It's safe to say his actions would have empowered a few Democratic governors to similarly avoid economic desperation as a virus-mitigation strategy.

Just as important, what the U.S. does is closely watched by the rest of the world. If Trump makes plain that the U.S. won't choose economic contraction to fight the virus, it's not unreasonable to speculate that Trump would have similarly provided political cover for world leaders eager to not do what was so abjectly foolish.

At which point it's a safe bet that the U.S. and global economies still contract a little in the GDP sense. They would have mainly because GDP is informed by consumption, and it's well-documented that Americans had already adjusted their living, dining and travel habits well ahead of the tragic and wholly superfluous lockdowns. In other words, Americans didn't need a law to be more cautious.

What's important about this is that the voluntary reduction in spending by Americans would have served as rocket fuel for a quick economic recovery that would have revealed itself rather quickly as open businesses bolstered by increased access to capital born of savings adjusted to a new reality. Translated for those who need it, a natural pullback from concerned Americans would have produced the resources necessary for a naturally speedy rebound.

Alas, Trump didn't act like Trump. Positioned to be himself, and in the process scoring monumental victories of the political, economic, and statesmen variety, Trump lost his nerve. We suffer to varying degrees his inability to be true to himself last March to this very day. The problem was that Trump panicked.

– April 1, 2021

When Politicians Say Fair Tax, They Only Mean More Tax

JAMES R. HARRIGAN & ANTONY DAVIES
Contributors

Politicians never seem to have much trouble telling us they want to raise taxes. It seems to come as naturally to them as breathing does to the rest of us. They do their level best to keep the spotlight on "the rich," of course, who they say must "pay their fair share." But what do politicians hardly ever say? They hardly ever say who "the rich" are. And when they do, they usually point to multibillionaires while meaning people with considerably less. What do they also never say? They never say what a "fair share" is. It really just means "more." Who would've thought.

This leaves a problem for the class warfare class, because it is these same rich people who fund their political campaigns. And as if that weren't bad enough, most Congressmen and Senators are rich themselves. The two who yell the loudest about taxing the rich, Bernie Sanders and Elizabeth Warren, are worth $2.5 million and $12 million respectively. What are the odds that these two, and all their cronies in Congress, would bite the hands that feed them? What are the odds they would bite their own hands?

We do well to remember 1988. George H. W. Bush, in accepting the Republican nomination for the presidency made his point perfectly clear. People would pressure him to raise taxes, but when that happened he would say, he claimed, "Read my lips. No new taxes." All things considered, that's a pretty easy promise to make, but a much harder promise to keep. It wasn't long before Bush broke his promise, but in doing so he only went after "the rich," signing into law a 10 percent luxury tax on things rich people buy – yachts, private planes, and expensive jewelry.

The tax was supposed to raise more than $30 million in additional revenue, but it didn't raise much of anything. The rich simply went elsewhere to purchase their luxuries. Entrepreneurs and the working class paid, and they paid dearly as the tax destroyed almost 10,000 jobs in the boating, aircraft, and jewelry industries. Meanwhile, foreign companies in these industries made out like bandits. And that's the difference between the rhetoric and the reality of taxation.

We can dig deeper still into tax reality through the Congressional Budget Office (CBO), which asks Americans how much they earn and how much they pay in federal taxes. Breaking down those answers by income level provides some valuable insight into who is and isn't paying their "fair share."

To sidestep technical problems like write-offs and deductions, wages versus interest income, and payroll versus capital gains taxes, the CBO lumps together into a single pile all the federal taxes people actually pay: income taxes (net of the Earned Income Tax Credit), payroll taxes, corporate taxes (including capital gains taxes), and excise taxes. Into another pile, the CBO places the market income people earn from all sources: wages, salaries, employer-paid benefits, interest income, business income, capital gains, rental income, deferred income, and other sources of non-governmental income. CBO then divides the first number by the second to get people's average effective tax rates. The average effective tax rate is the fraction of people's total incomes that they actually pay to the IRS.

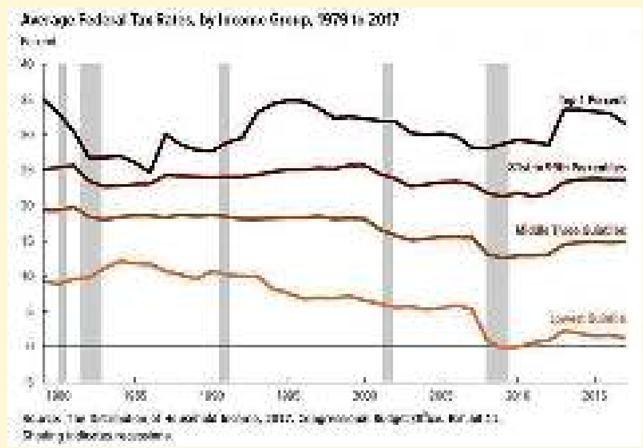
The CBO's latest numbers don't tell us what is fair; but they do tell us who is paying what. While

politicians avoid this the way vampires avoid garlic, knowing what people actually pay is the first thing we need to determine in any discussion of what's "fair."

In 2017 (the last year for which data is available), average household income among the top 1% was $2 million, average household income among the middle 20% was $61,700, and among the bottom 20% was $15,900. After the various accounting and legal gymnastics one goes through to reduce one's tax burden, the average household among the top 1% paid around 32% of that $2 million in federal taxes. The average middle-income household paid 17%, and the average household among the bottom 20% paid less than 2%.

In other words, the average one-percenter household earned about 125 times what the average bottom 20-percenter household earned, but paid over 2,000 times the federal taxes.

And this isn't a new phenomenon. The rich have been paying the lion's share of federal taxes for decades. In fact, since the mid-1980s, the average effective tax rate paid by the top 1% has remained about the same while the rate for the bottom 20% has steadily declined.



