ACCESS FINANCIAL SERVICES, INC.

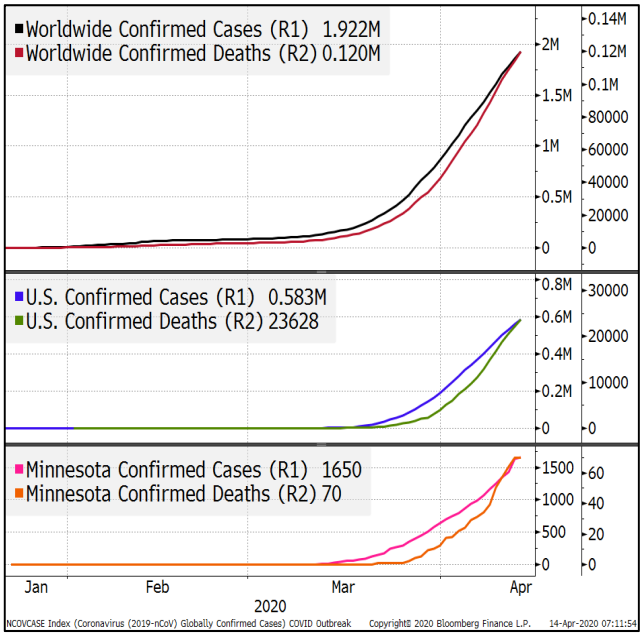
Quarterly Review and Outlook — First Quarter, 2020

Benchmark Returns as of March 31, 2020

INDEX	3 Mo.	6 Mo.	12 Mo.
US STOCKS			
S&P 500 Index (large-cap stocks)	(19.60)	(12.31)	(6.98)
Russell 2000 Index (small-cap stocks)	(30.61)	(23.72)	(23.99)
FOREIGN STOCKS			
MSCI EAFE Net Total Return Index (US$)	(22.83)	(16.52)	(14.38)
S&P Europe 350 Index Net TR Index (US$)	(23.99)	(17.07)	(14.95)
MSCI Japan Net Total Return Index (US$)	(16.79)	(10.43)	(7.57)
MSCI Emerging Markets Net TR Index (US$)	(23.60)	(14.55)	(17.69)
COMMODITIES & CURRENCIES			
US Dollar	2.76	(0.33)	1.87
Euro	(1.62)	1.21	(1.62)
Gold	3.95	7.11	22.48
Oil (West Texas Intermediate)	(66.46)	(62.12)	(66.75)
Bitcoin	(9.46)	(21.35)	57.06
BONDS			
BBgBarc US Aggregate Bond (inv. grade)	3.15	3.33	8.93
BBgBarc US Treasury 20+ Year	21.47	16.33	33.50
BBgBarc US Treas. Inflation Protected Secs.	1.69	2.50	7.18
BbgBarc Municipal Bond	(0.63)	0.10	3.85
BBgBarc US Credit TR (corporate bonds)	(3.14)	(2.13)	5.10
BBgBarc US Corp. High Yield Bond	(12.68)	(10.40)	(6.94)
S&P International Sov Ex-US Bond US$	(2.08)	(2.04)	0.91

Source: Bloomberg and Morningstar

Chart 1: Coronavirus Confirmed Cases & Deaths



Source: Access Financial Services using Bloomberg Software & Data

"You've got to understand that you don't make the timeline, the virus makes the timeline"

– Dr. Anthony Fauci,
Director of the National Institute of
Allergy and Infectious Diseases

It was December 31 when the international health agency said it was notified that cases of pneumonia with an unknown cause had been detected in Wuhan, a city in China's Hubei province. By January 3, a total of 44 patients had been reported by Chinese authorities. By early March, the virus had spread to every continent except Antarctica, with 118,000 cases and more than 4,000 deaths. On March 11, the World Health Organization labeled the spread of a novel coronavirus across the globe a "pandemic." Today, there have been more than 1.922 million cases and more than 120,000 have died from the coronavirus (Chart 1). While it took three months for the first 100,000 cases globally, the next 100,000 appeared in 12 days, and the total doubled again in about a week. Many parts of the world have come to a standstill as societies struggle to slow the virus's spread. As a result, the global economy has dangerously slowed. Millions of people have lost their jobs, shutting themselves inside their homes as they wait for the pandemic to recede.

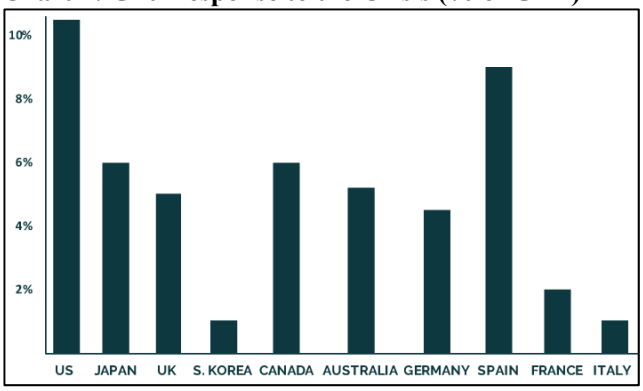
The coronavirus crisis is a biological crisis. From an investment perspective, this makes it fundamentally different than the 2008 global financial crisis, the 2000 dot com bust, the 1990 Japanese crash, and the 1930s Great Depression – all of which were financial crises needing financial and economic cures. As such, the current crisis needs to be analyzed differently.

The financial and economic policy responses to the coronavirus crisis are helpful in dealing with the pain, but do not address the cause of the pandemic itself. The cure is to exhaust the coronavirus pandemic. But to exhaust the pandemic without overburdening stretched healthcare systems requires shutting the economy for months. If the economy is reopened too soon, then the pandemic could easily reignite in another round.

The US fiscal and monetary response makes the measures taken during any other crisis pale by comparison. The various packages in the US alone at this point amount to 10 percent of annual GDP (Chart 2). But if exhausting the pandemic requires a third of the economy to be shut for a third of the year, then the economy would lose one ninth, or 11 percent, of its annual output. Hence, despite the biggest fiscal boost of all time, the economy would end up shrinking.

Some people argue that in shutting the economy, "the cure is worse than the disease". They argue that most coronavirus victims suffer mild or no illness. Moreover, the mortality rate is low and might not be much higher than that of the flu. Even if this is true, the argument misses the point.

Chart 2: G10 Response to the Crisis (% of GDP)



Source: BCA Research

Death requires very little medical intervention and resources, whereas severe illness can require massive medical intervention and resources, especially when the severe illness is a respiratory illness leaving the patient struggling to breathe and needing ventilation in an intensive care unit (ICU). As a society, we cannot deny an ICU to somebody who is struggling to breathe. Therefore, it seems that the most important metric for the coronavirus crisis is not its mortality rate, but rather its morbidity (severe illness) rate. Or more specifically, the morbidity rate versus the economy's ICU capacity.