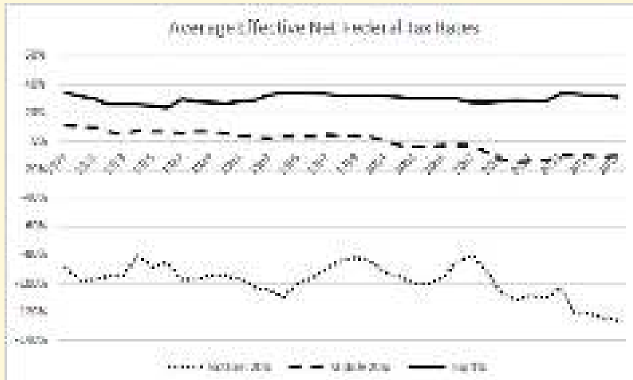
But this isn't the entire story, because while the federal government takes with one hand, it gives with the other. Transfers are cash payments and in-kind services the government gives to people. Means-tested transfers are distributed on the basis of need and typically fall as a household's income rises. Earnings-tested transfers are distributed on the basis of earnings and typically rise as a household's income rises.

The government provides means-tested transfers through Medicaid, CHIP (Children's Health Insurance Program), SNAP (formerly "food stamps"), Temporary Assistance for Needy Families (formerly Aid to Families With Dependent Children), housing assistance, income assistance, energy assistance, and child nutrition programs. It provides earnings-tested transfers in the form of social insurance benefits: Social Security and Medicare benefits, unemployment insurance, and workers' compensation.

Workers tend to think of social insurance benefits – particularly Social Security retirement benefits – not as government transfers but as a return on money they paid into the social insurance system. In fact, the Supreme Court long ago established that Social Security benefits are not a contractual right (Fleming v. Nestor, 1960), and that Social Security taxes paid into the system are like any other government revenue and not earmarked for Social Security benefits (Helvering v. Davis, 1937). Consequently, in our calculations, we should treat social insurance payroll taxes as any other federal tax and, similarly, social insurance benefits as any other federal transfer.

Clearly, these transfers are largely things the government does to help lower income households. But regardless of the intention, the transfers are, in fact, negative taxes. Subtracting transfers households receive from the taxes households pay yields net federal taxes paid. The average household among the top 1% paid $620,000 in federal taxes and received $1,300 in transfers on $2 million in market income, for an effective net tax rate of 31%. The average middle-income household paid

$10,500 and received $16,800 on market income of $61,700 for an effective net tax rate of negative 10%. The average household among the bottom 20% paid $300 in taxes and received $20,300 in transfers on $15,900 in market income for an effective net tax rate of negative 126%.



One interested in taxing the rich to give to the poor can argue that this sort of outcome is precisely the sort of thing a progressive tax system is supposed to achieve. Putting aside the argument as to whether massive transfers like this are advisable, what is clear is that it's a bit of a stretch to claim that the rich aren't paying their "fair share" when the bottom 60% of households aren't paying anything at all.

Accounting for both federal taxes and federal transfers, on average, only the top 40 percent of households are net payers into the federal tax and transfer system. This is why most discussions about tax cuts end with the charge that the side proposing tax cuts merely wants "tax cuts for the rich." Our system of taxes and transfers is so progressive that, almost by definition, every tax cut is a tax cut for the rich because, on average, those are the only households that are net payers.

In a democracy, a tax system in which some are net payers and others are net recipients becomes dangerously unstable when the net recipients constitute more than half of all voters. At that point, the majority have an incentive to vote for ever more spending for themselves and ever more taxes on the minority who pay.

None of this is new, because it's not about our particular economic or political systems, but about human nature. People always want more in exchange for less. Politicians have merely discovered a way to turn people's desire for more into votes for themselves. The trick is to tell the voting majority that the rich minority isn't paying its fair share, and that if only the voting majority would cast their votes correctly, fairness can be restored. By never defining "fair," though, politicians can just repeat their tiresome claims election after election.

So what exactly is anyone's "fair share?" That's a hard question, and it's made harder still when people tasked with answering it do everything they can to avoid answering it. As long as this continues, calls for the rich to pay "their fair share" will never end because, in light of the numbers, proponents seem not to mean "fair" at all. They simply mean, "more."

– April 30, 2021

Make No Mistake: Programmable Digital Currencies Are Weaponizable Money

PETER C. EARLE
Research Fellow

Earlier this year, China began to roll out a project that had long been in the works—a digital version of its currency, the yuan, is now being used in four Chinese cities. The Chinese government sees two major potential benefits to the experiment: a tangible challenge to the U.S. dollar's global ubiquity, and a way to control how Chinese citizens spend their money.

As a government-issued currency, the digital yuan can be manipulated and monitored in a number of ways. Importantly, it is programmable. Writes *The Wall Street Journal*, "Beijing has tested expiration dates to encourage users to spend it quickly, for times when the economy needs a jump start."

Although the concept of a currency which is artificially inflatable/deflatable on demand seems novel, it has its roots (as do so many concepts) in the theorizing of a long-dead economist. A German entrepreneur by the name of Silvio Gesell witnessed Argentina's 1890 financial crash firsthand. The ensuing unemployment, poverty, and economic stagnation convinced him that something needed to change. Such crises occurred, he theorized, because people hoarded money out of fear and brought business to a halt, argued Gesell—this he dubbed "poverty amid plenty."

To encourage quicker spending, disincentivize saving, and therefore avoid more catastrophic financial crashes, Gesell proposed money with an expiration date. "Currency Reform as a Bridge to the Social State," his first published work, detailed a system in which paper bills would expire unless they were stamped—renewed—for a fee. This ultimately meant that holders of money incurred a demurrage cost, which is the cost of holding a given currency. Because of Gesell's proposed renewal fee, savings had a negative interest rate.

He called this *Freigold*, or "free money." Speaking of his system's perceived benefits in *The Natural Economic Order*, Gesell wrote,

> Only money that goes out of date like a newspaper, rots like potatoes, rusts like iron, evaporates like ether, is capable of standing the test as an instrument for the exchange of potatoes, newspapers, iron and ether. For such money is not preferred to goods either by the purchaser or the seller. We then part with our goods for money only because we need the money as a means of exchange, not because we expect an advantage from possession of the money. So we must make money worse as a commodity if we wish to make it better as a medium of exchange.

At a time when nations were largely on the gold standard, Gesell's idea was unorthodox (and unpopular).

Gesell died in 1930, having never seen his monetary system realized. But just two years later, in the deepest depths of the Great Depression, a handful of small and medium towns in the United States and Europe looked to his proposal to soothe their economic distress. The best-known of these cases was the small town of Wörgl, Austria, in which town official Michael Unterguggenberger convinced Wörgl to issue stamped money known as "Certified Compensation Bills." The experiment came to be known as the "Miracle of Wörgl,"

reflecting the town's success in reducing unemployment and the relative ease with which Wörgl weathered the Depression compared to the rest of Austria. Hawarden, Iowa, and Anaheim, California, inspired by Wörgl's experience, soon enacted similar policies.

But it must be said that Wörgl's experiment was likely successful because it, similar to the currency itself, had an expiration date. After just one year, the town put the project to rest. As Jonathan Goodwin wrote, "Once the taxes in arrears were completely paid and when people had paid enough taxes in advance to feel safe and comfortable (at some point they would stop paying forward), the scrip would lose a key part of its attractiveness."

Of course, even if consumption drove economic growth (and there are a number of both economic and reductio ad absurdum arguments that point out the flaw in that concept), the idea of money that can be coded to decay at tailorable rates is disconcerting.

Chinese Yuan spot (40 years)

(Source: Bloomberg Finance, LP)

Central banks are monetary central planners, and the many criticisms that apply to central planning in every other field apply here as well. Their insularity, the blizzard of information they face, and political manipulation result in a preponderance of erroneous, ineffective, or late policy choices, all of which bring about unintended consequences. At times, those unintended consequences become new crises, which demand further policy intervention. Given this inevitability, any expansion of policy armamentaria should be viewed with deep concern. This is true of China's digital yuan, the Wörgl experiment, and any number of other unconventional monetary policy tools in use now or in the future.

In the specific case of a currency engineered for customizable demurrage, pernicious applications come to mind immediately. The extent to which those are realizable, however, pivots upon a degree of theorizing as to how "targetable" the programmed change of purchasing power will be. (Because such a system will ultimately require the elimination of cash to be fully effective, the warnings associated with a closely-related unconventional monetary policy, negative interest rates, apply here as well.)

A preliminary question is to what extent, or even whether, the induced loss of purchasing power will be communicated by the implementers of monetary policy. It is conceivable that in some nations the disclosure of an impending demurrage operation will be disseminated well in advance and will include specifics regarding the anticipated amount of change; other governments may be less forthcoming. This will likely derive as much from the authoritarian character of the state as from specific policy aims. Further, while in the 1890s the average farmer understood the basics of inflation and deflation (owing to their dealings in grains and other commodities), it may be difficult to expect the same of citizens in the modern age.

By announcing that money will be debased by a discrete amount at a certain point in time, individuals, firms, and other institutions holding money—again, assuming these policies are applied on something akin to an M3 basis—will make decisions based not upon their tastes and needs, but rather upon the desire to convert money to another

form in anticipation of the loss of purchasing power. The effect of individuals and large financial institutions singling out certain goods as stores of value under the artificial upward ratcheting of time preference would, as do most other forms of monetary tinkering, inevitably create price distortions and possibly shortages, depending on the availability of local goods and services.

Should the ability to direct the demurrage be more precise, the implications are much starker. It is conceivable that financial institutions might make the case that their money (more precisely, money in their accounts) should be insulated from those policy measures, thus creating a corporatist monetary system: consumers and unfavored economic actors wrestling with concocted losses of purchasing power, economic elites, their firms, and other court favorites receiving, or being left with, unimpinged purchasing power. Exactly where the lines between the favored and not are drawn, and the occasions upon which they are invoked are left to the reader's imagination. A look at the influence exerted by both special interest groups and corporations on public policy is instructive.

Chinese CPI (YoY, 10 years)

(Source: Bloomberg Finance, LP)

But this only opens the proverbial door. History is rife with examples of political initiatives which, however nobly intended or narrowly designed, became blunt tools of widespread oppression.

Could a demurrage feature of a programmable digital currency, nominally designed to spur consumption and increase monetary velocity, not ultimately become a broad punitive instrument? It could serve as an intermediate form of a fine for misdemeanors or other legal sanctions: Rather than forfeiting a lump sum, a violator's account balance could be rigged for an accelerated loss of purchasing power. The argument in support of such a measure may well be that it punishes wrongdoers virtuously, afflicting the health of their bank balance whilst "supporting the economy" or "fostering economic growth."

Although it tempts speculation of a particularly Orwellian tenor, one may imagine—I stress the term *imagine* as distinct from *predict* or *expect*, as this is not a conspiracy theory—the tying of anything from mandatory insurance coverage to getting vaccinated to compulsory voting to be enforceable under the threat of individually-targeted monetary penalties. Whether or not such a measure would fall under the legal category of a Bill of Attainder would also, likely, be a matter of considerable controversy.

A state determining that its populace is insufficiently supportive of a military campaign may decide that hardships are not being sufficiently shared: A sudden, unannounced attack on bank balances resulting in an immediate loss of purchasing power could be imposed to align interests. Could a failure to consume certain goods—say, domestic versus foreign—trigger a government-decreed, disciplinary lopping of an offender's bank balances? In the same way that a former president allegedly used the Internal Revenue Service to terrorize and harass political opponents, a currently innocuous programmable digital currency may, over time, morph into nothing less than weaponizable money.

China, by launching its digital yuan project, is traversing new territory in the realm of authoritarian monetary planning. Unfortunately, this endeavor may not be an isolated experiment for much longer;

already, officials with the U.S. Federal Reserve are engaging in research to build and test a digital dollar. Central bankers the world over, in fact, are signaling increasing openness to experimental policy initiatives. This particular project is still in its infancy, but one thing is certain regardless of differing cultures or political systems: Central banks of all colors are prone to the pitfalls of central planning and will necessarily inflict unintended consequences upon the populations they serve.

Money, in its most basic form, is an irreplaceable facilitator of economic calculation and a social instrument making cooperation possible on a global scale. Policies of the sort which programmable digital currencies bring into the realm of possibility potentially turn those on their head, introducing new possibilities for intentional—and systematic—coercion.