If we're optimistic and assume that the coronavirus mortality rate is around 0.3 percent and that its morbidity rate is around three times higher at 1 percent, this means that if one hundred thousand people get infected, one thousand will need ICU treatment. But even advanced economies have only a dozen or so ICU beds per hundred thousand people. The US has a high number at around 26, Italy has 12.5 and the UK has only around 7.

As we have come to know 'flattening the curve' of infections comes at a significant cost. Keeping the weekly infection rate below ICU capacity means that the infection rate probably must be suppressed for more than a few months until we have widespread treatments and vaccines available. Meaning that the severe measures that flatten the infection curve – quarantining, social distancing, and essentially shutting the economy – must also stay in place for some time after infection rates have stopped rising and that is a big problem.

The evolution of the coronavirus depends on the sum of many millions of individual actions which themselves depend on the evolving pandemic data. When mortality, morbidity and infection rates are surging the public will sense an emergency and accept the loss of liberty and livelihood that comes from quarantining and shutting the economy. The result is that 'R-nought' – the number of people that each infected person infects – drops, which suppresses the pandemic.

But once infection rates level off or reverse, the public's sense of emergency dissipates. People push back against the continued loss of liberty and livelihood. As do policymakers. The result is that R-nought reaccelerates.

If the R-nought reaccelerates, the large proportion of the population who have not been infected are vulnerable to the virus. Therefore, if the economy reopens too soon, the pandemic will reignite in a second wave.

This process will be stopped when a treatment and vaccine becomes available. While most experts have warned the public that vaccines typically take years to develop, and one for the coronavirus could take between 12 to 18 months at best, a vaccine against the coronavirus could be ready much sooner according to Sarah Gilbert, professor of vaccinology at Oxford University. According to Bloomberg, she told The Times on April 11 that she is 80% confident the vaccine would work and could be ready by September with human trials set to start in two weeks. However, the article also notes that while manufacturing the millions of doses necessary could take months. Gilbert is in discussions with the British government about starting production even before the final results are in.

The key message is that the economic shutdown will probably last longer than most people anticipate. And that if the economy is reopened too soon, the pandemic will reignite in a second wave later this year.

Despite mounting evidence that the coronavirus was already damaging the global economy as China's economy, the world's second largest, was brought to a virtual standstill, global financial markets continued posting strong gains until mid-February. Then, stocks and other risk assets turned south in a hurry.

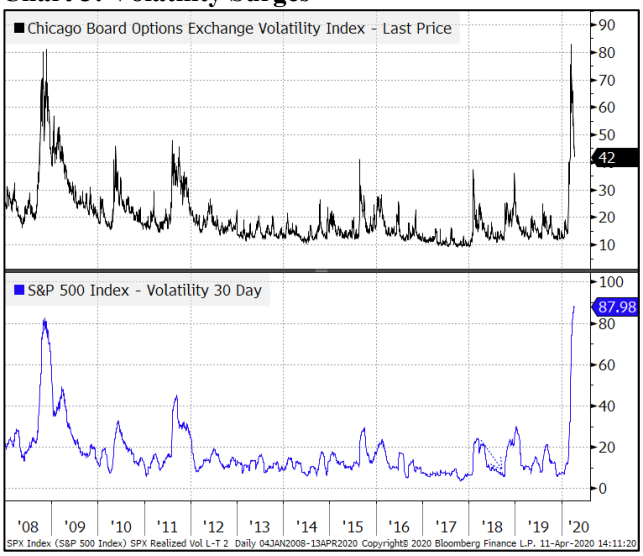
In the 23 trading days between February 19 and March 23, the S&P 500 Index (SPX) of US large companies dropped -33.9% and small companies as measured by the Russell 2000 index dropped by -40.8%.

The Chicago Board Options Exchange Volatility Index (VIX) which measures 30-day expected volatility of the SPX surged to levels higher than during the 2008 financial crisis as did 30-day realized volatility (Chart 3). While the VIX has declined since peaking on March

16, realized volatility which measures volatility ex-post has continued to rise.

Between February 19 and April 9, the SPX went from a record high to the fastest contraction into bear market territory (20% decline) in history to the best week since 1938 during the week ended Friday, March 27, and subsequently to its best week since 1974 for the shortened market week ended Thursday, April 9 (Chart 4).

Chart 3: Volatility Surges



Source: Access Financial Services using Bloomberg Software & Data

Chart 4: S&P 500 Index Year-To-Date

Source: Access Financial Services using Bloomberg Software & Data

Not only did the price of stocks decline. So, too, did most areas of the bond market including municipal bonds, mortgage-backed securities, investment-grade and high-yield corporate bonds, leveraged loans and collateralized loan obligations. Long term US Treasuries even declined 15.9% between March 9 and March 18 (Bloomberg Barclays US Long Treasury Total Return Index). For a while, everything was for sale in a market with no apparent buyers.

Adding insult to injury was the collapse of the OPEC+ alliance as the Saudi-led OPEC's aggressive push for a 1.5 million barrels a day of additional output cuts backfired without a back-up plan. Despite a strong case for additional cuts given the demand shock on the back of the coronavirus outbreak, Russia had no interest in reducing its output any further. Saudi Arabia, angered by Moscow's position, open its spigots and drove down prices. The result was an oil price war between Saudi Arabia and Russia that sent oil prices into one of the steepest declines in history.

It's often said that history may not repeat, but it rhymes, and that this time is never truly different. While it's true that each market cycle offers up its own unique characteristics, it's equally the case that human psychology is broadly consistent in how it responds to stresses.

Thinking in terms of the five stages of grief (denial, anger, panic, response and resignation) can help to build a map of where we are in the current downdraft, even if the circumstances surrounding the coronavirus and its impact upon the economy are unique. The good news is that we are probably past the peak of the panic stage and deep into the response stage as policy makers from the president to congress to local leaders to global central banks are all responding to the crisis in ways we haven't seen before. From here we can expect lower rather than higher volatility. The bad news is even as volatility falls, we're probably not out of the woods yet.

As we enter the second quarter, we have had a very strong recovery off the stock market lows thanks to an aggressive policy response and some initial signs of improving coronavirus related data. It is at least possible to consider the idea that the stock market has already bottomed and that any further declines will not take out March's low. Unfortunately, the weight of history suggests that scenario is unlikely and that the ultimate low is still months into the future.

To begin with, there were just 24 trading days between the market peak and the low to date. If we look at every SPX drop of at least 20% since 1929, the quickest peak-to-trough descent was the crash of 1987. Stocks dropped precipitously, but there was no associated economic distress as the growth outlook was pretty solid going into the decline. During that episode, it took 79 days for the market to bottom – more than two times the current length of time. Other bear markets took considerably longer (Table 1).