- April 24, 2021

How Government Subsidizes Obesity

BARRY BROWNSTEIN

Contributor

Austrian mathematician Abraham Wald was a World War II hero. He worked out of a nondescript apartment building in Harlem for the Applied Mathematics Panel. Wald's ability to see the unseen was a significant factor in the Allied victory in World War II.

Allied bomber planes were being shot down at such an alarming rate that bomber airmen were called "ghosts already." The Air Force concluded that more armor was needed on the planes but adding armor would add weight. David McRaney, the author of several books on cognitive biases, tells the story of how Wald saved the military from a major blunder:

> "The military looked at the bombers that had returned from enemy territory. They recorded where those planes had taken the most damage. Over and over again, they saw that the bullet holes tended to accumulate along the wings, around the tail gunner, and down the center of the body. Wings. Body. Tail gunner. Considering this information, where would you put the extra armor? Naturally, the commanders wanted to put the thicker protection where they could clearly see the most damage, where the holes clustered. But Wald said no, that would be precisely the wrong decision. Putting the armor there wouldn't improve their chances at all."

Wald looked at the same bullet holes and saw a pattern revealing "where a bomber could be shot and still survive the flight home."

Wald didn't fall for survivorship bias. Here is what he advised:

> "What you should do is reinforce the area around the motors and the cockpit. You should remember that the worst-hit planes never come back. All the data we have come from planes that make it to the bases. You don't see that the spots with no damage are the worst places to be hit because these planes never come back."

McRaney writes, "The military had the best data available at the time, and the stakes could not have been higher, yet the top commanders still failed to see the flaws in their logic. Those planes would have been armored in vain had it not been for the intervention of a man trained to spot human error."

We easily succumb to *what you see is all there is* (WYSIATI) mindset bias. In his book *Thinking, Fast and Slow*, Daniel Kahneman explains, "You cannot help dealing with the limited information you have as if it were all there is to know. You build the best possible story from the information available to you, and if it is a good story, you believe it."

Think of the last time you looked to a "survivor" for career and life advice, eager to learn their ticket to success. McRaney writes, "The problem here is that you rarely take away from these inspirational figures advice on what not to do, on what you should avoid, and that's because they don't know." We make faulty decisions when we ignore the evidence from those who did not survive a selection process.

As an example of entrepreneurial success, Kahneman took a look at narratives of how Google

beat its competition. Kahneman writes of such narratives:

> "The story could give you the sense that you understand what made Google succeed; it would also make you feel that you have learned a valuable general lesson about what makes businesses succeed. Unfortunately, there is good reason to believe that your sense of understanding and learning from the Google story is largely illusory. The ultimate test of an explanation is whether it would have made the event predictable in advance."

Cleary, any story of the rise of Google will not meet a forecasting test. Kahneman writes, "No story can include the myriad of events that would have caused a different outcome. The human mind does not deal well with nonevents."

We are all too ready to ignore our ignorance, especially when there is much that is unknown. At the same time, in our ignorance it is easier to construct a story. Kahneman explains, "Paradoxically, it is easier to construct a coherent story when you know little, when there are fewer pieces to fit into the puzzle. Our comforting conviction that the world makes sense rests on a secure foundation: our almost unlimited ability to ignore our ignorance."

In short, we don't spend a lot of time wondering about what we don't know. Kahneman warns that to "focus on what we know and neglect what we do not know… makes us overly confident in our beliefs."

Throughout the Covid-19 pandemic, the media and politicians have insisted we rely on the "judgment calls" of their proclaimed experts to guide policy. Facile but incorrect stories about lockdowns dominated.

In March, Dr. Fauci again incorrectly predicted that doom was upon us when Texas relaxed its pandemic rules.

Kahneman writes: "It is wrong to blame anyone for failing to forecast accurately in an unpredictable world. However, it seems fair to blame professionals for believing they can succeed in an impossible task." Perhaps, Kahneman is too kind. With Covid, predictions are founded on politics, not science, as Bill Maher recently pointedly and humorously explained.

We are ignorant of our ignorance. It is time to look for new patterns in the evidence of those who have not survived.

Who Didn't Come Back from Covid

The military was wise enough to listen to Wald. It would have been perverse to ignore the cockpit and reinforce parts of the plane that could survive bullet hits.

Policy makers, politicians, and the media have largely ignored the cockpit of good health: the human immunological system.

Maher pointed to a recent CDC study that reported the vast majority (78%) of those hospitalized or dead from Covid have been overweight or obese.

Of Americans aged 20 and over 73.6% are overweight; 42.5% are obese. (Obesity is defined as a body mass index (BMI) of over 30.) Many studies explain how obesity decreases resistance to infection. Obesity is linked to type 2 diabetes, hypertension, and heart disease, which increase the odds of hospitalization from Covid.

The Covid survival narrative has focused attention on lockdowns, masks and vaccinations. Maher pointed out the role that obesity played: "People died because talking about obesity had become a third rail in America." Maher continued, "the last thing you want to do is say something insensitive. We would literally rather die. Instead, we were told to lock down. Unfortunately, the killer

was already in the house and her name is Little Debbie."

Little Debbie, of course, is Maher's reference to heavily processed foods that are ubiquitous in the American diet.

A significant factor in the startling numbers of overweight Americans is the consumption of high-fructose corn syrup in heavily processed foods.

The total per capita consumption of all sugars in the United States is approximately 150 pounds a year. Of that, the average American consumes over 50 pounds of corn sweeteners a year.

Sugar is heavily subsidized by the US government through loans, purchases of sugar, and tariffs on imported sugar. Government incentives have created a high-fructose corn syrup industry which didn't exist prior to the 1970s. US sugar prices can be up to twice the world price.

From 1995-2020, corn subsidies in the United States totaled $116.6 billion. The subsidized and surplus corn ends up not only as processed food but as animal feed.

In *The Omnivore's Dilemma*, Michael Pollan explains, "Read the ingredients on the label of any processed food and, provided you know the chemical names it travels under, corn is what you will find." Pollan describes the corn food chain:

> "Corn is what feeds the steer that becomes the steak. Corn feeds the chicken and the pig, the turkey and the lamb, the catfish and the tilapia and, increasingly, even the salmon, a carnivore by nature that the fish farmers are reengineering to tolerate corn. The eggs are made of corn. The milk and cheese and yogurt, which once came from dairy cows that grazed on grass, now typically come from Holsteins that spend their working lives indoors tethered to machines, eating corn. Head over to the processed foods and you find ever more intricate manifestations of corn. A chicken nugget, for example, piles corn upon corn: what chicken it contains consists of corn, of course, but so do most of a nugget's other constituents, including the modified corn starch that glues the thing together, the corn flour in the batter that coats it, and the corn oil in which it gets fried. Much less obviously, the leavenings and lecithin, the mono-, di-, and triglycerides, the attractive golden coloring, and even the citric acid that keeps the nugget "fresh" can all be derived from corn. To wash down your chicken nuggets with virtually any soft drink in the supermarket is to have some corn with your corn. Since the 1980s virtually all the sodas and most of the fruit drinks sold in the supermarket have been sweetened with high-fructose corn syrup (HFCS)—after water, corn sweetener is their principal ingredient."

You might say at least we are getting cheap food for our tax dollars but not so fast. Heavily processed foods appear less expensive than they are, shifting consumption away from foods that do not promote obesity.

Notably, the cow is a ruminant animal and is meant to thrive on grass, not grains. Pollan explains why subsidized feedlot farming places your health at stake:

> "We've come to think of "corn-fed" as some kind of old-fashioned virtue, which it may well be when you're referring to Midwestern children, but feeding large quantities of corn to cows for the greater part of their lives is a practice neither particularly old nor virtuous. Its chief advantage is that cows fed corn, a compact source of caloric energy, get fat quickly; their flesh also marbles well, giving it

> a taste and texture American consumers have come to like. Yet this corn-fed meat is demonstrably less healthy for us, since it contains more saturated fat and less omega-3 fatty acids than the meat of animals fed grass. A growing body of research suggests that many of the health problems associated with eating beef are really problems with corn-fed beef. (Modern-day hunter-gatherers who subsist on wild meat don't have our rates of heart disease.) In the same way ruminants are ill adapted to eating corn, humans in turn may be poorly adapted to eating ruminants that eat corn."

Pollan explains how corn subsidies distort many aspects of animal production:

> "To help dispose of the rising mountain of cheap corn farmers were now producing, the government did everything it could to help wean cattle off grass and onto corn, by subsidizing the building of feedlots (through tax breaks) and promoting a grading system based on marbling that favored corn-fed over grass-fed beef. (The government also declined to make CAFOs [concentrated animal feeding operations] obey clean air and clean water laws.)"

Consequences of subsidized corn production abound, Pollan points out, "which are never charged directly to the consumer but, indirectly and invisibly, to the taxpayer (in the form of subsidies), the health care system (in the form of food-borne illnesses and obesity), and the environment (in the form of pollution), not to mention the welfare of the workers in the feedlot and the slaughterhouse and the welfare of the animals themselves."

Throughout this pandemic, corn subsidies have continued unabated. Americans have continued to consume heavily processed foods while health consequences are ignored. Indeed, lockdowns fueled the consumption of junk foods. Yet, as Maher pointed out, it is not acceptable to point to the pattern of obesity in many who suffered and died from serious cases of Covid. It is not a stretch to say that subsidizing foods known to increase obesity has killed people. Of course, we are all responsible for our food choices but there is no need to incentivize poor choices.

Other patterns can be observed linking government policy and Covid deaths. Parks were closed and outdoor activities prohibited. A recent study found that "people who tended to be sedentary were far more likely to be hospitalized, and to die, from Covid than those who exercised regularly." We know too that Vitamin D is essential for a healthy immunological system. Government policy dictated that we stay home rather than get outdoors, exercise, and allow the human body to manufacture Vitamin D from exposure to sunshine.

Heavily processed foods are designed to excite the taste buds. The illusion of tasty has killed Americans. Change begins with the willingness of individuals and families to overcome ignorance of what weakens the immunological cockpit of the human body. We can learn from those that didn't come back from Covid. We can strengthen our immunological system by rejecting a diet of subsidized, heavily processed calories.

- April 20, 2021

The Promise of Cryptocurrencies

WILLIAM J. LUTHER

Director of AIER's Sound Money Project

The search for digital gold began long before the launch of bitcoin. In 1996, Douglas Jackson and Barry Downey founded E-Gold, Ltd., which enabled its customers to transfer titles to warehoused gold on the Internet. The company had secured more than one million users by 2005, when Jackson and Downey, along with co-owner Reid Jackson, were indicted for money laundering and operating an unlicensed money transmitting business. Rather than risk spending decades behind bars, the defendants accepted a plea deal. But doing so effectively precluded them from securing the requisite licenses to operate E-Gold. The gold transfer site never reopened.

Cryptocurrencies like bitcoin have little in common with E-Gold. They are not claims to gold or any other asset. They do not rely on a trusted third party to process transactions. But, like E-Gold, they offer the hope of a new monetary system that improves upon the shortcomings of physical commodity and fiat monies.

Commodities like gold are naturally scarce. It is costly to dig gold out of the ground and mint it into coins. Miners and minters will only engage in their respective activities if the benefits of doing so—that is, the purchasing power of a coin—exceed the costs.

The natural scarcity of gold means that the supply of gold coins is governed by a decentralized, self-adjusting mechanism. If the demand for gold coins increases unexpectedly, the purchasing power rises. Since the increased purchasing power makes it more profitable to mine gold and mint coins, miners and minters produce more coins than usual. And, as the supply increases at a faster rate, the purchasing power of gold coins is gradually driven back down to the cost of production. Then, having eliminated the profit opportunity, miners and minters resume normal operations to accommodate more routine increases in demand from population and income growth and reductions in supply from wear and tear.