Of course, the speed of the current descent was historically fast. Does that tell us something about how long it will take to find a bottom? Yes, but that's only part of the story.

Cameron Crise at Bloomberg looked at the nine bear markets that started between 1956 and 2007 and tried to identify a relationship between the timing from the market peak and the ensuing bottom using the following four factors:

- The speed of the decline, defined by the number of trading days it took to go from the market peak to down 20%
- The trailing price/earnings ratio at the time of the market peak
- The rise in the unemployment rate from the time of the market peak to the highest unemployment rate over the ensuing two years
- The decline in the Institute for Supply Management manufacturing survey (ISM) from the time the market peaked to the lowest ISM level observed over the ensuing two years

Table 1

Date of S&P 500 Peak	Trading Days From Peak to Bottom
September 16, 1929	708
August 2, 1956	319
December 12, 1961	141
February 9, 1966	173
November 29, 1968	388
January 11, 1973	451
November 28, 1980	445
August 25, 1987	74
March 24, 2000	664
October 9, 2007	370
February 19, 2020	24?

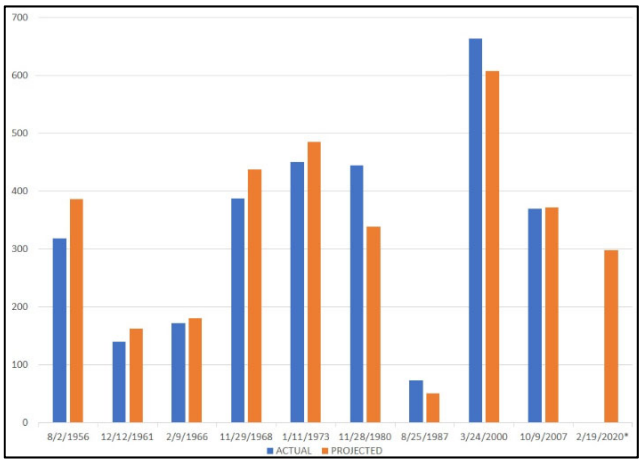
Source: Bloomberg

There is obviously some forward looking data here, so the results are more of an *explanation* for how long it takes the market to bottom rather than a *forecast*. That said, a good explanation can lead to a forecast by making some projections about trends in unemployment and the ISM data.

His model results are solid with a correlation coefficient of 0.91. It turns out that fast declines lead to quick bottoms, but relatively expensive markets (high price/earnings ratio) lead to more lengthy bottoms. Large rises in unemployment and large declines in the ISM are also associated with more drawn out bottoming timespans. The caveat is that in normal cycles, it takes a long time for unemployment to rise significantly and for the ISM to collapse. This isn't a normal cycle and those ordinary time frames have been compressed.

If we assume 10% for the unemployment rate and a decline of 15 for the ISM, the model forecast is 298 trading days from the market peak to the eventual bottom (far right orange bar in Chart 5). That would put it a little over a year from now which is a lot further out than most are expecting. Even if we use what are likely to be very optimistic assumption of an increase of 3.5% for the unemployment rate and a decline of 5 for the ISM, the number of trading days from market peak to bottom is 70. Assuming 5 trading days per week, that takes us out to sometime in early June.

Chart 5: Actual & Projected Trading Days Between S&P 500 Market Peak and Market Bottom of Bear Markets



Source: Bloomberg

We have been selling stocks into this decline. The early sales look good, the most recent ones – not so much. It is not that we don't believe the market will be higher on a medium-term basis, we just aren't convinced the recovery will come in the form of the sharp "V" many have come to expect.

Over last 10+ years, the steadiness of the rise of the US stock market has conditioned investors to believe stock market declines are to be aggressively bought because the subsequent recovery and path to new higher highs will be swift. And, that if things really start looking bad, central banks – the Fed in particular – are always willing and able to support the financial markets if the markets really start to stumble. This is often referred to as the "Fed put".

Since bottoming on March 23, the SPX has posted two very impressive rallies: +17.6% between March 23 and March 26, and 12.1% between April 3 and 9. The market is now 27.7% higher than where it bottomed on March 23 and the recovery has been amazingly swift. This strong performance can easily be seen as

reinforcing the market's pattern of swift recoveries after the short-lived declines of the past decade. But the rapidity with which the market is able to construct an entirely fresh bullish narrative, despite clear economic evidence to the contrary, should come as no surprise to those who traded through the last crisis.

What we know is that after big declines, big rebounds are to be expected. For example, the SPX rallied 24% over three trading days in October 2008, 20% over a week or so in early November and put in a 27% rally from Thanksgiving through the turn of the new year. I don't know about you, but I don't remember any of these "bull markets" and none of these fantastic rallies came close to marking the ultimate market low in 2009.

Chart 6 compares the SPX since its pre-coronavirus peak on February 19 with its performance after September 12, 2008, the last trading day before Lehman Brothers declared bankruptcy. Chart 7 illustrates the current market path along with average and median paths of the SPX following a 20% decline.

A threshold of a 20% decline is often used to define the onset of a bear market and for most stock market indices, this definition usually works fine because the nature of volatility is generally such that it is relatively low when markets are at their peak. As a result, a 20% drop represents a significant drop. It is not particularly useful to apply the same definition to higher volatility instruments such as natural gas when one-year volatility is usually above 40%.

The same principle holds for calibrating stock market rallies during periods of exceptional volatility. When the SPX was at its peak, the one-month historical volatility was around 14%. This implies that a 20% decline over a one-month period would represent a nearly five standard deviation event (basically 0% probability). Now, however, one-month volatility exceeds 80%, meaning a 20% move over the span of a month is less than a one standard deviation event – not even worth getting excited about.

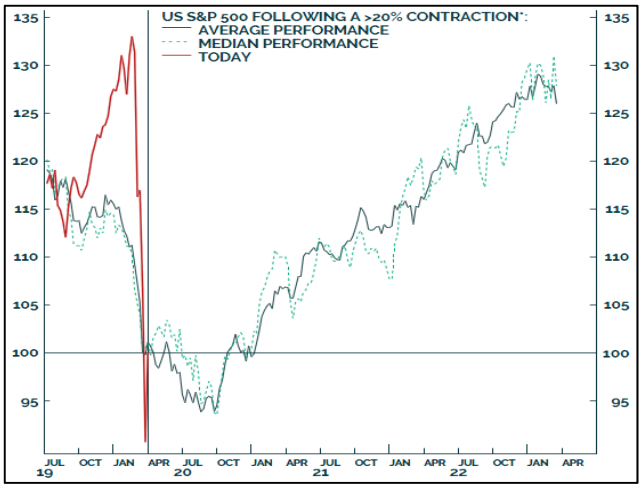
The SPX has swung 4.8% a day on average since the start of March. On Monday, April 6, the Index advanced 7% in a single day. Before this year, the Index hadn't jumped 5% in a single day since the 2008 financial crisis. The extreme short-term market volatility we have experienced since mid-February – both to the downside and the upside – has caused us to challenge our outlook for a further market decline frequently.