Under the classical gold standard, market participants could be reasonably confident in predicting the price level in twenty, fifty, even a hundred years! They knew that the decentralized, self-adjusting mechanism of the gold standard would accommodate changes in the demand for gold coins or offset changes in the supply of gold coins. Hence, changes in the price level would tend to be mean reverting. In other words, the gold standard provided a credible long-run nominal anchor.

The classical gold standard was not without its downsides, however. The natural scarcity of gold, which enabled the decentralized, self-adjusting mechanism to function, also meant that the monetary system was costly to maintain and slow to adjust. To increase the supply of gold coins, one must employ workers and machines to dig up gold and mint it into coins. Those workers and machines could be used to produce other valuable goods and services. Moreover, the adjustment period could be quite long. While the purchasing power of gold was relatively stable over the long term, it was quite volatile over short periods of time.

With the shortcomings of commodity monies in mind, it is easy to see the allure of fiat monies. Fiat monies lack natural scarcity. The marginal cost of creating a dollar is effectively zero, as it is accomplished with a mere keystroke. Fiat monies are

made artificially scarce by their issuers, typically a central bank. If a central bank were to manage the supply of a fiat money well, then, it could provide a credible long-run nominal anchor similar to that of the gold standard with a much shorter adjustment period and at a much lower cost.

In practice, fiat monies have not lived up to their promise. Even the best fiat monies have tended to be less predictable than the classical gold standard. And, while it is cheap to manage the supply of fiat money, the lack of predictability leads market participants to incur significant costs to estimate future nominal variables.

Why do fiat monies perform so poorly? Just as natural scarcity enabled the gold standard to perform so well but also accounted for its shortcomings, the artificial scarcity of a fiat money makes it possible to outperform the gold standard while also making it probable to perform much worse. The problem is that the artificial scarcity of fiat monies depends on the decisions of inherently-discretionary central banks.

Cryptocurrencies have the potential to improve upon both commodity and fiat monies. Like fiat monies, cryptocurrencies are artificially scarce. But, like commodity monies, their scarcity need not rely on discretionary supply management. A cryptocurrency issuer might guarantee appropriate supply adjustments by writing them into the source code. If designed properly, a cryptocurrency would anchor long-run expectations and provide timely supply adjustments at a lower cost than commodity and fiat monies.

- April 7, 2021

14 Months Later: A Pathway Forward

PAUL E. ALEXANDER

Contributor

Is there a chance to recover and to effectively vanquish Covid-19, at least to end the pandemic and return to normal lives again? We function here as prognosticators and contrarians that seek to inform and share and to learn, and we thus argue yes, and while we were blindsided and there were grave initial mistakes and some very consequential such as the very flawed and botched initial testing by the CDC that left the United States vulnerable and flying blind and allowed the virus to seed for 4 to 5 weeks initially, the following are the key components of the Covid-19 response that should have been enacted from inception (save 3-4 weeks initially to understand the pathogen) and which should be urgently implemented based on the experiences over the last 14 months or so. In our opinion.

We offer this as a pathway forward and ask that we consider these as we try to deal with essentially failed approaches thus far, and use our common sense and deductive reasoning and logic to interpret the science and make informed decisions. We call on the medical experts who inform governments to likely for the first time, use some common sense and logic and some critical thinking; if it is all about the science, we implore the medical decision-makers to follow the data and science and to use it and use critical analysis of the data; we argue they have not; these decision-makers must understand the impact of their policies and stopping Covid 'at all costs' is not a policy and not attainable; if a policy is devastating and causing great harm to the population, you stop it, you do not harden it and reapply it as that is patently absurd and harmful; as such, we also ask our decision-makers to conduct the appropriate hazard analyses and cost-effective analyses.

Our pathway forward is as follows:

1. Properly and strongly protect the high-risk elderly persons with medical conditions and vulnerable persons e.g. frail persons with comorbid conditions, obese persons; elderly persons in nursing homes, assisted living facilities, long-term care facilities etc. are most at risk for severe illness or death from Covid-19 and they must be protected as a basis for any response to work; staff infecting nursing home residents remains the key breach in transmission and the rate-limiting step and has to be focused on immediately; stop staff from entering the nursing homes and infecting residents (sequester staff on site for one to two weeks at a time with no prejudice if they cannot, or use nursing home students or nearby hotels for residence to control transmission); we have failed to secure our nursing home residents and we have caused tens of thousands of deaths and we still continue to not secure the nursing homes

2. Immediately end all societal lockdown, shelter-in-place, mask mandate, and school closure policies; we must reopen all of our economies in the US, Canada (provinces such as Ontario), UK etc. as there are tremendous harms to these economic closures; there are catastrophic costs to these policies and evidence accumulated across one year now strongly suggests that these are highly ineffective and do not work; they are absolutely baseless and without merit; stop relying on hypothetical

'worst case scenario' projection models, as they have been incredibly inaccurate and grossly flawed; the crushing harms and devastation from these far outweigh any benefit and the harms are most pronounced among the poorer in society who are least able to afford the restrictions; the lockdown itself kills people, destroys families, prevents education of our children; child abuse is being missed by closed schools and the lockdowns promotes child abuse; lost jobs cause stress in the household and with closed schools, children are vulnerable as the visibility is gone and this is catastrophic; there is near zero risk to children from Covid and we are harming them by school closures, it was one of the most devastating misapplications of public policy; most of the decisions made by the governments and their medical advisors including Dr. Fauci who I have much respect for, are illogical, absurd, irrational, nonsensical, specious, and in most part reckless and have caused far greater harms with their policies

3. Isolate ONLY the sick/symptomatic persons (no isolation of asymptomatic persons); stop contact tracing where the virus has already spread extensively as it confers no benefit; stop isolating persons who are not sick/not symptomatic (are asymptomatic); stop wide testing of asymptomatic persons

4. Foster improved hand-washing hygiene and improved sanitation

5. Promote and offer early ambulatory outpatient therapeutics including combined and sequenced antivirals and anti-infectives and for some drugs as prophylaxis (hydroxychloroquine, ivermectin, doxycycline, bromhexine, colchicine, favipiravir, quercetin etc.), corticosteroid (budesonide, dexamethasone, prednisone and methylprednisolone etc.), and antithrombotic drugs (aspirin, enoxaparin etc.) as needed for those who do become ill, especially high-risk persons and those in congregate settings such as nursing homes, assisted living facilities, long-term care facilities etc.; we recognize that future research would clarify and define the benefit of these early treatments; we believe that it is not possible to overstate the philosophy that since early in-center treatment with already available medications (repurposed) in nursing homes and similar settings is associated with a large reduction in mortality among nursing home residents, there can be no scientifically sound reasons, nor moral rationale for not utilizing these forms of treatment; we are trying to prevent hospitalizations and save lives and strongly believe that this approach can be impactful and merits strong consideration; the accumulating early treatment evidence is compelling and deserving of very serious consideration and study as a therapeutic option, given this emergency. To do otherwise is to fail our patients

6. Vaccines should be mainly available to those over 70 years of age who are high-risk and only after shared decision-making with their clinicians whereby patients can make informed decisions and consent to being fully informed; offer vaccines to high-risk front line medical staff who interact with high-risk persons; we however believe that this pandemic could have been and can be ended without vaccines e.g. via the simultaneous use of combined strong protections of the elderly and high-risk, early outpatient treatment, isolation of the sick only, hand-washing hygiene, and allowing the low-risk portion of the population to

become infected naturally and harmlessly with reasonable precautions as part of normal living; a vast amount of our views on this is based on the lack of safety data and testing for these vaccines, leaving us unable to judge the future impact; we are already seeing adverse effects and even deaths recorded due to the vaccines

7. Thus, vaccines are not to be given/prioritized for those under 70 years of age who are healthy, and not to young persons e.g. those under 19 years of age; no vaccines are to be administered to pediatric/children age e.g. 6 months to 19 years or so as there is no evidence to support vaccinations; the benefits do not outweigh the risks. It is also important that we remind that this issue of asymptomatic spread and recurrent infection is a false narrative in our opinion. These two are extremely rare and are being used to drive fear and thus the need for vaccine. These happen very rarely and was used to drive the fear so as to impose the illogical and unscientific lockdowns. Our review of the evidence indicates that the issue of asymptomatic spread and recurrent infections (re-infections) is a false narrative and cannot be backed up with evidence.

8. Begin immediate testing for T-cell immunity before vaccinating the designated group, if we are vaccinating the higher-risk persons; we do not vaccinate persons who have active infection or who have recovered from infection

9. Routine public service announcements (PSAs) are to be given on the benefits of Vitamin D supplements for persons with darker skin colours and those confined within congregate settings for prolonged periods, as well as messaging about the benefits of weight loss for those overweight and obese

10. Use a more reliable test other than the RT-PCR test and if this is to be used, use a positive threshold cut-point or cycle count threshold (Ct) of 25 cycles/amplifications and below to denote a positive case (infectious and possibly pathogenic); above Ct of 25 denotes nonculturable, nonviable virus and essentially prior infection or viral dust or fragments

11. Allow and foster the low-risk persons in the population e.g. infants, children, teenagers, young adults, middle-aged adults and all those who are reasonably healthy with no serious medical conditions, to live unfettered normal lives with sensible precautions so as to allow for natural exposure immunity; it is this portion of society that will substantially help develop population level 'herd' immunity (either via natural exposure, a vaccine, a combination of both, or even from therapeutics such as early treatment that reduces symptoms and thus transmission)

12. Recognize that asymptomatic spread is rare if at all and urgently provide messaging to the public that all persons who get infected are not at equal risk of severe illness or death; that there is an age gradient to severity of outcomes e.g. 25-year old David who is a healthy male is not at the same risk of severe illness or death if infected with SARS-CoV-2 as 80-year old Janet who is very sick with 2 underlying medical conditions such as renal disease and cardiovascular disease and who is obese

13. Recognize that a more 'focused' pandemic response (Great Barrington Declaration) approach that is targeted to age and risk is the

best approach; 'one size does not fit all' when we are devising a pandemic response

14. Ensure hospitals are equipped and do not get overwhelmed

15. Understand that the immune systems of children are developing and being set for life and as such, we must allow them to engage freely with the environment; we may be damaging their immune systems long-term and we must allow their immune systems to be taxed and tuned up daily; children must not be confined indoors as transmission is far greater when confined indoors and it is just common sense

16. End masking and social distancing in any manner for children given their near zero risk of infection or spreading COVID virus as well as their exceedingly low risk of severe illness or death if infected; there is no evidence of any benefit; the science behind 6 feet social distancing was not there and pseudo-science, embarrassingly weak and fear based; there are increasing reports of harms due to the use of these COVID face masks. We have looked at all of the mask evidence and the blue surgical masks and cloth masks are all ineffective. There is no evidence definitive that they are effective in stopping transmission (see the Danish RCT and the Marine recruit study as well as the Swedish data on the 1.95 million Swede kids <16 years with no mask mandate and no school closures, and there were zero deaths, '0'). Mask mandates in all states in the US and all nations, based on our analysis, showed that mask mandates have all failed, and cases spike after imposition of such mandates. They do not work. Outdoor masks are nonsensical, as there is little to no transmission outdoors. Less than 10% of transmission happens outdoors as there is ventilation. You are 19 times less likely to be infected outdoors than indoors, due to the sunlight, the heat, and the ventilation. Come on, it is time you used your common sense. You do not need a mask when you go walking or riding or hiking outdoor or even driving in your car. Think. Moreover, if you have had COVID and cleared it and recovered, you are essentially immune. Toss the mask in the garbage, you do not need it. Natural exposure immunity is far more broad, durable, and protective and long term than even vaccine immunity.