The fact of the matter is that in the very short term, markets are being driven by coronavirus related news – both from a human health perspective and a policy perspective and the news on this front has been relatively good recently.

Chart 6: S&P 500 Sept. 12, 2008 to May 29, 2009 & S&P 500 Feb. 19, 2020 to Present

Source: Access Financial Services using Bloomberg Software & Data

Chart 7: S&P 500 Bear/Bull Profiles



Source: BCA Research

This is good news, but it's important to remember how it has been achieved: via lockdowns. The timeline for a health improvement from when lockdown is triggered appears roughly similar to what was reported in Wuhan, which validates the previous theory that many of the world's major economies might begin emerging again in early May. But that will only be the start of restrictions being lifted. If Wuhan continues to be the model, it will be early June before life can theoretically resume with some sense of normality in a few of these countries, with others following in the subsequent weeks. The next problem is that consumers or businesses may show no inclination to rush back to their prior levels of economic activity, even when they are permitted to do so. Again, Wuhan provides the worrying precedent.

So, taking the recent dip in global fatalities at face value – that the peak has been seen – still suggests that economies will be stunted for months. And that's working with an optimistic forecast for the virus itself and that the government reaction is perfectly timed to avoid any second wave of infections. If that is the key pillar of the stock market's recent strength, I admire its bravery.

When we look past the high frequency coronavirus related news, we see a global economy that is entering what looks like a deep recession. Supply-chains are broken. Spending habits will be restrained for months. Corporate earnings will be cut and then cut again. Stock buy backs and dividends will be reduced or eliminated in some cases. Reconciling these realities with the stock market's 28% rally since bottoming in late March is difficult.

And, while the government stimulus response has been incredible, equity valuations seem more likely to compress rather than expand when the impact on the real economy bites in a few months time.

In last quarter's Letter, we noted that:

"The S&P 500 Index's forward price/earnings ratio hasn't been this high since the start of 2018. Back then, the Index was also at a record and stocks corrected sending the ratio down to around 17. However, in that case there was also a strong revision higher in earnings expectations which provided support for stock prices. In the first weeks of 2018, earnings upgrades outpaced downgrades by a record margin."

We showed the following chart (Chart 8) to illustrate the stock market's rich valuation:

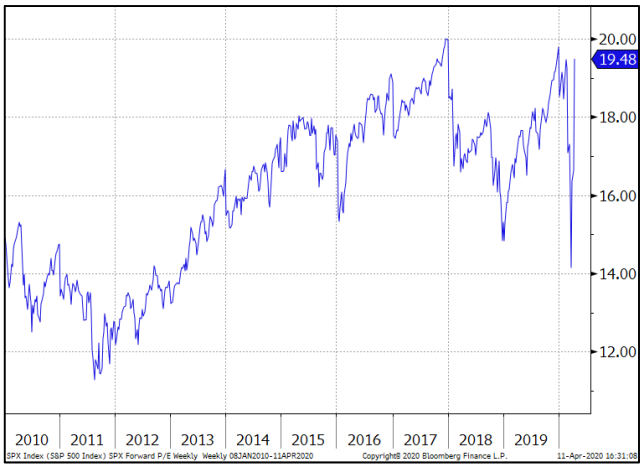
Chart 8: S&P 500 Forward Price/Earnings Ratio As Of December 31, 2019

Source: Access Financial Services using Bloomberg Software & Data

Given the significant decline in stocks since then, many are claiming that stocks have become "cheap". While it is true that stock prices are lower, price and value are not the same thing.

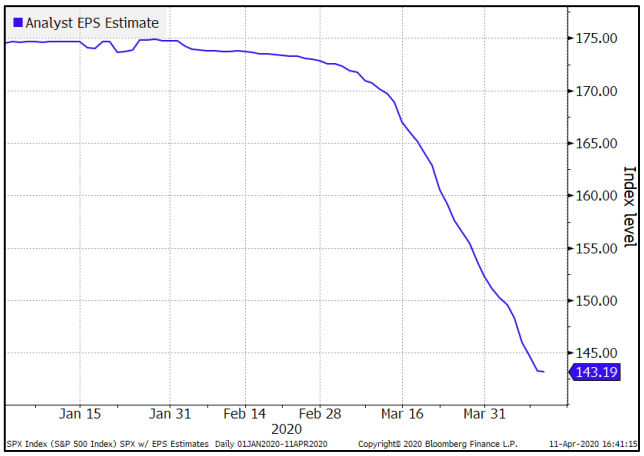
As shown in Chart 9, valuations as measured by the forward price/earnings (P/E) ratio initially declined sharply as stock prices declined (the "P" declined while the "E" remained constant). However, expected earnings over the next twelve months (the "E") are now being ratcheted down quickly (Chart 10) which has driven the current forward P/E ratio to within spitting distance of where it was at the end of 2019.

Chart 9: Current S&P 500 Forward Price/Earnings Ratio



Source: Access Financial Services using Bloomberg Software & Data

Chart 10: SP 500 Analyst Earnings Per Share Estimate for 2020



Source: Access Financial Services using Bloomberg Software & Data

Moreover, today's forward P/E ratio is based on stale earnings estimates[1] which will continue to come down over the coming weeks. Currently (according to Bloomberg), the bottom-up (using the median analyst

[1] According to Bernstein, 70% of analysts still haven't downgraded (as of April 8)

earnings estimate for each of the companies in the SPX) consensus is for SPX companies to earn $143.19 per share this year (as of April 10). Actual earnings per share (EPS) for 2019 were $151.93 and the forecast for the full year 2020 was $171.56 on January 1.

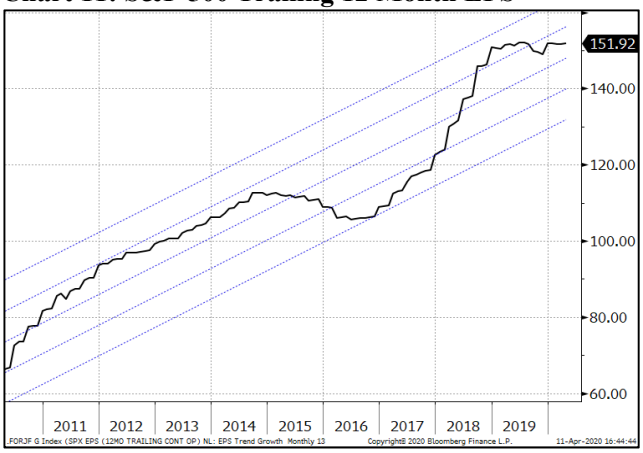
Earnings are what drive stock prices and estimating future stock prices based on forecasted earnings helps drive investment strategy. While we do not know how low earnings estimates will eventually fall, we can develop a target for the SPX using a range of earnings estimates and P/E ratios.