17. Stop the drive to keep our people in fear, cowering under their beds needlessly; stop the mass media hysteria and fear about variants and mutations, as this is a good aspect, as when viruses mutate they typically mutate to much milder versions; moreover, there is no credible available evidence anywhere that the variants are more lethal, none; the vast majority of people who are infected do not have a serious problem with COVID, near 100%; 'infections' are not important and they are not a serious problem and one may argue 'who cares' about that number; it is not that we do not care about 'infections', for we do; but the message we are trying to get across is that a) the PCR test with its high false positives impact these numbers, thus making interpretation sub-optimal and b) one may test positive but have no symptoms or are mildly symptomatic with no real problematic sequelae which is the vast majority of instances; what is critical is not the fear that the media and television medical experts drive over 'infections', but rather it is the hospitalization, ICU use, and deaths that may result (in a minor portion of instances), not the number of infections; we need to get a grip and stop

the fear mongering; if the infections do not result in consequential cases that need hospitalization or end in death, then we must stop the misinformation, hysteria and fear to the public. Stop it, allow people to live their lives, secure the elderly high-risk properly, use early outpatient treatment that exists, and let us go on with life. There is more to life than COVID and this insanity! There are much more serious pathogens, chronic diseases, and situations and risks in life that we have learnt to live with and accept.

18. We close by reminding, that asymptomatic mass testing causes harms and drives fear and it is useless, and lockdowns, school closures, and business closures cause sufferation all the way around. We saw real evidence of business owners in the US and children in the US committing serious self harms and suicides by mid of 2020 due to the lockdowns. Not the virus. Asymptomatic testing is non-sensical and not needed. It is important as we close this op-ed, to remind people that our precious elderly have lost the rhythm and rhyme of life with these lockdowns and restrictions and many do not even get to shower in their aged homes they are residing in. Their dementia escalates and they lose hope and die miserably. Our precious elderly that we have failed to properly secure as staff infect them by bringing pathogen from the outside, and we suffer them in the last months with this crushing isolation. They want their autonomy back in the last few months and years of life. When we inquire how our seniors want to live the last few months of their lives and even year (s), they just want to be left in peace and to leave the world on their terms. They are not being fully informed on the vaccine and are being pushed and coerced and do not give informed consent and this is immoral and unethical and even illegal. Maybe they do not want protection, and we must not impose this on our seniors. If they want protection, yes, then we aid them, but we must take their needs and views into account. They are not 'chattel'. We are here because of them and all they have done for us in the prime of their lives. We need to appreciate they are human beings that gave their best years and in this last period, must be afforded the gracious mercy and understanding and respect. We must allow them their dignity. They simply want their dignity and to live it out how they wish, not locked in their 2 x 2 room and with no freedom, no bath, no interaction, even after they take the vaccine. Why not allow things to be optional for them? Why force the vaccine on them?

This all makes no sense and CDC and Dr. Fauci and Dr. Birx have made no sense and have really suffered our elderly and their families who cannot even visit their elderly. These are smart people and we cannot speak for what is going on in their heads but what these Task Force people have done to the American people is reprehensible. The guidance by the CDC also remains non-sensical at best and utterly absurd at worst when you read it. One minute you do not carry the virus if vaccinated, the next day you do carry the virus if vaccinated. This is so horrible and there are no words to describe what Fauci and these unscientific absurd television medical experts have done and fostered in their nonsense. They leave the public so confused and dismayed. These 'medical experts' have been flat wrong on most everything to do with this pandemic and now the vaccine. It is emerging as a serious problem and people are not being properly consented or told the facts on

the vaccine. Case in point the recent CDC study on vaccinating pregnant women is very flawed as it bases its conclusions on 78 pregnant women who took the vaccine and have COVID. How can you make a policy or inform the population based on 78 persons? And they, CDC, did not even conduct a comparative analysis of the alternative cohort of similar but unvaccinated pregnant women to assess the impact of the vaccine on sequelae to the pregnant woman and the developing child in utero (and even post delivery). This is a live human being in there, why take this unprecedented risk? It is outrageous and particularly this push to vaccinate persons recovered from COVID or with present active COVID when there is no benefit from this and there could be a harmful reaction. Why not test these persons for antibody/T-cell immunity etc. to ascertain status and do not offer vaccine to those who are recovered as these people have natural immunity which is much more robust, broad, comprehensive, and durable (some may even say 'sterilizing') than a vaccine induced immunity due to a very narrow 'spike-specific' immunity? Why this rush with a vaccine that has no credible safety data? We have none and safety will be collected in the coming years. This raises serious concerns. Why even consider vaccinating children? We are against this, children must not receive any vaccine for COVID as there is no risk to them (getting infected, spreading it, or getting seriously ill) and I will go on record stating we could have dealt with this pandemic with zero vaccine. This is very problematic and I argue for no vaccines. Only for high risk persons and situations once fully consented.

To end, we must come to the population and the Faucis et al. must tell us once and for all, that 'we are not all at equal risk of severe outcome if infected'. This was the one message that Fauci et al. put out day one and it is the image and belief in the minds of all that leaves us unable to emerge fully. People remain scared and uninformed for they believe this tripe, this utter unscientific nonsense. And it has crippled us. It is 100% untrue. It must be corrected on the record. Also, do all we can to end censorship, for this COVID disaster caused by Fauci and Birx, the hysterical uninformed media cartel, and the illogical, academically slopping, cognitive dissonance medical experts on television, with their utter garbage day in, day out, have shown us that without debate, without open discussion, then there will be no path forward. With no questioning and push back on their verbal nonsense, then the public is the ultimate loser as we have seen as we look around and try to emerge form what has been done the last near 15 months. This madness will never end. Science and medical advancement demands and requires open debate and questioning of those making decisions. As Kuldorff and Atlas have said (Barrington Declaration), we have lost the 300 years gained from the Age of Enlightenment.

Contributing Authors

- **Paul E Alexander MSc PhD**, McMaster University and GUIDE Research Methods Group, Hamilton, Ontario, Canada elias98_99@yahoo.com

- **Howard C. Tenenbaum DDS, Dip. Perio., PhD,** FRCD(C) Centre for Advanced Dental Research and Care, Mount Sinai Hospital, and Faculties of Medicine and Dentistry, University of Toronto, Toronto, ON, Canada howard.tenenbaum@sinaihealth.ca

- **Dr. Parvez Dara, MD, MBA**, daraparvez@gmail.com

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AMERICAN INSTITUTE FOR ECONOMIC RESEARCH
250 Division Street | PO Box 1000 | Great Barrington, MA 01230-1000