We'll start with what we know.

We know at this point that the current level of the SPX is 2790 and the forward P/E ratio based on expected 2020 earnings per share of $143 is 19.5. If we limit our P/E and EPS ranges to 15 – 21, and $115 – $155 (2019 EPS was $151.93), respectively, the projected value of the SPX is between 1725 (P/E: 15; EPS: $115) and 3255 (P/E: 21; EPS: 155)[2]. That equates to 16% upside to the high target and -38% downside to the low target from 2790.

Another way of looking at the potential EPS drawdown is by considering $160 as roughly trend EPS (Chart 11). Then for every month that the economy is shut down roughly $13.5 gets shaved off EPS. Thus, a one-month shutdown takes us to $146.5, a two-month shutdown takes us to $133, three-months to $119.5, etc.

Chart 11: S&P 500 Trailing 12 Month EPS



Source: Access Financial Services using Bloomberg Software & Data

We're a little over a month into the shutdown now and we can probably assume at least a two-month minimum. After that, maybe a phase in over two- to four-months (optimistically). So, estimating the earnings hit as 13.5+13.5+8+4 would take us to around $112. This puts the SPX between 1690 (using a P/E of 15) and 2475 (using a P/E of 22) – both of which are lower than where the Index is priced today.

The bottom line is that at 2790, valuations are once again at or near levels that the market has struggled to maintain. And, current valuations are based on earnings growth expectations that – from our perspective at least – are likely to come down in the months ahead resulting in even richer valuations assuming stock prices do not come down too.

Ok, so what is behind the SPX's 27% advance since March 23? One word: stimulus.

The unprecedented (my vote for the most overused word of the crisis) levels of stimulus being applied to this unprecedented event in an unprecedented amount of time has given investors all the faith needed that the authorities will pile on an endless supply of money ("do whatever it takes") to stem the economic fallout. Massive bailouts have a strong history of success and the size of the current bailout make all others pale by comparison.

The magnitude of the market's recent advance off its low point in such a short period of time also implies that the economic recovery will be swift by past standards, and the duration of economic downturns matters more than the depth for stocks.

However, investors expecting to look past a quick recession may have longer to wait than they realize. Restrictions forced on the economy by virus-related measures will prolong its slump "through 2020 and much of 2021," according Narayana Kocherlakota. The former president of the Federal Reserve Bank of Minneapolis says the likely length of the downturn means even governmental stimulus efforts need to be much more ambitious.

As noted earlier, if history serves as a guide, a deep, yet brief recession would be rare. If, however, we end up having the shortest possible recession (two quarters), a market bottom in late March could even make sense based on the fact that stocks bottomed an average of five months before economic downturns ended in 10 of the last 11 recessions.

An escape of a re-test of the stock market's lows would be unparalleled, though, in Bank of America's (BofA) view. The firm's economists expect one of the deepest recessions on record, and their equity strategists see SPX earnings falling 29% this year to $115 a share.

[2] Please see Appendix A for detailed table.

Based on BofA's models, it may take a few years for earnings to return to peak levels, but they too believe the recovery will be faster than usual considering quick and aggressive policy measures and a higher quality makeup of the SPX as industries like software have grown more important and energy less so.

During the 2008 financial crisis it took 17 quarters to recoup all lost earnings, and eight years after the Great Depression. The firm sees profits rising as much as 35% in 2021 to $155 a share surpassing 2019 EPS by a margin of 2%.

Business and academic economists expect the US to suffer its largest-ever contraction during the second quarter and the unemployment rate to soar to a post-Depression record. This will be followed by a recovery that will be moderate and drawn out according to Bloomberg's April survey between April 3 and April 9. Gross domestic product will drop an annualized 25% from April through June after a smaller setback in the first quarter and the jobless rate will hit 12.6%, the highest since the 1940s. The second half of the year will see a resumption of growth, according to the survey, though economists say the deck is stacked against a snap-back. Additional survey details are shown in Table 2.

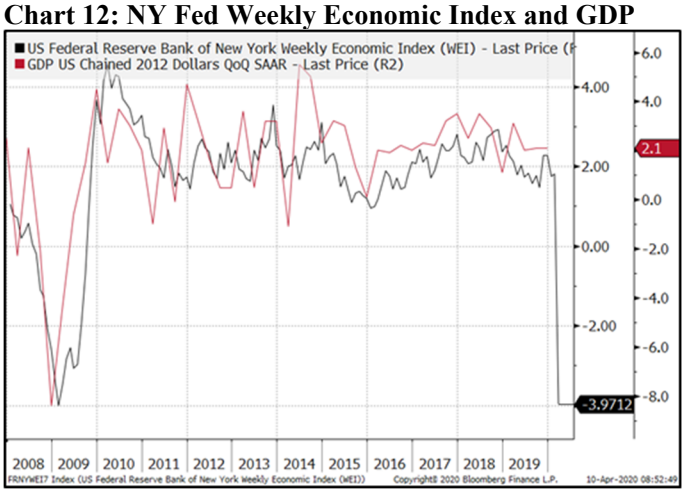
Table 2: US Economic Forecasts

Economic Activity	1Q 2020	2Q 2020	3Q 2020	4Q 2020	Avg. 2020	1Q 2021	2Q 2021
GDP Annualized	-3.1%	-25.0%	7.6%	5.8%	-3.3%	4.4%	3.7%
Previous survey (1 mo. ago)	1.4%	0.1%	1.3%	2.0%	1.4%	2.1%	2.1%
Consumer Spending	-2.8%	-25.1%	8.6%	5.5%	-3.7%	3.6%	3.2%
Previous survey (1 mo. ago)	1.7%	0.6%	1.7%	2.1%	1.9%	2.1%	2.1%
Imports Annualized	-4.9%	-25.0%	1.6%	6.0%	-7.4%	4.5%	5.5%
Previous survey (1 mo. ago)	0.9%	-0.5%	2.6%	3.1%	-0.4%	3.0%	3.0%
Exports Annualized	-4.0%	-20.2%	0.1%	5.0%	-4.6%	4.5%	3.7%
Previous survey (1 mo. ago)	-0.7%	-2.0%	2.0%	3.0%	0.1%	3.0%	3.0%
Unemployment rate	n/a	12.6%	9.3%	8.1%	8.2%	7.3%	6.9%
Previous survey (1 mo. ago)	3.6%	3.7%	3.7%	3.8%	3.7%	3.8%	3.7%
Average Payrolls (,000)	n/a	-3,807	195	417	-511	292	251
Previous survey (1 mo. ago)	205	140	63	123	146	135	131
Industrial Production YOY%	-1.9%	-10.4%	-6.3%	-5.1%	-5.7%	-1.0%	2.3%
Previous survey (1 mo. ago)	-0.4%	-0.1%	0.0%	0.6%	-0.1%	1.1%	1.7%
Housing Starts Annual	1,443	985	1,094	1,173	1,181	1,243	1,253
Previous survey (1 mo. ago)	1,438	1,372	1,355	1,354	1,386	1,370	1,359
Change	0.3%	-28.2%	-19.3%	-13.4%	-14.8%	-9.3%	-7.8%
New Home Sales Annual	715	489	587	600	605	640	659
Previous survey (1 mo. ago)	716	705	708	709	711	714	705
Change	-0.1%	-30.6%	-17.1%	-15.4%	-14.9%	-10.4%	-6.5%
Existing Home Sales Ann.	5.44	4.30	4.76	5.02	4.86	5.20	5.30
Previous survey (1 mo. ago)	5.45	5.45	5.46	5.47	5.45	5.47	5.49
Change	-0.2%	-21.1%	-12.8%	-8.2%	-10.8%	-4.9%	-3.5%
Building Permits Ann.	1,426	1,200	1,183	1,230	1,226	1,325	1,425
Previous survey (1 mo. ago)	1,457	1,430	1,422	1,439	1,444	1,430	1,433
Change	-2.1%	-16.1%	-16.8%	-14.5%	-15.1%	-7.3%	-0.6%
Budget Deficit as a % GDP	-5.5%	-9.9%	-11.2%	-11.5%	-11.6%	-9.7%	-8.8%
Previous survey (1 mo. ago)	-4.8%	-4.8%	-4.9%	-5.1%	-4.9%	-5.0%	-4.9%
Gov. Debt as a % GDP	81.9%	89.0%	92.9%	96.2%	91.7%	98.5%	95.3%
Previous survey (1 mo. ago)	80.1%	80.7%	80.8%	81.3%	81.3%	82.4%	82.1%

Survey of 69 economists conducted from April 3 to April 9
Source: Access Financial Services using Bloomberg Data

As further evidence the global economy has plunged into a deep recession, the New York Fed's weekly economic index, which tracks a variety of high-frequency activity indicators such as same-store retail sales, consumer sentiment, fuel sales, and unemployment insurance claims, has fallen below its 2008 lows (Chart 12). Service-sector purchasing manager indices have also collapsed to the weakest levels on record.

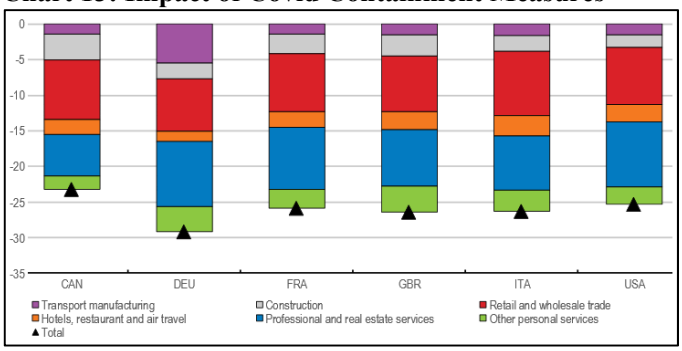
Chart 12: NY Fed Weekly Economic Index and GDP



Source: Access Financial Services using Bloomberg Software & Data

The Organization for Economic Cooperation and Development (OECD) estimates that the shutdowns have reduced the level of output by between one-fifth and one-quarter in most advanced economies (Chart 13). If business closures were to last three months, this would shave between 4-to-6 percentage points from annual growth in the OECD in 2020.

Chart 13: Impact of Covid Containment Measures



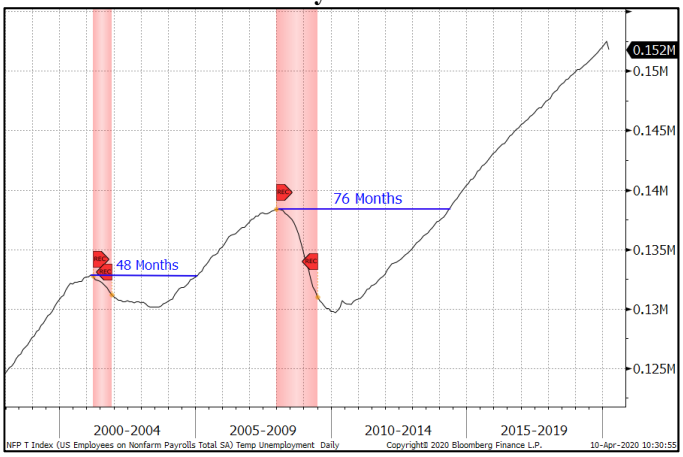
Source: OECD; Note: CAN: Canada; DEU: Germany; FRA: France: GBR: UK; ITA: Italy Full shutdowns are assumed in transport manufacturing and other personal services; declines of one-half are assumed for output in construction and professional service activities; and declines of three-quarters are assumed in all the other output categories directly affected by shutdowns.

Given the recent steep drop in output, it is likely that the unemployment rate will eclipse 10% in the US and most other economies during the coming months. While it normally takes many years for the level of unemployment to return to its prior peak (Chart 14), there is reason to believe the cycle will be shortened this time.

So far, most of the workers who have lost their jobs have been furloughed rather than permanently dismissed. According to the Bureau of Labor Statistics, 86% of the roughly 1.2 million US workers who lost their jobs in March were laid off temporarily. As a share of all unemployed, the number of workers on temporary layoff surged in March to the highest level on record (Chart 15).

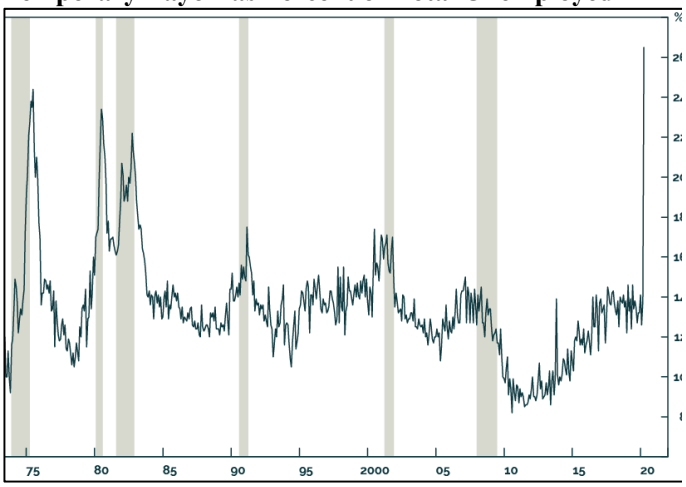
What we need to avoid is temporary layoffs turning into permanent ones. This is where government action is important. Nothing can be done about the near-term decline in economic activity. That is the price which needs to be paid to keep the virus under control. For now at least, transfers of income from governments to struggling households and firms is being used to reduce a lot of hardship, while helping to ensure there is enough pent up demand around when businesses reopen.

Chart 14: US Nonfarm Payrolls



Note: Red shaded areas indicate recessions
Source: Access Financial Services using Bloomberg Software & Data

Chart 15: US Individuals Who Have Lost Jobs on Temporary Layoff as Percent of Total Unemployed

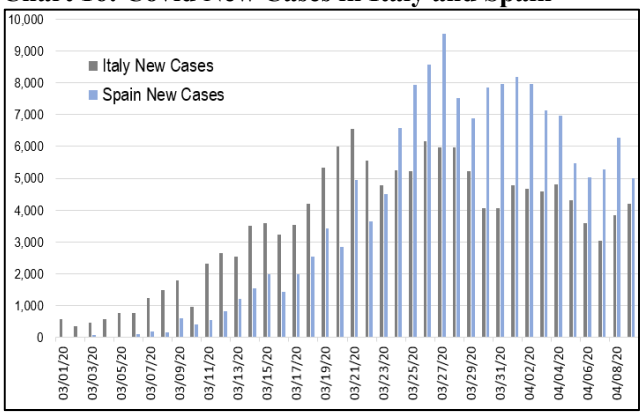


Note: Shaded areas indicate recessions
Source: BCA Research

In epidemiological language, policymakers are seeking to reduce the R-nought from well above one to well below one. As long as the reproduction number stays below one, the number of new infections will keep falling. Once the number of new cases has declined to a level that no longer overwhelms hospitals, policymakers will be able to relax containment measures by just enough to bring the reproduction number back to one. This will create a new steady state where the number of new infections remains at a stable and manageable level.

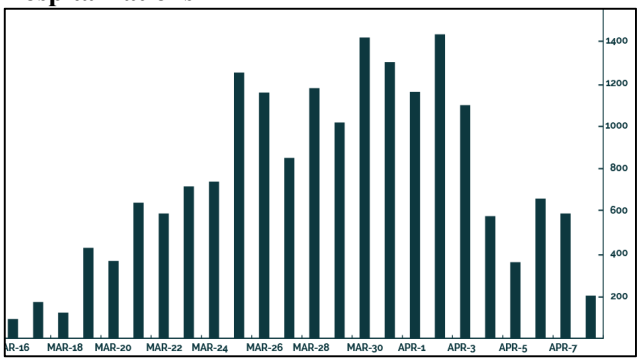
The good news is that the strategy shows early signs of being effective. The number of new cases and deaths have started to decline in both Italy and Spain, the two hardest hit European countries (Chart 16). In the US, while the number of new cases has yet to show a clear downward trend, there are glimmers of hope. For example, the net number of people admitted to New York hospitals has declined sharply since the beginning of April (Chart 17).

Chart 16: Covid New Cases in Italy and Spain



Source: Access Financial Services using Bloomberg Data

Chart 17: NY State Change in Total Covid-19 Hospitalizations



Source: BCA Research

While keeping the reproduction number from rising above one will still require a variety of containment measures, the economic burden of these measures will decline over time. To some extent, we will be able to

relax containment measures because the virus will find it more difficult to spread as more people are infected. However, unless it turns out that the number of asymptomatic cases is currently much greater than most estimates suggest, the benefits from this effect are likely to be small. The bigger impact will come not from making headway towards herd immunity, but from scaling up existing testing technologies to figure out who is dangerous to others and who is not.

Forcing almost everyone who is not deemed to be an "essential worker" to stay at home is hardly an optimal strategy. Rather than trying to isolate most people, it would be preferable to isolate only those who are infected. The problem is that we currently do not know who those people are. That will change as testing capacity ramps up.

The good news is that the technology to test people for coronavirus exists. Abbott Labs has already unveiled a PCR test that can render a positive result in as little as five minutes and a negative one in thirteen minutes. Last Wednesday, the FDA authorized a rapid antibody blood test for coronavirus developed by Cellex, which can determine if someone previously had the virus and has recovered.

While there is currently a shortage of test kits, producing more tests is an engineering problem that will be solved. As the number of tests performed begins to increase exponentially, testing will become pervasive and the impact of mass testing would make a huge difference.

We began reducing our clients' allocation to stocks on February 24 as it became increasingly apparent that the economic implications of the rapidly spreading pandemic were going to be much greater than anticipated. We continued selling stocks on an incremental basis as market conditions and the economic outlook deteriorated.

While the two strong rallies since the stock market bottomed on March 23 have caused us to challenge our strategy of being underweight stocks in our clients' portfolios, the information we are receiving about the spread and impact of the coronavirus on public health and the impact on the economy and corporate earnings along with what history has taught us about stock market recoveries following bear markets and recessions has kept us from chasing these recent rallies with the cash we have risen.

We believe that the "Fed put", together with huge pledges of fiscal support is a key reason why stock losses have stalled recently. Net asset purchases by G-7 central banks last month were $1.4 trillion, close to five times higher than the previous peak in April 2009. Of that, the US Fed was responsible for $1.1 trillion. On April 9, in an announcement that happened simultaneously with the weekly employment report, the Fed pledged an additional $2.3 trillion in additional loans to support the economy in ways never thought possible by most. Cheap and plentiful cash supplied by the Fed as a driver of stock market gains is nothing new – it characterized much of the post-2008 era, and certainly underwrote stocks in 2019.

We acknowledge the possibility that the current market downdraft will play out like all the others since 2009 with a sharp "V" shaped recovery by going nowhere but up from here on the back of gargantuan amounts of stimulus being pumped into the economy. We think that scenario is unlikely though.

The world economy faces a massive hit from the pandemic. This, to us, implies more market volatility and uncertainty, not less and that stocks are likely to face more resistance to plowing higher.

The economy has come to a sudden stop in a way we haven't seen before. Many companies that were very profitable in 2019 may have no business for months. Others – especially in the energy, travel and leisure industries – will go bankrupt. What compounds the issue is the lack of clarity about when normality will eventually resume. We don't know whether it is more accurate to assume the economy will be stopped for 6 weeks or 6 months. We do know that the situation is still not under control:

United States	13-Apr	12-Apr	1 Wk. Ago	1 Mo. Ago
Confirmend Cases	557,590	530,006	337,635	2,117
Deaths	22,109	20,608	9,647	49
Deaths as % of Confirmed Cases	4.0	3.9	2.9	2.3
Active Cases	492,746	477,288	310,416	2,056
Recovered	42,735	32,110	17,572	12

Despite the recent optimism reflected in stock prices, we expect the divergence of prices from their underlying fundamentals to reverse as the outlook for corporate earnings continues to be downgraded.

In the meantime, we will likely remain underweight risk assets in our clients' portfolios until we feel more comfortable that financial asset prices reflect the actual fundamental outlook beyond that of the seemingly limitless stimulus provided by the US Fed.

Thank you for your continuing confidence. Please do not hesitate to contact me if you would like to discuss our investment strategy as it relates to your individual portfolio.

Brant Kairies
952-885-2732

Appendix A

S&P 500 EARNINGS PER SHARE & MULTIPLE (P/E) SENSITIVITY															
P/E	12 MONTH S&P 500 EARNINGS PER SHARE														
Ratio	$100.0	$105.0	$110.0	$112.5	$115.0	$120.0	$125.0	$130.0	$135.0	$140.0	$145.0	$150.0	$155.0	$160.0	$170.0
9.5	950	998	1,045	1,069	1,093	1,140	1,188	1,235	1,283	1,330	1,378	1,425	1,473	1,520	1,615
10.0	1,000	1,050	1,100	1,125	1,150	1,200	1,250	1,300	1,350	1,400	1,450	1,500	1,550	1,600	1,700
10.5	1,050	1,103	1,155	1,181	1,208	1,260	1,313	1,365	1,418	1,470	1,523	1,575	1,628	1,680	1,785
11.0	1,100	1,155	1,210	1,238	1,265	1,320	1,375	1,430	1,485	1,540	1,595	1,650	1,705	1,760	1,870
11.5	1,150	1,208	1,265	1,294	1,323	1,380	1,438	1,495	1,553	1,610	1,668	1,725	1,783	1,840	1,955
12.0	1,200	1,260	1,320	1,350	1,380	1,440	1,500	1,560	1,620	1,680	1,740	1,800	1,860	1,920	2,040
12.5	1,250	1,313	1,375	1,406	1,438	1,500	1,563	1,625	1,688	1,750	1,813	1,875	1,938	2,000	2,125
13.0	1,300	1,365	1,430	1,463	1,495	1,560	1,625	1,690	1,755	1,820	1,885	1,950	2,015	2,080	2,210
13.5	1,350	1,418	1,485	1,519	1,553	1,620	1,688	1,755	1,823	1,890	1,958	2,025	2,093	2,160	2,295
14.0	1,400	1,470	1,540	1,575	1,610	1,680	1,750	1,820	1,890	1,960	2,030	2,100	2,170	2,240	2,380
14.5	1,450	1,523	1,595	1,631	1,668	1,740	1,813	1,885	1,958	2,030	2,103	2,175	2,248	2,320	2,465
15.0	1,500	1,575	1,650	1,688	1,725	1,800	1,875	1,950	2,025	2,100	2,175	2,250	2,325	2,400	2,550
15.5	1,550	1,628	1,705	1,744	1,783	1,860	1,938	2,015	2,093	2,170	2,248	2,325	2,403	2,480	2,635
16.0	1,600	1,680	1,760	1,800	1,840	1,920	2,000	2,080	2,160	2,240	2,320	2,400	2,480	2,560	2,720
16.5	1,650	1,733	1,815	1,856	1,898	1,980	2,063	2,145	2,228	2,310	2,393	2,475	2,558	2,640	2,805
17.0	1,700	1,785	1,870	1,913	1,955	2,040	2,125	2,210	2,295	2,380	2,465	2,550	2,635	2,720	2,890
17.5	1,750	1,838	1,925	1,969	2,013	2,100	2,188	2,275	2,363	2,450	2,538	2,625	2,713	2,800	2,975
18.0	1,800	1,890	1,980	2,025	2,070	2,160	2,250	2,340	2,430	2,520	2,610	2,700	2,790	2,880	3,060
18.5	1,850	1,943	2,035	2,081	2,128	2,220	2,313	2,405	2,498	2,590	2,683	2,775	2,868	2,960	3,145
19.0	1,900	1,995	2,090	2,138	2,185	2,280	2,375	2,470	2,565	2,660	2,755	2,850	2,945	3,040	3,230
19.5	1,950	2,048	2,145	2,194	2,243	2,340	2,438	2,535	2,633	2,730	**2,828**	2,925	3,023	3,120	3,315
20.0	2,000	2,100	2,200	2,250	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,400
20.5	2,050	2,153	2,255	2,306	2,358	2,460	2,563	2,665	2,768	2,870	2,973	3,075	3,178	3,280	3,485
21.0	2,100	2,205	2,310	2,363	2,415	2,520	2,625	2,730	2,835	2,940	3,045	3,150	3,255	3,360	3,570
21.5	2,150	2,258	2,365	2,419	2,473	2,580	2,688	2,795	2,903	3,010	3,118	3,225	3,333	3,440	3,655
22.0	2,200	2,310	2,420	2,475	2,530	2,640	2,750	2,860	2,970	3,080	3,190	3,300	3,410	3,520	3,740
22.5	2,250	2,363	2,475	2,531	2,588	2,700	2,813	2,925	3,038	3,150	3,263	3,375	3,488	3,600	3,825
23.0	2,300	2,415	2,530	2,588	2,645	2,760	2,875	2,990	3,105	3,220	3,335	3,450	3,565	3,680	3,910
23.5	2,350	2,468	2,585	2,644	2,703	2,820	2,938	3,055	3,173	3,290	3,408	3,525	3,643	3,760	3,995
24.0	2,400	2,520	2,640	2,700	2,760	2,880	3,000	3,120	3,240	3,360	3,480	3,600	3,720	3,840	4,080
24.5	2,450	2,573	2,695	2,756	2,818	2,940	3,063	3,185	3,308	3,430	3,553	3,675	3,798	3,920	4,165
25.0	2,500	2,625	2,750	2,813	2,875	3,000	3,125	3,250	3,375	3,500	3,625	3,750	3,875	4,000	4,250
25.5	2,550	2,678	2,805	2,869	2,933	3,060	3,188	3,315	3,443	3,570	3,698	3,825	3,953	4,080	4,335
26.0	2,600	2,730	2,860	2,925	2,990	3,120	3,250	3,380	3,510	3,640	3,770	3,900	4,030	4,160	4,420
26.5	2,650	2,783	2,915	2,981	3,048	3,180	3,313	3,445	3,578	3,710	3,843	3,975	4,108	4,240	4,505